

# Exhibit H

## Geologic and Soil Stability

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**Sunstone Solar Project  
May 2024**

**Prepared for**



**Sunstone Solar, LLC**

**Prepared by**



**Tetra Tech, Inc.**

**Table of Contents**

**1.0 Introduction ..... 1**

**2.0 Analysis Area ..... 1**

**3.0 Geologic Report..... 1**

    3.1 Topographic Setting..... 1

    3.2 Geologic Setting ..... 1

        3.2.1 Bedrock Geologic Units..... 2

        3.2.2 Unconsolidated Geologic Units ..... 2

**4.0 Consultation with DOGAMI ..... 2**

**5.0 Site-Specific Geotechnical Investigation ..... 3**

**6.0 Transmission Lines and Pipelines ..... 4**

**7.0 Seismic Hazard Assessment ..... 4**

    7.1 Methods ..... 5

    7.2 Maximum Considered Earthquake Ground Motion..... 5

        7.2.1 Earthquake Sources ..... 6

        7.2.2 Recorded Earthquakes..... 7

        7.2.3 Hazards Resulting from Seismic Events ..... 13

        7.2.4 Seismic Shaking or Ground Motion..... 13

        7.2.5 Fault Rupture ..... 13

        7.2.6 Liquefaction ..... 14

        7.2.7 Seismically Induced Landslides..... 14

        7.2.8 Subsidence ..... 14

        7.2.9 Seismic Hazard Mitigation..... 14

**8.0 Non-Seismic Geological Hazards..... 15**

    8.1 Landslides ..... 15

    8.2 Volcanic Activity ..... 16

    8.3 Erosion ..... 16

    8.4 Flooding ..... 17

    8.5 Shrinking and Swelling Soils ..... 17

    8.6 Collapsing Soils ..... 18

**9.0 Disaster Resilience ..... 18**

**10.0 Climate Change..... 19**  
**11.0 Conclusions..... 19**  
**12.0 Submittal Requirements and Approval Standards ..... 21**  
    12.1 Submittal Requirements .....21  
    12.2 Approval Standards .....22  
**13.0 References ..... 23**

**List of Tables**

Table H-1. Seismic Design Parameters – Maximum Considered Earthquake ..... 6  
Table H-2. Significant Historical Earthquakes within 50 Miles of the Site Boundary ..... 7  
Table H-3. Submittal Requirements Matrix.....21  
Table H-4. Approval Standard.....22

**List of Figures**

- Figure H-1. Geological Map
- Figure H-2. Historical Seismicity and Potentially Active Faults
- Figure H-3. Special Flood Hazard Areas

**List of Attachments**

- Attachment H-1. Evidence of Consultation with DOGAMI
- Attachment H-2. Probabilistic Seismic Hazard Deaggregation at 475-year Intervals
- Attachment H-3. Probabilistic Seismic Hazard Deaggregation at 2,475-year Intervals
- Attachment H-4. Ground Response Spectra Assessment (Site Class D)

## Acronyms and Abbreviations

Applicant	Sunstone Solar, LLC, a subsidiary of Pine Gate Renewables, LLC
BMP	best management practice
DOGAMI	Oregon Department of Geology and Mineral Industries
ESCP	Erosion and Sediment Control Plan
FEMA	Federal Emergency Management Agency
IBC	International Building Code
kV	kilovolt
LiDAR	light detection and ranging
O&M	operations and maintenance
OAR	Oregon Administrative Rule
ODOE	Oregon Department of Energy
OSSC	Oregon Structural Specialty Code
PGA	peak ground acceleration
SLIDO	Statewide Landslide Information Database for Oregon
USGS	U.S. Geological Survey



## 1.0 Introduction

Sunstone Solar, LLC, a subsidiary of Pine Gate Renewables, LLC (Applicant), proposes to construct and operate the Sunstone Solar Project (Facility), a photovoltaic solar energy generation facility and related or supporting facilities in Morrow County, Oregon. This Exhibit H was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(h).

## 2.0 Analysis Area

The analysis area, as defined in the Project Order (ODOE 2022), for structural standards is area within the site boundary (Figure H-1). The analysis area for historical and potentially active faults included a 50-mile buffer around the site boundary. The proposed site boundary is defined in detail in Exhibits B and C, which include the information required by OAR 345-021-0010(1)(b) and (c).

## 3.0 Geologic Report

*OAR 345-021-0010(1)(h) Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:*

*(A) A geologic report meeting the Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines must be determined based on consultation with the Oregon Department of Geology and Mineral Industries, as described in paragraph (B) of this subsection;*

### 3.1 Topographic Setting

The site boundary is in Morrow County, approximately 10 miles northeast of Lexington and 15 miles south of Boardman, Oregon. The northern border of Morrow County is located along the Columbia River and the southern boundary is located along the Blue Mountains. Morrow County topography varies from gently rolling plains adjoining the Columbia River to broad plateaus and rounded ridges in the central area of the County. More rugged terrain of a forested spur of the Blue Mountains is in the southern part of the County (Morrow County Oregon 2017).

The proposed Facility occupies slopes from 0 to 32 percent, with an average of 2.5 percent. Elevations within the site boundary range from 879 to 1,440 feet above mean sea level.

### 3.2 Geologic Setting

The geologic setting of the proposed Facility is located in the Columbia Plateau province (NPS 2023). The topography in the province is dominated by geologically young lava flows that have occurred within the last 17 million years. Over 170,000 cubic kilometers of basaltic lava, known as the Columbia River basalts, covers the western part of the province. As shown in Figure H-1 (DOGAMI 2023a), the site boundary geology includes Quaternary flood deposits, fan deposits, and

alluvial deposits that overlie Tertiary basalt. Tertiary basalt formations are mapped at the surface in the eastern portion of the site boundary. Quaternary deposits include alluvium, colluvium, river and coastal terrace, landslide, glacial, eolian, beach, lacustrine, playa and pluvial lake deposits, and outburst flood deposits left by the Missoula and Bonneville floods. The geologic descriptions below are summarized from the Oregon Department of Geology and Mineral Industries (DOGAMI) geologic map (DOGAMI 2023a).

### **3.2.1 Bedrock Geologic Units**

Basalt flows near the site boundary include the Tertiary Wanapum Basalt and Alkali Canyon formations in the eastern portion. The Wanapum Basalt is fine- to coarse-grained basalt and varies from intact to weathered conditions. The Tertiary Alkali Canyon formation includes interbedded basalt flows consisting of vitric tuff, silty clay, silt, basalt gravel, and alluvial fan and braided stream deposits.

### **3.2.2 Unconsolidated Geologic Units**

Quaternary alluvial deposits are located along two major drainages within the eastern portion of the site boundary (Figure H-1). Alluvial deposits consist of loess, sand, and gravel from local, parent-material bedrock.

Missoula flood deposits located along the western portion of the site boundary consist of boulder to pebble gravel, sandy gravel, sand, and silt deposited during floods caused by repeated failure of the glacial ice dam that impounded glacial Lake Missoula.

Most of the site boundary is mapped within alluvial fan deposits. Alluvial fans are triangular deposits of gravel, sand, and smaller sediments including loess. Loess (wind-deposited fine sand and silt) mantles the uplands and flatter plateaus, including much of the Columbia Plateau. Most loess in the Columbia Plateau is between 15 and 30 feet thick but can be less than 3 feet thick in upland areas.

## **4.0 Consultation with DOGAMI**

*OAR 345-021-0010(1)(h)(B) A summary of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete;*

A meeting with the Oregon Department of Geology and Mineral Industries (DOGAMI) was held on April 26, 2023. The meeting memorandum is included in Attachment H-1. Meeting attendees included representatives of DOGAMI, Oregon Department of Energy (ODOE), Pine Gate Renewables, and Tetra Tech. DOGAMI staff generally noted that the existing analysis used the correct data and interpreted the data correctly and commented that the visuals reviewed on screen during the call

(i.e., the draft Exhibit H figures) were great. In addition, DOGAMI agreed that Site Class D was appropriate for use in seismic evaluation and design of the Facility. DOGAMI recommended that review of available DOGAMI light detection and ranging (LiDAR) mapping be conducted for the area of a mapped fault and for potential signs of landslides, especially along Sand Hollow Creek. The Applicant completed this LiDAR mapping review and included the results of this review in this exhibit. In addition, ODOE requested that the ASC include a scope and outline of the anticipated site-specific geotechnical studies that will be conducted prior to construction.

## 5.0 Site-Specific Geotechnical Investigation

*OAR 345-021-0010(1)(h)(C) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions.*

A Geotechnical Desktop Study Report for the Facility was prepared by Tetra Tech on November 23, 2021. The report included a detailed literature review of the local and regional geology within the analysis area. This included evaluating existing reports for adjacent sites and reviewing other published literature and geologic mapping. The literature review included a detailed evaluation of seismic hazards at the Facility (see Section 7.0).

Prior to final engineering and construction, the Applicant plans to engage a geotechnical engineering firm to perform a full geotechnical analysis of the site and the Applicant will report its findings to DOGAMI and ODOE. The information gathered will inform design of the following: pile foundations, substation pads, inverter pads, battery energy storage system pads, operations and maintenance (O&M) building pads, and roads. As requested by DOGAMI, the scope of work for this geotechnical work is described here. Currently the scope of work the Applicant would employ pre-construction includes but is not limited to the following investigations:

- Soil Borings, Standard Penetrator, and/or Cone Penetrator Tests
- Soil Electrical Resistivity Tests
- Standard Proctor Compaction Tests
- Soil Thermal Resistivity Tests
- Moisture Content Analysis
- Sieve Analysis
- Atterberg Limits Tests
- Corrosivity Tests
- California Bearing Ratio Tests

The Applicant may update this list based on best practices that exist at the time of engineering.

## 6.0 Transmission Lines and Pipelines

*OAR 345-021-0010(1)(h)(D) For all transmission lines, and for all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends (for transmission lines), corners (for transmission lines), and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides, marginally stable slopes or potentially liquefiable soils that could be made unstable by the planned construction or experience impacts during the facility's operation;*

The proposed Facility includes approximately 9.5 miles of 230-kilovolt (kV) overhead transmission lines to connect the collector substations to the two switchyards and then to the existing Umatilla Electric Cooperative 230-kV Blue Ridge Line, all entirely within the unincorporated areas of Morrow County (see Exhibit C, Figure C-2).

The Applicant will perform site-specific geotechnical work along the transmission line where potential geologic hazards have been identified to inform the final design of the proposed Facility.

The 230-kV lines will be supported either by H-frame structures with two galvanized steel or wood poles or by a galvanized steel or wood monopole structure. The structures will rise to a height of approximately 70 to 180 feet above grade, depending on the terrain. The transmission line corridor is approximately 1,000 feet in width. The 230-kV lines will generally have 1,000-foot-long spans between structures with 2-foot-diameter poles; however, spans may be shorter or longer depending on the terrain.

The proposed Facility does not include pipelines carrying hazardous substances as described in OAR 345-021-0010(1)(h)(E).

## 7.0 Seismic Hazard Assessment

*OAR 345-021-0010(1)(h)(E) An assessment of seismic hazards, in accordance with standard-of-practice methods and best practices, that addresses all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection, and an explanation of how the applicant will design, engineer, construct, and operate the facility to avoid dangers to human safety and the environment from these seismic hazards. Furthermore, an explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters. The applicant must include proposed design and engineering features, applicable construction codes, and any monitoring and emergency measures for seismic hazards, including tsunami safety measures if the site is located in the DOGAMI-defined tsunami evacuation zone;*

## 7.1 Methods

Available reference materials were reviewed, and a desktop seismic-hazard assessment was performed for the ASC. Topographic and geologic conditions and hazards within the site boundary were evaluated using topographic and geologic maps, aerial photographs, existing geologic reports, and data from DOGAMI, the Oregon Water Resources Department, the USGS, and the Natural Resources Conservation Service.

A desktop seismic-hazard analysis characterized seismicity in the Facility's vicinity to evaluate potential seismic impacts. This work was based on the potential regional and local seismic activity described in the existing scientific literature and on subsurface soil and groundwater conditions found in the desktop evaluations. The seismic-hazard analysis consisted of the following tasks:

1. Detailed review of USGS, National Geophysical Data Center, and DOGAMI literature and databases.
2. Identification of potential seismic events and characterization of those events in terms of a series of design events.
3. Evaluation of seismic hazards, including potential fault rupture, earthquake-induced landslides, liquefaction and lateral spread, settlement, and subsidence.
4. Mitigation recommendations based on the characteristics of the subsurface soils and design earthquakes, including specific seismic events that might have a significant effect on the site, potential for seismic energy amplification at the site, and the site-specific acceleration response spectrum.

As described in Section 5.0, a site-specific geotechnical investigation will be conducted by a qualified engineer using current code requirements and state-of-practice methods to inform the final design. It will be reported to DOGAMI and ODOE following the 2014 Oregon State Board of Engineering Geology Reports guidelines.

## 7.2 Maximum Considered Earthquake Ground Motion

Overall, the DOGAMI HazView mapping tool (DOGAMI 2023b) indicates that the Cascadia earthquake hazard is moderate except for narrow drainage alluvial deposits that are rated as very strong. The general earthquake hazard in the site boundary is rated moderate and very strong in the area of the alluvial fan deposits. The narrow alluvial deposits along drainages/streams that are mapped as very strong. The USGS Seismic Hazard Mapping Facility (USGS 2023a) developed ground motions using a probabilistic seismic hazard analysis that covered the proposed Facility site. Though these motions are not site-specific, they reasonably estimate the ground motions within the site boundary. For new construction, the site should be designed for the maximum considered earthquake, according to the most recently updated International Building Code (IBC; ICC 2021) supplemented by the Oregon Structural Specialty Code (OSSC; OSSC 2022; per Condition GEN-SS-01). The USGS unified hazard tool analysis was re-run for the site boundary, and the design event has a 2 percent probability of exceedance in 50 years (or a 2,475-year return period). This event has a peak ground acceleration (PGA) of 0.2392 acceleration from gravity at the bedrock surface for

the site boundary. The values of PGA on rock are an average representation of the acceleration most likely to occur at the site for all seismic events (crustal, intraplate, or subduction).

Seismic design parameters were developed following IBC 2015. Using current information, the Facility would be designed for Site Class D, according to IBC requirements (Table H-1). Some areas within the site boundary generally have characteristics that meet Site Class B or C. However, Site Class D characteristics are present in large portions of the site boundary and therefore Site Class D is the most conservative Site Class for Facility design.

**Table H-1. Seismic Design Parameters – Maximum Considered Earthquake**

Location	Site Class	Earthquake Magnitude	Peak Horizontal Ground Acceleration	Return Period
Facility Site Boundary	D	6.29	0.2392g	2,475 years
Facility Site Boundary	C	6.29	0.1993g	2,475 years
Facility Site Boundary	B	6.34	0.1441g	2,475 years
Facility Site Boundary	D	6.37	0.1040g	475 years
Facility Site Boundary	C	6.41	0.08056g	475 years
Facility Site Boundary	B	6.47	0.0579g	475 years

Source: USGS 2023a.

### 7.2.1 Earthquake Sources

In northern Oregon, seismicity is generated when the Juan de Fuca Plate and the North American Plate converge at the Cascadia Subduction Zone. These plates converge at a rate of 1 to 2 inches per year, accumulating large amounts of stress that release abruptly in earthquake events. The four sources of earthquakes and seismic activity in this region are crustal, intraplate, volcanic, and the deep subduction zone (DOGAMI 2010).

Overall, earthquakes in Oregon are associated with active faults in four regional seismicity zones: the Cascade seismic zone, the Portland Hills zone (the Portland, Oregon and Vancouver, Washington metropolitan area), the south-central zone (Klamath Falls), and northeastern Oregon zone (Niewendorp and Neuhaus 2003). Faults are considered active if there has been displacement in the last 10,000 years, and potentially active if there has been movement over the last Quaternary Period (1.6 million years). Regionally, seismicity has been attributed to crustal deformation from the Cascadia Subduction Zone and volcanism.

Earthquakes caused by movements along crustal faults, generally in the upper 10 to 15 miles of the earth’s crust. In the vicinity of the site boundary, earthquakes occur within the crust of the North American tectonic plate when built-up stresses near the surface are released through fault rupture.

There is one fault line mapped within the site boundary to the east of Sand Hollow Creek (Fault Line 4611) (USGS 2023a; Figure H-1). However, there is no indication that this fault is active within recent/Quaternary time. LiDAR mapping from DOGAMI was not available in the area of the fault

(DOGAMI 2023b). Several undifferentiated, Quaternary-age faults and one Class B fault are mapped within 25 miles of the site boundary (Figure H-2). These faults are potentially active. The DOGAMI Oregon HazVu: Statewide Geohazards Viewer earthquake hazard layer (DOGAMI 2023b) and the USGS Geologic Hazards Science Center (USGS 2023b; Figure H-2) show that the nearest active faults (mid to late Quaternary) are about 20 miles north of the site boundary. The faults in Figure H-2, within 50 miles of the site boundary, present the largest potential for seismic contribution to the proposed Facility. The site-specific geotechnical investigation will assess the fault mapped within the site boundary as well as the potential for regional faults to affect the Facility, as described in Section 5.0. The investigation will include a description of any potentially active faults, their potential risk to the proposed Facility, and any additional mitigation measures the Applicant will employ to design, construct, and operate the proposed Facility safely.

The 2013 Oregon Resilience Plan by the Oregon Seismic Safety Policy Advisory Commission (OSSPAC 2013) simulated the impact of a magnitude 9.0 Cascadia earthquake scenario. This plan places the site boundary into the “very light” shaking category. This means that a magnitude 9.0 Cascadia scenario earthquake would produce a very light shaking event that would be felt outdoors, wake sleepers, disturb or spill liquids, upset small unstable objects, and potentially swing doors or move pictures (OSSPAC 2013).

Probabilistic seismic-hazard deaggregation at 475-year intervals is shown in Attachment H-2 and at 2,475-year intervals in Attachment H-3.

**7.2.2 Recorded Earthquakes**

Figure H-2 displays the location and approximate magnitude of all recorded earthquakes within approximately 50 miles of the site boundary. The seismic events are grouped by magnitude and displayed with differently-sized symbols based on the event’s strength.

Table H-2 summarizes the earthquakes greater than magnitude 3.0 recorded within 50 miles of the site boundary. Most of these earthquakes were between magnitude 3 and 4 and a Modified Mercalli Intensity III associated with shaking that is “noticeable indoors but may not be recognized as an earthquake” (USGS 2023c).

**Table H-2. Significant Historical Earthquakes within 50 Miles of the Site Boundary**

Year	Month	Day	Latitude	Longitude	Moment Magnitude	Miles From Site Boundary
1969	04	19	45.897499	-119.703499	2.8	18.42
1970	12	09	46.270168	-119.951164	2.8	46.21
1970	11	29	46.225166	-120.115334	3.0	46.42
1970	10	02	45.712166	-120.640167	2.7	47.31
1970	09	29	45.760502	-119.145500	2.5	23.93
1970	04	04	46.228333	-120.080002	2.7	45.83
1971	01	04	46.230835	-119.363167	3.1	43.35

Year	Month	Day	Latitude	Longitude	Moment Magnitude	Miles From Site Boundary
1972	08	27	45.532833	-120.016167	2.5	15.63
1972	08	21	45.575165	-119.988998	2.6	14.47
1973	12	29	46.048832	-119.657997	2.8	28.76
1975	07	01	45.627998	-120.001999	3.5	16.04
1975	07	01	45.605331	-120.016167	3.6	16.20
1975	06	28	46.092167	-119.722168	2.7	31.89
1975	06	28	46.098999	-119.706001	3.8	32.30
1975	06	28	46.105331	-119.703667	3.3	32.73
1975	06	15	46.234001	-119.113167	3.1	48.55
1975	05	09	45.632999	-118.556000	2.7	49.73
1976	10	10	45.270332	-120.499496	3.6	43.34
1976	07	26	45.646832	-119.973831	2.9	14.98
1977	03	31	45.901833	-119.654167	2.9	18.61
1977	03	11	45.899166	-119.665665	3.1	18.42
1978	12	22	45.891335	-119.328163	2.6	23.21
1978	03	04	46.060333	-118.855499	2.8	47.47
1978	02	20	45.896500	-119.650002	3.2	18.24
1979	03	01	46.047501	-118.905670	2.7	45.10
1979	02	17	46.164165	-119.932663	3.6	38.98
1980	12	18	45.833000	-120.007332	2.8	21.69
1980	03	12	46.124668	-119.025665	2.6	44.92
1980	03	04	45.939999	-119.664001	2.6	21.24
1981	06	14	45.961666	-120.507004	3.2	46.69
1982	11	23	45.997334	-119.288666	3.2	30.23
1982	10	30	45.999001	-119.287498	2.7	30.36
1982	10	12	45.995998	-119.288170	2.8	30.17
1983	10	21	45.660000	-118.915665	2.7	32.52
1984	10	04	46.105499	-120.025665	2.9	37.10
1984	09	07	46.074165	-119.607002	2.5	30.54
1984	08	10	46.125168	-119.787834	2.5	34.57
1984	06	18	45.230835	-118.687500	3.1	49.76
1984	05	14	46.123501	-119.204666	2.5	39.75
1984	04	30	46.040501	-119.878166	2.8	30.06
1984	03	23	45.995998	-119.292168	3.3	30.06
1984	01	18	45.359833	-119.664833	2.5	10.82
1985	12	19	46.250000	-119.613503	2.8	42.67
1985	12	03	46.165501	-119.603333	2.9	36.85



Year	Month	Day	Latitude	Longitude	Moment Magnitude	Miles From Site Boundary
1985	11	18	46.251835	-119.618332	2.9	42.79
1985	08	02	45.443001	-119.953331	2.6	14.20
1985	04	30	45.881668	-119.320503	2.5	22.94
1985	04	17	45.879002	-119.315331	2.6	22.97
1985	03	20	45.963165	-119.904663	3.1	25.68
1985	03	01	45.805000	-119.015999	2.6	30.90
1985	02	27	45.961334	-119.906334	2.6	25.61
1985	02	10	45.704498	-119.634499	3.9	4.98
1985	01	31	45.954498	-118.836830	2.7	43.64
1985	01	31	45.964500	-119.902496	2.8	25.72
1985	01	28	45.967335	-119.911003	2.6	26.08
1986	12	08	45.976665	-118.953003	2.6	40.13
1986	11	10	45.199665	-119.997169	2.5	26.93
1986	03	02	46.311501	-119.783836	2.8	47.27
1986	02	05	46.253666	-119.616333	2.8	42.92
1986	02	04	46.043999	-118.809998	3.2	48.39
1986	01	29	46.254002	-119.615501	2.9	42.94
1986	01	16	46.251499	-119.617996	3.0	42.77
1987	09	29	45.176167	-120.061165	2.7	30.11
1987	09	08	45.191166	-120.071999	3.1	29.65
1988	11	21	45.269669	-119.944168	2.5	21.51
1988	10	19	45.139668	-119.138664	2.6	35.83
1988	09	29	45.849834	-120.259666	3.5	32.52
1988	08	18	45.223999	-120.099503	2.7	28.91
1988	08	06	45.435001	-119.882332	2.5	11.55
1988	07	23	45.260166	-120.132835	2.6	28.47
1988	07	11	45.244667	-120.142166	2.9	29.50
1988	03	17	46.132332	-119.782997	2.6	35.02
1988	02	28	45.571167	-119.884666	2.6	9.44
1988	02	20	45.216331	-120.105667	2.7	29.49
1988	02	14	45.577000	-120.149330	2.5	22.21
1988	02	07	45.355999	-119.621666	2.5	11.14
1988	02	03	46.223000	-119.734001	2.5	40.94
1989	12	28	45.481667	-119.489166	2.5	7.15
1989	08	18	45.274502	-119.982666	2.7	22.45
1989	03	27	45.815834	-120.261497	3.1	31.58
1989	02	21	45.738834	-120.030830	2.6	19.23

Year	Month	Day	Latitude	Longitude	Moment Magnitude	Miles From Site Boundary
1989	02	10	46.113834	-120.024498	2.6	37.58
1990	12	17	46.031834	-120.336502	2.5	42.67
1990	11	02	46.031834	-120.337997	2.5	42.73
1990	08	15	45.255501	-119.071663	2.6	32.76
1990	03	02	45.642666	-118.928337	2.8	31.78
1991	04	20	45.344501	-120.137833	2.8	25.38
1991	04	04	46.081833	-118.833504	2.5	49.26
1991	03	25	46.124832	-119.801003	2.5	34.67
1992	08	07	45.860332	-119.589500	3.9	15.89
1992	03	10	44.842999	-119.328331	2.5	49.01
1993	12	18	45.191833	-120.073166	2.9	29.65
1993	12	16	45.195835	-120.089836	3.0	29.98
1994	11	17	45.701168	-120.177498	2.7	25.29
1994	11	03	45.694000	-120.171837	2.6	24.92
1994	10	06	45.680668	-120.163498	2.7	24.38
1994	09	25	45.530499	-118.800331	2.6	38.07
1994	09	22	45.691502	-120.163330	2.9	24.49
1994	05	24	45.809834	-120.188499	2.6	28.20
1995	11	02	46.150002	-119.564331	3.1	35.91
1995	08	29	46.208168	-119.905502	3.1	41.47
1996	02	13	45.529999	-119.606499	2.9	0.64
1997	11	11	45.851002	-120.564667	2.8	46.11
1997	10	13	46.113998	-120.376167	3.1	47.90
1997	09	10	45.654335	-120.197998	2.7	25.61
1997	08	17	45.648335	-120.186333	2.8	24.94
1997	05	13	45.543167	-119.603333	2.7	0.45
1997	04	17	45.188499	-120.082001	3.2	30.11
1997	03	28	45.200500	-120.056168	2.6	28.66
1997	03	23	45.246334	-120.049332	3.1	26.09
1997	03	23	45.195168	-120.050835	3.1	28.77
1997	03	22	45.197334	-120.067169	3.9	29.17
1997	03	22	45.214001	-120.073669	2.7	28.53
1997	03	21	45.643501	-119.487999	2.5	5.56
1998	09	05	45.648167	-119.490837	2.9	5.65
1998	08	12	45.166332	-120.018501	2.8	29.42
1998	04	28	45.258835	-120.280998	2.7	34.46
1998	04	14	45.480331	-119.539497	2.6	5.34

Year	Month	Day	Latitude	Longitude	Moment Magnitude	Miles From Site Boundary
1998	04	14	45.275833	-120.288834	2.7	34.14
1998	03	01	46.317333	-119.881836	2.6	48.48
1998	02	03	45.813835	-120.192169	3.1	28.48
1999	12	21	45.754501	-120.000168	2.7	18.35
1999	09	04	45.177502	-120.077164	2.9	30.53
1999	08	31	45.186333	-120.090836	3.5	30.51
1999	07	24	45.928165	-119.213669	2.6	28.82
1999	03	21	45.180332	-120.032333	2.9	29.02
2000	12	29	45.886833	-119.708336	2.6	17.71
2000	08	17	45.312000	-120.041496	3.2	22.75
2000	08	03	45.208668	-120.073334	2.8	28.79
2000	07	28	45.170166	-120.135002	2.6	32.78
2000	02	29	45.189499	-120.118332	2.5	31.25
2000	02	21	45.682835	-120.124832	2.5	22.55
2000	02	15	45.687668	-120.079170	2.6	20.44
2000	02	01	45.186668	-120.117996	2.8	31.38
2000	02	01	45.189999	-120.112663	3.6	31.04
2000	01	30	45.181667	-120.109169	2.8	31.34
2000	01	30	45.183167	-120.102837	3.4	31.06
2000	01	30	45.193333	-120.111832	2.6	30.84
2000	01	30	45.197166	-120.124832	4.1	31.09
2000	01	13	45.690834	-119.934669	2.6	13.71
2000	01	05	45.704166	-120.049500	2.8	19.30
2001	06	18	45.189667	-120.110168	2.6	30.97
2001	06	15	45.201668	-120.107666	2.5	30.28
2002	12	30	46.272999	-119.402000	2.7	45.64
2002	10	25	45.184334	-120.065002	2.5	29.79
2002	10	25	45.192665	-120.093666	2.7	30.27
2002	10	14	45.131168	-120.011330	2.6	31.26
2002	01	31	45.685165	-120.166000	2.7	24.54
2003	12	01	45.421333	-118.857330	2.5	36.98
2003	09	12	45.420666	-118.842163	2.8	37.70
2003	06	01	45.194000	-120.113167	2.8	30.85
2003	05	18	45.193832	-120.120331	2.7	31.10
2003	05	16	45.627834	-120.274834	2.6	28.76
2003	01	24	46.261665	-119.385002	2.7	45.09
2003	01	17	45.680168	-120.177498	2.9	25.04

Year	Month	Day	Latitude	Longitude	Moment Magnitude	Miles From Site Boundary
2004	03	31	45.694168	-120.167168	2.6	24.70
2004	03	08	45.642334	-120.200500	2.5	25.49
2004	02	28	46.036335	-119.020500	3.3	40.70
2005	11	10	46.146332	-119.931000	2.5	37.80
2005	07	18	46.266998	-119.391167	2.5	45.37
2005	02	01	46.276833	-119.545998	2.5	44.71
2006	08	21	45.803501	-120.353333	2.6	35.39
2007	11	30	45.713833	-120.182167	2.8	25.69
2007	05	02	45.799999	-120.333664	2.6	34.42
2007	01	31	46.266998	-119.385330	2.5	45.44
2007	01	08	45.685501	-120.162003	2.7	24.36
2008	07	29	45.637001	-120.615334	2.7	45.14
2008	05	18	46.167667	-119.550163	3.7	37.19
2008	04	10	45.689167	-120.260002	2.5	29.09
2008	03	31	45.696835	-120.169670	2.8	24.86
2009	11	30	45.706165	-120.185165	2.6	25.72
2009	08	16	45.932999	-120.104332	2.8	29.80
2009	08	11	45.932999	-119.987999	2.6	26.07
2009	07	20	45.659000	-120.237503	2.5	27.53
2009	06	04	46.270168	-119.383331	2.5	45.68
2009	05	15	45.538334	-120.528831	2.7	40.51
2009	05	10	45.833000	-120.110168	2.5	25.69
2009	05	06	45.702332	-120.175499	2.6	25.21
2010	10	27	45.934666	-120.242165	2.5	34.93
2010	10	19	45.940498	-120.244835	2.6	35.28
2010	07	29	45.648499	-120.095337	2.7	20.77
2010	03	31	45.924667	-120.310501	2.5	37.24
2010	03	01	45.708668	-120.227837	2.5	27.78
2012	10	26	46.259666	-119.384003	2.5	44.97
2012	03	12	46.164833	-119.171165	2.6	43.02
2014	04	07	46.122334	-119.025497	2.7	44.80
2017	02	15	45.752834	-118.595337	2.9	48.92
2018	10	09	46.103168	-120.420670	2.9	48.96

The Ground Response Spectra Assessment (Attachment H-4) assessed the design response spectrum given in the 2010/2016/2022 IBC using the ASCE 7 Hazard Tool (ASCE 2023). Response spectra are provided for the maximum considered earthquake at the Facility location. For the

maximum considered earthquake, separate response spectra modified by the amplification factors for Site Class D are provided. Due to the presence of unconsolidated deposits in the site boundary, the Facility should be designed for the most conservative Site Class D.

### ***7.2.3 Hazards Resulting from Seismic Events***

Potential seismic hazards from a design seismic event for this Facility include seismic shaking or ground motion, fault displacement, instability from landslides or subsurface movement, and adverse effects from groundwater or surface water. These risks are anticipated to be low, as discussed below. Since the Facility is far from the Oregon coast, and not in a DOGAMI-defined tsunami evacuation zone (DOGAMI 2022), tsunami inundation is not considered a hazard.

### ***7.2.4 Seismic Shaking or Ground Motion***

The Facility will be designed to withstand the maximum risk-based design earthquake ground motions developed for the Facility site. The design seismic event has a 2,475-year recurrence interval. The State of Oregon has adopted the IBC 2021 code for structural design. Specifically, this is Section 1613 (Earthquake Loads) of the 2022 OSSC, which is in Chapter 16. Building codes are frequently updated; the IBC is updated every 3 years. The Applicant will design, engineer, and construct the Facility following the latest IBC, OSSC, and building codes adopted by the State of Oregon at the time of construction.

Based on geotechnical and geological information the soil/bedrock in the site boundary is Site Class D. As described in Section 7.2.1, Site Class D (very dense stiff soil) is appropriate for the proposed Facility.

Based on site-specific analyses, the original equipment manufacturer will provide the structural engineer with site-specific foundation loads and requirements. The structural engineer then completes the foundation analyses based on the design site-specific parameters. The geotechnical studies and analyses provide site-specific parameters, including but not limited to moisture content and density, soil/bedrock bearing capacity, bedrock depth, settlement characteristics, structural backfill characteristics, soil improvement (if required), and dynamic soil/bedrock properties, including shear modulus and Poisson's Ratio of the subgrade. The foundation design engineer will use these parameters to design a suitable foundation and verify that the foundation/soil interaction meets or exceeds the original equipment manufacturer's site-specific, minimum requirements.

### ***7.2.5 Fault Rupture***

Fault displacement is unlikely because there are no active faults within the site boundary, and the nearest known or potentially active faults are over 25 miles away (Figure H-2). Unknown faults could exist, or new fault ruptures could form during a significant seismic event, but geologic investigations indicate that the likelihood is very low.

### **7.2.6 Liquefaction**

Liquefaction is when saturated and cohesionless soils are subjected to dynamic forces like intense or prolonged ground shaking and temporarily lose their strength and liquefy. Although alluvial fan deposits are located within most of the site boundary, these deposits are indicated to be unsaturated (Tetra Tech 2021). In addition, the soils in the site boundary are generally cohesive. Along with the relatively low seismic event potential, this indicates that soil liquefaction within the site boundary is unlikely. However, as discussed in Section 7.2, narrow areas along drainages/streams within the site boundary could have saturated alluvial deposits that would be susceptible to liquefaction. These areas within mapped floodplains would be avoided by Facility infrastructure.

### **7.2.7 Seismically Induced Landslides**

While regional seismicity could potentially trigger landslides and mass wasting processes in the site boundary, the risk is considered low to moderate for expected shaking in a Cascadia 9.0 magnitude event (DOGAMI 2023c). Figure H-3 shows a large alluvial fan deposit covering much of the site boundary. More detailed discussion on the location and type of landslides is included in Section 8.1. Construction will avoid steep slopes. The site-specific geotechnical investigation will review evidence of active faults and landslides, which will inform the final Facility design and layout. More detailed discussion on the location and type of landslides is included in Section 8.1.

### **7.2.8 Subsidence**

Subsidence is the sudden sinking or gradual downward settling of surface land, often caused by groundwater drawdown, compaction, tectonic movements, mining, or explosive activity. The alluvial fan deposits that are present on most of the site boundary are not saturated and groundwater is indicated to be at least 60 feet below ground surface (Tetra Tech 2021). In addition, Facility infrastructure would not be located along steep slopes in the area of the alluvial deposits. Subsidence due to a seismic event is highly unlikely in the site boundary as the bedrock is relatively shallow and the overlying soils unsaturated.

Subsidence may also occur due to introduction of moisture into desiccated collapsible soils present in loess or alluvial fan deposits. Drainage changes produced by grading and site development can induce moisture changes in the subsurface that can cause collapse of loess or alluvial fan material that is at a very low natural moisture content. Design of site drainage would prevent ponding or other concentration of surface water flows, especially near structures; and development over existing drainage ways would be avoided, since rerouting of surface water could induce subsidence.

### **7.2.9 Seismic Hazard Mitigation**

The State of Oregon uses the 2021 IBC, with current amendments by the OSSC (State of Oregon 2022). Pertinent design codes relating to geology, seismicity, and near-surface soil are found in IBC

Chapter 16, Section 1613, with slight modifications for current State amendments. Facility infrastructure will be designed to meet or exceed all current design code standards. Substation equipment will meet all requirements in the latest version of IEEE 693. Although the region has only a moderate seismicity potential, the solar arrays are designed to resist seismic loads.

As discussed in Section 5.0, site-specific geotechnical exploration will provide data that will guide the proposed Facility infrastructure design to mitigate potential seismic-event hazards. The hazard of a surficial rupture along a fault is low, given the seismic history of the site displayed in geologic mapping, and the low probability that a fault rupture would actually displace the ground surface at the location of one of the transmission line structures. Because the Facility will be in a sparsely populated area, there is minimal human safety and environmental risk. Mitigation for potential fault rupture is not needed. No structures will be built on steep slopes prone to instability, thus avoiding potential impacts. Disaster resilience design guidelines are further described in Section 9.0.

## 8.0 Non-Seismic Geological Hazards

*OAR 345-021-0010(1)(h)(F) An assessment of geology and soil-related hazards which could, in the absence of a seismic event, adversely affect or be aggravated by the construction or operation of the facility, in accordance with standard-of-practice methods and best practices, that address all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection. An explanation of how the applicant will design, engineer, construct and operate the facility to adequately avoid dangers to human safety and the environment presented by these hazards, as well as:*

*(i) An explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters; and*

*(ii) An assessment of future climate conditions for the expected life span of the proposed facility and the potential impacts of those conditions on the proposed facility.*

Non-seismic geologic hazards in the Columbia Plateau region include landslides, volcanic eruptions, collapsing soils, and erosion. The area in the site boundary is relatively flat-lying basalt with an alluvium cover. The Facility will be constructed on the flat-lying part within the site boundary. It will avoid steep slopes and drainages that could experience landslides and soil creep. A discussion of potential non-seismic geologic hazards is presented below.

### 8.1 Landslides

In 2021, DOGAMI released an update to the Oregon Statewide Landslide Database (SLIDO-4.4; DOGAMI 2023c). SLIDO is a statewide database of known landslides compiled from published maps. The database includes landslides, debris flows, alluvial fans, and colluvium or talus. The primary sources of this historical landslide information are published geologic reports and geologic hazard studies by the USGS and DOGAMI. The SLIDO-4.4 landslide database was used to overlay landslide areas or landslide-related features on Figure H-3. SLIDO 4.4 indicates an alluvial fan covering much

of the site boundary (Figure H-3). As seen on Figure H-3, the proposed Facility is located entirely on a landslide area that includes the alluvial fan deposit. There are no mapped landslides in or adjacent to the site boundary. Alluvial fan deposits are an indication of debris flows resulting from large rainfall events and flooding. However, landslide susceptibility in the area of the alluvial fan is relatively low and limited to small drainages. Moderate to high landslide susceptibility is mapped along the major drainages/alluvial deposits located east and west of the alluvial fan deposits. Site construction will follow appropriate IBC regulation in construction and avoid steep slopes. In addition, a review of HazView mapping (DOGAMI 2023b) indicates that most of the site boundary is located in a low landslide area while moderate and high landslide hazard is indicated along the alluvial deposits east and west of the alluvial fan deposits.

Available DOGAMI LiDAR mapping was also reviewed for signs of potential landslides or debris flows (DOGAMI 2023). Potential areas of concern were identified along Sand Hollow Creek southeast of the intersection of State Highway 207 and Sand Hollow Road; and east of State Highway 207 south of the intersection with Grieb Lane. Although these areas are not expected to be used for the Facility, the areas will be further evaluated in the geotechnical studies as necessary.

Slopes within the vicinity of the site boundary range from approximately zero to 32 percent, with an average slope of 2.5 percent. If slope stability issues are identified in the final design geotechnical investigations, the structures will either be relocated during the micro-siting process, or remedial measures to improve slope stability will be implemented. In addition, a geotechnical assessment of the alluvial fan deposits will include the potential for future debris flows to impact the alluvial fan area.

## 8.2 Volcanic Activity

Volcanic activity in the Cascade Range is driven by the subduction of the Juan de Fuca Plate beneath the North American Plate. The closest volcanoes to the site boundary are Mount Hood and Mount Adams, each located approximately 100 miles away. Most of the potential volcanic hazard impacts would occur within a 50-mile radius of the erupting volcano. Depending on the prevailing wind direction at the time of the eruption and the source of the eruption, ash fallout in the region surrounding the Facility may occur. Because of the distance to the nearest volcanoes, the Facility's impacts from volcanic activity would be indirect and likely limited to ash fallout. In addition, the Facility is not located near any streams that would be subject to pyroclastic flows from a volcanic eruption from these close volcanoes. It is unlikely that there would be any adverse effects from volcanic activity on the construction or operation of the Facility.

## 8.3 Erosion

As discussed in Exhibit I, erosion can occur when soils are increasingly exposed to wind or water. Wind erosion is influenced by wind intensity, vegetative cover, soil texture, soil moisture, the grain size of the unprotected soil surface, topography, and the frequency of soil disturbance. Control measures will be implemented to mitigate wind erosion potential as identified in Exhibit I. Water erosion is primarily a function of soil type, vegetative cover, precipitation, and slope inclination. If



left unmitigated, erosion from rainfall would be a hazard during construction. The runoff potential and water erosion hazard for site soils range from low to high. Steeper slopes, especially those exceeding 25 percent (see Exhibit I), have higher erosion risk. U.S. Climate Data (2022) reports that the site area receives approximately 14 inches of rain per year. The erosion potential and available precipitation make site soils sensitive to water erosion during winter and spring, particularly on steep slopes. A draft Erosion and Sediment Control Plan (ESCP) has been developed to reduce the potential for soil erosion (see Attachment I-1 to Exhibit I). The ESCP includes structural and nonstructural Best Management Practices (BMP). Structural BMPs include the installation of silt fences or other physical controls to divert flows from exposed soils or otherwise limit runoff and pollutants from exposed areas. Nonstructural BMPs include the implementation of materials handling procedures, disposal requirements, and spill prevention methods.

The Applicant will apply for a National Pollutant Discharge Elimination System stormwater construction permit through the Your DEQ Online platform (the draft ESCP is an attachment to Exhibit I). In addition, Exhibit I contains a comprehensive list of mitigation measures to avoid wind and water erosion and soil impacts.

## 8.4 Flooding

Federal Emergency Management Agency (FEMA) National Flood Hazard data (FEMA 2022) were compared to the temporary and permanent disturbance areas in the site boundary to evaluate flood hazards. A portion of the site boundary is located within a Zone A (1 percent annual chance flood hazard) FEMA 100-year floodplain. This portion is along the narrow alluvial deposits of a major drainage/stream (Figures H-1 and H-3) The site boundary is not located within an identified 500-year floodplain (DOGAMI 2023b). No solar panels or permanent structures including transmission line structures for the proposed Facility would be placed within the 100-year floodplain. However, a collector line would cross a narrow 100-year floodplain (either overhead or buried); and an overhead transmission line would cross the Sand Hollow 100-year floodplain. The Applicant will obtain all necessary County and/or State permits in the case the collector line is buried within the 100-year floodplain.

Seasonal thunderstorms can result in concentrated stormwater runoff and localized flooding. The Facility will be designed and engineered to comply with zoning ordinances and building codes that establish flood protection standards for all construction to avoid dangers to the infrastructure, as well as human safety and the environment, including criteria to ensure that the foundation will withstand flood forces. The engineered access roads and drainages will direct stormwater runoff away from structures and into drainage ditches and culverts as required in the ESCP. Therefore, the risks and potential impacts to the Facility, human safety, and the environment from flood hazards are expected to be low.

## 8.5 Shrinking and Swelling Soils

Clayey soils are the most susceptible to shrinking and swelling. These soils were not found in the Facility soil data (see Exhibit I). The shrink-swell potential of the soils will be evaluated during the

site-specific geotechnical investigations and laboratory testing and analysis during the final Facility design phase. If shrinking or swelling soils are present at foundation locations or along road alignments, soil improvement will be necessary. Soil improvement can include reworking and compacting on-site soils, over-excavating soils with shrink-swell potential and replacing with compacted structural fill, constructing impermeable barriers to prevent saturation, or mixing soils to reduce the potential for shrinking and swelling.

## 8.6 Collapsing Soils

Soil properties will be evaluated by laboratory testing and analysis. Subsurface soil conditions, such as loess or collapsing soils, will be identified during the site-specific geotechnical investigation and will inform the final design of the Facility. If collapsible soils are found, collapse potential will be mitigated by construction techniques (over-excavating and replacing with structural fill, wetting, and compacting) during subgrade preparation.

## 9.0 Disaster Resilience

The State of Oregon uses IBC 2021, with current amendments by the OSSC and local agencies. Pertinent design codes related to geology, seismicity, and near-surface soils are contained in IBC Chapter 16, Section 1613, with slight modifications by the current amendments of the State of Oregon and local agencies. The Facility will be designed to meet or exceed the minimum standards required by these design codes. The Applicant acknowledges that DOGAMI encourages, but does not require, applicants to design and build for disaster resilience and future climate conditions using science, data, and community wisdom to protect against and adapt to risks. With this in mind, the Applicant has extensive experience building energy facilities and designing projects to withstand non-seismic geologic hazards from a structural perspective.

The Facility will be designed, engineered, and constructed to meet all current standards to adequately avoid potential dangers to human safety presented by seismic hazards. A qualified engineer will assess and review the seismic, geologic, and soil hazards associated with the Facility infrastructure construction. Construction requirements will be modified, as needed, based on the site-specific characterization of seismic, geologic, and soil hazards. Substation structures will be designed under the current version of the OSSC. Substation, transmission lines, and collector line equipment will be specified by the latest version of the Institute of Electrical and Electronics Engineers. The Facility infrastructure will be in sparsely populated areas; therefore, the risks to human safety and the environment due to seismic hazards will be minimal.

The Facility infrastructure will be designed, engineered, and constructed to meet or exceed all current standards. The Applicant proposes to design, engineer, and construct the Facility to avoid dangers to human safety-related and non-seismic hazards in many ways, including conducting site-specific geotechnical evaluations for the facilities (see Section 5.0). Typical mitigation measures for non-seismic hazards include: avoiding potential hazards, conducting subsurface investigations to characterize the soils to adequately plan and design appropriate mitigation measures, creating

detailed geologic hazard maps to aid in laying out facilities, providing warnings in the event of hazards, and purchasing insurance to cover the Facility in the event of hazards. Should Facility elements like access roads be damaged, they will be assessed and repairs made quickly to ensure recovery of operations after a major storm event.

## 10.0 Climate Change

The University of Washington conducted a study to assess climate vulnerability and adaptation in the Columbia River Plateau, where the Facility is located (Michalak et al. 2014). The study involved downscaling five climate models (CCM3, CGM3.1, GISS-ER, MIROC3.2, and Hadley). Climate projections were downscaled to approximately a 1-kilometer resolution for over 40 different direct (mean annual temperature/precipitation) and derived (number of growing-degree days, actual and potential evapotranspiration) climate variables (Michalak et al. 2014). The downscaling of the climate models for this area led to future projections of greater annual average and summer temperatures, and more severe storm events and wildfires, among other changes. These specific changes are expected to increase stress on power lines in the region.

Reinforcing the local electric grid with wind power and new transmission lines increases energy grid resilience in this part of Oregon. This reinforcement will be direct, by upgrading a system that is anticipated to experience higher loads under rising temperatures and related increases in power demand for summer cooling. It is also indirect, by supporting the delivery of power generated through various sources, minimizing the potential reduction in hydro power's role under future conditions. All aspects of this Facility support resiliency in the face of future climate change. The Facility will be designed to withstand extreme events as explained above in Section 9.0.

## 11.0 Conclusions

The risk of seismic hazards to human safety at the Facility is low. The Applicant reviewed regional geologic information and performed a site-specific desktop analysis of potential seismic, geologic, and soils hazards. In addition, a site-specific geotechnical investigation will be conducted, allowing the Applicant to design, engineer, and construct the Facility to the most current standards at the time of construction (Condition PRE-SS-01). The site-specific geotechnical investigation will enforce Conditions PRE-SS-01, PRE-SS-02, PRE-SS-03, and PRE-SS-04. This exhibit reflects input from DOGAMI and demonstrates that the Applicant can design, engineer, and construct the Facility to avoid dangers to human safety. The following supporting evidence is provided, with the remaining evidence to be provided before construction:

- The risk of seismic hazards to human safety at the Facility is considered low. The Applicant has adequately characterized the seismic hazard risk of the site under OAR 345-022-0020(1)(a) and considered seismic events and amplification for the Facility's site-specific subsurface profile. Facility components include solar arrays, transformers, generators, site access roads, transmission line structures, a battery energy storage system, six substations with equipment, and two switchyards. The O&M buildings will be staffed; however, the

probability of a large seismic event occurring while the O&M buildings are occupied is much lower than for a typical building or facility. This very low probability results in minimal risk to human safety. During preconstruction geotechnical investigations, any potentially active faults in the vicinity will be surveyed.

- The Applicant has demonstrated that the Facility can be designed, engineered, and constructed to avoid dangers to human safety and the environment in case of a design seismic event by adhering to the most recently updated IBC requirements, following OAR 345-022-0020(1)(b). These standards require that for the design seismic event, the factors of safety used in the Facility design exceed specific values. For example, in the case of slope design, a factor of safety of at least 1.1 is usually required during seismic stability evaluation. This safety factor is introduced to account for uncertainties in the design process and ensure that performance is acceptable. If slope stability safety factors are not met, the Facility components will either be relocated during the micrositing process or remedial measures to improve slope stability will be implemented. For slope stability, the remedial measures could include the use of ground improvement methods (such as retaining structures) to limit the movement to acceptable levels. Given the relatively low level of risk for the Facility, adherence to the IBC requirements will ensure that appropriate protection measures for human safety are taken.
- The Applicant has provided appropriate site-specific information and demonstrated (per OAR 345-022-0020(1)(c)) that the construction and operation of the Facility, in the absence of a seismic event, will not adversely affect or aggravate the geological or soil conditions of the Facility site or vicinity. The risks posed by non-seismic geologic hazards are generally considered low because the Facility can be designed to minimize or avoid the hazards of landslides and soil erosion. Landslide and slope stability issues will be identified during the final design and mitigated. Erosion hazard resulting from soil and wind action will be minimized by implementing erosion control plan. The Applicant will notify ODOE in the event that site investigations or trenching reveal conditions in the foundation rock different from what was evaluated, or if shear zones, artesian aquifers, deformations, or clastic dikes are found in the vicinity of the site.
- The Applicant has demonstrated that the Facility can be designed, engineered, and constructed to avoid human safety and environment impacts from geological and soil hazards, per OAR 345-022-0020(1)(d). Accordingly, given the relatively small risks these hazards pose to human safety, standard methods of practice (including implementation of the current IBC) will be adequate for the design and construction of the Facility. Site-specific studies will be conducted, additional geotechnical work will be completed once the final locations of the structures are selected, and adequate measures will be implemented to control erosion.
- Finally, the Applicant has assessed future climate conditions for the expected life span of the Facility, and the potential impacts of those conditions on the Facility.

Therefore, for the reasons outlines in this Exhibit, the construction and operation of the proposed Facility will comply with the structural standards as outlined in OAR 345-022-0020.

## 12.0 Submittal Requirements and Approval Standards

### 12.1 Submittal Requirements

**Table H-3. Submittal Requirements Matrix**

Requirement	Location
OAR 345-021-0010(1)(h) Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:	-
(A) A geologic report meeting the Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines must be determined based on consultation with the Oregon Department of Geology and Mineral Industries, as described in paragraph (B) of this subsection;	Section 3.0
(B) A summary of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete;	Section 4.0
(C) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions;	Section 5.0
(D) For all transmission lines, and for all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends (for transmission lines), corners (for transmission lines), and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides, marginally stable slopes or potentially liquefiable soils that could be made unstable by the planned construction or experience impacts during the facility's operation;	Section 6.0
(E) An assessment of seismic hazards, in accordance with standard-of-practice methods and best practices, that addresses all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection, and an explanation of how the applicant will design, engineer, construct, and operate the facility to avoid dangers to human safety and the environment from these seismic hazards. Furthermore, an explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters. The applicant must include proposed design and engineering features, applicable construction codes, and any monitoring and emergency measures for seismic hazards, including tsunami safety measures if the site is located in the DOGAMI-defined tsunami evacuation zone; and	Section 7.0

Requirement	Location
(F) An assessment of geology and soil-related hazards which could, in the absence of a seismic event, adversely affect or be aggravated by the construction or operation of the facility, in accordance with standard-of-practice methods and best practices, that address all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection. An explanation of how the applicant will design, engineer, construct and operate the facility to adequately avoid dangers to human safety and the environment presented by these hazards, as well as:	Section 8.0
(i) An explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters; and	Section 8.0
(ii) An assessment of future climate conditions for the expected life span of the proposed facility and the potential impacts of those conditions on the proposed facility.	Section 8.0

## 12.2 Approval Standards

**Table H-4. Approval Standard**

Requirement	Location
<b>OAR 345-022-0020 Structural Standard</b>	
(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:	-
(a) The applicant, through appropriate site-specific study, has adequately characterized the seismic hazard risk of the site; and	Section 7.0
(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site, as identified in subsection (1)(a);	Sections 7.0 and 8.0
(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and	Section 8.0
(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in subsection (c).	Section 8.0
(2) The Council may not impose the Structural Standard in section (1) to approve or deny an application for an energy facility that would produce power from wind, solar or geothermal energy. However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	N/A
(3) The Council may not impose the Structural Standard in section (1) to deny an application for a special criteria facility under OAR 345-015-0310. However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	N/A

## 13.0 References

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- DOGAMI (Oregon Department of Geology and Mineral Industries). 2010. Cascadia. Winter 2010. “Creating a culture of preparedness–Oregon’s earthquake risk and resiliency.”
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- Niewendorp, C.A., and M.E. Newhouse. 2003. Map of selected earthquakes for Oregon 1841-2002. DOGAMI Open-File Report O-03-02.
- ODOE (Oregon Department of Energy). 2022. Project Order. In the Matter of the Application for Site Certificate for the Echo Solar Project. Issued by Oregon Department of Energy. September 26, 2022.
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# Figures

# Sunstone Solar Project

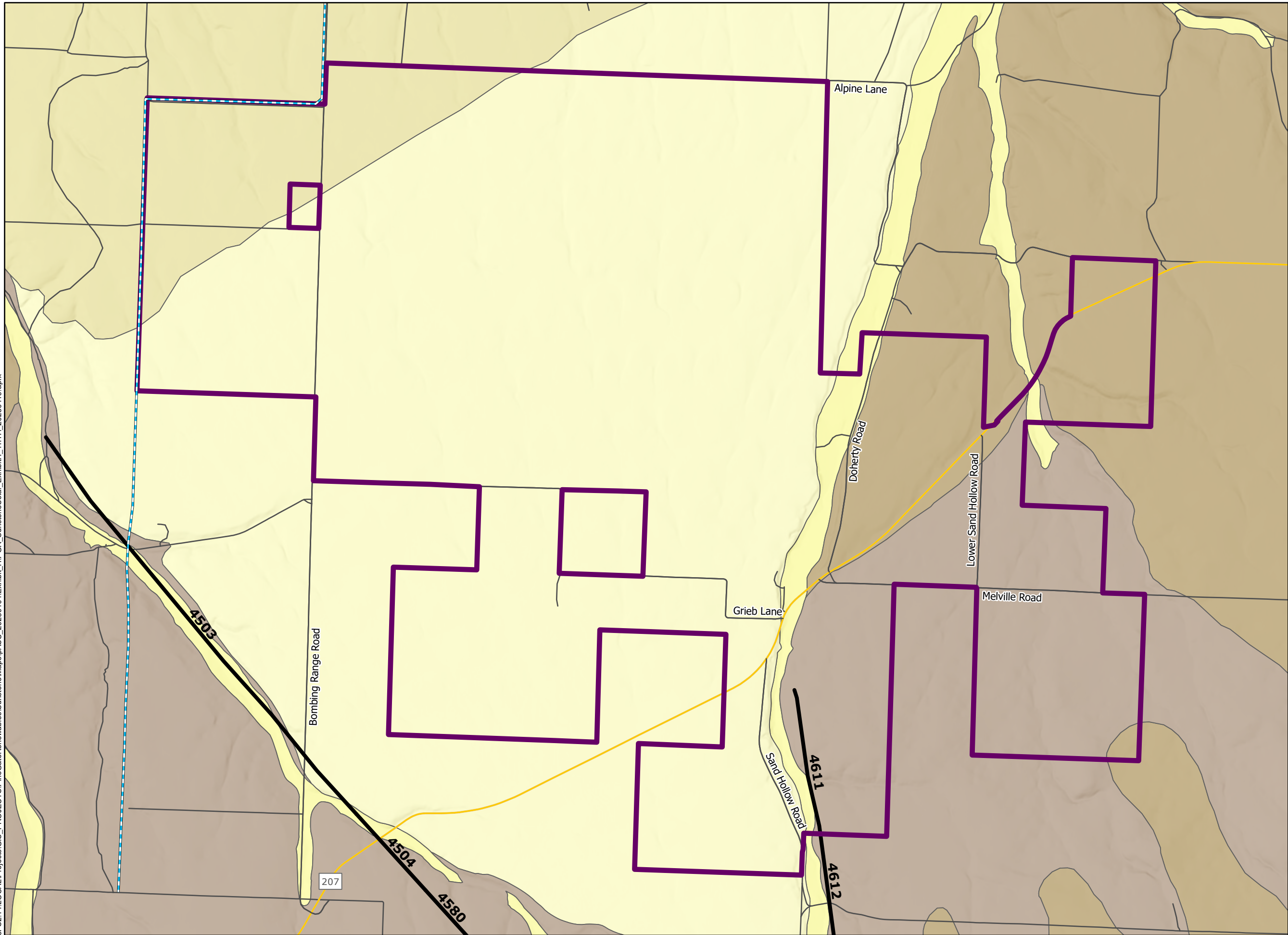
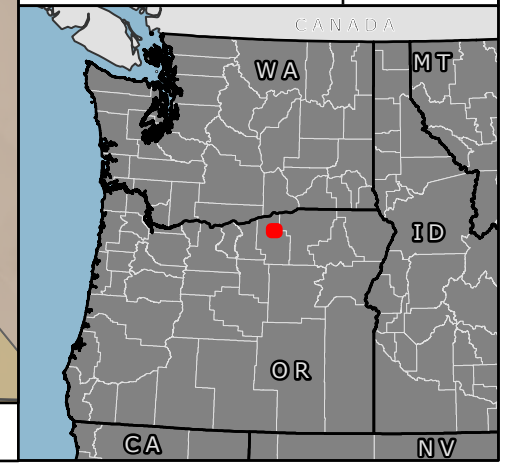
## Figure H-1 Geologic Map

MORROW COUNTY, OR

- Site Boundary
- State Highway
- Local Roads
- Existing UEC Transmission Line
- Fault Line (USGS SGMC)
- DOGAMI Surface Geology
  - Qal - Alluvium
  - Qf - Alluvial fan deposits
  - Qmf - Missoula Flood deposits
  - Tac - Alkali Canyon Formation
  - Tf - Wanapum Basalt (Undifferentiated Frenchman Springs flows)



### Reference Map



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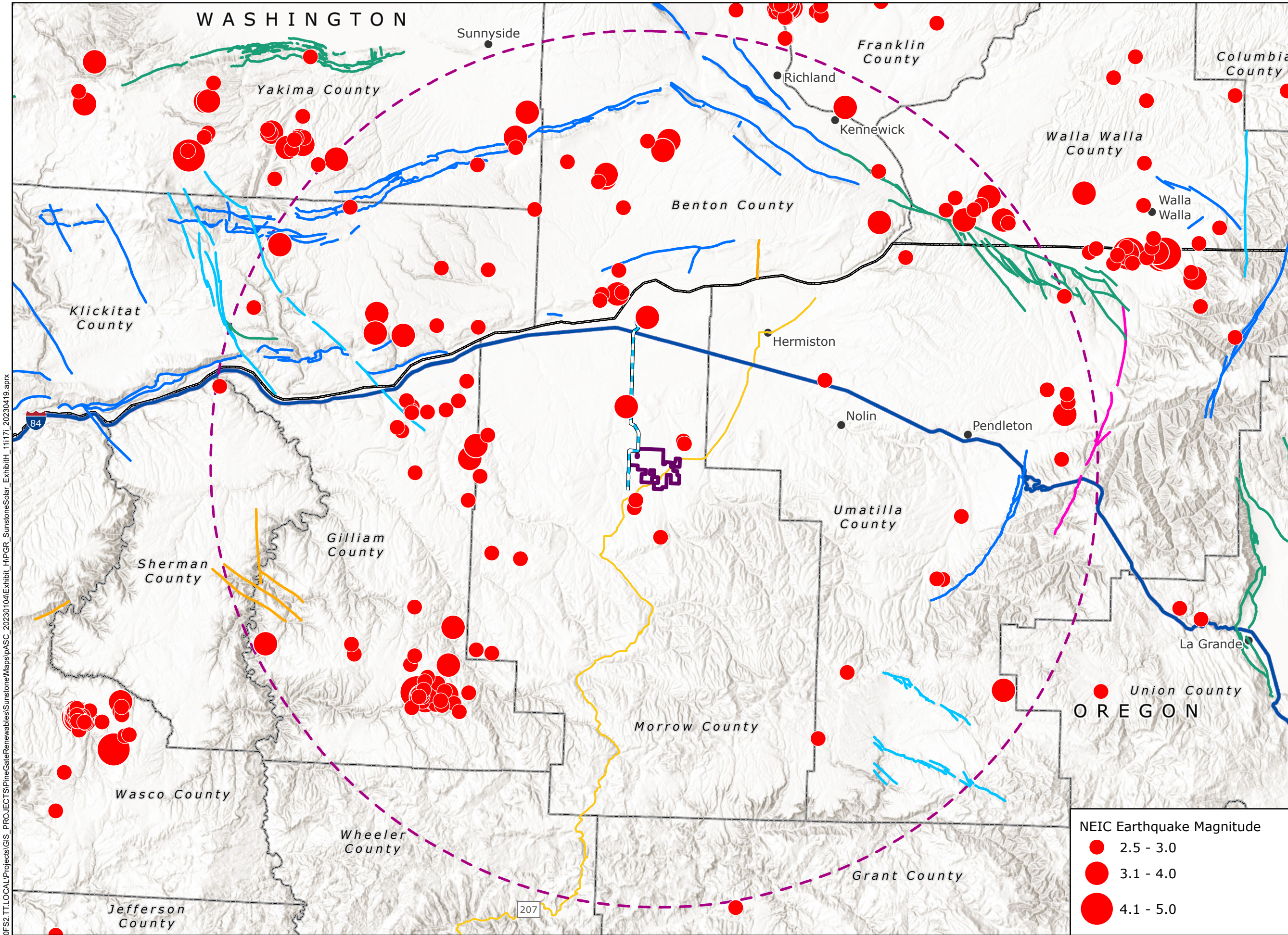


WASHINGTON

# Sunstone Solar Project

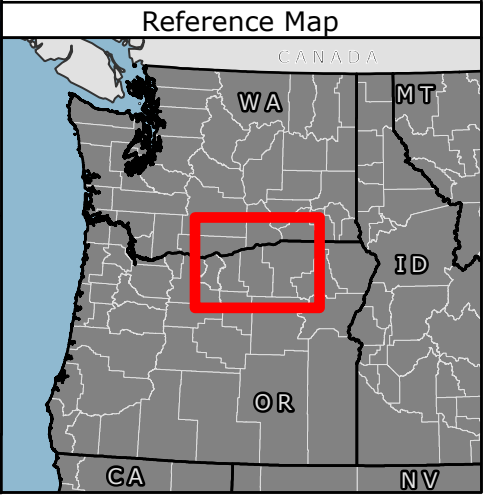
## Figure H-2 Historical Seismicity and Potentially Active Faults

MORROW COUNTY, OR



- Site Boundary
- Analysis Area (50-mile Buffer)
- City/Town
- County Boundary
- State Boundary
- Interstate Highway
- State Highway
- Existing UEC Transmission Line
- USGS Quaternary Faults Age**
- Class B
- Late Quaternary
- Latest Quaternary
- Middle and Late Quaternary
- Undifferentiated Quaternary

- NEIC Earthquake Magnitude**
- 2.5 - 3.0
  - 3.1 - 4.0
  - 4.1 - 5.0



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NOT FOR CONSTRUCTION



# Sunstone Solar Project

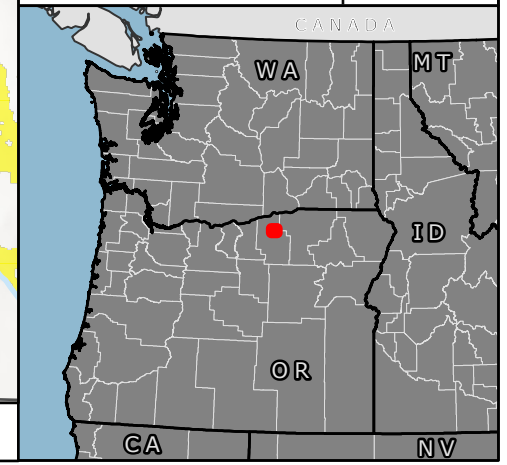
## Figure H-3 Special Flood Hazard Areas

MORROW COUNTY, OR

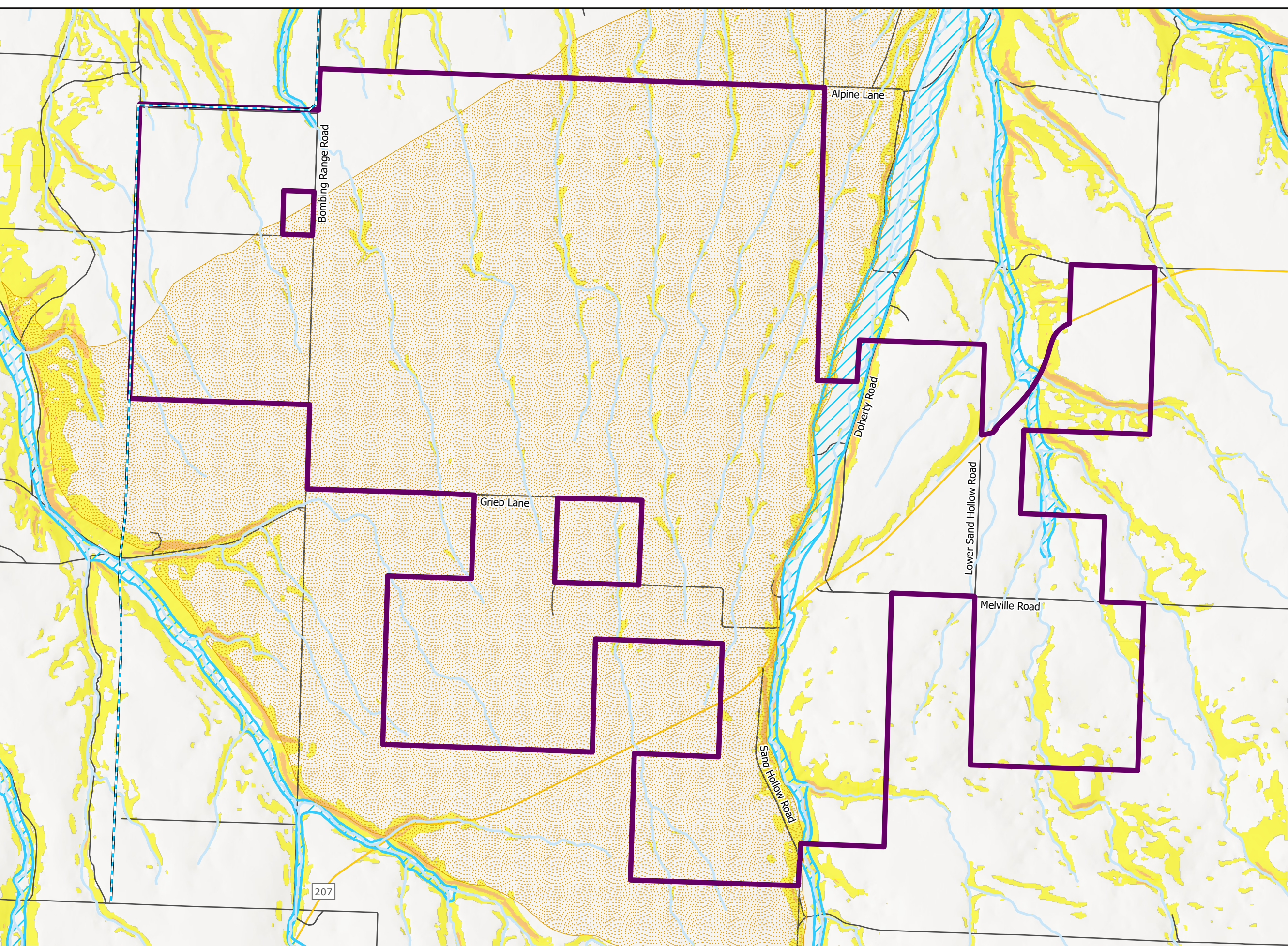
- Site Boundary
- State Highway
- Local Roads
- Existing UEC Transmission Line
- Stream/River (NHD)
- FEMA Special Flood Hazard Areas
  - Zone A (1% Annual Chance Flood Hazard)
- DOGAMI Landslide Deposits
  - Fan
- DOGAMI Landslide Susceptibility
  - Low
  - Moderate
  - High
  - Very High



### Reference Map



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# **Attachment H-1. Evidence of Consultation with DOGAMI**

# Meeting Notes

## Sunstone Solar DOGAMI Meeting/Conference Call

### Virtual Meeting (via Teams)

April 26, 2023

11:30 a.m.–12:00 p.m. PST

**Attendees:** Jason McClaughry (DOGAMI)  
Brown Hobson, Jim Morrison, and Brian Munger (Pine Gate Renewables)  
Christopher Clark (ODOE)  
Rachel Miller and Amy Bensted (Tetra Tech)

General introductions were made for the meeting participants.

**Project Introduction** Brown Hobson described the Sunstone Solar Project (Facility) background including the Facility size, type, and schedule. Jason McClaughry asked for a better idea of the location and a map was provided.

**Geologic Hazards** Rachel Miller described the general conclusions regarding the geologic hazards identified for the Facility including discussion of the draft Figures from Exhibit H of the Application for Site Certificate (ASC). Jason McClaughry indicated he wanted to know more about whether the mapped fault in the site boundary was active or not. Rachel Miller indicated this was flagged for further study in the geotechnical investigation. Jason McClaughry also requested that the analysis in Exhibit H and associated study of geological hazards look at the available DOGAMI light detection and ranging (LiDAR) data to further identify the possible presence of faults and landslides, particularly along the Sand Hollow alluvium and valley and at the intersection of Highway 207. Jason McClaughry noted that, other than the addition of LiDAR review, the existing analysis used the correct data and interpreted the data correctly and commented that the visuals reviewed on screen during the call (i.e., the draft Exhibit H figures) were great.

**Timing of Geotechnical Studies** Further discussion of the timing of geotechnical studies included Christopher Clark, Jim Morrison, and Jason McClaughry. In general, Christopher Clark indicated it was acceptable to provide the geotechnical studies in the pre-construction stages and these were not necessary for Exhibit H. However, Christopher Clark requested that the ASC include a scope and outline of the anticipated site-specific geotechnical studies that will be conducted prior to construction.

# **Attachment H-2. Probabilistic Seismic Hazard Deaggregation at 475-year Intervals**

\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs

Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.82 %

Mean (over all sources):

m: 6.47

r: 74.37 km

$\epsilon_0$ : 0.18  $\sigma$

Mode (largest m-r bin):

m: 5.1

r: 11.97 km

$\epsilon_0$ : -0.08  $\sigma$

Contribution: 5.17 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.1

r: 14.16 km

$\epsilon_0$ : 0.24  $\sigma$

Contribution: 1.77 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [-∞ .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)





430	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
430	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.000	0.000					
430	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
430	8.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.000	0.000					
410	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
410	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.000	0.000					
410	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.000	0.000					
410	8.5	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.010	0.009	0.000	0.001					
390	7.9	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.012	0.000	0.000					
390	8.1	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.028	0.000	0.000					
390	8.3	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.061	0.083	0.000	0.005					
390	8.5	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.168	0.003	0.005	0.006					
390	8.7	0.691	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.618	0.000	0.073	0.000					
390	9.1	0.432	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.351	0.000	0.080	0.000	0.001					
370	7.9	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.000	0.000					
370	8.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.026	0.000	0.001					
370	8.3	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.023	0.001	0.001	0.000					
370	8.5	0.264	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.235	0.000	0.029	0.000					
370	8.7	1.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.823	0.165	0.001	0.000					
370	8.9	1.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.841	0.000	0.198	0.000	0.000					
370	9.1	1.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.176	0.420	0.000	0.000	0.017					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.001	0.000	0.000					
350	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.000	0.000	0.000					
350	8.5	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.002	0.001	0.000					

330	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.1	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
330	8.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
330	8.5	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.073	0.014	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.7	0.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.080	0.002	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.9	0.129	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.091	0.037	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
310	7.9	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
310	8.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.035	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000
310	8.3	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.5	0.173	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.127	0.016	0.030	0.000	0.001	0.000	0.000	0.000	0.000	0.000
310	8.7	0.246	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.174	0.070	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000
310	8.9	1.331	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.881	0.431	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.000
310	9.1	1.615	0.000	0.000	0.000	0.000	0.000	0.000	1.004
0.573	0.000	0.000	0.037	0.000	0.000	0.000	0.000	0.000	1.232
310	9.3	2.240	0.000	0.000	0.000	0.000	0.000	0.000	1.232
0.885	0.000	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	6.7	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.013	0.000	0.000	0.000	0.000	0.000
290	6.9	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.046	0.009	0.000	0.000	0.000	0.000	0.000
290	7.1	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.089	0.035	0.000	0.000	0.000	0.000	0.000	0.000
290	7.3	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000
270	6.7	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.015	0.014	0.000	0.000	0.000	0.000	0.000
270	6.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.022	0.072	0.000	0.000	0.000	0.000	0.000	0.000
270	7.1	0.231	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.018	0.195	0.013	0.005	0.000	0.000	0.000	0.000	0.000

270	7.3	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.035	0.007	0.002	0.001					
270	7.5	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.019	0.001	0.002	0.000					
270	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.000	0.001	0.000	0.000					
270	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
250	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.007					
250	6.7	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.002					
250	6.9	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.077	0.019	0.002					
250	7.1	0.229	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.111	0.102	0.011	0.005					
250	7.3	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.009	0.028	0.002	0.003	0.000					
250	7.5	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.025	0.003	0.004	0.000	0.000					
250	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.002	0.000	0.000	0.000					
250	7.9	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.005	0.001	0.000	0.000	0.000					
230	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
230	6.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.002					
230	6.7	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.018	0.001					
230	6.9	0.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.061	0.006	0.003					
230	7.1	0.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.146	0.013	0.016	0.000					
230	7.3	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.021	0.005	0.005	0.000	0.000					
230	7.5	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.013	0.004	0.001	0.000	0.000					
230	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.002	0.001	0.000	0.000	0.000					
230	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.001	0.000	0.000	0.000	0.000					
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
210	6.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.000					

210	6.7	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.001	0.001					
210	6.9	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.025	0.010	0.005	0.000					
210	7.1	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.045	0.031	0.016	0.001	0.000					
210	7.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.011	0.003	0.001	0.000	0.001					
210	7.5	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.003	0.002	0.000	0.001	0.002					
210	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.000	0.001	0.000					
210	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.002	0.002
0.000	0.000	0.000	0.000	0.000					
190	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
190	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
190	6.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.003	0.001	0.000					
190	6.9	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.007	0.002	0.000	0.000					
190	7.1	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.005	0.001	0.000	0.001					
190	7.3	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.000	0.003	0.008					
190	7.5	0.016	0.000	0.000	0.000	0.000	0.000	0.001	0.002
0.001	0.000	0.000	0.008	0.004					
190	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.001	0.000
0.000	0.000	0.002	0.002	0.000					
190	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000	0.000	0.001	0.000	0.000					
170	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
170	6.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.001	0.000	0.000	0.002					

170	7.1	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.002	0.001	0.000	0.003	0.012					
170	7.3	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.027	0.008					
170	7.5	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.012	0.021	0.001					
170	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.005	0.001	0.000					
170	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					
150	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
150	6.9	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.015					
150	7.1	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.000	0.000	0.002	0.038	0.008					
150	7.3	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.038	0.042	0.001					
150	7.5	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.011	0.046	0.009	0.000					
150	7.7	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.007	0.005	0.000	0.000					
150	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.002	0.001	0.000	0.000					
130	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					

130	6.5	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.017					
130	6.7	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.029	0.020					
130	6.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.078	0.003					
130	7.1	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.093	0.043	0.000					
130	7.3	0.173	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.047	0.122	0.004	0.000					
130	7.5	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.071	0.036	0.000	0.000					
130	7.7	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.007	0.010	0.001	0.000	0.000					
130	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.004	0.001	0.000	0.000	0.000					
110	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.1	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.011					
110	6.3	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.029	0.025					
110	6.5	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.070	0.012					
110	6.7	0.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.050	0.075	0.002					
110	6.9	0.179	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.145	0.026	0.000					
110	7.1	0.266	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.115	0.149	0.002	0.000					
110	7.3	0.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.032	0.270	0.050	0.000	0.000					
110	7.5	0.228	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.104	0.120	0.004	0.000	0.000					
110	7.7	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.022	0.005	0.000	0.000	0.000					
110	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.003	0.000	0.000	0.000	0.000					
90	5.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
90	5.7	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.015					

90	5.9	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.016	0.033					
90	6.1	0.130	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.097	0.025					
90	6.3	0.251	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.127	0.114	0.003					
90	6.5	0.321	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.072	0.197	0.052	0.000					
90	6.7	0.369	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.151	0.208	0.010	0.000					
90	6.9	0.467	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.053	0.332	0.081	0.000	0.000					
90	7.1	0.518	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.217	0.296	0.005	0.000	0.000					
90	7.3	0.509	0.000	0.000	0.000	0.000	0.000	0.000	0.037
0.395	0.077	0.000	0.000	0.000					
90	7.5	0.260	0.000	0.000	0.000	0.000	0.000	0.000	0.097
0.155	0.008	0.000	0.000	0.000					
90	7.7	0.035	0.000	0.000	0.000	0.000	0.000	0.004	0.024
0.007	0.000	0.000	0.000	0.000					
90	7.9	0.009	0.000	0.000	0.000	0.000	0.000	0.004	0.005
0.000	0.000	0.000	0.000	0.000					
70	5.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
70	5.3	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.028					
70	5.5	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.067	0.048					
70	5.7	0.214	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.020	0.157	0.037					
70	5.9	0.332	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.150	0.174	0.008					
70	6.1	0.549	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.088	0.383	0.078	0.000					
70	6.3	0.765	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.040	0.451	0.268	0.007	0.000					
70	6.5	0.899	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.253	0.533	0.114	0.000	0.000					
70	6.7	0.891	0.000	0.000	0.000	0.000	0.000	0.000	0.016
0.481	0.373	0.021	0.000	0.000					
70	6.9	0.831	0.000	0.000	0.000	0.000	0.000	0.000	0.101
0.587	0.143	0.000	0.000	0.000					
70	7.1	0.922	0.000	0.000	0.000	0.000	0.000	0.000	0.441
0.468	0.013	0.000	0.000	0.000					
70	7.3	0.919	0.000	0.000	0.000	0.000	0.000	0.106	0.687
0.127	0.000	0.000	0.000	0.000					
70	7.5	0.460	0.000	0.000	0.000	0.000	0.000	0.164	0.280
0.016	0.000	0.000	0.000	0.000					
70	7.7	0.076	0.000	0.000	0.000	0.000	0.008	0.057	0.011
0.000	0.000	0.000	0.000	0.000					



70	7.9	0.013	0.000	0.000	0.000	0.000	0.004	0.009	0.001
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.270	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.051	0.151	0.068					
50	5.3	0.505	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.208	0.257	0.040					
50	5.5	0.896	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.164	0.514	0.206	0.012					
50	5.7	1.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.504	0.517	0.075	0.000					
50	5.9	1.259	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.152	0.752	0.347	0.009	0.000					
50	6.1	1.642	0.000	0.000	0.000	0.000	0.000	0.000	0.035
0.806	0.738	0.062	0.000	0.000					
50	6.3	1.749	0.000	0.000	0.000	0.000	0.000	0.000	0.391
1.052	0.305	0.001	0.000	0.000					
50	6.5	1.698	0.000	0.000	0.000	0.000	0.000	0.103	0.719
0.774	0.103	0.000	0.000	0.000					
50	6.7	1.502	0.000	0.000	0.000	0.000	0.000	0.116	0.822
0.557	0.008	0.000	0.000	0.000					
50	6.9	1.382	0.000	0.000	0.000	0.000	0.000	0.314	0.872
0.195	0.000	0.000	0.000	0.000					
50	7.1	1.231	0.000	0.000	0.000	0.000	0.033	0.581	0.612
0.006	0.000	0.000	0.000	0.000					
50	7.3	0.942	0.000	0.000	0.000	0.000	0.155	0.637	0.150
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.456	0.000	0.000	0.000	0.006	0.169	0.264	0.018
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.052	0.000	0.000	0.000	0.005	0.033	0.013	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.014	0.000	0.000	0.000	0.004	0.009	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	2.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.575	1.087	0.640	0.175	0.002					
30	5.3	3.167	0.000	0.000	0.000	0.000	0.000	0.000	0.248
1.380	1.045	0.469	0.025	0.000					
30	5.5	3.836	0.000	0.000	0.000	0.000	0.000	0.136	1.222
1.469	0.904	0.104	0.000	0.000					
30	5.7	3.670	0.000	0.000	0.000	0.000	0.000	0.518	1.444
1.264	0.434	0.010	0.000	0.000					
30	5.9	3.316	0.000	0.000	0.000	0.000	0.036	0.922	1.246
1.026	0.087	0.000	0.000	0.000					
30	6.1	3.194	0.000	0.000	0.000	0.000	0.345	1.180	1.299
0.370	0.000	0.000	0.000	0.000					
30	6.3	2.946	0.000	0.000	0.000	0.133	0.787	1.134	0.851
0.041	0.000	0.000	0.000	0.000					
30	6.5	2.274	0.000	0.000	0.000	0.198	0.702	0.991	0.382
0.000	0.000	0.000	0.000	0.000					
30	6.7	1.858	0.000	0.000	0.019	0.210	0.696	0.757	0.176
0.000	0.000	0.000	0.000	0.000					

30	6.9	1.596	0.000	0.000	0.053	0.305	0.713	0.521	0.003
0.000	0.000	0.000	0.000	0.000					
30	7.1	1.346	0.000	0.001	0.097	0.436	0.638	0.174	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	1.172	0.000	0.015	0.179	0.470	0.477	0.031	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.558	0.000	0.015	0.112	0.270	0.161	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.051	0.000	0.003	0.014	0.028	0.006	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.010	0.000	0.001	0.004	0.005	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	5.166	0.000	0.000	0.000	0.606	0.528	1.349	1.774
0.850	0.061	0.000	0.000	0.000					
10	5.3	4.709	0.000	0.072	0.201	0.476	0.922	1.627	1.278
0.134	0.000	0.000	0.000	0.000					
10	5.5	4.013	0.051	0.131	0.347	0.696	1.188	1.286	0.314
0.000	0.000	0.000	0.000	0.000					
10	5.7	3.036	0.077	0.077	0.293	0.653	1.216	0.679	0.041
0.000	0.000	0.000	0.000	0.000					
10	5.9	2.232	0.088	0.139	0.245	0.647	0.923	0.190	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	2.313	0.098	0.283	0.551	0.737	0.629	0.016	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	1.707	0.173	0.329	0.480	0.503	0.222	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	1.437	0.204	0.297	0.409	0.388	0.140	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.153	0.200	0.250	0.352	0.302	0.050	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.882	0.175	0.237	0.305	0.165	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.657	0.153	0.219	0.230	0.055	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.473	0.129	0.176	0.154	0.015	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.193	0.062	0.076	0.053	0.001	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.006	0.006	0.003	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.001	0.001	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.36

Distance (km): 33.731396

Magnitude: 6.0941281

Epsilon (mean values): 0.040829534

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.36

Distance (km): 33.726627  
Magnitude: 6.0940845  
Epsilon (mean values): 0.040752476  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.19  
Distance (km): 33.221067  
Magnitude: 6.0823826  
Epsilon (mean values): 0.03043332  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.19  
Distance (km): 33.216237  
Magnitude: 6.0823382  
Epsilon (mean values): 0.030355177  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.51  
Distance (km): 33.626143  
Magnitude: 6.0904636  
Epsilon (mean values): 0.031044193  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.5  
Distance (km): 33.614214  
Magnitude: 6.0902727  
Epsilon (mean values): 0.030747251  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.42  
Distance (km): 33.190486  
Magnitude: 6.0802856  
Epsilon (mean values): 0.022058579  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.41  
Distance (km): 33.179622  
Magnitude: 6.080114  
Epsilon (mean values): 0.021784775  
sub0\_ch\_bot.in:  
Percent Contributed: 5.01  
Distance (km): 308.17316  
Magnitude: 9.1179324  
Epsilon (mean values): 0.60824831  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 5.01  
Distance (km): 308.17316  
Magnitude: 9.1179324  
Epsilon (mean values): 0.60824831  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132  
sub0\_ch\_mid.in:  
Percent Contributed: 3.5  
Distance (km): 361.47413  
Magnitude: 8.9265389

Epsilon (mean values): 1.0494554  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 3.5  
Distance (km): 361.47413  
Magnitude: 8.9265389  
Epsilon (mean values): 1.0494554  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.78  
Distance (km): 36.551315  
Magnitude: 6.2170595  
Epsilon (mean values): 0.016136895  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.78  
Distance (km): 36.521154  
Magnitude: 6.2167664  
Epsilon (mean values): 0.015741702  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.84  
Distance (km): 36.544824  
Magnitude: 6.2141811  
Epsilon (mean values): 0.0088216986  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.84  
Distance (km): 36.542938  
Magnitude: 6.2140045  
Epsilon (mean values): 0.0086772313  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.057924094 g  
Recovered targets:  
Return period: 483.23872 yrs  
Exceedance rate: 0.0020693706 yr<sup>-1</sup>  
Totals:  
Binned: 22.65 %  
Residual: 0 %  
Trace: 0.2 %  
Mean (over all sources):

m: 6.06  
 r: 34.65 km  
 $\epsilon_0$ : 0.17  $\sigma$   
 Mode (largest m-r bin):  
 m: 5.1  
 r: 12.38 km  
 $\epsilon_0$ : -0.25  $\sigma$   
 Contribution: 1.58 %

Mode (largest m-r- $\epsilon_0$  bin):  
 m: 5.1  
 r: 16.11 km  
 $\epsilon_0$ : 0.22  $\sigma$   
 Contribution: 0.6 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [2.5, \infty)$
290	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
270	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.5	0.001	0.000	0.000	0.000	0.000









0.024	0.224	0.089	0.000	0.000						
50	6.1	0.427	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.224	0.198	0.006	0.000	0.000						
50	6.3	0.453	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.089
0.306	0.058	0.000	0.000	0.000						
50	6.5	0.412	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.170
0.223	0.020	0.000	0.000	0.000						
50	6.7	0.353	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.177
0.176	0.000	0.000	0.000	0.000						
50	6.9	0.329	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.225
0.059	0.000	0.000	0.000	0.000						
50	7.1	0.295	0.000	0.000	0.000	0.000	0.000	0.000	0.134	0.161
0.000	0.000	0.000	0.000	0.000						
50	7.3	0.229	0.000	0.000	0.000	0.000	0.016	0.164	0.048	
0.000	0.000	0.000	0.000	0.000						
50	7.5	0.112	0.000	0.000	0.000	0.000	0.035	0.077	0.000	
0.000	0.000	0.000	0.000	0.000						
50	7.7	0.013	0.000	0.000	0.000	0.000	0.010	0.003	0.000	
0.000	0.000	0.000	0.000	0.000						
50	7.9	0.003	0.000	0.000	0.000	0.001	0.003	0.000	0.000	
0.000	0.000	0.000	0.000	0.000						
30	5.1	1.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.476	0.393	0.223	0.000	0.000						
30	5.3	1.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.118
0.523	0.327	0.069	0.000	0.000						
30	5.5	0.970	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.274
0.412	0.284	0.000	0.000	0.000						
30	5.7	0.900	0.000	0.000	0.000	0.000	0.000	0.053	0.409	
0.330	0.107	0.000	0.000	0.000						
30	5.9	0.817	0.000	0.000	0.000	0.000	0.000	0.174	0.322	
0.320	0.000	0.000	0.000	0.000						
30	6.1	0.782	0.000	0.000	0.000	0.000	0.012	0.318	0.357	
0.096	0.000	0.000	0.000	0.000						
30	6.3	0.722	0.000	0.000	0.000	0.000	0.183	0.299	0.240	
0.000	0.000	0.000	0.000	0.000						
30	6.5	0.540	0.000	0.000	0.000	0.000	0.144	0.285	0.110	
0.000	0.000	0.000	0.000	0.000						
30	6.7	0.436	0.000	0.000	0.000	0.013	0.144	0.217	0.063	
0.000	0.000	0.000	0.000	0.000						
30	6.9	0.381	0.000	0.000	0.000	0.035	0.179	0.167	0.000	
0.000	0.000	0.000	0.000	0.000						
30	7.1	0.325	0.000	0.000	0.000	0.087	0.170	0.067	0.000	
0.000	0.000	0.000	0.000	0.000						
30	7.3	0.285	0.000	0.000	0.007	0.119	0.154	0.005	0.000	
0.000	0.000	0.000	0.000	0.000						
30	7.5	0.137	0.000	0.000	0.013	0.072	0.052	0.000	0.000	
0.000	0.000	0.000	0.000	0.000						
30	7.7	0.013	0.000	0.000	0.002	0.008	0.002	0.000	0.000	
0.000	0.000	0.000	0.000	0.000						
30	7.9	0.003	0.000	0.000	0.001	0.002	0.000	0.000	0.000	

0.000	0.000	0.000	0.000	0.000					
10	5.1	1.579	0.000	0.000	0.000	0.212	0.172	0.549	0.603
0.044	0.000	0.000	0.000	0.000					
10	5.3	1.234	0.000	0.000	0.046	0.144	0.290	0.432	0.321
0.000	0.000	0.000	0.000	0.000					
10	5.5	0.953	0.000	0.000	0.107	0.076	0.289	0.391	0.090
0.000	0.000	0.000	0.000	0.000					
10	5.7	0.721	0.000	0.000	0.075	0.109	0.289	0.241	0.006
0.000	0.000	0.000	0.000	0.000					
10	5.9	0.537	0.000	0.053	0.032	0.112	0.263	0.077	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	0.561	0.000	0.060	0.107	0.174	0.210	0.010	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	0.418	0.016	0.069	0.093	0.157	0.082	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.351	0.023	0.049	0.100	0.124	0.055	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.282	0.020	0.052	0.083	0.105	0.022	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.218	0.020	0.050	0.072	0.076	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.162	0.020	0.041	0.082	0.019	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.117	0.015	0.036	0.062	0.005	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.048	0.008	0.017	0.023	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.001	0.002	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.98  
 Distance (km): 33.721347  
 Magnitude: 6.0305928  
 Epsilon (mean values): 0.16173871

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.98  
 Distance (km): 33.716938  
 Magnitude: 6.0305499  
 Epsilon (mean values): 0.1616693

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.95  
 Distance (km): 33.262401  
 Magnitude: 6.0191202  
 Epsilon (mean values): 0.15327482

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.95  
 Distance (km): 33.257927

Magnitude: 6.0190765  
Epsilon (mean values): 0.15320435  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.97  
Distance (km): 33.608509  
Magnitude: 6.0274334  
Epsilon (mean values): 0.15148666  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.97  
Distance (km): 33.596792  
Magnitude: 6.0272432  
Epsilon (mean values): 0.15120591  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.95  
Distance (km): 33.216343  
Magnitude: 6.0174902  
Epsilon (mean values): 0.1441608  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.95  
Distance (km): 33.205615  
Magnitude: 6.0173193  
Epsilon (mean values): 0.14389977  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.057924094 g  
Recovered targets:  
Return period: 483.23872 yrs  
Exceedance rate: 0.0020693706 yr<sup>-1</sup>  
Totals:  
Binned: 21.82 %  
Residual: 0 %  
Trace: 0.23 %  
Mean (over all sources):  
m: 6.06  
r: 33.13 km  
ε<sub>0</sub>: 0.06 σ  
Mode (largest m-r bin):  
m: 5.5  
r: 28.3 km  
ε<sub>0</sub>: 0.52 σ

Contribution: 1.28 %  
 Mode (largest m-r- $\epsilon_0$  bin):  
 m: 5.5  
 r: 24.33 km  
 $\epsilon_0$ : 0.25  $\sigma$   
 Contribution: 0.55 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[0, 0.5)$
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	$\epsilon=[2.5, \infty)$
270	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	7.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	7.3	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000

190	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
190	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
170	7.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.003					
170	7.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.000					
170	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
170	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
150	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
150	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.003					
150	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.012	0.000					
150	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.005	0.000					
150	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
150	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
130	6.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.007					
130	6.9	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.015	0.002					
130	7.1	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.017	0.000					
130	7.3	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.022	0.004	0.000					
130	7.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.000	0.000					
130	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					



70	5.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
70	5.5	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.042	0.014					
70	5.7	0.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.018	0.064	0.006					
70	5.9	0.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.066	0.044	0.000					
70	6.1	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.109	0.019	0.000					
70	6.3	0.157	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.073	0.084	0.000	0.000					
70	6.5	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.143	0.038	0.000	0.000					
70	6.7	0.194	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.075	0.115	0.003	0.000	0.000					
70	6.9	0.174	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.117	0.057	0.000	0.000	0.000					
70	7.1	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.038
0.145	0.010	0.000	0.000	0.000					
70	7.3	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.118
0.072	0.000	0.000	0.000	0.000					
70	7.5	0.095	0.000	0.000	0.000	0.000	0.000	0.004	0.075
0.016	0.000	0.000	0.000	0.000					
70	7.7	0.016	0.000	0.000	0.000	0.000	0.000	0.010	0.006
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.002	0.001
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.022	0.018					
50	5.3	0.153	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.069	0.073	0.010					
50	5.5	0.366	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.135	0.194	0.037	0.000					
50	5.7	0.409	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.271	0.130	0.000	0.000					
50	5.9	0.399	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.090	0.237	0.072	0.000	0.000					
50	6.1	0.432	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.233	0.196	0.002	0.000	0.000					
50	6.3	0.394	0.000	0.000	0.000	0.000	0.000	0.000	0.022
0.271	0.100	0.000	0.000	0.000					
50	6.5	0.380	0.000	0.000	0.000	0.000	0.000	0.000	0.126
0.232	0.022	0.000	0.000	0.000					
50	6.7	0.349	0.000	0.000	0.000	0.000	0.000	0.000	0.177
0.173	0.000	0.000	0.000	0.000					
50	6.9	0.313	0.000	0.000	0.000	0.000	0.000	0.026	0.205
0.081	0.000	0.000	0.000	0.000					
50	7.1	0.276	0.000	0.000	0.000	0.000	0.000	0.090	0.183
0.003	0.000	0.000	0.000	0.000					





10	6.3	0.419	0.029	0.075	0.108	0.126	0.082	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.351	0.029	0.057	0.101	0.106	0.058	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.283	0.024	0.052	0.082	0.102	0.024	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.217	0.017	0.054	0.073	0.073	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.162	0.014	0.044	0.069	0.035	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.117	0.014	0.035	0.058	0.010	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.048	0.007	0.015	0.024	0.001	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.001	0.001	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.88  
Distance (km): 32.387524  
Magnitude: 6.0393547  
Epsilon (mean values): 0.060587921

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.88  
Distance (km): 32.385465  
Magnitude: 6.0393343  
Epsilon (mean values): 0.060550976

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.85  
Distance (km): 31.960555  
Magnitude: 6.0289398  
Epsilon (mean values): 0.050798985

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.85  
Distance (km): 31.958467  
Magnitude: 6.0289191  
Epsilon (mean values): 0.050761493

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.91  
Distance (km): 32.213853  
Magnitude: 6.0355209  
Epsilon (mean values): 0.047837131

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.9  
Distance (km): 32.204129  
Magnitude: 6.0353662  
Epsilon (mean values): 0.04755383

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.89  
Distance (km): 31.846571  
Magnitude: 6.0264412  
Epsilon (mean values): 0.039317648  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.88  
Distance (km): 31.837731  
Magnitude: 6.0263038  
Epsilon (mean values): 0.039055221  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.057924094 g  
Recovered targets:  
Return period: 483.23872 yrs  
Exceedance rate: 0.0020693706 yr<sup>-1</sup>  
Totals:  
Binned: 23.24 %  
Residual: 0 %  
Trace: 0.19 %  
Mean (over all sources):  
m: 6.19  
r: 36.47 km  
 $\epsilon_0$ : -0.07  $\sigma$   
Mode (largest m-r bin):  
m: 5.3  
r: 12.47 km  
 $\epsilon_0$ : -0.39  $\sigma$   
Contribution: 1.18 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 5.3  
r: 13.47 km  
 $\epsilon_0$ : -0.22  $\sigma$   
Contribution: 0.39 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)





0.023	0.035	0.000	0.000	0.000					
110	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.007	0.001	0.000	0.000	0.000					
110	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.001	0.000	0.000	0.000	0.000					
90	5.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
90	5.9	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.008					
90	6.1	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.033	0.004					
90	6.3	0.102	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.077	0.020	0.000					
90	6.5	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.072	0.070	0.000	0.000					
90	6.7	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.115	0.034	0.000	0.000					
90	6.9	0.166	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.053	0.113	0.000	0.000	0.000					
90	7.1	0.165	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.119	0.046	0.000	0.000	0.000					
90	7.3	0.147	0.000	0.000	0.000	0.000	0.000	0.000	0.018
0.125	0.005	0.000	0.000	0.000					
90	7.5	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.030
0.040	0.000	0.000	0.000	0.000					
90	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.001	0.000	0.000	0.000	0.000					
90	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.001	0.002
0.000	0.000	0.000	0.000	0.000					
70	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.5	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.009					
70	5.7	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.028	0.011					
70	5.9	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.037	0.048	0.002					
70	6.1	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.053	0.119	0.009	0.000					
70	6.3	0.287	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.040	0.217	0.029	0.000	0.000					
70	6.5	0.355	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.216	0.139	0.000	0.000	0.000					
70	6.7	0.325	0.000	0.000	0.000	0.000	0.000	0.000	0.016
0.273	0.036	0.000	0.000	0.000					
70	6.9	0.274	0.000	0.000	0.000	0.000	0.000	0.000	0.098
0.176	0.000	0.000	0.000	0.000					
70	7.1	0.278	0.000	0.000	0.000	0.000	0.000	0.000	0.207
0.071	0.000	0.000	0.000	0.000					
70	7.3	0.257	0.000	0.000	0.000	0.000	0.000	0.047	0.210

0.000	0.000	0.000	0.000	0.000					
70	7.5	0.124	0.000	0.000	0.000	0.000	0.000	0.058	0.065
0.000	0.000	0.000	0.000	0.000					
70	7.7	0.019	0.000	0.000	0.000	0.000	0.000	0.018	0.001
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.003	0.000	0.000	0.000	0.000	0.001	0.003	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.012					
50	5.3	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.044	0.014					
50	5.5	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.097	0.054	0.005					
50	5.7	0.243	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.088	0.128	0.027	0.000					
50	5.9	0.332	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.038	0.210	0.084	0.000	0.000					
50	6.1	0.501	0.000	0.000	0.000	0.000	0.000	0.000	0.035
0.286	0.178	0.001	0.000	0.000					
50	6.3	0.577	0.000	0.000	0.000	0.000	0.000	0.000	0.274
0.288	0.015	0.000	0.000	0.000					
50	6.5	0.578	0.000	0.000	0.000	0.000	0.000	0.103	0.347
0.129	0.000	0.000	0.000	0.000					
50	6.7	0.484	0.000	0.000	0.000	0.000	0.000	0.116	0.339
0.030	0.000	0.000	0.000	0.000					
50	6.9	0.412	0.000	0.000	0.000	0.000	0.000	0.184	0.228
0.000	0.000	0.000	0.000	0.000					
50	7.1	0.344	0.000	0.000	0.000	0.000	0.016	0.208	0.121
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.251	0.000	0.000	0.000	0.000	0.063	0.183	0.004
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.118	0.000	0.000	0.000	0.000	0.051	0.068	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.013	0.000	0.000	0.000	0.000	0.010	0.003	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.003	0.000	0.000	0.000	0.001	0.003	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	0.416	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.028	0.201	0.123	0.061	0.002					
30	5.3	0.658	0.000	0.000	0.000	0.000	0.000	0.000	0.036
0.256	0.220	0.133	0.013	0.000					
30	5.5	0.938	0.000	0.000	0.000	0.000	0.000	0.021	0.329
0.315	0.245	0.028	0.000	0.000					
30	5.7	0.966	0.000	0.000	0.000	0.000	0.000	0.199	0.379
0.271	0.117	0.000	0.000	0.000					
30	5.9	0.916	0.000	0.000	0.000	0.000	0.032	0.331	0.297
0.256	0.000	0.000	0.000	0.000					
30	6.1	0.919	0.000	0.000	0.000	0.000	0.243	0.317	0.324
0.035	0.000	0.000	0.000	0.000					
30	6.3	0.862	0.000	0.000	0.000	0.125	0.260	0.372	0.104

0.000	0.000	0.000	0.000	0.000					
30	6.5	0.669	0.000	0.000	0.000	0.159	0.284	0.226	0.000
0.000	0.000	0.000	0.000	0.000					
30	6.7	0.530	0.000	0.000	0.017	0.114	0.242	0.157	0.000
0.000	0.000	0.000	0.000	0.000					
30	6.9	0.435	0.000	0.000	0.031	0.143	0.203	0.057	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.1	0.355	0.000	0.000	0.047	0.140	0.168	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	0.303	0.000	0.001	0.077	0.128	0.097	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.142	0.000	0.004	0.040	0.068	0.030	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.013	0.000	0.000	0.004	0.008	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.003	0.000	0.000	0.001	0.001	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.178	0.000	0.000	0.000	0.091	0.151	0.293	0.348
0.273	0.021	0.000	0.000	0.000					
10	5.3	1.179	0.000	0.000	0.070	0.122	0.267	0.387	0.296
0.037	0.000	0.000	0.000	0.000					
10	5.5	1.067	0.000	0.070	0.071	0.268	0.320	0.303	0.035
0.000	0.000	0.000	0.000	0.000					
10	5.7	0.808	0.000	0.077	0.071	0.227	0.354	0.080	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.9	0.590	0.034	0.053	0.097	0.213	0.193	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	0.606	0.061	0.110	0.169	0.198	0.068	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	0.444	0.094	0.109	0.144	0.096	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.373	0.103	0.102	0.117	0.051	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.297	0.099	0.072	0.111	0.016	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.225	0.079	0.066	0.080	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.166	0.060	0.070	0.037	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.120	0.047	0.054	0.019	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.049	0.020	0.025	0.004	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.002	0.002	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.05

Distance (km): 35.439462  
Magnitude: 6.1566829  
Epsilon (mean values): -0.080217671  
noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 3.05  
Distance (km): 35.43703  
Magnitude: 6.1566602  
Epsilon (mean values): -0.080263733  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.99  
Distance (km): 34.831519  
Magnitude: 6.1438504  
Epsilon (mean values): -0.092833353  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.99  
Distance (km): 34.829036  
Magnitude: 6.143827  
Epsilon (mean values): -0.092880386  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.01  
Distance (km): 35.342543  
Magnitude: 6.152641  
Epsilon (mean values): -0.088448385  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.01  
Distance (km): 35.328933  
Magnitude: 6.1524403  
Epsilon (mean values): -0.08879372  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.98  
Distance (km): 34.824281  
Magnitude: 6.1415222  
Epsilon (mean values): -0.099298072  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.98  
Distance (km): 34.81194  
Magnitude: 6.1413423  
Epsilon (mean values): -0.099615311

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>







150	7.3	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.025	0.006	0.000					
150	7.5	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.010	0.015	0.000	0.000					
150	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.004	0.000	0.000	0.000					
150	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.000	0.000	0.000	0.000					
130	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
130	6.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.005					
130	6.9	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.019	0.001					
130	7.1	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.036	0.007	0.000					
130	7.3	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.036	0.025	0.000	0.000					
130	7.5	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.036	0.002	0.000	0.000					
130	7.7	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.006	0.001	0.000	0.000	0.000					
130	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.001	0.000	0.000	0.000	0.000					
110	6.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	6.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.006					
110	6.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.005					
110	6.7	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.017	0.001					
110	6.9	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.034	0.008	0.000					
110	7.1	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.040	0.035	0.000	0.000					
110	7.3	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.025	0.085	0.002	0.000	0.000					
110	7.5	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.061	0.015	0.000	0.000	0.000					
110	7.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.006	0.000	0.000	0.000	0.000					
110	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.000	0.000	0.000	0.000	0.000					
90	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	5.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					

90	6.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.009					
90	6.3	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.030	0.002					
90	6.5	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.020	0.023	0.000					
90	6.7	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.050	0.007	0.000					
90	6.9	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.078	0.025	0.000	0.000					
90	7.1	0.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.061	0.073	0.001	0.000	0.000					
90	7.3	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.020
0.119	0.008	0.000	0.000	0.000					
90	7.5	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.052
0.026	0.000	0.000	0.000	0.000					
90	7.7	0.011	0.000	0.000	0.000	0.000	0.000	0.004	0.007
0.000	0.000	0.000	0.000	0.000					
90	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
70	5.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.007					
70	5.7	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.012					
70	5.9	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.034	0.006					
70	6.1	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.045	0.035	0.000					
70	6.3	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.024	0.089	0.007	0.000					
70	6.5	0.144	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.088	0.055	0.000	0.000					
70	6.7	0.167	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.046	0.105	0.016	0.000	0.000					
70	6.9	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.137	0.047	0.000	0.000	0.000					
70	7.1	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.121
0.111	0.003	0.000	0.000	0.000					
70	7.3	0.252	0.000	0.000	0.000	0.000	0.000	0.059	0.176
0.018	0.000	0.000	0.000	0.000					
70	7.5	0.130	0.000	0.000	0.000	0.000	0.000	0.081	0.049
0.000	0.000	0.000	0.000	0.000					
70	7.7	0.022	0.000	0.000	0.000	0.000	0.008	0.013	0.001
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.004	0.000	0.000	0.000	0.000	0.003	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.010	0.018					

50	5.3	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.050	0.014					
50	5.5	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.041	0.060	0.007					
50	5.7	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.103	0.041	0.000					
50	5.9	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.080	0.102	0.009	0.000					
50	6.1	0.282	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.063	0.166	0.053	0.000	0.000					
50	6.3	0.325	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.187	0.132	0.001	0.000	0.000					
50	6.5	0.328	0.000	0.000	0.000	0.000	0.000	0.000	0.077
0.190	0.061	0.000	0.000	0.000					
50	6.7	0.316	0.000	0.000	0.000	0.000	0.000	0.000	0.130
0.179	0.007	0.000	0.000	0.000					
50	6.9	0.328	0.000	0.000	0.000	0.000	0.000	0.058	0.215
0.055	0.000	0.000	0.000	0.000					
50	7.1	0.316	0.000	0.000	0.000	0.000	0.016	0.150	0.147
0.003	0.000	0.000	0.000	0.000					
50	7.3	0.252	0.000	0.000	0.000	0.000	0.076	0.159	0.017
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.124	0.000	0.000	0.000	0.006	0.068	0.050	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.014	0.000	0.000	0.000	0.005	0.008	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.004	0.000	0.000	0.000	0.002	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	0.477	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.036	0.244	0.142	0.055	0.000					
30	5.3	0.588	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.214	0.222	0.139	0.012	0.000					
30	5.5	0.644	0.000	0.000	0.000	0.000	0.000	0.000	0.073
0.304	0.191	0.076	0.000	0.000					
30	5.7	0.662	0.000	0.000	0.000	0.000	0.000	0.000	0.218
0.248	0.186	0.010	0.000	0.000					
30	5.9	0.651	0.000	0.000	0.000	0.000	0.000	0.106	0.259
0.200	0.086	0.000	0.000	0.000					
30	6.1	0.685	0.000	0.000	0.000	0.000	0.020	0.263	0.239
0.163	0.000	0.000	0.000	0.000					
30	6.3	0.672	0.000	0.000	0.000	0.007	0.181	0.202	0.247
0.034	0.000	0.000	0.000	0.000					
30	6.5	0.534	0.000	0.000	0.000	0.025	0.142	0.237	0.130
0.000	0.000	0.000	0.000	0.000					
30	6.7	0.449	0.000	0.000	0.002	0.056	0.155	0.171	0.064
0.000	0.000	0.000	0.000	0.000					
30	6.9	0.403	0.000	0.000	0.022	0.086	0.166	0.125	0.003
0.000	0.000	0.000	0.000	0.000					
30	7.1	0.348	0.000	0.001	0.047	0.125	0.153	0.023	0.000
0.000	0.000	0.000	0.000	0.000					

30	7.3	0.306	0.000	0.014	0.082	0.128	0.079	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.146	0.000	0.012	0.052	0.069	0.013	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.013	0.000	0.002	0.006	0.005	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.003	0.000	0.001	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.216	0.000	0.000	0.000	0.092	0.130	0.300	0.411
0.273	0.011	0.000	0.000	0.000					
10	5.3	1.069	0.000	0.000	0.000	0.147	0.156	0.343	0.349
0.074	0.000	0.000	0.000	0.000					
10	5.5	0.882	0.000	0.000	0.068	0.096	0.221	0.307	0.189
0.000	0.000	0.000	0.000	0.000					
10	5.7	0.694	0.000	0.000	0.075	0.088	0.217	0.279	0.035
0.000	0.000	0.000	0.000	0.000					
10	5.9	0.530	0.000	0.034	0.050	0.132	0.207	0.108	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	0.568	0.000	0.065	0.134	0.179	0.184	0.005	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	0.426	0.033	0.076	0.135	0.124	0.058	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.361	0.050	0.088	0.091	0.106	0.027	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.291	0.058	0.074	0.076	0.078	0.005	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.223	0.060	0.068	0.079	0.016	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.166	0.059	0.064	0.042	0.001	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.120	0.053	0.051	0.015	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.049	0.027	0.019	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.003	0.001	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.44

Distance (km): 33.199636

Magnitude: 6.1583551

Epsilon (mean values): 0.020741633

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.44

Distance (km): 33.188293

Magnitude: 6.1582605

Epsilon (mean values): 0.020569913

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.41  
Distance (km): 32.659601  
Magnitude: 6.1466036  
Epsilon (mean values): 0.0092439662  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.41  
Distance (km): 32.648147  
Magnitude: 6.1465074  
Epsilon (mean values): 0.0090702694  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.62  
Distance (km): 33.174822  
Magnitude: 6.1545484  
Epsilon (mean values): 0.013107767  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.62  
Distance (km): 33.162285  
Magnitude: 6.1543328  
Epsilon (mean values): 0.012827206  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.6  
Distance (km): 32.717132  
Magnitude: 6.1444229  
Epsilon (mean values): 0.0032040125  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.6  
Distance (km): 32.705675  
Magnitude: 6.1442259  
Epsilon (mean values): 0.0029483546  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.057924094 g  
Recovered targets:  
Return period: 483.23872 yrs  
Exceedance rate: 0.0020693706 yr<sup>-1</sup>  
Totals:  
Binned: 0.2 %  
Residual: 0 %  
Trace: 0.01 %  
Mean (over all sources):





0.000 0.000 0.000 0.037 0.000  
310 9.3 0.124 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
0.000 0.000 0.124 0.000 0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs

Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 8.5 %

Residual: 0 %

Trace: 0.07 %

Mean (over all sources):

m: 8.88

r: 343.87 km

$\epsilon_0$ : 0.81  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 0.24  $\sigma$

Contribution: 1.23 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 0.24  $\sigma$

Contribution: 1.23 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

ε7: [0.5 .. 1.0)  
 ε8: [1.0 .. 1.5)  
 ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
590	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
550	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
550	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
530	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
530	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
510	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
510	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
510	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
490	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
490	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
490	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
490	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
470	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
470	8.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.000					
470	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
470	8.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
450	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
450	8.1	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.018	0.013	0.000					
450	8.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.028	0.000	0.000					

450	8.5	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.031	0.000	0.000					
430	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
430	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.000	0.000					
430	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
430	8.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.000	0.000					
410	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
410	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.000	0.000					
410	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.000	0.000					
410	8.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.010	0.009	0.000	0.000					
390	7.9	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.012	0.000	0.000					
390	8.1	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.028	0.000	0.000					
390	8.3	0.144	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.061	0.083	0.000	0.000					
390	8.5	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.168	0.003	0.000	0.000					
390	8.7	0.618	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.618	0.000	0.000	0.000					
390	9.1	0.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.351	0.000	0.000	0.000	0.000					
370	7.9	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.000	0.000					
370	8.1	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.026	0.000	0.000					
370	8.3	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.023	0.001	0.000	0.000					
370	8.5	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.235	0.000	0.000	0.000					
370	8.7	0.867	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.823	0.000	0.000	0.000					
370	8.9	0.841	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.841	0.000	0.000	0.000	0.000					
370	9.1	1.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.176	0.000	0.000	0.000	0.000					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.001	0.000	0.000					
350	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.000	0.000	0.000					

350	8.5	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.1	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.5	0.087	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.073	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.7	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.9	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	7.9	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.1	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.3	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.5	0.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.127	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.7	0.174	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.174	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.9	0.881	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.881	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	9.1	1.004	0.000	0.000	0.000	0.000	0.000	0.000	1.004
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	9.3	1.232	0.000	0.000	0.000	0.000	0.000	0.000	1.232
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 3  
Distance (km): 308.17316  
Magnitude: 9.1014144  
Epsilon (mean values): 0.42389021

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 3  
Distance (km): 308.17316  
Magnitude: 9.1014144  
Epsilon (mean values): 0.42389021  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 2.73  
Distance (km): 361.47413  
Magnitude: 8.9149663  
Epsilon (mean values): 0.89526082

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.73  
Distance (km): 361.47413  
Magnitude: 8.9149663  
Epsilon (mean values): 0.89526082  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.  
site: Test

longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs  
Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 1.61 %  
Residual: 0 %  
Trace: 0.12 %

Mean (over all sources):

m: 7.07  
r: 250.92 km  
 $\epsilon_0$ : 1.58  $\sigma$

Mode (largest m-r bin):

m: 7.11  
r: 270.08 km  
 $\epsilon_0$ : 1.73  $\sigma$   
Contribution: 0.23 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 7.11  
r: 270.27 km  
 $\epsilon_0$ : 1.74  $\sigma$   
Contribution: 0.2 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)











0.000	0.000	0.000	0.000	0.000					
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs

Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 3.09 %

Residual: 0 %  
 Trace: 0.07 %  
 Mean (over all sources):  
 m: 9.03  
 r: 327.16 km  
 $\epsilon_0$ : 1.12  $\sigma$

Mode (largest m-r bin):  
 m: 9.34  
 r: 308.17 km  
 $\epsilon_0$ : 0.55  $\sigma$   
 Contribution: 0.88 %

Mode (largest m-r- $\epsilon_0$  bin):  
 m: 9.34  
 r: 308.17 km  
 $\epsilon_0$ : 0.55  $\sigma$   
 Contribution: 0.88 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$	
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[0, 0.5)$	$\epsilon=[0, 0.5)$
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	$\epsilon=[2.5, \infty)$
430	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
390	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000
390	8.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.006	0.000	0.000	0.000	0.000	0.000

390	8.7	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.073	0.000					
390	9.1	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.080	0.000	0.000					
370	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
370	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
370	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
370	8.5	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.029	0.000					
370	8.7	0.166	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.165	0.001	0.000					
370	8.9	0.198	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.198	0.000	0.000					
370	9.1	0.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.420	0.000	0.000	0.000					
350	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000					
330	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
330	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
330	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
330	8.5	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.021	0.000	0.000					
330	8.7	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.022	0.000	0.000					
330	8.9	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.037	0.000	0.000	0.000					
310	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
310	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.003	0.000					
310	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
310	8.5	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.030	0.000	0.000					
310	8.7	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.070	0.000	0.000	0.000					
310	8.9	0.431	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.431	0.000	0.000	0.000					

310	9.1	0.573	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.573	0.000	0.000	0.000	0.000					
310	9.3	0.885	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.885	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 1.83  
Distance (km): 308.17316  
Magnitude: 9.134688  
Epsilon (mean values): 0.78648094

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.83  
Distance (km): 308.17316  
Magnitude: 9.134688  
Epsilon (mean values): 0.78648094  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs  
Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 0.15 %  
Residual: 0 %  
Trace: 0.16 %

Mean (over all sources):

m: 7.23  
r: 227.49 km  
ε<sub>0</sub>: 1.8 σ

Mode (largest m-r bin):

m: 7.11  
r: 229.6 km  
ε<sub>0</sub>: 2.1 σ

Contribution: 0.02 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.11  
r: 211.83 km

$\epsilon_0$ : 1.75  $\sigma$

Contribution: 0.02 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty \dots -2.5)$

$\epsilon_1$ :  $[-2.5 \dots -2.0)$

$\epsilon_2$ :  $[-2.0 \dots -1.5)$

$\epsilon_3$ :  $[-1.5 \dots -1.0)$

$\epsilon_4$ :  $[-1.0 \dots -0.5)$

$\epsilon_5$ :  $[-0.5 \dots 0.0)$

$\epsilon_6$ :  $[0.0 \dots 0.5)$

$\epsilon_7$ :  $[0.5 \dots 1.0)$

$\epsilon_8$ :  $[1.0 \dots 1.5)$

$\epsilon_9$ :  $[1.5 \dots 2.0)$

$\epsilon_{10}$ :  $[2.0 \dots 2.5)$

$\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km)

Magnitude (Mw)

ALL\_ $\epsilon$

$\epsilon = (-\infty, -2.5)$

$\epsilon = [-2.5, -2)$

$\epsilon = [-2, -1.5)$

$\epsilon = [-1.5, -1)$

$\epsilon = [-1, -0.5)$

$\epsilon = [-0.5, 0)$

$\epsilon = [0, 0.5)$

$\epsilon = [0.5, 1)$

$\epsilon = [1, 1.5)$

$\epsilon = [1.5, 2)$

$\epsilon = [2, 2.5)$

$\epsilon = [2.5, \infty)$

290	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	7.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
270	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.001					
270	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.002	0.000					
270	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
250	7.1	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.005					
250	7.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.003	0.000					
250	7.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					









110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Grid

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs

Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 84.39 %

Residual: 0 %

Trace: 0.39 %

Mean (over all sources):

m: 6.1

r: 33.84 km

ε<sub>0</sub>: 0.03 σ

Mode (largest m-r bin):









0.008	0.504	0.517	0.075	0.000					
50	5.9	1.259	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.152	0.752	0.347	0.009	0.000					
50	6.1	1.642	0.000	0.000	0.000	0.000	0.000	0.000	0.035
0.806	0.738	0.062	0.000	0.000					
50	6.3	1.749	0.000	0.000	0.000	0.000	0.000	0.000	0.391
1.052	0.305	0.001	0.000	0.000					
50	6.5	1.621	0.000	0.000	0.000	0.000	0.000	0.103	0.711
0.717	0.090	0.000	0.000	0.000					
50	6.7	1.333	0.000	0.000	0.000	0.000	0.000	0.116	0.768
0.442	0.007	0.000	0.000	0.000					
50	6.9	1.212	0.000	0.000	0.000	0.000	0.000	0.314	0.760
0.138	0.000	0.000	0.000	0.000					
50	7.1	1.093	0.000	0.000	0.000	0.000	0.033	0.581	0.474
0.006	0.000	0.000	0.000	0.000					
50	7.3	0.886	0.000	0.000	0.000	0.000	0.155	0.606	0.125
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.449	0.000	0.000	0.000	0.006	0.169	0.258	0.017
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.052	0.000	0.000	0.000	0.005	0.033	0.013	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.014	0.000	0.000	0.000	0.004	0.009	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	2.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.575	1.087	0.640	0.175	0.002					
30	5.3	3.167	0.000	0.000	0.000	0.000	0.000	0.000	0.248
1.380	1.045	0.469	0.025	0.000					
30	5.5	3.836	0.000	0.000	0.000	0.000	0.000	0.136	1.222
1.469	0.904	0.104	0.000	0.000					
30	5.7	3.670	0.000	0.000	0.000	0.000	0.000	0.518	1.444
1.264	0.434	0.010	0.000	0.000					
30	5.9	3.316	0.000	0.000	0.000	0.000	0.036	0.922	1.246
1.026	0.087	0.000	0.000	0.000					
30	6.1	3.194	0.000	0.000	0.000	0.000	0.345	1.180	1.299
0.370	0.000	0.000	0.000	0.000					
30	6.3	2.946	0.000	0.000	0.000	0.133	0.787	1.134	0.851
0.041	0.000	0.000	0.000	0.000					
30	6.5	2.274	0.000	0.000	0.000	0.198	0.702	0.991	0.382
0.000	0.000	0.000	0.000	0.000					
30	6.7	1.858	0.000	0.000	0.019	0.210	0.696	0.757	0.176
0.000	0.000	0.000	0.000	0.000					
30	6.9	1.596	0.000	0.000	0.053	0.305	0.713	0.521	0.003
0.000	0.000	0.000	0.000	0.000					
30	7.1	1.346	0.000	0.001	0.097	0.436	0.638	0.174	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	1.172	0.000	0.015	0.179	0.470	0.477	0.031	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.558	0.000	0.015	0.112	0.270	0.161	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.051	0.000	0.003	0.014	0.028	0.006	0.000	0.000

0.000	0.000	0.000	0.000	0.000					
30	7.9	0.010	0.000	0.001	0.004	0.005	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	5.166	0.000	0.000	0.000	0.606	0.528	1.349	1.774
0.850	0.061	0.000	0.000	0.000					
10	5.3	4.709	0.000	0.072	0.201	0.476	0.922	1.627	1.278
0.134	0.000	0.000	0.000	0.000					
10	5.5	4.013	0.051	0.131	0.347	0.696	1.188	1.286	0.314
0.000	0.000	0.000	0.000	0.000					
10	5.7	3.036	0.077	0.077	0.293	0.653	1.216	0.679	0.041
0.000	0.000	0.000	0.000	0.000					
10	5.9	2.232	0.088	0.139	0.245	0.647	0.923	0.190	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	2.313	0.098	0.283	0.551	0.737	0.629	0.016	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	1.707	0.173	0.329	0.480	0.503	0.222	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	1.437	0.204	0.297	0.409	0.388	0.140	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.153	0.200	0.250	0.352	0.302	0.050	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.882	0.175	0.237	0.305	0.165	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.657	0.153	0.219	0.230	0.055	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.473	0.129	0.176	0.154	0.015	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.193	0.062	0.076	0.053	0.001	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.006	0.006	0.003	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.001	0.001	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.36

Distance (km): 33.731396

Magnitude: 6.0941281

Epsilon (mean values): 0.040829534

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.36

Distance (km): 33.726627

Magnitude: 6.0940845

Epsilon (mean values): 0.040752476

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.19

Distance (km): 33.221067

Magnitude: 6.0823826

Epsilon (mean values): 0.03043332

noPuget\_2014\_fixSm.gr.in (opt):



Percent Contributed: 11.19  
Distance (km): 33.216237  
Magnitude: 6.0823382  
Epsilon (mean values): 0.030355177  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.51  
Distance (km): 33.626143  
Magnitude: 6.0904636  
Epsilon (mean values): 0.031044193  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.5  
Distance (km): 33.614214  
Magnitude: 6.0902727  
Epsilon (mean values): 0.030747251  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.42  
Distance (km): 33.190486  
Magnitude: 6.0802856  
Epsilon (mean values): 0.022058579  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.41  
Distance (km): 33.179622  
Magnitude: 6.080114  
Epsilon (mean values): 0.021784775  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.78  
Distance (km): 36.551315  
Magnitude: 6.2170595  
Epsilon (mean values): 0.016136895  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.78  
Distance (km): 36.521154  
Magnitude: 6.2167664  
Epsilon (mean values): 0.015741702  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.84  
Distance (km): 36.544824  
Magnitude: 6.2141811  
Epsilon (mean values): 0.0088216986  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.84  
Distance (km): 36.542938  
Magnitude: 6.2140045  
Epsilon (mean values): 0.0086772313  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs

Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 1.75 %

Residual: 0 %

Trace: 0.17 %

Mean (over all sources):

m: 7.08

r: 248.93 km

ε<sub>0</sub>: 1.6 σ

Mode (largest m-r bin):

m: 7.11

r: 270.02 km

ε<sub>0</sub>: 1.75 σ

Contribution: 0.23 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.11

r: 270.27 km

ε<sub>0</sub>: 1.74 σ

Contribution: 0.2 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

ε<sub>8</sub>: [1.0 .. 1.5)

ε<sub>9</sub>: [1.5 .. 2.0)

ε<sub>10</sub>: [2.0 .. 2.5)

ε<sub>11</sub>: [2.5 .. +∞)

Closest Distance, rRup (km)

ε=[-2,-1.5)      ε=[-1.5,-1)

ε=[0.5,1)      ε=[1,1.5)

290      6.5      0.000      0.000

0.000      0.000      0.000      0.000

Magnitude (Mw)

ε=[-1,-0.5)

ε=[1.5,2)

0.000      0.000

0.000

ALL\_ε      ε=(-∞,-2.5)

ε=[-0.5,0)

ε=[2,2.5)

0.000      0.000

0.000

ε=[-2.5,-2)

ε=[0,0.5)

ε=[2.5,∞)

0.000      0.000

0.000

290	6.7	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.013					
290	6.9	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.046	0.009					
290	7.1	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.089	0.035	0.000					
290	7.3	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.008	0.000	0.000					
290	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.000	0.000	0.000					
270	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
270	6.7	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.015	0.014					
270	6.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.022	0.072	0.000					
270	7.1	0.231	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.018	0.195	0.013	0.005					
270	7.3	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.035	0.007	0.002	0.001					
270	7.5	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.019	0.001	0.002	0.000					
270	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.000	0.001	0.000	0.000					
270	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
250	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.007					
250	6.7	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.002					
250	6.9	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.077	0.019	0.002					
250	7.1	0.229	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.111	0.102	0.011	0.005					
250	7.3	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.009	0.028	0.002	0.003	0.000					
250	7.5	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.025	0.003	0.004	0.000	0.000					
250	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.002	0.000	0.000	0.000					
250	7.9	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.005	0.001	0.000	0.000	0.000					
230	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
230	6.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.002					
230	6.7	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.018	0.001					

230	6.9	0.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.061	0.006	0.003					
230	7.1	0.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.146	0.013	0.016	0.000					
230	7.3	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.021	0.005	0.005	0.000	0.000					
230	7.5	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.013	0.004	0.001	0.000	0.000					
230	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.002	0.001	0.000	0.000	0.000					
230	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.001	0.000	0.000	0.000	0.000					
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
210	6.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.000					
210	6.7	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.001	0.001					
210	6.9	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.025	0.010	0.005	0.000					
210	7.1	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.045	0.031	0.016	0.001	0.000					
210	7.3	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.011	0.003	0.001	0.000	0.000					
210	7.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.003	0.002	0.000	0.000	0.000					
210	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.000	0.000	0.000					
210	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.002	0.002
0.000	0.000	0.000	0.000	0.000					
190	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
190	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
190	6.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.003	0.001	0.000					
190	6.9	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.007	0.002	0.000	0.000					
190	7.1	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.005	0.001	0.000	0.000					
190	7.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.000	0.000	0.000					
190	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.001	0.002
0.001	0.000	0.000	0.000	0.000					





110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs

Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 11.79 %

Residual: 0 %

Trace: 0.14 %

Mean (over all sources):

m: 8.93

r: 338.96 km

ε<sub>0</sub>: 0.91 σ

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 0.45  $\sigma$   
 Contribution: 2.24 %  
 Mode (largest m-r- $\epsilon_0$  bin):  
 m: 9.34  
 r: 308.17 km  
 $\epsilon_0$ : 0.24  $\sigma$   
 Contribution: 1.23 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	
590	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
570	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
570	8.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
550	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
550	8.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
530	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
530	8.1	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
510	7.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
510	8.1	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
510	8.3	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
490	7.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
490	8.1	0.002	0.000	0.000	0.000	0.000





0.000	0.000	0.016	0.000	0.000					
370	8.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.026	0.000	0.001					
370	8.3	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.023	0.001	0.001	0.000					
370	8.5	0.264	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.235	0.000	0.029	0.000					
370	8.7	1.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.823	0.165	0.001	0.000					
370	8.9	1.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.841	0.000	0.198	0.000	0.000					
370	9.1	1.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.176	0.420	0.000	0.000	0.017					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.001	0.000	0.000					
350	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.000	0.000	0.000					
350	8.5	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.002	0.001	0.000					
330	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.000	0.000	0.000					
330	8.1	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.000	0.001	0.000					
330	8.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.001	0.000					
330	8.5	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.073	0.014	0.021	0.000	0.000					
330	8.7	0.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.080	0.002	0.022	0.000	0.000					
330	8.9	0.129	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.091	0.037	0.000	0.000	0.001					
310	7.9	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.000	0.002	0.000					
310	8.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.035	0.003	0.003	0.000					
310	8.3	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.004	0.000	0.000					
310	8.5	0.173	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.127	0.016	0.030	0.000	0.001					
310	8.7	0.246	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.174	0.070	0.000	0.000	0.002					
310	8.9	1.331	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.881	0.431	0.000	0.019	0.000					
310	9.1	1.615	0.000	0.000	0.000	0.000	0.000	0.000	1.004
0.573	0.000	0.000	0.037	0.000					
310	9.3	2.240	0.000	0.000	0.000	0.000	0.000	0.000	1.232
0.885	0.000	0.124	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution)

sub0\_ch\_bot.in:

Percent Contributed: 5.01  
Distance (km): 308.17316  
Magnitude: 9.1179324  
Epsilon (mean values): 0.60824831

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 5.01  
Distance (km): 308.17316  
Magnitude: 9.1179324  
Epsilon (mean values): 0.60824831  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 3.5  
Distance (km): 361.47413  
Magnitude: 8.9265389  
Epsilon (mean values): 1.0494554

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 3.5  
Distance (km): 361.47413  
Magnitude: 8.9265389  
Epsilon (mean values): 1.0494554  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.057924094 g

Recovered targets:

Return period: 483.23872 yrs  
Exceedance rate: 0.0020693706 yr<sup>-1</sup>

Totals:

Binned: 2.06 %  
Residual: 0 %  
Trace: 0.05 %

Mean (over all sources):

m: 7.02  
r: 72.37 km  
 $\epsilon_0$ : 0.68  $\sigma$

Mode (largest m-r bin):

m: 7.1  
r: 62.35 km  
 $\epsilon_0$ : 0.38  $\sigma$   
Contribution: 0.2 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 7.11  
r: 62.22 km  
 $\epsilon_0$ : 0.32  $\sigma$   
Contribution: 0.15 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$			
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$			
$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$					
270	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					



70	6.5	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.051	0.003	0.000	0.000					
70	6.7	0.188	0.000	0.000	0.000	0.000	0.000	0.000	0.016
0.142	0.029	0.000	0.000	0.000					
70	6.9	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.026
0.066	0.000	0.000	0.000	0.000					
70	7.1	0.196	0.000	0.000	0.000	0.000	0.000	0.000	0.154
0.042	0.000	0.000	0.000	0.000					
70	7.3	0.191	0.000	0.000	0.000	0.000	0.000	0.055	0.135
0.000	0.000	0.000	0.000	0.000					
70	7.5	0.100	0.000	0.000	0.000	0.000	0.000	0.068	0.033
0.000	0.000	0.000	0.000	0.000					
70	7.7	0.032	0.000	0.000	0.000	0.000	0.005	0.027	0.000
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.002	0.000	0.000	0.000	0.000	0.001	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
50	6.5	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.057	0.013	0.000	0.000	0.000					
50	6.7	0.169	0.000	0.000	0.000	0.000	0.000	0.000	0.054
0.115	0.000	0.000	0.000	0.000					
50	6.9	0.170	0.000	0.000	0.000	0.000	0.000	0.000	0.112
0.058	0.000	0.000	0.000	0.000					
50	7.1	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.138
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.056	0.000	0.000	0.000	0.000	0.000	0.031	0.025
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.006	0.001
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs

Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.78 %

Mean (over all sources):

m: 6.37

r: 66.05 km

$\epsilon_0$ : 0.21  $\sigma$

Mode (largest m-r bin):

m: 5.1

r: 12.07 km

$\epsilon_0$ : -0.09  $\sigma$

Contribution: 5.15 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.1

r: 14.78 km

$\epsilon_0$ : 0.25  $\sigma$

Contribution: 1.74 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [-∞ .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)





430	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
430	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.002	0.000					
430	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
430	8.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.000	0.000					
410	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000					
410	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.000	0.000					
410	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.000	0.000					
410	8.5	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.013	0.000	0.000					
390	7.9	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.000	0.000					
390	8.1	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.023	0.000	0.000					
390	8.3	0.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.123	0.000	0.000					
390	8.5	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.067	0.079	0.000	0.001					
390	8.7	0.541	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.527	0.000	0.000	0.014					
390	9.1	0.327	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.299	0.000	0.024	0.003					
370	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.000	0.000					
370	8.1	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.033	0.000	0.000					
370	8.3	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.007	0.000	0.000					
370	8.5	0.206	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.200	0.000	0.000	0.006					
370	8.7	0.784	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.739	0.000	0.045	0.001					
370	8.9	0.781	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.716	0.000	0.060	0.005					
370	9.1	1.191	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.003	0.000	0.155	0.033	0.000					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.004	0.000	0.000					
350	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.000	0.000	0.000					
350	8.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.000	0.001	0.000					

330	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.002	0.000	0.000					
330	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.010	0.000	0.000	0.000					
330	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.000	0.000	0.000					
330	8.5	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.073	0.000	0.006	0.000					
330	8.7	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.009	0.059	0.001	0.007	0.001					
330	8.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.077	0.000	0.014	0.002	0.000					
310	7.9	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.000	0.000	0.000					
310	8.1	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.000	0.001	0.001					
310	8.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.000	0.001	0.000					
310	8.5	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.084	0.028	0.009	0.005	0.002					
310	8.7	0.179	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.148	0.000	0.027	0.002	0.002					
310	8.9	0.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.751	0.000	0.180	0.033	0.000					
310	9.1	1.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.857	0.258	0.004	0.056	0.000					
310	9.3	1.693	0.000	0.000	0.000	0.000	0.000	0.000	1.054
0.000	0.460	0.178	0.000	0.000					
290	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	6.7	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.010					
290	6.9	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.012					
290	7.1	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.065	0.040	0.000					
290	7.3	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.012	0.000	0.000					
290	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.000	0.000					
290	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
270	6.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.015					
270	6.9	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.071	0.000					

270	7.1	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.171	0.022	0.000					
270	7.3	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.025	0.010	0.000	0.000					
270	7.5	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004	0.022	0.000	0.000	0.000					
270	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.001	0.000	0.000	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
250	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.007					
250	6.7	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.028	0.003					
250	6.9	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.053	0.028	0.000					
250	7.1	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.066	0.116	0.000	0.001					
250	7.3	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.028	0.000	0.000	0.000					
250	7.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.018	0.006	0.000	0.001	0.000					
250	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.000	0.001	0.000	0.000					
250	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.004	0.001	0.000	0.000	0.000					
230	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
230	6.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.002					
230	6.7	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.019	0.000					
230	6.9	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.061	0.002	0.000					
230	7.1	0.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.115	0.016	0.002	0.003					
230	7.3	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.009	0.000	0.001	0.000					
230	7.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.000	0.001	0.000	0.002					
230	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.001	0.000	0.001	0.000					
230	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.001	0.001	0.000	0.000	0.000					
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					

210	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.000					
210	6.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.003	0.000					
210	6.9	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.019	0.010	0.000	0.001					
210	7.1	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.014	0.049	0.000	0.004	0.001					
210	7.3	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.000	0.001	0.001	0.004					
210	7.5	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.003	0.001	0.001	0.004	0.003					
210	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.000	0.000	0.001	0.001	0.000					
210	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.001	0.000	0.000					
190	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
190	6.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.000	0.000					
190	6.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.001	0.000					
190	7.1	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.002	0.002	0.001	0.007					
190	7.3	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.001	0.000	0.000	0.013	0.009					
190	7.5	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.000	0.000	0.005	0.015	0.001					
190	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.001	0.000					
190	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.001	0.001
0.000	0.001	0.001	0.000	0.000					
170	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.001					

170	6.9	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.008					
170	7.1	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.002	0.000	0.000	0.017	0.011					
170	7.3	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.042	0.003					
170	7.5	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.030	0.015	0.001					
170	7.7	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.005	0.001	0.000					
170	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.002	0.001	0.000	0.000					
150	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
150	6.7	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.011					
150	6.9	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.023	0.012					
150	7.1	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.015	0.049	0.006					
150	7.3	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.076	0.023	0.002					
150	7.5	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.028	0.048	0.006	0.000					
150	7.7	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.009	0.002	0.000	0.000					
150	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.002	0.000	0.000	0.000					
130	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
130	6.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.012					
130	6.5	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.012	0.021					
130	6.7	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.055	0.014					

130	6.9	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.048	0.073	0.003					
130	7.1	0.170	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.132	0.024	0.000					
130	7.3	0.207	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.106	0.092	0.009	0.000					
130	7.5	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.020	0.089	0.016	0.001	0.000					
130	7.7	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.010	0.007	0.001	0.000	0.000					
130	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.001	0.000	0.000	0.000					
110	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	5.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
110	6.1	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.024					
110	6.3	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.055	0.022					
110	6.5	0.114	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.093	0.008					
110	6.7	0.153	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.082	0.070	0.001					
110	6.9	0.210	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.025	0.168	0.017	0.000					
110	7.1	0.305	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.186	0.112	0.005	0.000					
110	7.3	0.391	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.092	0.261	0.037	0.000	0.000					
110	7.5	0.247	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.142	0.088	0.011	0.000	0.000					
110	7.7	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.010
0.021	0.004	0.000	0.000	0.000					
110	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.001	0.004
0.002	0.000	0.000	0.000	0.000					
90	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	5.5	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.017					
90	5.7	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.030					
90	5.9	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.068	0.029					
90	6.1	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.042	0.123	0.016					

90	6.3	0.292	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.185	0.105	0.002					
90	6.5	0.349	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.047	0.267	0.035	0.000					
90	6.7	0.403	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.187	0.212	0.004	0.000					
90	6.9	0.503	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.042	0.406	0.055	0.000	0.000					
90	7.1	0.548	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.298	0.241	0.009	0.000	0.000					
90	7.3	0.529	0.000	0.000	0.000	0.000	0.000	0.000	0.066
0.392	0.070	0.000	0.000	0.000					
90	7.5	0.266	0.000	0.000	0.000	0.000	0.000	0.001	0.126
0.126	0.014	0.000	0.000	0.000					
90	7.7	0.035	0.000	0.000	0.000	0.000	0.000	0.006	0.022
0.006	0.000	0.000	0.000	0.000					
90	7.9	0.009	0.000	0.000	0.000	0.000	0.000	0.004	0.004
0.001	0.000	0.000	0.000	0.000					
70	5.1	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.020					
70	5.3	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.031	0.051					
70	5.5	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.057	0.139	0.039					
70	5.7	0.350	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.169	0.156	0.024					
70	5.9	0.459	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.064	0.256	0.130	0.010					
70	6.1	0.655	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.224	0.368	0.063	0.000					
70	6.3	0.828	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.034	0.541	0.252	0.001	0.000					
70	6.5	0.935	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.232	0.628	0.075	0.000	0.000					
70	6.7	0.925	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.514	0.403	0.007	0.000	0.000					
70	6.9	0.853	0.000	0.000	0.000	0.000	0.000	0.000	0.120
0.619	0.115	0.000	0.000	0.000					
70	7.1	0.933	0.000	0.000	0.000	0.000	0.000	0.000	0.473
0.445	0.015	0.000	0.000	0.000					
70	7.3	0.917	0.000	0.000	0.000	0.000	0.000	0.170	0.603
0.144	0.000	0.000	0.000	0.000					
70	7.5	0.455	0.000	0.000	0.000	0.000	0.006	0.191	0.227
0.031	0.000	0.000	0.000	0.000					
70	7.7	0.074	0.000	0.000	0.000	0.000	0.015	0.041	0.018
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.013	0.000	0.000	0.000	0.000	0.004	0.007	0.001
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.419	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.117	0.245	0.057					

50	5.3	0.749	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.053	0.420	0.251	0.025					
50	5.5	1.237	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.083	0.494	0.500	0.148	0.011					
50	5.7	1.393	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.308	0.621	0.390	0.071	0.002					
50	5.9	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.466	0.701	0.268	0.017	0.000					
50	6.1	1.759	0.000	0.000	0.000	0.000	0.000	0.000	0.172
0.877	0.636	0.075	0.000	0.000					
50	6.3	1.788	0.000	0.000	0.000	0.000	0.000	0.000	0.450
1.065	0.273	0.000	0.000	0.000					
50	6.5	1.706	0.000	0.000	0.000	0.000	0.000	0.015	0.772
0.848	0.071	0.000	0.000	0.000					
50	6.7	1.505	0.000	0.000	0.000	0.000	0.000	0.110	0.812
0.583	0.000	0.000	0.000	0.000					
50	6.9	1.372	0.000	0.000	0.000	0.000	0.000	0.328	0.869
0.176	0.000	0.000	0.000	0.000					
50	7.1	1.212	0.000	0.000	0.000	0.000	0.033	0.582	0.554
0.044	0.000	0.000	0.000	0.000					
50	7.3	0.920	0.000	0.000	0.000	0.000	0.169	0.578	0.173
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.444	0.000	0.000	0.000	0.013	0.159	0.230	0.042
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.050	0.000	0.000	0.000	0.006	0.028	0.015	0.001
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.013	0.000	0.000	0.000	0.004	0.007	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	2.887	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.964	1.161	0.655	0.100	0.007					
30	5.3	3.549	0.000	0.000	0.000	0.000	0.000	0.000	0.623
1.449	1.127	0.312	0.038	0.000					
30	5.5	4.074	0.000	0.000	0.000	0.000	0.000	0.501	1.234
1.535	0.662	0.142	0.001	0.000					
30	5.7	3.767	0.000	0.000	0.000	0.000	0.048	0.723	1.469
1.074	0.427	0.026	0.000	0.000					
30	5.9	3.327	0.000	0.000	0.000	0.000	0.147	0.885	1.376
0.779	0.141	0.000	0.000	0.000					
30	6.1	3.150	0.000	0.000	0.000	0.000	0.307	1.251	1.226
0.362	0.004	0.000	0.000	0.000					
30	6.3	2.889	0.000	0.000	0.000	0.031	0.788	1.201	0.820
0.049	0.000	0.000	0.000	0.000					
30	6.5	2.229	0.000	0.000	0.000	0.089	0.670	1.092	0.377
0.000	0.000	0.000	0.000	0.000					
30	6.7	1.817	0.000	0.000	0.006	0.151	0.683	0.786	0.192
0.000	0.000	0.000	0.000	0.000					
30	6.9	1.557	0.000	0.000	0.028	0.260	0.709	0.533	0.025
0.000	0.000	0.000	0.000	0.000					
30	7.1	1.312	0.000	0.003	0.068	0.385	0.639	0.217	0.000
0.000	0.000	0.000	0.000	0.000					



30	7.3	1.142	0.000	0.014	0.115	0.472	0.467	0.073	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.544	0.000	0.014	0.087	0.260	0.163	0.020	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.050	0.000	0.002	0.012	0.025	0.010	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.010	0.000	0.001	0.003	0.005	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	5.150	0.000	0.000	0.033	0.519	0.617	1.477	1.741
0.665	0.098	0.000	0.000	0.000					
10	5.3	4.613	0.000	0.072	0.153	0.493	0.959	1.659	1.074
0.194	0.008	0.000	0.000	0.000					
10	5.5	3.894	0.017	0.094	0.381	0.566	1.256	1.114	0.461
0.005	0.000	0.000	0.000	0.000					
10	5.7	2.949	0.049	0.028	0.319	0.636	1.106	0.742	0.069
0.000	0.000	0.000	0.000	0.000					
10	5.9	2.176	0.053	0.148	0.269	0.552	0.859	0.294	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	2.269	0.059	0.244	0.498	0.728	0.687	0.053	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	1.683	0.107	0.272	0.500	0.573	0.230	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	1.419	0.142	0.280	0.391	0.486	0.120	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.139	0.135	0.255	0.337	0.381	0.031	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.872	0.124	0.224	0.312	0.212	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.649	0.115	0.192	0.266	0.076	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.468	0.094	0.154	0.199	0.021	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.191	0.048	0.064	0.076	0.004	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.014	0.005	0.005	0.004	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.79

Distance (km): 35.142232

Magnitude: 6.0792013

Epsilon (mean values): 0.10556882

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.79

Distance (km): 35.133288

Magnitude: 6.0791235

Epsilon (mean values): 0.10543761

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.62  
Distance (km): 34.636512  
Magnitude: 6.0672791  
Epsilon (mean values): 0.096027807  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.62  
Distance (km): 34.627531  
Magnitude: 6.0672003  
Epsilon (mean values): 0.095895824  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.8  
Distance (km): 35.069381  
Magnitude: 6.0765569  
Epsilon (mean values): 0.096326043  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.79  
Distance (km): 35.057701  
Magnitude: 6.0763696  
Epsilon (mean values): 0.096034698  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.7  
Distance (km): 34.63803  
Magnitude: 6.0662412  
Epsilon (mean values): 0.088080349  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.69  
Distance (km): 34.627379  
Magnitude: 6.0660735  
Epsilon (mean values): 0.087810247  
sub0\_ch\_bot.in:  
Percent Contributed: 3.7  
Distance (km): 308.17316  
Magnitude: 9.121988  
Epsilon (mean values): 0.80217222  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 3.7  
Distance (km): 308.17316  
Magnitude: 9.121988  
Epsilon (mean values): 0.80217222  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.88  
Distance (km): 38.031651  
Magnitude: 6.2011773  
Epsilon (mean values): 0.080904506  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.88  
Distance (km): 37.985608

Magnitude: 6.2007456  
Epsilon (mean values): 0.08035107  
sub0\_ch\_mid.in:  
Percent Contributed: 2.62  
Distance (km): 361.47413  
Magnitude: 8.9242121  
Epsilon (mean values): 1.1173804  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 2.62  
Distance (km): 361.47413  
Magnitude: 8.9242121  
Epsilon (mean values): 1.1173804  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.91  
Distance (km): 38.053956  
Magnitude: 6.1993793  
Epsilon (mean values): 0.073869501  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.9  
Distance (km): 38.062301  
Magnitude: 6.1992893  
Epsilon (mean values): 0.073837079  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.10404746 g  
Recovered targets:  
Return period: 480.28208 yrs  
Exceedance rate: 0.0020821098 yr<sup>-1</sup>  
Totals:  
Binned: 23.87 %  
Residual: 0 %  
Trace: 0.22 %  
Mean (over all sources):  
m: 6.05  
r: 36.1 km  
ε<sub>0</sub>: 0.2 σ  
Mode (largest m-r bin):









0.000	0.000	0.192	0.088	0.000					
50	5.5	0.320	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.071	0.204	0.045	0.000					
50	5.7	0.353	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.212	0.141	0.000	0.000					
50	5.9	0.382	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.059	0.252	0.072	0.000	0.000					
50	6.1	0.468	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.282	0.185	0.000	0.000	0.000					
50	6.3	0.482	0.000	0.000	0.000	0.000	0.000	0.000	0.129
0.315	0.038	0.000	0.000	0.000					
50	6.5	0.433	0.000	0.000	0.000	0.000	0.000	0.000	0.193
0.235	0.005	0.000	0.000	0.000					
50	6.7	0.368	0.000	0.000	0.000	0.000	0.000	0.000	0.202
0.166	0.000	0.000	0.000	0.000					
50	6.9	0.339	0.000	0.000	0.000	0.000	0.000	0.058	0.247
0.034	0.000	0.000	0.000	0.000					
50	7.1	0.300	0.000	0.000	0.000	0.000	0.000	0.141	0.159
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.230	0.000	0.000	0.000	0.000	0.016	0.175	0.039
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.112	0.000	0.000	0.000	0.000	0.035	0.077	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.013	0.000	0.000	0.000	0.000	0.010	0.003	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.003	0.000	0.000	0.000	0.001	0.003	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	1.196	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.579	0.437	0.180	0.000	0.000					
30	5.3	1.117	0.000	0.000	0.000	0.000	0.000	0.000	0.186
0.524	0.366	0.040	0.000	0.000					
30	5.5	1.030	0.000	0.000	0.000	0.000	0.000	0.000	0.341
0.416	0.273	0.000	0.000	0.000					
30	5.7	0.941	0.000	0.000	0.000	0.000	0.000	0.070	0.438
0.344	0.088	0.000	0.000	0.000					
30	5.9	0.843	0.000	0.000	0.000	0.000	0.000	0.201	0.347
0.295	0.000	0.000	0.000	0.000					
30	6.1	0.796	0.000	0.000	0.000	0.000	0.011	0.327	0.395
0.063	0.000	0.000	0.000	0.000					
30	6.3	0.727	0.000	0.000	0.000	0.000	0.182	0.330	0.215
0.000	0.000	0.000	0.000	0.000					
30	6.5	0.541	0.000	0.000	0.000	0.000	0.144	0.285	0.113
0.000	0.000	0.000	0.000	0.000					
30	6.7	0.437	0.000	0.000	0.000	0.012	0.149	0.221	0.054
0.000	0.000	0.000	0.000	0.000					
30	6.9	0.380	0.000	0.000	0.000	0.035	0.178	0.167	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.1	0.322	0.000	0.000	0.000	0.086	0.170	0.067	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	0.282	0.000	0.000	0.004	0.116	0.156	0.005	0.000



0.000	0.000	0.000	0.000	0.000					
30	7.5	0.135	0.000	0.000	0.012	0.071	0.052	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.012	0.000	0.000	0.002	0.008	0.002	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.002	0.000	0.000	0.001	0.002	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.593	0.000	0.000	0.000	0.212	0.171	0.591	0.586
0.032	0.000	0.000	0.000	0.000					
10	5.3	1.239	0.000	0.000	0.069	0.121	0.289	0.487	0.273
0.000	0.000	0.000	0.000	0.000					
10	5.5	0.953	0.000	0.000	0.106	0.076	0.288	0.392	0.091
0.000	0.000	0.000	0.000	0.000					
10	5.7	0.719	0.000	0.000	0.075	0.109	0.288	0.247	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.9	0.534	0.000	0.053	0.032	0.111	0.262	0.077	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	0.558	0.000	0.060	0.107	0.173	0.208	0.010	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	0.414	0.016	0.045	0.116	0.153	0.085	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.348	0.023	0.048	0.099	0.121	0.057	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.280	0.020	0.052	0.083	0.104	0.022	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.216	0.019	0.046	0.073	0.076	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.161	0.020	0.038	0.080	0.023	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.116	0.014	0.033	0.065	0.005	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.048	0.008	0.015	0.025	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.001	0.002	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.15

Distance (km): 35.114537

Magnitude: 6.0247722

Epsilon (mean values): 0.19804452

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.14

Distance (km): 35.107789

Magnitude: 6.0247084

Epsilon (mean values): 0.19794357

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.1

Distance (km): 34.643341  
Magnitude: 6.0129213  
Epsilon (mean values): 0.19004516  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.1  
Distance (km): 34.636517  
Magnitude: 6.0128564  
Epsilon (mean values): 0.18994302  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.08  
Distance (km): 35.032436  
Magnitude: 6.0224004  
Epsilon (mean values): 0.18818391  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.08  
Distance (km): 35.020006  
Magnitude: 6.0222042  
Epsilon (mean values): 0.18789207  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.06  
Distance (km): 34.630296  
Magnitude: 6.0121453  
Epsilon (mean values): 0.1812632  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.05  
Distance (km): 34.618904  
Magnitude: 6.0119694  
Epsilon (mean values): 0.18099071  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.10404746 g  
Recovered targets:  
Return period: 480.28208 yrs  
Exceedance rate: 0.0020821098 yr<sup>-1</sup>  
Totals:  
Binned: 28.91 %  
Residual: 0 %  
Trace: 0.26 %  
Mean (over all sources):  
m: 6.05



230	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
210	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
210	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
190	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.004					
190	7.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.001					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
190	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
170	6.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
170	7.1	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.004					
170	7.3	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.015	0.000					
170	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.007	0.000					
170	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
170	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
150	6.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.006					
150	6.9	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.010	0.003					
150	7.1	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.017	0.001					
150	7.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.021	0.007	0.000					

150	7.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.019	0.000	0.000					
150	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					
150	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
130	6.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
130	6.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
130	6.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.007					
130	6.7	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.026	0.001					
130	6.9	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.020	0.021	0.000					
130	7.1	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.047	0.003	0.000					
130	7.3	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.032	0.000	0.000					
130	7.5	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.027	0.004	0.000	0.000					
130	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.003	0.000	0.000	0.000					
130	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
110	5.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	5.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.007					
110	6.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.011					
110	6.3	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.005					
110	6.5	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.011	0.031	0.000					
110	6.7	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.045	0.012	0.000					
110	6.9	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.055	0.000	0.000					
110	7.1	0.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.059	0.029	0.000	0.000					
110	7.3	0.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.010	0.094	0.000	0.000	0.000					
110	7.5	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.029	0.033	0.000	0.000	0.000					
110	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.000	0.000	0.000	0.000					
110	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.001	0.000	0.000	0.000	0.000					

90	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	5.5	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.014					
90	5.7	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.015					
90	5.9	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.050	0.006					
90	6.1	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.037	0.045	0.000					
90	6.3	0.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.086	0.017	0.000					
90	6.5	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.038	0.083	0.000	0.000					
90	6.7	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.108	0.034	0.000	0.000					
90	6.9	0.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.029	0.129	0.001	0.000	0.000					
90	7.1	0.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.109	0.050	0.000	0.000	0.000					
90	7.3	0.144	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.132	0.005	0.000	0.000	0.000					
90	7.5	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.030
0.040	0.000	0.000	0.000	0.000					
90	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.001	0.000	0.000	0.000	0.000					
90	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.001	0.002
0.000	0.000	0.000	0.000	0.000					
70	5.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
70	5.3	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.019	0.021					
70	5.5	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.057	0.088	0.007					
70	5.7	0.207	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.157	0.051	0.000					
70	5.9	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.064	0.159	0.013	0.000					
70	6.1	0.277	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.179	0.098	0.000	0.000					
70	6.3	0.288	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.034	0.228	0.026	0.000	0.000					
70	6.5	0.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.165	0.147	0.000	0.000	0.000					
70	6.7	0.309	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.252	0.057	0.000	0.000	0.000					
70	6.9	0.262	0.000	0.000	0.000	0.000	0.000	0.000	0.088
0.174	0.000	0.000	0.000	0.000					
70	7.1	0.270	0.000	0.000	0.000	0.000	0.000	0.000	0.194
0.077	0.000	0.000	0.000	0.000					



30	6.3	0.807	0.000	0.000	0.000	0.020	0.259	0.393	0.134
0.000	0.000	0.000	0.000	0.000	0.000				
30	6.5	0.606	0.000	0.000	0.000	0.031	0.236	0.324	0.014
0.000	0.000	0.000	0.000	0.000	0.000				
30	6.7	0.495	0.000	0.000	0.000	0.061	0.233	0.201	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
30	6.9	0.411	0.000	0.000	0.001	0.086	0.225	0.099	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
30	7.1	0.339	0.000	0.000	0.012	0.121	0.196	0.011	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
30	7.3	0.292	0.000	0.000	0.016	0.144	0.132	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
30	7.5	0.138	0.000	0.000	0.012	0.088	0.038	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
30	7.7	0.013	0.000	0.000	0.003	0.009	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
30	7.9	0.003	0.000	0.000	0.001	0.002	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	5.1	1.430	0.000	0.000	0.033	0.179	0.165	0.407	0.505
0.141	0.000	0.000	0.000	0.000	0.000				
10	5.3	1.373	0.000	0.072	0.085	0.135	0.393	0.529	0.160
0.000	0.000	0.000	0.000	0.000	0.000				
10	5.5	1.174	0.017	0.094	0.101	0.318	0.522	0.121	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	5.7	0.844	0.049	0.028	0.094	0.310	0.363	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	5.9	0.592	0.053	0.000	0.156	0.206	0.177	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	6.1	0.589	0.037	0.047	0.169	0.211	0.126	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	6.3	0.424	0.025	0.078	0.130	0.158	0.033	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	6.5	0.355	0.018	0.068	0.115	0.133	0.022	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	6.7	0.285	0.014	0.061	0.099	0.110	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	6.9	0.217	0.014	0.052	0.095	0.057	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	7.1	0.161	0.012	0.046	0.083	0.021	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	7.3	0.116	0.008	0.038	0.066	0.004	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	7.5	0.047	0.003	0.017	0.027	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	7.7	0.004	0.001	0.002	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000				

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):



Percent Contributed: 3.82  
Distance (km): 36.885492  
Magnitude: 6.0206471  
Epsilon (mean values): 0.079294552  
noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 3.82  
Distance (km): 36.879305  
Magnitude: 6.0205893  
Epsilon (mean values): 0.079194553  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.76  
Distance (km): 36.414326  
Magnitude: 6.0085993  
Epsilon (mean values): 0.071167172  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.76  
Distance (km): 36.408069  
Magnitude: 6.0085405  
Epsilon (mean values): 0.071065979  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.52  
Distance (km): 36.797531  
Magnitude: 6.018852  
Epsilon (mean values): 0.069313631  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.51  
Distance (km): 36.785245  
Magnitude: 6.0186708  
Epsilon (mean values): 0.068992465  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.49  
Distance (km): 36.394068  
Magnitude: 6.0083974  
Epsilon (mean values): 0.062283746  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.48  
Distance (km): 36.382834  
Magnitude: 6.0082371  
Epsilon (mean values): 0.061982546

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs









0.055	0.168	0.092	0.038	0.000					
30	5.5	0.528	0.000	0.000	0.000	0.000	0.000	0.000	0.044
0.230	0.159	0.096	0.001	0.000					
30	5.7	0.577	0.000	0.000	0.000	0.000	0.000	0.000	0.160
0.229	0.161	0.026	0.000	0.000					
30	5.9	0.583	0.000	0.000	0.000	0.000	0.000	0.048	0.243
0.184	0.107	0.000	0.000	0.000					
30	6.1	0.634	0.000	0.000	0.000	0.000	0.000	0.222	0.223
0.184	0.004	0.000	0.000	0.000					
30	6.3	0.641	0.000	0.000	0.000	0.000	0.132	0.223	0.249
0.037	0.000	0.000	0.000	0.000					
30	6.5	0.520	0.000	0.000	0.000	0.011	0.133	0.233	0.143
0.000	0.000	0.000	0.000	0.000					
30	6.7	0.417	0.000	0.000	0.000	0.015	0.126	0.180	0.096
0.000	0.000	0.000	0.000	0.000					
30	6.9	0.353	0.000	0.000	0.000	0.034	0.135	0.159	0.025
0.000	0.000	0.000	0.000	0.000					
30	7.1	0.298	0.000	0.000	0.000	0.043	0.129	0.125	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	0.260	0.000	0.000	0.003	0.072	0.118	0.067	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.124	0.000	0.000	0.004	0.038	0.063	0.020	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.011	0.000	0.000	0.000	0.004	0.007	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.002	0.000	0.000	0.000	0.001	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	0.830	0.000	0.000	0.000	0.000	0.109	0.133	0.227
0.263	0.098	0.000	0.000	0.000					
10	5.3	0.880	0.000	0.000	0.000	0.090	0.119	0.222	0.286
0.155	0.008	0.000	0.000	0.000					
10	5.5	0.854	0.000	0.000	0.087	0.094	0.185	0.267	0.216
0.005	0.000	0.000	0.000	0.000					
10	5.7	0.675	0.000	0.000	0.075	0.108	0.193	0.242	0.057
0.000	0.000	0.000	0.000	0.000					
10	5.9	0.512	0.000	0.052	0.032	0.089	0.202	0.136	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	0.551	0.011	0.060	0.102	0.156	0.179	0.043	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	0.417	0.033	0.064	0.113	0.125	0.082	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.355	0.043	0.077	0.083	0.117	0.034	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.284	0.041	0.064	0.070	0.100	0.009	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.217	0.031	0.052	0.069	0.065	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.161	0.024	0.039	0.067	0.032	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.116	0.018	0.031	0.056	0.012	0.000	0.000	0.000

0.000	0.000	0.000	0.000	0.000					
10	7.5	0.047	0.009	0.013	0.022	0.004	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.001	0.001	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.08

Distance (km): 31.199856

Magnitude: 6.1757036

Epsilon (mean values): 0.073879243

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.08

Distance (km): 31.198983

Magnitude: 6.175695

Epsilon (mean values): 0.073862157

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.04

Distance (km): 30.663291

Magnitude: 6.1651138

Epsilon (mean values): 0.060687618

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.04

Distance (km): 30.662404

Magnitude: 6.165105

Epsilon (mean values): 0.060670252

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.37

Distance (km): 31.028119

Magnitude: 6.1701186

Epsilon (mean values): 0.06397751

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.37

Distance (km): 31.017685

Magnitude: 6.169956

Epsilon (mean values): 0.063694356

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.36

Distance (km): 30.568564

Magnitude: 6.1609047

Epsilon (mean values): 0.052561878

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.35

Distance (km): 30.559186

Magnitude: 6.1607588

Epsilon (mean values): 0.052305152

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.10404746 g

Recovered targets:  
Return period: 480.28208 yrs  
Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:  
Binned: 21.17 %  
Residual: 0 %  
Trace: 0.26 %

Mean (over all sources):  
m: 6.19  
r: 37.31 km  
ε<sub>0</sub>: 0.07 σ

Mode (largest m-r bin):  
m: 5.1  
r: 12.03 km  
ε<sub>0</sub>: -0.05 σ  
Contribution: 1.3 %

Mode (largest m-r-ε<sub>0</sub> bin):  
m: 5.11  
r: 14.37 km  
ε<sub>0</sub>: 0.27 σ  
Contribution: 0.42 %

Discretization:  
r: min = 0.0, max = 1000.0, Δ = 20.0 km  
m: min = 4.4, max = 9.4, Δ = 0.2  
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:  
ε0: [-∞ .. -2.5)  
ε1: [-2.5 .. -2.0)  
ε2: [-2.0 .. -1.5)  
ε3: [-1.5 .. -1.0)  
ε4: [-1.0 .. -0.5)  
ε5: [-0.5 .. 0.0)  
ε6: [0.0 .. 0.5)  
ε7: [0.5 .. 1.0)  
ε8: [1.0 .. 1.5)  
ε9: [1.5 .. 2.0)  
ε10: [2.0 .. 2.5)  
ε11: [2.5 .. +∞)

Closest Distance, rRup (km)      Magnitude (Mw)      ALL\_ε      ε=(-∞, -2.5)      ε=[-2.5, -2)



$\epsilon = [-2, -1.5)$ $\epsilon = [0.5, 1)$	$\epsilon = [-1.5, -1)$ $\epsilon = [1, 1.5)$	$\epsilon = [-1, -0.5)$ $\epsilon = [1.5, 2)$	$\epsilon = [-0.5, 0)$ $\epsilon = [2, 2.5)$	$\epsilon = [0, 0.5)$ $\epsilon = [2.5, \infty)$					
290	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
230	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
230	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.002					
210	7.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.001					
210	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
210	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.003					
190	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.010	0.002					
190	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.006	0.000					
190	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.000	0.000					
190	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
170	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

170	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
170	7.1	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.010	0.003					
170	7.3	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.013	0.000					
170	7.5	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.020	0.001	0.000					
170	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.001	0.000	0.000					
170	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					
150	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
150	6.9	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.003					
150	7.1	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.012	0.014	0.001					
150	7.3	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.036	0.002	0.000					
150	7.5	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.027	0.009	0.000	0.000					
150	7.7	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.003	0.000	0.000	0.000					
150	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.000	0.000	0.000	0.000					
130	6.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
130	6.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
130	6.7	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.013	0.004					
130	6.9	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.020	0.020	0.000					
130	7.1	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.048	0.001	0.000					
130	7.3	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.070	0.013	0.000	0.000					
130	7.5	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.020	0.032	0.000	0.000	0.000					
130	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.006	0.000	0.000	0.000	0.000					
130	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.000	0.000	0.000					
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					

110	6.3	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.007					
110	6.5	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.020	0.002					
110	6.7	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.015	0.021	0.000					
110	6.9	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.010	0.050	0.002	0.000					
110	7.1	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.083	0.018	0.000	0.000					
110	7.3	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.073	0.069	0.000	0.000	0.000					
110	7.5	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.082	0.004	0.000	0.000	0.000					
110	7.7	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.010
0.004	0.000	0.000	0.000	0.000					
110	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.001	0.002
0.000	0.000	0.000	0.000	0.000					
90	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	5.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
90	5.9	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.010					
90	6.1	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.027	0.006					
90	6.3	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.023	0.035	0.000					
90	6.5	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.055	0.014	0.000					
90	6.7	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.031	0.059	0.001	0.000					
90	6.9	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.013	0.114	0.009	0.000	0.000					
90	7.1	0.166	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.129	0.037	0.000	0.000	0.000					
90	7.3	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.059
0.110	0.002	0.000	0.000	0.000					
90	7.5	0.088	0.000	0.000	0.000	0.000	0.000	0.001	0.075
0.012	0.000	0.000	0.000	0.000					
90	7.7	0.012	0.000	0.000	0.000	0.000	0.000	0.006	0.005
0.000	0.000	0.000	0.000	0.000					
90	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
70	5.5	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.015					

70	5.7	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.033	0.011					
70	5.9	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.020	0.050	0.002					
70	6.1	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.097	0.023	0.000					
70	6.3	0.166	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.083	0.083	0.000	0.000					
70	6.5	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.010	0.149	0.033	0.000	0.000					
70	6.7	0.211	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.102	0.106	0.003	0.000	0.000					
70	6.9	0.223	0.000	0.000	0.000	0.000	0.000	0.000	0.028
0.170	0.024	0.000	0.000	0.000					
70	7.1	0.267	0.000	0.000	0.000	0.000	0.000	0.000	0.186
0.081	0.000	0.000	0.000	0.000					
70	7.3	0.275	0.000	0.000	0.000	0.000	0.000	0.124	0.146
0.006	0.000	0.000	0.000	0.000					
70	7.5	0.139	0.000	0.000	0.000	0.000	0.006	0.101	0.031
0.000	0.000	0.000	0.000	0.000					
70	7.7	0.023	0.000	0.000	0.000	0.000	0.015	0.008	0.000
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.004	0.000	0.000	0.000	0.000	0.003	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.039	0.020					
50	5.3	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.022	0.077	0.014					
50	5.5	0.167	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.104	0.062	0.001					
50	5.7	0.214	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.046	0.138	0.030	0.000					
50	5.9	0.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.157	0.102	0.000	0.000					
50	6.1	0.358	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.147	0.190	0.021	0.000	0.000					
50	6.3	0.393	0.000	0.000	0.000	0.000	0.000	0.000	0.045
0.245	0.103	0.000	0.000	0.000					
50	6.5	0.386	0.000	0.000	0.000	0.000	0.000	0.000	0.143
0.216	0.027	0.000	0.000	0.000					
50	6.7	0.362	0.000	0.000	0.000	0.000	0.000	0.015	0.174
0.173	0.000	0.000	0.000	0.000					
50	6.9	0.362	0.000	0.000	0.000	0.000	0.000	0.106	0.235
0.022	0.000	0.000	0.000	0.000					
50	7.1	0.338	0.000	0.000	0.000	0.000	0.030	0.207	0.102
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.263	0.000	0.000	0.000	0.000	0.102	0.153	0.008
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.128	0.000	0.000	0.000	0.013	0.075	0.039	0.000
0.000	0.000	0.000	0.000	0.000					



10	6.7	0.290	0.060	0.078	0.086	0.067	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.222	0.059	0.074	0.075	0.014	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.165	0.060	0.069	0.036	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.119	0.054	0.052	0.013	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.048	0.027	0.019	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.003	0.001	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.76

Distance (km): 35.728093

Magnitude: 6.149706

Epsilon (mean values): 0.060299659

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.76

Distance (km): 35.706914

Magnitude: 6.1495361

Epsilon (mean values): 0.060001711

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.71

Distance (km): 35.156928

Magnitude: 6.1371155

Epsilon (mean values): 0.049611501

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.71

Distance (km): 35.135765

Magnitude: 6.136944

Epsilon (mean values): 0.049313245

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.83

Distance (km): 35.770215

Magnitude: 6.1472946

Epsilon (mean values): 0.053360297

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.82

Distance (km): 35.759497

Magnitude: 6.1470857

Epsilon (mean values): 0.053104547

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.8

Distance (km): 35.287343

Magnitude: 6.1364745

Epsilon (mean values): 0.044166975

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.8

Distance (km): 35.277591

Magnitude: 6.1362848

Epsilon (mean values): 0.043932909

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs

Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 0.32 %

Residual: 0 %

Trace: 0 %

Mean (over all sources):

m: 9.18

r: 315.4 km

ε<sub>0</sub>: 1.87 σ

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

ε<sub>0</sub>: 1.56 σ

Contribution: 0.18 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34

r: 308.17 km

ε<sub>0</sub>: 1.56 σ

Contribution: 0.18 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε6: [0.0 .. 0.5)  
 ε7: [0.5 .. 1.0)  
 ε8: [1.0 .. 1.5)  
 ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[0, 0.5)	ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2.5, ∞)
390	9.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
370	8.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
370	8.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
370	9.1	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.033	0.000					
350	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
330	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
330	8.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
330	8.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
310	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
310	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
310	8.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
310	8.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.002					
310	8.9	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.033	0.000					
310	9.1	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.056	0.000					
310	9.3	0.178	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.178	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:



Return period: 475 yrs  
 Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
 PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs  
 Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 7.25 %  
 Residual: 0 %  
 Trace: 0.05 %

Mean (over all sources):

m: 8.88  
 r: 343.84 km  
 ε<sub>0</sub>: 0.92 σ

Mode (largest m-r bin):

m: 9.34  
 r: 308.17 km  
 ε<sub>0</sub>: 0.39 σ  
 Contribution: 1.05 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34  
 r: 308.17 km  
 ε<sub>0</sub>: 0.39 σ  
 Contribution: 1.05 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

- ε<sub>0</sub>: [-∞ .. -2.5)
- ε<sub>1</sub>: [-2.5 .. -2.0)
- ε<sub>2</sub>: [-2.0 .. -1.5)
- ε<sub>3</sub>: [-1.5 .. -1.0)
- ε<sub>4</sub>: [-1.0 .. -0.5)
- ε<sub>5</sub>: [-0.5 .. 0.0)
- ε<sub>6</sub>: [0.0 .. 0.5)
- ε<sub>7</sub>: [0.5 .. 1.0)
- ε<sub>8</sub>: [1.0 .. 1.5)
- ε<sub>9</sub>: [1.5 .. 2.0)
- ε<sub>10</sub>: [2.0 .. 2.5)
- ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
590	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					



410	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.000	0.000						
410	8.5	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.013	0.000	0.000						
390	7.9	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.000	0.000						
390	8.1	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.023	0.000	0.000						
390	8.3	0.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.123	0.000	0.000						
390	8.5	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.067	0.079	0.000	0.000						
390	8.7	0.527	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.527	0.000	0.000	0.000						
390	9.1	0.299	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.299	0.000	0.000	0.000						
370	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.000	0.000						
370	8.1	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.033	0.000	0.000						
370	8.3	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.007	0.000	0.000						
370	8.5	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.200	0.000	0.000	0.000						
370	8.7	0.739	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.739	0.000	0.000	0.000						
370	8.9	0.716	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.716	0.000	0.000	0.000						
370	9.1	1.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.003	0.000	0.000	0.000	0.000						
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000						
350	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.004	0.000	0.000						
350	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.000	0.000	0.000						
350	8.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.000	0.000	0.000						
330	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.002	0.000	0.000						
330	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.010	0.000	0.000	0.000						
330	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.000	0.000	0.000						
330	8.5	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.073	0.000	0.000	0.000						
330	8.7	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.009	0.059	0.000	0.000	0.000						
330	8.9	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.077	0.000	0.000	0.000	0.000						

310	7.9	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.1	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.3	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.5	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.084	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.7	0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	8.9	0.751	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	9.1	0.857	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.857	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	9.3	1.054	0.000	0.000	0.000	0.000	0.000	0.000	1.054
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 2.57  
Distance (km): 308.17316  
Magnitude: 9.1017183  
Epsilon (mean values): 0.55748266

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.57  
Distance (km): 308.17316  
Magnitude: 9.1017183  
Epsilon (mean values): 0.55748266  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 2.33  
Distance (km): 361.47413  
Magnitude: 8.9149689  
Epsilon (mean values): 0.99843032

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.33  
Distance (km): 361.47413  
Magnitude: 8.9149689  
Epsilon (mean values): 0.99843032  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab  
 Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs  
 Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
 PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs  
 Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 1.36 %  
 Residual: 0 %  
 Trace: 0.1 %

Mean (over all sources):

m: 7.07  
 r: 250.82 km  
 ε<sub>0</sub>: 1.65 σ

Mode (largest m-r bin):

m: 7.11  
 r: 270.08 km  
 ε<sub>0</sub>: 1.8 σ  
 Contribution: 0.19 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.12  
 r: 269.37 km  
 ε<sub>0</sub>: 1.77 σ  
 Contribution: 0.17 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞)

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[-0.5, 0)	ε=[0, 0.5)	
ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2, 2.5)	ε=[2.5, ∞)	
290	6.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	6.7	0.010	0.000	0.000	0.000	0.000











0.000	0.000	0.000	0.000	0.000					
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs

Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 1.28 %

Residual: 0 %

Trace: 0.03 %

Mean (over all sources):

m: 9.08

r: 322.12 km

$\epsilon_0$ : 1.48  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.02  $\sigma$

Contribution: 0.46 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.02  $\sigma$

Contribution: 0.46 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

- $\epsilon_0$ :  $[-\infty \dots -2.5)$
- $\epsilon_1$ :  $[-2.5 \dots -2.0)$
- $\epsilon_2$ :  $[-2.0 \dots -1.5)$
- $\epsilon_3$ :  $[-1.5 \dots -1.0)$
- $\epsilon_4$ :  $[-1.0 \dots -0.5)$
- $\epsilon_5$ :  $[-0.5 \dots 0.0)$
- $\epsilon_6$ :  $[0.0 \dots 0.5)$
- $\epsilon_7$ :  $[0.5 \dots 1.0)$
- $\epsilon_8$ :  $[1.0 \dots 1.5)$
- $\epsilon_9$ :  $[1.5 \dots 2.0)$
- $\epsilon_{10}$ :  $[2.0 \dots 2.5)$
- $\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$	
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$
410	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
390	8.7	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000
390	9.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.000	0.000	0.000	0.000	0.000	0.000
370	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
370	8.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000
370	8.7	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000
370	8.9	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.060	0.000	0.000	0.000	0.000	0.000	0.000
370	9.1	0.155	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.155	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
330	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330	8.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000

330	8.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.007	0.000					
330	8.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.000	0.000					
310	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
310	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
310	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
310	8.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.005	0.000					
310	8.7	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.027	0.000	0.000					
310	8.9	0.180	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.180	0.000	0.000					
310	9.1	0.258	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.258	0.000	0.000	0.000					
310	9.3	0.460	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.460	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs

Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 0.04 %

Residual: 0 %

Trace: 0.12 %

Mean (over all sources):

m: 7.37

r: 219.13 km

ε<sub>0</sub>: 1.86 σ

Mode (largest m-r bin):

m: 7.12

r: 211.24 km

ε<sub>0</sub>: 2.23 σ

Contribution: 0 %







0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)



return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Grid

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs

Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 87.61 %

Residual: 0 %

Trace: 0.41 %

Mean (over all sources):

m: 6.09

r: 35.3 km

ε<sub>0</sub>: 0.1 σ

Mode (largest m-r bin):

m: 5.1

r: 12.07 km

ε<sub>0</sub>: -0.09 σ

Contribution: 5.15 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.1

r: 14.78 km

ε<sub>0</sub>: 0.25 σ

Contribution: 1.74 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

ε<sub>8</sub>: [1.0 .. 1.5)

ε<sub>9</sub>: [1.5 .. 2.0)

ε<sub>10</sub>: [2.0 .. 2.5)

ε<sub>11</sub>: [2.5 .. +∞)

Closest Distance, rRup (km)

ε=[-2,-1.5)      ε=[-1.5,-1)

ε=[0.5,1)      ε=[1,1.5)

290      7.7      0.000      0.000

0.000      0.000      0.000      0.000

Magnitude (Mw)

ε=[-1,-0.5)

ε=[1.5,2)

0.000      0.000

0.000

ALL\_ε      ε=(-∞,-2.5)

ε=[-0.5,0)

ε=[2,2.5)

0.000      0.000

0.000

ε=[-2.5,-2)

ε=[0,0.5)

ε=[2.5,∞)

0.000      0.000

0.000      0.000



170	7.3	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.042	0.003					
170	7.5	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.030	0.015	0.001					
170	7.7	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.005	0.001	0.000					
170	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.002	0.001	0.000	0.000					
150	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
150	6.7	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.010					
150	6.9	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.023	0.011					
150	7.1	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.015	0.049	0.003					
150	7.3	0.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.076	0.020	0.002					
150	7.5	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.028	0.048	0.005	0.000					
150	7.7	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.009	0.002	0.000	0.000					
150	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.002	0.000	0.000	0.000					
130	6.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
130	6.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.012					
130	6.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.019					
130	6.7	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.036	0.012					
130	6.9	0.089	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.028	0.058	0.003					
130	7.1	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.104	0.020	0.000					
130	7.3	0.188	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.094	0.086	0.009	0.000					
130	7.5	0.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.019	0.086	0.016	0.001	0.000					
130	7.7	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.010	0.007	0.001	0.000	0.000					
130	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.001	0.000	0.000	0.000					
110	5.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	5.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					

110	6.1	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.024					
110	6.3	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.055	0.022					
110	6.5	0.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.089	0.007					
110	6.7	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.075	0.066	0.001					
110	6.9	0.201	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.025	0.160	0.016	0.000					
110	7.1	0.266	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.173	0.089	0.003	0.000					
110	7.3	0.304	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.086	0.194	0.024	0.000	0.000					
110	7.5	0.187	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.113	0.061	0.006	0.000	0.000					
110	7.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.014	0.003	0.000	0.000	0.000					
110	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.001	0.004
0.002	0.000	0.000	0.000	0.000					
90	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	5.5	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.017					
90	5.7	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.030					
90	5.9	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.068	0.029					
90	6.1	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.042	0.123	0.016					
90	6.3	0.292	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.185	0.105	0.002					
90	6.5	0.334	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.044	0.256	0.034	0.000					
90	6.7	0.358	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.164	0.190	0.004	0.000					
90	6.9	0.426	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.037	0.340	0.050	0.000	0.000					
90	7.1	0.465	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.240	0.216	0.009	0.000	0.000					
90	7.3	0.489	0.000	0.000	0.000	0.000	0.000	0.000	0.062
0.361	0.066	0.000	0.000	0.000					
90	7.5	0.260	0.000	0.000	0.000	0.000	0.000	0.001	0.122
0.124	0.014	0.000	0.000	0.000					
90	7.7	0.035	0.000	0.000	0.000	0.000	0.000	0.006	0.022
0.006	0.000	0.000	0.000	0.000					
90	7.9	0.009	0.000	0.000	0.000	0.000	0.000	0.004	0.004
0.001	0.000	0.000	0.000	0.000					
70	5.1	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.020					

70	5.3	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.031	0.051					
70	5.5	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.057	0.139	0.039					
70	5.7	0.350	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.169	0.156	0.024					
70	5.9	0.459	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.064	0.256	0.130	0.010					
70	6.1	0.655	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.224	0.368	0.063	0.000					
70	6.3	0.828	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.034	0.541	0.252	0.001	0.000					
70	6.5	0.835	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.186	0.575	0.074	0.000	0.000					
70	6.7	0.732	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.345	0.380	0.007	0.000	0.000					
70	6.9	0.760	0.000	0.000	0.000	0.000	0.000	0.000	0.084
0.561	0.114	0.000	0.000	0.000					
70	7.1	0.737	0.000	0.000	0.000	0.000	0.000	0.000	0.333
0.388	0.015	0.000	0.000	0.000					
70	7.3	0.729	0.000	0.000	0.000	0.000	0.000	0.086	0.501
0.142	0.000	0.000	0.000	0.000					
70	7.5	0.357	0.000	0.000	0.000	0.000	0.001	0.123	0.202
0.031	0.000	0.000	0.000	0.000					
70	7.7	0.042	0.000	0.000	0.000	0.000	0.005	0.025	0.012
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.011	0.000	0.000	0.000	0.000	0.003	0.006	0.001
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.419	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.117	0.245	0.057					
50	5.3	0.749	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.053	0.420	0.251	0.025					
50	5.5	1.237	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.083	0.494	0.500	0.148	0.011					
50	5.7	1.393	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.308	0.621	0.390	0.071	0.002					
50	5.9	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.466	0.701	0.268	0.017	0.000					
50	6.1	1.759	0.000	0.000	0.000	0.000	0.000	0.000	0.172
0.877	0.636	0.075	0.000	0.000					
50	6.3	1.788	0.000	0.000	0.000	0.000	0.000	0.000	0.450
1.065	0.273	0.000	0.000	0.000					
50	6.5	1.627	0.000	0.000	0.000	0.000	0.000	0.015	0.772
0.784	0.056	0.000	0.000	0.000					
50	6.7	1.334	0.000	0.000	0.000	0.000	0.000	0.110	0.767
0.457	0.000	0.000	0.000	0.000					
50	6.9	1.202	0.000	0.000	0.000	0.000	0.000	0.328	0.748
0.127	0.000	0.000	0.000	0.000					
50	7.1	1.075	0.000	0.000	0.000	0.000	0.033	0.571	0.444
0.028	0.000	0.000	0.000	0.000					



10	6.3	1.683	0.107	0.272	0.500	0.573	0.230	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	1.419	0.142	0.280	0.391	0.486	0.120	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.139	0.135	0.255	0.337	0.381	0.031	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.872	0.124	0.224	0.312	0.212	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.649	0.115	0.192	0.266	0.076	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.468	0.094	0.154	0.199	0.021	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.191	0.048	0.064	0.076	0.004	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.014	0.005	0.005	0.004	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.79  
Distance (km): 35.142232  
Magnitude: 6.0792013  
Epsilon (mean values): 0.10556882

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.79  
Distance (km): 35.133288  
Magnitude: 6.0791235  
Epsilon (mean values): 0.10543761

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.62  
Distance (km): 34.636512  
Magnitude: 6.0672791  
Epsilon (mean values): 0.096027807

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.62  
Distance (km): 34.627531  
Magnitude: 6.0672003  
Epsilon (mean values): 0.095895824

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 7.8  
Distance (km): 35.069381  
Magnitude: 6.0765569  
Epsilon (mean values): 0.096326043

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 7.79  
Distance (km): 35.057701  
Magnitude: 6.0763696  
Epsilon (mean values): 0.096034698

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 7.7  
Distance (km): 34.63803  
Magnitude: 6.0662412  
Epsilon (mean values): 0.088080349  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.69  
Distance (km): 34.627379  
Magnitude: 6.0660735  
Epsilon (mean values): 0.087810247  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.88  
Distance (km): 38.031651  
Magnitude: 6.2011773  
Epsilon (mean values): 0.080904506  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.88  
Distance (km): 37.985608  
Magnitude: 6.2007456  
Epsilon (mean values): 0.08035107  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.91  
Distance (km): 38.053956  
Magnitude: 6.1993793  
Epsilon (mean values): 0.073869501  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.9  
Distance (km): 38.062301  
Magnitude: 6.1992893  
Epsilon (mean values): 0.073837079  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 475 yrs.  
#This deaggregation corresponds to: Source Type: Slab  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.10404746 g  
Recovered targets:  
Return period: 480.28208 yrs  
Exceedance rate: 0.0020821098 yr<sup>-1</sup>  
Totals:  
Binned: 1.4 %  
Residual: 0 %  
Trace: 0.25 %  
Mean (over all sources):



m: 7.08  
 r: 250.01 km  
 $\epsilon_0$ : 1.66  $\sigma$   
 Mode (largest m-r bin):  
 m: 7.11  
 r: 270.08 km  
 $\epsilon_0$ : 1.8  $\sigma$   
 Contribution: 0.19 %

Mode (largest m-r- $\epsilon_0$  bin):  
 m: 7.12  
 r: 269.37 km  
 $\epsilon_0$ : 1.77  $\sigma$   
 Contribution: 0.17 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0, 0.5)$
$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$	$\epsilon = [2.5, \infty)$
290	6.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	6.7	0.010	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.010	0.000	0.000
290	6.9	0.046	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.012	0.000	0.000
290	7.1	0.105	0.000	0.000	0.000	0.000
0.000	0.000	0.065	0.040	0.000	0.000	0.000
290	7.3	0.014	0.000	0.000	0.000	0.000
0.000	0.002	0.012	0.000	0.000	0.000	0.000
290	7.5	0.007	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.000	0.000	0.000	0.000
270	6.5	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.000	0.000
270	6.7	0.024	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.015	0.000	0.000
270	6.9	0.080	0.000	0.000	0.000	0.000







0.000	0.000	0.000	0.000	0.000					
130	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.10404746 g

Recovered targets:

Return period: 480.28208 yrs

Exceedance rate: 0.0020821098 yr<sup>-1</sup>

Totals:

Binned: 8.85 %

Residual: 0 %

Trace: 0.13 %

Mean (over all sources):

m: 8.92

r: 339.67 km

$\epsilon_0$ : 1.04  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 0.69  $\sigma$

Contribution: 1.69 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 0.39  $\sigma$

Contribution: 1.05 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}: [2.5 \dots +\infty]$				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$	
Closest Distance, rRup (km)									
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$			$\epsilon = [-1, -0.5)$			$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	
$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$			$\epsilon = [1.5, 2)$			$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$	
590	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
550	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
550	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
530	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
530	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
510	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
510	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
510	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
490	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
490	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
490	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
490	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
470	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
470	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.000					
470	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
470	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
450	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
450	8.1	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.027	0.000					
450	8.3	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.024	0.000	0.000					
450	8.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.027	0.000	0.000					
430	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					

430	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.002	0.000					
430	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
430	8.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.000	0.000					
410	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000					
410	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.000	0.000					
410	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.000	0.000					
410	8.5	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.013	0.000	0.000					
390	7.9	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.000	0.000					
390	8.1	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.023	0.000	0.000					
390	8.3	0.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.123	0.000	0.000					
390	8.5	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.067	0.079	0.000	0.001					
390	8.7	0.541	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.527	0.000	0.000	0.014					
390	9.1	0.327	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.299	0.000	0.024	0.003					
370	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.000	0.000					
370	8.1	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.033	0.000	0.000					
370	8.3	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.007	0.000	0.000					
370	8.5	0.206	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.200	0.000	0.000	0.006					
370	8.7	0.784	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.739	0.000	0.045	0.001					
370	8.9	0.781	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.716	0.000	0.060	0.005					
370	9.1	1.191	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.003	0.000	0.155	0.033	0.000					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.004	0.000	0.000					
350	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.000	0.000	0.000					
350	8.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.000	0.001	0.000					
330	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.002	0.000	0.000					



330	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.010	0.000	0.000	0.000					
330	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.000	0.000	0.000					
330	8.5	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.073	0.000	0.006	0.000					
330	8.7	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.009	0.059	0.001	0.007	0.001					
330	8.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.077	0.000	0.014	0.002	0.000					
310	7.9	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.000	0.000	0.000					
310	8.1	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.000	0.001	0.001					
310	8.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.000	0.001	0.000					
310	8.5	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.084	0.028	0.009	0.005	0.002					
310	8.7	0.179	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.148	0.000	0.027	0.002	0.002					
310	8.9	0.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.751	0.000	0.180	0.033	0.000					
310	9.1	1.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.857	0.258	0.004	0.056	0.000					
310	9.3	1.693	0.000	0.000	0.000	0.000	0.000	0.000	1.054
0.000	0.460	0.178	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 3.7  
Distance (km): 308.17316  
Magnitude: 9.121988  
Epsilon (mean values): 0.80217222

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 3.7  
Distance (km): 308.17316  
Magnitude: 9.121988  
Epsilon (mean values): 0.80217222  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 2.62  
Distance (km): 361.47413  
Magnitude: 8.9242121  
Epsilon (mean values): 1.1173804

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.62  
Distance (km): 361.47413  
Magnitude: 8.9242121  
Epsilon (mean values): 1.1173804

Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 475 yrs.  
#This deaggregation corresponds to: Source Type: Fault  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
  Return period: 475 yrs  
  Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
  PGA ground motion: 0.10404746 g  
Recovered targets:  
  Return period: 480.28208 yrs  
  Exceedance rate: 0.0020821098 yr<sup>-1</sup>  
Totals:  
  Binned: 2.14 %  
  Residual: 0 %  
  Trace: 0.09 %  
Mean (over all sources):  
  m: 7.02  
  r: 73.78 km  
  ε<sub>0</sub>: 0.69 σ  
Mode (largest m-r bin):  
  m: 7.1  
  r: 62.35 km  
  ε<sub>0</sub>: 0.36 σ  
  Contribution: 0.2 %  
Mode (largest m-r-ε<sub>0</sub> bin):  
  m: 6.74  
  r: 63.44 km  
  ε<sub>0</sub>: 0.74 σ  
  Contribution: 0.17 %  
Discretization:  
  r: min = 0.0, max = 1000.0, Δ = 20.0 km  
  m: min = 4.4, max = 9.4, Δ = 0.2  
  ε: min = -3.0, max = 3.0, Δ = 0.5 σ  
Epsilon keys:  
  ε<sub>0</sub>: [-∞ .. -2.5)  
  ε<sub>1</sub>: [-2.5 .. -2.0)  
  ε<sub>2</sub>: [-2.0 .. -1.5)  
  ε<sub>3</sub>: [-1.5 .. -1.0)  
  ε<sub>4</sub>: [-1.0 .. -0.5)  
  ε<sub>5</sub>: [-0.5 .. 0.0)  
  ε<sub>6</sub>: [0.0 .. 0.5)  
  ε<sub>7</sub>: [0.5 .. 1.0)



0.000	0.000	0.000	0.019	0.003					
130	6.9	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.020	0.015	0.000					
130	7.1	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.006	0.028	0.004	0.000					
130	7.3	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.006	0.000	0.000					
130	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
110	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.003	0.000					
110	6.7	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.004	0.000					
110	6.9	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.001	0.000					
110	7.1	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.023	0.001	0.000					
110	7.3	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.006	0.067	0.013	0.000	0.000					
110	7.5	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.029	0.027	0.005	0.000	0.000					
110	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.006	0.001	0.000	0.000	0.000					
90	6.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.011	0.001	0.000					
90	6.7	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.024	0.022	0.000	0.000					
90	6.9	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.006	0.066	0.005	0.000	0.000					
90	7.1	0.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.057	0.026	0.000	0.000	0.000					
90	7.3	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.031	0.005	0.000	0.000	0.000					
90	7.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.002	0.000	0.000	0.000	0.000					
70	6.5	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.046	0.053	0.001	0.000	0.000					
70	6.7	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.169	0.023	0.000	0.000	0.000					
70	6.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.036
0.058	0.000	0.000	0.000	0.000					
70	7.1	0.196	0.000	0.000	0.000	0.000	0.000	0.000	0.139
0.057	0.000	0.000	0.000	0.000					
70	7.3	0.189	0.000	0.000	0.000	0.000	0.000	0.084	0.102
0.002	0.000	0.000	0.000	0.000					
70	7.5	0.098	0.000	0.000	0.000	0.000	0.005	0.068	0.025
0.000	0.000	0.000	0.000	0.000					
70	7.7	0.032	0.000	0.000	0.000	0.000	0.010	0.016	0.006
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.002	0.000	0.000	0.000	0.000	0.001	0.001	0.000

0.000	0.000	0.000	0.000	0.000					
50	6.5	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.064	0.015	0.000	0.000	0.000					
50	6.7	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.045
0.126	0.000	0.000	0.000	0.000					
50	6.9	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.121
0.050	0.000	0.000	0.000	0.000					
50	7.1	0.137	0.000	0.000	0.000	0.000	0.000	0.011	0.110
0.016	0.000	0.000	0.000	0.000					
50	7.3	0.055	0.000	0.000	0.000	0.000	0.000	0.032	0.023
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.007	0.000	0.000	0.000	0.000	0.001	0.005	0.001
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs

Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.79 %

Mean (over all sources):

m: 6.41

r: 68.04 km

$\epsilon_0$ : 0.17  $\sigma$

Mode (largest m-r bin):

m: 5.1

r: 12.02 km

$\epsilon_0$ : -0.1  $\sigma$

Contribution: 5.23 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.1

r: 14.48 km

$\epsilon_0$ : 0.25  $\sigma$

Contribution: 1.78 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [-∞ .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ ]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$	
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	
590	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
570	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
550	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
550	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
530	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
530	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
510	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
510	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
510	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
490	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
490	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
490	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
490	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
470	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
470	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.000					
470	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
470	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
450	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
450	8.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.000					
450	8.3	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.015	0.000					
450	8.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.025	0.000	0.000					

430	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
430	8.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.003	0.000					
430	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
430	8.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.000	0.000					
410	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.002	0.000					
410	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.000	0.000					
410	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.000	0.000					
410	8.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.014	0.000	0.000					
390	7.9	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.000	0.000					
390	8.1	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.022	0.000	0.000					
390	8.3	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.116	0.000	0.003					
390	8.5	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.038	0.101	0.002	0.005					
390	8.7	0.560	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.511	0.000	0.050	0.000					
390	9.1	0.356	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.296	0.059	0.000	0.000					
370	7.9	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.000	0.000					
370	8.1	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.031	0.000	0.001					
370	8.3	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.009	0.011	0.000	0.001					
370	8.5	0.213	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.191	0.002	0.019	0.000					
370	8.7	0.844	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.725	0.016	0.104	0.000					
370	8.9	0.853	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.707	0.146	0.000	0.000					
370	9.1	1.346	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.006	0.000	0.325	0.000	0.014					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.004	0.000	0.000					
350	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
350	8.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.000	0.002	0.000					



330	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.000	0.000					
330	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.009	0.001	0.001	0.000					
330	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.000	0.001	0.000					
330	8.5	0.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.072	0.014	0.001	0.000					
330	8.7	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.060	0.018	0.000	0.000					
330	8.9	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.078	0.029	0.000	0.000	0.001					
310	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.000	0.001	0.000					
310	8.1	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.000	0.004	0.000					
310	8.3	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.003	0.001	0.000					
310	8.5	0.143	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.082	0.029	0.032	0.000	0.000					
310	8.7	0.205	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.149	0.040	0.015	0.000	0.002					
310	8.9	1.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.760	0.344	0.000	0.001	0.015					
310	9.1	1.373	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.901	0.440	0.000	0.032	0.000					
310	9.3	1.949	0.000	0.000	0.000	0.000	0.000	0.000	1.088
0.750	0.000	0.111	0.000	0.000					
290	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	6.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
290	6.9	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.029	0.011					
290	7.1	0.096	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.043	0.053	0.000					
290	7.3	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.011	0.000	0.000					
290	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.000	0.000					
290	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
270	6.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.013					
270	6.9	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.065	0.002					

270	7.1	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.151	0.028	0.002					
270	7.3	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.013	0.001	0.001					
270	7.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.022	0.000	0.002	0.000					
270	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.001	0.001	0.000	0.000					
270	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
250	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
250	6.7	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.022	0.005					
250	6.9	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.042	0.033	0.001					
250	7.1	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.046	0.127	0.004	0.006					
250	7.3	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.027	0.002	0.002	0.000					
250	7.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.018	0.006	0.003	0.001	0.000					
250	7.7	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.001	0.000	0.000	0.000					
250	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.005	0.001	0.000	0.000	0.000					
230	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
230	6.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.003					
230	6.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.019	0.000					
230	6.9	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.058	0.004	0.003					
230	7.1	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.103	0.024	0.014	0.001					
230	7.3	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.009	0.003	0.001	0.000					
230	7.5	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.002	0.002	0.000	0.001					
230	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.002	0.001	0.000	0.000	0.000					
230	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.002	0.000	0.000	0.000	0.000					
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					

210	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.000					
210	6.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.003	0.001					
210	6.9	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.016	0.012	0.004	0.000					
210	7.1	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.013	0.050	0.010	0.003	0.000					
210	7.3	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.002	0.001	0.000	0.002					
210	7.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.002	0.003	0.000	0.002	0.003					
210	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.001	0.001	0.000					
210	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.001	0.003
0.000	0.000	0.000	0.000	0.000					
190	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
190	6.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.001	0.000					
190	6.9	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.001	0.000	0.000					
190	7.1	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.004	0.002	0.000	0.003					
190	7.3	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.001	0.001	0.000	0.006	0.009					
190	7.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.002	0.012	0.003					
190	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.000	0.000	0.002	0.002	0.000					
190	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000	0.001	0.001	0.000	0.000					
170	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
170	6.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.004					

170	7.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.003	0.001	0.000	0.007	0.012					
170	7.3	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.034	0.006					
170	7.5	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.018	0.019	0.001					
170	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.005	0.001	0.000					
170	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.002	0.001	0.000	0.000					
150	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
150	6.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
150	6.9	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.015					
150	7.1	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.000	0.000	0.005	0.043	0.007					
150	7.3	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.052	0.036	0.001					
150	7.5	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.047	0.008	0.000					
150	7.7	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.007	0.004	0.000	0.000					
150	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.002	0.000	0.000	0.000					
130	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
130	6.5	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.020					
130	6.7	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.036	0.019					

130	6.9	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.085	0.003					
130	7.1	0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.107	0.038	0.000					
130	7.3	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.064	0.118	0.004	0.000					
130	7.5	0.117	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.072	0.033	0.000	0.000					
130	7.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.008	0.009	0.001	0.000	0.000					
130	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.003	0.001	0.000	0.000	0.000					
110	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
110	6.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.016					
110	6.3	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.033	0.027					
110	6.5	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.086	0.010					
110	6.7	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.050	0.083	0.001					
110	6.9	0.188	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.165	0.020	0.000					
110	7.1	0.280	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.132	0.147	0.000	0.000					
110	7.3	0.368	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.048	0.275	0.046	0.000	0.000					
110	7.5	0.238	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.114	0.122	0.000	0.000	0.000					
110	7.7	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.021	0.006	0.000	0.000	0.000					
110	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.001	0.004
0.003	0.000	0.000	0.000	0.000					
90	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	5.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.009					
90	5.7	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.022					
90	5.9	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.037	0.032					

90	6.1	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.116	0.020					
90	6.3	0.259	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.141	0.117	0.001					
90	6.5	0.323	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.016	0.267	0.040	0.000					
90	6.7	0.377	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.147	0.227	0.004	0.000					
90	6.9	0.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.409	0.065	0.000	0.000					
90	7.1	0.533	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.237	0.296	0.000	0.000	0.000					
90	7.3	0.523	0.000	0.000	0.000	0.000	0.000	0.000	0.043
0.413	0.067	0.000	0.000	0.000					
90	7.5	0.266	0.000	0.000	0.000	0.000	0.000	0.001	0.096
0.167	0.002	0.000	0.000	0.000					
90	7.7	0.035	0.000	0.000	0.000	0.000	0.000	0.005	0.023
0.006	0.000	0.000	0.000	0.000					
90	7.9	0.009	0.000	0.000	0.000	0.000	0.000	0.004	0.005
0.000	0.000	0.000	0.000	0.000					
70	5.1	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.011					
70	5.3	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.040					
70	5.5	0.168	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.111	0.040					
70	5.7	0.272	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.095	0.146	0.031					
70	5.9	0.383	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.209	0.158	0.009					
70	6.1	0.587	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.132	0.392	0.063	0.000					
70	6.3	0.784	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.517	0.265	0.002	0.000					
70	6.5	0.910	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.213	0.629	0.068	0.000	0.000					
70	6.7	0.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.488	0.413	0.008	0.000	0.000					
70	6.9	0.849	0.000	0.000	0.000	0.000	0.000	0.000	0.056
0.690	0.103	0.000	0.000	0.000					
70	7.1	0.940	0.000	0.000	0.000	0.000	0.000	0.000	0.468
0.472	0.000	0.000	0.000	0.000					
70	7.3	0.934	0.000	0.000	0.000	0.000	0.000	0.103	0.708
0.124	0.000	0.000	0.000	0.000					
70	7.5	0.466	0.000	0.000	0.000	0.000	0.002	0.176	0.285
0.003	0.000	0.000	0.000	0.000					
70	7.7	0.076	0.000	0.000	0.000	0.000	0.014	0.051	0.011
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.013	0.000	0.000	0.000	0.000	0.004	0.009	0.000
0.000	0.000	0.000	0.000	0.000					

50	5.1	0.326	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.059	0.201	0.066					
50	5.3	0.608	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.315	0.253	0.032					
50	5.5	1.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.361	0.493	0.174	0.013					
50	5.7	1.238	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.131	0.556	0.468	0.083	0.000					
50	5.9	1.355	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.306	0.754	0.283	0.012	0.000					
50	6.1	1.705	0.000	0.000	0.000	0.000	0.000	0.000	0.050
0.879	0.706	0.069	0.000	0.000					
50	6.3	1.784	0.000	0.000	0.000	0.000	0.000	0.000	0.427
1.080	0.277	0.000	0.000	0.000					
50	6.5	1.724	0.000	0.000	0.000	0.000	0.000	0.000	0.801
0.867	0.056	0.000	0.000	0.000					
50	6.7	1.527	0.000	0.000	0.000	0.000	0.000	0.076	0.833
0.615	0.003	0.000	0.000	0.000					
50	6.9	1.402	0.000	0.000	0.000	0.000	0.000	0.319	0.965
0.118	0.000	0.000	0.000	0.000					
50	7.1	1.246	0.000	0.000	0.000	0.000	0.029	0.619	0.597
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.950	0.000	0.000	0.000	0.000	0.156	0.649	0.145
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.459	0.000	0.000	0.000	0.014	0.168	0.265	0.013
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.052	0.000	0.000	0.000	0.007	0.032	0.013	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.014	0.000	0.000	0.000	0.004	0.008	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	2.664	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.729	1.152	0.646	0.130	0.007					
30	5.3	3.366	0.000	0.000	0.000	0.000	0.000	0.000	0.386
1.447	1.122	0.376	0.035	0.000					
30	5.5	3.999	0.000	0.000	0.000	0.000	0.000	0.341	1.240
1.558	0.729	0.130	0.000	0.000					
30	5.7	3.770	0.000	0.000	0.000	0.000	0.017	0.666	1.510
1.089	0.487	0.002	0.000	0.000					
30	5.9	3.376	0.000	0.000	0.000	0.000	0.115	0.974	1.307
0.875	0.104	0.000	0.000	0.000					
30	6.1	3.231	0.000	0.000	0.000	0.000	0.381	1.239	1.303
0.308	0.000	0.000	0.000	0.000					
30	6.3	2.974	0.000	0.000	0.000	0.051	0.905	1.185	0.812
0.021	0.000	0.000	0.000	0.000					
30	6.5	2.295	0.000	0.000	0.000	0.162	0.732	1.058	0.343
0.000	0.000	0.000	0.000	0.000					
30	6.7	1.873	0.000	0.000	0.009	0.206	0.720	0.826	0.111
0.000	0.000	0.000	0.000	0.000					
30	6.9	1.605	0.000	0.000	0.044	0.335	0.680	0.545	0.000
0.000	0.000	0.000	0.000	0.000					

30	7.1	1.351	0.000	0.006	0.095	0.458	0.647	0.145	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	1.174	0.000	0.016	0.145	0.517	0.480	0.015	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.559	0.000	0.019	0.114	0.279	0.147	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.051	0.000	0.003	0.015	0.026	0.006	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.010	0.000	0.001	0.004	0.005	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	5.228	0.000	0.000	0.100	0.493	0.593	1.450	1.784
0.749	0.059	0.000	0.000	0.000					
10	5.3	4.733	0.000	0.073	0.178	0.549	0.976	1.642	1.174
0.142	0.000	0.000	0.000	0.000					
10	5.5	4.014	0.112	0.033	0.391	0.615	1.298	1.207	0.358
0.000	0.000	0.000	0.000	0.000					
10	5.7	3.036	0.077	0.099	0.345	0.619	1.188	0.689	0.018
0.000	0.000	0.000	0.000	0.000					
10	5.9	2.233	0.054	0.199	0.271	0.622	0.876	0.212	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	2.317	0.119	0.316	0.490	0.741	0.651	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	1.710	0.158	0.329	0.511	0.563	0.150	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	1.440	0.200	0.301	0.410	0.465	0.065	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.155	0.182	0.283	0.328	0.341	0.020	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.882	0.181	0.237	0.324	0.140	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.657	0.155	0.203	0.267	0.031	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.473	0.130	0.160	0.178	0.004	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.193	0.063	0.070	0.060	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.006	0.006	0.003	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.001	0.001	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.66

Distance (km): 34.204662

Magnitude: 6.0871774

Epsilon (mean values): 0.050919472

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.66

Distance (km): 34.198546

Magnitude: 6.0871227



Epsilon (mean values): 0.05082392  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.5  
Distance (km): 33.699664  
Magnitude: 6.0753781  
Epsilon (mean values): 0.04065423  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.5  
Distance (km): 33.693488  
Magnitude: 6.0753224  
Epsilon (mean values): 0.040557594  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.71  
Distance (km): 34.10913  
Magnitude: 6.0838791  
Epsilon (mean values): 0.041153981  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.7  
Distance (km): 34.097315  
Magnitude: 6.0836898  
Epsilon (mean values): 0.040855432  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.62  
Distance (km): 33.678048  
Magnitude: 6.0736573  
Epsilon (mean values): 0.032279536  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.61  
Distance (km): 33.667282  
Magnitude: 6.0734874  
Epsilon (mean values): 0.032003813  
sub0\_ch\_bot.in:  
Percent Contributed: 4.29  
Distance (km): 308.17316  
Magnitude: 9.1209041  
Epsilon (mean values): 0.72249327  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 4.29  
Distance (km): 308.17316  
Magnitude: 9.1209041  
Epsilon (mean values): 0.72249327  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132  
sub0\_ch\_mid.in:  
Percent Contributed: 2.89  
Distance (km): 361.47413  
Magnitude: 8.9281769  
Epsilon (mean values): 1.1484289  
Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.89  
Distance (km): 361.47413  
Magnitude: 8.9281769  
Epsilon (mean values): 1.1484289  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.85  
Distance (km): 37.055363  
Magnitude: 6.2098604  
Epsilon (mean values): 0.02604556

noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.85  
Distance (km): 37.019669  
Magnitude: 6.2095186  
Epsilon (mean values): 0.025591649

noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.89  
Distance (km): 37.057976  
Magnitude: 6.2073833  
Epsilon (mean values): 0.01868423

WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.88  
Distance (km): 37.059703  
Magnitude: 6.207237  
Epsilon (mean values): 0.018577657

PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.080453256 g

Recovered targets:  
Return period: 482.32606 yrs  
Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:  
Binned: 23.3 %  
Residual: 0 %  
Trace: 0.22 %

Mean (over all sources):  
m: 6.06  
r: 35.14 km









0.257	0.189	0.001	0.000	0.000					
50	6.3	0.471	0.000	0.000	0.000	0.000	0.000	0.000	0.128
0.285	0.057	0.000	0.000	0.000					
50	6.5	0.426	0.000	0.000	0.000	0.000	0.000	0.000	0.192
0.221	0.012	0.000	0.000	0.000					
50	6.7	0.364	0.000	0.000	0.000	0.000	0.000	0.000	0.198
0.166	0.000	0.000	0.000	0.000					
50	6.9	0.338	0.000	0.000	0.000	0.000	0.000	0.058	0.240
0.040	0.000	0.000	0.000	0.000					
50	7.1	0.301	0.000	0.000	0.000	0.000	0.000	0.144	0.157
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.232	0.000	0.000	0.000	0.000	0.020	0.175	0.038
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.113	0.000	0.000	0.000	0.000	0.038	0.076	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.013	0.000	0.000	0.000	0.000	0.010	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.003	0.000	0.000	0.000	0.001	0.003	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	1.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.507	0.431	0.200	0.000	0.000					
30	5.3	1.076	0.000	0.000	0.000	0.000	0.000	0.000	0.137
0.544	0.322	0.073	0.000	0.000					
30	5.5	1.004	0.000	0.000	0.000	0.000	0.000	0.000	0.325
0.402	0.277	0.000	0.000	0.000					
30	5.7	0.927	0.000	0.000	0.000	0.000	0.000	0.071	0.431
0.326	0.099	0.000	0.000	0.000					
30	5.9	0.839	0.000	0.000	0.000	0.000	0.000	0.227	0.323
0.288	0.000	0.000	0.000	0.000					
30	6.1	0.799	0.000	0.000	0.000	0.000	0.062	0.280	0.395
0.061	0.000	0.000	0.000	0.000					
30	6.3	0.734	0.000	0.000	0.000	0.000	0.205	0.313	0.215
0.000	0.000	0.000	0.000	0.000					
30	6.5	0.547	0.000	0.000	0.000	0.000	0.174	0.262	0.111
0.000	0.000	0.000	0.000	0.000					
30	6.7	0.442	0.000	0.000	0.000	0.013	0.153	0.222	0.054
0.000	0.000	0.000	0.000	0.000					
30	6.9	0.385	0.000	0.000	0.000	0.050	0.168	0.167	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.1	0.327	0.000	0.000	0.000	0.102	0.171	0.054	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	0.287	0.000	0.000	0.008	0.127	0.152	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.137	0.000	0.000	0.016	0.076	0.045	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.7	0.013	0.000	0.000	0.003	0.009	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.003	0.000	0.000	0.001	0.002	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.601	0.000	0.000	0.000	0.213	0.173	0.596	0.587

0.032	0.000	0.000	0.000	0.000					
10	5.3	1.248	0.000	0.000	0.069	0.122	0.292	0.492	0.273
0.000	0.000	0.000	0.000	0.000					
10	5.5	0.962	0.000	0.000	0.107	0.076	0.291	0.396	0.091
0.000	0.000	0.000	0.000	0.000					
10	5.7	0.727	0.000	0.000	0.075	0.110	0.292	0.250	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.9	0.540	0.000	0.053	0.032	0.113	0.265	0.078	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	0.564	0.006	0.054	0.107	0.187	0.209	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	0.419	0.016	0.069	0.109	0.146	0.078	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.351	0.023	0.055	0.098	0.140	0.036	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.283	0.020	0.062	0.076	0.106	0.020	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.218	0.027	0.047	0.076	0.067	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.162	0.020	0.043	0.080	0.019	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.117	0.018	0.033	0.064	0.003	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.048	0.009	0.016	0.023	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.001	0.002	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.07  
 Distance (km): 34.190656  
 Magnitude: 6.0290455  
 Epsilon (mean values): 0.15927207

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.07  
 Distance (km): 34.185646  
 Magnitude: 6.0289972  
 Epsilon (mean values): 0.15919404

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.03  
 Distance (km): 33.726465  
 Magnitude: 6.0174025  
 Epsilon (mean values): 0.15090893

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.03  
 Distance (km): 33.721384  
 Magnitude: 6.0173533  
 Epsilon (mean values): 0.15082977



noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.03  
Distance (km): 34.0876  
Magnitude: 6.0261246  
Epsilon (mean values): 0.14914068  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.03  
Distance (km): 34.075615  
Magnitude: 6.0259316  
Epsilon (mean values): 0.14885491  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.01  
Distance (km): 33.691122  
Magnitude: 6.0160385  
Epsilon (mean values): 0.14190418  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2  
Distance (km): 33.680145  
Magnitude: 6.0158651  
Epsilon (mean values): 0.14163816  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.080453256 g  
Recovered targets:  
Return period: 482.32606 yrs  
Exceedance rate: 0.0020732863 yr<sup>-1</sup>  
Totals:  
Binned: 26.2 %  
Residual: 0 %  
Trace: 0.23 %  
Mean (over all sources):  
m: 6.06  
r: 35.8 km  
 $\epsilon_0$ : 0.04  $\sigma$   
Mode (largest m-r bin):  
m: 5.5  
r: 28.62 km  
 $\epsilon_0$ : 0.35  $\sigma$   
Contribution: 1.58 %  
Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5  
 r: 26.2 km  
 $\epsilon_0$ : 0.22  $\sigma$   
 Contribution: 0.62 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty \dots -2.5)$   
 $\epsilon_1$ :  $[-2.5 \dots -2.0)$   
 $\epsilon_2$ :  $[-2.0 \dots -1.5)$   
 $\epsilon_3$ :  $[-1.5 \dots -1.0)$   
 $\epsilon_4$ :  $[-1.0 \dots -0.5)$   
 $\epsilon_5$ :  $[-0.5 \dots 0.0)$   
 $\epsilon_6$ :  $[0.0 \dots 0.5)$   
 $\epsilon_7$ :  $[0.5 \dots 1.0)$   
 $\epsilon_8$ :  $[1.0 \dots 1.5)$   
 $\epsilon_9$ :  $[1.5 \dots 2.0)$   
 $\epsilon_{10}$ :  $[2.0 \dots 2.5)$   
 $\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$	
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$
270	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
210	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
190	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000

190	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.001					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
190	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
170	7.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.004					
170	7.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.002					
170	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.000					
170	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
170	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
150	6.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.005					
150	7.1	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.013	0.001					
150	7.3	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.012	0.000					
150	7.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.002	0.000					
150	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.000	0.000					
150	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
130	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
130	6.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.008					
130	6.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.015	0.004					
130	6.9	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.025	0.000					
130	7.1	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.028	0.009	0.000					
130	7.3	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.039	0.000	0.000					

130	7.5	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.011	0.000	0.000					
130	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.000	0.000	0.000					
130	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					
110	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	5.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
110	6.1	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.008					
110	6.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.012	0.007					
110	6.5	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.028	0.001					
110	6.7	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.021	0.020	0.000					
110	6.9	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.048	0.002	0.000					
110	7.1	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.040	0.000	0.000					
110	7.3	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.071	0.012	0.000	0.000					
110	7.5	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.039	0.000	0.000	0.000					
110	7.7	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.002	0.000	0.000	0.000					
110	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
90	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	5.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
90	5.7	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.014					
90	5.9	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.029	0.010					
90	6.1	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.047	0.002					
90	6.3	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.049	0.027	0.000					
90	6.5	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.078	0.006	0.000					
90	6.7	0.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.058	0.052	0.000	0.000					
90	6.9	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.115	0.012	0.000	0.000					
90	7.1	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.058	0.075	0.000	0.000	0.000					

90	7.3	0.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.104	0.019	0.000	0.000	0.000					
90	7.5	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.010
0.050	0.000	0.000	0.000	0.000					
90	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.002	0.000	0.000	0.000	0.000					
90	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.000	0.000	0.000	0.000	0.000					
70	5.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
70	5.3	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.016					
70	5.5	0.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.080	0.010					
70	5.7	0.151	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.088	0.063	0.000					
70	5.9	0.177	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.008	0.138	0.031	0.000					
70	6.1	0.215	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.099	0.116	0.000	0.000					
70	6.3	0.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.173	0.057	0.000	0.000					
70	6.5	0.257	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.088	0.162	0.006	0.000	0.000					
70	6.7	0.261	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.175	0.086	0.000	0.000	0.000					
70	6.9	0.227	0.000	0.000	0.000	0.000	0.000	0.000	0.034
0.176	0.018	0.000	0.000	0.000					
70	7.1	0.241	0.000	0.000	0.000	0.000	0.000	0.000	0.134
0.107	0.000	0.000	0.000	0.000					
70	7.3	0.230	0.000	0.000	0.000	0.000	0.000	0.000	0.200
0.031	0.000	0.000	0.000	0.000					
70	7.5	0.113	0.000	0.000	0.000	0.000	0.000	0.041	0.072
0.000	0.000	0.000	0.000	0.000					
70	7.7	0.018	0.000	0.000	0.000	0.000	0.000	0.015	0.004
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.003	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.059	0.021					
50	5.3	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.151	0.087	0.005					
50	5.5	0.544	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.319	0.203	0.010	0.000					
50	5.7	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.131	0.345	0.106	0.000	0.000					
50	5.9	0.549	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.273	0.268	0.008	0.000	0.000					
50	6.1	0.572	0.000	0.000	0.000	0.000	0.000	0.000	0.050
0.373	0.149	0.000	0.000	0.000					



10	5.3	1.343	0.000	0.073	0.086	0.137	0.372	0.504	0.172
0.000	0.000	0.000	0.000	0.000					
10	5.5	1.172	0.112	0.000	0.103	0.321	0.493	0.143	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.7	0.848	0.077	0.011	0.160	0.238	0.345	0.017	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.9	0.596	0.054	0.050	0.108	0.208	0.176	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	0.594	0.059	0.090	0.138	0.179	0.126	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	0.428	0.050	0.070	0.141	0.134	0.033	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	0.359	0.035	0.075	0.106	0.121	0.022	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.288	0.024	0.079	0.086	0.098	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.219	0.028	0.063	0.082	0.046	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.163	0.024	0.045	0.085	0.009	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.118	0.019	0.038	0.059	0.001	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.048	0.009	0.019	0.020	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.004	0.001	0.002	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.46

Distance (km): 34.977813

Magnitude: 6.0287636

Epsilon (mean values): 0.035840411

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.46

Distance (km): 34.97366

Magnitude: 6.0287242

Epsilon (mean values): 0.03576951

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.41

Distance (km): 34.522741

Magnitude: 6.0173542

Epsilon (mean values): 0.026618773

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.41

Distance (km): 34.518529

Magnitude: 6.017314

Epsilon (mean values): 0.026546837

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.28  
Distance (km): 34.850813  
Magnitude: 6.0260649  
Epsilon (mean values): 0.024249505  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.28  
Distance (km): 34.83949  
Magnitude: 6.0258939  
Epsilon (mean values): 0.023933305  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.26  
Distance (km): 34.460352  
Magnitude: 6.0161434  
Epsilon (mean values): 0.016246878  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.25  
Distance (km): 34.450022  
Magnitude: 6.0159918  
Epsilon (mean values): 0.015951933  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.080453256 g  
Recovered targets:  
Return period: 482.32606 yrs  
Exceedance rate: 0.0020732863 yr<sup>-1</sup>  
Totals:  
Binned: 19.21 %  
Residual: 0 %  
Trace: 0.17 %  
Mean (over all sources):  
m: 6.19  
r: 34.01 km  
ε<sub>0</sub>: -0.01 σ  
Mode (largest m-r bin):  
m: 5.3  
r: 12.23 km  
ε<sub>0</sub>: -0.23 σ  
Contribution: 1.03 %  
Mode (largest m-r-ε<sub>0</sub> bin):  
m: 5.1









0.190	0.020	0.000	0.000	0.000					
70	7.1	0.219	0.000	0.000	0.000	0.000	0.000	0.000	0.085
0.134	0.000	0.000	0.000	0.000					
70	7.3	0.209	0.000	0.000	0.000	0.000	0.000	0.000	0.154
0.055	0.000	0.000	0.000	0.000					
70	7.5	0.102	0.000	0.000	0.000	0.000	0.000	0.005	0.095
0.003	0.000	0.000	0.000	0.000					
70	7.7	0.017	0.000	0.000	0.000	0.000	0.000	0.011	0.006
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.006					
50	5.3	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.020	0.012					
50	5.5	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.036	0.049	0.009					
50	5.7	0.157	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.103	0.038	0.000					
50	5.9	0.227	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.126	0.094	0.007	0.000					
50	6.1	0.366	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.156	0.184	0.026	0.000	0.000					
50	6.3	0.444	0.000	0.000	0.000	0.000	0.000	0.000	0.095
0.277	0.072	0.000	0.000	0.000					
50	6.5	0.461	0.000	0.000	0.000	0.000	0.000	0.000	0.230
0.231	0.000	0.000	0.000	0.000					
50	6.7	0.391	0.000	0.000	0.000	0.000	0.000	0.015	0.225
0.151	0.000	0.000	0.000	0.000					
50	6.9	0.340	0.000	0.000	0.000	0.000	0.000	0.058	0.248
0.034	0.000	0.000	0.000	0.000					
50	7.1	0.291	0.000	0.000	0.000	0.000	0.000	0.116	0.175
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.217	0.000	0.000	0.000	0.000	0.001	0.142	0.073
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.104	0.000	0.000	0.000	0.000	0.014	0.077	0.013
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.012	0.000	0.000	0.000	0.000	0.005	0.007	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	0.292	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.119	0.118	0.048	0.007					
30	5.3	0.478	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.141	0.206	0.103	0.029	0.000					
30	5.5	0.708	0.000	0.000	0.000	0.000	0.000	0.000	0.165
0.297	0.179	0.067	0.000	0.000					
30	5.7	0.755	0.000	0.000	0.000	0.000	0.000	0.053	0.295
0.222	0.183	0.001	0.000	0.000					
30	5.9	0.742	0.000	0.000	0.000	0.000	0.000	0.167	0.285



0.000 0.000 0.000 0.000 0.000  
Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 2.52  
Distance (km): 33.061402  
Magnitude: 6.1670686  
Epsilon (mean values): -0.023089119  
noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 2.52  
Distance (km): 33.060077  
Magnitude: 6.1670558  
Epsilon (mean values): -0.023115023  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.48  
Distance (km): 32.488932  
Magnitude: 6.155376  
Epsilon (mean values): -0.036351725  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.48  
Distance (km): 32.487582  
Magnitude: 6.1553629  
Epsilon (mean values): -0.036378115  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.67  
Distance (km): 32.917899  
Magnitude: 6.1620547  
Epsilon (mean values): -0.032329317  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.67  
Distance (km): 32.906176  
Magnitude: 6.1618751  
Epsilon (mean values): -0.032640386  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.64  
Distance (km): 32.428496  
Magnitude: 6.1518965  
Epsilon (mean values): -0.043776931  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.64  
Distance (km): 32.417921  
Magnitude: 6.1517355  
Epsilon (mean values): -0.044060406  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs  
 Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
 PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs  
 Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 20.06 %  
 Residual: 0 %  
 Trace: 0.28 %

Mean (over all sources):

m: 6.19  
 r: 35.82 km  
 ε<sub>0</sub>: 0.02 σ

Mode (largest m-r bin):

m: 5.1  
 r: 11.95 km  
 ε<sub>0</sub>: -0.04 σ  
 Contribution: 1.27 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.1  
 r: 13.86 km  
 ε<sub>0</sub>: 0.26 σ  
 Contribution: 0.43 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞)

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)		ε=[0, 0.5)	
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)		ε=[2.5, ∞)	
290	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

270	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
230	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
210	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.001					
210	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
210	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
190	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.002					
190	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.006	0.000					
190	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
190	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
170	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
170	7.1	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.003					
170	7.3	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.015	0.000					
170	7.5	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.002	0.000					
170	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.001	0.000	0.000					



170	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					
150	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
150	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.004					
150	7.1	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.015	0.001					
150	7.3	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.032	0.003	0.000					
150	7.5	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.014	0.000	0.000					
150	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.004	0.000	0.000	0.000					
150	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.000	0.000	0.000	0.000					
130	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
130	6.7	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.005					
130	6.9	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.020	0.000					
130	7.1	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.044	0.004	0.000					
130	7.3	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.052	0.019	0.000	0.000					
130	7.5	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.034	0.001	0.000	0.000					
130	7.7	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.006	0.001	0.000	0.000	0.000					
130	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.000	0.000	0.000					
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
110	6.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.007					
110	6.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.004					
110	6.7	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.020	0.001					
110	6.9	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.042	0.004	0.000					
110	7.1	0.089	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.062	0.026	0.000	0.000					
110	7.3	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.084	0.000	0.000	0.000					

110	7.5	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.076	0.008	0.000	0.000	0.000					
110	7.7	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.005	0.000	0.000	0.000	0.000					
110	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.001	0.002
0.000	0.000	0.000	0.000	0.000					
90	5.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
90	5.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.007					
90	6.1	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.014	0.008					
90	6.3	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.034	0.001					
90	6.5	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.034	0.020	0.000					
90	6.7	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.058	0.003	0.000					
90	6.9	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004	0.098	0.017	0.000	0.000					
90	7.1	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.097	0.055	0.000	0.000	0.000					
90	7.3	0.161	0.000	0.000	0.000	0.000	0.000	0.000	0.043
0.113	0.005	0.000	0.000	0.000					
90	7.5	0.085	0.000	0.000	0.000	0.000	0.000	0.001	0.066
0.018	0.000	0.000	0.000	0.000					
90	7.7	0.011	0.000	0.000	0.000	0.000	0.000	0.005	0.006
0.000	0.000	0.000	0.000	0.000					
90	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
70	5.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.010					
70	5.7	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.017	0.013					
70	5.9	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.043	0.004					
70	6.1	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.068	0.029	0.000					
70	6.3	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.053	0.085	0.002	0.000					
70	6.5	0.167	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.114	0.048	0.000	0.000					
70	6.7	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.068	0.114	0.008	0.000	0.000					
70	6.9	0.207	0.000	0.000	0.000	0.000	0.000	0.000	0.023
0.149	0.034	0.000	0.000	0.000					





Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.61  
Distance (km): 34.300581  
Magnitude: 6.1557574  
Epsilon (mean values): 0.014950322

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.61  
Distance (km): 34.285972  
Magnitude: 6.1556374  
Epsilon (mean values): 0.014734005

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.57  
Distance (km): 33.743221  
Magnitude: 6.1435476  
Epsilon (mean values): 0.0036414326

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.57  
Distance (km): 33.728519  
Magnitude: 6.1434257  
Epsilon (mean values): 0.0034233787

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.73  
Distance (km): 34.303788  
Magnitude: 6.1525117  
Epsilon (mean values): 0.0076313894

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.73  
Distance (km): 34.291444  
Magnitude: 6.1522937  
Epsilon (mean values): 0.0073529117

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.71  
Distance (km): 33.831955  
Magnitude: 6.142003  
Epsilon (mean values): -0.0021018852

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.71  
Distance (km): 33.820689  
Magnitude: 6.1418041  
Epsilon (mean values): -0.0023559677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:



0.000	0.000	0.000	0.000	0.000					
330	8.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
330	8.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
310	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
310	8.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
310	8.9	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.015					
310	9.1	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.032	0.000					
310	9.3	0.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.111	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs

Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 7.22 %

Residual: 0 %

Trace: 0.07 %

Mean (over all sources):

m: 8.89

r: 343.11 km

ε<sub>0</sub>: 0.91 σ

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

ε<sub>0</sub>: 0.37 σ

Contribution: 1.09 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34

r: 308.17 km

ε<sub>0</sub>: 0.37 σ

Contribution: 1.09 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

- ε0: [-∞ .. -2.5)
- ε1: [-2.5 .. -2.0)
- ε2: [-2.0 .. -1.5)
- ε3: [-1.5 .. -1.0)
- ε4: [-1.0 .. -0.5)
- ε5: [-0.5 .. 0.0)
- ε6: [0.0 .. 0.5)
- ε7: [0.5 .. 1.0)
- ε8: [1.0 .. 1.5)
- ε9: [1.5 .. 2.0)
- ε10: [2.0 .. 2.5)
- ε11: [2.5 .. +∞)

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[-0.5, 0)	ε=[0, 0.5)	ε=[0.5, 1)
ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2, 2.5)	ε=[2.5, ∞)	ε=[2.5, ∞)
590	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
570	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
570	8.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
550	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
550	8.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
530	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
530	8.1	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
510	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
510	8.1	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
510	8.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
490	7.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
490	8.1	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000	0.000	0.000
490	8.3	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
490	8.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
470	7.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000



470	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.000					
470	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
470	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
450	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
450	8.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.000					
450	8.3	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.015	0.000					
450	8.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.025	0.000	0.000					
430	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
430	8.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.003	0.000					
430	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
430	8.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.000	0.000					
410	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.002	0.000					
410	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.000	0.000					
410	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.000	0.000					
410	8.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.014	0.000	0.000					
390	7.9	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.000	0.000					
390	8.1	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.022	0.000	0.000					
390	8.3	0.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.116	0.000	0.000					
390	8.5	0.139	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.038	0.101	0.000	0.000					
390	8.7	0.511	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.511	0.000	0.000	0.000					
390	9.1	0.296	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.296	0.000	0.000	0.000					
370	7.9	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.000	0.000					
370	8.1	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.031	0.000	0.000					
370	8.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.009	0.011	0.000	0.000					
370	8.5	0.194	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.191	0.002	0.000	0.000					

370	8.7	0.725	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.725	0.000	0.000	0.000					
370	8.9	0.707	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.707	0.000	0.000	0.000					
370	9.1	1.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.006	0.000	0.000	0.000	0.000					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.004	0.000	0.000					
350	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
350	8.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.000	0.000	0.000					
330	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.000	0.000					
330	8.1	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.009	0.001	0.000	0.000					
330	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.000	0.000	0.000					
330	8.5	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.072	0.000	0.000	0.000					
330	8.7	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.060	0.000	0.000	0.000					
330	8.9	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.078	0.000	0.000	0.000	0.000					
310	7.9	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.000	0.000	0.000					
310	8.1	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.000	0.000	0.000					
310	8.3	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.000	0.000	0.000					
310	8.5	0.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.082	0.029	0.000	0.000	0.000					
310	8.7	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.149	0.000	0.000	0.000	0.000					
310	8.9	0.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.760	0.000	0.000	0.000	0.000					
310	9.1	0.873	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.873	0.000	0.000	0.000	0.000					
310	9.3	1.088	0.000	0.000	0.000	0.000	0.000	0.000	1.088
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 2.62

Distance (km): 308.17316

Magnitude: 9.1035251

Epsilon (mean values): 0.54045412

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.62

Distance (km): 308.17316  
Magnitude: 9.1035251  
Epsilon (mean values): 0.54045412  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132  
sub0\_ch\_mid.in:  
Percent Contributed: 2.31  
Distance (km): 361.47413  
Magnitude: 8.9168421  
Epsilon (mean values): 1.0042428  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 2.31  
Distance (km): 361.47413  
Magnitude: 8.9168421  
Epsilon (mean values): 1.0042428  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.080453256 g  
Recovered targets:  
Return period: 482.32606 yrs  
Exceedance rate: 0.0020732863 yr<sup>-1</sup>  
Totals:  
Binned: 1.28 %  
Residual: 0 %  
Trace: 0.11 %  
Mean (over all sources):  
m: 7.08  
r: 250.1 km  
ε<sub>0</sub>: 1.65 σ  
Mode (largest m-r bin):  
m: 7.11  
r: 270.04 km  
ε<sub>0</sub>: 1.83 σ  
Contribution: 0.18 %  
Mode (largest m-r-ε<sub>0</sub> bin):  
m: 7.12









0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>





390	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
390	8.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.005					
390	8.7	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.050	0.000					
390	9.1	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.059	0.000	0.000					
370	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
370	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
370	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
370	8.5	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.019	0.000					
370	8.7	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.016	0.104	0.000					
370	8.9	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.146	0.000	0.000					
370	9.1	0.325	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.325	0.000	0.000					
350	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
330	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
330	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
330	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
330	8.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.001	0.000					
330	8.7	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.018	0.000	0.000					
330	8.9	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.000	0.000	0.000					
310	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
310	8.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.000					
310	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.001	0.000					
310	8.5	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.032	0.000	0.000					

310	8.7	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.040	0.015	0.000	0.000					
310	8.9	0.344	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.344	0.000	0.000	0.000					
310	9.1	0.467	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.027	0.440	0.000	0.000	0.000					
310	9.3	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.750	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 1.51  
Distance (km): 308.17316  
Magnitude: 9.1398931  
Epsilon (mean values): 0.91261055

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.51  
Distance (km): 308.17316  
Magnitude: 9.1398931  
Epsilon (mean values): 0.91261055  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs  
Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 0.1 %  
Residual: 0 %  
Trace: 0.09 %

Mean (over all sources):

m: 7.26  
r: 225.1 km  
ε<sub>0</sub>: 1.82 σ

Mode (largest m-r bin):

m: 7.11  
r: 229.45 km  
ε<sub>0</sub>: 2.24 σ

Contribution: 0.02 %  
 Mode (largest m-r- $\epsilon_0$  bin):  
 m: 7.11  
 r: 229.67 km  
 $\epsilon_0$ : 2.23  $\sigma$   
 Contribution: 0.01 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[0, 0.5)$
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	$\epsilon=[2.5, \infty)$
290	7.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	7.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	7.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
270	7.1	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.000	0.000
270	7.3	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001	0.000	0.000
270	7.5	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000	0.000	0.000
270	7.7	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000	0.000	0.000
270	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	6.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000
250	7.1	0.009	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.006	0.000	0.000
250	7.3	0.003	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000	0.000	0.000
250	7.5	0.004	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.001	0.000	0.000	0.000

250	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
250	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.001	0.000	0.000	0.000					
230	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	6.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.003					
230	7.1	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.014	0.001					
230	7.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.001	0.000					
230	7.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.002	0.000	0.000					
230	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					
230	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.002	0.000	0.000	0.000	0.000					
210	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
210	6.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.000					
210	7.1	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.003	0.000					
210	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					
210	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
210	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
210	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.000	0.000	0.000	0.000	0.000					
190	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
190	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
190	7.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.002	0.000	0.000					
190	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
190	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					





110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Grid

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs

Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 86.66 %

Residual: 0 %

Trace: 0.4 %

Mean (over all sources):

m: 6.1

r: 34.33 km

ε<sub>0</sub>: 0.04 σ

Mode (largest m-r bin):

m: 5.1

r: 12.02 km

ε<sub>0</sub>: -0.1 σ

Contribution: 5.23 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.1

r: 14.48 km

ε<sub>0</sub>: 0.25 σ

Contribution: 1.78 %

Discretization:











0.012	0.361	0.493	0.174	0.013					
50	5.7	1.238	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.131	0.556	0.468	0.083	0.000					
50	5.9	1.355	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.306	0.754	0.283	0.012	0.000					
50	6.1	1.705	0.000	0.000	0.000	0.000	0.000	0.000	0.050
0.879	0.706	0.069	0.000	0.000					
50	6.3	1.784	0.000	0.000	0.000	0.000	0.000	0.000	0.427
1.080	0.277	0.000	0.000	0.000					
50	6.5	1.645	0.000	0.000	0.000	0.000	0.000	0.000	0.801
0.798	0.046	0.000	0.000	0.000					
50	6.7	1.355	0.000	0.000	0.000	0.000	0.000	0.076	0.831
0.444	0.003	0.000	0.000	0.000					
50	6.9	1.229	0.000	0.000	0.000	0.000	0.000	0.319	0.828
0.082	0.000	0.000	0.000	0.000					
50	7.1	1.106	0.000	0.000	0.000	0.000	0.029	0.611	0.465
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.893	0.000	0.000	0.000	0.000	0.156	0.623	0.115
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.452	0.000	0.000	0.000	0.014	0.167	0.258	0.013
0.000	0.000	0.000	0.000	0.000					
50	7.7	0.052	0.000	0.000	0.000	0.007	0.032	0.013	0.000
0.000	0.000	0.000	0.000	0.000					
50	7.9	0.014	0.000	0.000	0.000	0.004	0.008	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
30	5.1	2.664	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.729	1.152	0.646	0.130	0.007					
30	5.3	3.366	0.000	0.000	0.000	0.000	0.000	0.000	0.386
1.447	1.122	0.376	0.035	0.000					
30	5.5	3.999	0.000	0.000	0.000	0.000	0.000	0.341	1.240
1.558	0.729	0.130	0.000	0.000					
30	5.7	3.770	0.000	0.000	0.000	0.000	0.017	0.666	1.510
1.089	0.487	0.002	0.000	0.000					
30	5.9	3.376	0.000	0.000	0.000	0.000	0.115	0.974	1.307
0.875	0.104	0.000	0.000	0.000					
30	6.1	3.231	0.000	0.000	0.000	0.000	0.381	1.239	1.303
0.308	0.000	0.000	0.000	0.000					
30	6.3	2.974	0.000	0.000	0.000	0.051	0.905	1.185	0.812
0.021	0.000	0.000	0.000	0.000					
30	6.5	2.295	0.000	0.000	0.000	0.162	0.732	1.058	0.343
0.000	0.000	0.000	0.000	0.000					
30	6.7	1.873	0.000	0.000	0.009	0.206	0.720	0.826	0.111
0.000	0.000	0.000	0.000	0.000					
30	6.9	1.605	0.000	0.000	0.044	0.335	0.680	0.545	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.1	1.351	0.000	0.006	0.095	0.458	0.647	0.145	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.3	1.174	0.000	0.016	0.145	0.517	0.480	0.015	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.5	0.559	0.000	0.019	0.114	0.279	0.147	0.000	0.000

0.000	0.000	0.000	0.000	0.000					
30	7.7	0.051	0.000	0.003	0.015	0.026	0.006	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
30	7.9	0.010	0.000	0.001	0.004	0.005	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	5.1	5.228	0.000	0.000	0.100	0.493	0.593	1.450	1.784
0.749	0.059	0.000	0.000	0.000					
10	5.3	4.733	0.000	0.073	0.178	0.549	0.976	1.642	1.174
0.142	0.000	0.000	0.000	0.000					
10	5.5	4.014	0.112	0.033	0.391	0.615	1.298	1.207	0.358
0.000	0.000	0.000	0.000	0.000					
10	5.7	3.036	0.077	0.099	0.345	0.619	1.188	0.689	0.018
0.000	0.000	0.000	0.000	0.000					
10	5.9	2.233	0.054	0.199	0.271	0.622	0.876	0.212	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.1	2.317	0.119	0.316	0.490	0.741	0.651	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.3	1.710	0.158	0.329	0.511	0.563	0.150	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.5	1.440	0.200	0.301	0.410	0.465	0.065	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.155	0.182	0.283	0.328	0.341	0.020	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.882	0.181	0.237	0.324	0.140	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.657	0.155	0.203	0.267	0.031	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.473	0.130	0.160	0.178	0.004	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.193	0.063	0.070	0.060	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.006	0.006	0.003	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.001	0.001	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.66

Distance (km): 34.204662

Magnitude: 6.0871774

Epsilon (mean values): 0.050919472

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.66

Distance (km): 34.198546

Magnitude: 6.0871227

Epsilon (mean values): 0.05082392

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.5

Distance (km): 33.699664

Magnitude: 6.0753781

Epsilon (mean values): 0.04065423  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.5  
Distance (km): 33.693488  
Magnitude: 6.0753224  
Epsilon (mean values): 0.040557594  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.71  
Distance (km): 34.10913  
Magnitude: 6.0838791  
Epsilon (mean values): 0.041153981  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 7.7  
Distance (km): 34.097315  
Magnitude: 6.0836898  
Epsilon (mean values): 0.040855432  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.62  
Distance (km): 33.678048  
Magnitude: 6.0736573  
Epsilon (mean values): 0.032279536  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 7.61  
Distance (km): 33.667282  
Magnitude: 6.0734874  
Epsilon (mean values): 0.032003813  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.85  
Distance (km): 37.055363  
Magnitude: 6.2098604  
Epsilon (mean values): 0.02604556  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.85  
Distance (km): 37.019669  
Magnitude: 6.2095186  
Epsilon (mean values): 0.025591649  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.89  
Distance (km): 37.057976  
Magnitude: 6.2073833  
Epsilon (mean values): 0.01868423  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.88  
Distance (km): 37.059703  
Magnitude: 6.207237  
Epsilon (mean values): 0.018577657  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs

Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 1.38 %

Residual: 0 %

Trace: 0.19 %

Mean (over all sources):

m: 7.1

r: 248.27 km

ε<sub>0</sub>: 1.66 σ

Mode (largest m-r bin):

m: 7.11

r: 250.33 km

ε<sub>0</sub>: 1.64 σ

Contribution: 0.18 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.12

r: 269.46 km

ε<sub>0</sub>: 1.79 σ

Contribution: 0.15 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε0: [-∞ .. -2.5)

ε1: [-2.5 .. -2.0)

ε2: [-2.0 .. -1.5)

ε3: [-1.5 .. -1.0)

ε4: [-1.0 .. -0.5)

ε5: [-0.5 .. 0.0)

ε6: [0.0 .. 0.5)

ε7: [0.5 .. 1.0)

ε8: [1.0 .. 1.5)

ε9: [1.5 .. 2.0)

ε10: [2.0 .. 2.5)

ε11: [2.5 .. +∞)

Closest Distance, rRup (km)

ε=[-2,-1.5)

ε=[0.5,1)

ε=[-1.5,-1)

ε=[1,1.5)

Magnitude (Mw)

ε=[-1,-0.5)

ε=[1.5,2)

ALL\_ε

ε=[-0.5,0)

ε=[2,2.5)

ε=(-∞, -2.5)

ε=[0,0.5)

ε=[2.5,∞)

ε=[-2.5, -2)



290	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	6.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
290	6.9	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.029	0.011					
290	7.1	0.096	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.043	0.053	0.000					
290	7.3	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.011	0.000	0.000					
290	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.000	0.000	0.000					
270	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
270	6.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.013					
270	6.9	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.065	0.002					
270	7.1	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.151	0.028	0.002					
270	7.3	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.013	0.001	0.001					
270	7.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.022	0.000	0.002	0.000					
270	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.001	0.001	0.000	0.000					
270	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.000	0.000	0.000	0.000					
250	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
250	6.7	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.022	0.005					
250	6.9	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.042	0.033	0.001					
250	7.1	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.046	0.127	0.004	0.006					
250	7.3	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.027	0.002	0.002	0.000					
250	7.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.018	0.006	0.003	0.001	0.000					
250	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.001	0.000	0.000	0.000					
250	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.005	0.001	0.000	0.000	0.000					
230	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
230	6.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.003					

230	6.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.019	0.000					
230	6.9	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.058	0.004	0.003					
230	7.1	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.103	0.024	0.014	0.001					
230	7.3	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.012	0.009	0.003	0.001	0.000					
230	7.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.015	0.002	0.002	0.000	0.000					
230	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.002	0.001	0.000	0.000	0.000					
230	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.002	0.000	0.000	0.000	0.000					
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
210	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.000					
210	6.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.003	0.001					
210	6.9	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.016	0.012	0.004	0.000					
210	7.1	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.013	0.050	0.010	0.003	0.000					
210	7.3	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.002	0.001	0.000	0.000					
210	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.002	0.003	0.000	0.000	0.000					
210	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.001	0.000	0.000	0.000	0.000					
210	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.001	0.003
0.000	0.000	0.000	0.000	0.000					
190	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
190	6.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.001	0.000					
190	6.9	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.001	0.000	0.000					
190	7.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.004	0.002	0.000	0.000					
190	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.001	0.001	0.000	0.000	0.000					





110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs

Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 9.86 %

Residual: 0 %

Trace: 0.16 %

Mean (over all sources):

m: 8.93

r: 338.25 km

ε<sub>0</sub>: 1.01 σ

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

ε<sub>0</sub>: 0.57 σ

Contribution: 1.95 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34





0.000	0.009	0.011	0.000	0.001					
370	8.5	0.213	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.191	0.002	0.019	0.000					
370	8.7	0.844	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.725	0.016	0.104	0.000					
370	8.9	0.853	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.707	0.146	0.000	0.000					
370	9.1	1.346	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.006	0.000	0.325	0.000	0.014					
350	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
350	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.004	0.000	0.000					
350	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
350	8.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.000	0.002	0.000					
330	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.000	0.000					
330	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.009	0.001	0.001	0.000					
330	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.000	0.001	0.000					
330	8.5	0.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.072	0.014	0.001	0.000					
330	8.7	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.060	0.018	0.000	0.000					
330	8.9	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.078	0.029	0.000	0.000	0.001					
310	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.012	0.000	0.001	0.000					
310	8.1	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.000	0.004	0.000					
310	8.3	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.003	0.001	0.000					
310	8.5	0.143	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.082	0.029	0.032	0.000	0.000					
310	8.7	0.205	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.149	0.040	0.015	0.000	0.002					
310	8.9	1.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.760	0.344	0.000	0.001	0.015					
310	9.1	1.373	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.901	0.440	0.000	0.032	0.000					
310	9.3	1.949	0.000	0.000	0.000	0.000	0.000	0.000	1.088
0.750	0.000	0.111	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 4.29

Distance (km): 308.17316

Magnitude: 9.1209041



Epsilon (mean values): 0.72249327  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 4.29  
Distance (km): 308.17316  
Magnitude: 9.1209041  
Epsilon (mean values): 0.72249327  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:  
Percent Contributed: 2.89  
Distance (km): 361.47413  
Magnitude: 8.9281769  
Epsilon (mean values): 1.1484289  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 2.89  
Distance (km): 361.47413  
Magnitude: 8.9281769  
Epsilon (mean values): 1.1484289  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.080453256 g

Recovered targets:

Return period: 482.32606 yrs

Exceedance rate: 0.0020732863 yr<sup>-1</sup>

Totals:

Binned: 2.11 %

Residual: 0 %

Trace: 0.06 %

Mean (over all sources):

m: 7.02

r: 72.74 km

$\epsilon_0$ : 0.68  $\sigma$

Mode (largest m-r bin):

m: 7.1

r: 62.35 km

$\epsilon_0$ : 0.37  $\sigma$



150	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
150	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
150	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.004					
130	6.7	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.015	0.003					
130	6.9	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.021	0.000					
130	7.1	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.029	0.003	0.000					
130	7.3	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.010	0.000	0.000					
130	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
110	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.000					
110	6.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.004	0.000					
110	6.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.002	0.000					
110	7.1	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.027	0.000	0.000					
110	7.3	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.056	0.025	0.000	0.000					
110	7.5	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.023	0.035	0.000	0.000	0.000					
110	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.005	0.003	0.000	0.000	0.000					
90	6.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.013	0.001	0.000					
90	6.7	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.020	0.023	0.000	0.000					
90	6.9	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.068	0.005	0.000	0.000					
90	7.1	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.045	0.036	0.000	0.000	0.000					
90	7.3	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.036	0.000	0.000	0.000	0.000					
90	7.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.003	0.000	0.000	0.000	0.000					
70	6.5	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.057	0.040	0.001	0.000	0.000					

70	6.7	0.191	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.169	0.023	0.000	0.000	0.000					
70	6.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.024
0.070	0.000	0.000	0.000	0.000					
70	7.1	0.199	0.000	0.000	0.000	0.000	0.000	0.000	0.172
0.027	0.000	0.000	0.000	0.000					
70	7.3	0.193	0.000	0.000	0.000	0.000	0.000	0.051	0.142
0.000	0.000	0.000	0.000	0.000					
70	7.5	0.101	0.000	0.000	0.000	0.000	0.001	0.074	0.026
0.000	0.000	0.000	0.000	0.000					
70	7.7	0.033	0.000	0.000	0.000	0.000	0.010	0.023	0.000
0.000	0.000	0.000	0.000	0.000					
70	7.9	0.002	0.000	0.000	0.000	0.000	0.001	0.002	0.000
0.000	0.000	0.000	0.000	0.000					
50	6.5	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.068	0.011	0.000	0.000	0.000					
50	6.7	0.172	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.171	0.000	0.000	0.000	0.000					
50	6.9	0.173	0.000	0.000	0.000	0.000	0.000	0.000	0.136
0.036	0.000	0.000	0.000	0.000					
50	7.1	0.140	0.000	0.000	0.000	0.000	0.000	0.008	0.132
0.000	0.000	0.000	0.000	0.000					
50	7.3	0.056	0.000	0.000	0.000	0.000	0.000	0.026	0.030
0.000	0.000	0.000	0.000	0.000					
50	7.5	0.007	0.000	0.000	0.000	0.000	0.001	0.007	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

# **Attachment H-3. Probabilistic Seismic Hazard Deaggregation at 2,475-year Intervals**

\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.1440636 g

Recovered targets:

Return period: 2539.1415 yrs

Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.43 %

Mean (over all sources):

m: 6.34

r: 36.27 km

$\epsilon_0$ : 0.52  $\sigma$

Mode (largest m-r bin):

m: 5.5

r: 11.12 km

$\epsilon_0$ : 0.37  $\sigma$

Contribution: 7.32 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.3

r: 11.14 km

$\epsilon_0$ : 0.78  $\sigma$

Contribution: 2.04 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [-∞ .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$	
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$
450	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000
410	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003	0.003	0.000	0.000	0.000	0.000
390	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000
390	8.3	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.017	0.017	0.000	0.000	0.000	0.000
390	8.5	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.028	0.028	0.000	0.000	0.000	0.000
390	8.7	0.170	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.154	0.016	0.016	0.000	0.000	0.000	0.000
390	9.1	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.146	0.000	0.000	0.000	0.000	0.000	0.000
370	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000
370	8.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.000
370	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004	0.004	0.000	0.000	0.000	0.000
370	8.5	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.039	0.024	0.024	0.000	0.000	0.000	0.000
370	8.7	0.303	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.303	0.000	0.000	0.000	0.000	0.000	0.000
370	8.9	0.336	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.336	0.000	0.000	0.000	0.000	0.000	0.000
370	9.1	0.703	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.628	0.000	0.075	0.075	0.000	0.000	0.000	0.000
350	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000
350	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000

350	8.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.000					
330	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
330	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.002					
330	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
330	8.5	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.033	0.000					
330	8.7	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.002					
330	8.9	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.050	0.000	0.008					
310	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
310	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.010	0.000					
310	8.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.000					
310	8.5	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.059	0.004					
310	8.7	0.107	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.067	0.030	0.010					
310	8.9	0.668	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.539	0.129	0.000					
310	9.1	0.927	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.701	0.226	0.000					
310	9.3	1.647	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	1.106	0.541	0.000	0.000					
290	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
290	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
270	7.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.010					
270	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.005					
270	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.000					
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
250	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
250	7.1	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.028					



250	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.001					
250	7.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.008	0.000					
250	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
250	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.001	0.000					
230	6.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
230	7.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.026	0.014					
230	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.008	0.000					
230	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.011	0.001	0.001					
230	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.001	0.000					
230	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.003	0.000	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.006					
210	7.1	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.028	0.000					
210	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.001	0.000					
210	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.005	0.001	0.000					
210	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					
210	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.001	0.000	0.000					
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
190	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
190	7.1	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.002	0.001					
190	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.001	0.000	0.000					
190	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
190	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.001	0.000	0.000	0.000					



130	7.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
130	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
130	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
110	7.3	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.020					
110	7.5	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.017	0.014					
110	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.006	0.001					
110	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000					
90	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
90	6.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
90	6.9	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.025					
90	7.1	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.038	0.032					
90	7.3	0.114	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.098	0.011					
90	7.5	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.033	0.047	0.001					
90	7.7	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.013	0.002	0.000					
90	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.003	0.000	0.000					
70	6.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
70	6.3	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.036					

70	6.5	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.056	0.047					
70	6.7	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.112	0.037					
70	6.9	0.197	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.031	0.149	0.017					
70	7.1	0.313	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.165	0.145	0.002					
70	7.3	0.443	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.050	0.350	0.043	0.000					
70	7.5	0.279	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.117	0.156	0.007	0.000					
70	7.7	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004	0.055	0.007	0.000	0.000					
70	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004	0.009	0.000	0.000	0.000					
50	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
50	5.5	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.018					
50	5.7	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.048					
50	5.9	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.046	0.069					
50	6.1	0.298	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.012	0.215	0.072					
50	6.3	0.501	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.202	0.267	0.031					
50	6.5	0.626	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.039	0.364	0.209	0.014					
50	6.7	0.626	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.078	0.384	0.161	0.004					
50	6.9	0.736	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.228	0.442	0.066	0.000					
50	7.1	0.845	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.007	0.496	0.339	0.004	0.000					
50	7.3	0.843	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.165	0.579	0.099	0.000	0.000					
50	7.5	0.494	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.219	0.262	0.013	0.000	0.000					
50	7.7	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.051	0.015	0.000	0.000	0.000					
50	7.9	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.014	0.001	0.000	0.000	0.000					
30	5.1	0.643	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.194	0.315	0.134					
30	5.3	0.974	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.384	0.476	0.114					

30	5.5	1.518	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.172	0.873	0.389	0.084					
30	5.7	1.790	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.566	0.837	0.349	0.037					
30	5.9	1.976	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.969	0.671	0.282	0.009					
30	6.1	2.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.552	1.119	0.713	0.095	0.000					
30	6.3	2.979	0.000	0.000	0.000	0.000	0.000	0.000	0.227
1.232	1.029	0.474	0.017	0.000					
30	6.5	2.603	0.000	0.000	0.000	0.000	0.000	0.000	0.446
1.029	0.921	0.204	0.002	0.000					
30	6.7	2.312	0.000	0.000	0.000	0.000	0.000	0.022	0.444
0.985	0.743	0.119	0.000	0.000					
30	6.9	2.372	0.000	0.000	0.000	0.000	0.000	0.099	0.671
1.051	0.545	0.006	0.000	0.000					
30	7.1	2.410	0.000	0.000	0.000	0.000	0.000	0.232	0.982
0.996	0.200	0.000	0.000	0.000					
30	7.3	2.434	0.000	0.000	0.000	0.000	0.024	0.496	1.078
0.800	0.036	0.000	0.000	0.000					
30	7.5	1.281	0.000	0.000	0.000	0.000	0.035	0.323	0.644
0.278	0.000	0.000	0.000	0.000					
30	7.7	0.130	0.000	0.000	0.000	0.000	0.008	0.044	0.066
0.012	0.000	0.000	0.000	0.000					
30	7.9	0.029	0.000	0.000	0.000	0.000	0.003	0.013	0.012
0.000	0.000	0.000	0.000	0.000					
10	5.1	6.811	0.000	0.000	0.000	0.000	0.000	0.977	1.438
1.532	1.854	0.845	0.166	0.000					
10	5.3	7.168	0.000	0.000	0.000	0.000	0.284	1.481	1.177
2.042	1.651	0.528	0.005	0.000					
10	5.5	7.315	0.000	0.000	0.000	0.231	0.464	1.372	1.838
2.027	1.302	0.081	0.000	0.000					
10	5.7	6.215	0.000	0.000	0.000	0.355	0.605	0.884	1.844
1.946	0.580	0.000	0.000	0.000					
10	5.9	5.093	0.000	0.000	0.000	0.358	0.614	0.794	1.710
1.495	0.123	0.000	0.000	0.000					
10	6.1	6.288	0.000	0.000	0.000	0.536	1.071	1.937	1.746
0.998	0.000	0.000	0.000	0.000					
10	6.3	5.302	0.000	0.000	0.104	0.692	1.323	1.597	1.256
0.330	0.000	0.000	0.000	0.000					
10	6.5	4.673	0.000	0.028	0.215	0.688	1.175	1.402	0.935
0.230	0.000	0.000	0.000	0.000					
10	6.7	3.903	0.000	0.073	0.216	0.635	1.008	1.102	0.790
0.079	0.000	0.000	0.000	0.000					
10	6.9	3.185	0.000	0.059	0.171	0.560	0.938	1.046	0.411
0.000	0.000	0.000	0.000	0.000					
10	7.1	2.492	0.000	0.051	0.165	0.440	0.837	0.873	0.126
0.000	0.000	0.000	0.000	0.000					
10	7.3	1.865	0.000	0.043	0.127	0.401	0.693	0.566	0.035
0.000	0.000	0.000	0.000	0.000					

10	7.5	0.785	0.000	0.018	0.063	0.195	0.310	0.194	0.005
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.062	0.000	0.002	0.007	0.017	0.027	0.009	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.012	0.000	0.000	0.002	0.004	0.005	0.001	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.49

Distance (km): 18.783373

Magnitude: 6.1697856

Epsilon (mean values): 0.43852899

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.5

Distance (km): 10.261935

Magnitude: 5.833417

Epsilon (mean values): 0.057299907

Azimuth: 0

Latitude: 45.697435

Longitude: -119.584

PointSourceFinite: -119.584, 45.625:

Percent Contributed: 1.36

Distance (km): 5.2815137

Magnitude: 5.6352474

Epsilon (mean values): -0.59889577

Azimuth: 0

Latitude: 45.62549

Longitude: -119.584

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.49

Distance (km): 18.783366

Magnitude: 6.1697855

Epsilon (mean values): 0.43852881

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.5

Distance (km): 10.261935

Magnitude: 5.833417

Epsilon (mean values): 0.057299907

Azimuth: 0

Latitude: 45.697435

Longitude: -119.584

PointSourceFinite: -119.584, 45.625:

Percent Contributed: 1.36

Distance (km): 5.2815137

Magnitude: 5.6352474

Epsilon (mean values): -0.59889577

Azimuth: 0

Latitude: 45.62549

Longitude: -119.584

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 12.44  
Distance (km): 18.629936  
Magnitude: 6.1666734  
Epsilon (mean values): 0.43297471  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.5  
Distance (km): 10.261935  
Magnitude: 5.833417  
Epsilon (mean values): 0.057299907  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.36  
Distance (km): 5.2815137  
Magnitude: 5.6352474  
Epsilon (mean values): -0.59889577  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.44  
Distance (km): 18.629929  
Magnitude: 6.1666733  
Epsilon (mean values): 0.43297453  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.5  
Distance (km): 10.261935  
Magnitude: 5.833417  
Epsilon (mean values): 0.057299907  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.36  
Distance (km): 5.2815137  
Magnitude: 5.6352474  
Epsilon (mean values): -0.59889577  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.36  
Distance (km): 18.577773  
Magnitude: 6.1619471  
Epsilon (mean values): 0.42771352  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.35  
Distance (km): 18.575292  
Magnitude: 6.1618805

Epsilon (mean values): 0.4276198  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.33  
Distance (km): 18.444252  
Magnitude: 6.1592088  
Epsilon (mean values): 0.42282912  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.32  
Distance (km): 18.441998  
Magnitude: 6.1591466  
Epsilon (mean values): 0.42274378  
sub0\_ch\_bot.in:  
Percent Contributed: 3.14  
Distance (km): 308.17316  
Magnitude: 9.1513388  
Epsilon (mean values): 1.7266525  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 3.14  
Distance (km): 308.17316  
Magnitude: 9.1513388  
Epsilon (mean values): 1.7266525  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.09  
Distance (km): 20.479972  
Magnitude: 6.2986007  
Epsilon (mean values): 0.42594915  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.09  
Distance (km): 20.479622  
Magnitude: 6.2985962  
Epsilon (mean values): 0.42594316  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.06  
Distance (km): 20.26648  
Magnitude: 6.2891393  
Epsilon (mean values): 0.41580273  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.06  
Distance (km): 20.261766  
Magnitude: 6.2890104  
Epsilon (mean values): 0.41566764  
sub0\_ch\_mid.in:  
Percent Contributed: 1.29  
Distance (km): 361.47413  
Magnitude: 8.9587642  
Epsilon (mean values): 2.1311959  
Cascadia Megathrust - whole CSZ Characteristic:



Percent Contributed: 1.29  
Distance (km): 361.47413  
Magnitude: 8.9587642  
Epsilon (mean values): 2.1311959  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.  
site: Test

longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.1440636 g

Recovered targets:

Return period: 2539.1415 yrs  
Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:

Binned: 25.31 %  
Residual: 0 %  
Trace: 0.16 %

Mean (over all sources):

m: 6.1  
r: 19.58 km  
ε<sub>0</sub>: 0.58 σ

Mode (largest m-r bin):

m: 5.1  
r: 10.59 km  
ε<sub>0</sub>: 0.68 σ  
Contribution: 2.6 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.1  
r: 14.61 km  
ε<sub>0</sub>: 1.24 σ  
Contribution: 0.75 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
m: min = 4.4, max = 9.4, Δ = 0.2  
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)  
ε<sub>1</sub>: [-2.5 .. -2.0)  
ε<sub>2</sub>: [-2.0 .. -1.5)  
ε<sub>3</sub>: [-1.5 .. -1.0)





0.041	0.164	0.017	0.000	0.000					
50	7.5	0.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.062	0.069	0.000	0.000	0.000					
50	7.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.016	0.002	0.000	0.000	0.000					
50	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.000	0.000	0.000	0.000					
30	5.1	0.442	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.194	0.198	0.050					
30	5.3	0.481	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.267	0.168	0.046					
30	5.5	0.513	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.069	0.313	0.112	0.020					
30	5.7	0.545	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.186	0.243	0.116	0.001					
30	5.9	0.572	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.304	0.196	0.071	0.000					
30	6.1	0.679	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.137	0.327	0.206	0.009	0.000					
30	6.3	0.791	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.368	0.309	0.114	0.000	0.000					
30	6.5	0.634	0.000	0.000	0.000	0.000	0.000	0.000	0.041
0.274	0.278	0.041	0.000	0.000					
30	6.7	0.536	0.000	0.000	0.000	0.000	0.000	0.000	0.050
0.241	0.223	0.022	0.000	0.000					
30	6.9	0.559	0.000	0.000	0.000	0.000	0.000	0.000	0.133
0.276	0.151	0.000	0.000	0.000					
30	7.1	0.569	0.000	0.000	0.000	0.000	0.000	0.002	0.240
0.278	0.048	0.000	0.000	0.000					
30	7.3	0.580	0.000	0.000	0.000	0.000	0.000	0.051	0.307
0.221	0.000	0.000	0.000	0.000					
30	7.5	0.308	0.000	0.000	0.000	0.000	0.000	0.058	0.177
0.073	0.000	0.000	0.000	0.000					
30	7.7	0.032	0.000	0.000	0.000	0.000	0.000	0.010	0.020
0.001	0.000	0.000	0.000	0.000					
30	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.003	0.004
0.000	0.000	0.000	0.000	0.000					
10	5.1	2.598	0.000	0.000	0.000	0.000	0.000	0.679	0.325
0.684	0.746	0.164	0.000	0.000					
10	5.3	2.165	0.000	0.000	0.000	0.000	0.000	0.513	0.311
0.740	0.562	0.039	0.000	0.000					
10	5.5	1.799	0.000	0.000	0.000	0.000	0.000	0.385	0.516
0.525	0.373	0.000	0.000	0.000					
10	5.7	1.485	0.000	0.000	0.000	0.000	0.240	0.189	0.412
0.504	0.140	0.000	0.000	0.000					
10	5.9	1.215	0.000	0.000	0.000	0.000	0.218	0.107	0.471
0.397	0.021	0.000	0.000	0.000					
10	6.1	1.482	0.000	0.000	0.000	0.056	0.223	0.459	0.454
0.291	0.000	0.000	0.000	0.000					
10	6.3	1.255	0.000	0.000	0.000	0.118	0.275	0.408	0.377

0.078	0.000	0.000	0.000	0.000					
10	6.5	1.089	0.000	0.000	0.027	0.110	0.241	0.355	0.307
0.050	0.000	0.000	0.000	0.000					
10	6.7	0.910	0.000	0.000	0.041	0.092	0.233	0.271	0.255
0.018	0.000	0.000	0.000	0.000					
10	6.9	0.752	0.000	0.000	0.029	0.100	0.206	0.264	0.153
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.591	0.000	0.000	0.030	0.066	0.183	0.284	0.028
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.445	0.000	0.000	0.021	0.065	0.158	0.198	0.003
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.188	0.000	0.000	0.008	0.035	0.071	0.074	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.000	0.000	0.001	0.004	0.008	0.003	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.002	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.35

Distance (km): 19.264628

Magnitude: 6.0857255

Epsilon (mean values): 0.58169943

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.35

Distance (km): 19.264619

Magnitude: 6.0857254

Epsilon (mean values): 0.58169922

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.34

Distance (km): 19.110432

Magnitude: 6.0822196

Epsilon (mean values): 0.57666505

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.34

Distance (km): 19.110423

Magnitude: 6.0822195

Epsilon (mean values): 0.57666485

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.24

Distance (km): 19.05644

Magnitude: 6.0781316

Epsilon (mean values): 0.5709056

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.24

Distance (km): 19.053843

Magnitude: 6.0780609

Epsilon (mean values): 0.57081426

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.24

Distance (km): 18.922415  
Magnitude: 6.0750514  
Epsilon (mean values): 0.56648126  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.23  
Distance (km): 18.920047  
Magnitude: 6.0749856  
Epsilon (mean values): 0.56639756  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.1440636 g  
Recovered targets:  
Return period: 2539.1415 yrs  
Exceedance rate: 0.0003938339 yr<sup>-1</sup>  
Totals:  
Binned: 22.35 %  
Residual: 0 %  
Trace: 0.13 %  
Mean (over all sources):  
m: 6.13  
r: 18.01 km  
 $\epsilon_0$ : 0.45  $\sigma$   
Mode (largest m-r bin):  
m: 5.5  
r: 11.15 km  
 $\epsilon_0$ : 0.17  $\sigma$   
Contribution: 2.2 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 5.51  
r: 11.34 km  
 $\epsilon_0$ : 0.32  $\sigma$   
Contribution: 0.56 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
170	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
110	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
90	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
90	7.3	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.006					
90	7.5	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.001					
90	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
90	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
70	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

70	6.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
70	6.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.012					
70	6.7	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.014	0.011					
70	6.9	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.027	0.007					
70	7.1	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.040	0.001					
70	7.3	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.052	0.022	0.000					
70	7.5	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.040	0.005	0.000					
70	7.7	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.003	0.000	0.000					
70	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
50	5.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.007					
50	5.7	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.020					
50	5.9	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.017	0.021					
50	6.1	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.054	0.017					
50	6.3	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.070	0.012					
50	6.5	0.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.053	0.060	0.003					
50	6.7	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.084	0.047	0.000					
50	6.9	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.019	0.103	0.026	0.000					
50	7.1	0.166	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.072	0.093	0.001	0.000					
50	7.3	0.162	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.113	0.049	0.000	0.000					
50	7.5	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.017	0.065	0.011	0.000	0.000					
50	7.7	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.007	0.007	0.000	0.000	0.000					
50	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.001	0.000	0.000	0.000					
30	5.1	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.027	0.030					
30	5.3	0.207	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.063	0.116	0.028					
30	5.5	0.512	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.090	0.298	0.101	0.023					



30	5.7	0.567	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.222	0.232	0.109	0.004					
30	5.9	0.548	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.006	0.277	0.185	0.080	0.000					
30	6.1	0.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.088	0.269	0.192	0.029	0.000					
30	6.3	0.599	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.227	0.232	0.138	0.002	0.000					
30	6.5	0.525	0.000	0.000	0.000	0.000	0.000	0.000	0.028
0.189	0.226	0.082	0.000	0.000					
30	6.7	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.059
0.216	0.184	0.041	0.000	0.000					
30	6.9	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.085
0.248	0.167	0.000	0.000	0.000					
30	7.1	0.502	0.000	0.000	0.000	0.000	0.000	0.012	0.175
0.220	0.096	0.000	0.000	0.000					
30	7.3	0.505	0.000	0.000	0.000	0.000	0.000	0.033	0.220
0.225	0.027	0.000	0.000	0.000					
30	7.5	0.267	0.000	0.000	0.000	0.000	0.000	0.021	0.141
0.105	0.000	0.000	0.000	0.000					
30	7.7	0.027	0.000	0.000	0.000	0.000	0.000	0.005	0.015
0.007	0.000	0.000	0.000	0.000					
30	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.002	0.004
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.389	0.000	0.000	0.000	0.000	0.000	0.298	0.293
0.233	0.294	0.200	0.070	0.000					
10	5.3	1.845	0.000	0.000	0.000	0.000	0.284	0.296	0.297
0.450	0.348	0.170	0.000	0.000					
10	5.5	2.196	0.000	0.000	0.000	0.231	0.266	0.318	0.564
0.529	0.288	0.000	0.000	0.000					
10	5.7	1.774	0.000	0.000	0.000	0.355	0.000	0.243	0.547
0.519	0.111	0.000	0.000	0.000					
10	5.9	1.342	0.000	0.000	0.000	0.248	0.000	0.222	0.458
0.400	0.013	0.000	0.000	0.000					
10	6.1	1.531	0.000	0.000	0.000	0.176	0.195	0.465	0.415
0.280	0.000	0.000	0.000	0.000					
10	6.3	1.212	0.000	0.000	0.000	0.139	0.301	0.329	0.304
0.138	0.000	0.000	0.000	0.000					
10	6.5	1.040	0.000	0.000	0.000	0.134	0.233	0.319	0.254
0.100	0.000	0.000	0.000	0.000					
10	6.7	0.872	0.000	0.000	0.000	0.113	0.209	0.258	0.249
0.043	0.000	0.000	0.000	0.000					
10	6.9	0.707	0.000	0.000	0.000	0.079	0.200	0.253	0.176
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.554	0.000	0.000	0.010	0.054	0.179	0.221	0.091
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.417	0.000	0.000	0.013	0.051	0.134	0.188	0.032
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.177	0.000	0.000	0.008	0.024	0.056	0.083	0.005
0.000	0.000	0.000	0.000	0.000					

10	7.7	0.014	0.000	0.000	0.001	0.002	0.006	0.005	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.001	0.001	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.97

Distance (km): 17.767162

Magnitude: 6.1167105

Epsilon (mean values): 0.45148304

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.97

Distance (km): 17.76716

Magnitude: 6.1167104

Epsilon (mean values): 0.451483

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.96

Distance (km): 17.648036

Magnitude: 6.1141513

Epsilon (mean values): 0.44683474

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.96

Distance (km): 17.648035

Magnitude: 6.1141513

Epsilon (mean values): 0.44683471

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.99

Distance (km): 17.565077

Magnitude: 6.1091569

Epsilon (mean values): 0.43872266

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.98

Distance (km): 17.563194

Magnitude: 6.1091013

Epsilon (mean values): 0.43863592

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.98

Distance (km): 17.460512

Magnitude: 6.1068919

Epsilon (mean values): 0.43460263

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.98

Distance (km): 17.458804

Magnitude: 6.1068399

Epsilon (mean values): 0.43452283

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)  
 return period: 2475 yrs.  
 #This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)  
 Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:  
 Return period: 2475 yrs  
 Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
 PGA ground motion: 0.1440636 g

Recovered targets:  
 Return period: 2539.1415 yrs  
 Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:  
 Binned: 25.78 %  
 Residual: 0 %  
 Trace: 0.12 %

Mean (over all sources):  
 m: 6.27  
 r: 20.21 km  
 ε<sub>0</sub>: 0.32 σ

Mode (largest m-r bin):  
 m: 5.5  
 r: 11.03 km  
 ε<sub>0</sub>: 0.37 σ  
 Contribution: 1.85 %

Mode (largest m-r-ε<sub>0</sub> bin):  
 m: 5.7  
 r: 11.48 km  
 ε<sub>0</sub>: 0.22 σ  
 Contribution: 0.54 %

Discretization:  
 r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:  
 ε0: [-∞ .. -2.5)  
 ε1: [-2.5 .. -2.0)  
 ε2: [-2.0 .. -1.5)  
 ε3: [-1.5 .. -1.0)  
 ε4: [-1.0 .. -0.5)  
 ε5: [-0.5 .. 0.0)  
 ε6: [0.0 .. 0.5)  
 ε7: [0.5 .. 1.0)  
 ε8: [1.0 .. 1.5)  
 ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[-0.5, 0)	ε=[0, 0.5)	
ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2, 2.5)	ε=[2.5, ∞)	
150	7.7	0.000	0.000	0.000	0.000	0.000





0.380	0.234	0.000	0.000	0.000					
30	6.7	0.801	0.000	0.000	0.000	0.000	0.000	0.022	0.254
0.351	0.174	0.000	0.000	0.000					
30	6.9	0.751	0.000	0.000	0.000	0.000	0.000	0.066	0.306
0.287	0.091	0.000	0.000	0.000					
30	7.1	0.705	0.000	0.000	0.000	0.000	0.000	0.120	0.310
0.269	0.006	0.000	0.000	0.000					
30	7.3	0.669	0.000	0.000	0.000	0.000	0.000	0.211	0.271
0.188	0.000	0.000	0.000	0.000					
30	7.5	0.339	0.000	0.000	0.000	0.000	0.008	0.107	0.163
0.060	0.000	0.000	0.000	0.000					
30	7.7	0.033	0.000	0.000	0.000	0.000	0.002	0.012	0.017
0.002	0.000	0.000	0.000	0.000					
30	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.003	0.004
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.246	0.000	0.000	0.000	0.000	0.000	0.000	0.300
0.289	0.384	0.211	0.062	0.000					
10	5.3	1.573	0.000	0.000	0.000	0.000	0.000	0.303	0.326
0.403	0.388	0.148	0.005	0.000					
10	5.5	1.849	0.000	0.000	0.000	0.000	0.198	0.313	0.539
0.459	0.319	0.021	0.000	0.000					
10	5.7	1.657	0.000	0.000	0.000	0.000	0.320	0.191	0.541
0.468	0.138	0.000	0.000	0.000					
10	5.9	1.417	0.000	0.000	0.000	0.109	0.187	0.340	0.434
0.332	0.015	0.000	0.000	0.000					
10	6.1	1.815	0.000	0.000	0.000	0.255	0.428	0.535	0.441
0.156	0.000	0.000	0.000	0.000					
10	6.3	1.564	0.000	0.000	0.104	0.322	0.418	0.449	0.271
0.000	0.000	0.000	0.000	0.000					
10	6.5	1.406	0.000	0.028	0.147	0.282	0.408	0.409	0.132
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.148	0.000	0.052	0.114	0.286	0.281	0.332	0.082
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.902	0.000	0.044	0.094	0.205	0.287	0.272	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.686	0.000	0.031	0.071	0.171	0.245	0.168	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.501	0.000	0.021	0.049	0.135	0.201	0.096	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.208	0.000	0.009	0.020	0.063	0.095	0.021	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.016	0.000	0.001	0.002	0.005	0.008	0.001	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.41

Distance (km): 19.841907

Magnitude: 6.25522

Epsilon (mean values): 0.31080081

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.41

Distance (km): 19.841903

Magnitude: 6.2552199

Epsilon (mean values): 0.31080069

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.39

Distance (km): 19.638605

Magnitude: 6.2516927

Epsilon (mean values): 0.30299707

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.39

Distance (km): 19.6386

Magnitude: 6.2516927

Epsilon (mean values): 0.30299695

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.28

Distance (km): 19.621222

Magnitude: 6.2474611

Epsilon (mean values): 0.29965262

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.27

Distance (km): 19.618322

Magnitude: 6.2473931

Epsilon (mean values): 0.2995391

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.27

Distance (km): 19.444084

Magnitude: 6.2443508

Epsilon (mean values): 0.29278893

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.26

Distance (km): 19.441494

Magnitude: 6.2442878

Epsilon (mean values): 0.29268746

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.1440636 g

Recovered targets:





150	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
130	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
130	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
130	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.006					
110	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.004					
110	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.002	0.000					
110	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
90	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
90	7.1	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.009					
90	7.3	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.026	0.002					
90	7.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.012	0.000					
90	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.004	0.000	0.000					
90	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
70	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	6.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
70	6.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.007					
70	6.9	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.022	0.007					
70	7.1	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.027	0.039	0.001					
70	7.3	0.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.024	0.082	0.011	0.000					
70	7.5	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.048	0.032	0.001	0.000					
70	7.7	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004	0.016	0.001	0.000	0.000					
70	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003	0.001	0.000	0.000	0.000					

50	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
50	5.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
50	6.1	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.015	0.015					
50	6.3	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.042	0.013					
50	6.5	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.017	0.041	0.010					
50	6.7	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.037	0.043	0.004					
50	6.9	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.020	0.086	0.030	0.000					
50	7.1	0.195	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.109	0.082	0.002	0.000					
50	7.3	0.223	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.061	0.139	0.023	0.000	0.000					
50	7.5	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.079	0.059	0.001	0.000	0.000					
50	7.7	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.014	0.002	0.000	0.000	0.000					
50	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.003	0.000	0.000	0.000	0.000					
30	5.1	0.096	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.066	0.030					
30	5.3	0.163	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.034	0.108	0.021					
30	5.5	0.228	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.115	0.092	0.021					
30	5.7	0.287	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.036	0.169	0.063	0.019					
30	5.9	0.341	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.133	0.141	0.059	0.008					
30	6.1	0.458	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.026	0.261	0.130	0.043	0.000					
30	6.3	0.571	0.000	0.000	0.000	0.000	0.000	0.000	0.014
0.236	0.165	0.141	0.015	0.000					
30	6.5	0.494	0.000	0.000	0.000	0.000	0.000	0.000	0.041
0.186	0.183	0.081	0.002	0.000					
30	6.7	0.475	0.000	0.000	0.000	0.000	0.000	0.000	0.081
0.176	0.162	0.055	0.000	0.000					
30	6.9	0.562	0.000	0.000	0.000	0.000	0.000	0.033	0.147
0.240	0.136	0.006	0.000	0.000					
30	7.1	0.634	0.000	0.000	0.000	0.000	0.000	0.099	0.256
0.229	0.050	0.000	0.000	0.000					
30	7.3	0.680	0.000	0.000	0.000	0.000	0.024	0.201	0.280
0.166	0.009	0.000	0.000	0.000					

30	7.5	0.368	0.000	0.000	0.000	0.000	0.027	0.138	0.163
0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	7.7	0.038	0.000	0.000	0.000	0.000	0.007	0.016	0.014
0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	7.9	0.008	0.000	0.000	0.000	0.000	0.002	0.005	0.002
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	5.1	1.578	0.000	0.000	0.000	0.000	0.000	0.000	0.519
0.327	0.430	0.270	0.034	0.000	0.000	0.000	0.000	0.000	0.000
10	5.3	1.585	0.000	0.000	0.000	0.000	0.000	0.369	0.243
0.449	0.353	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	5.5	1.471	0.000	0.000	0.000	0.000	0.000	0.356	0.220
0.514	0.322	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	5.7	1.299	0.000	0.000	0.000	0.000	0.045	0.262	0.345
0.456	0.191	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	5.9	1.120	0.000	0.000	0.000	0.000	0.209	0.125	0.347
0.365	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	6.1	1.460	0.000	0.000	0.000	0.050	0.225	0.478	0.435
0.271	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	6.3	1.271	0.000	0.000	0.000	0.114	0.329	0.411	0.304
0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	6.5	1.139	0.000	0.000	0.041	0.162	0.293	0.320	0.242
0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	6.7	0.973	0.000	0.021	0.061	0.145	0.285	0.240	0.204
0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	6.9	0.824	0.000	0.015	0.049	0.175	0.246	0.257	0.082
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	7.1	0.661	0.000	0.021	0.054	0.149	0.230	0.200	0.007
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	7.3	0.502	0.000	0.021	0.044	0.151	0.201	0.084	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	7.5	0.212	0.000	0.009	0.026	0.073	0.087	0.017	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	7.7	0.017	0.000	0.001	0.003	0.007	0.005	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	7.9	0.003	0.000	0.000	0.001	0.001	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.76

Distance (km): 17.981886

Magnitude: 6.2233578

Epsilon (mean values): 0.40848927

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.76

Distance (km): 17.981871

Magnitude: 6.2233576

Epsilon (mean values): 0.40848893

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.75

Distance (km): 17.857272

Magnitude: 6.2207807  
Epsilon (mean values): 0.40392014  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.75  
Distance (km): 17.857256  
Magnitude: 6.2207805  
Epsilon (mean values): 0.4039198  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.85  
Distance (km): 17.799565  
Magnitude: 6.2150333  
Epsilon (mean values): 0.39990159  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.85  
Distance (km): 17.797142  
Magnitude: 6.2149636  
Epsilon (mean values): 0.3998197  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.84  
Distance (km): 17.691997  
Magnitude: 6.2127799  
Epsilon (mean values): 0.39590918  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.84  
Distance (km): 17.689746  
Magnitude: 6.2127136  
Epsilon (mean values): 0.39583385  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.1440636 g  
Recovered targets:  
Return period: 2539.1415 yrs  
Exceedance rate: 0.0003938339 yr<sup>-1</sup>  
Totals:  
Binned: 0 %  
Residual: 0 %  
Trace: 0 %  
Mean (over all sources):  
m: null  
r: null km

$\epsilon_0$ : null  $\sigma$   
 Mode (largest m-r bin):  
 m: null  
 r: null km  
 $\epsilon_0$ : null  $\sigma$   
 Contribution: 0 %

Mode (largest m-r- $\epsilon_0$  bin):  
 m: null  
 r: null km  
 $\epsilon_0$ : null  $\sigma$   
 Contribution: 0 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$
$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test  
 longitude: 119.584°W  
 latitude: 45.612°E  
 imt: Peak Ground Acceleration  
 vs30 = 1150 m/s (Site class B)  
 return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:  
 Return period: 2475 yrs  
 Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
 PGA ground motion: 0.1440636 g

Recovered targets:  
 Return period: 2539.1415 yrs  
 Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:





0.000	0.000	0.000	0.007	0.000					
310	8.5	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.059	0.000					
310	8.7	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.067	0.026	0.000					
310	8.9	0.539	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.539	0.000	0.000					
310	9.1	0.701	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.701	0.000	0.000					
310	9.3	1.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	1.106	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 2.27  
Distance (km): 308.17316  
Magnitude: 9.1353696  
Epsilon (mean values): 1.6295194

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.27  
Distance (km): 308.17316  
Magnitude: 9.1353696  
Epsilon (mean values): 1.6295194  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 1.21  
Distance (km): 361.47413  
Magnitude: 8.948788  
Epsilon (mean values): 2.0997161

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.21  
Distance (km): 361.47413  
Magnitude: 8.948788  
Epsilon (mean values): 2.0997161  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>



PGA ground motion: 0.1440636 g  
 Recovered targets:  
 Return period: 2539.1415 yrs  
 Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:  
 Binned: 0.26 %  
 Residual: 0 %  
 Trace: 0.07 %

Mean (over all sources):  
 m: 7.27  
 r: 232.35 km  
 ε<sub>0</sub>: 2.2 σ

Mode (largest m-r bin):  
 m: 7.12  
 r: 229.8 km  
 ε<sub>0</sub>: 2.45 σ  
 Contribution: 0.04 %

Mode (largest m-r-ε<sub>0</sub> bin):  
 m: 7.11  
 r: 212.1 km  
 ε<sub>0</sub>: 2.22 σ  
 Contribution: 0.03 %

Discretization:  
 r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:  
 ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[0, 0.5)	ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2.5, ∞)
290	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
290	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
270	7.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000

270	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.005					
270	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.000					
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
250	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
250	7.1	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.028					
250	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.001					
250	7.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.008	0.000					
250	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
250	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
230	6.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
230	7.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.026	0.014					
230	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.008	0.000					
230	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.011	0.001	0.000					
230	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.000	0.000					
230	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.001	0.000	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.006					
210	7.1	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.028	0.000					
210	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.001	0.000					
210	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.005	0.000	0.000					
210	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
210	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					





site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Interface  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
  Return period: 2475 yrs  
  Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
  PGA ground motion: 0.1440636 g  
Recovered targets:  
  Return period: 2539.1415 yrs  
  Exceedance rate: 0.0003938339 yr<sup>-1</sup>  
Totals:  
  Binned: 1 %  
  Residual: 0 %  
  Trace: 0 %  
Mean (over all sources):  
  m: 9.17  
  r: 312.38 km  
   $\epsilon_0$ : 2.05  $\sigma$   
Mode (largest m-r bin):  
  m: 9.34  
  r: 308.17 km  
   $\epsilon_0$ : 1.81  $\sigma$   
  Contribution: 0.54 %  
Mode (largest m-r- $\epsilon_0$  bin):  
  m: 9.34  
  r: 308.17 km  
   $\epsilon_0$ : 1.81  $\sigma$   
  Contribution: 0.54 %  
Discretization:  
  r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
  m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
   $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
   $\epsilon_0$ : [- $\infty$  .. -2.5)  
   $\epsilon_1$ : [-2.5 .. -2.0)  
   $\epsilon_2$ : [-2.0 .. -1.5)  
   $\epsilon_3$ : [-1.5 .. -1.0)  
   $\epsilon_4$ : [-1.0 .. -0.5)  
   $\epsilon_5$ : [-0.5 .. 0.0)  
   $\epsilon_6$ : [0.0 .. 0.5)  
   $\epsilon_7$ : [0.5 .. 1.0)  
   $\epsilon_8$ : [1.0 .. 1.5)  
   $\epsilon_9$ : [1.5 .. 2.0)  
   $\epsilon_{10}$ : [2.0 .. 2.5)  
   $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
370	9.1	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.075					
330	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
330	8.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
330	8.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
310	8.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
310	8.7	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.010					
310	8.9	0.129	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.129	0.000					
310	9.1	0.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.226	0.000					
310	9.3	0.541	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.541	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.1440636 g

Recovered targets:

Return period: 2539.1415 yrs

Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:

Binned: 0.02 %

Residual: 0 %

Trace: 0.06 %

Mean (over all sources):

m: 7.66

r: 208.92 km

ε<sub>0</sub>: 1.87 σ

Mode (largest m-r bin):

m: 7.91

r: 229.23 km

ε<sub>0</sub>: 1.72 σ

Contribution: 0 %  
 Mode (largest m-r- $\epsilon_0$  bin):  
 m: 7.91  
 r: 230.18 km  
 $\epsilon_0$ : 1.74  $\sigma$   
 Contribution: 0 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[0, 0.5)$
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	$\epsilon=[2.5, \infty)$
270	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
270	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
230	7.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.5	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000
230	7.7	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
230	7.9	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000	0.000	0.000
210	7.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.3	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	7.5	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000







latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Grid

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.1440636 g

Recovered targets:

Return period: 2539.1415 yrs

Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:

Binned: 93.7 %

Residual: 0 %

Trace: 0.21 %

Mean (over all sources):

m: 6.18

r: 18.82 km

$\epsilon_0$ : 0.43  $\sigma$

Mode (largest m-r bin):

m: 5.5

r: 11.12 km

$\epsilon_0$ : 0.37  $\sigma$

Contribution: 7.32 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.3

r: 11.14 km

$\epsilon_0$ : 0.78  $\sigma$

Contribution: 2.04 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 ..  $+\infty$ ]

Closest Distance, rRup (km)

$\epsilon$ =[-2,-1.5)       $\epsilon$ =[-1.5,-1)

Magnitude (Mw)

$\epsilon$ =[-1,-0.5)

ALL\_ $\epsilon$

$\epsilon$ =[-0.5,0)

$\epsilon$ =(- $\infty$ , -2.5)

$\epsilon$ =[-2.5, -2)

$\epsilon$ =[0,0.5)





0.014	0.001	0.000	0.000	0.000					
30	5.1	0.643	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.194	0.315	0.134					
30	5.3	0.974	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.384	0.476	0.114					
30	5.5	1.518	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.172	0.873	0.389	0.084					
30	5.7	1.790	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.566	0.837	0.349	0.037					
30	5.9	1.976	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.969	0.671	0.282	0.009					
30	6.1	2.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.552	1.119	0.713	0.095	0.000					
30	6.3	2.979	0.000	0.000	0.000	0.000	0.000	0.000	0.227
1.232	1.029	0.474	0.017	0.000					
30	6.5	2.603	0.000	0.000	0.000	0.000	0.000	0.000	0.446
1.029	0.921	0.204	0.002	0.000					
30	6.7	2.312	0.000	0.000	0.000	0.000	0.000	0.022	0.444
0.985	0.743	0.119	0.000	0.000					
30	6.9	2.372	0.000	0.000	0.000	0.000	0.000	0.099	0.671
1.051	0.545	0.006	0.000	0.000					
30	7.1	2.410	0.000	0.000	0.000	0.000	0.000	0.232	0.982
0.996	0.200	0.000	0.000	0.000					
30	7.3	2.434	0.000	0.000	0.000	0.000	0.024	0.496	1.078
0.800	0.036	0.000	0.000	0.000					
30	7.5	1.281	0.000	0.000	0.000	0.000	0.035	0.323	0.644
0.278	0.000	0.000	0.000	0.000					
30	7.7	0.130	0.000	0.000	0.000	0.000	0.008	0.044	0.066
0.012	0.000	0.000	0.000	0.000					
30	7.9	0.029	0.000	0.000	0.000	0.000	0.003	0.013	0.012
0.000	0.000	0.000	0.000	0.000					
10	5.1	6.811	0.000	0.000	0.000	0.000	0.000	0.977	1.438
1.532	1.854	0.845	0.166	0.000					
10	5.3	7.168	0.000	0.000	0.000	0.000	0.284	1.481	1.177
2.042	1.651	0.528	0.005	0.000					
10	5.5	7.315	0.000	0.000	0.000	0.231	0.464	1.372	1.838
2.027	1.302	0.081	0.000	0.000					
10	5.7	6.215	0.000	0.000	0.000	0.355	0.605	0.884	1.844
1.946	0.580	0.000	0.000	0.000					
10	5.9	5.093	0.000	0.000	0.000	0.358	0.614	0.794	1.710
1.495	0.123	0.000	0.000	0.000					
10	6.1	6.288	0.000	0.000	0.000	0.536	1.071	1.937	1.746
0.998	0.000	0.000	0.000	0.000					
10	6.3	5.302	0.000	0.000	0.104	0.692	1.323	1.597	1.256
0.330	0.000	0.000	0.000	0.000					
10	6.5	4.673	0.000	0.028	0.215	0.688	1.175	1.402	0.935
0.230	0.000	0.000	0.000	0.000					
10	6.7	3.903	0.000	0.073	0.216	0.635	1.008	1.102	0.790
0.079	0.000	0.000	0.000	0.000					
10	6.9	3.185	0.000	0.059	0.171	0.560	0.938	1.046	0.411

0.000	0.000	0.000	0.000	0.000					
10	7.1	2.492	0.000	0.051	0.165	0.440	0.837	0.873	0.126
0.000	0.000	0.000	0.000	0.000					
10	7.3	1.865	0.000	0.043	0.127	0.401	0.693	0.566	0.035
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.785	0.000	0.018	0.063	0.195	0.310	0.194	0.005
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.062	0.000	0.002	0.007	0.017	0.027	0.009	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.012	0.000	0.000	0.002	0.004	0.005	0.001	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.49

Distance (km): 18.783373

Magnitude: 6.1697856

Epsilon (mean values): 0.43852899

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.5

Distance (km): 10.261935

Magnitude: 5.833417

Epsilon (mean values): 0.057299907

Azimuth: 0

Latitude: 45.697435

Longitude: -119.584

PointSourceFinite: -119.584, 45.625:

Percent Contributed: 1.36

Distance (km): 5.2815137

Magnitude: 5.6352474

Epsilon (mean values): -0.59889577

Azimuth: 0

Latitude: 45.62549

Longitude: -119.584

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.49

Distance (km): 18.783366

Magnitude: 6.1697855

Epsilon (mean values): 0.43852881

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.5

Distance (km): 10.261935

Magnitude: 5.833417

Epsilon (mean values): 0.057299907

Azimuth: 0

Latitude: 45.697435

Longitude: -119.584

PointSourceFinite: -119.584, 45.625:

Percent Contributed: 1.36

Distance (km): 5.2815137

Magnitude: 5.6352474

Epsilon (mean values): -0.59889577  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.44  
Distance (km): 18.629936  
Magnitude: 6.1666734  
Epsilon (mean values): 0.43297471  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.5  
Distance (km): 10.261935  
Magnitude: 5.833417  
Epsilon (mean values): 0.057299907  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.36  
Distance (km): 5.2815137  
Magnitude: 5.6352474  
Epsilon (mean values): -0.59889577  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.44  
Distance (km): 18.629929  
Magnitude: 6.1666733  
Epsilon (mean values): 0.43297453  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.5  
Distance (km): 10.261935  
Magnitude: 5.833417  
Epsilon (mean values): 0.057299907  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.36  
Distance (km): 5.2815137  
Magnitude: 5.6352474  
Epsilon (mean values): -0.59889577  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.36  
Distance (km): 18.577773  
Magnitude: 6.1619471

Epsilon (mean values): 0.42771352  
WUSmap\_2014\_adSm.ch.in (opt):  
  Percent Contributed: 8.35  
  Distance (km): 18.575292  
  Magnitude: 6.1618805  
  Epsilon (mean values): 0.4276198  
noPuget\_2014\_adSm.gr.in (opt):  
  Percent Contributed: 8.33  
  Distance (km): 18.444252  
  Magnitude: 6.1592088  
  Epsilon (mean values): 0.42282912  
WUSmap\_2014\_adSm.gr.in (opt):  
  Percent Contributed: 8.32  
  Distance (km): 18.441998  
  Magnitude: 6.1591466  
  Epsilon (mean values): 0.42274378  
WUSmap\_2014\_fixSm\_M8.in (opt):  
  Percent Contributed: 3.09  
  Distance (km): 20.479972  
  Magnitude: 6.2986007  
  Epsilon (mean values): 0.42594915  
noPuget\_2014\_fixSm\_M8.in (opt):  
  Percent Contributed: 3.09  
  Distance (km): 20.479622  
  Magnitude: 6.2985962  
  Epsilon (mean values): 0.42594316  
noPuget\_2014\_adSm\_M8.in (opt):  
  Percent Contributed: 2.06  
  Distance (km): 20.26648  
  Magnitude: 6.2891393  
  Epsilon (mean values): 0.41580273  
WUSmap\_2014\_adSm\_M8.in (opt):  
  Percent Contributed: 2.06  
  Distance (km): 20.261766  
  Magnitude: 6.2890104  
  Epsilon (mean values): 0.41566764  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: Source Type: Slab  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
  Return period: 2475 yrs  
  Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
  PGA ground motion: 0.1440636 g  
Recovered targets:



Return period: 2539.1415 yrs  
 Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:

Binned: 0.28 %  
 Residual: 0 %  
 Trace: 0.11 %

Mean (over all sources):

m: 7.3  
 r: 231.04 km  
 ε<sub>0</sub>: 2.18 σ

Mode (largest m-r bin):

m: 7.12  
 r: 229.8 km  
 ε<sub>0</sub>: 2.45 σ

Contribution: 0.04 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.11  
 r: 212.1 km  
 ε<sub>0</sub>: 2.22 σ

Contribution: 0.03 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[-0.5, 0)	ε=[0, 0.5)	ε=[0, 0.5)
ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2, 2.5)	ε=[2.5, ∞)	ε=[2.5, ∞)
290	7.1	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001		
290	7.3	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002		
290	7.5	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000		
270	7.1	0.010	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.010		
270	7.3	0.009	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.005		

270	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.000					
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
250	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
250	7.1	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.028					
250	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.001					
250	7.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.008	0.000					
250	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
250	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.001	0.000					
230	6.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
230	7.1	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.026	0.014					
230	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.008	0.000					
230	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.011	0.001	0.001					
230	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.001	0.000					
230	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.003	0.000	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.006					
210	7.1	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.028	0.000					
210	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.001	0.000					
210	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.005	0.001	0.000					
210	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					
210	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.004	0.001	0.000	0.000					
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
190	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					





latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.1440636 g

Recovered targets:

Return period: 2539.1415 yrs

Exceedance rate: 0.0003938339 yr<sup>-1</sup>

Totals:

Binned: 5.36 %

Residual: 0 %

Trace: 0.03 %

Mean (over all sources):

m: 9.03

r: 328.11 km

$\epsilon_0$ : 1.91  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.59  $\sigma$

Contribution: 1.65 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.48  $\sigma$

Contribution: 1.11 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 ..  $+\infty$ ]

Closest Distance, rRup (km)

$\epsilon$ =[-2,-1.5)       $\epsilon$ =[-1.5,-1)

Magnitude (Mw)

$\epsilon$ =[-1,-0.5)

ALL\_ $\epsilon$        $\epsilon$ =(- $\infty$ , -2.5)

$\epsilon$ =[-0.5,0)

$\epsilon$ =[-2.5, -2)

$\epsilon$ =[0,0.5)



0.000	0.000	0.000	0.001	0.002					
330	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
330	8.5	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.033	0.000					
330	8.7	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.002					
330	8.9	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.050	0.000	0.008					
310	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
310	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.010	0.000					
310	8.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.000					
310	8.5	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.059	0.004					
310	8.7	0.107	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.067	0.030	0.010					
310	8.9	0.668	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.539	0.129	0.000					
310	9.1	0.927	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.701	0.226	0.000					
310	9.3	1.647	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	1.106	0.541	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 3.14  
Distance (km): 308.17316  
Magnitude: 9.1513388  
Epsilon (mean values): 1.7266525

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 3.14  
Distance (km): 308.17316  
Magnitude: 9.1513388  
Epsilon (mean values): 1.7266525  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 1.29  
Distance (km): 361.47413  
Magnitude: 8.9587642  
Epsilon (mean values): 2.1311959

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.29  
Distance (km): 361.47413  
Magnitude: 8.9587642  
Epsilon (mean values): 2.1311959  
Azimuth: 283.89391

Latitude: 46.3  
Longitude: -124.13677  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: Source Type: Fault  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.1440636 g  
Recovered targets:  
Return period: 2539.1415 yrs  
Exceedance rate: 0.0003938339 yr<sup>-1</sup>  
Totals:  
Binned: 0.67 %  
Residual: 0 %  
Trace: 0.01 %  
Mean (over all sources):  
m: 7.13  
r: 62.55 km  
 $\epsilon_0$ : 1.82  $\sigma$   
Mode (largest m-r bin):  
m: 7.33  
r: 62.01 km  
 $\epsilon_0$ : 1.62  $\sigma$   
Contribution: 0.11 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 7.31  
r: 62.02 km  
 $\epsilon_0$ : 1.66  $\sigma$   
Contribution: 0.08 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)



$\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
130	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
110	7.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.004					
110	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
90	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
90	6.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.004					
90	7.1	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.005					
90	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.000					
90	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
70	6.5	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.005					
70	6.7	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.040	0.003					
70	6.9	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.019	0.000					
70	7.1	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.059	0.020	0.000					
70	7.3	0.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.027	0.083	0.000	0.000					
70	7.5	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.058	0.018	0.000	0.000					
70	7.7	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.028	0.000	0.000	0.000					
70	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					
50	6.5	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.016	0.002					
50	6.7	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.017	0.032	0.001					

50	6.9	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.045	0.020	0.000					
50	7.1	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.068	0.000	0.000					
50	7.3	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.013	0.023	0.000	0.000					
50	7.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.4 %

Mean (over all sources):

m: 6.29

r: 31.94 km

$\epsilon_0$ : 0.53  $\sigma$

Mode (largest m-r bin):

m: 5.5

r: 11.21 km

$\epsilon_0$ : 0.36  $\sigma$

Contribution: 7.38 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5

r: 13.38 km

$\epsilon_0$ : 0.73  $\sigma$

Contribution: 2.29 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [-∞ .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
430	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
410	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
410	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
390	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
390	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
390	8.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
390	8.7	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.090					
390	9.1	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.109	0.000					
370	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
370	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
370	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
370	8.5	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.037					
370	8.7	0.221	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.221	0.000					
370	8.9	0.249	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.249	0.000					
370	9.1	0.521	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.481	0.040					
350	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
350	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
350	8.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.001					
330	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
330	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
330	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					

330	8.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.025	0.000					
330	8.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.026	0.000					
330	8.9	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.039	0.005					
310	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
310	8.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.004					
310	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.000					
310	8.5	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.044	0.002					
310	8.7	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.071	0.009					
310	8.9	0.503	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.418	0.007	0.078					
310	9.1	0.706	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.549	0.157	0.000					
310	9.3	1.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	1.285	0.000	0.000					
290	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
270	7.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
270	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.005					
270	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.001					
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.1	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.016					
250	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.002					
250	7.5	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.009	0.000					
250	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000					
250	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.001	0.000					

230	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
230	7.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.013					
230	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.008	0.000					
230	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.001	0.000					
230	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
230	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.000	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
210	7.1	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.019	0.002					
210	7.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.002	0.000					
210	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.000	0.000					
210	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.001	0.000	0.000					
210	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.001	0.000	0.000					
190	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
190	7.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.004	0.000					
190	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
190	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
190	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.002	0.000	0.000	0.000					
170	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
170	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
170	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					



110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
110	7.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.022					
110	7.5	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.022	0.013					
110	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.006	0.001					
110	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000					
90	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
90	6.9	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.029					
90	7.1	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.039	0.035					
90	7.3	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.103	0.010					
90	7.5	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.036	0.048	0.001					
90	7.7	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.012	0.002	0.000					
90	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.003	0.000	0.000					
70	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	6.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.007					
70	6.3	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.038					
70	6.5	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.043	0.054					
70	6.7	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.106	0.044					
70	6.9	0.202	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.022	0.163	0.016					
70	7.1	0.323	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.179	0.143	0.001					
70	7.3	0.458	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.043	0.370	0.046	0.000					
70	7.5	0.288	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.133	0.152	0.004	0.000					



70	7.7	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.050	0.008	0.000	0.000					
70	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.008	0.001	0.000	0.000					
50	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
50	5.5	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.041					
50	5.7	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.031	0.064					
50	5.9	0.161	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.094	0.067					
50	6.1	0.338	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.033	0.234	0.071					
50	6.3	0.514	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.200	0.281	0.033					
50	6.5	0.622	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.374	0.240	0.008					
50	6.7	0.633	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.052	0.399	0.179	0.003					
50	6.9	0.749	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.226	0.461	0.061	0.000					
50	7.1	0.863	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.501	0.350	0.002	0.000					
50	7.3	0.861	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.186	0.566	0.108	0.000	0.000					
50	7.5	0.503	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.230	0.252	0.016	0.000	0.000					
50	7.7	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.010
0.050	0.014	0.000	0.000	0.000					
50	7.9	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.013	0.002	0.000	0.000	0.000					
30	5.1	0.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.207	0.390	0.142					
30	5.3	1.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.552	0.470	0.119					
30	5.5	1.761	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.379	0.873	0.447	0.062					
30	5.7	1.988	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.021	0.743	0.844	0.348	0.031					
30	5.9	2.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.165	0.994	0.717	0.218	0.011					
30	6.1	2.536	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.535	1.229	0.687	0.085	0.000					
30	6.3	2.968	0.000	0.000	0.000	0.000	0.000	0.000	0.070
1.372	1.061	0.453	0.012	0.000					
30	6.5	2.572	0.000	0.000	0.000	0.000	0.000	0.000	0.246
1.099	1.014	0.212	0.000	0.000					

30	6.7	2.299	0.000	0.000	0.000	0.000	0.000	0.005	0.400
1.013	0.783	0.098	0.000	0.000					
30	6.9	2.366	0.000	0.000	0.000	0.000	0.000	0.069	0.650
1.067	0.577	0.004	0.000	0.000					
30	7.1	2.407	0.000	0.000	0.000	0.000	0.000	0.207	0.995
1.001	0.203	0.000	0.000	0.000					
30	7.3	2.431	0.000	0.000	0.000	0.000	0.037	0.400	1.157
0.795	0.041	0.000	0.000	0.000					
30	7.5	1.279	0.000	0.000	0.000	0.000	0.030	0.312	0.655
0.282	0.000	0.000	0.000	0.000					
30	7.7	0.130	0.000	0.000	0.000	0.000	0.008	0.043	0.065
0.013	0.000	0.000	0.000	0.000					
30	7.9	0.029	0.000	0.000	0.000	0.000	0.003	0.013	0.011
0.001	0.000	0.000	0.000	0.000					
10	5.1	7.007	0.000	0.000	0.000	0.000	0.000	1.131	1.155
1.710	1.934	0.929	0.144	0.003					
10	5.3	7.310	0.000	0.000	0.000	0.000	0.412	1.113	1.372
2.121	1.856	0.413	0.022	0.000					
10	5.5	7.378	0.000	0.000	0.000	0.517	0.001	1.467	1.787
2.285	1.211	0.109	0.000	0.000					
10	5.7	6.226	0.000	0.000	0.000	0.368	0.557	1.157	1.723
1.816	0.593	0.012	0.000	0.000					
10	5.9	5.081	0.000	0.000	0.000	0.257	0.841	0.700	1.717
1.394	0.173	0.000	0.000	0.000					
10	6.1	6.261	0.000	0.000	0.000	0.466	1.229	1.751	1.787
1.015	0.013	0.000	0.000	0.000					
10	6.3	5.286	0.000	0.000	0.000	0.686	1.213	1.749	1.402
0.235	0.000	0.000	0.000	0.000					
10	6.5	4.669	0.000	0.000	0.139	0.685	1.199	1.345	1.160
0.141	0.000	0.000	0.000	0.000					
10	6.7	3.902	0.000	0.021	0.205	0.494	1.163	1.071	0.921
0.027	0.000	0.000	0.000	0.000					
10	6.9	3.185	0.000	0.022	0.165	0.503	0.979	1.060	0.455
0.000	0.000	0.000	0.000	0.000					
10	7.1	2.491	0.000	0.025	0.164	0.415	0.811	0.985	0.090
0.000	0.000	0.000	0.000	0.000					
10	7.3	1.864	0.000	0.022	0.127	0.375	0.675	0.642	0.024
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.784	0.000	0.014	0.061	0.182	0.300	0.224	0.003
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.062	0.000	0.001	0.006	0.018	0.025	0.011	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.012	0.000	0.000	0.002	0.004	0.005	0.001	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.69

Distance (km): 18.958935

Magnitude: 6.1601847

Epsilon (mean values): 0.46393618

PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.51  
Distance (km): 10.262971  
Magnitude: 5.8294582  
Epsilon (mean values): 0.062946135  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584

PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.35  
Distance (km): 5.2804029  
Magnitude: 5.6362284  
Epsilon (mean values): -0.59738412  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584

noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 12.69  
Distance (km): 18.958924  
Magnitude: 6.1601846  
Epsilon (mean values): 0.46393595

PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.51  
Distance (km): 10.262971  
Magnitude: 5.8294582  
Epsilon (mean values): 0.062946135  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584

PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.35  
Distance (km): 5.2804029  
Magnitude: 5.6362284  
Epsilon (mean values): -0.59738412  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584

WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.64  
Distance (km): 18.805096  
Magnitude: 6.1570061  
Epsilon (mean values): 0.45842946

PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.51  
Distance (km): 10.262971  
Magnitude: 5.8294582  
Epsilon (mean values): 0.062946135  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584

PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.35  
Distance (km): 5.2804029  
Magnitude: 5.6362284  
Epsilon (mean values): -0.59738412  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.64  
Distance (km): 18.805085  
Magnitude: 6.157006  
Epsilon (mean values): 0.45842923  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.51  
Distance (km): 10.262971  
Magnitude: 5.8294582  
Epsilon (mean values): 0.062946135  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.35  
Distance (km): 5.2804029  
Magnitude: 5.6362284  
Epsilon (mean values): -0.59738412  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.49  
Distance (km): 18.752767  
Magnitude: 6.1525249  
Epsilon (mean values): 0.45292885  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.47  
Distance (km): 18.750241  
Magnitude: 6.1524579  
Epsilon (mean values): 0.452834  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.46  
Distance (km): 18.618925  
Magnitude: 6.1497297  
Epsilon (mean values): 0.4480857  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.45  
Distance (km): 18.616627  
Magnitude: 6.1496671  
Epsilon (mean values): 0.44799916  
WUSmap\_2014\_fixSm\_M8.in (opt):

Percent Contributed: 3.14  
Distance (km): 20.675889  
Magnitude: 6.2893622  
Epsilon (mean values): 0.45071684  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.14  
Distance (km): 20.675422  
Magnitude: 6.2893564  
Epsilon (mean values): 0.45070914  
sub0\_ch\_bot.in:  
Percent Contributed: 2.42  
Distance (km): 308.17316  
Magnitude: 9.1544734  
Epsilon (mean values): 1.8331186  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 2.42  
Distance (km): 308.17316  
Magnitude: 9.1544734  
Epsilon (mean values): 1.8331186  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.09  
Distance (km): 20.464126  
Magnitude: 6.2801059  
Epsilon (mean values): 0.44046703  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.09  
Distance (km): 20.459271  
Magnitude: 6.2799746  
Epsilon (mean values): 0.44033101  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.19927496 g  
Recovered targets:  
Return period: 2555.8899 yrs  
Exceedance rate: 0.00039125316 yr<sup>-1</sup>  
Totals:  
Binned: 26.07 %



130	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
130	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
130	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
110	7.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.008					
110	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.004					
110	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
110	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
90	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
90	6.9	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.010					
90	7.1	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.014	0.009					
90	7.3	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.034	0.001					
90	7.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.012	0.013	0.000					
90	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.000	0.000					
90	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.001	0.000	0.000					
70	6.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
70	6.3	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.017					
70	6.5	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.020	0.017					
70	6.7	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.011					
70	6.9	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.048	0.002					
70	7.1	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.056	0.034	0.000					
70	7.3	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.114	0.005	0.000					
70	7.5	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.041	0.038	0.000	0.000					

70	7.7	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.001	0.000	0.000					
70	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.002	0.000	0.000	0.000					
50	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
50	5.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.015					
50	5.7	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.028					
50	5.9	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.031	0.026					
50	6.1	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.086	0.020					
50	6.3	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.095	0.085	0.002					
50	6.5	0.194	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.131	0.063	0.000					
50	6.7	0.177	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.015	0.119	0.043	0.000					
50	6.9	0.207	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.076	0.123	0.009	0.000					
50	7.1	0.233	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.151	0.083	0.000	0.000					
50	7.3	0.232	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.049	0.167	0.017	0.000	0.000					
50	7.5	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.067	0.069	0.000	0.000	0.000					
50	7.7	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.017	0.002	0.000	0.000	0.000					
50	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.000	0.000	0.000	0.000					
30	5.1	0.481	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.207	0.218	0.056					
30	5.3	0.519	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.300	0.178	0.041					
30	5.5	0.549	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.085	0.329	0.119	0.017					
30	5.7	0.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.207	0.249	0.123	0.000					
30	5.9	0.603	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.016	0.324	0.207	0.056	0.000					
30	6.1	0.710	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.141	0.347	0.212	0.010	0.000					
30	6.3	0.821	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.388	0.339	0.094	0.000	0.000					
30	6.5	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.042
0.285	0.290	0.038	0.000	0.000					



30	6.7	0.555	0.000	0.000	0.000	0.000	0.000	0.000	0.051
0.266	0.216	0.021	0.000	0.000					
30	6.9	0.575	0.000	0.000	0.000	0.000	0.000	0.000	0.136
0.290	0.150	0.000	0.000	0.000					
30	7.1	0.582	0.000	0.000	0.000	0.000	0.000	0.002	0.255
0.279	0.047	0.000	0.000	0.000					
30	7.3	0.591	0.000	0.000	0.000	0.000	0.000	0.055	0.309
0.227	0.000	0.000	0.000	0.000					
30	7.5	0.314	0.000	0.000	0.000	0.000	0.000	0.060	0.180
0.074	0.000	0.000	0.000	0.000					
30	7.7	0.032	0.000	0.000	0.000	0.000	0.000	0.010	0.021
0.001	0.000	0.000	0.000	0.000					
30	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.004	0.003
0.000	0.000	0.000	0.000	0.000					
10	5.1	2.664	0.000	0.000	0.000	0.000	0.000	0.685	0.331
0.701	0.788	0.159	0.000	0.000					
10	5.3	2.215	0.000	0.000	0.000	0.000	0.000	0.518	0.315
0.758	0.594	0.031	0.000	0.000					
10	5.5	1.837	0.000	0.000	0.000	0.000	0.000	0.389	0.524
0.557	0.367	0.000	0.000	0.000					
10	5.7	1.513	0.000	0.000	0.000	0.000	0.242	0.190	0.419
0.517	0.145	0.000	0.000	0.000					
10	5.9	1.235	0.000	0.000	0.000	0.000	0.220	0.108	0.479
0.407	0.021	0.000	0.000	0.000					
10	6.1	1.502	0.000	0.000	0.000	0.056	0.224	0.463	0.482
0.276	0.000	0.000	0.000	0.000					
10	6.3	1.269	0.000	0.000	0.000	0.118	0.277	0.412	0.401
0.060	0.000	0.000	0.000	0.000					
10	6.5	1.100	0.000	0.000	0.027	0.110	0.243	0.358	0.312
0.051	0.000	0.000	0.000	0.000					
10	6.7	0.919	0.000	0.000	0.041	0.093	0.234	0.274	0.259
0.018	0.000	0.000	0.000	0.000					
10	6.9	0.758	0.000	0.000	0.029	0.101	0.207	0.266	0.155
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.595	0.000	0.000	0.030	0.066	0.184	0.286	0.029
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.448	0.000	0.000	0.021	0.065	0.159	0.199	0.004
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.190	0.000	0.000	0.009	0.035	0.072	0.074	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.000	0.000	0.001	0.004	0.008	0.003	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.002	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.46

Distance (km): 19.538868

Magnitude: 6.0834412

Epsilon (mean values): 0.58992472

noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 3.46  
Distance (km): 19.538856  
Magnitude: 6.083441  
Epsilon (mean values): 0.58992447  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.44  
Distance (km): 19.37709  
Magnitude: 6.0797654  
Epsilon (mean values): 0.58473977  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.44  
Distance (km): 19.377078  
Magnitude: 6.0797653  
Epsilon (mean values): 0.58473952  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.31  
Distance (km): 19.328438  
Magnitude: 6.0758987  
Epsilon (mean values): 0.57909238  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.31  
Distance (km): 19.325717  
Magnitude: 6.0758262  
Epsilon (mean values): 0.57899843  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.3  
Distance (km): 19.187939  
Magnitude: 6.0726712  
Epsilon (mean values): 0.57453893  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.3  
Distance (km): 19.18546  
Magnitude: 6.0726039  
Epsilon (mean values): 0.5744529

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 27.9 %  
Residual: 0 %  
Trace: 0.14 %

Mean (over all sources):

m: 6.12  
r: 19.6 km  
 $\epsilon_0$ : 0.43  $\sigma$

Mode (largest m-r bin):

m: 5.5  
r: 11.5 km  
 $\epsilon_0$ : 0.07  $\sigma$   
Contribution: 2.59 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.51  
r: 11.66 km  
 $\epsilon_0$ : 0.2  $\sigma$   
Contribution: 0.79 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	
170	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.5	0.001	0.000	0.000	0.000	0.000





0.305	0.212	0.000	0.000	0.000					
30	6.9	0.638	0.000	0.000	0.000	0.000	0.000	0.022	0.180
0.302	0.134	0.000	0.000	0.000					
30	7.1	0.624	0.000	0.000	0.000	0.000	0.000	0.056	0.262
0.277	0.029	0.000	0.000	0.000					
30	7.3	0.614	0.000	0.000	0.000	0.000	0.000	0.068	0.333
0.213	0.000	0.000	0.000	0.000					
30	7.5	0.319	0.000	0.000	0.000	0.000	0.000	0.075	0.179
0.065	0.000	0.000	0.000	0.000					
30	7.7	0.032	0.000	0.000	0.000	0.000	0.000	0.011	0.019
0.002	0.000	0.000	0.000	0.000					
30	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.003	0.003
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.753	0.000	0.000	0.000	0.000	0.000	0.446	0.220
0.354	0.404	0.291	0.038	0.000					
10	5.3	2.253	0.000	0.000	0.000	0.000	0.412	0.213	0.436
0.594	0.517	0.080	0.000	0.000					
10	5.5	2.593	0.000	0.000	0.000	0.517	0.001	0.354	0.785
0.779	0.156	0.000	0.000	0.000					
10	5.7	2.069	0.000	0.000	0.000	0.368	0.042	0.512	0.563
0.563	0.020	0.000	0.000	0.000					
10	5.9	1.551	0.000	0.000	0.000	0.257	0.192	0.330	0.473
0.299	0.000	0.000	0.000	0.000					
10	6.1	1.734	0.000	0.000	0.000	0.282	0.362	0.439	0.429
0.222	0.000	0.000	0.000	0.000					
10	6.3	1.355	0.000	0.000	0.000	0.238	0.287	0.456	0.313
0.060	0.000	0.000	0.000	0.000					
10	6.5	1.158	0.000	0.000	0.029	0.137	0.310	0.352	0.288
0.042	0.000	0.000	0.000	0.000					
10	6.7	0.966	0.000	0.000	0.039	0.077	0.329	0.284	0.237
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.778	0.000	0.000	0.043	0.091	0.258	0.266	0.119
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.605	0.000	0.000	0.030	0.085	0.187	0.279	0.024
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.452	0.000	0.000	0.021	0.072	0.156	0.200	0.004
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.191	0.000	0.000	0.008	0.035	0.081	0.065	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.000	0.000	0.001	0.004	0.007	0.003	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.002	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.7

Distance (km): 19.305751

Magnitude: 6.1063554

Epsilon (mean values): 0.42374326

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.7  
Distance (km): 19.305746  
Magnitude: 6.1063553  
Epsilon (mean values): 0.42374315

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.69  
Distance (km): 19.147864  
Magnitude: 6.1029518  
Epsilon (mean values): 0.41798266

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.69  
Distance (km): 19.14786  
Magnitude: 6.1029518  
Epsilon (mean values): 0.41798255

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.48  
Distance (km): 19.088134  
Magnitude: 6.0988992  
Epsilon (mean values): 0.41060348

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.47  
Distance (km): 19.085726  
Magnitude: 6.098835  
Epsilon (mean values): 0.41050187

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.47  
Distance (km): 18.950123  
Magnitude: 6.0958947  
Epsilon (mean values): 0.4055161

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.46  
Distance (km): 18.947953  
Magnitude: 6.0958355  
Epsilon (mean values): 0.40542327

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs  
Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 19.37 %  
 Residual: 0 %  
 Trace: 0.1 %

Mean (over all sources):

m: 6.29  
 r: 18.54 km  
 $\epsilon_0$ : 0.42  $\sigma$

Mode (largest m-r bin):

m: 6.1  
 r: 11.74 km  
 $\epsilon_0$ : -0.08  $\sigma$   
 Contribution: 1.5 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5  
 r: 11.4 km  
 $\epsilon_0$ : 0.72  $\sigma$   
 Contribution: 0.46 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$	
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$
150	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000



110	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
110	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
90	6.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
90	7.1	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.009					
90	7.3	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.014	0.005					
90	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.001					
90	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
90	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
70	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	6.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
70	6.5	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.017					
70	6.7	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.022	0.013					
70	6.9	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.037	0.005					
70	7.1	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.015	0.046	0.000					
70	7.3	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.056	0.023	0.000					
70	7.5	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.043	0.004	0.000					
70	7.7	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.005	0.000	0.000					
70	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					
50	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
50	6.1	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.024	0.016					
50	6.3	0.102	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.024	0.066	0.012					

50	6.5	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.085	0.067	0.000					
50	6.7	0.145	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.096	0.049	0.000					
50	6.9	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.108	0.027	0.000					
50	7.1	0.165	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.068	0.097	0.000	0.000					
50	7.3	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.095	0.057	0.000	0.000					
50	7.5	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.006	0.064	0.016	0.000	0.000					
50	7.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.007	0.000	0.000	0.000					
50	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.002	0.000	0.000	0.000					
30	5.1	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.016					
30	5.3	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.042	0.020					
30	5.5	0.143	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.053	0.078	0.013					
30	5.7	0.223	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.014	0.133	0.060	0.016					
30	5.9	0.313	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.103	0.148	0.054	0.008					
30	6.1	0.493	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.053	0.254	0.146	0.040	0.000					
30	6.3	0.694	0.000	0.000	0.000	0.000	0.000	0.000	0.014
0.319	0.221	0.136	0.003	0.000					
30	6.5	0.666	0.000	0.000	0.000	0.000	0.000	0.000	0.087
0.287	0.236	0.055	0.000	0.000					
30	6.7	0.567	0.000	0.000	0.000	0.000	0.000	0.000	0.104
0.244	0.193	0.025	0.000	0.000					
30	6.9	0.544	0.000	0.000	0.000	0.000	0.000	0.000	0.143
0.244	0.157	0.000	0.000	0.000					
30	7.1	0.524	0.000	0.000	0.000	0.000	0.000	0.019	0.204
0.210	0.092	0.000	0.000	0.000					
30	7.3	0.507	0.000	0.000	0.000	0.000	0.000	0.039	0.227
0.205	0.036	0.000	0.000	0.000					
30	7.5	0.260	0.000	0.000	0.000	0.000	0.000	0.020	0.129
0.111	0.000	0.000	0.000	0.000					
30	7.7	0.026	0.000	0.000	0.000	0.000	0.000	0.005	0.012
0.009	0.000	0.000	0.000	0.000					
30	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.001	0.003
0.001	0.000	0.000	0.000	0.000					
10	5.1	0.886	0.000	0.000	0.000	0.000	0.000	0.000	0.064
0.306	0.257	0.173	0.082	0.003					
10	5.3	1.141	0.000	0.000	0.000	0.000	0.000	0.000	0.365
0.288	0.282	0.184	0.022	0.000					

10	5.5	1.380	0.000	0.000	0.000	0.000	0.000	0.358	0.186
0.460	0.304	0.073	0.000	0.000					
10	5.7	1.268	0.000	0.000	0.000	0.000	0.132	0.214	0.325
0.367	0.218	0.012	0.000	0.000					
10	5.9	1.114	0.000	0.000	0.000	0.000	0.216	0.107	0.382
0.324	0.086	0.000	0.000	0.000					
10	6.1	1.499	0.000	0.000	0.000	0.077	0.299	0.432	0.422
0.256	0.012	0.000	0.000	0.000					
10	6.3	1.342	0.000	0.000	0.000	0.176	0.350	0.410	0.356
0.050	0.000	0.000	0.000	0.000					
10	6.5	1.230	0.000	0.000	0.041	0.242	0.330	0.319	0.299
0.000	0.000	0.000	0.000	0.000					
10	6.7	1.012	0.000	0.000	0.063	0.177	0.292	0.263	0.217
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.802	0.000	0.000	0.044	0.135	0.253	0.261	0.109
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.613	0.000	0.000	0.049	0.094	0.191	0.247	0.033
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.451	0.000	0.000	0.034	0.079	0.150	0.172	0.017
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.188	0.000	0.003	0.011	0.038	0.064	0.070	0.002
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.015	0.000	0.000	0.001	0.004	0.005	0.004	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.001	0.001	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.57

Distance (km): 18.245028

Magnitude: 6.2747441

Epsilon (mean values): 0.4215765

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.57

Distance (km): 18.245026

Magnitude: 6.2747441

Epsilon (mean values): 0.42157645

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.56

Distance (km): 18.091607

Magnitude: 6.2721441

Epsilon (mean values): 0.41547166

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.56

Distance (km): 18.091605

Magnitude: 6.2721441

Epsilon (mean values): 0.41547161

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.72

Distance (km): 18.037732

Magnitude: 6.2672409  
Epsilon (mean values): 0.41086283  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 1.71  
Distance (km): 18.035474  
Magnitude: 6.2671841  
Epsilon (mean values): 0.41076948  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.71  
Distance (km): 17.903564  
Magnitude: 6.2649444  
Epsilon (mean values): 0.40547513  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.71  
Distance (km): 17.901535  
Magnitude: 6.2648913  
Epsilon (mean values): 0.40539101  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.19927496 g  
Recovered targets:  
Return period: 2555.8899 yrs  
Exceedance rate: 0.00039125316 yr<sup>-1</sup>  
Totals:  
Binned: 22.48 %  
Residual: 0 %  
Trace: 0.15 %  
Mean (over all sources):  
m: 6.24  
r: 18.98 km  
 $\epsilon_0$ : 0.41  $\sigma$   
Mode (largest m-r bin):  
m: 5.1  
r: 9.89 km  
 $\epsilon_0$ : 0.88  $\sigma$   
Contribution: 1.7 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 5.1  
r: 5.15 km  
 $\epsilon_0$ : 0.15  $\sigma$





0.000	0.036	0.099	0.024	0.000					
50	7.1	0.222	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008	0.128	0.084	0.001	0.000					
50	7.3	0.249	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.091	0.140	0.018	0.000	0.000					
50	7.5	0.154	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.099	0.050	0.000	0.000	0.000					
50	7.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.014	0.001	0.000	0.000	0.000					
50	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.002	0.000	0.000	0.000	0.000					
30	5.1	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.087	0.034					
30	5.3	0.199	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.063	0.115	0.021					
30	5.5	0.272	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.149	0.098	0.025					
30	5.7	0.336	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.045	0.203	0.072	0.015					
30	5.9	0.392	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.163	0.155	0.071	0.003					
30	6.1	0.518	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.051	0.280	0.153	0.034	0.000					
30	6.3	0.635	0.000	0.000	0.000	0.000	0.000	0.000	0.015
0.293	0.193	0.125	0.009	0.000					
30	6.5	0.547	0.000	0.000	0.000	0.000	0.000	0.000	0.048
0.212	0.206	0.081	0.000	0.000					
30	6.7	0.522	0.000	0.000	0.000	0.000	0.000	0.000	0.111
0.198	0.161	0.051	0.000	0.000					
30	6.9	0.609	0.000	0.000	0.000	0.000	0.000	0.047	0.192
0.231	0.136	0.004	0.000	0.000					
30	7.1	0.677	0.000	0.000	0.000	0.000	0.000	0.130	0.275
0.236	0.036	0.000	0.000	0.000					
30	7.3	0.718	0.000	0.000	0.000	0.000	0.037	0.239	0.287
0.150	0.005	0.000	0.000	0.000					
30	7.5	0.386	0.000	0.000	0.000	0.000	0.030	0.158	0.167
0.031	0.000	0.000	0.000	0.000					
30	7.7	0.040	0.000	0.000	0.000	0.000	0.008	0.018	0.013
0.001	0.000	0.000	0.000	0.000					
30	7.9	0.009	0.000	0.000	0.000	0.000	0.002	0.005	0.001
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.704	0.000	0.000	0.000	0.000	0.000	0.000	0.541
0.349	0.486	0.306	0.023	0.000					
10	5.3	1.700	0.000	0.000	0.000	0.000	0.000	0.382	0.255
0.481	0.463	0.118	0.000	0.000					
10	5.5	1.568	0.000	0.000	0.000	0.000	0.000	0.367	0.292
0.489	0.384	0.036	0.000	0.000					
10	5.7	1.377	0.000	0.000	0.000	0.000	0.141	0.240	0.416
0.369	0.210	0.000	0.000	0.000					
10	5.9	1.181	0.000	0.000	0.000	0.000	0.214	0.154	0.384

0.364	0.066	0.000	0.000	0.000					
10	6.1	1.526	0.000	0.000	0.000	0.051	0.343	0.417	0.454
0.261	0.000	0.000	0.000	0.000					
10	6.3	1.320	0.000	0.000	0.000	0.153	0.299	0.471	0.332
0.065	0.000	0.000	0.000	0.000					
10	6.5	1.180	0.000	0.000	0.041	0.195	0.317	0.316	0.261
0.048	0.000	0.000	0.000	0.000					
10	6.7	1.005	0.000	0.021	0.062	0.147	0.309	0.250	0.208
0.009	0.000	0.000	0.000	0.000					
10	6.9	0.847	0.000	0.022	0.050	0.176	0.261	0.267	0.071
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.677	0.000	0.025	0.055	0.170	0.249	0.172	0.005
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.512	0.000	0.022	0.051	0.158	0.210	0.071	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.216	0.000	0.012	0.033	0.074	0.083	0.015	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.017	0.000	0.001	0.004	0.007	0.005	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.001	0.002	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.96

Distance (km): 18.467772

Magnitude: 6.2176988

Epsilon (mean values): 0.40391224

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.96

Distance (km): 18.467747

Magnitude: 6.2176985

Epsilon (mean values): 0.40391172

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.95

Distance (km): 18.32831

Magnitude: 6.2148224

Epsilon (mean values): 0.39891647

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.95

Distance (km): 18.328285

Magnitude: 6.2148221

Epsilon (mean values): 0.39891594

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.98

Distance (km): 18.282603

Magnitude: 6.2094113

Epsilon (mean values): 0.39520409

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.98

Distance (km): 18.279932



Magnitude: 6.2093375  
Epsilon (mean values): 0.39511634  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.98  
Distance (km): 18.162368  
Magnitude: 6.2068985  
Epsilon (mean values): 0.39084271  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.98  
Distance (km): 18.159894  
Magnitude: 6.2068285  
Epsilon (mean values): 0.39076225  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.19927496 g  
Recovered targets:  
Return period: 2555.8899 yrs  
Exceedance rate: 0.00039125316 yr<sup>-1</sup>  
Totals:  
Binned: 0 %  
Residual: 0 %  
Trace: 0 %  
Mean (over all sources):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Mode (largest m-r bin):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Contribution: 0 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Contribution: 0 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty \dots -2.5)$   
 $\epsilon_1$ :  $[-2.5 \dots -2.0)$   
 $\epsilon_2$ :  $[-2.0 \dots -1.5)$   
 $\epsilon_3$ :  $[-1.5 \dots -1.0)$   
 $\epsilon_4$ :  $[-1.0 \dots -0.5)$   
 $\epsilon_5$ :  $[-0.5 \dots 0.0)$   
 $\epsilon_6$ :  $[0.0 \dots 0.5)$   
 $\epsilon_7$ :  $[0.5 \dots 1.0)$   
 $\epsilon_8$ :  $[1.0 \dots 1.5)$   
 $\epsilon_9$ :  $[1.5 \dots 2.0)$   
 $\epsilon_{10}$ :  $[2.0 \dots 2.5)$   
 $\epsilon_{11}$ :  $[2.5 \dots +\infty]$

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[0, 0.5)
ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2.5, ∞)

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 3.28 %

Residual: 0 %

Trace: 0.03 %

Mean (over all sources):

m: 9.02

r: 329.82 km

ε<sub>0</sub>: 1.96 σ

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

ε<sub>0</sub>: 1.59 σ

Contribution: 0.88 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.59  $\sigma$

Contribution: 0.88 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty \dots -2.5)$

$\epsilon_1$ :  $[-2.5 \dots -2.0)$

$\epsilon_2$ :  $[-2.0 \dots -1.5)$

$\epsilon_3$ :  $[-1.5 \dots -1.0)$

$\epsilon_4$ :  $[-1.0 \dots -0.5)$

$\epsilon_5$ :  $[-0.5 \dots 0.0)$

$\epsilon_6$ :  $[0.0 \dots 0.5)$

$\epsilon_7$ :  $[0.5 \dots 1.0)$

$\epsilon_8$ :  $[1.0 \dots 1.5)$

$\epsilon_9$ :  $[1.5 \dots 2.0)$

$\epsilon_{10}$ :  $[2.0 \dots 2.5)$

$\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$			
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$				
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$				
430	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
410	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
410	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
390	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
390	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
390	8.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
390	8.7	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.090					
390	9.1	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.109	0.000					
370	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
370	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
370	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
370	8.5	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.037					
370	8.7	0.221	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.221	0.000					
370	8.9	0.249	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.249	0.000					

370	9.1	0.481	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.481	0.000					
350	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
350	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
350	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
350	8.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.001					
330	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
330	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
330	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
330	8.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.025	0.000					
330	8.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.026	0.000					
330	8.9	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.039	0.000					
310	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
310	8.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.004					
310	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.000					
310	8.5	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.044	0.000					
310	8.7	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.071	0.000					
310	8.9	0.418	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.418	0.000	0.000					
310	9.1	0.549	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.549	0.000	0.000					
310	9.3	0.881	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.881	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 1.79  
Distance (km): 308.17316  
Magnitude: 9.1377985  
Epsilon (mean values): 1.7407818

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.79  
Distance (km): 308.17316  
Magnitude: 9.1377985  
Epsilon (mean values): 1.7407818  
Azimuth: 285.86185

Latitude: 46.3  
Longitude: -123.4132  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.19927496 g  
Recovered targets:  
Return period: 2555.8899 yrs  
Exceedance rate: 0.00039125316 yr<sup>-1</sup>  
Totals:  
Binned: 0.18 %  
Residual: 0 %  
Trace: 0.07 %  
Mean (over all sources):  
m: 7.3  
r: 230.04 km  
 $\epsilon_0$ : 2.22  $\sigma$   
Mode (largest m-r bin):  
m: 7.12  
r: 229.59 km  
 $\epsilon_0$ : 2.52  $\sigma$   
Contribution: 0.02 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 7.12  
r: 211.03 km  
 $\epsilon_0$ : 2.29  $\sigma$   
Contribution: 0.02 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$	
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[1, 1.5)$	$\epsilon=[-1, -0.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$
290	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000
270	7.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004	0.004	0.000	0.000	0.000	0.000
270	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.005	0.005	0.000	0.000	0.000	0.000
270	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.001	0.001	0.000	0.000	0.000	0.000
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	7.1	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.016	0.016	0.000	0.000	0.000	0.000
250	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.002	0.002	0.000	0.000	0.000	0.000
250	7.5	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.009	0.000	0.000	0.000	0.000	0.000	0.000
250	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
250	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003	0.003	0.000	0.000	0.000	0.000
230	7.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.013	0.013	0.000	0.000	0.000	0.000
230	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.008	0.000	0.000	0.000	0.000	0.000	0.000
230	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000
230	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
210	6.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004	0.004	0.000	0.000	0.000	0.000

210	7.1	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.019	0.002					
210	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.002	0.000					
210	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.000	0.000					
210	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
210	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
190	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
190	7.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.004	0.000					
190	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
190	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
190	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
170	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
170	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
170	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
150	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					





90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 0.7 %

Residual: 0 %

Trace: 0 %

Mean (over all sources):

m: 9.18

r: 311.37 km

$\epsilon_0$ : 2.15  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.94  $\sigma$

Contribution: 0.4 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.94  $\sigma$

Contribution: 0.4 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

ε2: [-2.0 .. -1.5)  
 ε3: [-1.5 .. -1.0)  
 ε4: [-1.0 .. -0.5)  
 ε5: [-0.5 .. 0.0)  
 ε6: [0.0 .. 0.5)  
 ε7: [0.5 .. 1.0)  
 ε8: [1.0 .. 1.5)  
 ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[-0.5, 0)	ε=[0, 0.5)	ε=[0.5, 1)
ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2, 2.5)	ε=[2.5, ∞)	
370	9.1	0.040	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.040		
330	8.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000		
330	8.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000		
330	8.9	0.005	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005		
310	8.5	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002		
310	8.7	0.009	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.009		
310	8.9	0.085	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.078		
310	9.1	0.157	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.157	0.000		
310	9.3	0.404	0.000	0.000	0.000	0.000
0.000	0.000	0.404	0.000	0.000		

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 0.01 %







90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Grid

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 95.15 %

Residual: 0 %

Trace: 0.2 %

Mean (over all sources):

m: 6.17

r: 19 km

ε<sub>0</sub>: 0.46 σ

Mode (largest m-r bin):

m: 5.5

r: 11.21 km

ε<sub>0</sub>: 0.36 σ

Contribution: 7.38 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.5

r: 13.38 km

ε<sub>0</sub>: 0.73 σ

Contribution: 2.29 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)







0.000	0.226	0.415	0.041	0.000					
50	7.1	0.793	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.011	0.501	0.280	0.002	0.000					
50	7.3	0.824	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.186	0.550	0.088	0.000	0.000					
50	7.5	0.497	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.230	0.246	0.015	0.000	0.000					
50	7.7	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.010
0.050	0.014	0.000	0.000	0.000					
50	7.9	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.013	0.002	0.000	0.000	0.000					
30	5.1	0.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.207	0.390	0.142					
30	5.3	1.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.552	0.470	0.119					
30	5.5	1.761	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.379	0.873	0.447	0.062					
30	5.7	1.988	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.021	0.743	0.844	0.348	0.031					
30	5.9	2.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.165	0.994	0.717	0.218	0.011					
30	6.1	2.536	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.535	1.229	0.687	0.085	0.000					
30	6.3	2.968	0.000	0.000	0.000	0.000	0.000	0.000	0.070
1.372	1.061	0.453	0.012	0.000					
30	6.5	2.572	0.000	0.000	0.000	0.000	0.000	0.000	0.246
1.099	1.014	0.212	0.000	0.000					
30	6.7	2.299	0.000	0.000	0.000	0.000	0.000	0.005	0.400
1.013	0.783	0.098	0.000	0.000					
30	6.9	2.366	0.000	0.000	0.000	0.000	0.000	0.069	0.650
1.067	0.577	0.004	0.000	0.000					
30	7.1	2.407	0.000	0.000	0.000	0.000	0.000	0.207	0.995
1.001	0.203	0.000	0.000	0.000					
30	7.3	2.431	0.000	0.000	0.000	0.000	0.037	0.400	1.157
0.795	0.041	0.000	0.000	0.000					
30	7.5	1.279	0.000	0.000	0.000	0.000	0.030	0.312	0.655
0.282	0.000	0.000	0.000	0.000					
30	7.7	0.130	0.000	0.000	0.000	0.000	0.008	0.043	0.065
0.013	0.000	0.000	0.000	0.000					
30	7.9	0.029	0.000	0.000	0.000	0.000	0.003	0.013	0.011
0.001	0.000	0.000	0.000	0.000					
10	5.1	7.007	0.000	0.000	0.000	0.000	0.000	1.131	1.155
1.710	1.934	0.929	0.144	0.003					
10	5.3	7.310	0.000	0.000	0.000	0.000	0.412	1.113	1.372
2.121	1.856	0.413	0.022	0.000					
10	5.5	7.378	0.000	0.000	0.000	0.517	0.001	1.467	1.787
2.285	1.211	0.109	0.000	0.000					
10	5.7	6.226	0.000	0.000	0.000	0.368	0.557	1.157	1.723
1.816	0.593	0.012	0.000	0.000					
10	5.9	5.081	0.000	0.000	0.000	0.257	0.841	0.700	1.717

1.394	0.173	0.000	0.000	0.000						
10	6.1	6.261	0.000	0.000	0.000	0.466	1.229	1.751	1.787	
1.015	0.013	0.000	0.000	0.000						
10	6.3	5.286	0.000	0.000	0.000	0.686	1.213	1.749	1.402	
0.235	0.000	0.000	0.000	0.000						
10	6.5	4.669	0.000	0.000	0.139	0.685	1.199	1.345	1.160	
0.141	0.000	0.000	0.000	0.000						
10	6.7	3.902	0.000	0.021	0.205	0.494	1.163	1.071	0.921	
0.027	0.000	0.000	0.000	0.000						
10	6.9	3.185	0.000	0.022	0.165	0.503	0.979	1.060	0.455	
0.000	0.000	0.000	0.000	0.000						
10	7.1	2.491	0.000	0.025	0.164	0.415	0.811	0.985	0.090	
0.000	0.000	0.000	0.000	0.000						
10	7.3	1.864	0.000	0.022	0.127	0.375	0.675	0.642	0.024	
0.000	0.000	0.000	0.000	0.000						
10	7.5	0.784	0.000	0.014	0.061	0.182	0.300	0.224	0.003	
0.000	0.000	0.000	0.000	0.000						
10	7.7	0.062	0.000	0.001	0.006	0.018	0.025	0.011	0.000	
0.000	0.000	0.000	0.000	0.000						
10	7.9	0.012	0.000	0.000	0.002	0.004	0.005	0.001	0.000	
0.000	0.000	0.000	0.000	0.000						

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.69

Distance (km): 18.958935

Magnitude: 6.1601847

Epsilon (mean values): 0.46393618

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.51

Distance (km): 10.262971

Magnitude: 5.8294582

Epsilon (mean values): 0.062946135

Azimuth: 0

Latitude: 45.697435

Longitude: -119.584

PointSourceFinite: -119.584, 45.625:

Percent Contributed: 1.35

Distance (km): 5.2804029

Magnitude: 5.6362284

Epsilon (mean values): -0.59738412

Azimuth: 0

Latitude: 45.62549

Longitude: -119.584

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.69

Distance (km): 18.958924

Magnitude: 6.1601846

Epsilon (mean values): 0.46393595

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.51

Distance (km): 10.262971  
Magnitude: 5.8294582  
Epsilon (mean values): 0.062946135  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.35  
Distance (km): 5.2804029  
Magnitude: 5.6362284  
Epsilon (mean values): -0.59738412  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.64  
Distance (km): 18.805096  
Magnitude: 6.1570061  
Epsilon (mean values): 0.45842946  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.51  
Distance (km): 10.262971  
Magnitude: 5.8294582  
Epsilon (mean values): 0.062946135  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.35  
Distance (km): 5.2804029  
Magnitude: 5.6362284  
Epsilon (mean values): -0.59738412  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.64  
Distance (km): 18.805085  
Magnitude: 6.157006  
Epsilon (mean values): 0.45842923  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.51  
Distance (km): 10.262971  
Magnitude: 5.8294582  
Epsilon (mean values): 0.062946135  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.35

Distance (km): 5.2804029  
Magnitude: 5.6362284  
Epsilon (mean values): -0.59738412  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.49  
Distance (km): 18.752767  
Magnitude: 6.1525249  
Epsilon (mean values): 0.45292885  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.47  
Distance (km): 18.750241  
Magnitude: 6.1524579  
Epsilon (mean values): 0.452834  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.46  
Distance (km): 18.618925  
Magnitude: 6.1497297  
Epsilon (mean values): 0.4480857  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.45  
Distance (km): 18.616627  
Magnitude: 6.1496671  
Epsilon (mean values): 0.44799916  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.14  
Distance (km): 20.675889  
Magnitude: 6.2893622  
Epsilon (mean values): 0.45071684  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.14  
Distance (km): 20.675422  
Magnitude: 6.2893564  
Epsilon (mean values): 0.45070914  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.09  
Distance (km): 20.464126  
Magnitude: 6.2801059  
Epsilon (mean values): 0.44046703  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.09  
Distance (km): 20.459271  
Magnitude: 6.2799746  
Epsilon (mean values): 0.44033101  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 0.19 %

Residual: 0 %

Trace: 0.1 %

Mean (over all sources):

m: 7.33

r: 228.75 km

ε<sub>0</sub>: 2.2 σ

Mode (largest m-r bin):

m: 7.12

r: 229.59 km

ε<sub>0</sub>: 2.52 σ

Contribution: 0.02 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.12

r: 211.03 km

ε<sub>0</sub>: 2.29 σ

Contribution: 0.02 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε0: [-∞ .. -2.5)

ε1: [-2.5 .. -2.0)

ε2: [-2.0 .. -1.5)

ε3: [-1.5 .. -1.0)

ε4: [-1.0 .. -0.5)

ε5: [-0.5 .. 0.0)

ε6: [0.0 .. 0.5)

ε7: [0.5 .. 1.0)

ε8: [1.0 .. 1.5)

ε9: [1.5 .. 2.0)

ε10: [2.0 .. 2.5)

ε11: [2.5 .. +∞)

Closest Distance, rRup (km)

ε=[-2,-1.5)

ε=[0.5,1)

ε=[-1.5,-1)

ε=[1,1.5)

Magnitude (Mw)

ε=[-1,-0.5)

ε=[1.5,2)

ALL\_ε

ε=[-0.5,0)

ε=[2,2.5)

ε=(-∞,-2.5)

ε=[0,0.5)

ε=[2.5,∞)

ε=[-2.5,-2)

290	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
290	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.001					
270	7.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
270	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.005					
270	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.001					
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.1	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.016					
250	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.002					
250	7.5	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.009	0.000					
250	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.001	0.000					
250	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.001	0.000					
230	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
230	7.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.013					
230	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.008	0.000					
230	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.001	0.000					
230	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
230	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.003	0.000	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
210	7.1	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.019	0.002					
210	7.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.002	0.000					
210	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.000	0.000					







90 7.9 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
0.000 0.000 0.000 0.000 0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.19927496 g

Recovered targets:

Return period: 2555.8899 yrs

Exceedance rate: 0.00039125316 yr<sup>-1</sup>

Totals:

Binned: 3.98 %

Residual: 0 %

Trace: 0.03 %

Mean (over all sources):

m: 9.05

r: 326.57 km

$\epsilon_0$ : 2  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.7  $\sigma$

Contribution: 1.28 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.7  $\sigma$

Contribution: 1.28 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)



0.000	0.000	0.000	0.001	0.001					
330	8.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.025	0.000					
330	8.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.026	0.000					
330	8.9	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.039	0.005					
310	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
310	8.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.004					
310	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.000					
310	8.5	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.044	0.002					
310	8.7	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.071	0.009					
310	8.9	0.503	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.418	0.007	0.078					
310	9.1	0.706	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.549	0.157	0.000					
310	9.3	1.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	1.285	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution sub\_ch\_bot.in:

Percent Contributed: 2.42  
 Distance (km): 308.17316  
 Magnitude: 9.1544734  
 Epsilon (mean values): 1.8331186

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.42  
 Distance (km): 308.17316  
 Magnitude: 9.1544734  
 Epsilon (mean values): 1.8331186  
 Azimuth: 285.86185  
 Latitude: 46.3  
 Longitude: -123.4132

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs  
 Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
 PGA ground motion: 0.19927496 g



0.000	0.000	0.000	0.003	0.004					
110	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
90	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
90	6.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
90	7.1	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.006					
90	7.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.010	0.000					
90	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
70	6.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.004					
70	6.7	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.040	0.003					
70	6.9	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.020	0.000					
70	7.1	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.072	0.011	0.000					
70	7.3	0.114	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.021	0.094	0.000	0.000					
70	7.5	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.064	0.014	0.000	0.000					
70	7.7	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.025	0.001	0.000	0.000					
70	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					
50	6.5	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.016	0.001					
50	6.7	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.045	0.001					
50	6.9	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.047	0.021	0.000					
50	7.1	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.070	0.000	0.000					
50	7.3	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.016	0.020	0.000	0.000					
50	7.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.005	0.001	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs

Exceedance rate: 0.00039317656 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.41 %

Mean (over all sources):

m: 6.29

r: 35.32 km

$\epsilon_0$ : 0.65  $\sigma$

Mode (largest m-r bin):

m: 5.3

r: 10.81 km

$\epsilon_0$ : 0.63  $\sigma$

Contribution: 7.19 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5

r: 13.56 km

$\epsilon_0$ : 0.73  $\sigma$

Contribution: 2.4 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [-∞ .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$	
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$
450	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
410	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000
390	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000
390	8.3	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.000	0.000	0.000
390	8.5	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.033	0.000	0.000	0.000	0.000	0.000
390	8.7	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.182	0.000	0.000	0.000	0.000	0.000	0.000
390	9.1	0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.148	0.000	0.000	0.000	0.000	0.000	0.000
370	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
370	8.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000
370	8.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000
370	8.5	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.059	0.008	0.000	0.000	0.000	0.000	0.000
370	8.7	0.315	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.315	0.000	0.000	0.000	0.000	0.000	0.000
370	8.9	0.343	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.343	0.000	0.000	0.000	0.000	0.000	0.000
370	9.1	0.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
350	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000

350	8.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.000					
330	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
330	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.002					
330	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
330	8.5	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.034	0.000					
330	8.7	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.035	0.000					
330	8.9	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.049	0.000	0.001					
310	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.002					
310	8.1	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.000					
310	8.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.000					
310	8.5	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.059	0.000					
310	8.7	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.065	0.026	0.001					
310	8.9	0.554	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.523	0.000	0.031					
310	9.1	0.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.669	0.005	0.066					
310	9.3	1.238	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	1.021	0.217	0.000					
290	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
290	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
270	7.1	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.014					
270	7.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.006					
270	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.000					
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
250	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
250	7.1	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.030					



250	7.3	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.012	0.001					
250	7.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.008	0.000					
250	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
250	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
230	6.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
230	7.1	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.031	0.012					
230	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.008	0.000					
230	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.001	0.000					
230	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.000	0.000					
230	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.002	0.001	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.006					
210	7.1	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.029	0.000					
210	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.001	0.000					
210	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.006	0.000	0.000					
210	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
210	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.001	0.000	0.000					
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
190	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
190	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.002	0.000					
190	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
190	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
190	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					





70	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004					
70	6.1	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.027					
70	6.3	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.030	0.052					
70	6.5	0.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.090	0.057					
70	6.7	0.205	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.017	0.150	0.039					
70	6.9	0.258	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.082	0.162	0.013					
70	7.1	0.387	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.274	0.110	0.002					
70	7.3	0.518	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.146	0.333	0.039	0.000					
70	7.5	0.314	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.189	0.115	0.011	0.000					
70	7.7	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.010	0.052	0.008	0.000	0.000					
70	7.9	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.007	0.006	0.001	0.000	0.000					
50	5.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
50	5.3	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.021					
50	5.5	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.027	0.081					
50	5.7	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.110	0.081					
50	5.9	0.277	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.189	0.074					
50	6.1	0.478	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.142	0.278	0.058					
50	6.3	0.637	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.321	0.290	0.026					
50	6.5	0.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.057	0.441	0.215	0.010					
50	6.7	0.724	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.130	0.454	0.140	0.000					
50	6.9	0.826	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.331	0.445	0.050	0.000					
50	7.1	0.919	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.044	0.557	0.299	0.019	0.000					
50	7.3	0.884	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.263	0.535	0.086	0.000	0.000					
50	7.5	0.505	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.261	0.211	0.027	0.000	0.000					

50	7.7	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.010
0.050	0.011	0.001	0.000	0.000					
50	7.9	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.011	0.002	0.000	0.000	0.000					
30	5.1	1.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.361	0.519	0.155					
30	5.3	1.522	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.072	0.843	0.486	0.121					
30	5.5	2.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.017	0.693	0.941	0.491	0.051					
30	5.7	2.336	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.159	0.951	0.874	0.328	0.025					
30	5.9	2.347	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.266	1.088	0.793	0.188	0.013					
30	6.1	2.662	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.696	1.208	0.676	0.080	0.001					
30	6.3	2.958	0.000	0.000	0.000	0.000	0.000	0.000	0.087
1.208	1.232	0.411	0.018	0.000					
30	6.5	2.507	0.000	0.000	0.000	0.000	0.000	0.000	0.169
1.112	1.028	0.198	0.000	0.000					
30	6.7	2.228	0.000	0.000	0.000	0.000	0.000	0.005	0.324
1.026	0.766	0.107	0.000	0.000					
30	6.9	2.258	0.000	0.000	0.000	0.000	0.000	0.059	0.565
1.088	0.515	0.032	0.000	0.000					
30	7.1	2.264	0.000	0.000	0.000	0.000	0.000	0.164	0.876
1.035	0.188	0.002	0.000	0.000					
30	7.3	2.264	0.000	0.000	0.000	0.000	0.018	0.304	1.077
0.769	0.096	0.000	0.000	0.000					
30	7.5	1.185	0.000	0.000	0.000	0.000	0.024	0.253	0.609
0.267	0.032	0.000	0.000	0.000					
30	7.7	0.120	0.000	0.000	0.000	0.000	0.006	0.035	0.064
0.013	0.002	0.000	0.000	0.000					
30	7.9	0.026	0.000	0.000	0.000	0.000	0.002	0.011	0.011
0.002	0.000	0.000	0.000	0.000					
10	5.1	7.097	0.000	0.000	0.000	0.000	0.000	1.081	1.125
1.863	2.083	0.835	0.105	0.007					
10	5.3	7.192	0.000	0.000	0.000	0.000	0.288	1.168	1.312
2.180	1.870	0.333	0.041	0.000					
10	5.5	7.043	0.000	0.000	0.000	0.228	0.264	1.154	1.791
2.402	1.055	0.146	0.002	0.000					
10	5.7	5.856	0.000	0.000	0.000	0.350	0.130	1.277	1.659
1.839	0.548	0.052	0.000	0.000					
10	5.9	4.727	0.000	0.000	0.000	0.245	0.442	0.881	1.592
1.337	0.231	0.000	0.000	0.000					
10	6.1	5.766	0.000	0.000	0.000	0.173	1.017	1.624	1.857
0.998	0.097	0.000	0.000	0.000					
10	6.3	4.852	0.000	0.000	0.000	0.216	1.121	1.693	1.447
0.375	0.000	0.000	0.000	0.000					
10	6.5	4.295	0.000	0.000	0.041	0.362	1.078	1.363	1.235
0.217	0.000	0.000	0.000	0.000					

10	6.7	3.593	0.000	0.000	0.062	0.423	0.882	1.161	0.952
0.112	0.000	0.000	0.000	0.000					
10	6.9	2.931	0.000	0.007	0.050	0.343	0.871	1.042	0.604
0.013	0.000	0.000	0.000	0.000					
10	7.1	2.293	0.000	0.010	0.034	0.301	0.738	0.943	0.266
0.000	0.000	0.000	0.000	0.000					
10	7.3	1.718	0.000	0.010	0.045	0.266	0.613	0.659	0.125
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.724	0.000	0.006	0.026	0.136	0.265	0.252	0.038
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.057	0.000	0.001	0.003	0.013	0.024	0.016	0.002
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.012	0.000	0.000	0.001	0.003	0.005	0.002	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.59

Distance (km): 20.027829

Magnitude: 6.1417279

Epsilon (mean values): 0.58219957

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.42

Distance (km): 10.272861

Magnitude: 5.8157071

Epsilon (mean values): 0.14986318

Azimuth: 0

Latitude: 45.697435

Longitude: -119.584

PointSourceFinite: -119.584, 45.625:

Percent Contributed: 1.25

Distance (km): 5.2763564

Magnitude: 5.6407563

Epsilon (mean values): -0.46425568

Azimuth: 0

Latitude: 45.62549

Longitude: -119.584

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.59

Distance (km): 20.0278

Magnitude: 6.1417276

Epsilon (mean values): 0.58219901

PointSourceFinite: -119.584, 45.697:

Percent Contributed: 1.42

Distance (km): 10.272861

Magnitude: 5.8157071

Epsilon (mean values): 0.14986318

Azimuth: 0

Latitude: 45.697435

Longitude: -119.584

PointSourceFinite: -119.584, 45.625:

Percent Contributed: 1.25  
Distance (km): 5.2763564  
Magnitude: 5.6407563  
Epsilon (mean values): -0.46425568  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584

WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.53  
Distance (km): 19.842853  
Magnitude: 6.1378796  
Epsilon (mean values): 0.57636951  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.42  
Distance (km): 10.272861  
Magnitude: 5.8157071  
Epsilon (mean values): 0.14986318  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584

PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.25  
Distance (km): 5.2763564  
Magnitude: 5.6407563  
Epsilon (mean values): -0.46425568  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584

noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.53  
Distance (km): 19.842824  
Magnitude: 6.1378792  
Epsilon (mean values): 0.57636895  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.42  
Distance (km): 10.272861  
Magnitude: 5.8157071  
Epsilon (mean values): 0.14986318  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584

PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.25  
Distance (km): 5.2763564  
Magnitude: 5.6407563  
Epsilon (mean values): -0.46425568  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 8.41  
Distance (km): 19.812841  
Magnitude: 6.134462  
Epsilon (mean values): 0.57147232  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.4  
Distance (km): 19.80977  
Magnitude: 6.134388  
Epsilon (mean values): 0.57137047  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.38  
Distance (km): 19.652474  
Magnitude: 6.1310878  
Epsilon (mean values): 0.56636004  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.37  
Distance (km): 19.649689  
Magnitude: 6.1310193  
Epsilon (mean values): 0.56626731  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.11  
Distance (km): 21.81981  
Magnitude: 6.2707025  
Epsilon (mean values): 0.56813838  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.11  
Distance (km): 21.818866  
Magnitude: 6.2706912  
Epsilon (mean values): 0.56812438  
sub0\_ch\_bot.in:  
Percent Contributed: 2.45  
Distance (km): 308.17316  
Magnitude: 9.1430242  
Epsilon (mean values): 1.7433173  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 2.45  
Distance (km): 308.17316  
Magnitude: 9.1430242  
Epsilon (mean values): 1.7433173  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.07  
Distance (km): 21.609283  
Magnitude: 6.2620429  
Epsilon (mean values): 0.55837717  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.07  
Distance (km): 21.603574



Magnitude: 6.2618988  
Epsilon (mean values): 0.55823539  
sub0\_ch\_mid.in:  
Percent Contributed: 1.22  
Distance (km): 361.47413  
Magnitude: 8.9446817  
Epsilon (mean values): 2.1010198  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 1.22  
Distance (km): 361.47413  
Magnitude: 8.9446817  
Epsilon (mean values): 2.1010198  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.23918083 g  
Recovered targets:  
Return period: 2543.3866 yrs  
Exceedance rate: 0.00039317656 yr<sup>-1</sup>  
Totals:  
Binned: 26.54 %  
Residual: 0 %  
Trace: 0.15 %  
Mean (over all sources):  
m: 6.09  
r: 21.09 km  
ε<sub>0</sub>: 0.7 σ  
Mode (largest m-r bin):  
m: 5.1  
r: 10.86 km  
ε<sub>0</sub>: 0.72 σ  
Contribution: 2.66 %  
Mode (largest m-r-ε<sub>0</sub> bin):  
m: 5.09  
r: 14.96 km  
ε<sub>0</sub>: 1.23 σ  
Contribution: 0.85 %  
Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

- $\epsilon_0$ :  $[-\infty \dots -2.5)$
- $\epsilon_1$ :  $[-2.5 \dots -2.0)$
- $\epsilon_2$ :  $[-2.0 \dots -1.5)$
- $\epsilon_3$ :  $[-1.5 \dots -1.0)$
- $\epsilon_4$ :  $[-1.0 \dots -0.5)$
- $\epsilon_5$ :  $[-0.5 \dots 0.0)$
- $\epsilon_6$ :  $[0.0 \dots 0.5)$
- $\epsilon_7$ :  $[0.5 \dots 1.0)$
- $\epsilon_8$ :  $[1.0 \dots 1.5)$
- $\epsilon_9$ :  $[1.5 \dots 2.0)$
- $\epsilon_{10}$ :  $[2.0 \dots 2.5)$
- $\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0, 0.5)$
$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$	$\epsilon = [2.5, \infty)$
190	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	7.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.7	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.3	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.000	0.000
130	7.5	0.004	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.004	0.000	0.000
130	7.7	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
130	7.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000
110	6.7	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000
110	7.1	0.006	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006	0.000	0.000
110	7.3	0.017	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.010	0.000	0.000
110	7.5	0.016	0.000	0.000	0.000	0.000



0.000	0.000	0.000	0.000	0.035					
50	5.7	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.023	0.036					
50	5.9	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.065	0.026					
50	6.1	0.162	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.037	0.110	0.015					
50	6.3	0.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.144	0.083	0.000					
50	6.5	0.233	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.019	0.162	0.052	0.000					
50	6.7	0.209	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.022	0.157	0.031	0.000					
50	6.9	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.097	0.138	0.000	0.000					
50	7.1	0.254	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.175	0.079	0.000	0.000					
50	7.3	0.243	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.058	0.175	0.009	0.000	0.000					
50	7.5	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.071	0.067	0.000	0.000	0.000					
50	7.7	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.018	0.001	0.000	0.000	0.000					
50	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.000	0.000	0.000	0.000					
30	5.1	0.621	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.314	0.239	0.067					
30	5.3	0.640	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.020	0.411	0.178	0.031					
30	5.5	0.652	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.146	0.346	0.152	0.008					
30	5.7	0.664	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.247	0.295	0.122	0.000					
30	5.9	0.668	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.016	0.389	0.215	0.048	0.000					
30	6.1	0.757	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.166	0.387	0.203	0.000	0.000					
30	6.3	0.845	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.392	0.373	0.080	0.000	0.000					
30	6.5	0.668	0.000	0.000	0.000	0.000	0.000	0.000	0.012
0.310	0.319	0.028	0.000	0.000					
30	6.7	0.561	0.000	0.000	0.000	0.000	0.000	0.000	0.041
0.285	0.233	0.002	0.000	0.000					
30	6.9	0.569	0.000	0.000	0.000	0.000	0.000	0.000	0.118
0.303	0.148	0.000	0.000	0.000					
30	7.1	0.565	0.000	0.000	0.000	0.000	0.000	0.000	0.227
0.308	0.030	0.000	0.000	0.000					
30	7.3	0.565	0.000	0.000	0.000	0.000	0.000	0.013	0.307
0.245	0.000	0.000	0.000	0.000					
30	7.5	0.297	0.000	0.000	0.000	0.000	0.000	0.035	0.184

0.078	0.000	0.000	0.000	0.000					
30	7.7	0.030	0.000	0.000	0.000	0.000	0.000	0.007	0.021
0.002	0.000	0.000	0.000	0.000					
30	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.003	0.004
0.000	0.000	0.000	0.000	0.000					
10	5.1	2.657	0.000	0.000	0.000	0.000	0.000	0.646	0.317
0.722	0.852	0.120	0.000	0.000					
10	5.3	2.186	0.000	0.000	0.000	0.000	0.000	0.487	0.300
0.792	0.598	0.008	0.000	0.000					
10	5.5	1.793	0.000	0.000	0.000	0.000	0.000	0.365	0.361
0.687	0.380	0.000	0.000	0.000					
10	5.7	1.462	0.000	0.000	0.000	0.000	0.086	0.251	0.420
0.557	0.149	0.000	0.000	0.000					
10	5.9	1.182	0.000	0.000	0.000	0.000	0.206	0.101	0.410
0.442	0.022	0.000	0.000	0.000					
10	6.1	1.423	0.000	0.000	0.000	0.000	0.246	0.349	0.528
0.300	0.000	0.000	0.000	0.000					
10	6.3	1.194	0.000	0.000	0.000	0.000	0.256	0.433	0.429
0.076	0.000	0.000	0.000	0.000					
10	6.5	1.035	0.000	0.000	0.000	0.082	0.216	0.339	0.340
0.059	0.000	0.000	0.000	0.000					
10	6.7	0.863	0.000	0.000	0.000	0.094	0.181	0.299	0.272
0.017	0.000	0.000	0.000	0.000					
10	6.9	0.711	0.000	0.000	0.000	0.066	0.200	0.248	0.197
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.557	0.000	0.000	0.000	0.046	0.172	0.276	0.063
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.420	0.000	0.000	0.000	0.050	0.137	0.220	0.013
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.178	0.000	0.000	0.003	0.024	0.061	0.091	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.014	0.000	0.000	0.000	0.002	0.006	0.005	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.001	0.001	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.52

Distance (km): 20.716464

Magnitude: 6.0712503

Epsilon (mean values): 0.69618356

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.52

Distance (km): 20.716436

Magnitude: 6.0712499

Epsilon (mean values): 0.69618302

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.5

Distance (km): 20.521427

Magnitude: 6.066831

Epsilon (mean values): 0.69059786  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.5  
Distance (km): 20.521399  
Magnitude: 6.0668306  
Epsilon (mean values): 0.69059732  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.35  
Distance (km): 20.496815  
Magnitude: 6.0640678  
Epsilon (mean values): 0.68546428  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.34  
Distance (km): 20.493496  
Magnitude: 6.0639871  
Epsilon (mean values): 0.68536123  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.34  
Distance (km): 20.328011  
Magnitude: 6.0601981  
Epsilon (mean values): 0.68057345  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.33  
Distance (km): 20.324998  
Magnitude: 6.0601238  
Epsilon (mean values): 0.68047931  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.23918083 g  
Recovered targets:  
Return period: 2543.3866 yrs  
Exceedance rate: 0.00039317656 yr<sup>-1</sup>  
Totals:  
Binned: 31.03 %  
Residual: 0 %  
Trace: 0.13 %  
Mean (over all sources):  
m: 6.11  
r: 21.4 km  
ε<sub>0</sub>: 0.53 σ



130	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	7.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005					
110	7.3	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.010					
110	7.5	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.009	0.004					
110	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
110	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
90	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
90	6.7	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.010					
90	6.9	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.013					
90	7.1	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.032	0.004					
90	7.3	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.038	0.000					
90	7.5	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.017	0.011	0.000					
90	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.005	0.000	0.000					
90	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.001	0.000	0.000					
70	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	5.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003					
70	6.1	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.016					
70	6.3	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.014	0.021					
70	6.5	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.048	0.015					
70	6.7	0.089	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.014	0.070	0.005					
70	6.9	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.051	0.046	0.000					
70	7.1	0.134	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.114	0.020	0.000					
70	7.3	0.162	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.066	0.095	0.000	0.000					



70	7.5	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.059	0.033	0.000	0.000					
70	7.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.019	0.001	0.000	0.000					
70	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.002	0.000	0.000	0.000					
50	5.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
50	5.5	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.027	0.044					
50	5.7	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.087	0.033					
50	5.9	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.013	0.117	0.025					
50	6.1	0.221	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.105	0.109	0.008					
50	6.3	0.242	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.157	0.085	0.000					
50	6.5	0.275	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.037	0.188	0.050	0.000					
50	6.7	0.288	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.105	0.179	0.004	0.000					
50	6.9	0.299	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.179	0.120	0.000	0.000					
50	7.1	0.307	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.028	0.226	0.054	0.000	0.000					
50	7.3	0.274	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.101	0.173	0.000	0.000	0.000					
50	7.5	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.086	0.063	0.000	0.000	0.000					
50	7.7	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.018	0.001	0.000	0.000	0.000					
50	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.004	0.000	0.000	0.000	0.000					
30	5.1	0.211	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.027	0.145	0.039					
30	5.3	0.555	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.052	0.310	0.152	0.041					
30	5.5	1.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.017	0.539	0.371	0.157	0.000					
30	5.7	1.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.159	0.600	0.290	0.057	0.000					
30	5.9	1.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.249	0.470	0.286	0.001	0.000					
30	6.1	0.994	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.437	0.399	0.158	0.000	0.000					
30	6.3	0.962	0.000	0.000	0.000	0.000	0.000	0.000	0.065
0.421	0.410	0.066	0.000	0.000					
30	6.5	0.809	0.000	0.000	0.000	0.000	0.000	0.000	0.111
0.411	0.284	0.002	0.000	0.000					

30	6.7	0.737	0.000	0.000	0.000	0.000	0.000	0.005	0.163
0.381	0.187	0.000	0.000	0.000					
30	6.9	0.699	0.000	0.000	0.000	0.000	0.000	0.022	0.226
0.367	0.083	0.000	0.000	0.000					
30	7.1	0.664	0.000	0.000	0.000	0.000	0.000	0.055	0.316
0.289	0.003	0.000	0.000	0.000					
30	7.3	0.639	0.000	0.000	0.000	0.000	0.000	0.067	0.382
0.190	0.000	0.000	0.000	0.000					
30	7.5	0.327	0.000	0.000	0.000	0.000	0.000	0.073	0.193
0.062	0.000	0.000	0.000	0.000					
30	7.7	0.032	0.000	0.000	0.000	0.000	0.000	0.011	0.021
0.001	0.000	0.000	0.000	0.000					
30	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.003	0.004
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.988	0.000	0.000	0.000	0.000	0.000	0.436	0.276
0.475	0.536	0.254	0.011	0.000					
10	5.3	2.431	0.000	0.000	0.000	0.000	0.288	0.309	0.623
0.623	0.548	0.040	0.000	0.000					
10	5.5	2.674	0.000	0.000	0.000	0.228	0.264	0.343	0.902
0.868	0.068	0.000	0.000	0.000					
10	5.7	2.103	0.000	0.000	0.000	0.350	0.000	0.540	0.666
0.547	0.000	0.000	0.000	0.000					
10	5.9	1.562	0.000	0.000	0.000	0.245	0.029	0.478	0.588
0.222	0.000	0.000	0.000	0.000					
10	6.1	1.720	0.000	0.000	0.000	0.173	0.338	0.532	0.512
0.165	0.000	0.000	0.000	0.000					
10	6.3	1.330	0.000	0.000	0.000	0.120	0.335	0.490	0.349
0.036	0.000	0.000	0.000	0.000					
10	6.5	1.134	0.000	0.000	0.000	0.095	0.314	0.386	0.339
0.000	0.000	0.000	0.000	0.000					
10	6.7	0.942	0.000	0.000	0.000	0.092	0.268	0.340	0.241
0.000	0.000	0.000	0.000	0.000					
10	6.9	0.753	0.000	0.000	0.000	0.078	0.244	0.311	0.120
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.583	0.000	0.000	0.000	0.055	0.212	0.286	0.031
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.434	0.000	0.000	0.000	0.044	0.175	0.210	0.005
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.182	0.000	0.000	0.000	0.032	0.072	0.078	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.014	0.000	0.000	0.000	0.003	0.007	0.004	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.000	0.001	0.002	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 4.11  
Distance (km): 21.038988  
Magnitude: 6.0922581  
Epsilon (mean values): 0.52888121

noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 4.11  
Distance (km): 21.038974  
Magnitude: 6.0922579  
Epsilon (mean values): 0.5288809  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 4.09  
Distance (km): 20.834364  
Magnitude: 6.0877962  
Epsilon (mean values): 0.52242119  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 4.09  
Distance (km): 20.83435  
Magnitude: 6.087796  
Epsilon (mean values): 0.52242088  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.75  
Distance (km): 20.806768  
Magnitude: 6.0850918  
Epsilon (mean values): 0.51638687  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.74  
Distance (km): 20.803656  
Magnitude: 6.0850172  
Epsilon (mean values): 0.51627461  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.73  
Distance (km): 20.628576  
Magnitude: 6.0811638  
Epsilon (mean values): 0.51070311  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.73  
Distance (km): 20.625783  
Magnitude: 6.0810957  
Epsilon (mean values): 0.51060107

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs





0.000	0.033	0.067	0.000	0.000					
50	7.5	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.029	0.027	0.000	0.000					
50	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.001	0.000	0.000					
50	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
30	5.1	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.012					
30	5.3	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.021	0.019					
30	5.5	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.008	0.070	0.014					
30	5.7	0.144	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.067	0.064	0.013					
30	5.9	0.205	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.017	0.123	0.053	0.013					
30	6.1	0.326	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.146	0.127	0.052	0.001					
30	6.3	0.464	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.089	0.218	0.142	0.016	0.000					
30	6.5	0.449	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.166	0.185	0.098	0.000	0.000					
30	6.7	0.384	0.000	0.000	0.000	0.000	0.000	0.000	0.010
0.134	0.172	0.069	0.000	0.000					
30	6.9	0.371	0.000	0.000	0.000	0.000	0.000	0.000	0.023
0.172	0.144	0.032	0.000	0.000					
30	7.1	0.362	0.000	0.000	0.000	0.000	0.000	0.000	0.045
0.185	0.130	0.002	0.000	0.000					
30	7.3	0.355	0.000	0.000	0.000	0.000	0.000	0.000	0.081
0.179	0.094	0.000	0.000	0.000					
30	7.5	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.056
0.095	0.032	0.000	0.000	0.000					
30	7.7	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.010	0.002	0.000	0.000	0.000					
30	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.002	0.000	0.000	0.000	0.000					
10	5.1	0.638	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.244	0.126	0.174	0.087	0.007					
10	5.3	0.807	0.000	0.000	0.000	0.000	0.000	0.000	0.137
0.228	0.238	0.162	0.041	0.000					
10	5.5	0.973	0.000	0.000	0.000	0.000	0.000	0.091	0.240
0.282	0.223	0.136	0.002	0.000					
10	5.7	0.904	0.000	0.000	0.000	0.000	0.000	0.225	0.098
0.303	0.226	0.052	0.000	0.000					
10	5.9	0.808	0.000	0.000	0.000	0.000	0.000	0.176	0.176
0.286	0.169	0.000	0.000	0.000					
10	6.1	1.127	0.000	0.000	0.000	0.000	0.162	0.264	0.336
0.268	0.097	0.000	0.000	0.000					
10	6.3	1.043	0.000	0.000	0.000	0.000	0.202	0.322	0.322

0.197	0.000	0.000	0.000	0.000					
10	6.5	0.979	0.000	0.000	0.000	0.050	0.232	0.313	0.275
0.110	0.000	0.000	0.000	0.000					
10	6.7	0.812	0.000	0.000	0.000	0.093	0.150	0.265	0.218
0.086	0.000	0.000	0.000	0.000					
10	6.9	0.647	0.000	0.000	0.000	0.065	0.152	0.202	0.215
0.013	0.000	0.000	0.000	0.000					
10	7.1	0.497	0.000	0.000	0.000	0.045	0.108	0.178	0.166
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.368	0.000	0.000	0.000	0.032	0.099	0.131	0.106
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.154	0.000	0.000	0.003	0.010	0.043	0.059	0.038
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.012	0.000	0.000	0.000	0.001	0.004	0.006	0.002
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.002	0.000	0.000	0.000	0.000	0.001	0.001	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 1.86  
 Distance (km): 17.461435  
 Magnitude: 6.2864195  
 Epsilon (mean values): 0.63498648

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 1.86  
 Distance (km): 17.461433  
 Magnitude: 6.2864194  
 Epsilon (mean values): 0.63498645

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 1.86  
 Distance (km): 17.323547  
 Magnitude: 6.2841396  
 Epsilon (mean values): 0.62979036

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 1.86  
 Distance (km): 17.323545  
 Magnitude: 6.2841396  
 Epsilon (mean values): 0.62979033

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.25  
 Distance (km): 17.260421  
 Magnitude: 6.2792895  
 Epsilon (mean values): 0.62499796

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.25  
 Distance (km): 17.258366  
 Magnitude: 6.2792379  
 Epsilon (mean values): 0.62491612

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.24

Distance (km): 17.139757  
Magnitude: 6.277277  
Epsilon (mean values): 0.62040917  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.24  
Distance (km): 17.137907  
Magnitude: 6.2772286  
Epsilon (mean values): 0.62033514  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.23918083 g  
Recovered targets:  
Return period: 2543.3866 yrs  
Exceedance rate: 0.00039317656 yr<sup>-1</sup>  
Totals:  
Binned: 23.48 %  
Residual: 0 %  
Trace: 0.14 %  
Mean (over all sources):  
m: 6.22  
r: 20.02 km  
ε<sub>0</sub>: 0.49 σ  
Mode (largest m-r bin):  
m: 5.1  
r: 10.2 km  
ε<sub>0</sub>: 0.89 σ  
Contribution: 1.82 %  
Mode (largest m-r-ε<sub>0</sub> bin):  
m: 5.09  
r: 12.35 km  
ε<sub>0</sub>: 1.23 σ  
Contribution: 0.57 %  
Discretization:  
r: min = 0.0, max = 1000.0, Δ = 20.0 km  
m: min = 4.4, max = 9.4, Δ = 0.2  
ε: min = -3.0, max = 3.0, Δ = 0.5 σ  
Epsilon keys:  
ε<sub>0</sub>: [-∞ .. -2.5)  
ε<sub>1</sub>: [-2.5 .. -2.0)  
ε<sub>2</sub>: [-2.0 .. -1.5)



$\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$	
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$
210	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
150	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
150	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.3	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000
130	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.004	0.000	0.000	0.000	0.000	0.000
130	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
130	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000
110	7.3	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.012	0.009	0.000	0.000	0.000	0.000	0.000
110	7.5	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.021	0.001	0.000	0.000	0.000	0.000	0.000

110	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.002	0.000					
110	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
90	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
90	6.9	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.009					
90	7.1	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.025	0.006					
90	7.3	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.018	0.033	0.000					
90	7.5	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.031	0.006	0.000					
90	7.7	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.004	0.000	0.000					
90	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
70	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
70	6.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.006					
70	6.5	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.012					
70	6.7	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.018	0.012					
70	6.9	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.009	0.041	0.004					
70	7.1	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.074	0.028	0.000					
70	7.3	0.159	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.058	0.098	0.003	0.000					
70	7.5	0.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.076	0.028	0.000	0.000					
70	7.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.009	0.015	0.000	0.000	0.000					
70	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004	0.001	0.000	0.000	0.000					
50	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
50	5.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
50	5.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.012					
50	5.9	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.007	0.021					
50	6.1	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.051	0.019					
50	6.3	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.021	0.070	0.012					

50	6.5	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.056	0.055	0.004					
50	6.7	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.078	0.050	0.000					
50	6.9	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.055	0.121	0.014	0.000					
50	7.1	0.249	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.016	0.148	0.085	0.000	0.000					
50	7.3	0.266	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.103	0.154	0.009	0.000	0.000					
50	7.5	0.161	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.103	0.051	0.000	0.000	0.000					
50	7.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.014	0.001	0.000	0.000	0.000					
50	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.002	0.000	0.000	0.000	0.000					
30	5.1	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.020	0.133	0.036					
30	5.3	0.287	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.122	0.135	0.030					
30	5.5	0.364	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.007	0.216	0.111	0.029					
30	5.7	0.422	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.104	0.222	0.084	0.012					
30	5.9	0.467	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.212	0.169	0.086	0.000					
30	6.1	0.585	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.093	0.276	0.187	0.028	0.000					
30	6.3	0.687	0.000	0.000	0.000	0.000	0.000	0.000	0.022
0.306	0.232	0.125	0.002	0.000					
30	6.5	0.581	0.000	0.000	0.000	0.000	0.000	0.000	0.047
0.225	0.240	0.070	0.000	0.000					
30	6.7	0.546	0.000	0.000	0.000	0.000	0.000	0.000	0.110
0.226	0.174	0.036	0.000	0.000					
30	6.9	0.620	0.000	0.000	0.000	0.000	0.000	0.037	0.197
0.246	0.140	0.000	0.000	0.000					
30	7.1	0.674	0.000	0.000	0.000	0.000	0.000	0.108	0.287
0.253	0.025	0.000	0.000	0.000					
30	7.3	0.706	0.000	0.000	0.000	0.000	0.018	0.225	0.306
0.155	0.002	0.000	0.000	0.000					
30	7.5	0.377	0.000	0.000	0.000	0.000	0.024	0.145	0.176
0.032	0.000	0.000	0.000	0.000					
30	7.7	0.039	0.000	0.000	0.000	0.000	0.006	0.017	0.014
0.001	0.000	0.000	0.000	0.000					
30	7.9	0.008	0.000	0.000	0.000	0.000	0.002	0.005	0.001
0.000	0.000	0.000	0.000	0.000					
10	5.1	1.815	0.000	0.000	0.000	0.000	0.000	0.000	0.532
0.421	0.568	0.287	0.007	0.000					
10	5.3	1.769	0.000	0.000	0.000	0.000	0.000	0.372	0.253
0.537	0.485	0.123	0.000	0.000					

10	5.5	1.603	0.000	0.000	0.000	0.000	0.000	0.355	0.288
0.564	0.385	0.011	0.000	0.000					
10	5.7	1.387	0.000	0.000	0.000	0.000	0.044	0.261	0.476
0.433	0.173	0.000	0.000	0.000					
10	5.9	1.175	0.000	0.000	0.000	0.000	0.207	0.125	0.417
0.386	0.040	0.000	0.000	0.000					
10	6.1	1.496	0.000	0.000	0.000	0.000	0.272	0.478	0.480
0.265	0.000	0.000	0.000	0.000					
10	6.3	1.284	0.000	0.000	0.000	0.096	0.328	0.447	0.348
0.065	0.000	0.000	0.000	0.000					
10	6.5	1.147	0.000	0.000	0.041	0.135	0.315	0.326	0.281
0.049	0.000	0.000	0.000	0.000					
10	6.7	0.976	0.000	0.000	0.062	0.144	0.283	0.257	0.221
0.009	0.000	0.000	0.000	0.000					
10	6.9	0.821	0.000	0.007	0.050	0.134	0.275	0.282	0.073
0.000	0.000	0.000	0.000	0.000					
10	7.1	0.656	0.000	0.010	0.034	0.154	0.246	0.204	0.007
0.000	0.000	0.000	0.000	0.000					
10	7.3	0.497	0.000	0.010	0.045	0.140	0.202	0.099	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.210	0.000	0.006	0.020	0.071	0.089	0.024	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.017	0.000	0.001	0.003	0.007	0.006	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.003	0.000	0.000	0.001	0.002	0.001	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.09  
 Distance (km): 19.44711  
 Magnitude: 6.2004203  
 Epsilon (mean values): 0.49173611

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.09  
 Distance (km): 19.447046  
 Magnitude: 6.2004195  
 Epsilon (mean values): 0.49173485

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.08  
 Distance (km): 19.274474  
 Magnitude: 6.1968942  
 Epsilon (mean values): 0.48607165

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.08  
 Distance (km): 19.274409  
 Magnitude: 6.1968935  
 Epsilon (mean values): 0.48607038

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.07  
 Distance (km): 19.25795

Magnitude: 6.1924708  
Epsilon (mean values): 0.48289157  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.07  
Distance (km): 19.254658  
Magnitude: 6.1923885  
Epsilon (mean values): 0.48279236  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.06  
Distance (km): 19.109593  
Magnitude: 6.189399  
Epsilon (mean values): 0.47795816  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.06  
Distance (km): 19.106561  
Magnitude: 6.1893216  
Epsilon (mean values): 0.47786764  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.23918083 g  
Recovered targets:  
Return period: 2543.3866 yrs  
Exceedance rate: 0.00039317656 yr<sup>-1</sup>  
Totals:  
Binned: 0 %  
Residual: 0 %  
Trace: 0 %  
Mean (over all sources):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Mode (largest m-r bin):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Contribution: 0 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$

Contribution: 0 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty \dots -2.5)$

$\epsilon_1$ :  $[-2.5 \dots -2.0)$

$\epsilon_2$ :  $[-2.0 \dots -1.5)$

$\epsilon_3$ :  $[-1.5 \dots -1.0)$

$\epsilon_4$ :  $[-1.0 \dots -0.5)$

$\epsilon_5$ :  $[-0.5 \dots 0.0)$

$\epsilon_6$ :  $[0.0 \dots 0.5)$

$\epsilon_7$ :  $[0.5 \dots 1.0)$

$\epsilon_8$ :  $[1.0 \dots 1.5)$

$\epsilon_9$ :  $[1.5 \dots 2.0)$

$\epsilon_{10}$ :  $[2.0 \dots 2.5)$

$\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$
$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs

Exceedance rate: 0.00039317656 yr<sup>-1</sup>

Totals:

Binned: 4.27 %

Residual: 0 %

Trace: 0.02 %

Mean (over all sources):

m: 8.99

r: 332.99 km

$\epsilon_0$ : 1.91  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 308.17 km

$\epsilon_0$ : 1.52  $\sigma$   
 Contribution: 1.02 %  
 Mode (largest m-r- $\epsilon_0$  bin):  
 m: 9.34  
 r: 308.17 km  
 $\epsilon_0$ : 1.52  $\sigma$   
 Contribution: 1.02 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

- $\epsilon_0$ : [- $\infty$  .. -2.5)
- $\epsilon_1$ : [-2.5 .. -2.0)
- $\epsilon_2$ : [-2.0 .. -1.5)
- $\epsilon_3$ : [-1.5 .. -1.0)
- $\epsilon_4$ : [-1.0 .. -0.5)
- $\epsilon_5$ : [-0.5 .. 0.0)
- $\epsilon_6$ : [0.0 .. 0.5)
- $\epsilon_7$ : [0.5 .. 1.0)
- $\epsilon_8$ : [1.0 .. 1.5)
- $\epsilon_9$ : [1.5 .. 2.0)
- $\epsilon_{10}$ : [2.0 .. 2.5)
- $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	
450	8.5	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
430	8.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
430	8.5	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000
410	8.1	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.3	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
410	8.5	0.003	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.003	0.000	0.000
390	7.9	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000
390	8.1	0.002	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.000	0.000
390	8.3	0.023	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.023	0.000	0.000
390	8.5	0.036	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.033	0.000	0.000
390	8.7	0.182	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.182	0.000	0.000	0.000
390	9.1	0.148	0.000	0.000	0.000	0.000





0.000 0.000 1.021 0.000 0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 2.14  
Distance (km): 308.17316  
Magnitude: 9.1309914  
Epsilon (mean values): 1.6619011

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.14  
Distance (km): 308.17316  
Magnitude: 9.1309914  
Epsilon (mean values): 1.6619011  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 1.22  
Distance (km): 361.47413  
Magnitude: 8.9446817  
Epsilon (mean values): 2.1010198

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.22  
Distance (km): 361.47413  
Magnitude: 8.9446817  
Epsilon (mean values): 2.1010198  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs  
Exceedance rate: 0.00039317656 yr<sup>-1</sup>

Totals:

Binned: 0.28 %  
Residual: 0 %  
Trace: 0.07 %

Mean (over all sources):

m: 7.26

r: 233.78 km  
 $\epsilon_0$ : 2.24  $\sigma$   
Mode (largest m-r bin):  
m: 7.11  
r: 229.9 km  
 $\epsilon_0$ : 2.43  $\sigma$   
Contribution: 0.04 %

Mode (largest m-r- $\epsilon_0$  bin):  
m: 7.13  
r: 228.4 km  
 $\epsilon_0$ : 2.37  $\sigma$   
Contribution: 0.03 %

Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon=(-\infty, -2.5)$	$\epsilon=[-2.5, -2)$	
$\epsilon=[-2, -1.5)$	$\epsilon=[-1.5, -1)$	$\epsilon=[-1, -0.5)$	$\epsilon=[-0.5, 0)$	$\epsilon=[1.5, 2)$	$\epsilon=[-0.5, 0)$	$\epsilon=[-0.5, 0)$	$\epsilon=[0, 0.5)$	$\epsilon=[2.5, \infty)$	
$\epsilon=[0.5, 1)$	$\epsilon=[1, 1.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[1.5, 2)$	$\epsilon=[2, 2.5)$	$\epsilon=[2, 2.5)$	$\epsilon=[2.5, \infty)$	$\epsilon=[2.5, \infty)$	
290	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
290	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
270	7.1	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000
270	7.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.006	0.000	0.000	0.000	0.000	0.000
270	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000

250	7.1	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.030					
250	7.3	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.012	0.001					
250	7.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.008	0.000					
250	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					
250	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
230	6.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
230	7.1	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.031	0.012					
230	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.008	0.000					
230	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.001	0.000					
230	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.000	0.000					
230	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.001	0.000	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.006					
210	7.1	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.029	0.000					
210	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.001	0.000					
210	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.006	0.000	0.000					
210	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
210	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.000	0.000	0.000					
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
190	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
190	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.002	0.000					
190	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
190	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					



130	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Interface  
 Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs  
 Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
 PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs  
 Exceedance rate: 0.00039317656 yr<sup>-1</sup>

Totals:

Binned: 0.32 %  
 Residual: 0 %  
 Trace: 0 %

Mean (over all sources):

m: 9.22  
 r: 308.23 km  
 ε<sub>0</sub>: 2.31 σ

Mode (largest m-r bin):

m: 9.34  
 r: 308.17 km  
 ε<sub>0</sub>: 2.18 σ  
 Contribution: 0.22 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34  
 r: 308.17 km  
 ε<sub>0</sub>: 2.18 σ  
 Contribution: 0.22 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞)

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)
ε=[-2, -1.5)	ε=[-1.5, -1)	ε=[-1, -0.5)	ε=[-0.5, 0)	ε=[-0.5, 0)	ε=[0, 0.5)	
ε=[0.5, 1)	ε=[1, 1.5)	ε=[1.5, 2)	ε=[2, 2.5)	ε=[2, 2.5)	ε=[2.5, ∞)	
330	8.9	0.001	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001		
310	8.7	0.001	0.000	0.000	0.000	0.000

0.000	0.000	0.000	0.000	0.001					
310	8.9	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.031					
310	9.1	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.005	0.066					
310	9.3	0.217	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.217	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs

Exceedance rate: 0.00039317656 yr<sup>-1</sup>

Totals:

Binned: 0.01 %

Residual: 0 %

Trace: 0.05 %

Mean (over all sources):

m: 7.77

r: 204.93 km

ε<sub>0</sub>: 1.95 σ

Mode (largest m-r bin):

m: 7.91

r: 209.56 km

ε<sub>0</sub>: 1.75 σ

Contribution: 0 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.91

r: 209.49 km

ε<sub>0</sub>: 1.74 σ

Contribution: 0 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
270	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
270	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
250	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
230	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.000					
210	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
190	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
170	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					





110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Grid

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs

Exceedance rate: 0.00039317656 yr<sup>-1</sup>

Totals:

Binned: 94.32 %

Residual: 0 %

Trace: 0.2 %

Mean (over all sources):

m: 6.15

r: 20.06 km

ε<sub>0</sub>: 0.57 σ

Mode (largest m-r bin):

m: 5.3

r: 10.81 km

ε<sub>0</sub>: 0.63 σ

Contribution: 7.19 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.5

r: 13.56 km

ε<sub>0</sub>: 0.73 σ







1.112	1.028	0.198	0.000	0.000					
30	6.7	2.228	0.000	0.000	0.000	0.000	0.000	0.005	0.324
1.026	0.766	0.107	0.000	0.000					
30	6.9	2.258	0.000	0.000	0.000	0.000	0.000	0.059	0.565
1.088	0.515	0.032	0.000	0.000					
30	7.1	2.264	0.000	0.000	0.000	0.000	0.000	0.164	0.876
1.035	0.188	0.002	0.000	0.000					
30	7.3	2.264	0.000	0.000	0.000	0.000	0.018	0.304	1.077
0.769	0.096	0.000	0.000	0.000					
30	7.5	1.185	0.000	0.000	0.000	0.000	0.024	0.253	0.609
0.267	0.032	0.000	0.000	0.000					
30	7.7	0.120	0.000	0.000	0.000	0.000	0.006	0.035	0.064
0.013	0.002	0.000	0.000	0.000					
30	7.9	0.026	0.000	0.000	0.000	0.000	0.002	0.011	0.011
0.002	0.000	0.000	0.000	0.000					
10	5.1	7.097	0.000	0.000	0.000	0.000	0.000	1.081	1.125
1.863	2.083	0.835	0.105	0.007					
10	5.3	7.192	0.000	0.000	0.000	0.000	0.288	1.168	1.312
2.180	1.870	0.333	0.041	0.000					
10	5.5	7.043	0.000	0.000	0.000	0.228	0.264	1.154	1.791
2.402	1.055	0.146	0.002	0.000					
10	5.7	5.856	0.000	0.000	0.000	0.350	0.130	1.277	1.659
1.839	0.548	0.052	0.000	0.000					
10	5.9	4.727	0.000	0.000	0.000	0.245	0.442	0.881	1.592
1.337	0.231	0.000	0.000	0.000					
10	6.1	5.766	0.000	0.000	0.000	0.173	1.017	1.624	1.857
0.998	0.097	0.000	0.000	0.000					
10	6.3	4.852	0.000	0.000	0.000	0.216	1.121	1.693	1.447
0.375	0.000	0.000	0.000	0.000					
10	6.5	4.295	0.000	0.000	0.041	0.362	1.078	1.363	1.235
0.217	0.000	0.000	0.000	0.000					
10	6.7	3.593	0.000	0.000	0.062	0.423	0.882	1.161	0.952
0.112	0.000	0.000	0.000	0.000					
10	6.9	2.931	0.000	0.007	0.050	0.343	0.871	1.042	0.604
0.013	0.000	0.000	0.000	0.000					
10	7.1	2.293	0.000	0.010	0.034	0.301	0.738	0.943	0.266
0.000	0.000	0.000	0.000	0.000					
10	7.3	1.718	0.000	0.010	0.045	0.266	0.613	0.659	0.125
0.000	0.000	0.000	0.000	0.000					
10	7.5	0.724	0.000	0.006	0.026	0.136	0.265	0.252	0.038
0.000	0.000	0.000	0.000	0.000					
10	7.7	0.057	0.000	0.001	0.003	0.013	0.024	0.016	0.002
0.000	0.000	0.000	0.000	0.000					
10	7.9	0.012	0.000	0.000	0.001	0.003	0.005	0.002	0.000
0.000	0.000	0.000	0.000	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 12.59

Distance (km): 20.027829

Magnitude: 6.1417279

Epsilon (mean values): 0.58219957  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.42  
Distance (km): 10.272861  
Magnitude: 5.8157071  
Epsilon (mean values): 0.14986318  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.25  
Distance (km): 5.2763564  
Magnitude: 5.6407563  
Epsilon (mean values): -0.46425568  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 12.59  
Distance (km): 20.0278  
Magnitude: 6.1417276  
Epsilon (mean values): 0.58219901  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.42  
Distance (km): 10.272861  
Magnitude: 5.8157071  
Epsilon (mean values): 0.14986318  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.25  
Distance (km): 5.2763564  
Magnitude: 5.6407563  
Epsilon (mean values): -0.46425568  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.53  
Distance (km): 19.842853  
Magnitude: 6.1378796  
Epsilon (mean values): 0.57636951  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.42  
Distance (km): 10.272861  
Magnitude: 5.8157071  
Epsilon (mean values): 0.14986318  
Azimuth: 0  
Latitude: 45.697435

Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.25  
Distance (km): 5.2763564  
Magnitude: 5.6407563  
Epsilon (mean values): -0.46425568  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 12.53  
Distance (km): 19.842824  
Magnitude: 6.1378792  
Epsilon (mean values): 0.57636895  
PointSourceFinite: -119.584, 45.697:  
Percent Contributed: 1.42  
Distance (km): 10.272861  
Magnitude: 5.8157071  
Epsilon (mean values): 0.14986318  
Azimuth: 0  
Latitude: 45.697435  
Longitude: -119.584  
PointSourceFinite: -119.584, 45.625:  
Percent Contributed: 1.25  
Distance (km): 5.2763564  
Magnitude: 5.6407563  
Epsilon (mean values): -0.46425568  
Azimuth: 0  
Latitude: 45.62549  
Longitude: -119.584  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.41  
Distance (km): 19.812841  
Magnitude: 6.134462  
Epsilon (mean values): 0.57147232  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.4  
Distance (km): 19.80977  
Magnitude: 6.134388  
Epsilon (mean values): 0.57137047  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.38  
Distance (km): 19.652474  
Magnitude: 6.1310878  
Epsilon (mean values): 0.56636004  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.37  
Distance (km): 19.649689  
Magnitude: 6.1310193  
Epsilon (mean values): 0.56626731



WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.11  
Distance (km): 21.81981  
Magnitude: 6.2707025  
Epsilon (mean values): 0.56813838  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 3.11  
Distance (km): 21.818866  
Magnitude: 6.2706912  
Epsilon (mean values): 0.56812438  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.07  
Distance (km): 21.609283  
Magnitude: 6.2620429  
Epsilon (mean values): 0.55837717  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.07  
Distance (km): 21.603574  
Magnitude: 6.2618988  
Epsilon (mean values): 0.55823539  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.584°W  
latitude: 45.612°E  
imt: Peak Ground Acceleration  
vs30 = 259 m/s (Site class D)  
return period: 2475 yrs.  
#This deaggregation corresponds to: Source Type: Slab  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.23918083 g  
Recovered targets:  
Return period: 2543.3866 yrs  
Exceedance rate: 0.00039317656 yr<sup>-1</sup>  
Totals:  
Binned: 0.28 %  
Residual: 0 %  
Trace: 0.16 %  
Mean (over all sources):  
m: 7.27  
r: 233.27 km  
 $\epsilon_0$ : 2.23  $\sigma$   
Mode (largest m-r bin):  
m: 7.11  
r: 229.9 km  
 $\epsilon_0$ : 2.43  $\sigma$   
Contribution: 0.04 %  
Mode (largest m-r- $\epsilon_0$  bin):

m: 7.13  
 r: 228.4 km  
 $\epsilon_0$ : 2.37  $\sigma$   
 Contribution: 0.03 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty \dots -2.5)$   
 $\epsilon_1$ :  $[-2.5 \dots -2.0)$   
 $\epsilon_2$ :  $[-2.0 \dots -1.5)$   
 $\epsilon_3$ :  $[-1.5 \dots -1.0)$   
 $\epsilon_4$ :  $[-1.0 \dots -0.5)$   
 $\epsilon_5$ :  $[-0.5 \dots 0.0)$   
 $\epsilon_6$ :  $[0.0 \dots 0.5)$   
 $\epsilon_7$ :  $[0.5 \dots 1.0)$   
 $\epsilon_8$ :  $[1.0 \dots 1.5)$   
 $\epsilon_9$ :  $[1.5 \dots 2.0)$   
 $\epsilon_{10}$ :  $[2.0 \dots 2.5)$   
 $\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ $\epsilon$	$\epsilon = (-\infty, -2.5)$	$\epsilon = [-2.5, -2)$	
$\epsilon = [-2, -1.5)$	$\epsilon = [-1.5, -1)$	$\epsilon = [-1, -0.5)$	$\epsilon = [-0.5, 0)$	$\epsilon = [0, 0.5)$	$\epsilon = [0.5, 1)$	$\epsilon = [1, 1.5)$	$\epsilon = [1.5, 2)$	$\epsilon = [2, 2.5)$	$\epsilon = [2.5, \infty)$
290	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
290	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
270	7.1	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.014					
270	7.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.006					
270	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.011	0.000					
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.001	0.000					
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.000	0.000					
250	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
250	7.1	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.006	0.030					
250	7.3	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.012	0.001					
250	7.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.008	0.000					
250	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.000	0.000					

250	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.004	0.000	0.000					
230	6.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.008					
230	7.1	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.031	0.012					
230	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.008	0.000					
230	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.010	0.001	0.000					
230	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.002	0.000	0.000					
230	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.002	0.001	0.000					
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.006					
210	7.1	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.001	0.029	0.000					
210	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.007	0.001	0.000					
210	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.006	0.000	0.000					
210	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
210	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.003	0.001	0.000	0.000					
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
190	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
190	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.002	0.000					
190	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
190	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.002	0.000	0.000	0.000					
190	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.001	0.000	0.000	0.000					
190	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001	0.001	0.000	0.000	0.000					
170	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
170	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					



130	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs





0.000	0.000	0.000	0.011	0.000					
310	8.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.000					
310	8.5	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.059	0.000					
310	8.7	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.065	0.026	0.001					
310	8.9	0.554	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.523	0.000	0.031					
310	9.1	0.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.669	0.005	0.066					
310	9.3	1.238	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	1.021	0.217	0.000					

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 2.45  
Distance (km): 308.17316  
Magnitude: 9.1430242  
Epsilon (mean values): 1.7433173

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.45  
Distance (km): 308.17316  
Magnitude: 9.1430242  
Epsilon (mean values): 1.7433173  
Azimuth: 285.86185  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 1.22  
Distance (km): 361.47413  
Magnitude: 8.9446817  
Epsilon (mean values): 2.1010198

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.22  
Distance (km): 361.47413  
Magnitude: 8.9446817  
Epsilon (mean values): 2.1010198  
Azimuth: 283.89391  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.584°W

latitude: 45.612°E

imt: Peak Ground Acceleration

vs30 = 259 m/s (Site class D)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:



Return period: 2475 yrs  
 Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
 PGA ground motion: 0.23918083 g

Recovered targets:

Return period: 2543.3866 yrs  
 Exceedance rate: 0.00039317656 yr<sup>-1</sup>

Totals:

Binned: 0.81 %  
 Residual: 0 %  
 Trace: 0.02 %

Mean (over all sources):

m: 7.12  
 r: 63.7 km  
 ε<sub>0</sub>: 1.77 σ

Mode (largest m-r bin):

m: 7.33  
 r: 62.01 km  
 ε<sub>0</sub>: 1.52 σ  
 Contribution: 0.13 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.1  
 r: 62.25 km  
 ε<sub>0</sub>: 1.74 σ  
 Contribution: 0.08 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

- ε<sub>0</sub>: [-∞ .. -2.5)
- ε<sub>1</sub>: [-2.5 .. -2.0)
- ε<sub>2</sub>: [-2.0 .. -1.5)
- ε<sub>3</sub>: [-1.5 .. -1.0)
- ε<sub>4</sub>: [-1.0 .. -0.5)
- ε<sub>5</sub>: [-0.5 .. 0.0)
- ε<sub>6</sub>: [0.0 .. 0.5)
- ε<sub>7</sub>: [0.5 .. 1.0)
- ε<sub>8</sub>: [1.0 .. 1.5)
- ε<sub>9</sub>: [1.5 .. 2.0)
- ε<sub>10</sub>: [2.0 .. 2.5)
- ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)				Magnitude (Mw)		ALL_ε	ε=(-∞, -2.5)	ε=[-2.5, -2)	
ε=[-2, -1.5)		ε=[-1.5, -1)		ε=[-1, -0.5)		ε=[-0.5, 0)	ε=[0, 0.5)		
ε=[0.5, 1)		ε=[1, 1.5)		ε=[1.5, 2)		ε=[2, 2.5)	ε=[2.5, ∞)		
130	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
130	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
130	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					

110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
110	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.001					
110	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.001	0.008					
110	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.008	0.003					
110	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.000					
90	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
90	6.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.002					
90	6.9	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.007					
90	7.1	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.016	0.002					
90	7.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.010	0.001					
90	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.002	0.000	0.000					
70	6.5	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.016	0.005					
70	6.7	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.012	0.041	0.003					
70	6.9	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.021	0.014	0.000					
70	7.1	0.096	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.084	0.011	0.000					
70	7.3	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.068	0.053	0.004	0.000					
70	7.5	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.074	0.008	0.000	0.000					
70	7.7	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005	0.023	0.003	0.000	0.000					
70	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002	0.001	0.000	0.000	0.000					
50	6.5	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.021	0.002					
50	6.7	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.034	0.028	0.000					
50	6.9	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.066	0.013	0.000					
50	7.1	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.011	0.061	0.007	0.000					
50	7.3	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.030	0.010	0.000	0.000					

50 7.5 0.006 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
0.000 0.005 0.001 0.000 0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

# **Attachment H-4. Ground Response Spectra Assessment (Site Class D)**



# ASCE 7 Hazards Report

**Address:**  
No Address at This Location

**Standard:** ASCE/SEI 7-22  
**Risk Category:** I  
**Soil Class:** D - Stiff Soil

**Latitude:** 45.6033  
**Longitude:** -119.555  
**Elevation:** 0 ft (NAVD 88)

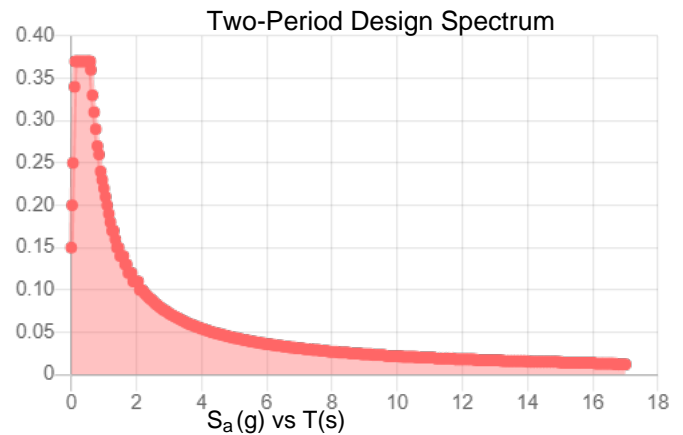
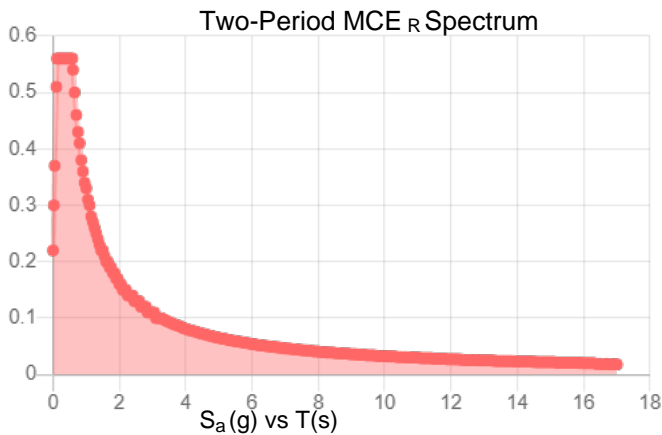
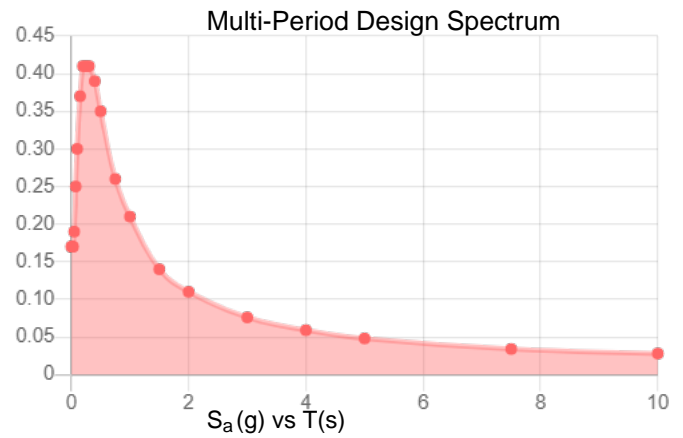
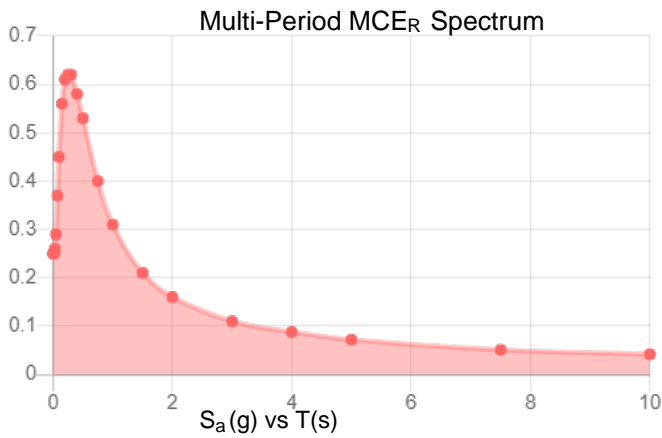


**Site Soil Class:**

**Results:**

PGA <sub>M</sub> :	0.23	T <sub>L</sub> :	16
S <sub>MS</sub> :	0.56	S <sub>s</sub> :	0.4
S <sub>M1</sub> :	0.33	S <sub>1</sub> :	0.12
S <sub>DS</sub> :	0.37	V <sub>S30</sub> :	260
S <sub>D1</sub> :	0.22		

**Seismic Design Category: D**



MCE<sub>R</sub> Vertical Response Spectrum  
Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum  
Vertical ground motion data has not yet been made available by USGS.



**Data Accessed:** Tue Mar 07 2023

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.**

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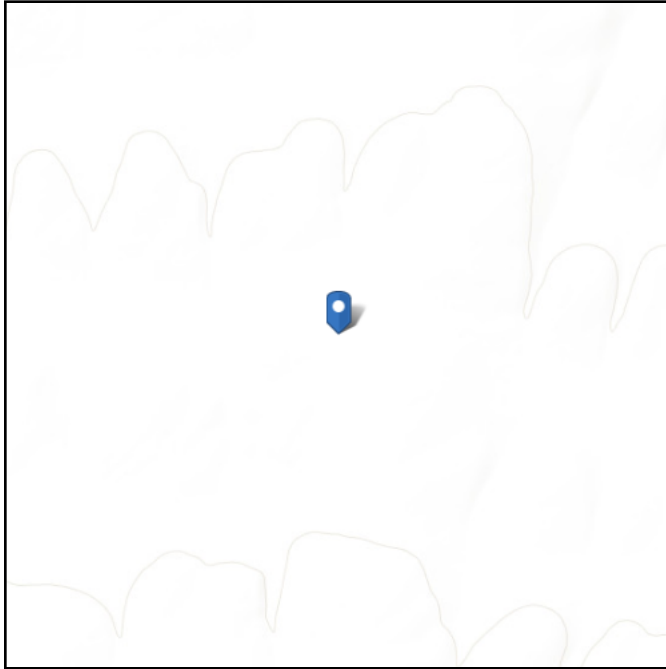


# ASCE 7 Hazards Report

**Address:**  
No Address at This Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** I  
**Soil Class:** D - Stiff Soil

**Latitude:** 45.6033  
**Longitude:** -119.555  
**Elevation:** 0 ft (NAVD 88)

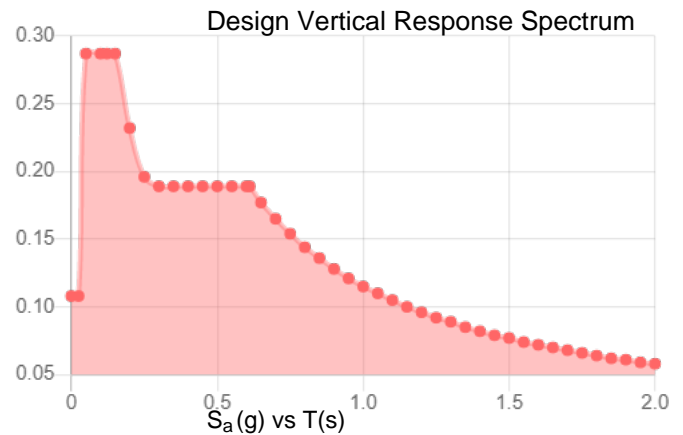
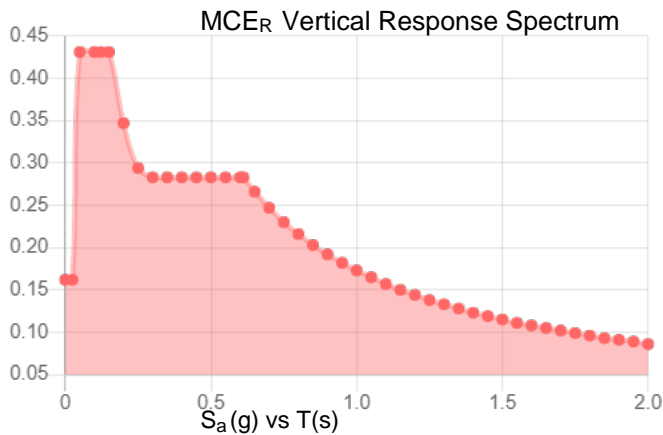
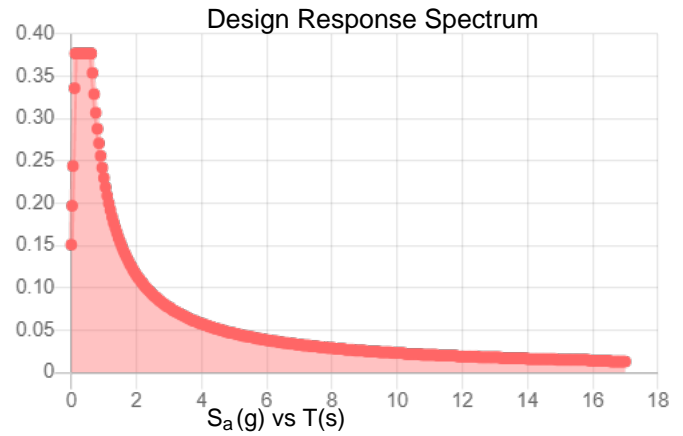
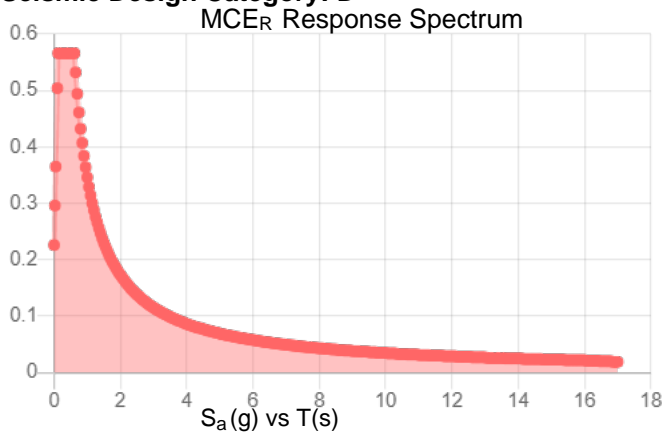


**Site Soil Class:**

**Results:**

$S_s$ :	0.378	$S_{D1}$ :	0.23
$S_1$ :	0.15	$T_L$ :	16
$F_a$ :	1.498	PGA :	0.169
$F_v$ :	2.299	PGA <sub>M</sub> :	0.247
$S_{MS}$ :	0.566	$F_{PGA}$ :	1.462
$S_{M1}$ :	0.346	$I_e$ :	1
$S_{DS}$ :	0.377	$C_v$ :	0.952

**Seismic Design Category: D**



**Data Accessed:**

**Tue Mar 07 2023**

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**

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# ASCE 7 Hazards Report

**Address:**  
No Address at This Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** I  
**Soil Class:** D - Stiff Soil

**Latitude:** 45.6033  
**Longitude:** -119.555  
**Elevation:** 0 ft (NAVD 88)

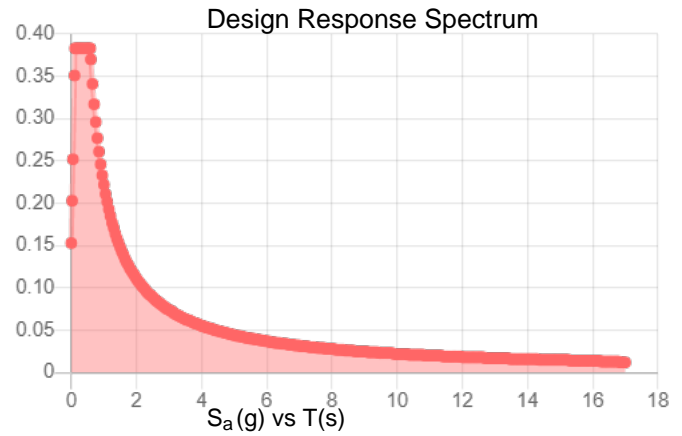
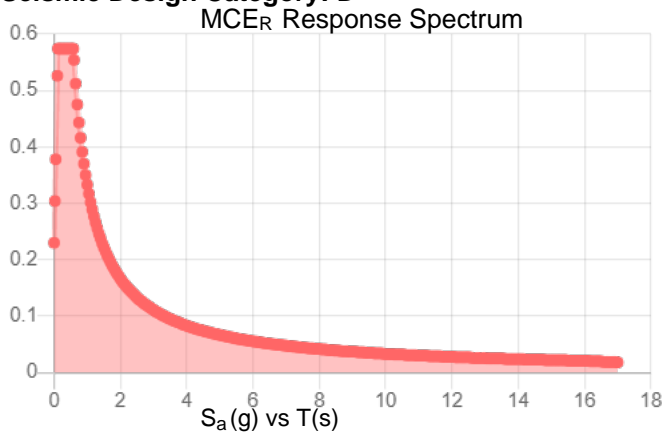


**Site Soil Class:**

**Results:**

$S_S$ :	0.384	$S_{D1}$ :	0.222
$S_1$ :	0.152	$T_L$ :	16
$F_a$ :	1.492	PGA :	0.162
$F_v$ :	2.193	PGA <sub>M</sub> :	0.239
$S_{MS}$ :	0.574	$F_{PGA}$ :	1.477
$S_{M1}$ :	0.333	$I_e$ :	1
$S_{DS}$ :	0.383		

**Seismic Design Category: D**



**Data Accessed:** Tue Mar 07 2023

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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