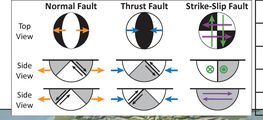
Earthquake Report: 2020.03.25

M 7.5 Kamchatka Trench (& USGS Seismicity 1920-2020 M ≥ 7)



SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
DAMAGE	None	None	None	Very light	Light	Moderate	Moderate/heavy	Heavy	Very heavy
PGA(%g)	<0.05	0.3	2.76	6.2	11.5	21.5	40.1	74.7	>139
PGV(cm/s)	<0.02	0.13	1.41	4.65	9.64	20	41.4	85.8	>178
INTENSITY	1	2-3	4	5	6	7	8	9	10+

Intensity (USGS)
MMI
I (Not Felt)
II - III (Weak)
IV (Light)
V (Moderate)
VI (Strong)
VII (Very Strong)
VIII (Severe)
IX (Violent)
X+ (Extreme)

Earthquake Intensity

MMI 3
MMI 4
MMI 5
6
0 75 150 300 km

A
OKHOTSK PLATE
KOMANDORSKY PLATE
PACIFIC PLATE
SR
CKD
EVB
Shs
Sh
Z-Kh
Kl
T
N
SLAB EDGE
Figs. 2 and 3
59° N
168° E
159° E
55° N
100 km
Depth to slab
500 400 300 180 140 100 80 60 40
Kuril-Kamchatka Trench
Emperor Seamounts
Aleutian Trench

B
165°
153°
50°
57°
3-D view
SLAB EDGE
40 80 120 160 200 300 400 500

Portnyagin and Manea, 2008
doi: 10.1130/G24636A.1

Okhotsk plate
Bering-Kresla Shear Zone
North America plate
Pacific plate
Kamchatka Trench
Aleutian Trench
Kuril Trench

NOAA Dart Buoy Station 21415
Seismic Wave (not tsunami)
12 cm
Tsunami Wave
2 cm
Earthquake Source Time (UTC): 02:51
Seismic Wave Arrival Time (UTC): 03:39
Tsunami Wave Arrival Time (UTC): 05:01
4805.1
4805.0
Water Height (m)
3:00 3:28 3:57 4:26 4:55 5:24 5:52
Time (UTC)

2020.03.25
M 7.5
~1,000 km
DART II Buoy Station 21415

25 March 2020 M 7.5

Seismicity (USGS 3 month)
0.0 - 2.0
2.1 - 3.0
3.1 - 4.0
4.1 - 5.0
5.1 - 6.0
6.1 - 7.0
7.1 - 7.5

Seismicity (USGS 100 year)
7.0 - 7.5
7.6 - 8.0
8.1 - 8.5
8.6 - 9.1

Fault
GEM

Total Intensity Anomaly (nT)
-200 -150 -100 -50 0 50 100 150 200

Depth to Slab (km)
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700

Elevation: GMRT - Ryan et al. (2009)
Faults: Global Earthquake Model (GEM)

GEM GLOBAL EARTHQUAKE MODEL working together to assess risk

0 50 100 200 Miles
0 75 150 300 Kilometers

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USGS science for a changing world

PROFILE B
Rhea et al., 2010

OF OKHOTSK
PACIFIC OCEAN
KURILE ISLANDS
TRENCH
Paramushir
Onekotan