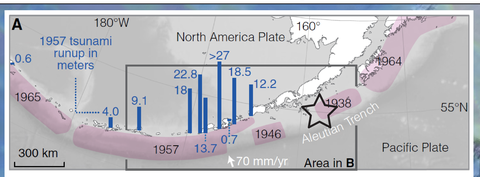
Earthquake Report: 2020.07.22

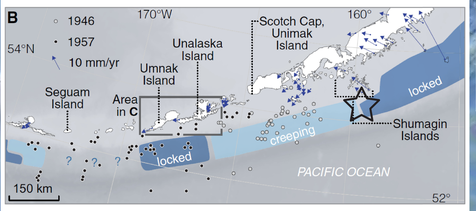
M 7.8 Alaska (& USGS Seismicity 1920-2020 M ≥ 7.5)

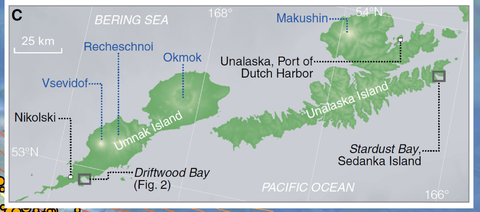
SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
DAMAGE	None	None	None	Very light	Light	Moderate	Moderate/heavy	Heavy	Very heavy
PGA(%g)	<0.05	0.3	2.76	6.2	11.5	21.5	40.1	74.7	>139
PGV(cm/s)	<0.02	0.13	1.41	4.65	9.64	20	41.4	85.8	>178
INTENSITY	1	2-3	4	5	6	7	8	9	10+

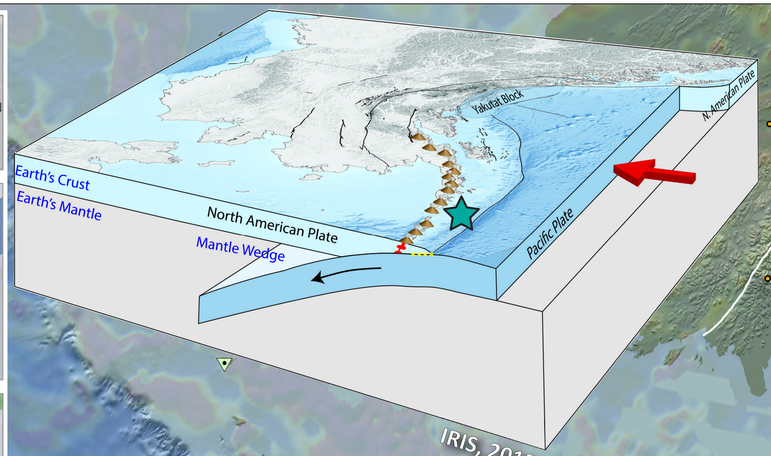
Normal Fault | Thrust Fault | Strike-Slip Fault

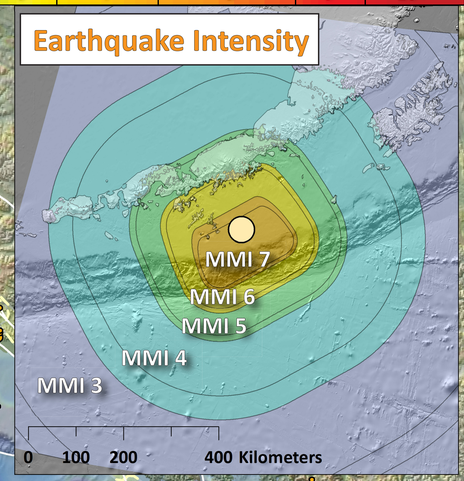
Top View / Side View / Side View











North America plate

1964.03.27
M 9.2

1964
M 9.2

Alaska trench

Queen Charlotte/Fairweather fault

Witter et al., 2019

1996
M 8.0

1986
M 8.6

1957
M 8.6

1946
M 8.6

Aleutian trench

Dutch Harbor

Sand Point

1938
M 8.2

Pacific plate

2018.01.23
M 7.9

2020.07.22
M 7.8

22 July '20 M 7.8

Seismicity (USGS - 3 month)
Magnitude
1.5 - 2.5
2.6 - 3.5
3.6 - 4.5
4.6 - 5.5
5.6 - 6.5
6.6 - 7.8

Topography: Ryan et al., 2009
doi: 10.1594/IEDA.100001

Seismicity (USGS - 1 century)
Magnitude
7.5 - 8.0
8.1 - 8.5
8.6 - 9.2
Sea Level Sensor
Fault (USGS)
Historic Slip (Haeussler, USGS)

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

Liquefaction Susceptibility
Zhu et al. (2017)
0% - 0.5%
0.6% - 1%
1.1% - 2%
2.1% - 5%
5.1% - 10%
10.1% - 20%
20.1% - 50%

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

0 75 150 300 Miles
0 125 250 500 Kilometers

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

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USGS science for a changing world

