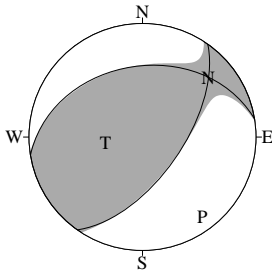


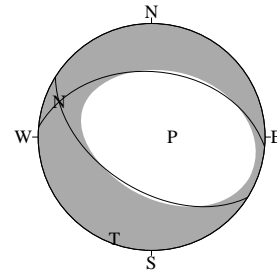
CMT SOLUTIONS FOR EARTHQUAKES IN DECEMBER, 2019

2019/12/03 10:18: 4.6
SW IBARAKI PREF
Hypo.:36° 8.5'N 139°49.0'E 52km



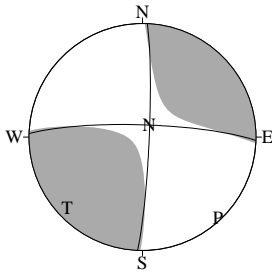
Cent.:36° 9.9'N 139°49.2'E 53km $\Delta t = 0.6$
Mo: 1.54×10^{16} N·m Mw:4.7 Mj:4.7 (sec)
mrr: 1.13 mtt:-0.93 mff:-0.20
mrt: 0.21 mrf: 0.78 mtf:-0.79 ($\times 10^{16}$ N·m)
STR DIP SLIP MOM AZM PLG
NP1: 35° 62° 64° P-axis:-1.58 143° 13°
NP2:261° 38° 129° T-axis: 1.50 261° 63°
N-axis: 0.08 48° 23°
V.R.: 71% ϵ :-0.05 N:17 COMP:29

2019/12/04 10:38:53.1
NORTHERN IBARAKI PREF
Hypo.:36°48.5'N 140°32.3'E 9km



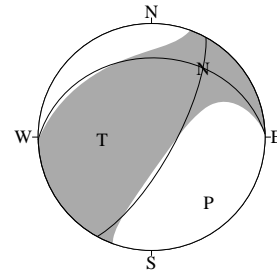
Cent.:36°48.5'N 140°32.2'E 10km $\Delta t = 0.5$
Mo: 7.89×10^{15} N·m Mw:4.5 Mj:4.9 (sec)
mrr:-7.84 mtt: 6.55 mff: 1.28
mrt:-0.47 mrf: 2.57 mtf:-1.90 ($\times 10^{15}$ N·m)
STR DIP SLIP MOM AZM PLG
NP1:122° 51° -72° P-axis:-8.51 90° 75°
NP2:275° 42° -111° T-axis: 7.27 200° 5°
N-axis: 1.24 291° 14°
V.R.: 79% ϵ :-0.15 N:34 COMP:45

2019/12/04 19:35: 5.2
NORTHERN TOCHIGI PREF
Hypo.:36°57.2'N 139°40.8'E 7km



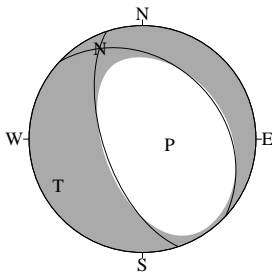
Cent.:36°56.8'N 139°40.9'E 10km $\Delta t = 1.8$
Mo: 1.02×10^{16} N·m Mw:4.6 Mj:4.8 (sec)
mrr:-0.07 mtt:-0.04 mff: 0.11
mrt:-0.10 mrf: 0.17 mtf:-1.00 ($\times 10^{16}$ N·m)
STR DIP SLIP MOM AZM PLG
NP1: 3° 85° 9° P-axis:-0.97 137° 3°
NP2:272° 81° 175° T-axis: 1.07 227° 10°
N-axis:-0.10 29° 80°
V.R.: 82% ϵ : 0.09 N:15 COMP:25

2019/12/05 11:03:16.9
KURILE ISLANDS REGION
Hypo.:45°19.1'N 150°30.0'E 30km



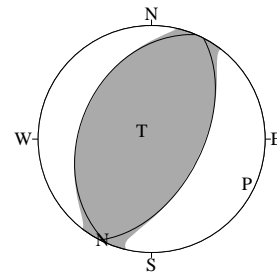
Cent.:44°50.8'N 150°28.0'E 30km $\Delta t = 8.2$
Mo: 3.30×10^{17} N·m Mw:5.6 Mj:5.8 (sec)
mrr: 1.44 mtt:-1.32 mff:-0.11
mrt: 1.14 mrf: 2.09 mtf:-1.84 ($\times 10^{17}$ N·m)
STR DIP SLIP MOM AZM PLG
NP1: 29° 73° 64° P-axis:-3.60 139° 24°
NP2:268° 31° 146° T-axis: 2.90 267° 54°
N-axis: 0.70 37° 25°
V.R.: 66% ϵ :-0.20 N:7 COMP:18

2019/12/05 22:35:16.2
NORTHERN IBARAKI PREF
Hypo.:36°48.5'N 140°32.7'E 8km



Cent.:36°48.5'N 140°32.5'E 10km $\Delta t = 0.4$
Mo: 5.01×10^{15} N·m Mw:4.4 Mj:4.6 (sec)
mrr:-4.29 mtt: 1.44 mff: 2.85
mrt:-0.13 mrf: 2.80 mtf:-1.78 ($\times 10^{15}$ N·m)
STR DIP SLIP MOM AZM PLG
NP1:313° 31° -115° P-axis:-5.29 102° 70°
NP2:161° 62° -76° T-axis: 4.73 241° 16°
N-axis: 0.56 335° 13°
V.R.: 79% ϵ :-0.11 N:28 COMP:43

2019/12/05 23:54:11.2
SE OFF OSUMI PEN
Hypo.:31° 6.7'N 131°26.7'E 30km

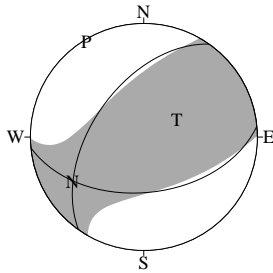


Cent.:30°59.7'N 131°28.2'E 42km $\Delta t = 1.6$
Mo: 2.88×10^{16} N·m Mw:4.9 Mj:4.7 (sec)
mrr: 2.70 mtt:-0.40 mff:-2.29
mrt: 0.44 mrf: 0.70 mtf:-1.14 ($\times 10^{16}$ N·m)
STR DIP SLIP MOM AZM PLG
NP1: 27° 53° 92° P-axis:-2.95 115° 8°
NP2:203° 37° 87° T-axis: 2.82 309° 81°
N-axis: 0.13 206° 2°
V.R.: 72% ϵ :-0.04 N:26 COMP:42

EQUAL AREA PROJECTON, LOWER HEMISPHERE.

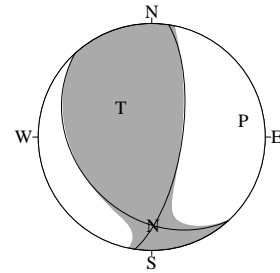
Hypo.:Location of hypocenter, Cent.:Location of centroid, Δt :Centroid time minus origin time
Mo:Total scalar moment, Mw:Moment Magnitude, Mj:JMA Magnitude
mrr,mtt,mff,mrt,mrf,mtf:Moment tensor components, STR,DIP,SLIP:Fault parameters of nodal plane
MOM,AZM,PLG:Moment tensor component, azimuth and plunge of P-, T-, N-axis
V.R.:Variance Reduction, ϵ :Non-double couple component ratio, N:Number of stations, COMP:Number of components

2019/12/07 12:33:49.2
 E OFF FUKUSHIMA PREF
 Hypo.:37°22.8'N 141°46.6'E 41km



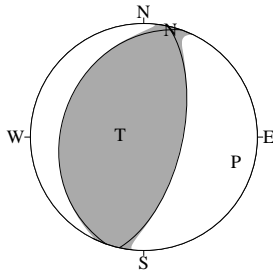
Cent.:37°22.8'N 141°46.7'E 41km $\Delta t = 0.4$
 Mo: 5.57×10^{15} N·m Mw:4.4 Mj:4.6 (sec)
 mrr: 4.14 mtt:-4.08 mff:-0.06
 mrt: 0.47 mrf:-1.44 mtf:-3.63 ($\times 10^{15}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 85° 49° 127° P-axis:-6.23 329° 2°
 NP2:215° 53° 55° T-axis: 4.92 63° 63°
 N-axis: 1.31 238° 27°
 V.R.: 71% ϵ :-0.21 N:16 COMP:27

2019/12/11 02:05: 2.2
 NEAR TORISHIMA IS
 Hypo.:30°46.5'N 141°58.1'E 42km



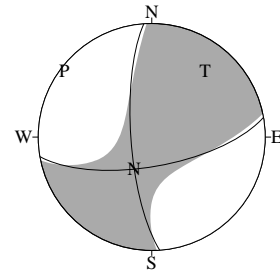
Cent.:30°50.4'N 141°57.1'E 12km $\Delta t = 6.1$
 Mo: 7.20×10^{17} N·m Mw:5.8 Mj:6.1 (sec)
 mrr: 4.37 mtt: 1.08 mff:-5.46
 mrt: 1.55 mrf: 4.48 mtf: 2.02 ($\times 10^{17}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 9° 68° 115° P-axis:-7.40 80° 19°
 NP2:137° 33° 44° T-axis: 6.90 314° 59°
 N-axis: 0.50 179° 23°
 V.R.: 73% ϵ :-0.06 N:31 COMP:73

2019/12/11 18:39: 7.6
 E OFF FUKUSHIMA PREF
 Hypo.:37°43.7'N 141°48.0'E 41km



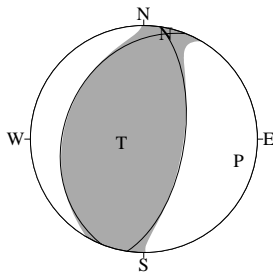
Cent.:37°43.5'N 141°47.8'E 53km $\Delta t = 5.5$
 Mo: 1.00×10^{17} N·m Mw:5.3 Mj:5.3 (sec)
 mrr: 0.82 mtt:-0.04 mff:-0.79
 mrt: 0.10 mrf: 0.56 mtf:-0.23 ($\times 10^{17}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 13° 62° 87° P-axis:-1.00 105° 17°
 NP2:199° 28° 96° T-axis: 1.00 276° 73°
 N-axis: 0.00 14° 3°
 V.R.: 79% ϵ :-0.03 N:37 COMP:88

2019/12/14 03:24: 3.7
 SAGAMINADA
 Hypo.:35° 1.8'N 139°27.0'E 33km



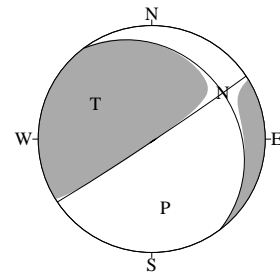
Cent.:35° 1.8'N 139°27.4'E 33km $\Delta t = 0.4$
 Mo: 3.90×10^{15} N·m Mw:4.3 Mj:4.3 (sec)
 mrr: 1.16 mtt: 0.32 mff:-1.48
 mrt: 0.70 mrf:-1.02 mtf:-3.49 ($\times 10^{15}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 80° 69° 164° P-axis:-4.21 307° 4°
 NP2:176° 75° 22° T-axis: 3.59 39° 26°
 N-axis: 0.62 209° 64°
 V.R.: 60% ϵ :-0.15 N:23 COMP:40

2019/12/16 06:52: 1.4
 ISHIKARI DEPRESSION
 Hypo.:42°45.6'N 141°53.7'E 31km



Cent.:42°45.6'N 141°53.8'E 31km $\Delta t = 0.5$
 Mo: 6.04×10^{15} N·m Mw:4.5 Mj:4.4 (sec)
 mrr: 4.95 mtt: 0.05 mff:-5.00
 mrt: 0.18 mrf: 3.11 mtf:-1.43 ($\times 10^{15}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 8° 61° 83° P-axis:-6.22 103° 15°
 NP2:202° 30° 101° T-axis: 5.86 262° 74°
 N-axis: 0.36 12° 6°
 V.R.: 65% ϵ :-0.06 N:14 COMP:24

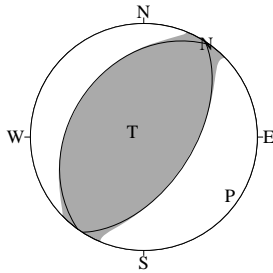
2019/12/16 20:25:57.1
 TAIWAN REGION
 Hypo.:24°27.6'N 121°44.0'E 61km



Cent.:24°27.6'N 121°43.9'E 61km $\Delta t = 0.6$
 Mo: 1.26×10^{16} N·m Mw:4.7 Mj:4.7 (sec)
 mrr: 0.07 mtt:-0.54 mff: 0.47
 mrt: 0.91 mrf: 0.66 mtf: 0.21 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 56° 89° 64° P-axis:-1.23 169° 38°
 NP2:323° 26° 177° T-axis: 1.28 302° 41°
 N-axis:-0.05 57° 26°
 V.R.: 72% ϵ : 0.04 N:8 COMP:12

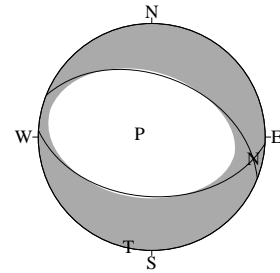
EQUAL AREA PROJECTON, LOWER HEMISPHERE.

2019/12/18 08:35:22.1
 NEAR OKINAWAJIMA ISLAND
 Hypo.:27°18.3'N 128°25.9'E 47km



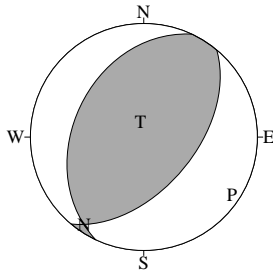
Cent.:27°14.4'N 128°25.2'E 52km $\Delta t = 2.6$
 Mo: 6.82×10^{16} N·m Mw:5.2 Mj:5.1 (sec)
 mrr: 6.32 mtt:-1.88 mff:-4.43
 mrt: 1.11 mrf: 1.89 mtf:-3.19 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 33° 54° 89° P-axis:-6.96 124° 9°
 NP2:215° 36° 92° T-axis: 6.68 297° 81°
 N-axis: 0.28 34° 1°
 V.R.: 68% ϵ :-0.04 N:10 COMP:15

2019/12/19 15:21:33.4
 E OFF AOMORI PREF
 Hypo.:40°30.7'N 142°10.7'E 50km



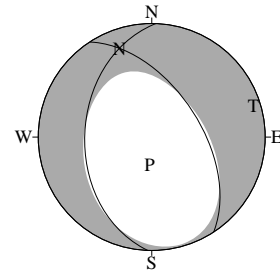
Cent.:40°35.8'N 142° 9.8'E 53km $\Delta t = 4.1$
 Mo: 6.80×10^{16} N·m Mw:5.2 Mj:5.5 (sec)
 mrr:-6.94 mtt: 6.17 mff: 0.77
 mrt:-0.41 mrf:-1.18 mtf:-1.26 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 93° 46°-103° P-axis:-7.15 286° 81°
 NP2:292° 45° -77° T-axis: 6.46 192° 1°
 N-axis: 0.69 102° 9°
 V.R.: 75% ϵ :-0.10 N:22 COMP:46

2019/12/20 05:28:39.6
 NEAR TANEGASHIMA ISLAND
 Hypo.:30°34.4'N 131° 9.2'E 30km



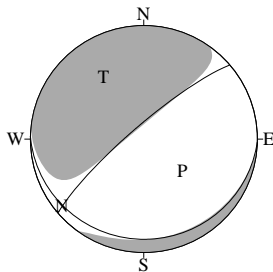
Cent.:30°33.7'N 131°10.8'E 30km $\Delta t = 0.7$
 Mo: 1.39×10^{16} N·m Mw:4.7 Mj:4.5 (sec)
 mrr: 1.32 mtt:-0.37 mff:-0.95
 mrt: 0.35 mrf: 0.21 mtf:-0.62 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 40° 53° 99° P-axis:-1.40 123° 8°
 NP2:205° 38° 78° T-axis: 1.39 348° 79°
 N-axis: 0.00 214° 7°
 V.R.: 66% ϵ : 0.00 N:29 COMP:47

2019/12/21 04:40:54.6
 FAR E OFF IZU ISLANDS
 Hypo.:33° 0.8'N 142°19.5'E 2km



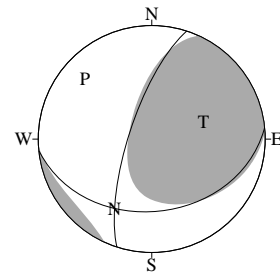
Cent.:33° 2.2'N 142°21.5'E 10km $\Delta t = 5.6$
 Mo: 0.95×10^{17} N·m Mw:5.3 Mj:5.1 (sec)
 mrr:-0.87 mtt: 0.08 mff: 0.80
 mrt: 0.39 mrf:-0.12 mtf:-0.20 ($\times 10^{17}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1:327° 55°-112° P-axis:-1.02 184° 70°
 NP2:182° 41° -62° T-axis: 0.87 73° 7°
 N-axis: 0.14 340° 18°
 V.R.: 80% ϵ :-0.14 N:8 COMP:17

2019/12/24 23:36:54.3
 NEAR KUNASHIRI ISLAND
 Hypo.:43°29.8'N 146° 9.9'E 93km



Cent.:43°29.9'N 146° 9.9'E 93km $\Delta t = 0.8$
 Mo: 2.28×10^{16} N·m Mw:4.8 Mj:4.8 (sec)
 mrr:-0.63 mtt: 0.73 mff:-0.10
 mrt: 1.61 mrf: 1.40 mtf: 0.47 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 92° 13° -48° P-axis:-2.17 129° 54°
 NP2:229° 81° -99° T-axis: 2.38 327° 35°
 N-axis: -0.22 231° 8°
 V.R.: 79% ϵ : 0.09 N:15 COMP:25

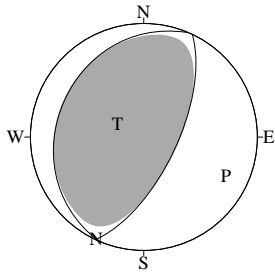
2019/12/25 17:58: 3.8
 NEAR TORISHIMA IS
 Hypo.:31°38.5'N 140° 8.2'E 137km



Cent.:31°34.0'N 140° 7.8'E 140km $\Delta t = 1.1$
 Mo: 1.97×10^{16} N·m Mw:4.8 Mj:4.6 (sec)
 mrr: 0.94 mtt:-0.81 mff:-0.12
 mrt: 0.08 mrf:-1.53 mtf:-0.92 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 84° 36° 151° P-axis:-1.78 312° 22°
 NP2:198° 74° 57° T-axis: 2.15 71° 50°
 N-axis: -0.37 208° 31°
 V.R.: 79% ϵ : 0.17 N:40 COMP:70

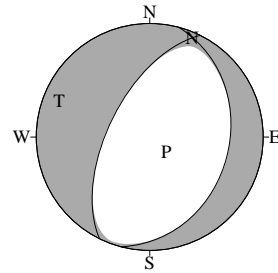
EQUAL AREA PROJECTON, LOWER HEMISPHERE.

2019/12/26 18:26:38.5
 KINKAZAN REGION
 Hypo.:38°31.7'N 141°48.9'E 49km



Cent.:38°32.4'N 141°49.0'E 50km $\Delta t = 0.6$
 Mo: 1.22×10^{16} N·m Mw:4.7 Mj:4.7 (sec)
 mrr: 0.93 mtt:-0.19 mff:-0.74
 mrt: 0.36 mrf: 0.74 mtf:-0.31 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 25° 66° 91° P-axis:-1.19 115° 21°
 NP2:203° 24° 88° T-axis: 1.25 297° 69°
 N-axis:-0.05 205° 1°
 V.R.: 68% ϵ : 0.04 N:15 COMP:34

2019/12/27 14:10: 1.0
 SE OFF MIYAGI PREF
 Hypo.:37°56.2'N 142°45.8'E 29km



Cent.:37°58.8'N 142°45.9'E 27km $\Delta t = 0.5$
 Mo: 1.04×10^{16} N·m Mw:4.6 Mj:4.8 (sec)
 mrr:-0.91 mtt: 0.12 mff: 0.79
 mrt: 0.28 mrf: 0.44 mtf: 0.29 ($\times 10^{16}$ N·m)
 STR DIP SLIP MOM AZM PLG
 NP1: 15° 31°-100° P-axis:-1.06 132° 74°
 NP2:206° 60° -84° T-axis: 1.03 292° 15°
 N-axis: 0.03 23° 5°
 V.R.: 74% ϵ :-0.03 N:17 COMP:21

EQUAL AREA PROJECTON, LOWER HEMISPHERE.