



IOWave23 Exercise Scenarios for Discussion

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**IOWave23 Task Team Meeting
04 April 2023**



Communication (COMMs) Tests List

COMMs Test	Date	Scenarios
Comms Test-1	16 Mar 2011	Mag 9.0, Nicobar Islands 7.20N, 92.90E
Comms Test-2	15 Jun 2011	Mag 9.0, Nicobar Islands 7.20N, 92.90E
Comms Test-3	14 Sep 2011	Mag 9.2, Northern Sumatra 3.30N, 95.96E
Comms Test-4	14 Dec 2011	Mag 9.2, Northern Sumatra 3.30N, 95.96E
Comms Test-5	13 Jun 2012	Mag 9.0, Sunda Strait 6.94S, 104.70E
Comms Test-6	12 Dec 2012	Mag 9.0, Andaman Islands 12.65N, 93.50E
Comms Test-7	12 Jun 2013	Mag 9.0, Andaman Islands 12.65N, 93.50E
Comms Test-8	11 Dec 2013	Mag 9.0, Sunda Strait 6.94S, 104.70E
Comms Test-9	11 Jun 2014	Mag 9.0, Off Coast of Pakistan 24.80N, 62.20E
Comms Test-10	10 Dec 2014	Mag 9.0, Sunda Strait 6.94S, 104.70E
Comms Test-11	10 Jun 2015	Mag 9.0, Off Coast of Pakistan 24.80N, 62.20E
Comms Test-12	9 Dec 2015	Mag 9.0, Andaman Islands 12.65N, 93.50E
Comms Test-13	8 Jun 2016	Mag 8.5, Andaman Islands 12.65N, 93.50E
Comms Test-14	14 Dec 2016	Mag 9.0, Nicobar Islands 7.20N, 92.90E
Comms Test-15	14 Jun 2017	Mag 9.0, Nicobar Islands 7.20N, 92.90E
Comms Test-16	13 Dec 2017	Mag 9.2, Northern Sumatra 3.30N, 95.96E
Comms Test-17	13 Jun 2018	Mag 9.0, Sunda Strait 6.94S, 104.70E
Comms Test-18	12 Dec 2018	Mag 9.1, South of Java 10.40S, 112.80E
Comms Test-19	12 Jun 2019	Mag 9.0, Off Coast of Pakistan 24.8N, 62.2E
Comms Test-20	11 Dec 2019	Mag 9.2, Northern Sumatra 3.30N, 95.96E
Comms Test-21	10 Jun 2020	Mag 9.0, Nicobar Islands 7.20N, 92.90E
Comms Test-22	09 Jun 2021	Mag 9.0, Sunda Strait 6.94S, 104.70E
Comms Test-23	08 Dec 2021	Mag 9.1, South of Java 10.40S, 112.80E
Comms Test-24	08 Jun 2022	Mag 9.2, Northern Sumatra 3.30N, 95.96E
Comms Test-25	07 Dec 2022	Mag 9.0, Andaman Islands 12.65N, 93.50E

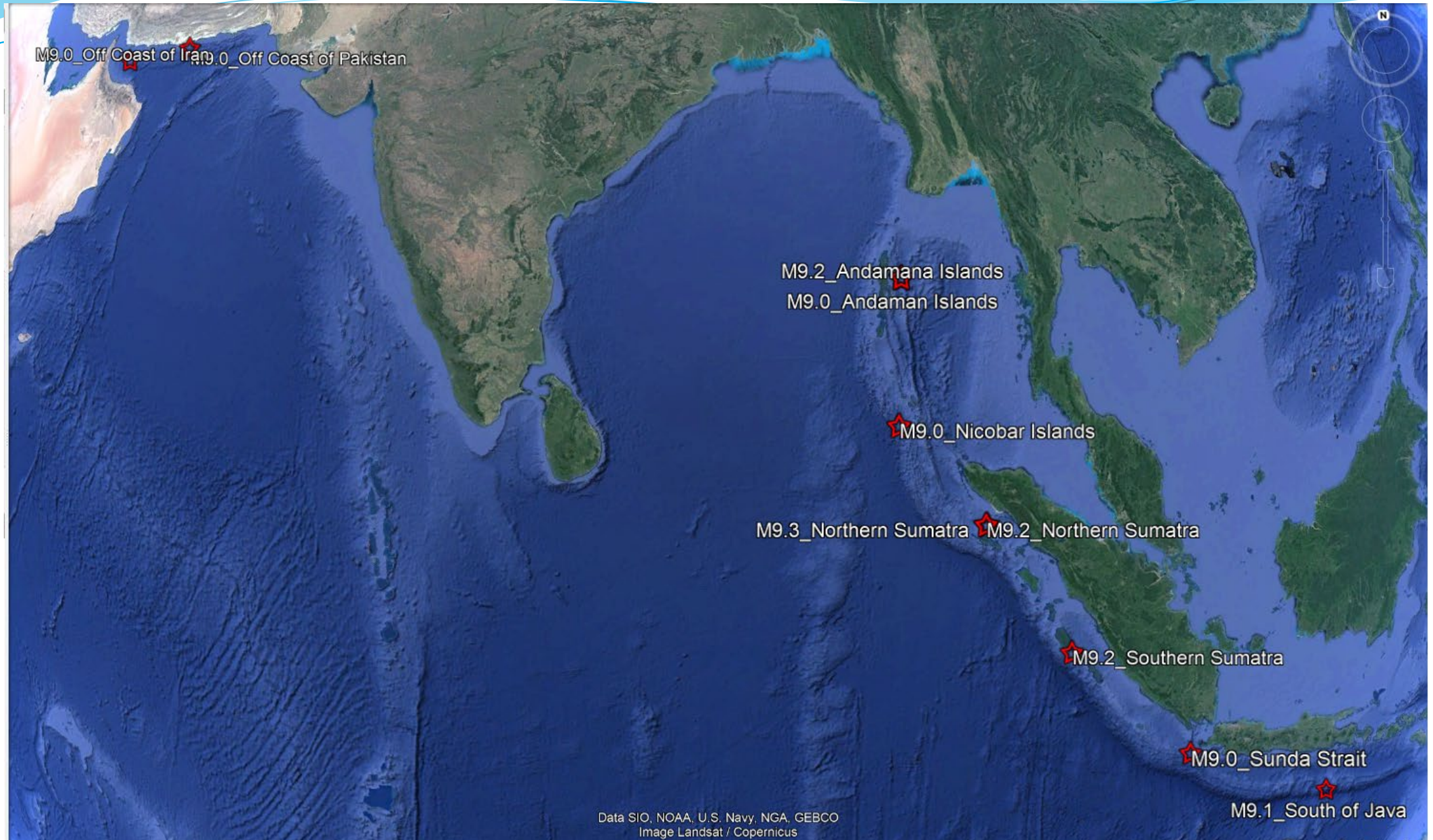
IOWave Exercises List

IOWave	Date	Scenario
IOWave09	14 Sep 2009	Mag 9.2, Northern Sumatra 3.3N, 95.96E
IOWave11	12 Oct 2011	Mag 9.2, Northern Sumatra 3.30N, 95.96E
IOWave14 Day 1	9 Sep 2014	Mag 9.1, South of Java 10.40S, 112.80E
IOWave14 Day 2	10 Sep 2014	Mag 9.0, Off Coast of Pakistan 24.80N, 62.20E
IOWave16 Day 1	7 Sep 2016	Mag 9.2, Southern Sumatra 1.93S, 99.22E
IOWave16 Day 2	8 Sep 2016	Mag 9.0, Off Coast of Pakistan 24.80N, 62.20E
IOWave18 Day 1	04 Sep 2018	Mag 9.0, Off Coast of Iran 24.8N, 58.2E
IOWave18 Day 2	05 Sep 2018	Mag 9.3, Northern Sumatra 3.30N, 96.0E
IOWave20 Day 1	06 Oct 2020	Mag 9.1, South of Java 10.40S, 112.80E
IOWave20 Day 2	13 Oct 2020	Mag 9.2, Andaman Islands 12.63N, 93.50E
IOWave20 Day 3	20 Oct 2020	Mag 9.0, Off Coast of Pakistan 24.80N, 62.20E
IOWave23 Day1	?	?
IOWave23 Day2	?	?
IOWave23 Day3	?	?

Exercise Scenarios for discussion

Sl. No.	Magnitude	Region Name	Latitude	Longitude
1	9.0	Andaman Islands	12.65	93.50
2	9.2	Andaman Islands	12.63	93.50
3	9.0	Nicobar Islands	7.20	92.90
4	9.2	Northern Sumatra	3.30	95.96
5	9.3	Northern Sumatra	3.30	96.00
6	9.2	Southern Sumatra	-1.93	99.22
7	9.0	Sunda Strait	-6.94	104.70
8	9.1	South of Java	-10.40	112.80
9	9.0	Off Coast of Pakistan	24.80	62.20
10	9.0	Off Coast of Iran	24.80	58.20

Exercise Scenarios for discussion



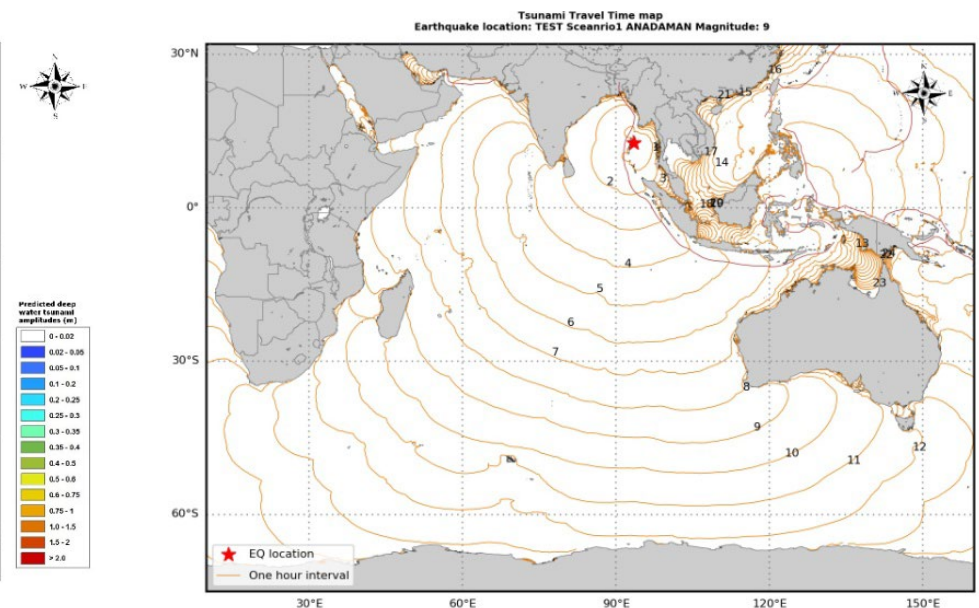
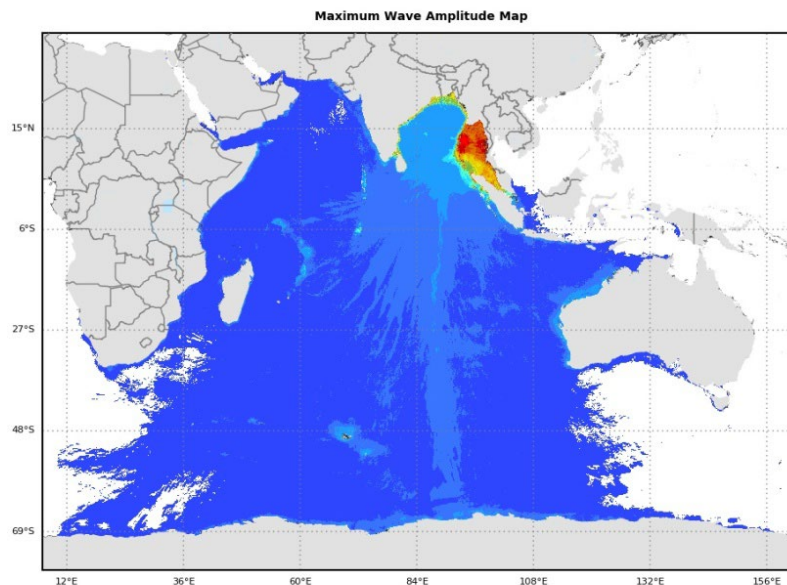
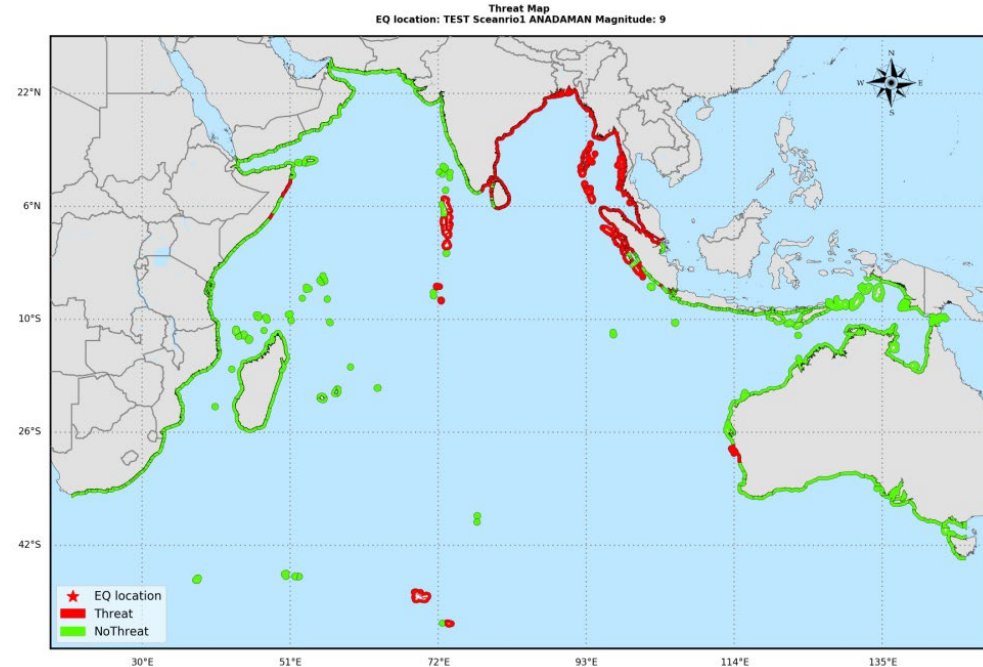
Andaman Islands, India– M9.0

Mag 9.0 Epicentre: 12.65N 93.5E
Andaman Islands, India

Origin Time: 0100Z

Australia	1759Z	0.7m
Bangladesh	0559Z	1.4m
France	1657Z	0.6m
India	0102Z	13.5m
Indonesia	0156Z	2.8m
Malaysia	0436Z	2.9m
Maldives	0501Z	1.1m
Myanmar	0114Z	8.8m
Singapore	1701Z	0.6m
Somalia	1414Z	0.6m
Sri Lanka	0311Z	2.5m
Thailand	0220Z	4.4m
UK IOT	0635Z	0.8m

M 9.0: 13 countries under threat
M 9.2: 18 countries under threat



Nicobar Islands, India – M9.0

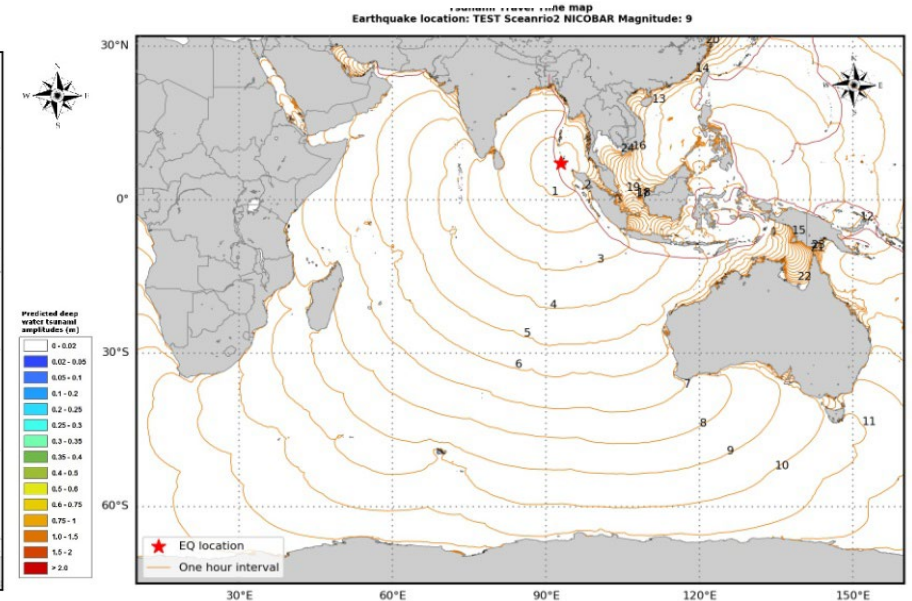
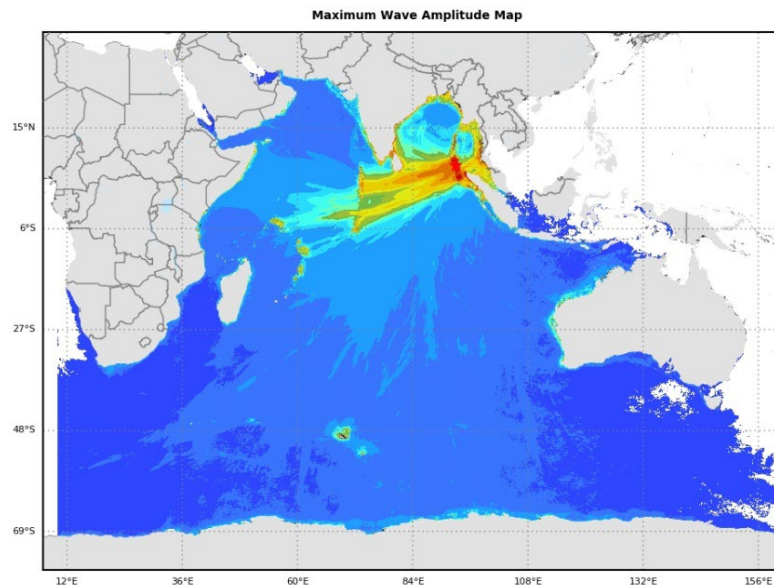
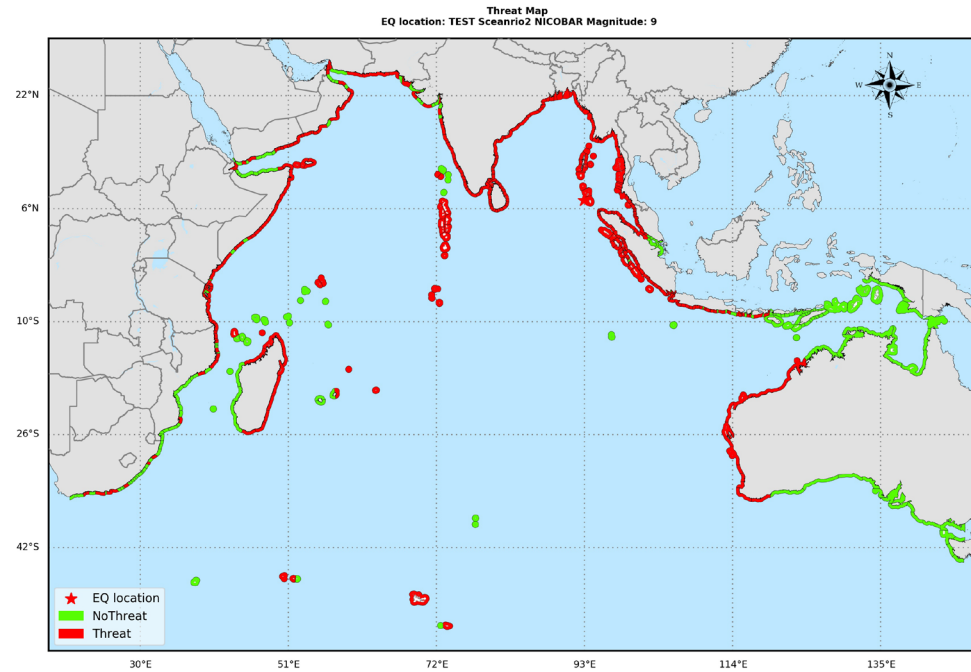
Mag 9.0 Epicentre: 7.2 N 92.9 E

Nicobar Islands, India

Origin Time: 0130Z

Australia	0807Z	1.1m
Bangladesh	0503Z	2.0m
Comoros	1212Z	0.7m
Djibouti	1142Z	0.7
France	1214Z	1.7m
India	0132Z	12.5m
Indonesia	0150Z	10.1m
Iran	1347Z	0.7m
Kenya	0954Z	1.4m
Madagascar	0927Z	1.1m
Malaysia	0451Z	1.5m
Maldives	0441Z	6.6m
Mauritius	0743Z	1.6m
Mozambique	1049Z	1.3m
Myanmar	0304Z	2.3m
Oman	1002Z	1.1m
Pakistan	1720Z	0.7m
Seychelles	0555Z	1.3m
Somalia	0841Z	2.5m
South Africa	1935Z	0.7m
Sri Lanka	0317Z	6.0m
Tanzania	1029Z	1.1m
Thailand	0258Z	3.4m
UAE	0056Z+1	0.7m
UK IOT	0506Z	4.2m
Yemen	0856Z	1.8m

26 countries under threat



Northern Sumatra, Indonesia– M9.2

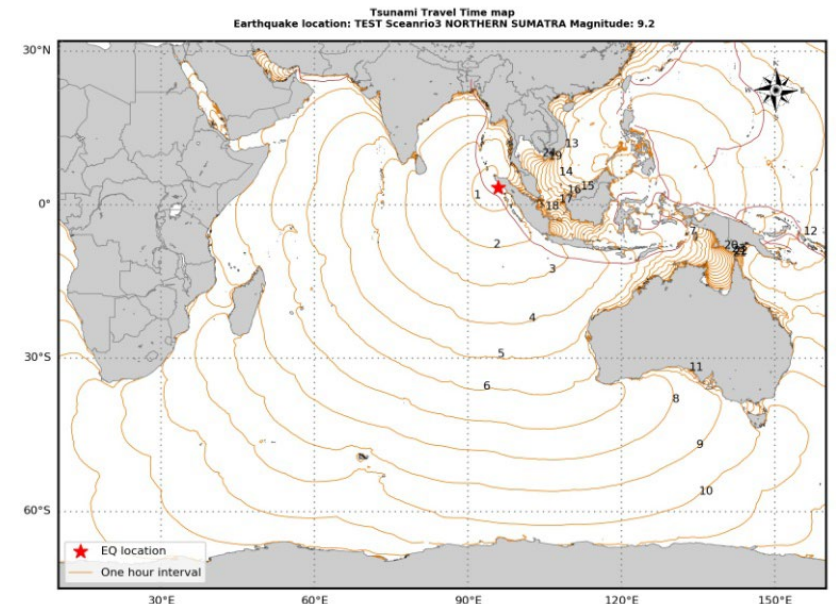
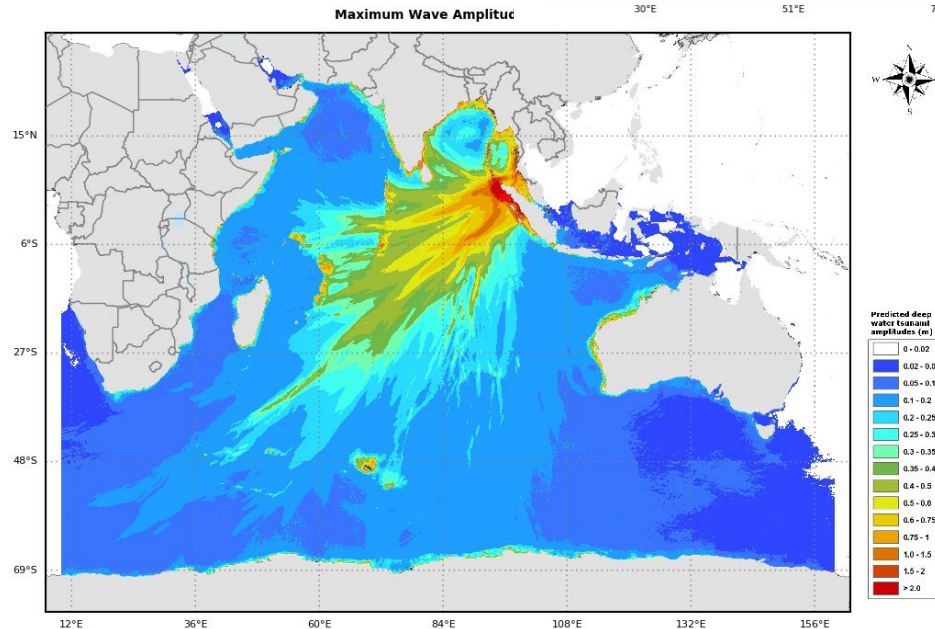
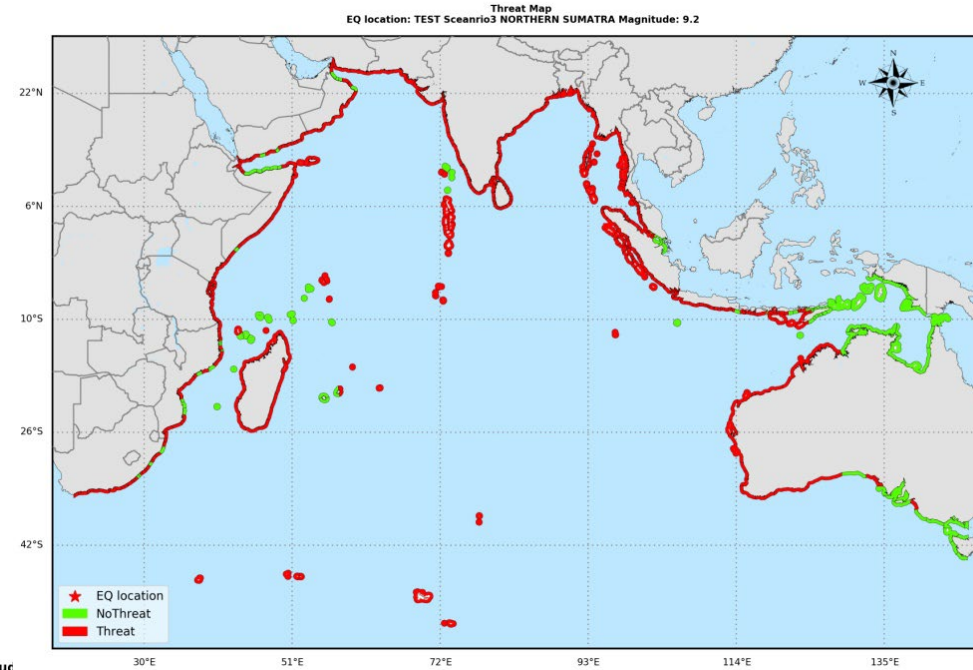
Mag 9.2 Epicentre: 3.3N 95.96E

Northern Sumatra, Indonesia

Origin Time: 0200Z

Australia	0432Z	1.9m
Bangladesh	0604Z	1.8m
Comoros	1049Z	1.0m
Djibouti	1210Z	1.5m
France	0918Z	4.0m
India	0202Z	7.3m
Indonesia	0202Z	17.1m
Iran	1243Z	1.4m
Kenya	1040Z	1.7m
Madagascar	0953Z	1.5m
Malaysia	0458Z	2.4m
Maldives	0513Z	3.7m
Mauritius	0753Z	1.6m
Mozambique	1115Z	1.1m
Myanmar	0335Z	2.7m
Oman	0940Z	1.1m
Pakistan	1405Z	1.1m
Seychelles	0841Z	1.7m
Somalia	0945Z	3.4m
South Africa	1324Z	1.0m
Sri Lanka	0354Z	4.1m
Tanzania	1059Z	1.4m
Thailand	0311Z	3.1m
Timor-Leste	0105Z+1	0.6m
UAE	1126Z	1.1m
UK IOT	0536Z	4.1m
Yemen	0918Z	1.6m

27 countries under threat



Southern Sumatra, Indonesia– M9.2

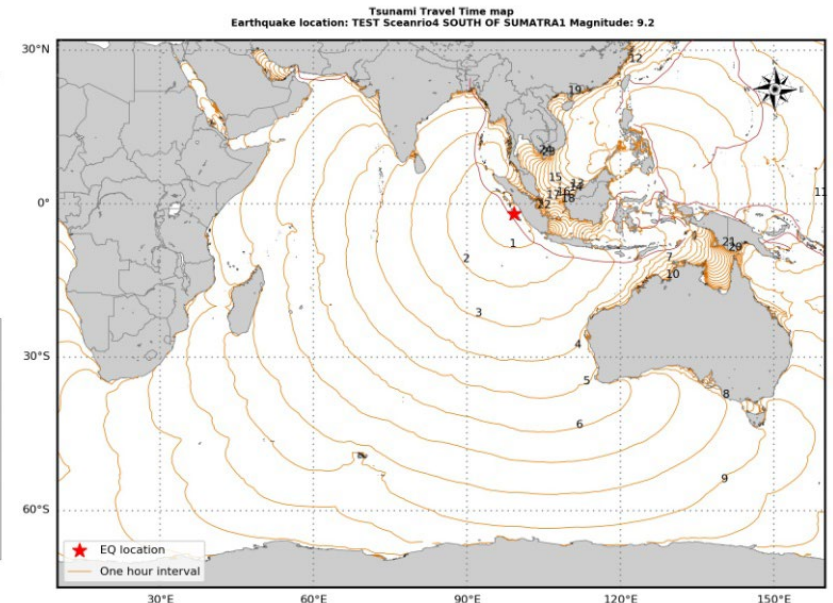
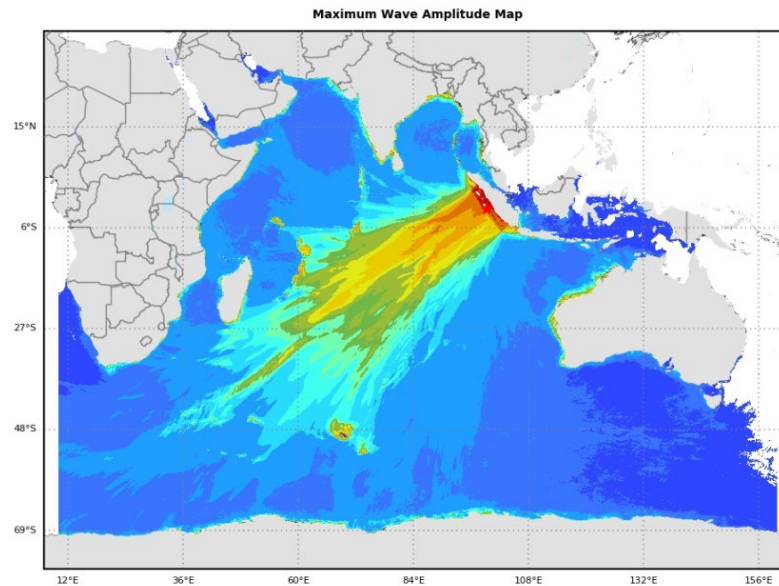
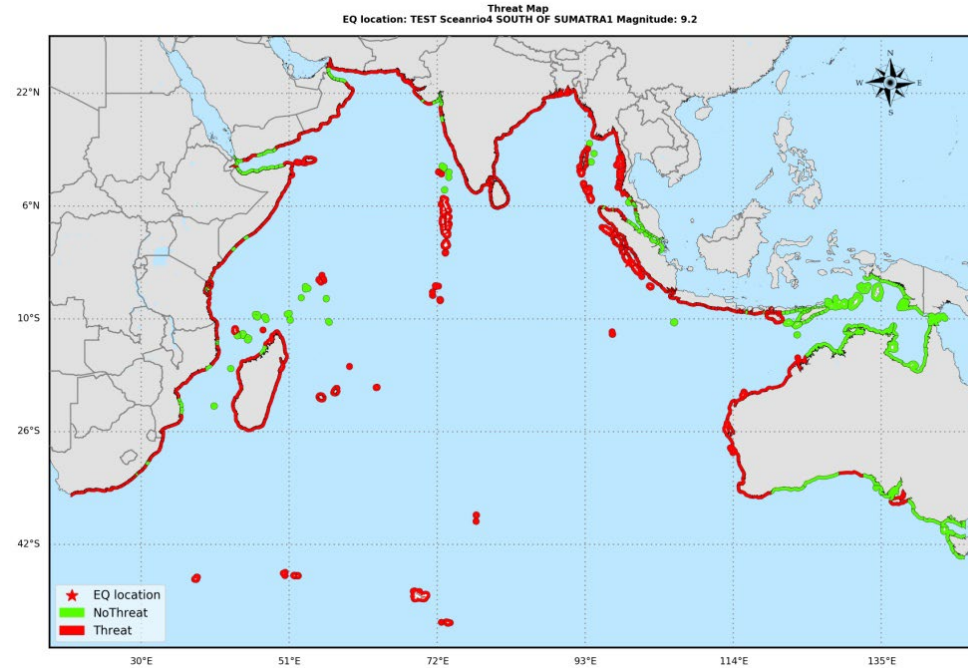
Mag 9.2 Epicentre: 1.93 S 92.22E

Southern of Sumatra, Indonesia

Origin Time: 0230Z

Australia	0341Z	1.3m
Bangladesh	1501Z	1.2m
Comoros	1743Z	0.8m
Djibouti	1311Z	0.8m
France	0901Z	2.6m
India	0354Z	2.3m
Indonesia	0232Z	14.8m
Iran	1719Z	0.7m
Kenya	1235Z	1.2m
Madagascar	1028Z	3.6m
Malaysia	2143Z	0.6m
Maldives	0611Z	2.6m
Mauritius	0825Z	3.6m
Mozambique	1316Z	1.1m
Myanmar	0721Z	1.0m
Oman	1113Z	1.2m
Pakistan	1701Z	0.8m
Seychelles	1029Z	1.4m
Somalia	1007Z	1.8m
South Africa	1353Z	2.2m
Sri Lanka	0506Z	2.6m
Tanzania	1216Z	1.1m
Thailand	0538Z	1.1m
UK IOT	0622Z	2.1m
Yemen	1029Z	1.4m

25 countries under threat



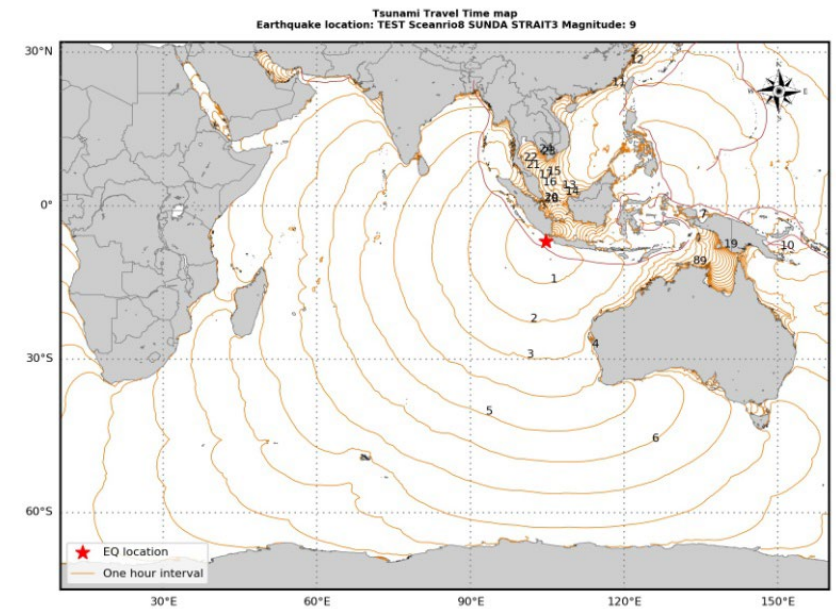
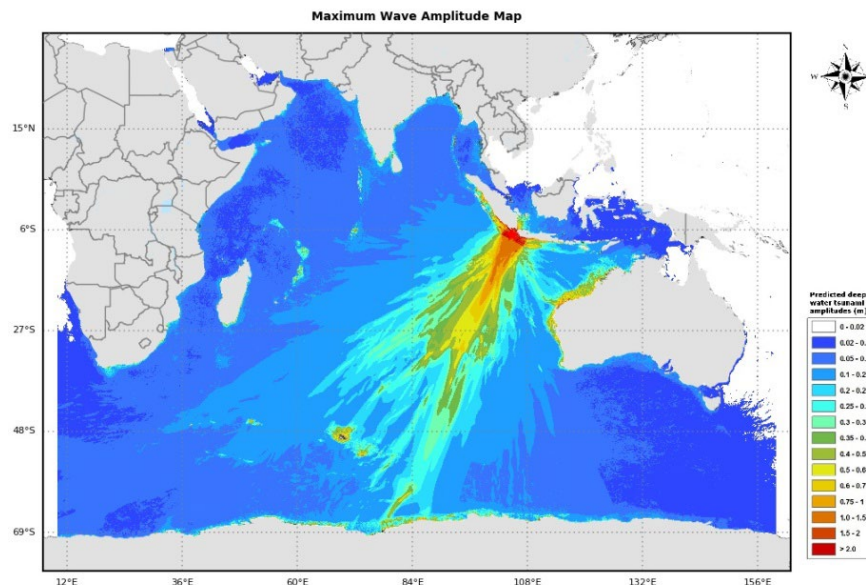
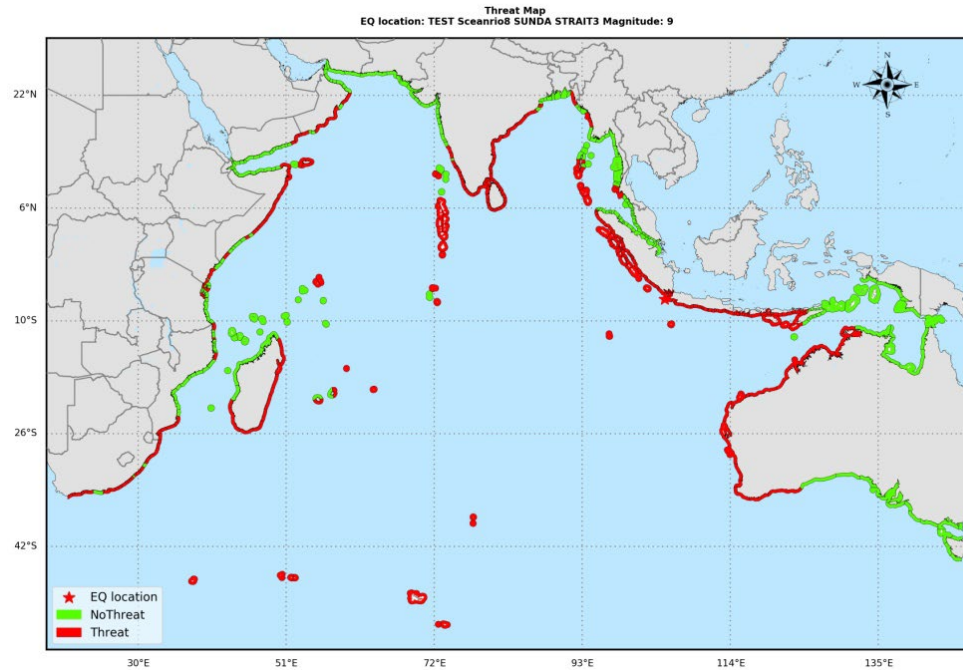
Sunda Strait, Indonesia– M9.0

Mag 9.0 Epicentre: 6.94S 104.7E
Sunda Strait, Indonesia

Origin Time: 0430Z

Australia	0449Z	4.0m
Bangladesh	0456Z+1	0.5m
France	1047Z	2.8m
India	0931Z	1.7m
Indonesia	0435Z	13.3m
Kenya	2316Z	0.6m
Madagascar	1317Z	1.8m
Maldives	0936Z	2.5m
Mauritius	1158Z	0.8m
Mozambique	2225Z	1.1m
Myanmar	0014Z+1	0.7m
Oman	1634Z	0.7m
Seychelles	1556Z	0.7m
Somalia	1330Z	1.2m
South Africa	1728Z	1.4m
Sri Lanka	0832Z	1.9m
Tanzania	0017Z+1	0.5m
Thailand	0150Z+1	0.7m
Timor Leste	0800Z	0.6m
UK IOT	0909Z	0.4m
Yemen	1534Z	1.2m

21 countries under threat



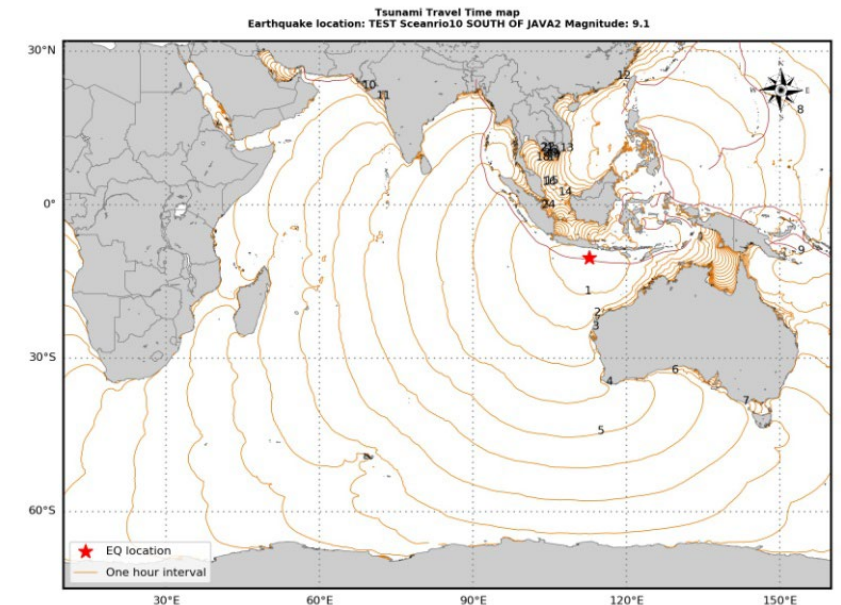
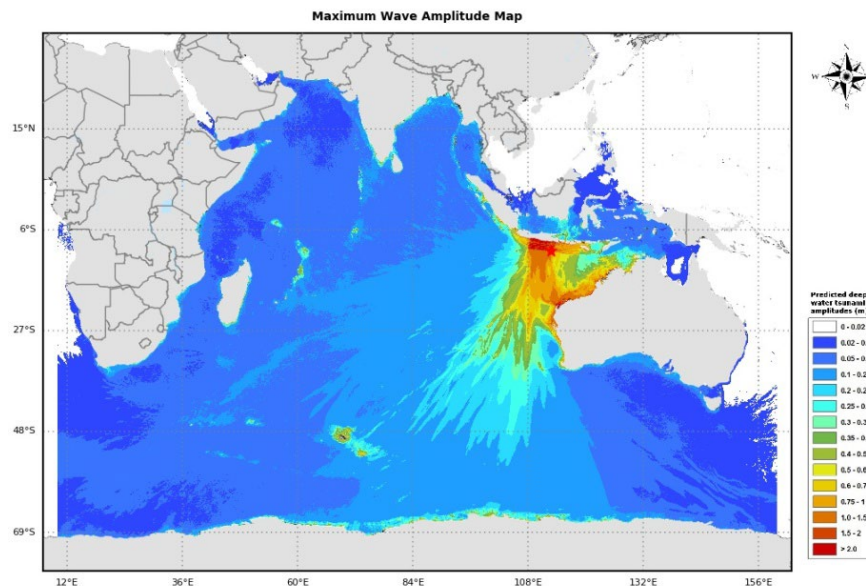
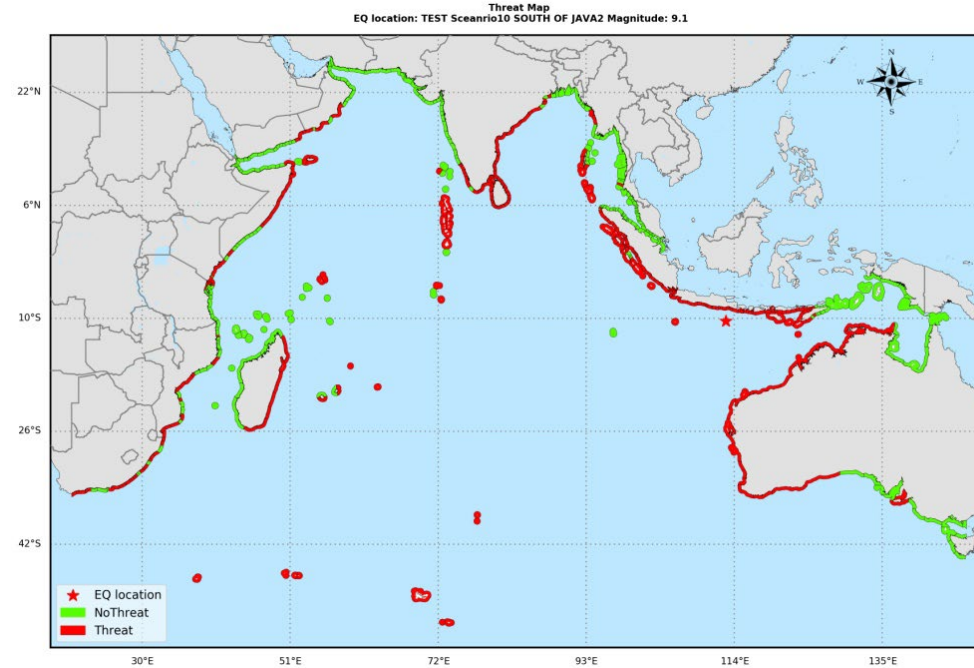
South of Java, Indonesia– M9.1

Mag 9.1 Epicentre: 10.4S 112.8E
South of Java, Indonesia

Origin Time: 0530Z

Australia	0559Z	8.4m
France	1259Z	2.2m
India	1333Z	1.4m
Indonesia	0532Z	11.9m
Kenya	0136Z+1	0.8m
Madagascar	1454Z	2.6m
Maldives	1126Z	1.2m
Mauritius	1454Z	0.8m
Mozambique	1959Z	0.9m
Myanmar	0146Z+1	0.5m
Oman	1813Z	0.9m
Seychelles	1724Z	0.8m
Somalia	1744Z	1.2m
South Africa	1929Z	1.1m
Sri Lanka	1246Z	1.3m
Tanzania	1958Z	0.8m
Thailand	0402Z+1	0.5m
Timor Leste	0706Z	1.0m
UK IOT	1356Z	0.6m
Yemen	1724Z	0.9m

20 countries under threat



Off Coast of Iran– M9.0

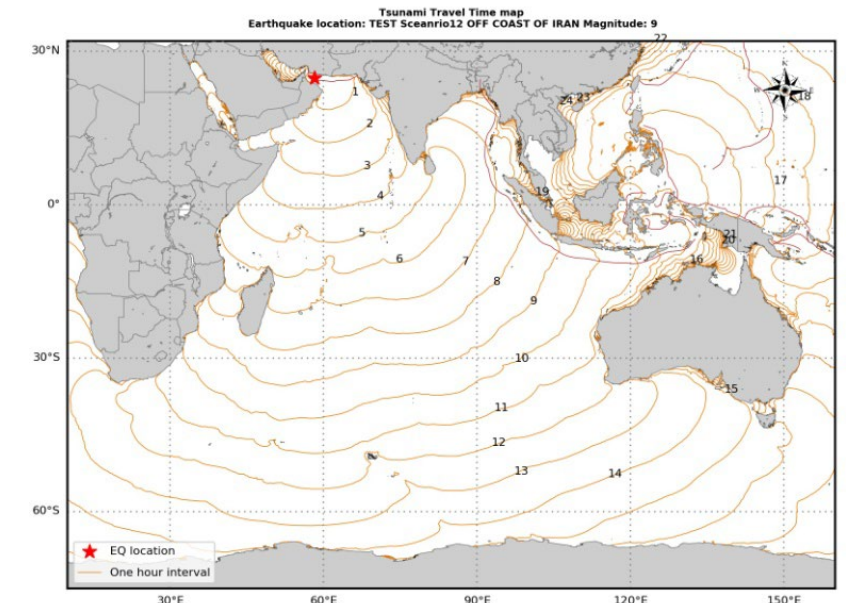
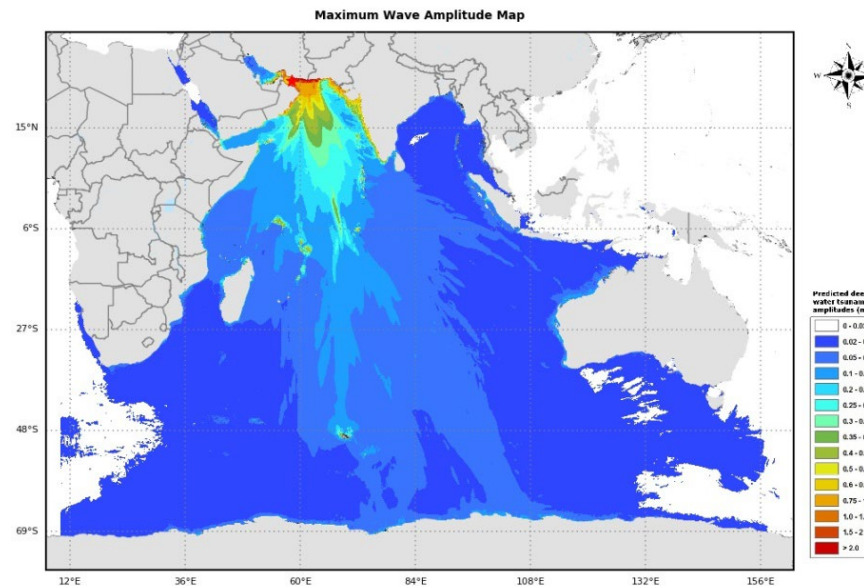
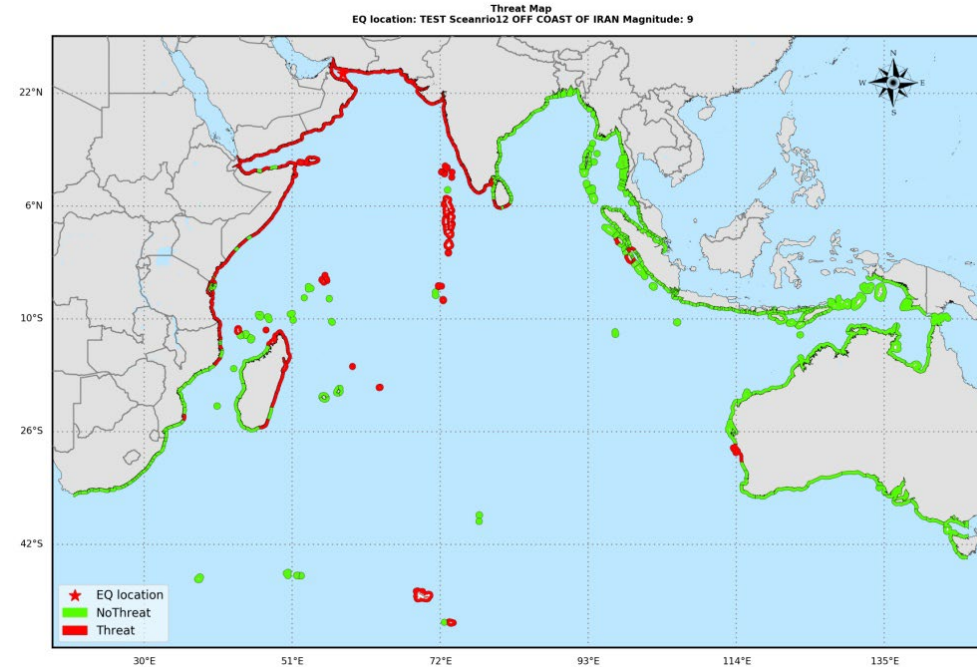
Mag 9.0 Epicentre: 24.8N 58.2E

Off Coast of Iran

Origin Time: 0630Z

Australia	2223Z	0.5m
Comoros	1415Z	0.7m
Djibouti	1154Z	1.7m
France	1926Z	1.0m
India	0844Z	2.3m
Indonesia	1947Z	0.7m
Iran	0634Z	7.1m
Kenya	1333Z	1.7m
Madagascar	1322Z	0.9m
Maldives	0958Z	2.1m
Mauritius	1443Z	0.8m
Mozambique	1802Z	1.0m
Oman	0647Z	8.5m
Pakistan	0633Z	7.2m
Seychelles	1119Z	1.0m
Somalia	0956Z	2.3m
Sri Lanka	1159Z	0.8m
Tanzania	1315Z	1.0m
UAE	0718Z	3.7m
UK IOT	1131Z	1.4m
Yemen	0904Z	2.2m

21 countries under threat



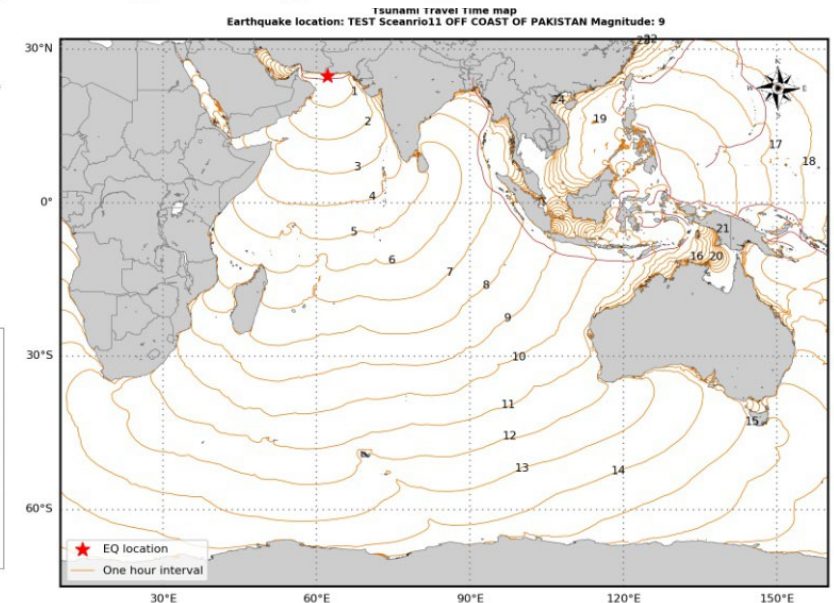
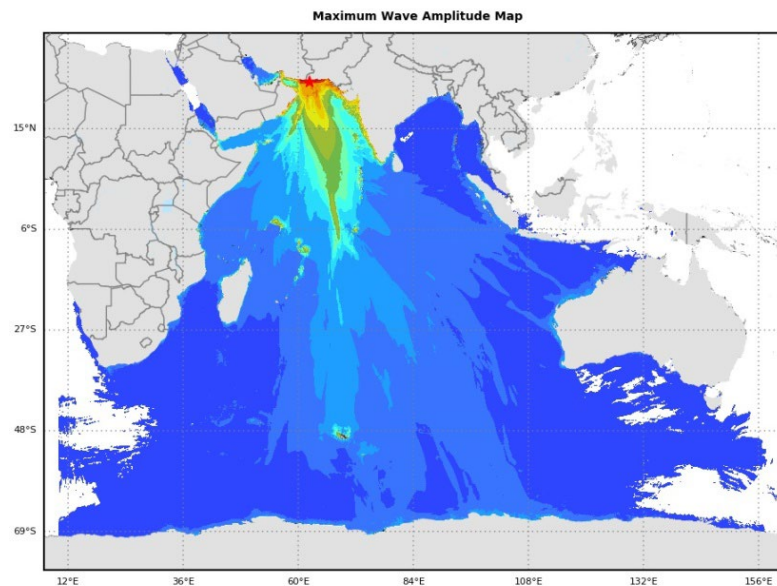
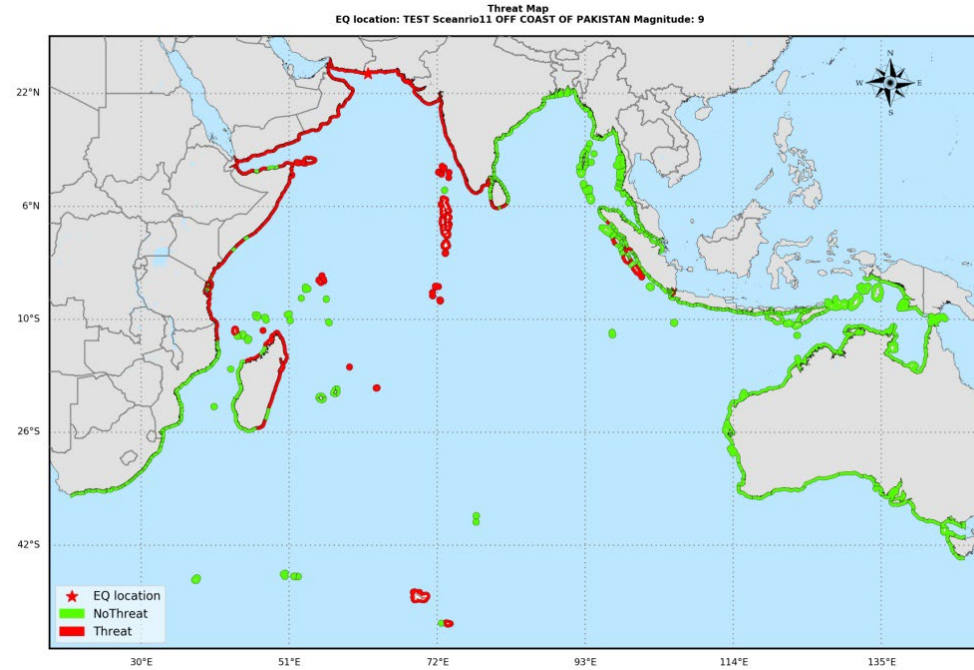
Off Coast of Pakistan – M9.0

Mag 9.0 Epicentre: 24.8 N 6.2 E
Off Coast of Pakistan

Origin Time: 0600Z

Australia	1954Z	0.7m
Comoros	1335Z	0.7m
Djibouti	1127Z	1.4m
France	1854Z	1.4m
India	0804Z	2.7m
Indonesia	1918Z	0.7m
Iran	0604Z	7.1m
Kenya	1433Z	1.5m
Madagascar	1302Z	1.3m
Maldives	0927Z	2.2m
Mauritius	1413Z	0.9m
Mozambique	1632Z	1.1m
Oman	0627Z	3.8m
Pakistan	0603Z	7.2m
Seychelles	1050Z	1.2m
Somalia	0927Z	1.9m
Sri Lanka	1109Z	0.8m
Tanzania	1508Z	0.8m
UAE	0717Z	1.7m
UK IOT	1107Z	1.6m
Yemen	0835Z	1.9m

21 countries under threat



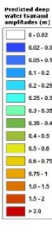
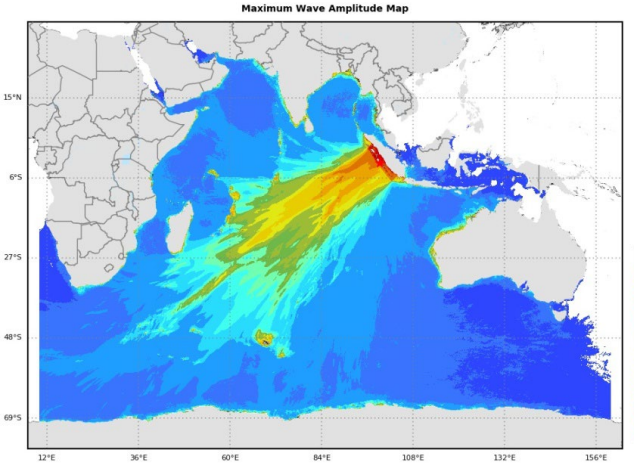
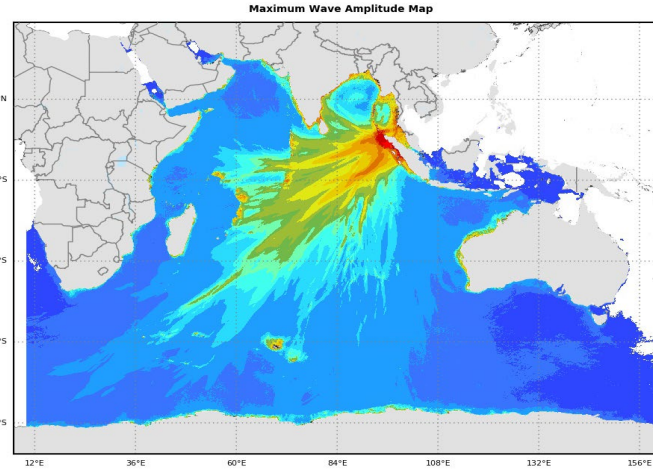
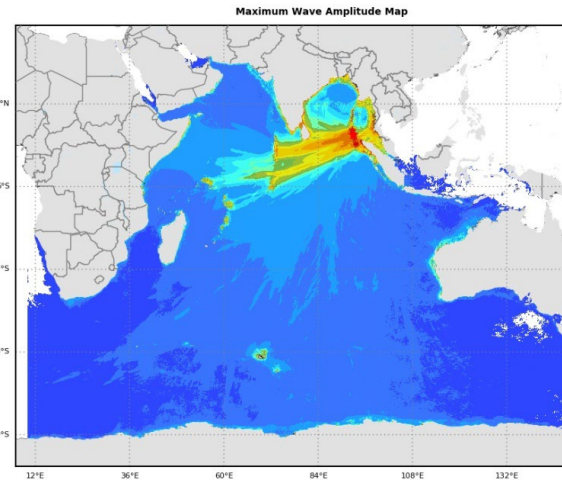
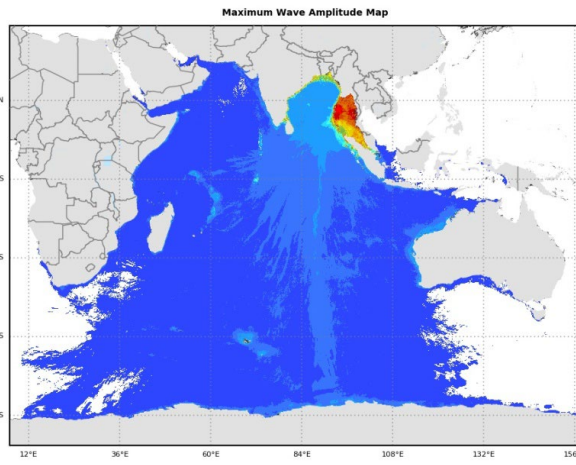
Exercise Scenarios for discussion

Andaman Islands

Nicobar Islands

Northern Sumatra

Southern Sumatra

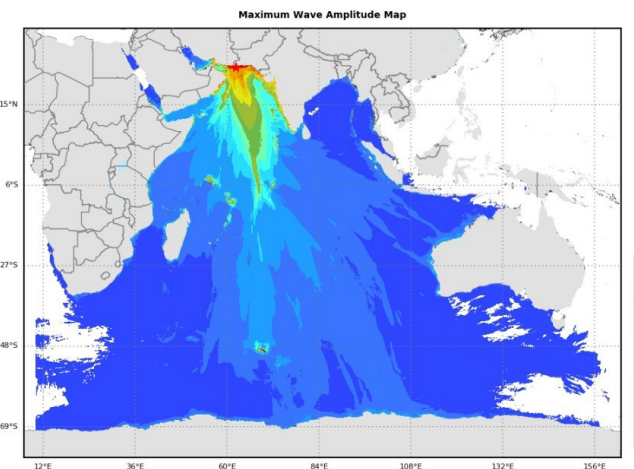
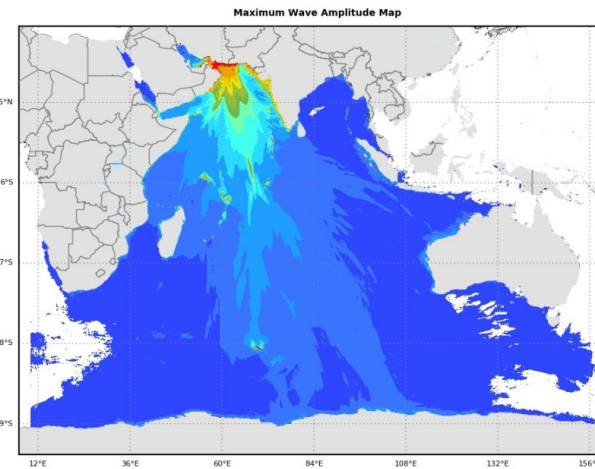
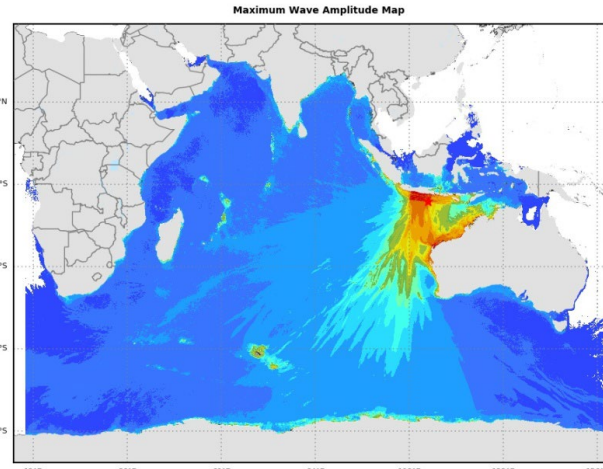
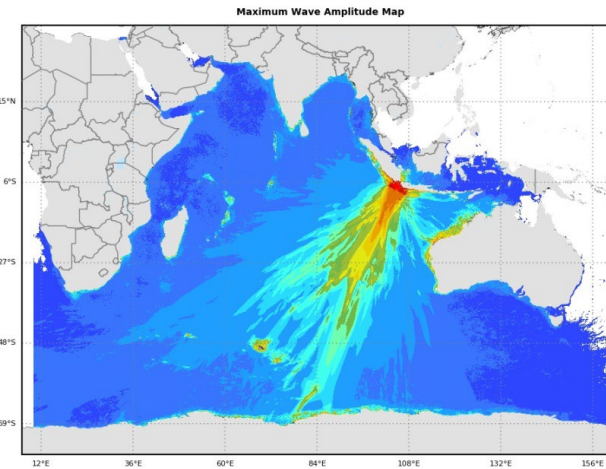


Sunda Strait

South of Java

Off Coast of Iran

Off Coast of Pakistan



Exercise Scenarios for Selection

- If Exercise with 2 Scenarios (2days)
 - ❖ Northern Sumatra (M 9.2)/ Southern Sumatra (M 9.2)/ Nicobar Islands (9.0)
 - ❖ Off Coast of Pakistan (M 9.0)/ Off Coast of Iran (M 9.0)

- If Exercise with 3 Scenarios (3 days)
 - ❖ South of Java (M 9.1)/ Sunda Strait (M 9.0)
 - ❖ Nicobar Islands (9.0)/ Andaman Islands (M 9.0)
 - ❖ Off Coast of Pakistan (M 9.0)/ Off Coast of Iran (M 9.0)

Exercise Dates & Timings

- Scenarios Dates
 - ❖ September/ October, 2023
 - ❖ Successive dates in a week
 - ❖ Successive weeks in a month
- Timings
 - ❖ South of Java / Sunda Strait (M 9.0) - 02:00 UTC
 - ❖ Nicobar Islands / Andaman Islands - 04:00 UTC
 - ❖ Off Coast of Pakistan / Off Coast of Iran - 06:00 UTC
- Duration
 - ❖ 12 hours each scenario/day

Final Scenarios Selection

Finalized Scenarios

Event No	Date	Origin Time	Latitude	Longitude	Depth	Magnitude	Region Name
1	04-October-2023	0600 UTC	24.80 N	58.20 E	10km	9.0	Off Coast of Iran
2	11-October-2023	0400 UTC	07.20 N	92.90 E	10km	9.0	Nicobar Islands, India
3	18-October-2023	0200 UTC	10.40 S	112.80 E	10km	9.1	South of Java, Indonesia
4	25-October-2023	0100 UTC				Non-Seismic Event	

Thank you