Iranian National Institute for Oceanography and Atmospheric Science (INIOAS)

Tsunami Ready

Coastal Communities at Risk of Tsunami Impacts Need to be Ready

"IRAN"

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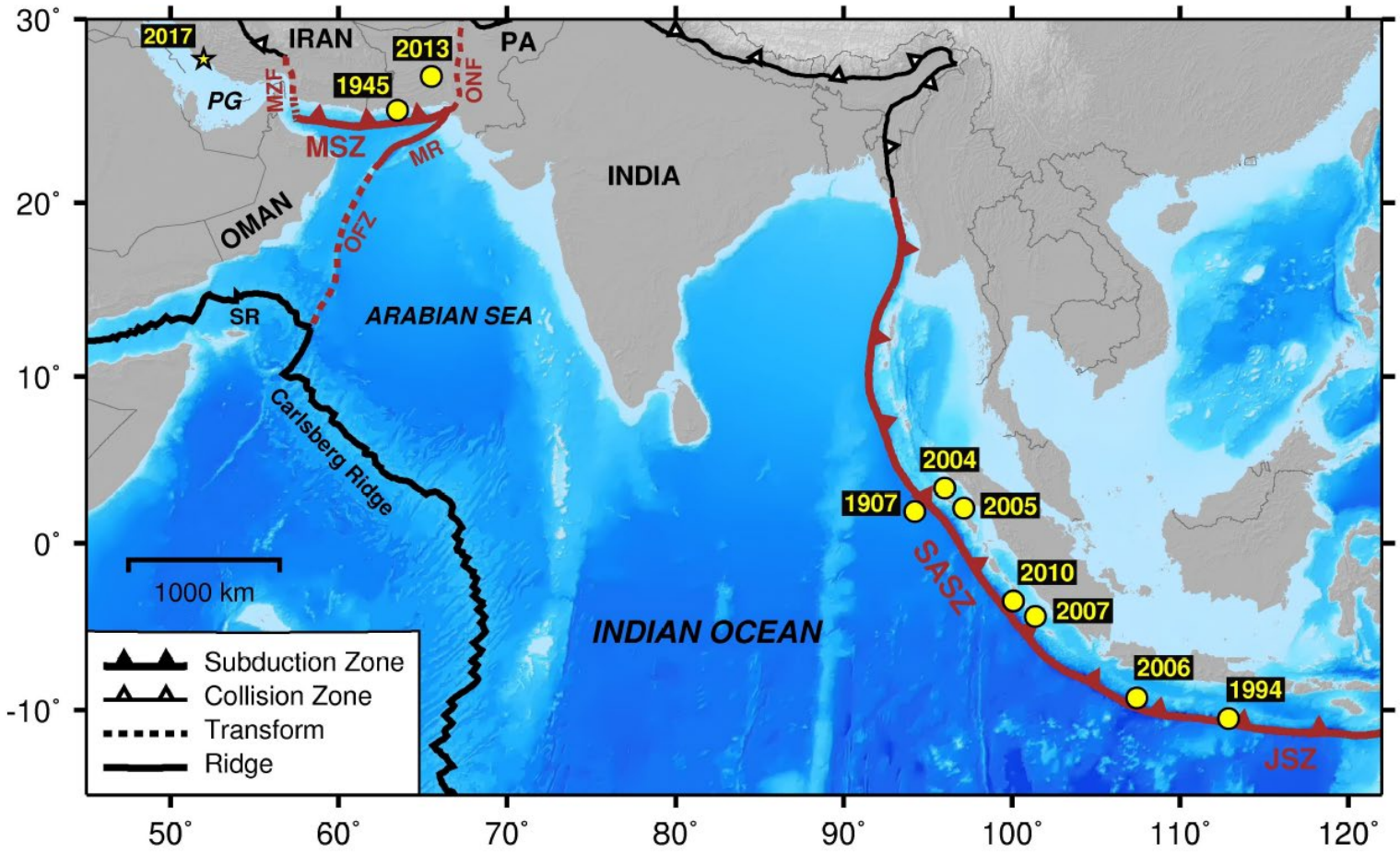
What are the Tsunami Hazard in Iran?

- The entire southern coast of Iran is adjacent to the Persian Gulf and the Gulf of Oman.
- These coastline are connected directly or through the Strait of Hormuz to the Arabian Sea and the Indian Ocean.
- These areas and the communities living in them can be exposed to the ocean hazards, including tsunamis.

What are the Tsunami Hazard in Iran?

- Iranian Coastline can be affected by Near-field and Far-field Tsunamis.

- Near-fields tsunamis are related to Makran Subduction Zone, while the Far-field tsunamis are generated by Sumatra-Andaman Subduction Zone



SASZ Sumatra-Andaman Subduction Zone, JSZ Java Subduction Zone, MSZ Makran Subduction Zone

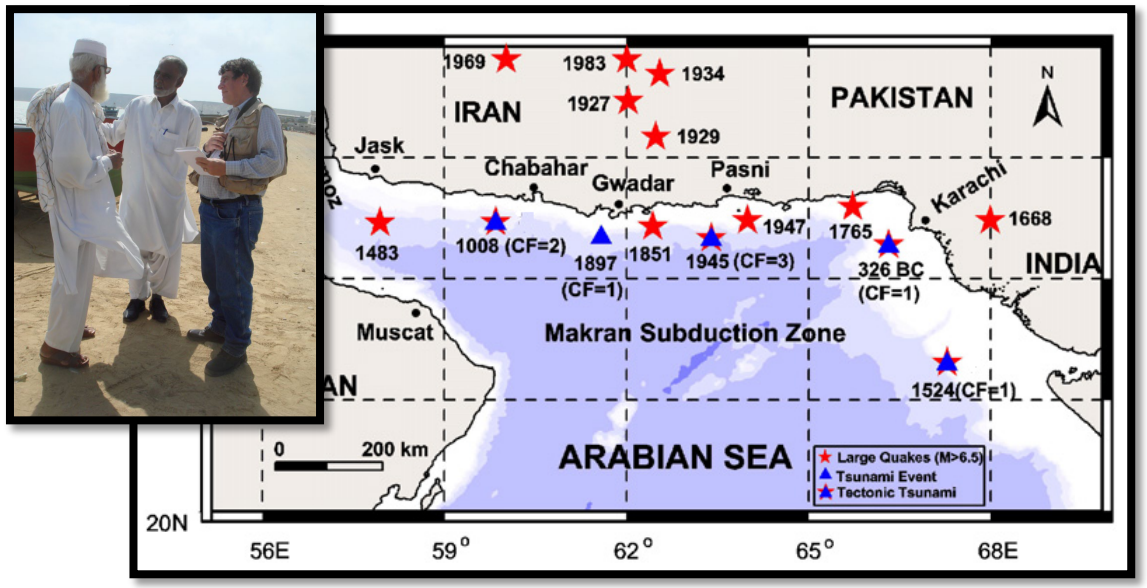
What are the Tsunami Hazard in Iran?

- Neglecting the doubtful tsunami event in the spring of 1008 A.D. at Siraf Port, history shows no confirmable tsunami in the Persian Gulf.
- The small width of the Strait of Hormuz also limits the ability for tsunami waves to enter the Persian Gulf from the Gulf of Oman.
- Compared to the Gulf of Oman, the risk of a tsunami in the Persian Gulf is much lower.

What are the Tsunami Hazard in Iran?

- Both historical events and geological studies of Makran Subduction Zone (MSZ) reveal that the possibility of a tsunami along the coastlines of the Gulf of Oman is very high.
- The major tsunami event in the Gulf of Oman was the tsunami of 1945, after a huge earthquake with Mw 8.1.
- The most affected areas were Pasni and Ormara, with inundation heights of up to 12 m. Some old people living in Chabahar, Iran, still remember the significant damage caused by the tsunami waves of November 1945.
- The studies have shown that earthquakes of up to Mw 9 could probably happen in the MSZ and generate a large tsunami.

Date	Remarks
326 B.C.	Reported during the times of Alexander the Great
Between 1 April and 9 May 1008 A.D.	Tsunami on the Iranian coast from a local earthquake
27 August 1883	Krakatoa 1.5 m tsunami at Madras, 0.6 m at Nagapattinam, 0.2 m at Arden
1884	Earthquake in the western part of the Bay of Bengal Tsunamis at Port Blair, Dublet (mouth of Hooghly River)
26 June 1941	8.1 quake in the Andaman Sea at 12.9°N, 92.5°E Tsunamis on the east coast of India with amplitudes from 0.75 to 1.25 m
27 November 1945	8.25 quake 70 km south of Karachi at 24.5°N, 63.0°E Tsunami amplitude at Kutch was 11.0-11.5 m



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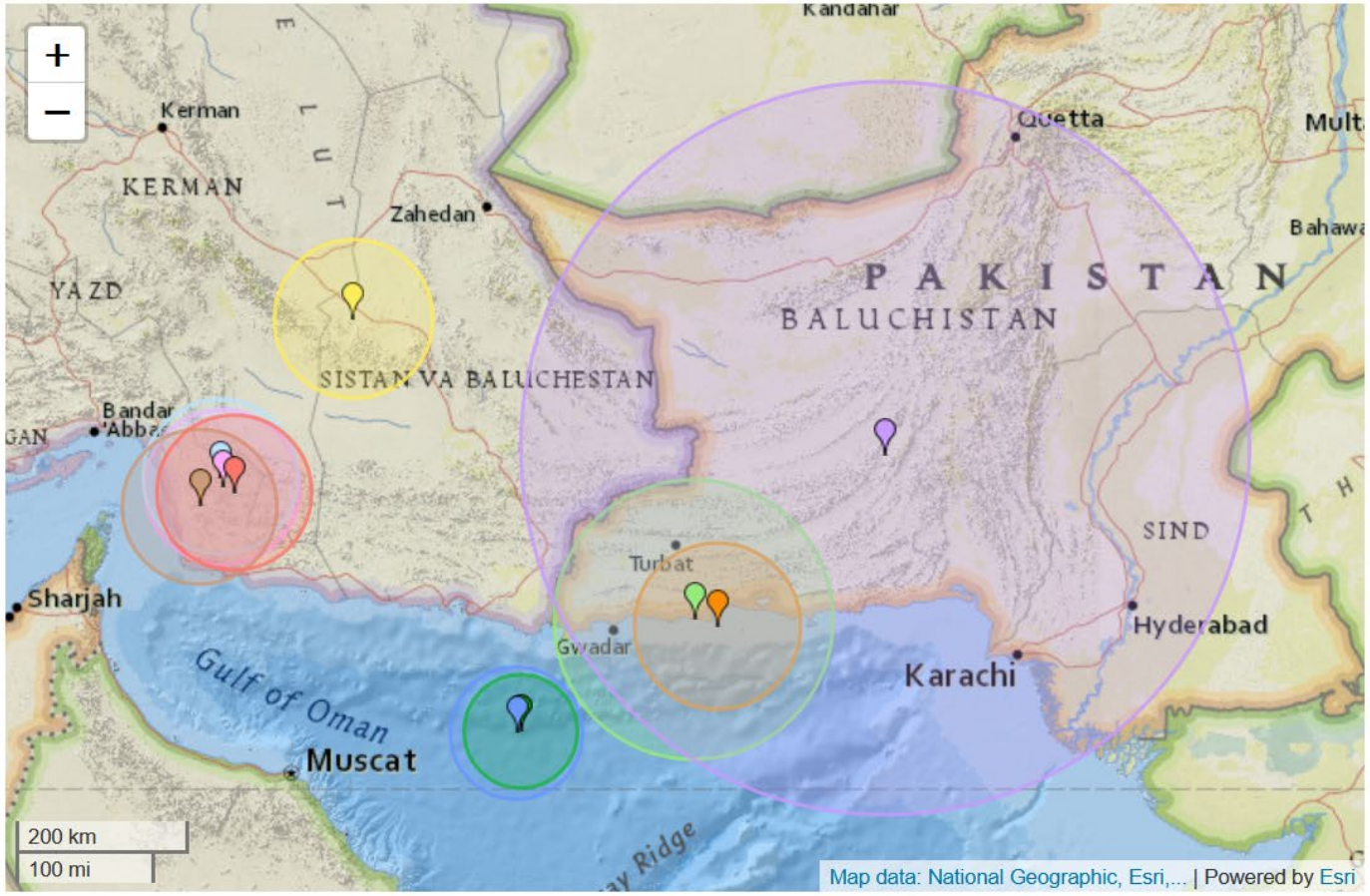

3 months ago 5.6 magnitude, 10 km depth
Pasni, Balochistān, Pakistan

4 years ago 5.5 magnitude, 10 km depth
Bam, Kerman, Iran

5 years ago 6.3 magnitude, 25 km depth
Pasni, Balochistān, Pakistan

7 years ago 5.1 magnitude, 15 km depth
Jīwani, Balochistān, Pakistan

7 years ago 5.3 magnitude, 17 km depth
Jīwani, Balochistān, Pakistan

9 years ago 7.7 magnitude, 15 km depth
Bela, Balochistān, Pakistan

9 years ago 5.5 magnitude, 15 km depth
Mīnāb, Hormozgan, Iran

9 years ago 5.5 magnitude, 14 km depth
Mīnāb, Hormozgan, Iran

9 years ago 5.5 magnitude, 17 km depth
Mīnāb, Hormozgan, Iran

9 years ago 5.5 magnitude, 8 km depth
Mīnāb, Hormozgan, Iran

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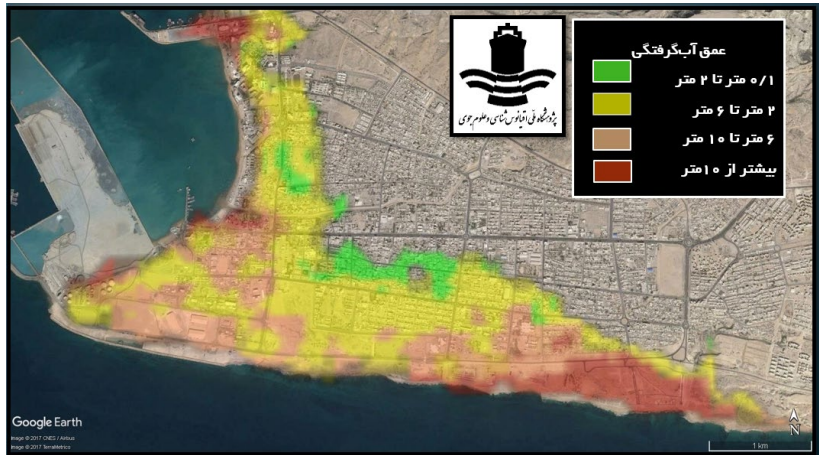
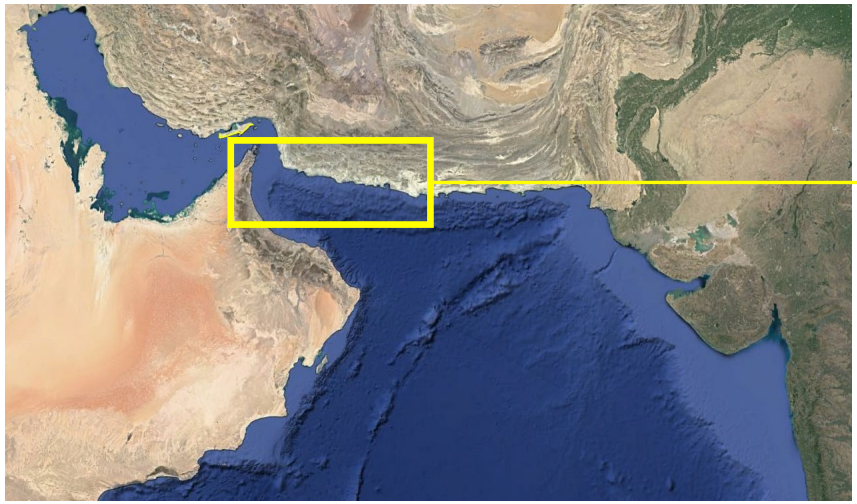
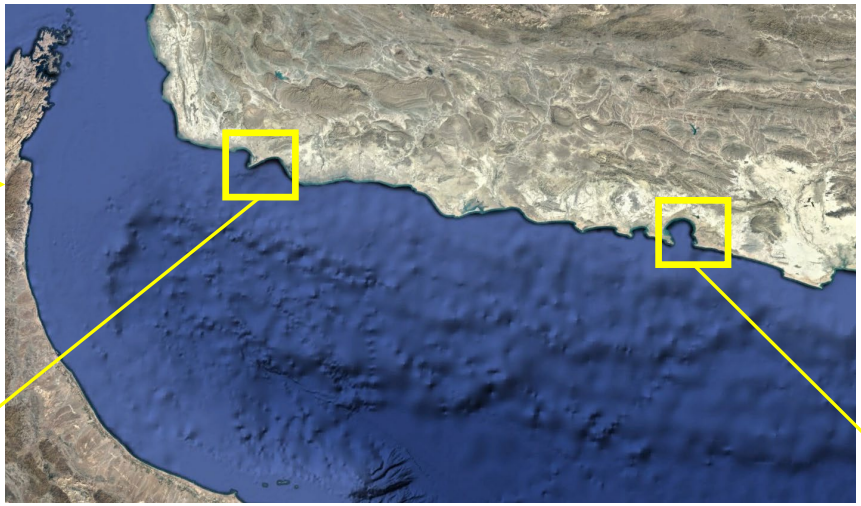
Where are the communities at risk of Tsunami in Iran?

Based on tsunami hazard assessment studies of coastal area of Iran and also regard to the population and industrial infrastructural, two important communities have been identified as the communities at risk of Tsunami in Iran .



Where are the communities at risk of Tsunami in Iran?





Where are the communities at risk of Tsunami in Iran?

Moreover, there are many local communities, villages and fishing ports in the region that are highly vulnerable in the event of a tsunami.

Why Tsunami Ready is important to the country?

- Certainly, one of the most effective and useful ways to deal with tsunami risks is implementation of the tsunami ready programs.
- The community at risk should have the knowledge and capacity to respond to the early warning. Without that, tsunami early warning system will not lead to a safe life.
- Weak or no community preparedness for tsunami emergencies seriously increase the risk of loss of life and property in coastal community.
- For Iran, due to the fact that its coastline exposed to the near-field tsunami with a short tsunami wave arrival time (about 10 to 20 minutes), the Tsunami Ready is of great importance.

Thank You for Your Attention

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