



COASTAL COMMUNITIES AT RISK OF TSUNAMI IMPACTS NEED TO BE READY

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Indian Ocean Tsunami Ready Workshop

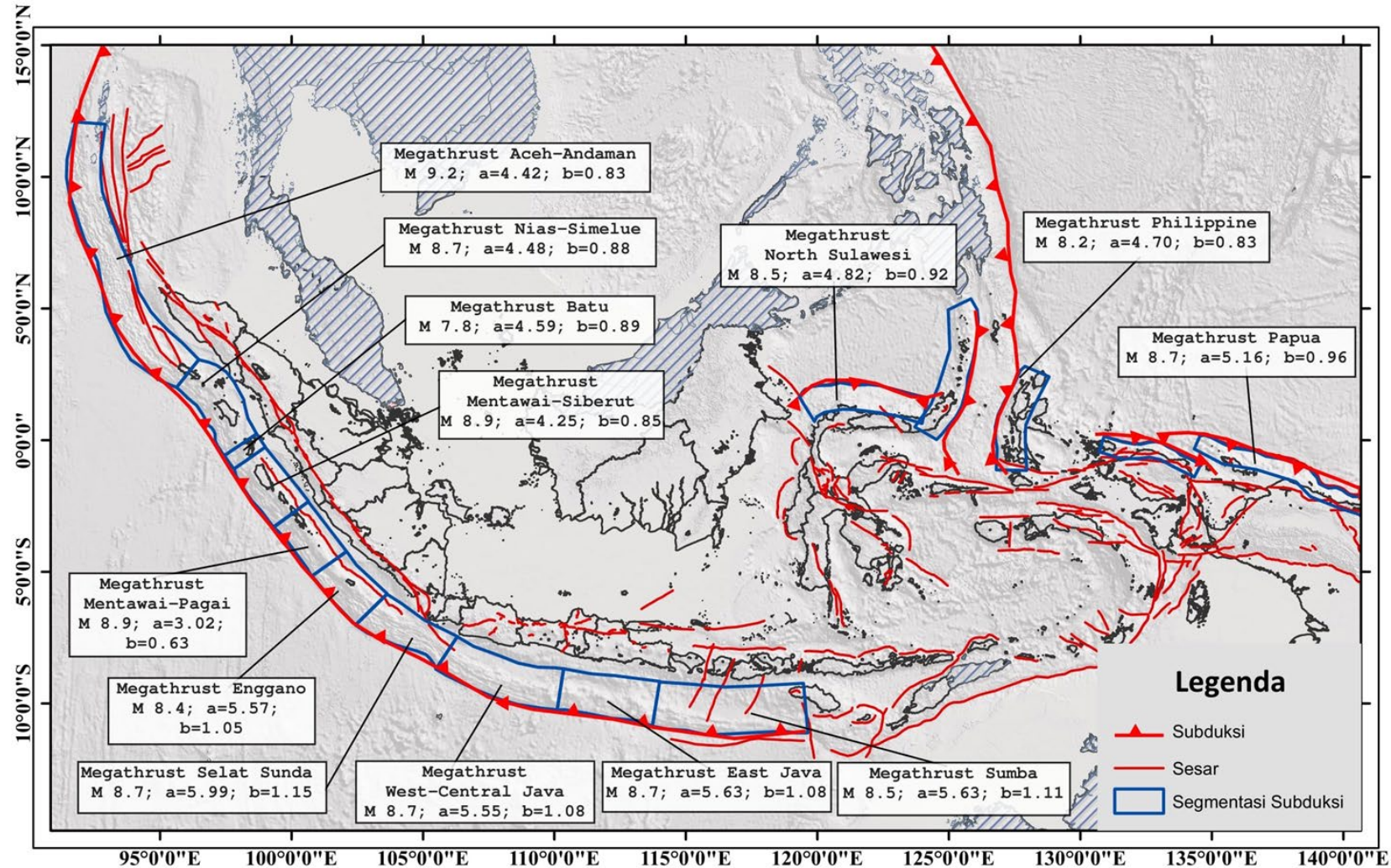
Tanjung Bena, Bali - Indonesia

22-26 November 2022

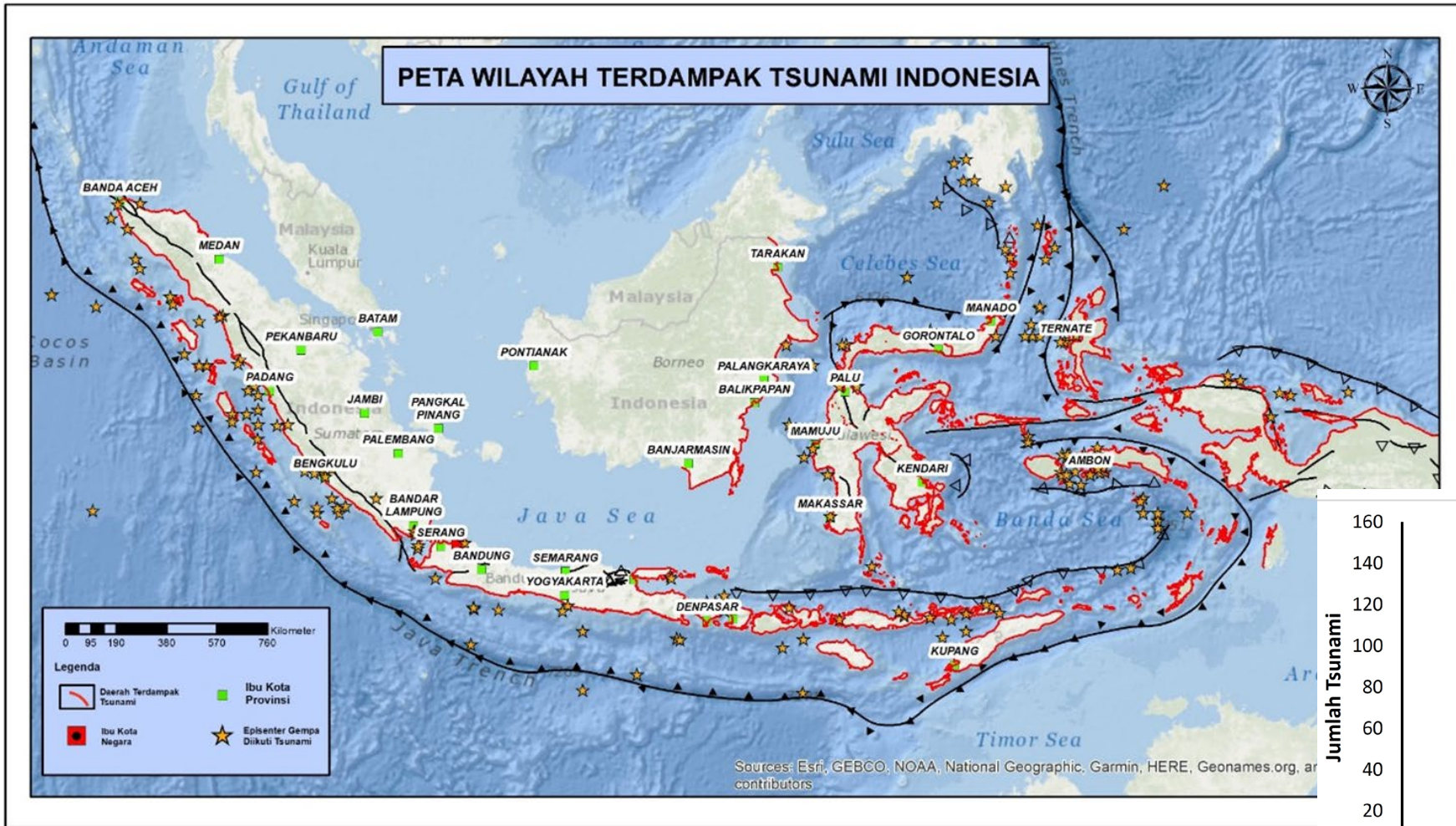


What are the Tsunami Hazard in the country.

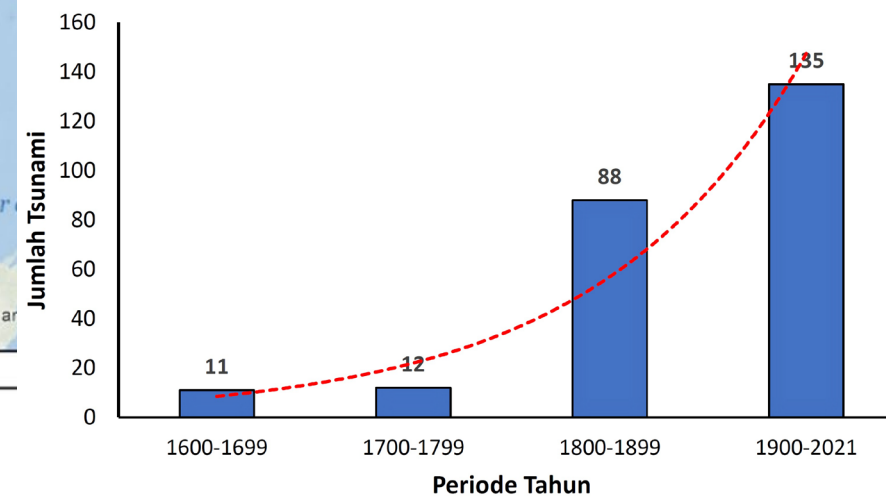
- ❖ Located in the junction of four active tectonic plates, Indonesia is inevitably prone to tsunami
- ❖ 6 subduction zones with 16 megathrust segments
- ❖ There are about 295 seismic faults had been identified, still many more had not been identified
- ❖ Indonesia is seismically active, in one year:
 - Earthquake with a various magnitude : 5.000-6.000 times
 - Earthquake $M > 5,0$: 250-350 times
 - Destructive earthquake 8-10 times



TSUNAMI HAZARD ZONE



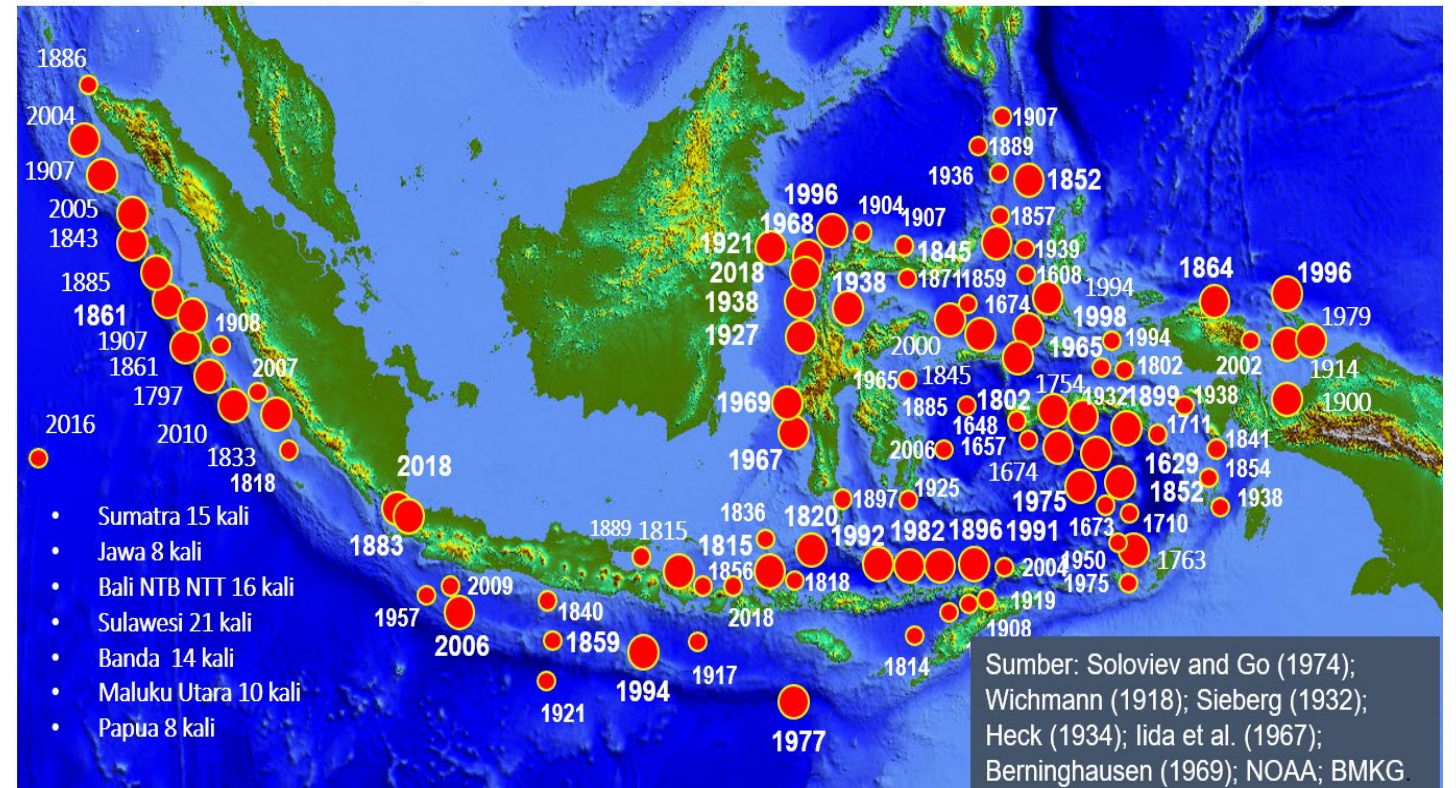
Since 1600 – 2021 there has been **246** tsunamis in Indonesia.



INDONESIAN TSUNAMI HISTORY

- The Tsunami had been along the subduction zone of Sumatera and Java
- The eastern part of Indonesia had experienced more tsunamis

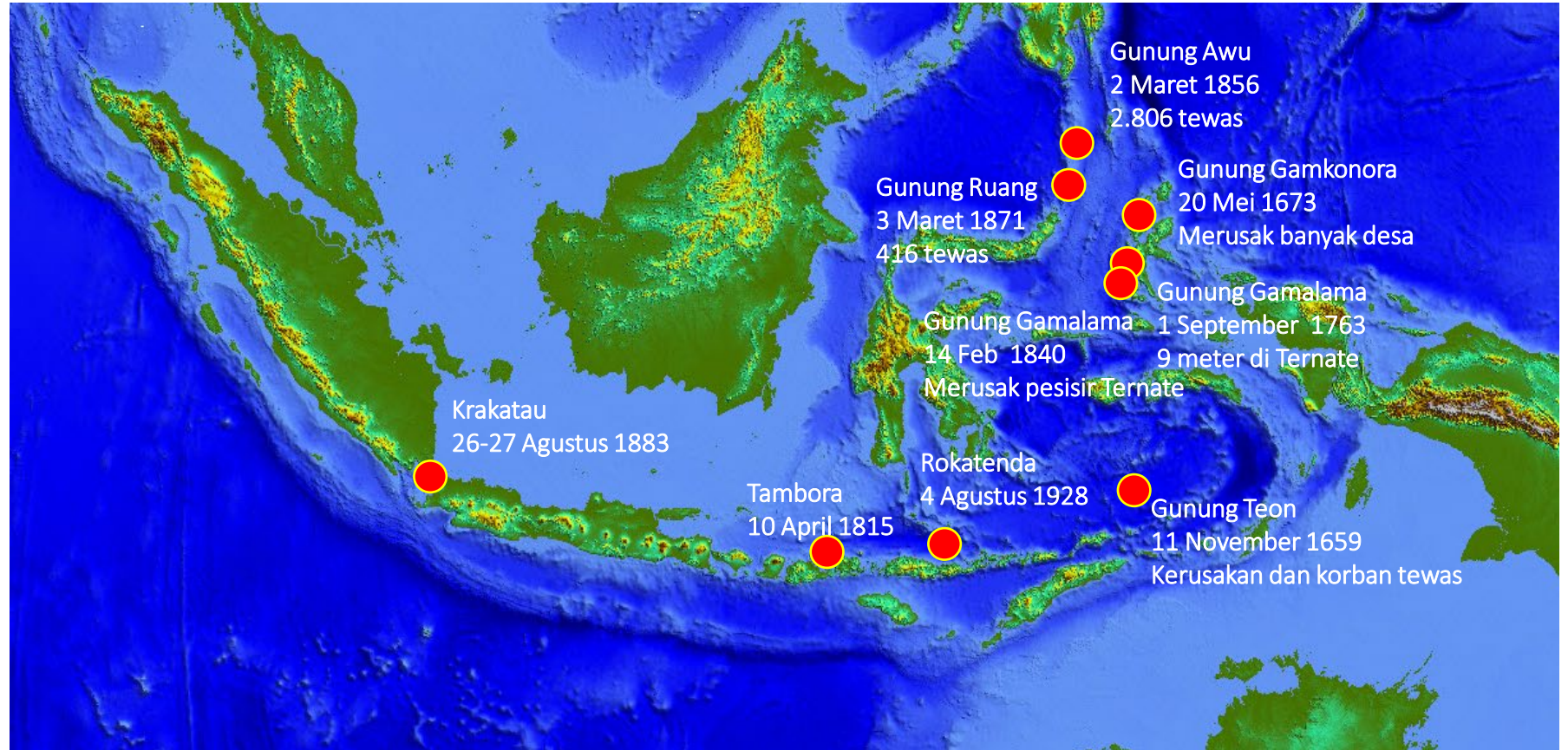
The Indonesian Tsunami History from 1600-2021



VOLCANO TSUNAMI

Potential Volcano Tsunami:

1. Krakatau
2. Tambora
3. Rokatenda
4. Teon
5. Gamalama
6. Ruang
7. Awu
8. Gamkonora
9. Illeweung



Indonesian non tectonical tsunami according to the historical data:

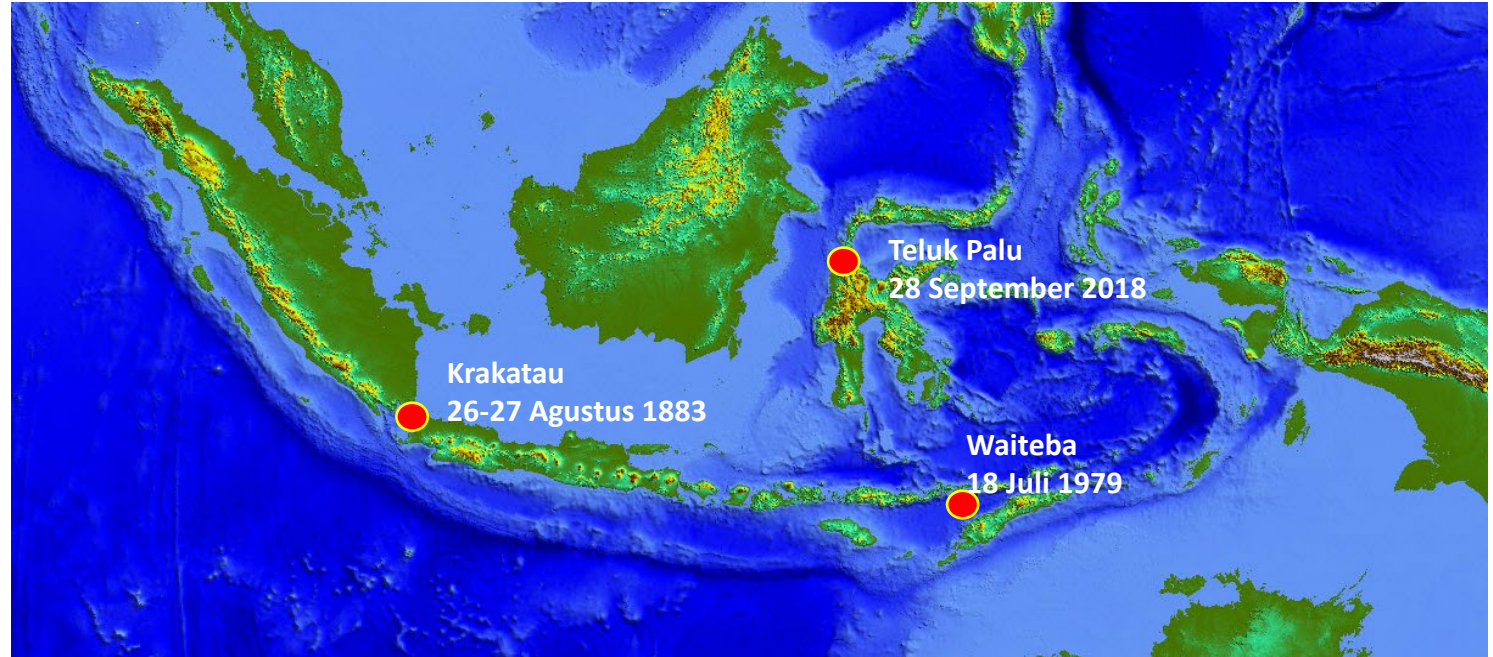
1. Sunda Strait Tsunami (1883, 1928, 2018)
2. Gamalama Tsunami (1763, 1840, 1871,)
3. Awu- Sangir Island Tsunami (1856)
4. Teon- Banda Island (1659, 1673)

Source: Soloviev and Go (1974); Wichmann (1918); Sieberg (1932); Heck (1934); Iida et al. (1967); Berninghausen (1969); NOAA; BMKG.

LANDSLIDE TSUNAMI

At least 3 Tsunami induced by landslide had been occurred in Indonesia

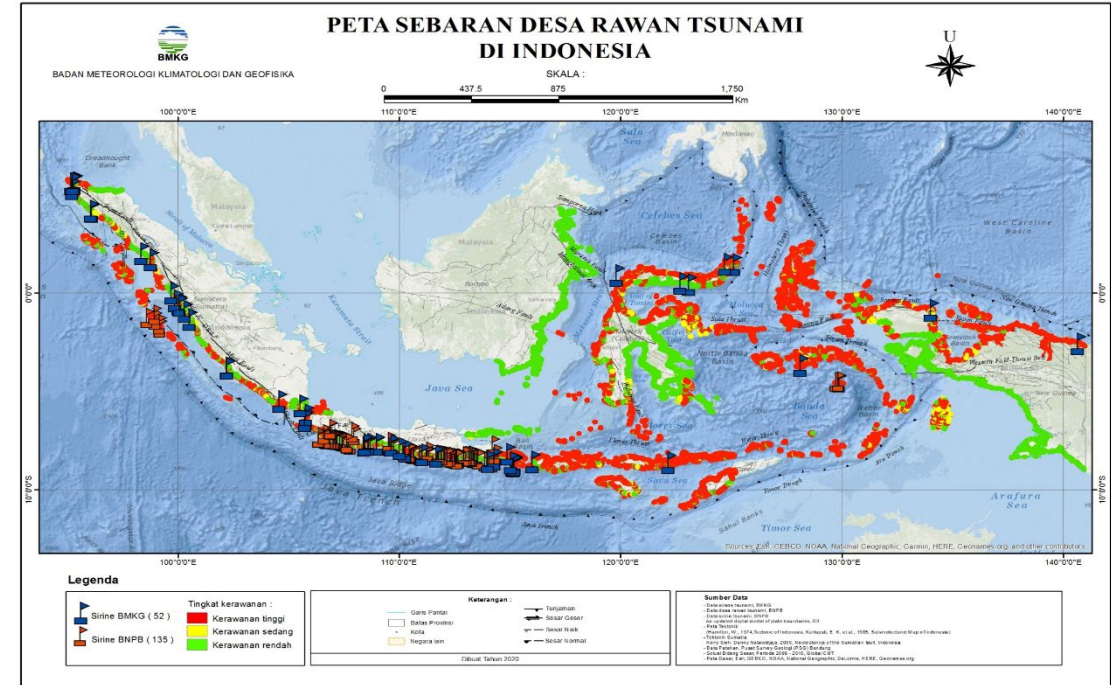
- The Waiteba Tsunami, NTT 18 June 1979
- 1.200 casualties



Sumber: Soloviev and Go (1974); Wichmann (1918); Sieberg (1932); Heck (1934); Iida et al. (1967); Berninghausen (1969); NOAA; BMKG.

COMMUNITIES AT RISK

No.	Provinsi	Kerawanan Tinggi	Kerawanan Sedang	No.	Provinsi	Kerawanan Tinggi	Kerawanan Sedang
1.	Aceh	445	70	14.	NTT	526	68
2.	Sumatera Utara	169	28	15.	Maluku	392	98
3.	Sumatera Barat	77	51	16.	Maluku Utara	467	62
4.	Bengkulu	79	53	17.	Kalimantan Timur	7	-
5.	Lampung	94	6	18.	Kalimantan Utara	9	-
6.	Banten	77	22	19.	Sulawesi Utara	376	95
7.	DKI Jakarta	2	-	20.	Gorontalo	58	2
8.	Jawa Barat	42	40	21.	Sulawesi Tenggara	196	1
9.	Jawa Tengah	64	-	22.	Sulawesi Tengah	466	80
10.	D.i. Yogyakarta	25	3	23.	Sulawesi Selatan	167	117
11.	Jawa Timur	130	12	24.	Sulawesi Barat	91	31
12.	Bali	109	44	25.	Papua	358	39
13.	NTB	147	70	26.	Papua Barat	146	21



- There 5732 villages are prone to tsunami (1013 vilages has a high level of hazard, and 4719 villages are moderate)

THANK YOU



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2021 United Nations Decade
of Ocean Science
for Sustainable Development
2030



IOC - Ocean
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OceanTeacher Global Academy