

NUMERICAL SIMULATION OF TSUNAMI INUNDATION IN THE WEST COAST OF MYANMAR

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1. Fault Parameters of Tsunami Sources

Table 1. Source parameters of the scenario earthquake.

Lat (°N)	Long (°E)	M _w	Length (km)	Width (km)	Strike (Degree)	Dip (Degree)	Rake (Degree)	Slip amount (m)	Top depth (km)
17.00	93.9375	8.7	358.794	100	341	10	127	17	0

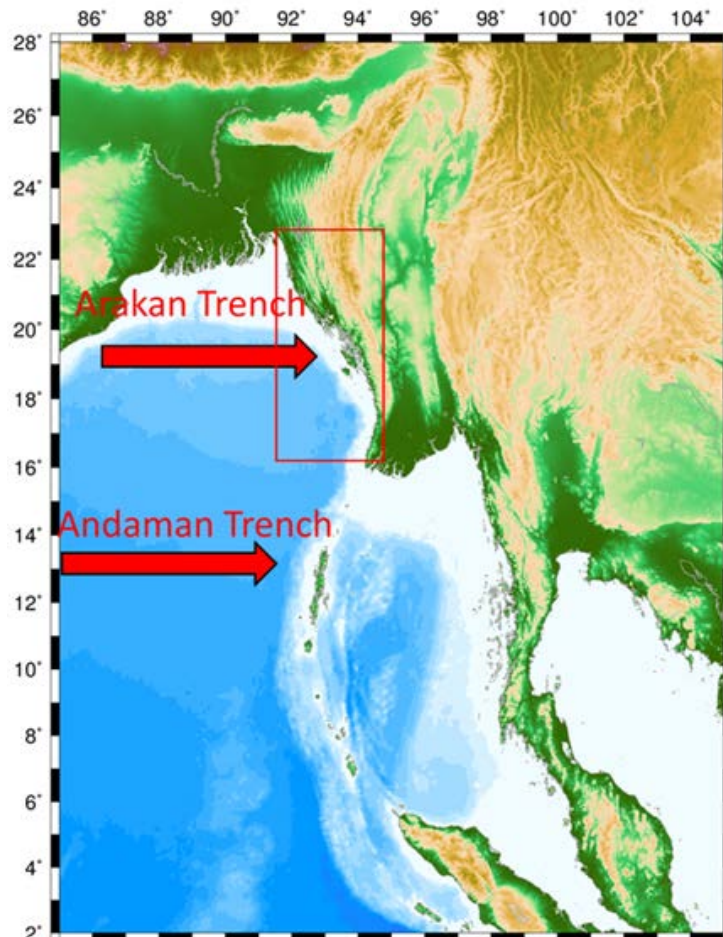


Figure 1. Target area.

2. Assumed Tide Gauge Stations

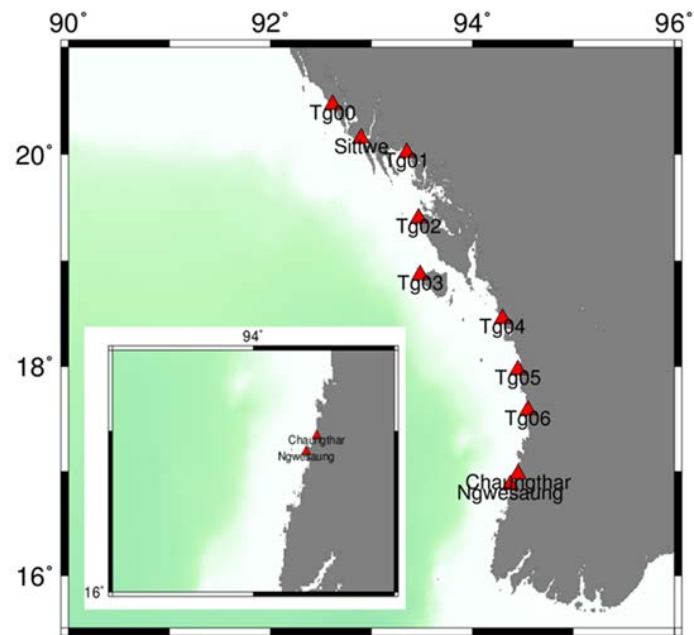


Figure 2. The location of the assumed tide gauge stations along the Rakhine coast.

Table 2. The location of the assumed tide gauge stations.

No	Tide Gauge Station Name	Lat (N) (deg: min: sec)	Long (E) (deg: min: sec)	Depth (m)
1	Tg00	20:28:00	92:37:00	1.0
2	Sittwe	20:09:00	92:54:00	1.0
3	Tg01	20:01:00	93:21:00	1.0
4	Tg02	19:24:00	93:28:00	1.0
5	Tg03	18:52:00	93:29:00	1.0
6	Tg04	18:27:00	94:18:00	1.0
7	Tg05	17:58:00	94:27:00	2.5
8	Tg06	17:35:00	94:33:00	1.0
9	Chaungthar	16:58:17	94:27:02	2.2
10	Ngwesaung	16:52:18	94:22:30	1.0

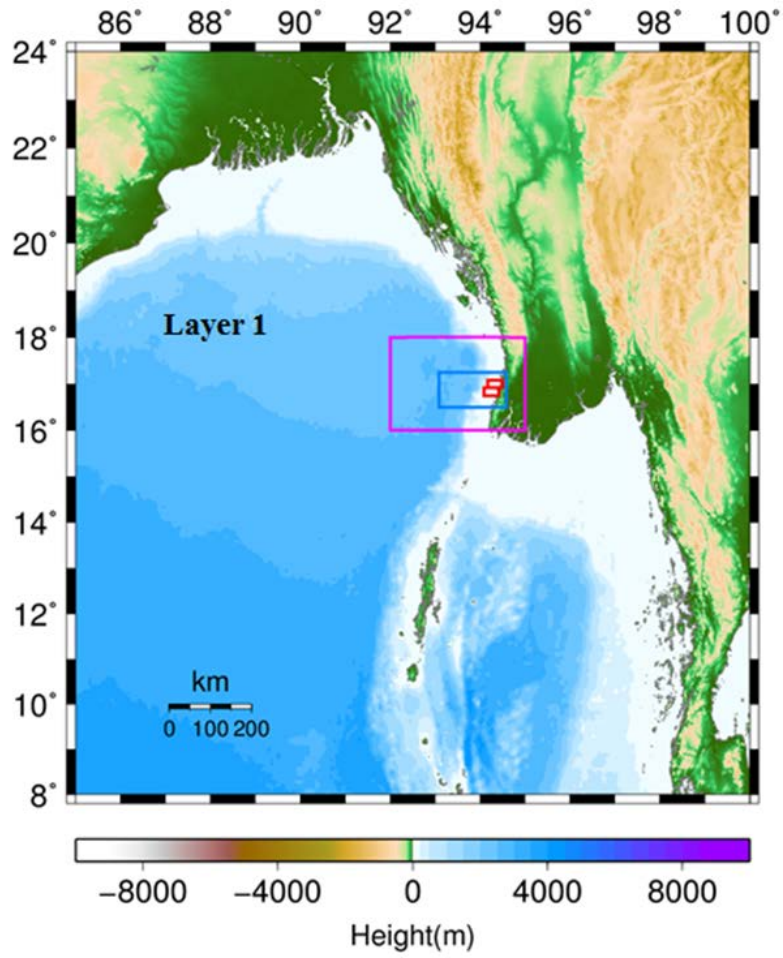


Figure 3. Location and boundary of each layer for inundation computation.

This figure shows Layer 1.

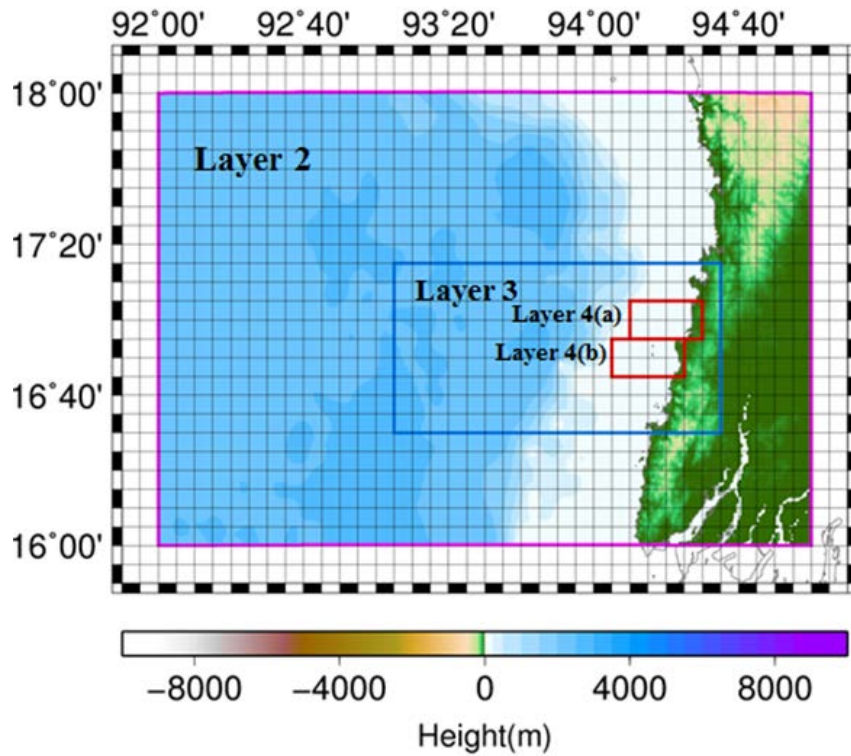


Figure 4. Same as Figure 3, but for Layer 2 (pink rectangle), Layer 3 (blue rectangle) and Layers 4(a) and (b) (red rectangles).

3. Results (Tsunami Height)

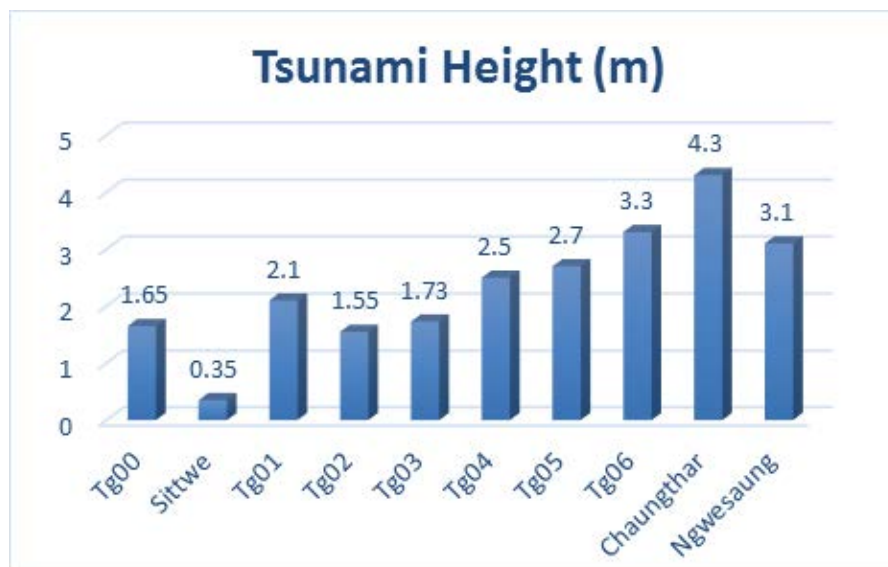


Figure 5. Calculated tsunami height at the assumed 10 tide gauge stations.

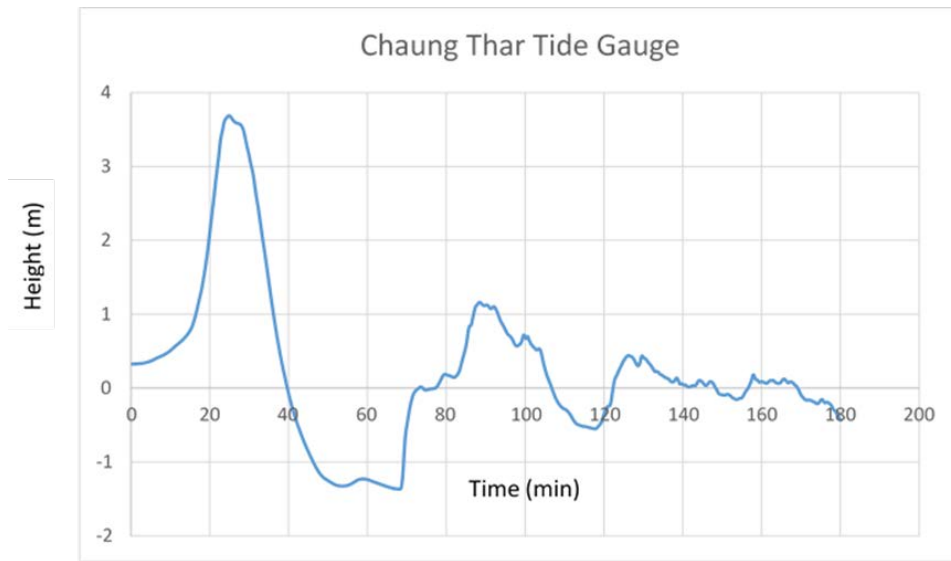


Figure 6. Tsunami waveform calculated for the Chaung Thar tide gauge.

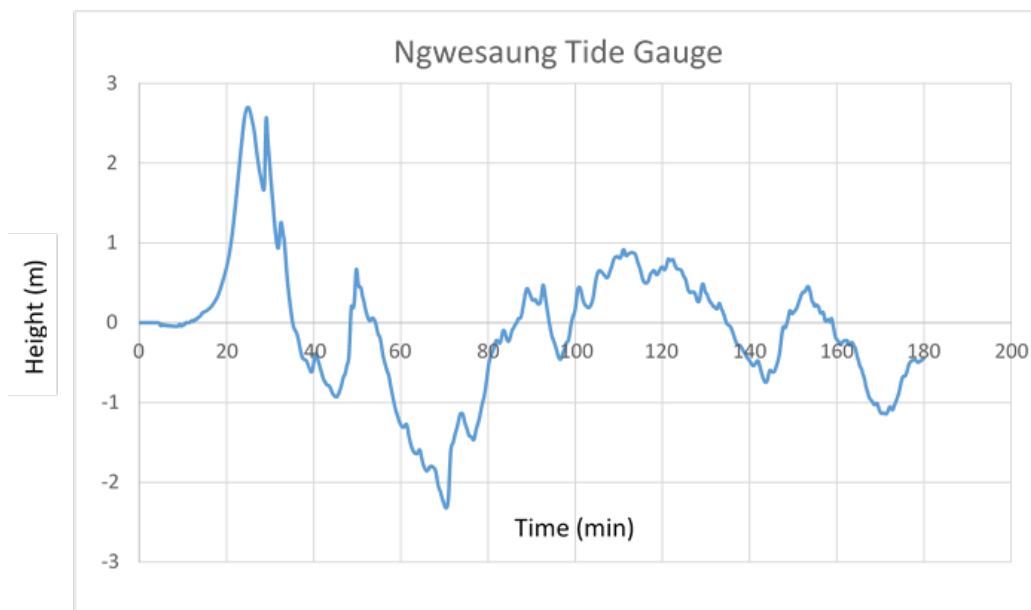


Figure 7. Tsunami waveform calculated for the Ngwesaung tide gauge.

4. Conditions for Computation

Table 3. Computational parameters and data source for each layer.

Layer	Longitude (°E)		Latitude (°N)		Resolution	Data Source		Grid Size
						Bathymetry	Topography	nx/ny
1	85.00	100.00	8.00	24.00	1 arc -min	GEBCO 30c	-	900/960
2	92.00	95.00	16.00	18.00	20 arc - sec	GEBCO 30c	-	540/360
3	93.008 333	94.0058 33	16.005	17.0025	6.66667 arc-sec	GEBCO 30c	-	945/405
4(a)	94.001 667	94.005	16.0091 67	17.0008 333	2.22222 arc- sec	GEBCO 30c	SRTM (90m)	540/270
4(b)	94.000 833	94.0041 67	16.0075	16.0091 67	2.22222 arc- sec	GEBCO 30c	SRTM (90m)	540/270

Temporal grid size (Δt) is 3 s.

Table 4. Summary of bathymetry data and resolution used for tsunami simulation.

Bathymetry Data	GEBCO 1 arc-min
Spatial resolution	1 arc-min
Grid dimension	900 x 960
Temporal grid size	3s