TSUNAMI NUMERICAL SIMULATION AROUND SULU SEA AND CELEBES SEA
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1. Fault Parameters of Tsunami Sources

Table 1. Fault parameters for each scenario earthquake (Salcedo, 2010).

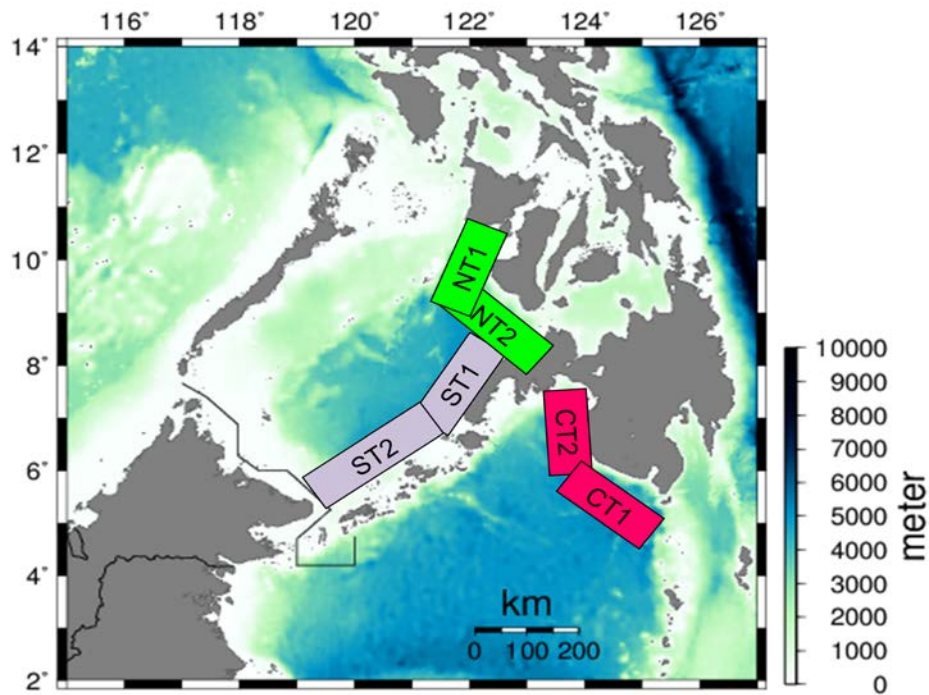| Number of Scenario	Source	Magnitude (M_w)	Location of the fault corner		Length	Width	Strike	Dip	Rake	Slip
			Long (°)	Lat (°)	(km)	(km)	(deg)	(deg)	(deg)	(m)
Scenario 1	NT1	8.2	121.5	9.0	206	81.01	20	32	100	2.89
Scenario 2	NT2	8.1	122.7	7.8	174	73.66	310	32	90	2.37
Scenario 3	ST1	8.0	121.4	7.2	167	71.97	30	45	129	2.26
Scenario 4	ST2	8.3	119.6	6.2	230	84.00	45	45	90	3.16
Scenario 5	CT1	7.9	124.5	4.9	135	63.84	315	25	79	1.77
Scenario 6	CT2	8.1	123.6	5.7	190	77.40	355	35	92	2.63

Figure 1. Locations of each segment represented by colored rectangular.
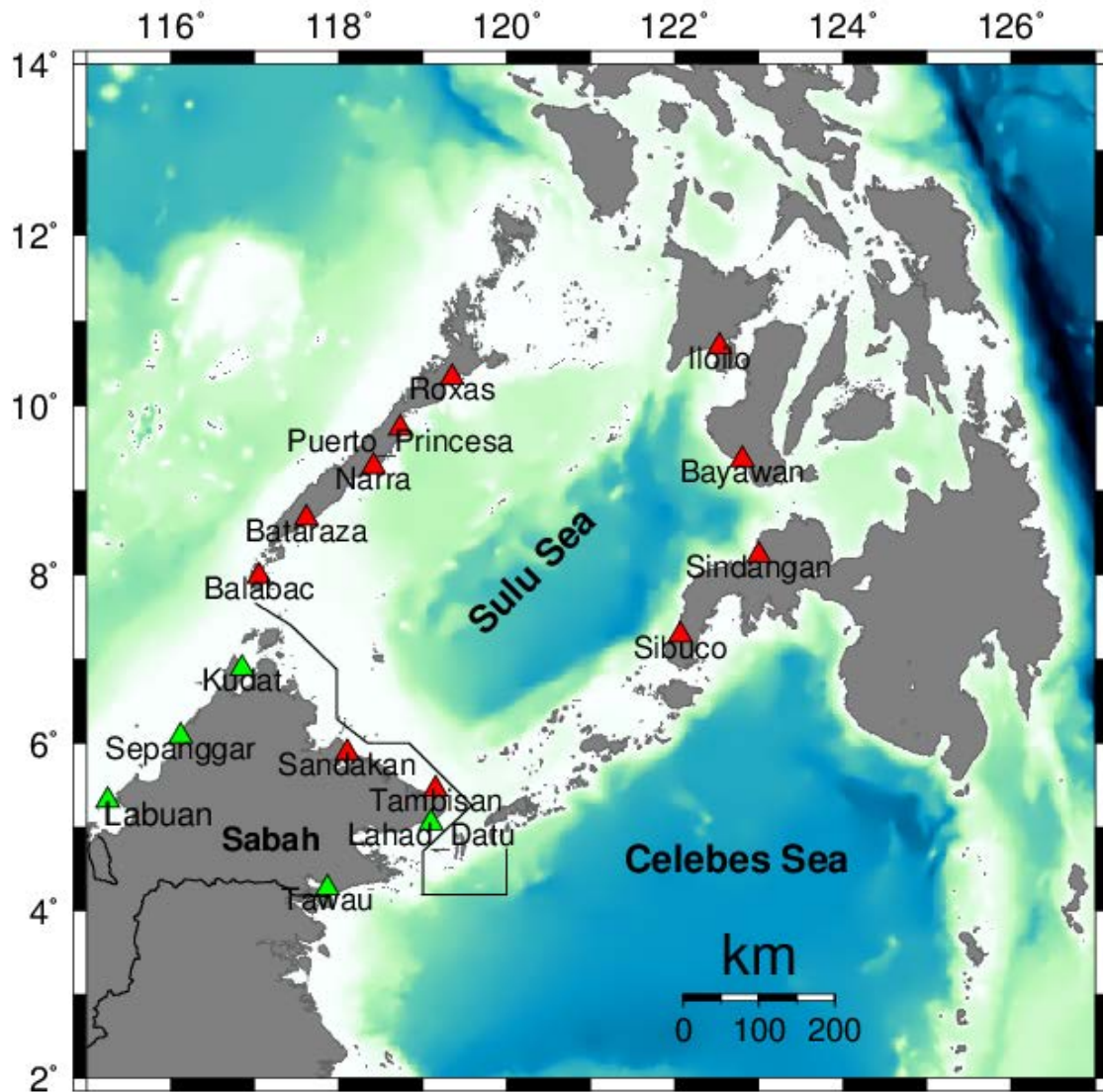
2. Tide gauge stations

Figure 2. Computational area in numerical model and tide gauges located around
coastal area of Sabah and the Philippines coast. The green and red triangles
represent the location of existing tide gauges and assumed tide gauges, respectively.

Table 2. Location of tide gauge stations

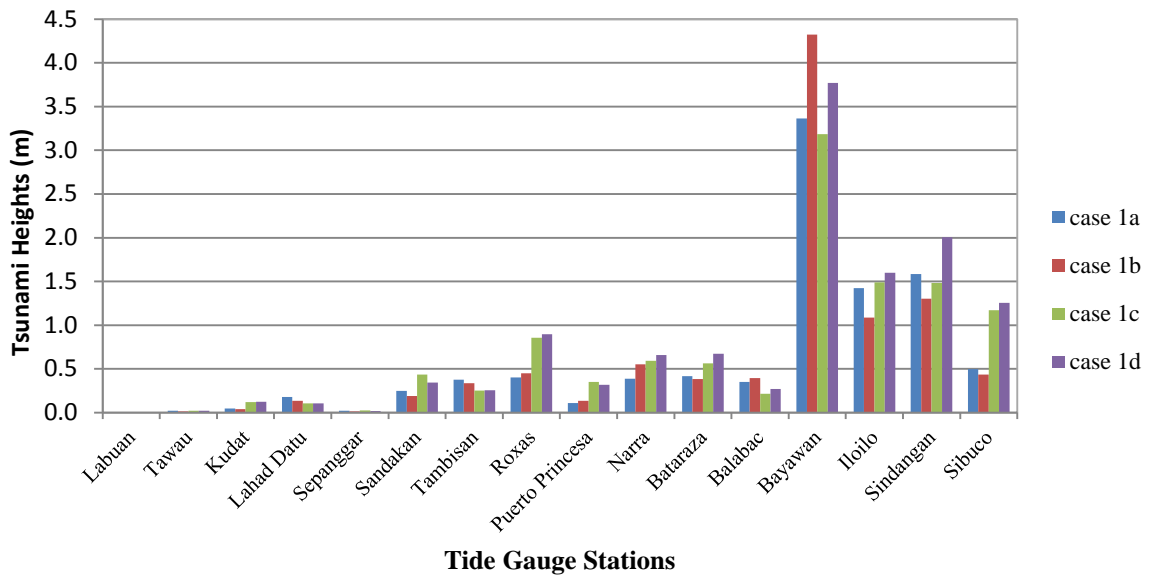| Station name	Latitude	Longitude	Depth (m)	
			1 arc-minute bathymetry data	30 arc-second bathymetry data
Labuan	$05^o19'$N	$115^o15'$E	4.5	3.6
Tawau	$04^o16'$N	$117^o51'$E	1.0	2.8
Kudat	$06^o53'$N	$116^o51'$E	1.8	1.0
Lahad Datu	$05^o03'$N	$119^o06'$E	31.9	19.4
Sepanggar	$06^o05'$N	$116^o07'$E	1.0	1.0
Sandakan	$05^o53'$N	$118^o06'$E	2.1	5.2
Tambisan	$05^o27'$N	$119^o09'$E	9.1	25
Roxas	$10^o20'$N	$119^o22'$E	1.0	1.0
Puerto Princesa	$09^o44'$N	$118^o43'$E	2.8	6.8
Narra	$09^o16'$N	$118^o26'$E	1.0	7.0
Bataraza	$08^o39'$N	$117^o37'$E	1.0	1.0
Balabac	$07^o59'$N	$117^o03'$E	1.0	1.0
Bayawan	$09^o21'$N	$122^o48'$E	4.0	1.0
Iloilo	$10^o40'$N	$122^o32'$E	2.2	4.3
Sindangan	$08^o14'$N	$122^o59'$E	7.6	1.0
Sibuco	$07^o17'$N	$122^o03'$E	1.0	1.0

3. Results (Tsunami Height)

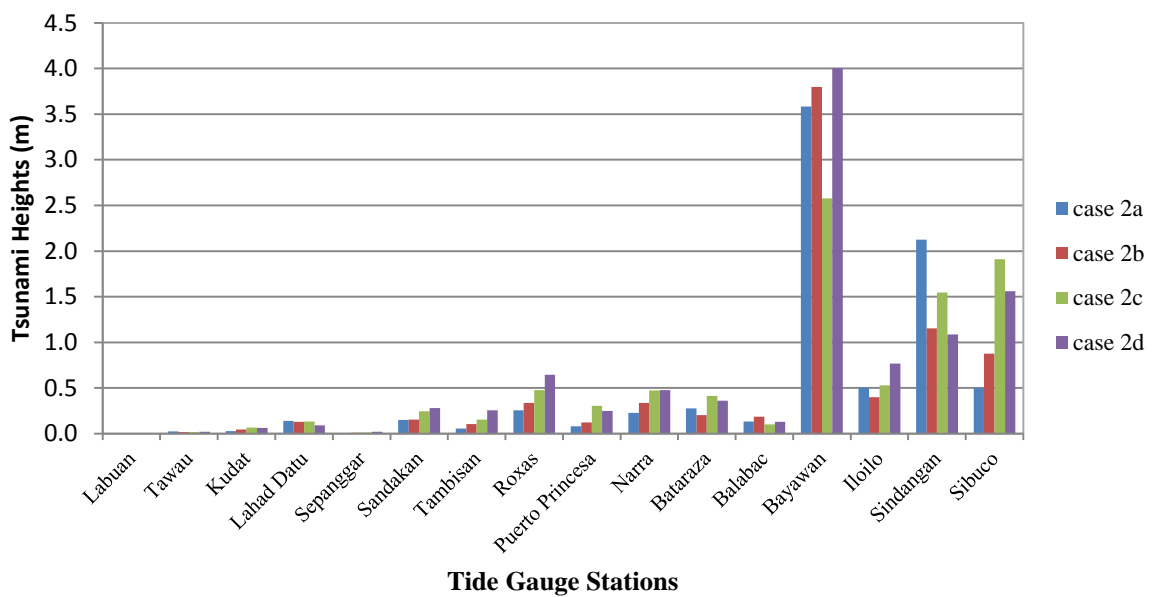Figure 3. Maximum tsunami heights at each tide gauge for the tsunami source from the Negros Trench 1 (NT1).

Figure 4. Maximum tsunami heights at each tide gauge for the tsunami source from the Negros Trench 2 (NT2).
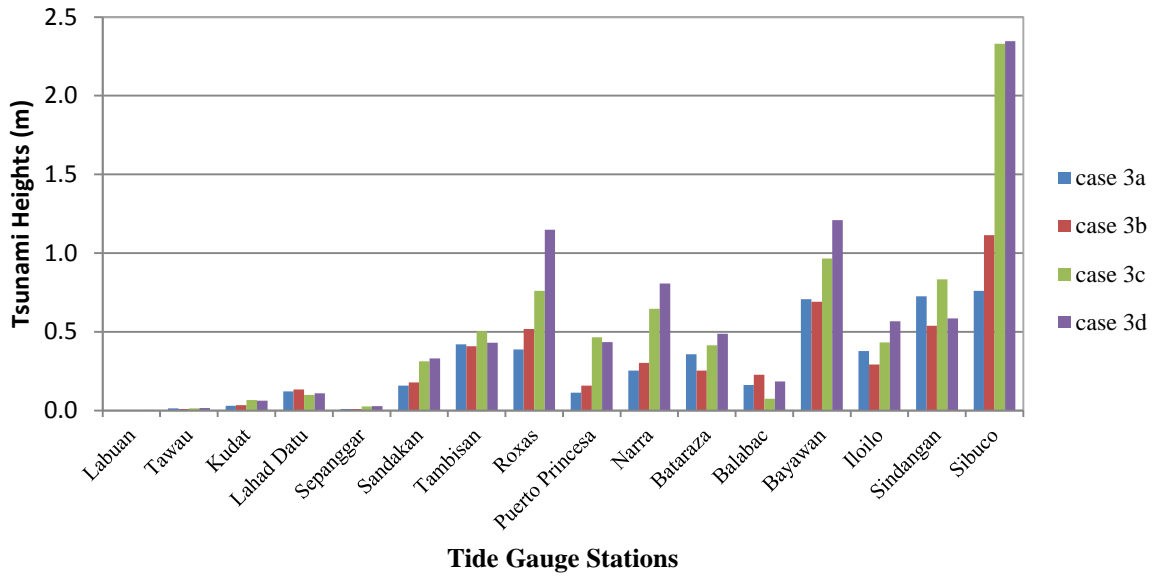
Figure 5. Maximum tsunami heights at each tide gauge for the tsunami source from the Sulu Trench 1 (ST1).
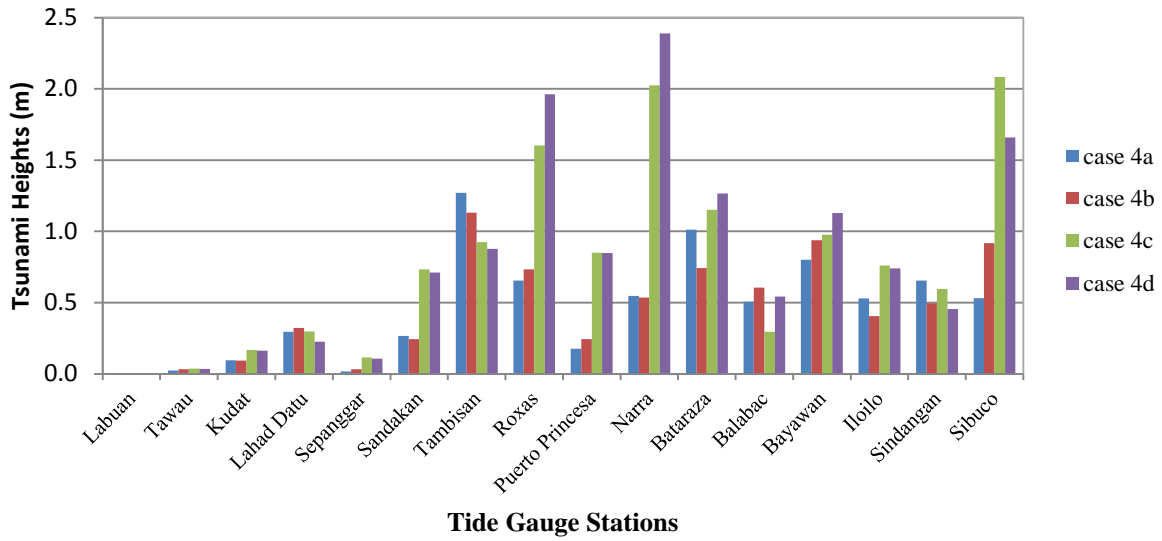

Figure 6. Maximum tsunami heights at each tide gauge for the tsunami source from the Sulu Trench 2 (ST2).
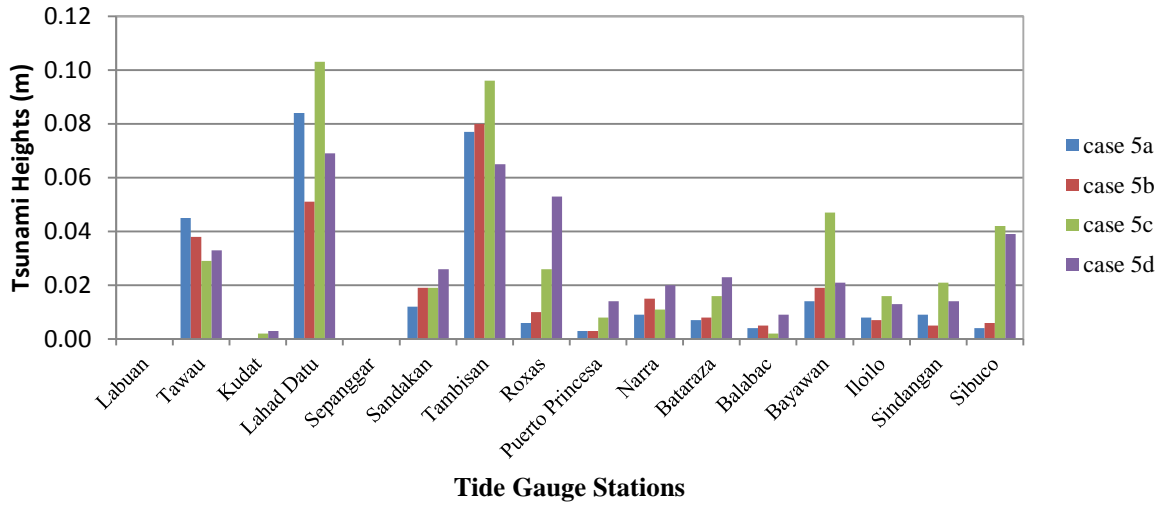
Figure 7. Maximum tsunami heights at each tide gauge for the tsunami source from the Cotabato Trench 1 (CT1).
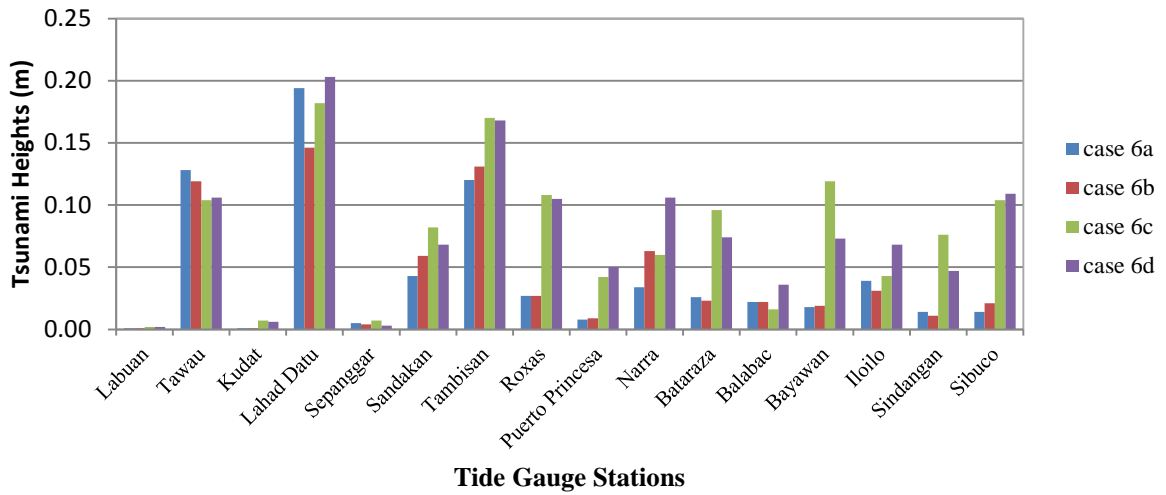

Figure 8. Maximum tsunami heights at each tide gauge for the tsunami source from the Cotabato Trench 2 (CT2).
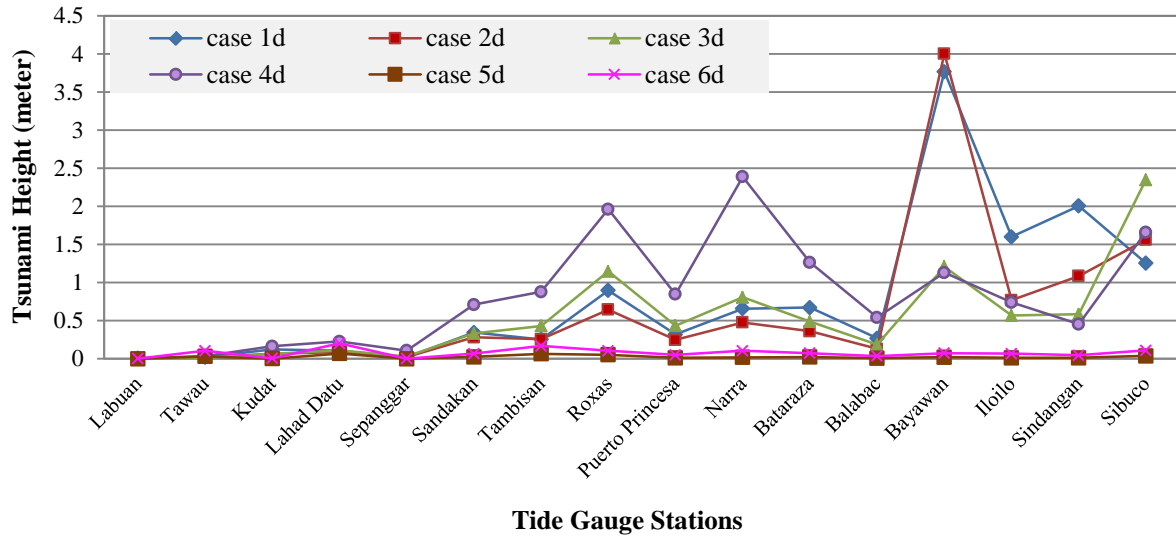
Figure 9. Maximum tsunami heights at each tide gauge station for case d
with different scenarios.

4. Conditions for Computation

Table 3. Summary of data used for simulation

Name of the case	Case a	Case b	Case c	Case d
Bathymetry Data	GEBCO 1 arc-min	GEBCO 1 arc-min	GEBCO_08 30 arc-sec	GEBCO_08 30 arc-sec
Resolution	1 arc-min (1850 m)	30 arc-sec (925 m)	1 arc-min (1850 m)	30 arc-sec (925 m)
Grid dimension	720 x 720	1440 x 1440	720 x 720	1440 x 1440
Temporal Grid Size (Δt)	3 s	2 s	3 s	2 s

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