



*Supplement of*

## **Seismic and tsunami hazard potential of the Negros–Sulu megathrust, Philippines**

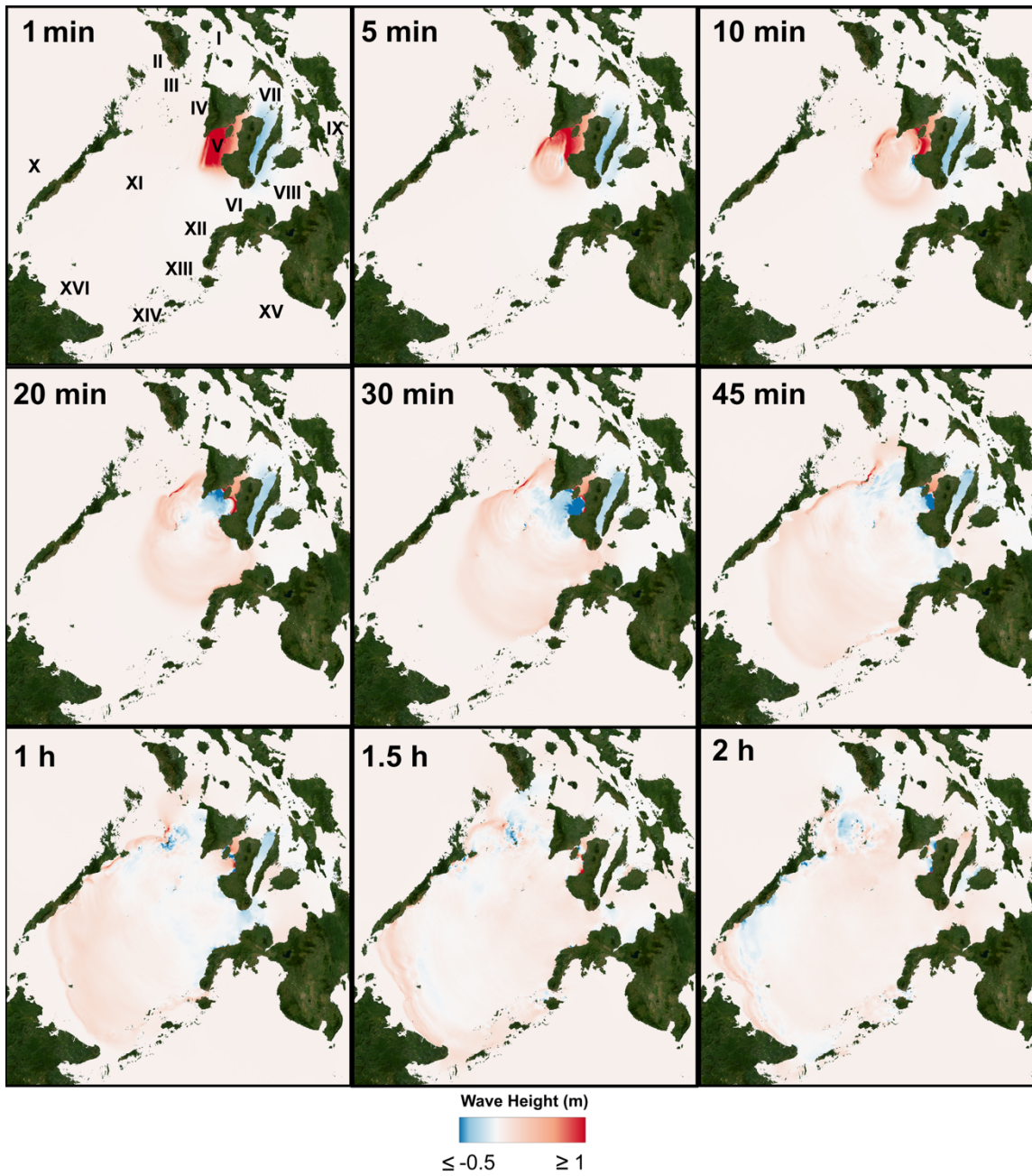
**Lyndon P. Nawanao Jr. et al.**

*Correspondence to:* Lyndon P. Nawanao Jr. ([lyndon.nawanao@nigs.upd.edu.ph](mailto:lyndon.nawanao@nigs.upd.edu.ph)) and  
Noelynna T. Ramos ([noelynna.ramos@up.edu.ph](mailto:noelynna.ramos@up.edu.ph))

The copyright of individual parts of the supplement might differ from the article licence.

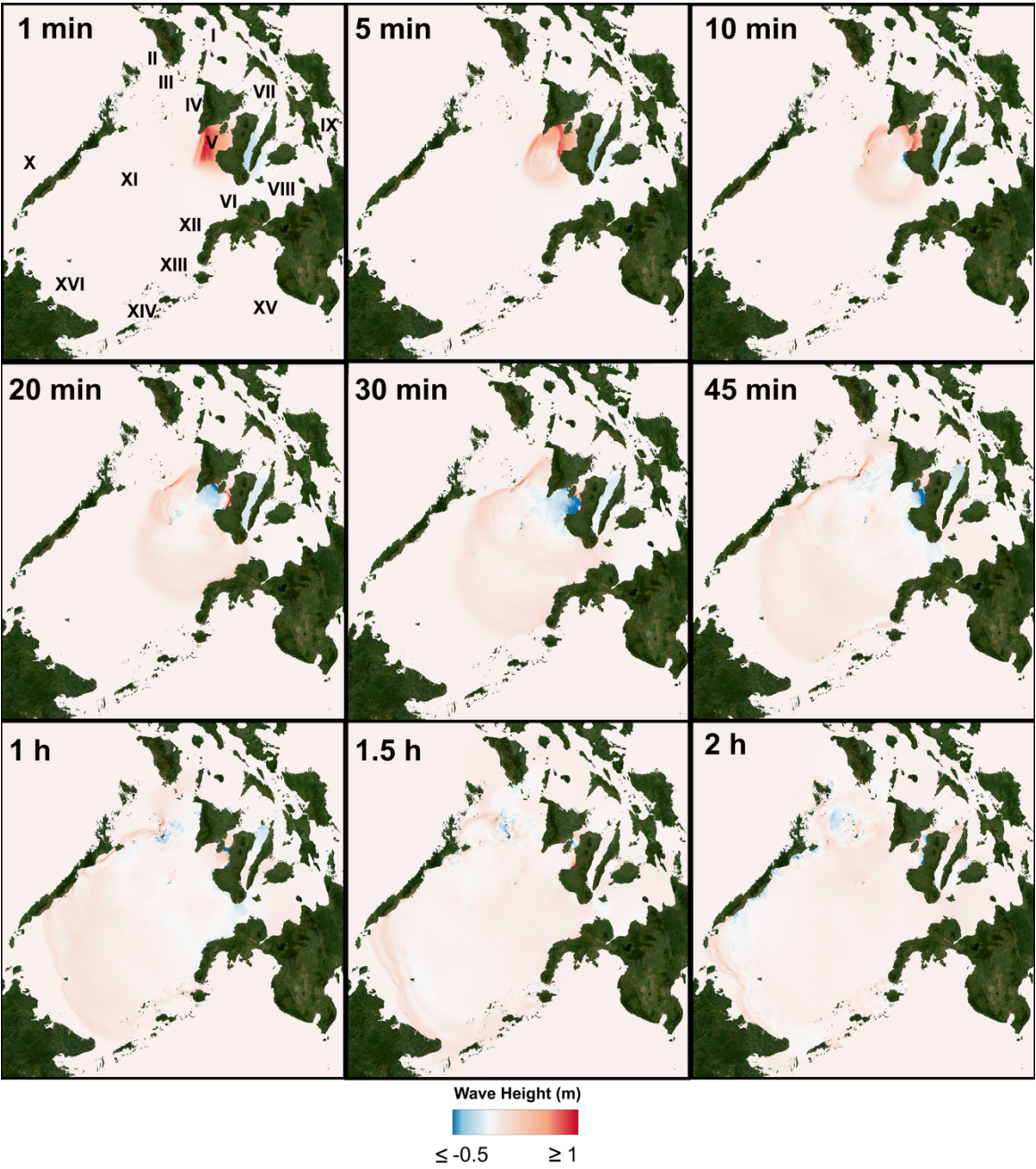
**Table S1. Synthetic tide gauge locations and coordinates for tsunami modeling.**

| <b>ID</b> | <b>Location</b>                   | <b>Longitude</b> | <b>Latitude</b> |
|-----------|-----------------------------------|------------------|-----------------|
| 1         | Coron Bay, Palawan                | 120.155          | 11.889          |
| 2         | Pandarochan Bay, Oriental Mindoro | 121.171          | 12.221          |
| 3         | Boracay, Aklan                    | 121.913          | 11.964          |
| 4         | Pandan, Antique                   | 122.085          | 11.72           |
| 5         | Roxas, Palawan                    | 119.342          | 10.255          |
| 6         | Cuyo Island, Palawan              | 121.084          | 10.828          |
| 7         | San Jose de Buenavista, Antique   | 121.952          | 10.721          |
| 8         | Anini-y, Antique                  | 121.922          | 10.427          |
| 9         | Iloilo City                       | 122.506          | 10.671          |
| 10        | Puerto Princesa, Palawan          | 118.751          | 9.708           |
| 11        | Cagayancillo, Palawan             | 121.276          | 9.645           |
| 12        | Sipalay, Negros Occidental        | 122.397          | 9.748           |
| 13        | Himamaylan, Negros Occidental     | 122.859          | 10.098          |
| 14        | Bacolod City, Negros Occidental   | 122.93           | 10.672          |
| 15        | Brook's Point, Palawan            | 117.842          | 8.771           |
| 16        | Bayawan City, Negros Oriental     | 122.813          | 9.355           |
| 17        | Dumaguete City, Negros Oriental   | 123.314          | 9.302           |
| 18        | Cebu City                         | 123.916          | 10.287          |
| 19        | Tagbilaran City, Bohol            | 123.825          | 9.671           |
| 20        | San Juan, Siquijor                | 123.518          | 9.133           |
| 21        | Mabini, Bohol                     | 124.557          | 9.852           |
| 22        | Maasin City, South Leyte          | 124.856          | 10.122          |
| 23        | Surigao City                      | 125.493          | 9.798           |
| 24        | Butuan City                       | 125.494          | 9.01            |
| 25        | Cagayan de Oro                    | 124.652          | 8.526           |
| 26        | Iligan City                       | 124.229          | 8.24            |
| 27        | Dipolog City                      | 123.333          | 8.6             |
| 28        | Sindangan, Zamboanga del Norte    | 122.991          | 8.234           |
| 29        | Labason, Zamboanga del Norte      | 122.511          | 8.073           |
| 30        | Siocon, Zamboanga del Norte       | 122.121          | 7.69            |
| 31        | Zamboanga City                    | 122.06           | 6.906           |
| 32        | Isabela City                      | 121.95           | 6.703           |
| 33        | Jolo, Sulu                        | 120.995          | 6.056           |
| 34        | Sandakan, Malaysia                | 118.12           | 5.897           |



15

Figure S1. Tsunami wave (2 h) propagation from NT1-1 segment at 20° dip angle. Basemap from World Imagery Esri | Powered by Esri.



20 Figure S2. Tsunami wave (2 h) propagation from NT1-2 segment at 20° dip angle. Basemap from World Imagery Esri | Powered by Esri.



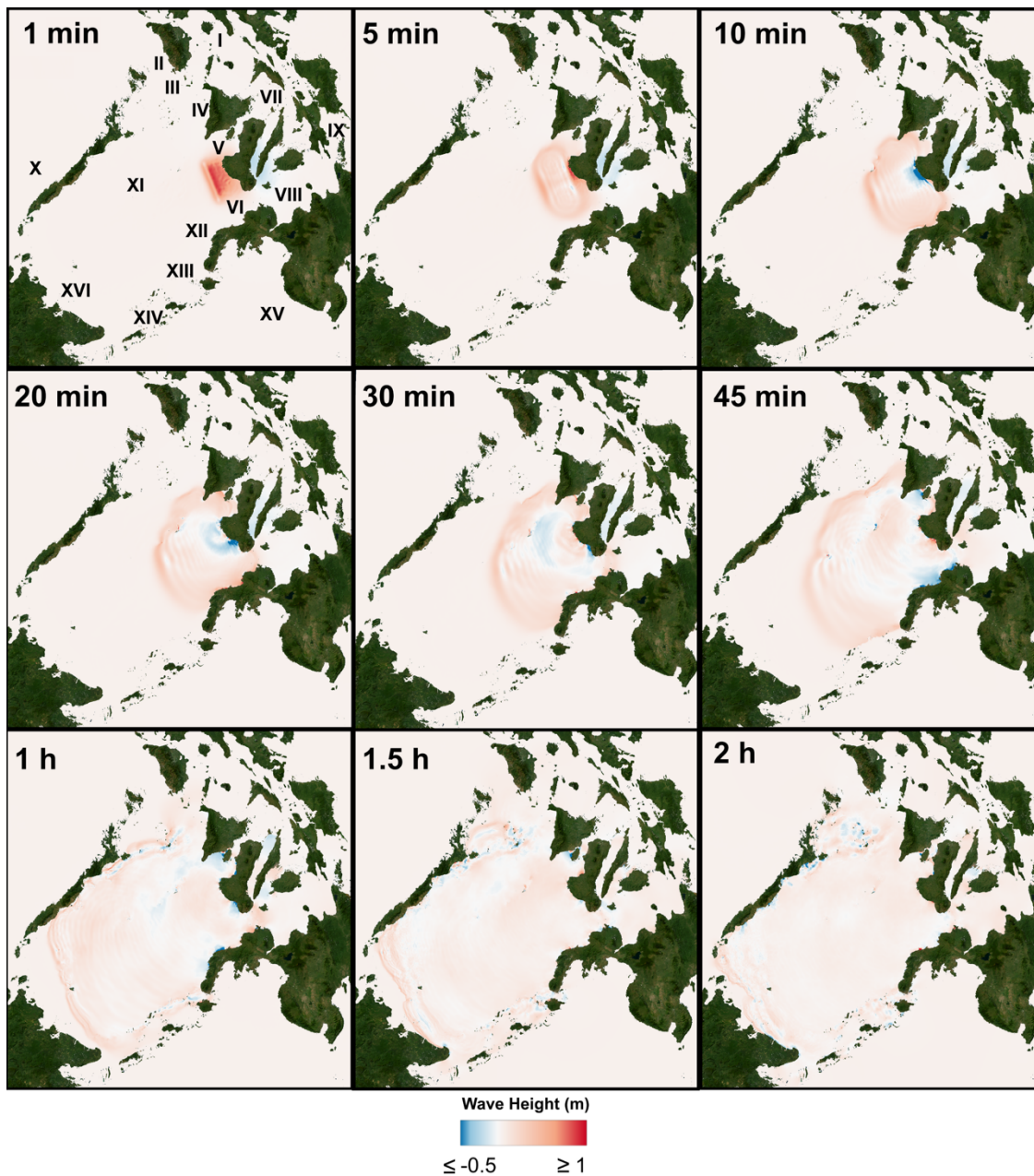
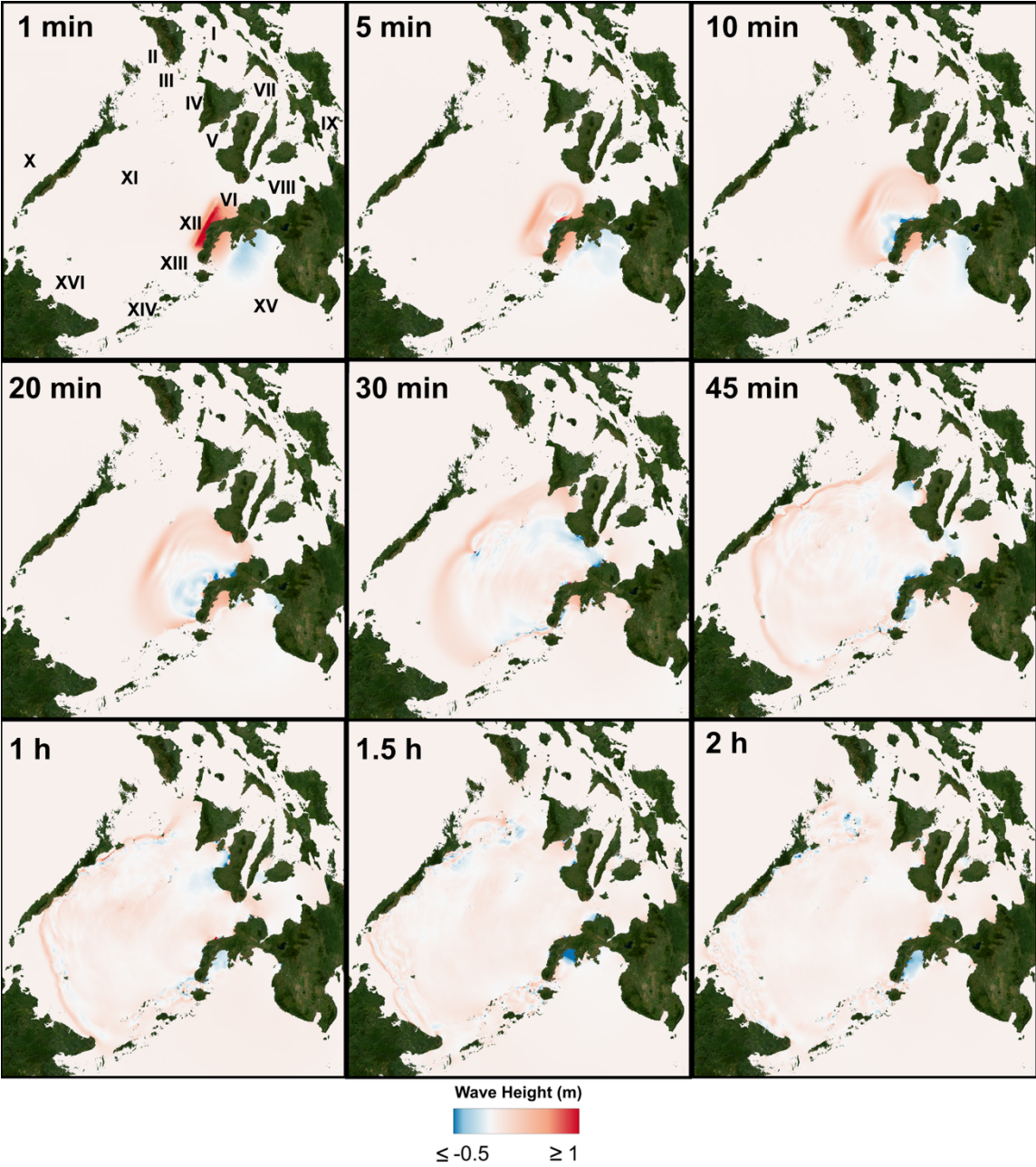


Figure S3. Tsunami wave (2 h) propagation from NT2 segment at 20° dip angle. Basemap from World Imagery Esri | Powered by Esri.



25 **Figure S4.** Tsunami wave (2 h) propagation from ST1 segment at 20° dip angle. Basemap from World Imagery Esri | Powered by Esri.

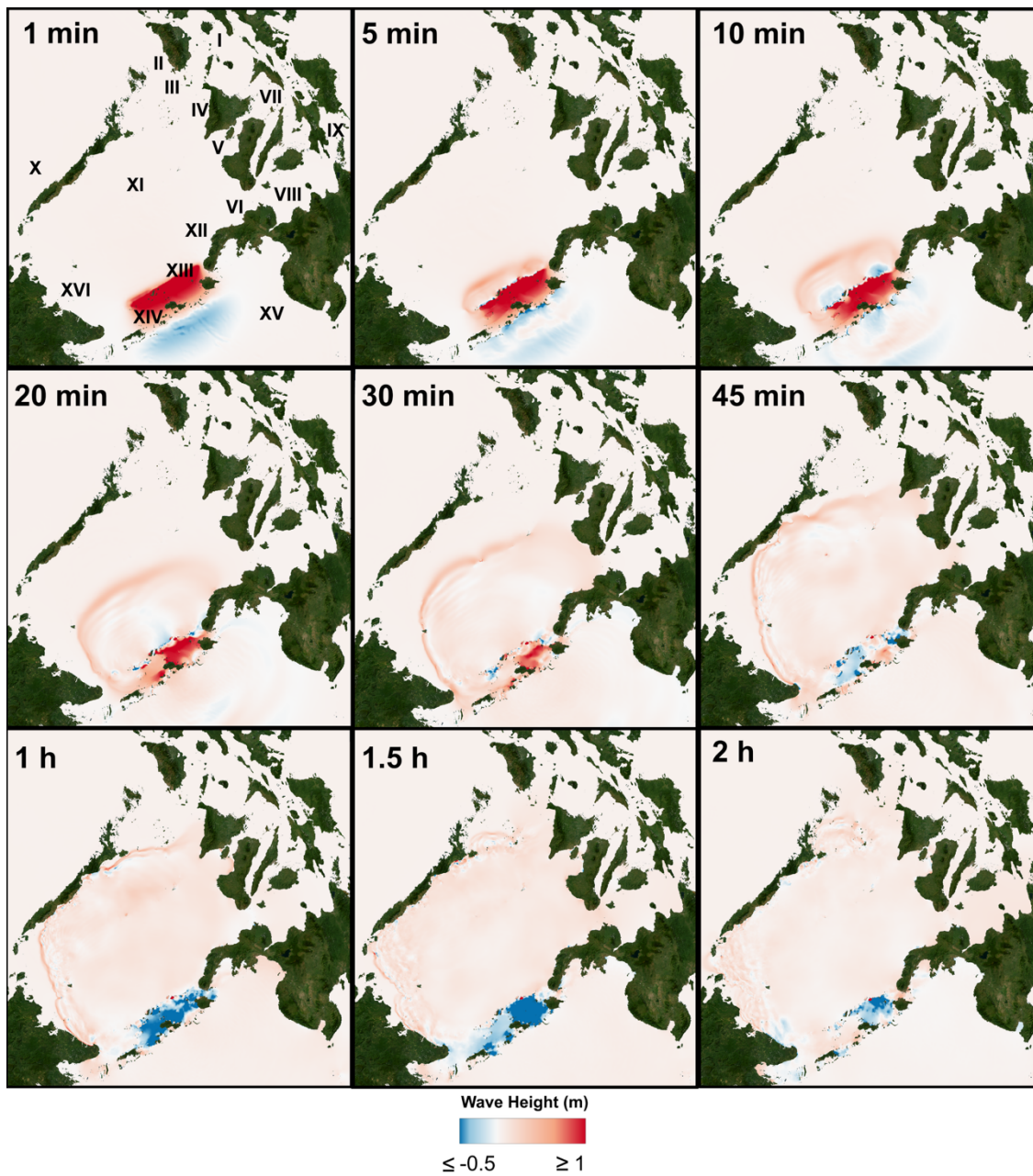
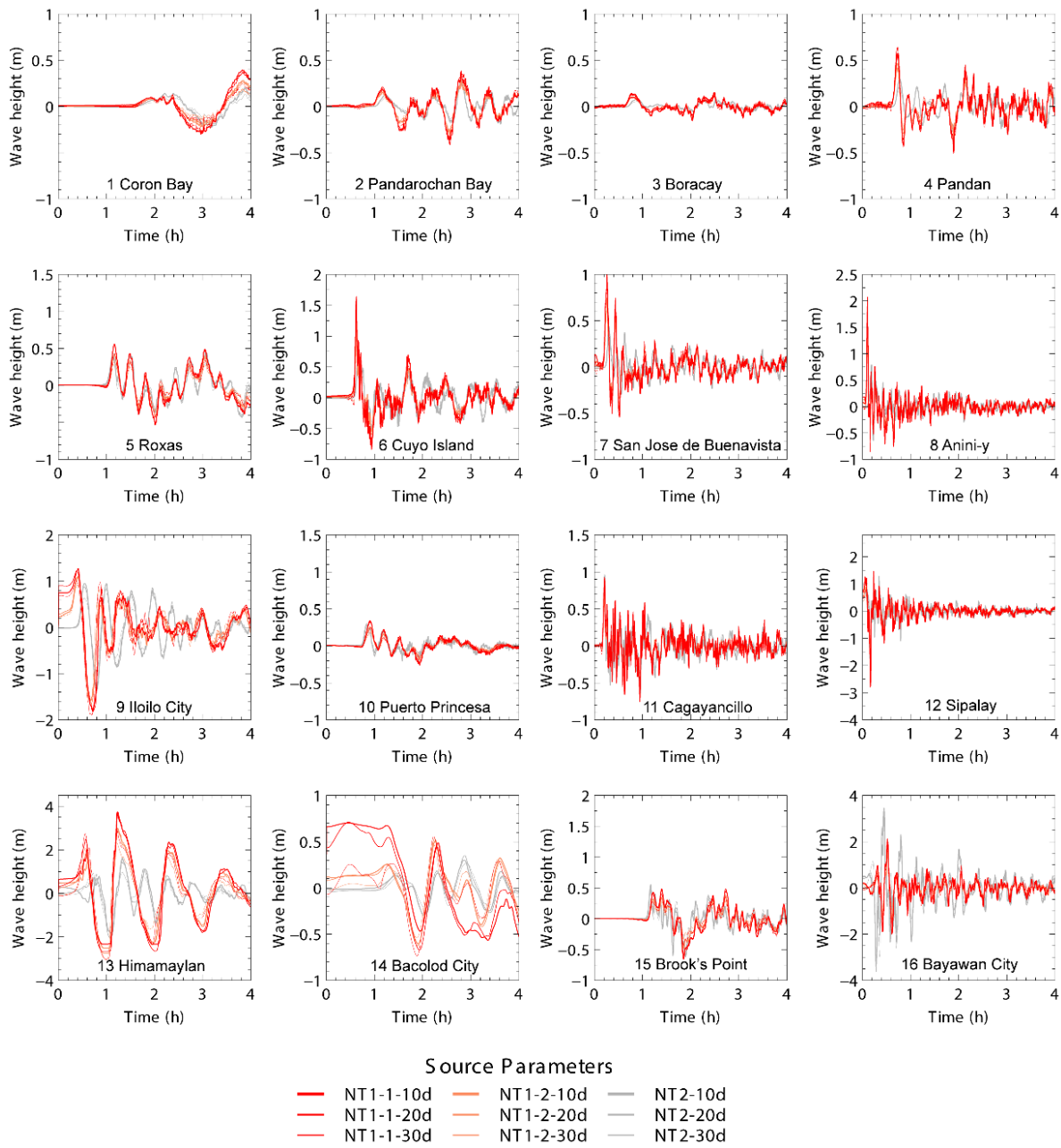
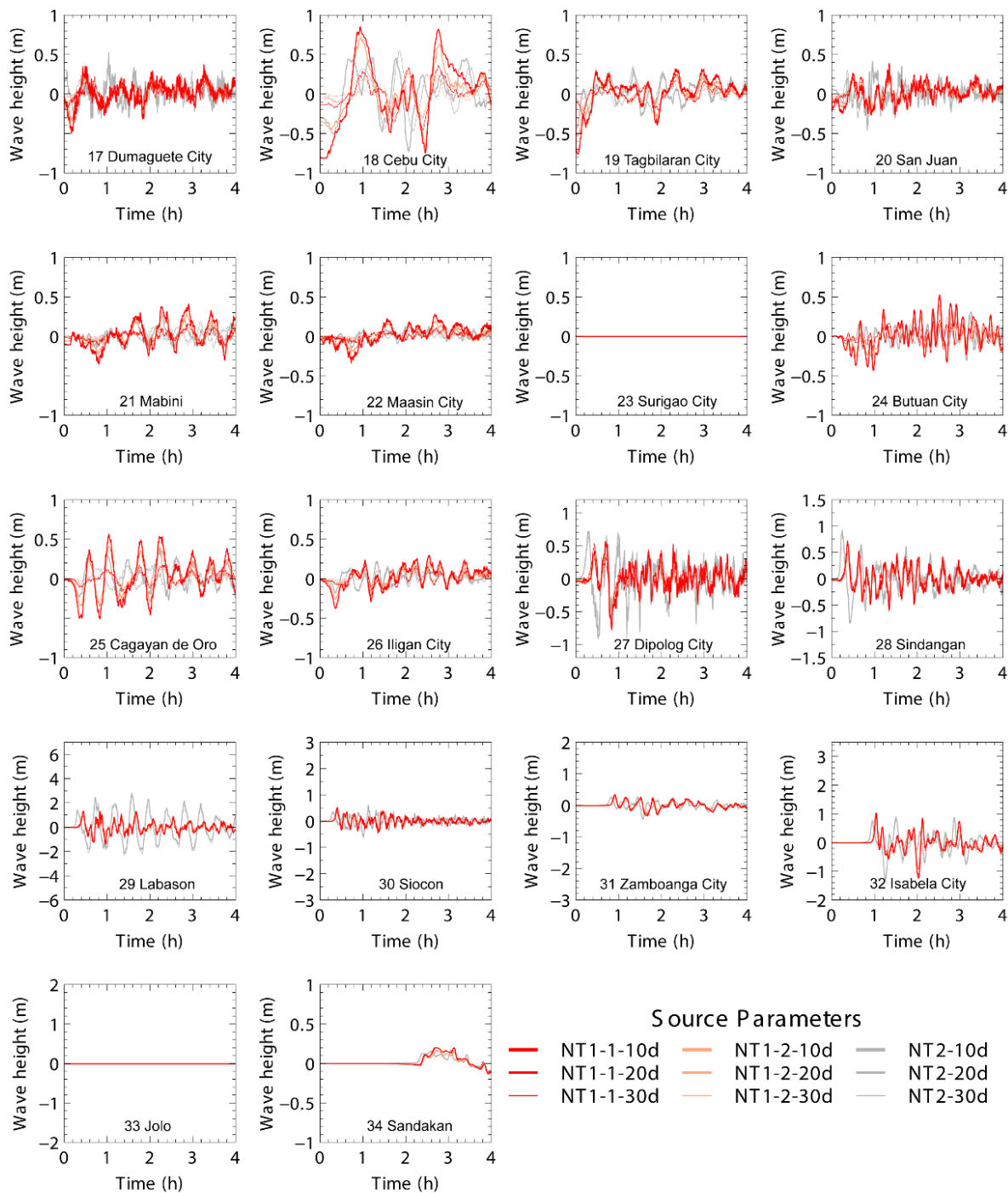


Figure S5. Tsunami wave (2 h) propagation from ST2 segment at 20° dip angle. Basemap from World Imagery Esri | Powered by Esri.



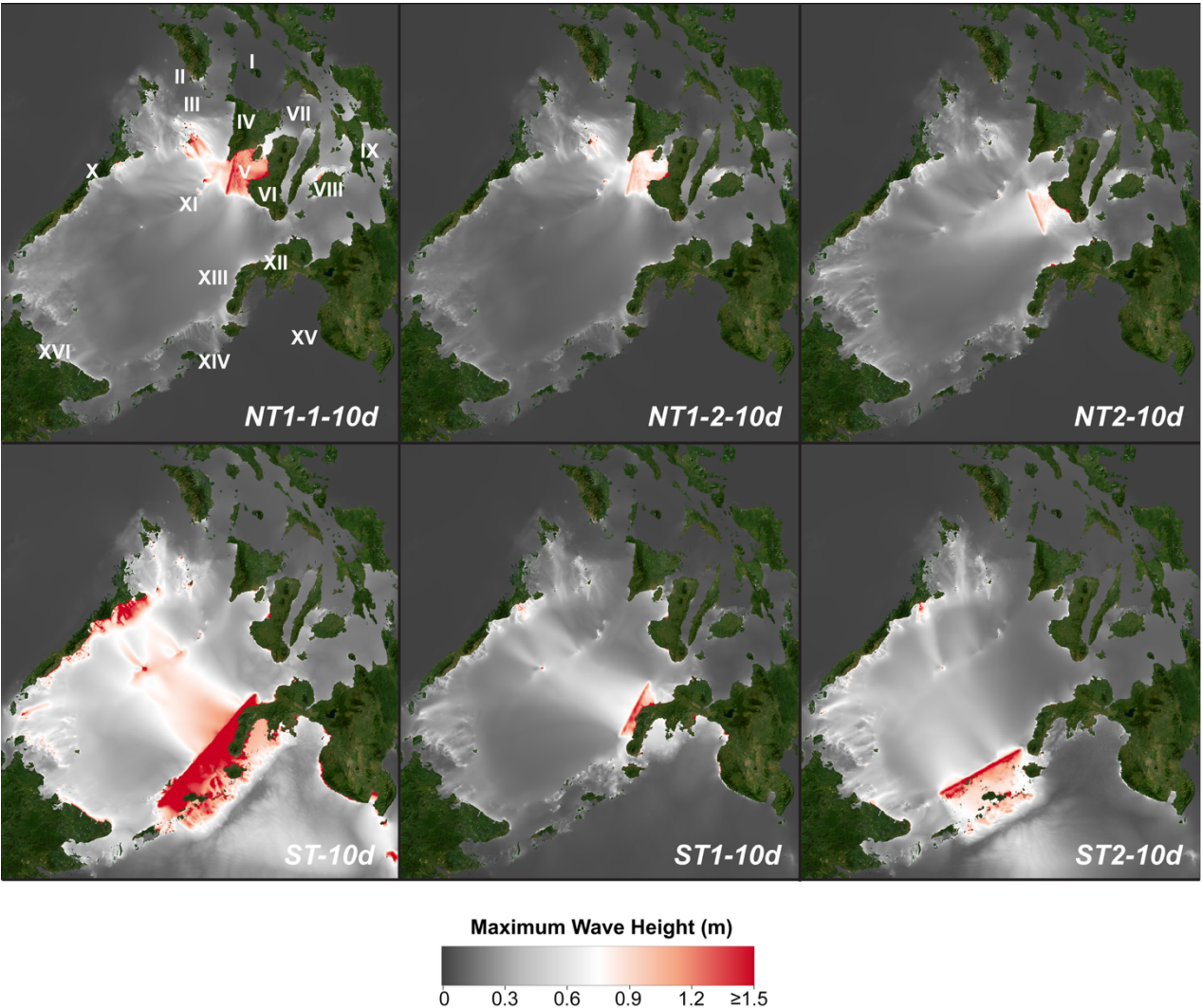


**Figure S6. Tsunami waveforms in TGS 1–16 from Negros Trench segments (see Fig. 4 for locations).**



**Figure S7. Tsunami waveforms in TGS 17–34 from Negros Trench segments (see Fig. 4 for locations).**





35 Figure S8. Maximum wave height (m) from the 4-h tsunami simulation of six segments with a megathrust dipping at  $10^\circ$ . Basemap from World Imagery Esri | Powered by Esri.

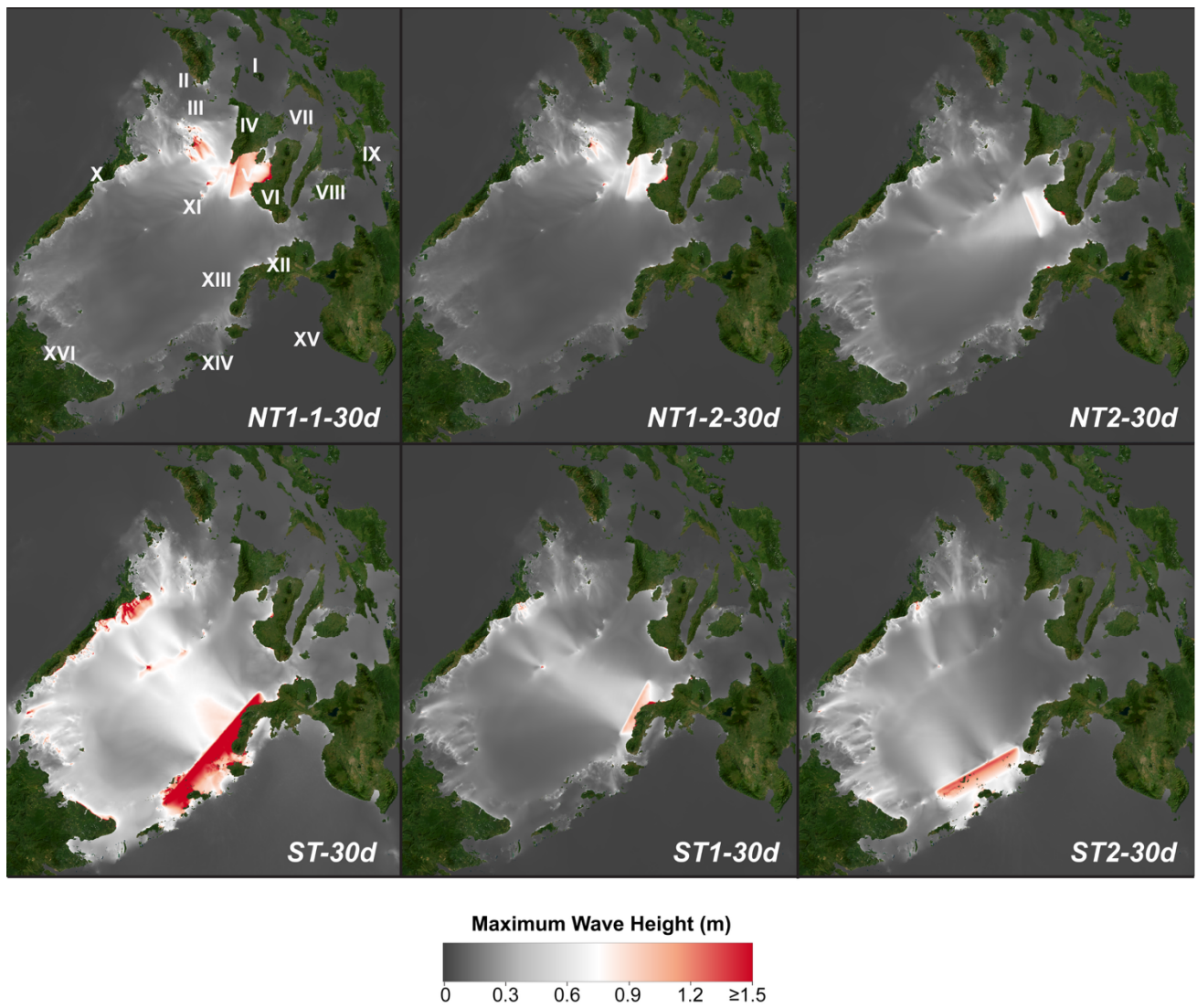
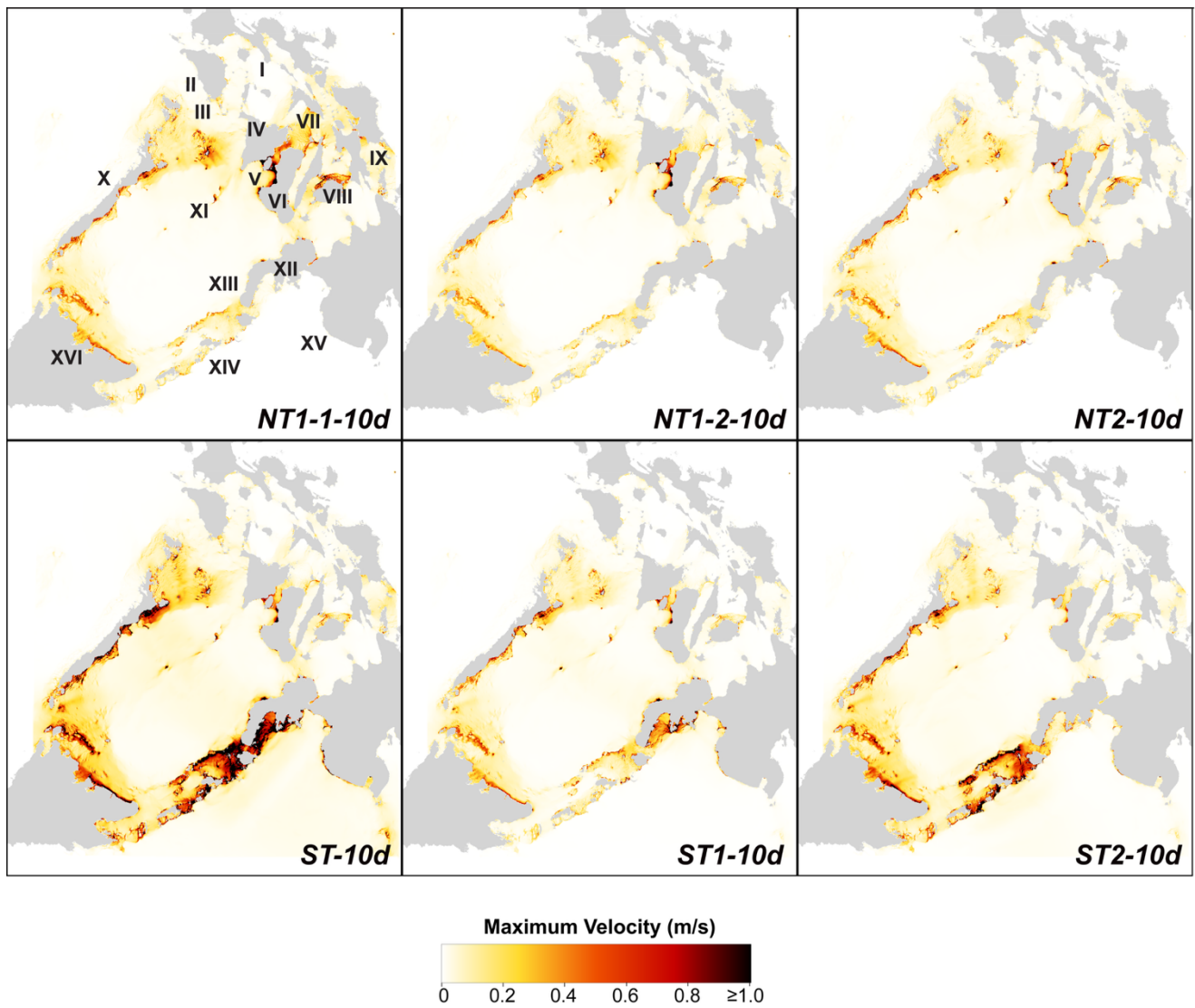


Figure S9. Maximum wave height (m) from the 4-h tsunami simulation of six segments with a megathrust dipping at 30°. Basemap from World Imagery Esri | Powered by Esri.



40

Figure S10. Maximum flow velocity (m/s) from the 4-h tsunami simulation of six segments with a megathrust dipping at  $10^\circ$ .

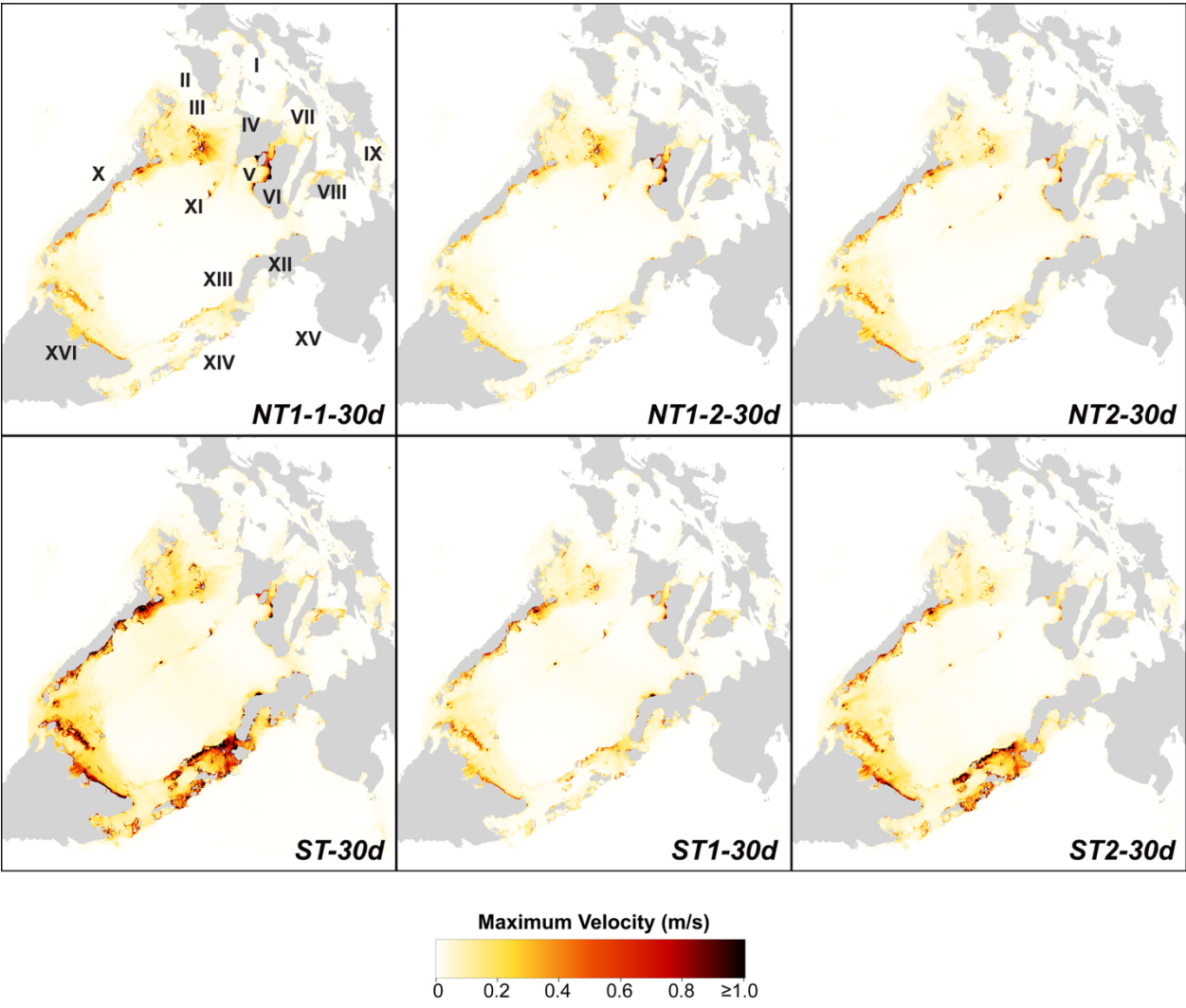


Figure S11. Maximum flow velocity (m/s) from the 4-h tsunami simulation of six segments with a megathrust dipping at 30°.

45

50



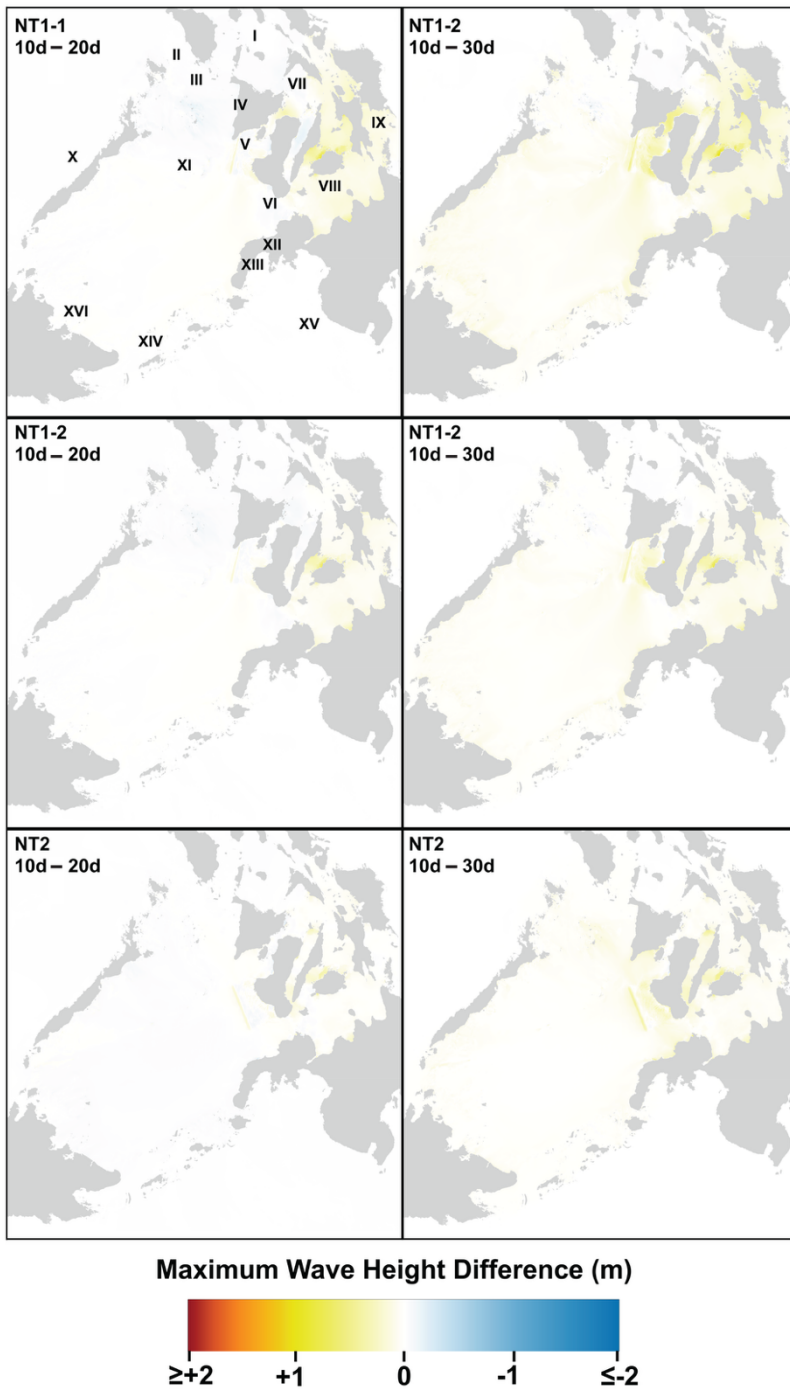
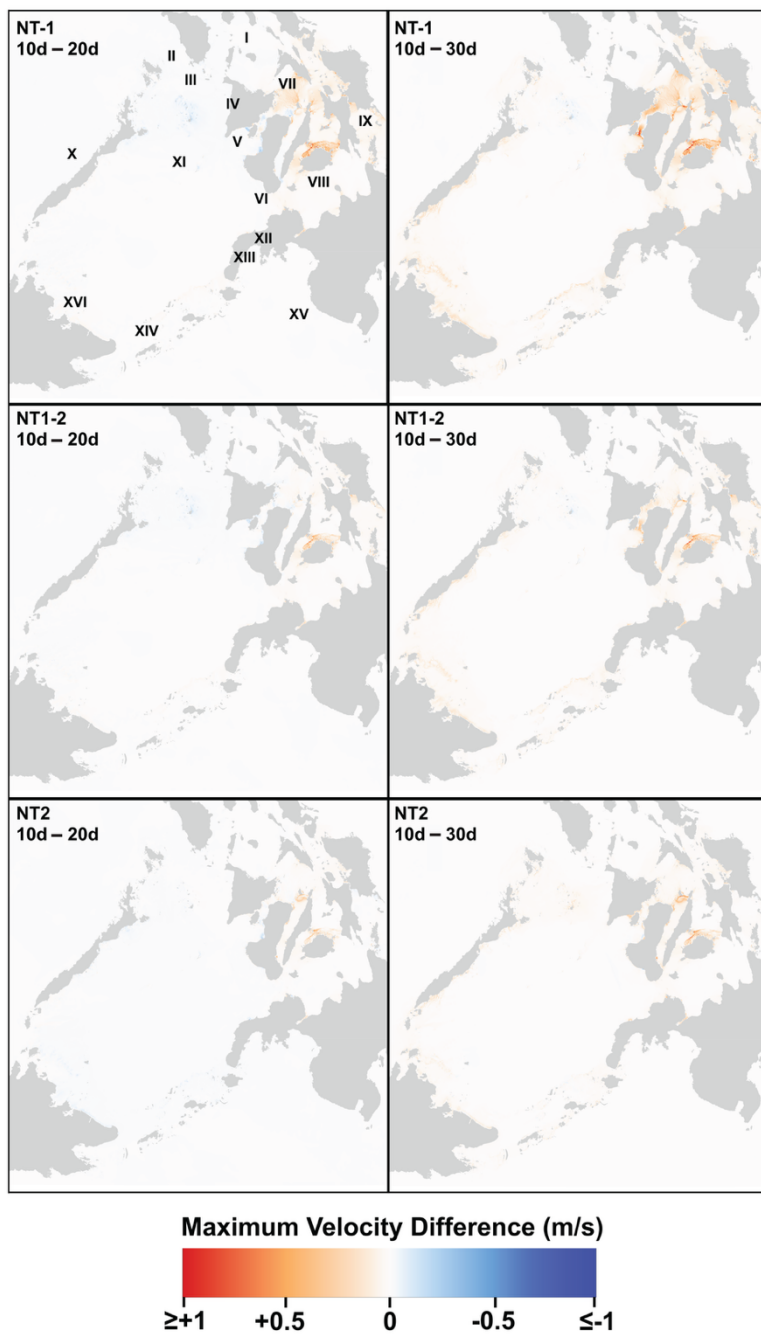


Figure S12. Maximum wave height differences (10d - 20d and 10d - 30d) comparing 10°-dip megathrust with those of 20° and 30° in the Negros Trench (NT) segments.



60 **Figure S13. Maximum flow velocity differences (10d – 20d and 10d – 30d) comparing 10°-dip megathrust with those of 20° and 30° in the Negros Trench (NT) segments.**

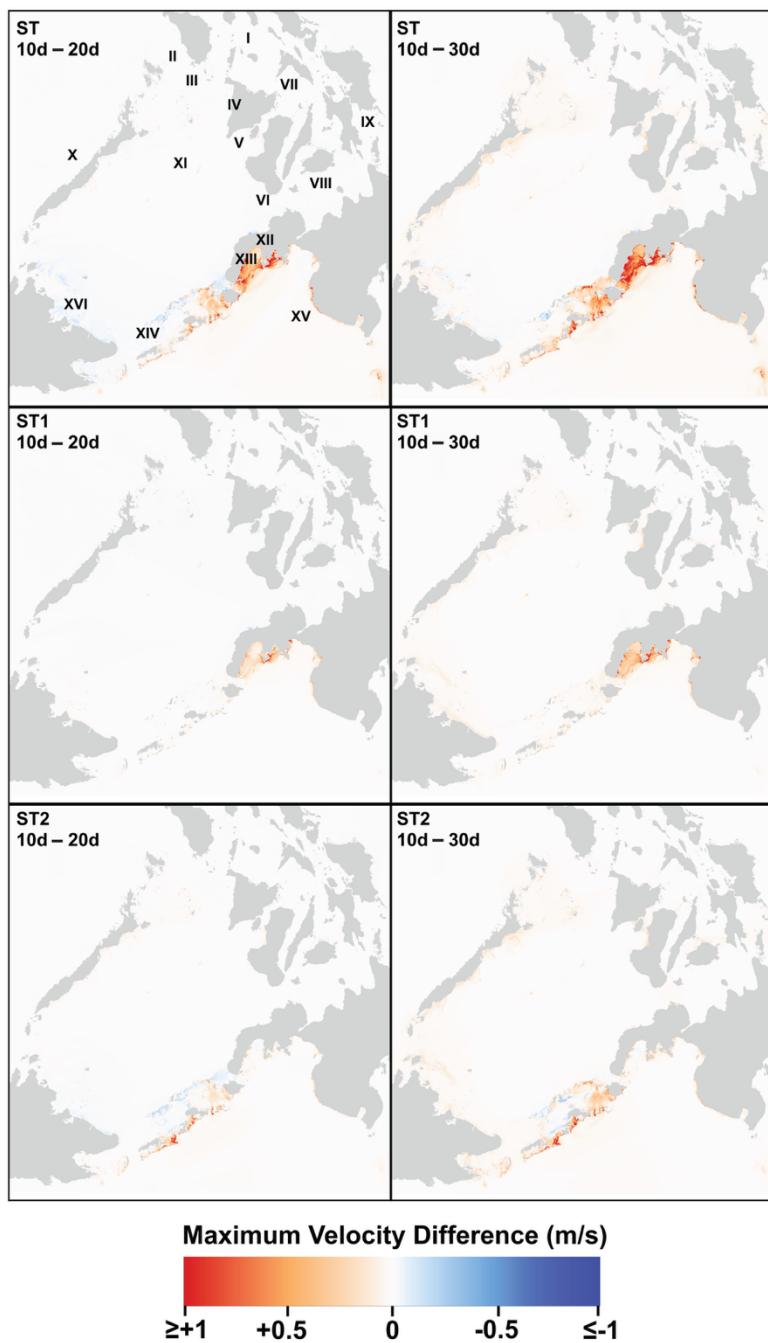
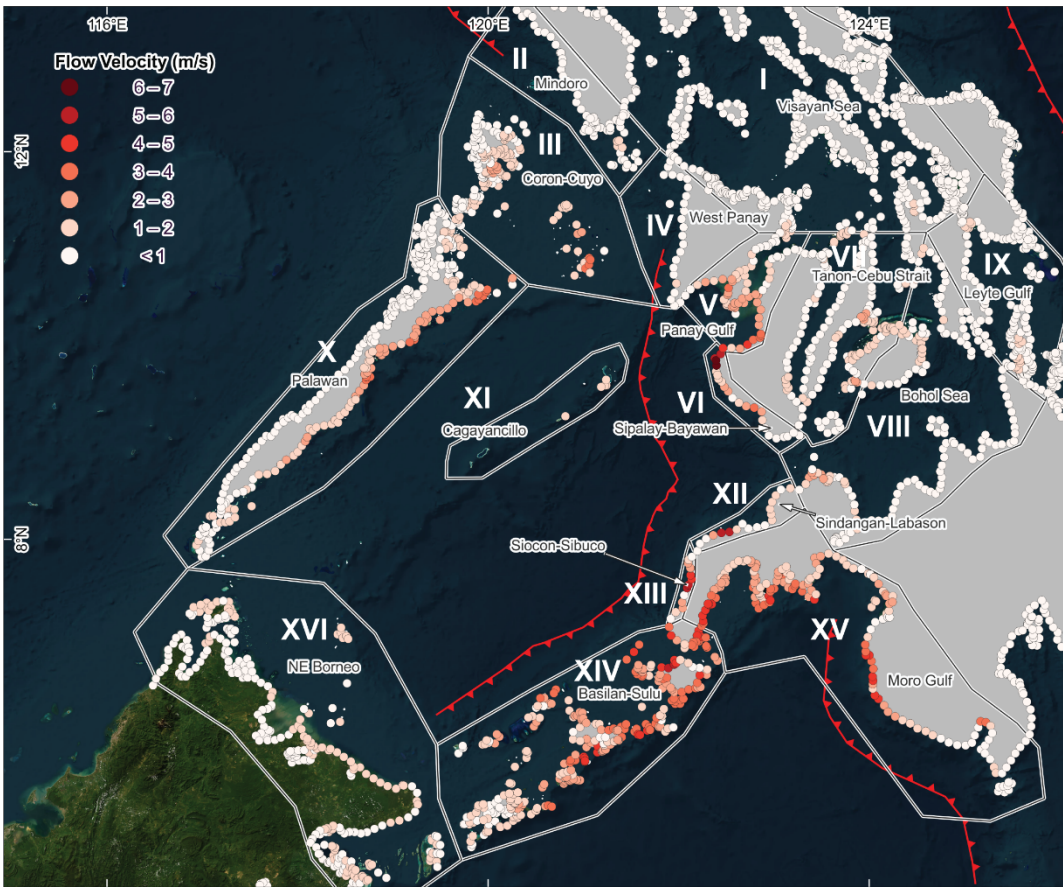
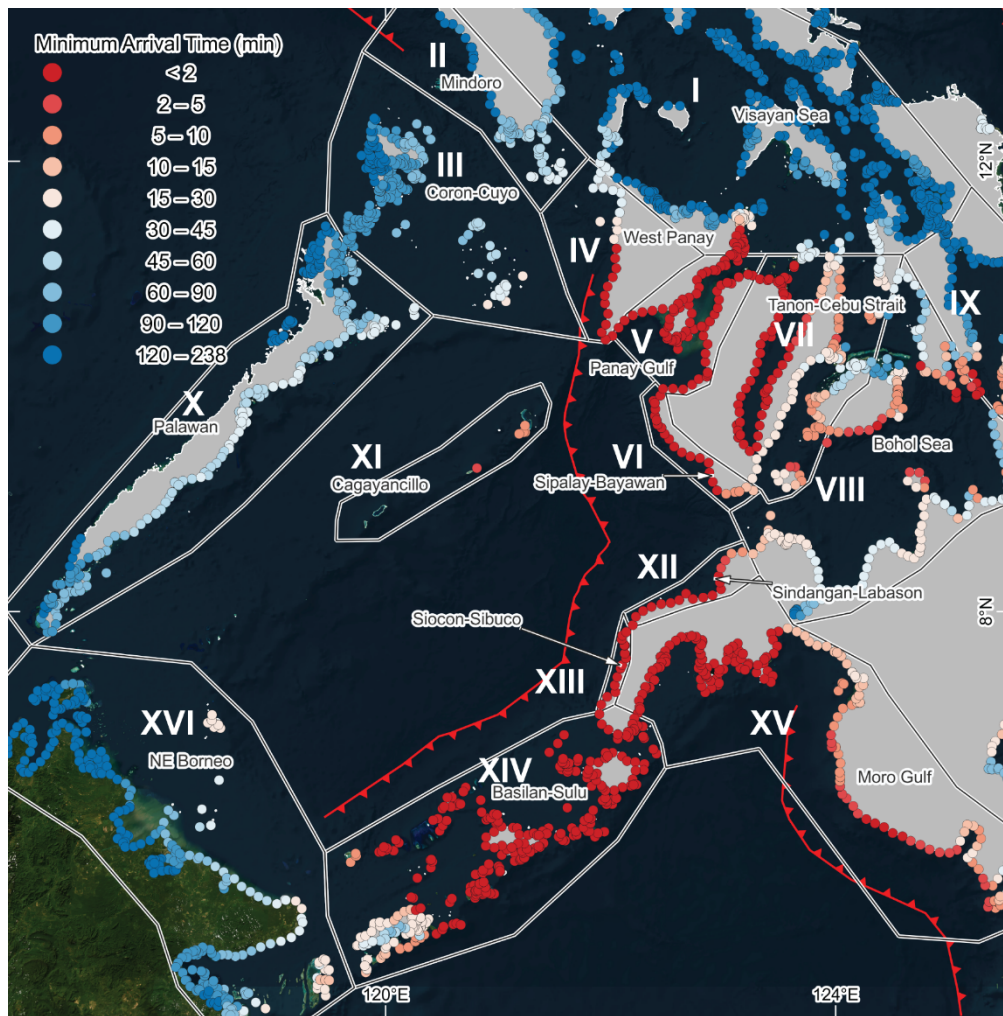


Figure S14. Maximum flow velocity differences (10d – 20d and 10d – 30d) comparing 10°-dip megathrust with those of 20° and 30° in the Sulu Trench (ST) segments.



**Figure S15.** Map of coastal regions in central and southern Philippines of the highest maximum flow velocity from the 18 megathrust rupture scenarios. Basemap from World Imagery Esri | Powered by Esri.





70

**Figure S16.** Map of coastal regions in central and southern Philippines of the minimum arrival times from the 18 megathrust rupture scenarios. Basemap from World Imagery Esri | Powered by Esri.