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## Numerical Tsunami Inundation Modeling in Ambon City, Indonesia for Potential Earthquake and Landslide at Ambon bay

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A tsunami numerical inundation modeling in the Ambon city was developed by considering large earthquakes along the Ambon bay strike-slip fault and triggering submarine landslide as the tsunami source.

The simulation was conducted using Comcot (Cornell Multi-grid Coupled Tsunami model) with a nested grid system in the spherical coordinate system. The four different spatial grid sizes of 60 (layer 1), 15 (layer 2), 3.75 (layer 3), and 0.9375 (layer 4) arc-sec were used in the computation. The linear shallow-water theory with bottom friction was applied for layers 1 -3, meanwhile, layer 4 used the non-linear shallow-water theory with manning roughness coefficient and detail bathymetry data.

The single segmentation of earthquake scenarios with magnitudes  $M_w$  7.2 was assumed. The earthquake then triggers submarine landslides in some areas around Ambon city. The landslide area was approached by Peak Ground Acceleration (PGA) value and historical data.

The results showed that in Ambon city the first tsunami wave arrived 18 min after the earthquake with a maximum flow depth of 7.4 m and inundation distance around 1.2 km. These results show that Ambon city has a risk of tsunami threat from earthquakes and submarine landslides. Therefore, it is necessary the tsunami hazard preparedness by the government and communities.