# A Short Report of 2026 North Maluku Earthquake

Iswandi Imran
National Center for Earthquake Studies of Indonesia (PUSGEN)

An $M_W$ 7.6 earthquake struck North Maluku and North Sulawesi, Eastern Indonesia on the 1st of April 2026, at 22:48:13 UTC. The epicentre was located in the northern Molucca Sea, at coordinate of 1.117°N 126.297°E, 126 km WNW from Ternate at a shallow depth of roughly 33 km, producing strong tremors and numerous aftershocks. Faulting mechanism solutions for the event indicate that it activated a reverse faulting (thrusting) structure, with a moderate dip towards either the northwest or the southeast, in line with the general trend of earthquakes in the region[1]. The earthquake was felt at intensity VIII (severe) in Batang Dua Islands, VI (strong) in Bitung and Ternate, V (moderate) in Manado, Tomohon and Sofifi, III (weak) in Gorontalo Province and East Halmahera[2] (Fig. 1). The earthquake triggered tsunami alerts for coastal areas of Indonesia with the highest tsunami wave of 0.75 m was reported in North Minahasa[3]. Five hundred fourty four (544) aftershocks have been recorded up till 3rd of April at 11:00 UTC (Fig. 2).

Based on the analysis of accelerograph data of the event, the PGA value reached is as high as 0.49 g at the Ternate station (North Maluku), which located closest to the epicenter (i.e. 42.96 km)[2]. Further, the highest PGA recorded in North Sulawesi (with a shortest distance of 130 km from the epicentre) is less than 0.1 g[2]. Please note that the design PGA value in North Maluku is minimum 0.5 g and in North Sulawesi is in the range of 0.4g-0.5g. No major structural damages were reported in the affected regions in North Sulawesi. In Manado, a sport centre suffered architectural damages where some parts of its exterior façade collapsed killing a hawker underneath and injuring several others[4]. In the same city, a private hospital also suffered wall damages and its glass façade shattered[5]. Three catholic churches in Minahasa and Tomohon were slightly affected by the earthquake with their ceiling collapsed[6]. In Bitung, 41 buildings including residential and religious houses were lightly damaged according to the municipal authority[7].

On the other hand, various degree of structural damages were reported in the affected regions in North Maluku. In Batang Dua Island (with the closest distance of 22 km from the epicentre), around 282 buildings consisted of residential and religious houses were damaged

[1] USGS, M 7.4 - 126 km WNW of Ternate, Indonesia, Published 1 April 2026, (https://earthquake.usgs.gov/earthquakes/eventpage/us6000slss/executive)
[2] Direktorat Seismologi Teknik Geofisika Potensial dan Tanda Waktu BMKG, *Ulasan Guncangan Tanah Akibat Gempa Bumi Maluku Utara M 7.6, Published 2 April 2026*
[3] InaTEWS, Published 1 April 2026, (https://inatews.bmkg.go.id/web/detail?name=20260402093324&day=614)
[4] Metro TV, *Penjual UMKM Tewas Tertimpa Reruntuhan Gedung KONI Manado Akibat Gempa*, Published 2 April 2026, (https://www.metrotvnews.com/read/N9nCyDn8-penjual-umkm-tewas-tertimpa-reruntuhan-gedung-koni-manado-akibat-gempa)
[5] BBC, Hospital in Manado evacuated in frenzy, Published 2 April 2026, (https://www.bbc.com/news/live/c8xy522nd5lt?post=asset%3A98691f1e-68e4-401a-9cf1-800a62a2d61f#post)
[6] BeritaManado, *Tiga Gereja Katolik di Minahasa dan Tomohon Rusak Akibat Gempa 7,6 SR*, Published 2 April 2026, (https://beritamanado.com/tiga-gereja-katolik-minahasa-tomohon-rusak-gempa-76-sr/)
[7] Bisnis, *41 Bangunan di Bitung Rusak Akibat Gempa, Pemerintah Segera Kerahkan Bantuan*, Published 3 April 2026, (https://sulawesi.bisnis.com/read/20260403/539/1964170/41-bangunan-di-bitung-rusak-akibat-gempa-pemerintah-segera-kerahkan-bantuan)

with various degree of severity[8][9][10]. In Ternate (with the average distance of 126 km), 32 houses were heavily damaged, 36 moderately damaged, and 66 lightly damaged, with 6 religious buildings affected. While in Tidore (with the average distance of 136 km) , 25 houses lightly damaged, 5 religious buildings and a public facility affected[11]. Furthermore, in South Halmahera, a 80-meter wooden rural bridge was collapsed with no casualties[12]. The summary of the earthquake damage locations in North Sulawesi and North Maluku is shown in Figure 3. The closest small island from the epicenter shown in Figure 3 is Batang Dua island.

From all the reported damages, major structural damages occurred in residential buildings and rural bridges, where most of them were poorly built and poorly maintained (in addition to the facts that they are located closer to the epicenter). While public buildings such as churches, hospitals and sport centres only suffered architectural damages, or minor structural damages. This is due to the fact that urban public buildings are mostly built according to the national building code and well-maintained, resulting in more seismic resilient structures.

[8] Terbit Malut, *282 Rumah Warga dan Tempat Ibadah Pulau Batang Dua Rusak Akibat Gempa, Sekda : Pemkot Pastikan Warga Tetap Aman,* Published 3 April 2026, (https://www.terbitmalut.com/ternate/282-rumah-warga-dan-tempat-ibadah-pulau-batang-dua-rusak-akibat-gempa-sekda-pemkot-pastikan-warga-tetap-aman)
[9] Antara Foto, *Status tanggap darurat gempa di Pulau Batang Dua Ternate*, Published 3 April 2026, (https://www.antarafoto.com/id/view/2766137/status-tanggap-darurat-gempa-di-pulau-batang-dua-ternate)
[10] Antara Foto, *Dampak gempa bumi di Pulau Batang Dua Ternate*, Published 3 April 2026, (https://www.antarafoto.com/amp/view/2765873/dampak-gempa-bumi-di-pulau-batang-dua-ternate)
[11] VOI, *Gempa M7,6 Sulut-Malut: 1 Tewas, 355 Mengungsi, Ratusan Rumah Rusak*, Published 3 April 2026, (https://voi.id/berita/567979/gempa-m7-6-sulut-malut-1-tewas-355-mengungsi-ratusan-rumah-rusak)
[12] Tribun Ternate, Dampak Gempa M7,6 Malut-Sulut, Jembatan Desa Bokimiake Halmahera Selatan Ambruk, Published 2 April 2026, (https://ternate.tribunnews.com/maluku-utara/98285/dampak-gempa-m76-malut-sulut-jembatan-desa-bokimiake-halmahera-selatan-ambruk)

## Attachments

https://www.bmkg.go.id/cdn-cgi/image/w=720,h=1020/https://static.bmkg.go.id/20260402055618_rev/intensity_logo.jpg

**Figure 1 ShakeMap of Molucca Sea (BMKG) [2]**

https://i0.wp.com/content.bmkg.go.id/wp-content/uploads/WhatsApp-Image-2026-04-09-at-08.56.01.jpeg?fit=967%2C540&ssl=1

**Figure 2 Distribution of Aftershocks (BMKG) [2]**

https://encrypted-tbn2.gstatic.com/images?q=tbn:ANd9GcQTqfsVA-WAJXV-2uBPZeBNf-sFyGnWqknlW6nWrc63g11pfblf

**Figure 3 Map of Earthquake Damage Locations (Red Dot) in the Affected Zone (BMKG) [2]**