## ISRO's Cartosat-3 image shows damage caused by the 28 Mar 2025 Earthquake in Myanmar

**Overview:** An earthquake of magnitude 7.7 struck Myanmar on 28 March 2025 at 06:20:54 (UTC) followed by strong aftershock of magnitude 6.4. The epicenter is located at 22.013°N 95.922°E at a depth of 10 km near Sagaing-Mandalay border. The epicenter of the quake was located near Mandalay, Myanmar's second-largest city, which experienced severe damage. The earthquake also rattled the capital Naypyidaw and other regions, resulting in the collapse of infrastructure, roads and residential buildings. The tremors were felt not only in Myanmar but also in neighbouring countries. The shockwaves were strong enough to be felt as far as Chiang Mai and northern parts of Thailand, where residents reported damages.

**Tectonic summary:** Myanmar is located near the convergent boundary of the Indian and Eurasian plates, where the Indian Plate is moving northward toward the Eurasian Plate at a rate of about 5 cm per year. In addition to that Myanmar also sits near several smaller fault zones, such as the Sagaing Fault, which runs through central Myanmar. The Sagaing fault is a significant active strike-slip fault that accommodates lateral motion between the blocks of the Indian and Eurasian plates. The present earthquake was likely associated with the release of accumulated stress along the Sagaing fault or its accessory faults in the region.

**Rapid damage assessment**: Post-disaster Cartosat-3 imagery was acquired by ISRO on 29 March 2025, over the cities of Mandalay and Sagaing in Myanmar. Additionally, pre-event Cartosat-3 data acquired on 18 March 2025 covering the same area was referred for change analysis and assessment of damage. Significant damage to infrastructure in Mandalay city was observed, with major landmarks such as Sky Villa (Figure 1), Phayani Pagoda, Mahamuni Pagoda and Ananda Pagoda (Figure 2), University of Mandalay and several others suffering either complete or partial damage. In Sagaing city, damage was observed in the Ma Shi Khana Pagoda, along with several monasteries and other buildings (Figure 3). As seen from the imagery, the earthquake caused the complete collapse of the historic Ava (InnWa) Bridge (Figure 4) on the Irrawaddy River, near Inn Wa City. Cracks/ground ruptures in flood plains of Irrawaddy river with associated liquefaction was also observed. The inference on damage was made by a rapid data analysis mode and has to be ground verified.