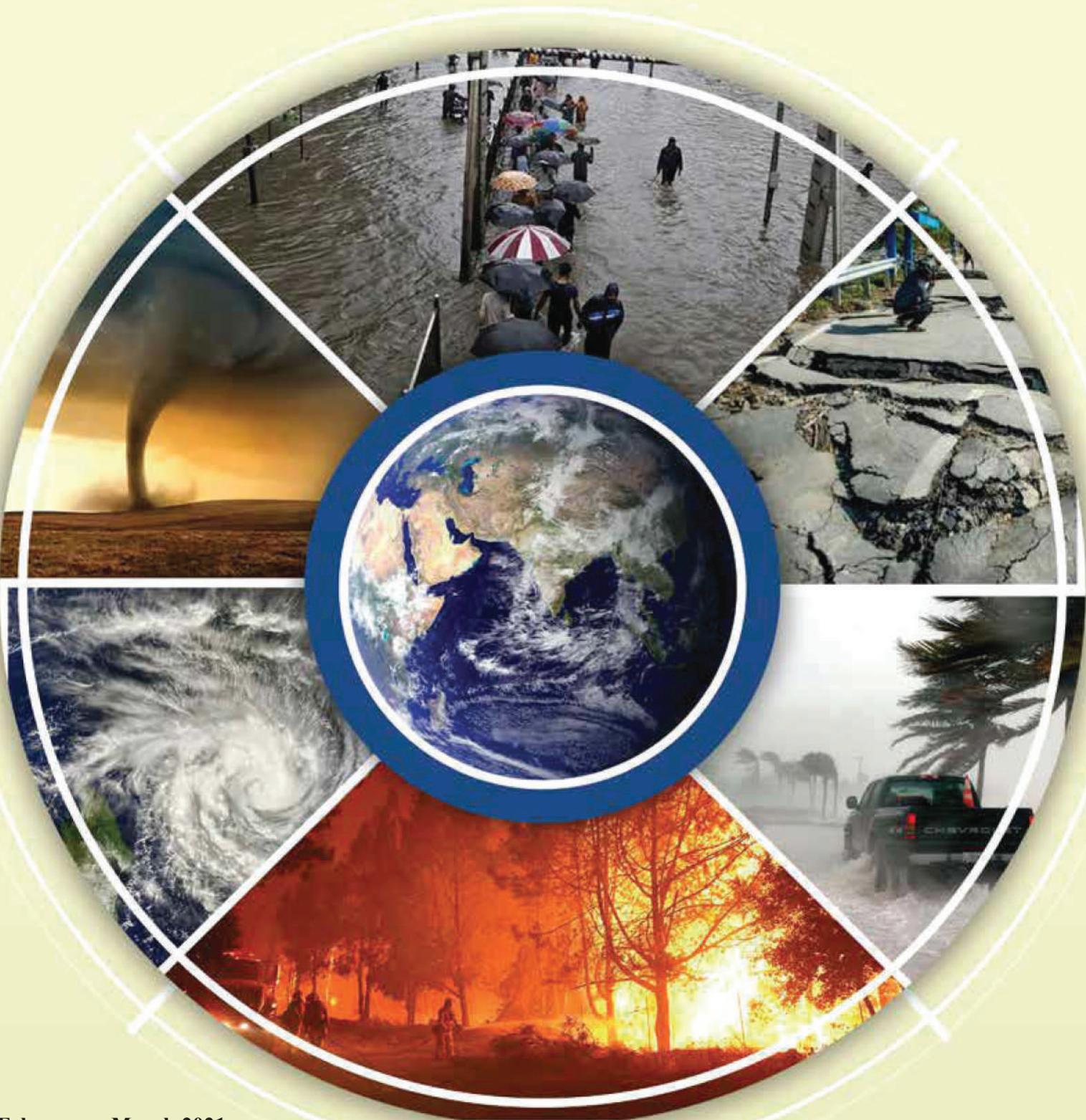




**J.B.BODA**

# **EARTH**



**February – March 2021**



## Taal volcano alert status raised to Alert Level 2 in the Philippines

Source: National Geographic

Taal is one of the most active volcanoes in the Philippines and has produced some of its most powerful historical eruptions. Though not topographically prominent, its prehistorical eruptions have greatly changed the topography of SW Luzon.



Source: University of Washington

The 15 x 20 km (9 x 12 miles) Talisay (Taal) caldera is largely filled by Lake Taal, whose 267 km<sup>2</sup> (103 mi<sup>2</sup>) surface lies only 3 m (9.8 feet) above sea level.

The maximum depth of the lake is 160 m (525 feet), and several eruptive centers lie submerged beneath the lake. The 5 km (3.1 miles) wide Volcano Island in north-central Lake Taal is the location of all historical eruptions.

The island is composed of coalescing small stratovolcanoes, tuff rings, and scoria cones that have grown about 25% in the area during historical time. Powerful pyroclastic flows and surges from historical eruptions have caused many fatalities.

The Taal Volcano has erupted more than 30 times in the past, according to the Philippine Institute of Volcanology and Seismology.

On January 12, 2020, it awoke from 43 years of quiet - the last eruption of 1977 was a minor steam-driven event - and began to spew gases, ash, and lava into the air. In the days and weeks that followed, the eruption dropped a layer of unusually wet, heavy ash on the surrounding landscape, withering vegetation and affecting the life of 500, 000 people. The volcanic ash reached up to 55,000 feet (16.70 kilometers) above sea level.

Coffee, rice, corn, cacao, and banana crops were damaged. In one estimate, damages to plants and animals totaled 577 million Philippine pesos, or USD 11 million.



## Motorists drive through a road covered in volcanic ash from Taal Volcano's eruption in Lemery, Batangas province, the Philippines on Jan. 13, 2020.

Source: Ezra Acayan—Getty Images

Since February 13, 2021, the volcano has been exhibiting increased unrest.

Survey observations in mid-February 2021 recorded a temperature high of 74.6 °C (166 °F) and continuing increase in acidity to pH 1.59 from a pH of 2.79 in January 2020 of the MCL.

Increasing acidity is caused by sustained volcanic gas input into the shallow hydrothermal system that feeds into the lake, signifying degassing of magma intruded at depth during the January 2020 eruption.

The Philippine Institute of Volcanology and Seismology (PHIVOLCS) has raised the alert status of Taal volcano from Alert Level 1 (low level of unrest) to Alert Level 2 (increasing unrest) on March 9, 2021, and been issuing the Taal Volcano Bulletin. In the most recent bulletin, it has maintained alert Level 2 (Increased Unrest) which includes sudden steam-driven or phreatic explosions, volcanic earthquakes, minor ashfall, and lethal accumulations or expulsions of volcanic gas can occur and threaten areas within the Taal Volcano Island (TVI).

Some historic volcanic eruptions of the Philippines include:

1. 1754 Taal Volcano Eruption
2. 1814 Mayon Eruption
3. 1871 Hibok-Hibok Eruption
4. 1991 Pinatubo Eruption

Volcanic ash can pollute water supplies, damage electronic infrastructure, smother agriculture, and kill off-farm animals and pets. It can also kill people if they inhale enough of it; breathing in glassy ash is always bad, but people with pre-existing respiratory ailments are most at risk, as are the very young and the elderly.

Further, ash particles can abrade forward-facing surfaces, including windscreens, fuselage surfaces, and compressor fan blades. Ash contamination also can lead to the failure of critical navigational and operational instruments. Moreover, the melting temperature of the glassy silicate material in an ash cloud is lower than combustion temperatures in modern jet engines; consequently, ash particles sucked into an engine can melt quickly and accumulate as re-solidified deposits in cooler parts, degrading engine performance even to the point of in-flight compressor stall and loss of thrust power.

Source: <https://earthobservatory.nasa.gov/>  
<https://time.com/>

National Geographic | University of Washington  
<https://www.usgs.gov/>

KOMPSAT-3A Image 16 Sep, 2020

Cartosat-Series PAN Image 08 Feb, 2021



Location Map



About Event

On 07th Feb, 2021 a major rockslide/snow avalanche reportedly took place near Raini village of Chamoli district. Subsequently, flash floods were reported in Rishi Ganga and Dhauliganga river catchment areas causing severe loss of life and property. The power plants located at Raini and Tapovan suffered maximum damage in the current deluge.

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For official use

## Avalanche and Flood-Hit Uttarakhand, India

Disaster struck Uttarakhand's Chamoli district on February 7 in the form of an avalanche and deluge, after a portion of the Nanda Devi glacier broke off. The sudden flood in the middle of the day in the Dhauliganga, Rishi Ganga and Alaknanda rivers — all intricately linked tributaries of the Ganga — triggered widespread panic and large-scale devastation in the high mountain areas.

### Impact of Avalanche

The surging waters washed away homes, damaged two major dams, cut off 13 villages, and snapped crucial road links and bridges that connect far-flung areas in the mountainous region.

Two power projects - NTPC's Tapovan-Vishnugad hydel project and the Rishi Ganga Hydel Project - were extensively damaged. According to initial estimates, the Tapovan project suffered an economic loss of INR 15 Bln (USD 20.64 Mln). The commissioning of the project would be delayed due to this accident.

Source: *Business Standard*  
*Hindustan Times*  
[www.nrsdc.gov.in](http://www.nrsdc.gov.in)

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