

Natural Disasters in 2021 (Southeast Asia & South Asia)



2021, which was the second year of co-existence with the Corona Virus Disease 2019 (COVID-19), was also a year in which the world was swayed by the discovery of COVID variants. While the response to COVID-19 is required, natural disasters occur as always in Southeast Asia and South Asia.

In this article, we summarized the major natural disasters that occurred in 2021 within Southeast Asia and South Asia. The details of the relatively more damaged disasters (yellow highlights) will be described after each list. Obviously, the list is not exhaustive; there are many isolated cases such as flood damages caused by localized heavy rains. Damages caused by natural disasters not only depend on the natural disaster hazard of the location but also on factors such as the surrounding environment. Firstly, we believe that the recognition of hazards is important, hence the purpose of this article. We hope that this serves as a reference of risk management measures in your company.

Editor's note: The content is based on the information at the time of writing this article.

【Major Natural Disasters Occurred in Southeast Asia & South Asia in 2021】

1. MALAYSIA

No.	Occurrence	Affected Area	Disaster	Outline
1	2 Jan	Malay Peninsula	Flood	Heavy rains from 2 nd Jan flooded five provinces of the Malay Peninsula (Johor, Pahang, Kelantan, Selangor, Perak) on the morning of the 4 th . An estimated 11,973 households were affected by the flood (8 dead) and about 43,000 evacuees in the five states (NDCC: Malaysia National Disaster Command Centre announced).
2	20 May	Sabah	Flood	Heavy rains have hit Sabah since 20 th May, and floods have caused flood damage in the Beaufort and Tenom areas. Intermittent rainfall lasted 2-3 days flooded the Pagalan and Padas rivers. 5,782 people were affected (no casualties reported).
3	17 Aug	Kedah	Flash Flood	On 17 Aug, flash floods and landslides occurred in the Gunung Jerai hills in the Yan district of Kedah, Malaysia. At least 4 people had died and 2 people are missing.
4	17 Dec	Malay Peninsula	Flood	The heavy rains that began on 17 Dec caused floods in eight states, flooding a wide area and causing enormous damage.

【December】 Flood

Heavy rains that continued from 17th to 18th December, mainly in the central part of the Malay Peninsula, caused extensive flood damage. On the 18th, there was a record heavy rainfall equivalent to one month of the normal year in some areas, and it is said that the flood damage was "once in 100 years".

Due to power outages, disruptions in transportation networks such as highways, and inundation above the floor level, factory production was suspended, businesses were interrupted, and logistics were stagnant. In addition, Port Klang, Malaysia's largest port, has been stagnant due to road closures and restoration work, and there were concerns about its impact on the supply chain to countries around the world.

According to the authorities, the total economic loss from the floods from December 2021 to early January 2022 is estimated to be MYR6.1 billion (about USD1.46 billion) (announced January 28).

Media reported 54 dead and 70,000 were forced to evacuate due to the flood.



Floods in Bentong, Pahang State (19th Dec 2021)

Source: Floodlist

<https://floodlist.com/asia/malaysia-floods-december-2021>

2. SINGAPORE

Since Singapore is located in the monsoon zone, although inland waters and lightning strikes have occurred due to localized torrential rains, there have been almost no earthquakes causing physical shaking, and Singapore is out of the routes of typhoons and cyclones. Hence the risk of natural disasters in Singapore is low.

According to Meteorological Service Singapore, Y2021 had more rains than normal year and the second heaviest year since 1980. The daily total rainfall of 170.6mm was recorded at Ulu Pandan, the highest recorded for April 2021.



Floods in Main Roads Source: Floodlist
<https://floodlist.com/asia/singapore-flash-floods-april-2021>

3. INDIA

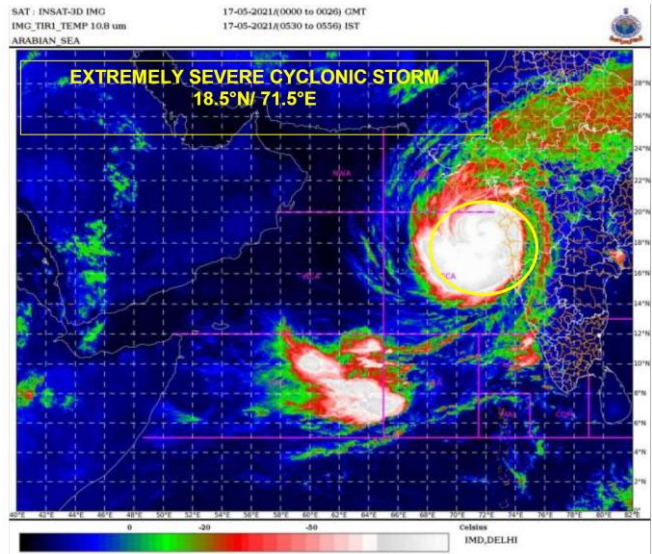
No.	Occurrence	Affected Area	Disaster	Outline
1	7 Feb	Uttarakhand	Glacier Outburst, Flood	A large-scale flood occurred due to the destruction of the dam caused by the collapse of the glacier. At least 28 people dead and about 206 people missing (reported by the Uttarakhand state government).
2	23 Apr	Uttarakhand	Avalanche	An avalanche occurs in the Chamoli district, Uttarakhand. 11 people dead, 7 people injured and 7 people missing.
3	17 May	Gujarat	Cyclone	Cyclone "Tauktae" made its landfall in Gujarat at midnight local time. Approximately 200,000 people have been evacuated in 7-8 states due to the approaching cyclone. 181 people dead, 101 people injured, and about 14 million people were affected.
4	11 Jul	Rajasthan etc.	Lightning	Lightning struck in various places. 76 people dead in Rajasthan, Uttar Pradesh, and Madhya Pradesh.
5	12 Jul~	North and West	Flood, Landslide	Heavy monsoon rains caused floods and landslides in Bihar, Himachal Pradesh and Uttarakhand. Several dead and missing. Floods and landslides occur in Maharashtra. More than 200 people dead.
6	26 Sep	East	Tropical Cyclone	Tropical Cyclone "Gulab" made its landfall between Odisha and Andhra Pradesh. According to the Indian National Institute of Disaster Management (NDMI), 26 people dead in lightning strikes and floods caused by heavy rains.
7	16 Oct~	South and North	Flood, Landslide	In Kerala, several days of heavy rains have caused floods and landslides, killing at least 38 people. In Uttarakhand, heavy rains caused landslides and flash floods that caused serious damage. More than 50 people dead.
8	7 Nov	Tamil Nadu	Heavy Rains, Flood	Flood damage caused by heavy rains, at least 14 people dead and evacuating more than 10,000 people.
9	18-19 Nov	Andhra Pradesh	Flood	Floods have killed more than 30 people and left more than 30 missing, damage to about 3,700 homes occurred (Ministry of Home Affairs Disaster Management Division).

[May] Cyclone "Tauktae"

The cyclone "Tauktae" had moved eastward after the outbreak in the Arabian Sea. On 15th May, it moved north along the coastline of Kerala, and made its landfall in Una, Gujarat at 20:20 local time on the 17th.

At the time of landing, it had developed into a cyclone in the "Extremely Severe" category, which was as strong as the cyclone that landed in the state in 1998. According to the India Meteorological Department, the maximum wind speed was about 51m/s (185km/h) and the central pressure was 960hPa.

About 120,000 houses were damaged and about 260,000 people were evacuated due to the approaching cyclone, heavy rain and gusts while passing through. The Government of India has announced that more than 14 million people were affected, 181 were killed and 101 were injured. It was the second wave of COVID-19, and the total damage is estimated to be about USD2.1 billion.



Tauktae landing (17th May 2021)
 Source: [IMD \(India Meteorological Department\)](#)

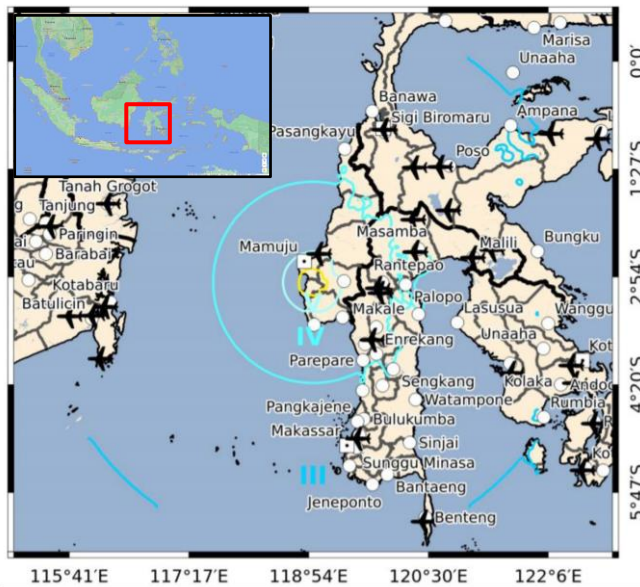
4. INDONESIA

No.	Occurrence	Affected Area	Disaster	Outline
1	10 Jan	Java Island	Landslide, Flood	Heavy rains from early January caused floods and landslides in many states in Java. According to the National Agency for Disaster Management (BNPB), 19 people dead, 18 people injured and 150 people evacuated by a landslide in the Cimanggung District (West Java).
2	15 Jan	Sulawesi	Earthquake	In the early morning of local time, there was a M6.2 (18.4km epicenter depth) earthquake in Sulawesi. 105 people dead and more than 6000 were injured (Announced by BNPB).
3	29 Mar	Java, Sumatra, Lesser Sunda Islands etc.	Flood, Flash Flood, Landslide	From 29 th Mar to 1 st Apr, floods occurred in Java, Sumatra, and the Lesser Sunda Islands due to localized heavy rains and strong winds. 128 people died, 72 people are missing, 2,683 people were affected, 1,962 houses and buildings were damaged (Announced by BNPB).
4	10 Apr	Java Island	Earthquake	At 2pm local time, there was a M5.9 earthquake off the coast of Java. 8 dead, more than 1,100 damaged houses (Announced by BNPB).
5	12 Apr	East Nusa Tenggara	Cyclone	Heavy rain, debris flow and landslides caused by the cyclone Seroja resulted in more than 180 deaths, over 70,000 damaged houses and buildings, and 500,000 people were affected.
6	10 May	West Java, North Kalimantan, Aceh	Landslide, Flood	Floods and landslides occurred by heavy rains every day after 9 May caused many casualties and damage. According to the ASEAN Disaster Information Network (ADINet), over 1,000 people were affected. Houses and roads were also damaged.
7	29 Sep	West Sumatra	Heavy Rain, Landslide, Flood	Extreme weather in Pariaman, West Sumatra after 29 th Sep caused strong winds, flash floods and landslides. 8 people dead.
8	29 Oct	Various Locations	Flood	Heavy rains since mid-October have caused flood damage in many parts of Indonesia.
9	4 Dec	Java Island	Volcanic Eruption	According to the Semeru Volcano Observatory (PPGA), Semeru, located in Java, began to become active around 14:47 local time on 4 December, and volcanic ash was observed at 15:10. 50 dead, 10,000 evacuees, and 1,000 damaged houses by the eruption (Announced by BNPB).

[January] Earthquake in Sulawesi Island

At 2:28 am (local time) on the 15th January 2021, there was a M6.2 earthquake in the western part of Sulawesi Island. The depth of the epicenter was as shallow as 18.4 km, and Mamuju, the capital of West Sulawesi near the epicenter, suffered particularly great damage. A foreshock (M5.7) occurred the day before and an aftershock (M5.0) occurred the next day, and many aftershocks continued thereafter.

In Mamuju and Majene, damage to schools, hotels, ports, bridges, etc. has been reported, including damage to State Offices and hospitals. Power outages have occurred due to damage to multiple power plants. the National Agency for Disaster Management (BNPB) announced that 105 people died, 3 people are missing, 6,489 were injured, and about 92,075 were evacuated.



Earthquake Epicenter Source: [AHA Centre](#)

5. MYANMER

No.	Occurrence	Affected Area	Disaster	Outline
1	25 Jul	South	Flood	Heavy rains have spread flood damage, especially in Rakhine, Kayin and Mon, affecting more than 3,000 people.
2	24 Aug	North	Landslide	On 24 th Aug, a landslide occurred in the Mandalay region due to heavy rain, and the houses were swamped. 11 dead.
3	21 Dec	North	Landslide	According to media reports, a landslide occurred on 21 st Dec at the Jade mine in Hpakant, Kachin Province, located in the north. At least one person died and about 100 people are missing.

[July to August] Flood

Intermittent rains since the 21st July have caused floods in many areas, including the southwestern and southeastern parts of the country. Heavy monsoon rains continued till August, further exacerbating the situation in the southern part of the country, which was flooded in July.

On the 24th August in the Mandalay region, landslides caused by heavy rain swamped houses, 11 people died. On the 25th, the river in northeastern Myanmar exceeded the warning water level and there was concern about flooding. More than 125,000 people were affected by the flood. Reported casualties, home damage and crop damage.



Flood in Kayin State Source: Floodlist
<https://floodlist.com/asia/myanmar-floods-july-2021>

6. VIETNAM

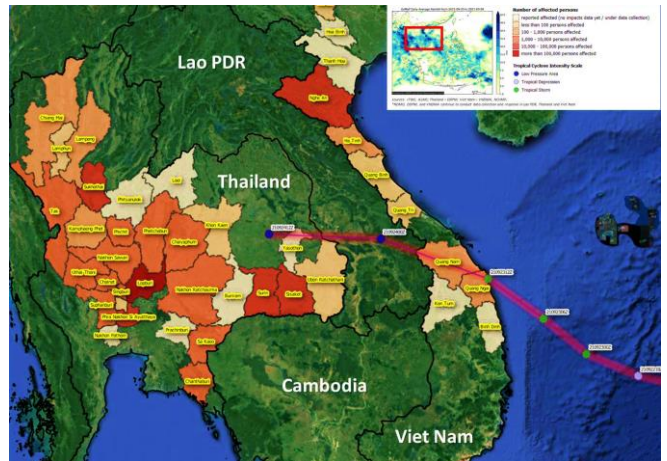
No.	Occurrence	Affected Area	Disaster	Outline
1	23 Sep	Central	Typhoon	Typhoon “Dianmu” made its landfall in Quang Ngai on the night of 23 rd Sep. It passed through central Vietnam and southern Laos and disappeared in eastern Thailand on the 24 th . Floods, landslides and storms occur in northern and central Vietnam due to the passage of typhoons.
2	22 Oct	Central	Flood	The heavy rains that began on 22 nd Oct caused serious flood damage in central Vietnam, causing deaths and damage. The most serious damage was in Quang Ngai and Quang Nam provinces. At least one person died and more than 7,000 evacuated.

[September] Typhoon “Dianmu”

Typhoon “Dianmu”, which occurred in the South China Sea, developed rapidly while moving west-northwest, and landed in Quang Ngai Province in central Vietnam on the night of the 23rd September (local time). After landing, it passed through central Vietnam and Laos, weakening its power, and disappeared in eastern Thailand on the 24th.

The maximum wind speed at the time of landing was 18 m/s, and the Binh Son district in Quang Ngai province recorded rainfall of 155.4mm in 6 hours. According to media reports, 2-3m waves were observed in the Gulf of Tonkin. Heavy rains caused by typhoons caused large-scale floods in Vietnam and Thailand, which had a great impact on livestock and agricultural land.

According to the Vietnamese authorities (as of 25 September 2021), the flood has confirmed 14,225 people in 2,845 households, 3 people missing and 3 people injured.



Paths of Typhoon Dianmu Source: [AHA Centre](#)

7. THAILAND

No.	Occurrence	Affected Area	Disaster	Outline
1	23 Sep	North, Central	Typhoon, Flood	According to the Thai Department of Disaster Prevention and Mitigation (DDPM), heavy rains have occurred for several days due to the effects of Typhoon “Dianmu”, causing serious floods in northern and central Thailand.

[September] Flood caused by Typhoon

According to DDPM, the impact of typhoon “Dianmu” caused heavy rainfall for several days from 23 September, resulting in serious floods in 32 provinces in northern and central Thailand.

According to the Thai Meteorological Department (TMD), it recorded 202mm of rain in Tak Fa, Nakhon Sawan Province and 182mm in Phliu in Chanthaburi Province, in 24 hours from 23 to 24 September.

The areas most affected were in central Lopburi (Central Thailand) and Central Phetchabun (Central and Northern Thailand), where 9 people were died and over 300,000 were affected in 32 states.



Floods in Chaiyaphum Province Source: Floodlist
<https://floodlist.com/asia/thailand-tropical-storm-dianmu-floods-september-2021>

8. PHILLIPINES

No.	Occurrence	Affected Area	Disaster	Outline
1	22 Apr	Central, North	Typhoon	Typhoon “Surigae” (Philippines name: Bising) which recorded a central pressure of 895 hPa that passed over the Philippine sea affected the central and northern parts of the Philippines. 6 dead, 20 injured, 3,385 damaged houses about 450,000 were affected (Governmental announcement on 2 May).
2	1 Jul	Taal Volcano, Luzon	Volcanic Eruption	At 12:16 (local time) on 1 st July, a phreatomagmatic eruption accompanied by a 1-kilometer-high eruption occurred at Taal Volcano in Batangas, Carabazon, and the alert level was 3. About 22,000 people were affected.
3	24 Jul	Luzon	Typhoon	Heavy rain caused by typhoon In-fa (Philippines name: Fabian) affected more than 320,000 people (5 dead, 6 injured, 516 damaged houses)
4	7 Sep	Visayas	Typhoon	Bad weather caused by Typhoon “Conson” (Philippines name: Jolina) affected more than 10,000 people in the Visayas Islands. 20 dead, 4 missing, 33 injured, about 18,000 damaged houses and about 350,000 were affected.
5	12 Oct	North	Typhoon, Flood, Landslide	The southwest monsoon affected by Typhoon “Kompasu” (Philippines name: Maring) caused landslides and floods in the northern part of the Philippines. 43 dead, 16 missing, 5 injured, 1.16 million victims, 13,307 damaged houses.
6	21 Nov	Batanes	Volcanic Eruption	Pumice stones and ejecta generated by the volcanic eruption of a submarine volcano in the Ogasawara Islands of Japan in August 2021 reach Batanes in the northern part of the Philippines and affect marine life and fisheries.
7	16 Dec	Southeast, Central	Super Typhoon	Super Typhoon Rai (Philippines name: Odette) landed at least nine times from the southeastern part to the central part westward from the 16th to the 17th, causing enormous damage in various places.

[December] Super Typhoon Rai

The tropical cyclone that occurred in the Caroline Islands on the 12th December turned into a typhoon on the 13th, and the central pressure developed to a tremendous intensity of 915hpa on the 16th and made its landfall at Siargao Island at 14:00 (local time). It crossed over the Philippines on the 17th, and after that it weakened, but it re-developed in the sea near Vietnam and became a tremendous strength with a central pressure of 915hPa again. After that, it gradually lost its power and disappeared in the South China Sea on the 20th.

Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) announced the maximum wind speed of the typhoon was 195 km/h and the maximum instantaneous wind speed was 240 km/h. Rai was the third Category 5 Super Typhoon recorded in the South China Sea, following Pamela in 1954 and Ramasan in 2014, causing extensive damage to the southern Philippines. According to the National Disaster Risk Reduction and Management Council (NDRRMC, announced on 7 Feb 2022), 405 dead, 52 missing, 1,371 injured, 10,604,489 victims, 446,603 completely destroyed houses, 1,602,821 partially damaged houses have been confirmed.



Paths of Typhoon Rai Source: [OCHA](#)



Philippine Coast Guard in rescue operations in Mindanao Source: [Philippine New Agency](#)

Archives related to this article are available as follows. Please contact our staffs if you wish.

Issue	Title of Issues	Outline
Jun 2020	Preparing for Cyclone	Outline general information of cyclones in India & standard points of pre-checks aimed at preparing for risks.
Jul 2020	Preparing for Typhoon in Philippines	Outline general information of typhoon in Philippines & standard points of pre-checks aimed at preparing for risks.
Jul 2020	Preparing for Typhoon in Vietnam	Outline general information of typhoon in Vietnam & standard points of pre-checks aimed at preparing for risks.
Nov 2020	Preparing for Torrential Rains Flood in Indonesia	Outline general information of floods occurred in end of 2019 & standard points of pre-checks to mitigate flood loss.
Mar 2021	Measures against Volcanic Ashfall	Introduce of possible risks and general precautions, focusing on the impact of volcanic ashfall on buildings.
Nov 2021	Preparing for Flood in Malaysia	Trend of rainfall and the causes of floods in Malaysia & general pre-checks to mitigate flood loss

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