FLOODING, LANDSLIDES, STORMS, AND WINDS IN CENTRAL VIET NAM

Figures are the latest updates, correct as of 16 October 2020

KEY FIGURES

- 682k* AFFECTED PERSONS
- 55* DEAD
- 12* MISSING
- 136k* AFFECTED HOUSES
- 14.7km* AFFECTED ROADS
- 10.4k ha* AFFECTED RICE, CROPS, AQUATIC PRODUCTS
- 362* AFFECTED SCHOOLS
- 26.3km* COASTAL LANDSLIDE
- 332k LIVESTOCK LOST

INITIAL EMERGENCY RELIEF NEEDS IDENTIFIED

- 6,500 TONS OF RICE
- 20,000 BOXES OF INSTANT NOODLES
- 5.5 TONS OF DRIED FOOD
- MEDICINES, DISINFECTION MATERIALS, SEARCH AND RESCUE EQUIPMENT

*Highest number recorded. Estimations are based on data reported/confirmed by the Viet Nam Disaster Management Authority (VNDMA)
1. HIGHLIGHTS

a. The combination of weather systems (Tropical Storms LINFA and NANGKA, and the Inter Tropical Convergence Zone combined with cold air) affected the Lower Mekong Region. This resulted in **widespread flooding and landslides** in multiple provinces of **Cambodia, Lao PDR, and Viet Nam**.

b. The floods, landslides, storms, and winds in Central Viet Nam affected an estimated **682K people, 136K houses, 10.4K hectares of rice, crops, and aquatic produce, 362 educational institutions, 14.7 km of roads, and the loss of 332K livestock (cattle and poultry)**. About **26.3 km of coastal landslide** was also reported. Casualties were also reported (**55 dead and 12 missing**).  

*highest number reported as of 16 October 2020 source: VNDMA*

c. Viet Nam Disaster Management Authority (VNDMA) has organised response missions to the affected provinces. It has also maintained close coordination with its partners. Further, VNDMA is organising a meeting with Disaster Risk Reduction partners on Monday, **19 October 2020** to discuss and coordinate international support.

d. The AHA Centre is preparing for the mobilisation of ASEAN relief items from the Disaster Emergency Logistics System for ASEAN (DELSA) regional stockpile in Subang, Malaysia. In addition, the AHA Centre stands ready to support and facilitate regional and international assistance, if and when requested by VNDMA. The AHA Centre will continue its close coordination with VNDMA and will issue necessary updates accordingly.

2. SUMMARY OF EVENTS

a. Since 6 October 2020, the Central region of Viet Nam has experienced prolonged heavy rainfall. This was reportedly due to the combination of weather systems (Tropical Storms LINFA and NANGKA, and the Inter Tropical Convergence Zone combined with cold air).

b. In the morning of 11 October 2020, Tropical Storm LINFA entered the mainland of Quang Nam and Quang Ngai provinces in Central Viet Nam, dumping **150 to 300 mm** of rain. Further, in the evening of 14 October 2020, Tropical Storm NANGKA tracked through Northern Viet Nam, added at least **150 mm** of rain to the still flooded provinces of Central Viet Nam.

c. As a result of aforementioned occurrences, widespread flooding and landslides in multiple provinces of **Cambodia, Lao PDR, and Viet Nam** were reported. These disaster events were confirmed by the National Committee for Disaster Management (NCDM) of Cambodia, National Disaster Management Office (NDMO) of Lao PDR, and Viet Nam Disaster Management Authority (VNDMA).

d. According to VNDMA, widespread floods occurred in the provinces of Ha Tinh to Quang Ngai and big floods in the provinces of Quang Binh to Quang Nam. Small to medium riverine floods were also observed in Quang Binh, Quang Tri, and Thua
Thien Hue provinces reaching alarm level 3. Historical flooding was also reported in Hieu River in Quang Tri and Bo River in Thua Thien Hue.

e. As of 1900 HRS UTC+7 of 16 October 2020, the tropical depression (INVEST 94W) on the East Sea weakened into a low pressure area and entered the central provinces. The weather disturbance is forecasted to gradually weaken before dissipating. However, according to the National Centre for Hydro-Meteorological Forecasting (NCHMF) of Viet Nam, the central provinces will continue to experience heavy to very heavy rainfalls in the coming days.

3. ASSESSMENT OF IMPACT AND HUMANITARIAN NEEDS

Assessment of Impact

a. In the afternoon of 15 October 2020, the VNDMA updated figures on the damages and losses sustained in Central Viet Nam in an Executive Briefing organised by the AHA Centre.

b. At the briefing, VNDMA reported that many areas in Central Viet Nam recorded a total rainfall of more than 2,000mm from 05 to 15 October 2020; and in some locations, the flood water level exceeded the historical value recorded in 1999.

![Daily Average Rainfall from 09 - 15 October 2020](image)

Figure 1. Daily Average Rainfall from 09 - 15 October 2020, as processed by the ASEAN Specialised Meteorological Centre (ASMC), showed high average rainfall in Central Viet Nam, in the East Sea, and portions of Lao PDR. These areas have tributaries draining to the Lower Mekong River Basin in Cambodia and out the Mekong Delta in Viet Nam.
c. A total of **212 communes** with more than **135,000 households** were affected. Inundation in the provinces of Quang Binh to Quang Ngai flooded and damaged more than 360 schools.

d. The detailed report on casualties is as follows:

![Casualties by provinces](image)

**Figure 2.** Casualties by affected province (Death and Missing) as of 15 October 2020 as reported by the Viet Nam Disaster Management Authority during the Executive Briefing organised by the AHA Centre.

e. Material damages and losses:
   
i. Residential: **585 collapsed** houses and **135,371 flooded** houses;
   
ii. Educational: **27 damaged** schools and **335 flooded** schools;
   
iii. Public Infrastructure: **137 points** of national highway and **14,737 m** of local roads eroded and damaged in Quang Binh, Quang Tri, Thua Thien Hue, Quang Nam, and Quang Ngai; and
   
iv. Sources of livelihood: **6 transport ships** and **4 fishing boats** damaged.

f. Agricultural damages and losses:
   
i. **10,392 ha** of damaged agricultural land (rice, subsidiary crops, and other products);
   
ii. **3,588 ha** of aquatic products destroyed; and
   
iii. **332,350 cattle and poultry** lost.

g. Coastal Landslide of **26.3 km**
   
i. Ha Tinh: 7 km
   
ii. Quang Binh: 1.6 km
   
iii. Thua Thien Hue: 10.6 km
   
iv. Da Nang: 2.05 km
   
v. Quang Nam: 5 km
Anticipated Risks

a. **Forecast:**

i. From 16 - 21 October in Central Viet Nam, there is a forecast of very heavy rain, especially in the provinces of Ha Tinh, Quang Binh, and Quang Tri. Total rainfall from 16 - 21 October in Nghe An, Ha Tinh, Quang Binh, and Quang Tri is approximately 400-700mm, with some places over 800mm; in Thua Thien Hue it is approximately 400-500mm, with some places over 500mm; In Da Nang, Quang Nam, approximately 300-400mm, with some places over 450mm; From Quang Ngai to Phu Yen, approximately 200-300mm, with some places over 350mm.

ii. From 16 - 18 October, in the Central Highlands, there will be **moderate to heavy rain** (100-200mm), with some places experiencing **very heavy rain** (over 250mm).

b. **Warning:** After 21 October, there is a possibility of prolonged heavy rain in the provinces of Central and South Central Viet Nam. The warning on the level of natural hazard risk caused by heavy rain is **Level 2.**

Humanitarian Needs

a. The VNDMA has identified initial emergency relief needs detailed as follows:

![EMERGENCY RELIEF NEEDS](image)

**Figure 3.** Identified initial emergency relief needs by the VNDMA as of 15 October 2020.

- **6,500 tons of rice** (3,000 tons to Quang Binh; 1,500 tons to Quang tri; 1,000 tons to Thua Thien Hue; 1,000 tons to Quang Nam)*
- **5.5 tons of dried food** (1.5 tons to Quang Tri; 2 tons to Thua Thie Hue; 2 tons to Quang Nam)
- **20,000 boxes of instant noodles** (10,000 boxes to Thua Thien Hue; 10,000 boxes to Quang Nam)
- **Medicines, disinfectants**
- **Search and rescue equipment**

*The government of Viet Nam will shoulder rice provision*
Response by the Government of Viet Nam

a. Viet Nam’s Central Steering Committee for Natural Disaster Preparedness and Control (CCNDPC) regularly conducts coordination meetings.

b. The CCNDPC has sent missions to the affected provinces (Quang Binh, Quang Tri, Thua Thien Hue, Da Nang, and Quang Ngai) to provide concrete guidance as well as conduct rapid damages and needs assessment.

c. The Government of Viet Nam released a call for emergency relief and support on 13 October 2020.

d. The Government of Viet Nam continues to coordinate with international organisations who have expressed intent to provide support, including the AHA Centre, JICA, UNDP, UNICEF, and USAID.

e. In the afternoon of 15 October 2020, VNDMA presented updates and responded to inquiries from Diplomatic Missions and Humanitarian Partners in an Executive Briefing organised by the AHA Centre.

f. The Government of Viet Nam plans to convene a meeting with Disaster Risk Reduction partners on Monday, 19 October 2020 to discuss and coordinate international support.

Response by the AHA Centre

a. On 14 October 2020, the AHA Centre expressed condolences to Viet Nam and offered support through the Disaster Emergency Logistics System for ASEAN (DELSA) regional stockpile.

b. On 15 October 2020, the Government of Viet Nam through the VNDMA accepted AHA Centre’s offer of assistance. Consequently, the AHA Centre raised its Emergency Operations Centre’s Alert Level to RED (Active Response).

c. Initial Offer of Assistance was made for personal hygiene kits, family kits, shelter repair kits, and kitchen sets. However, based on the advice of VNDMA, the assistance was revised to support with shelter repair kits and kitchen sets.

d. On 15 October 2020, the AHA Centre organised an online Executive Briefing to facilitate the coordination of VNDMA and humanitarian partners. The event was attended by the Secretary-General of ASEAN H.E. Dato Lim Jock Hoi and the Deputy Director-General of VNDMA Mr. Nguyen Van Tien. The event was attended by over 40 invitees which included:

- Ambassadors and Defence Attaches of ASEAN Member States;
- Committee of Permanent Representatives to ASEAN;
- Focal Points of the ASEAN Committee on Disaster Management (ACDM) or their representatives from the National Disaster Management Organisations (NDMOs);
- Representatives of ASEAN Dialogue/Development/Sectoral Partners; and
- Partners of the AHA Centre.
e. The Executive Briefing provided a situational awareness and common operating picture of the effects of Tropical Storms LINFA and NANGKA in the ASEAN region, as well as actions that have been taken and to be taken by the respective governments, as well as the AHA Centre.

Response by Other Humanitarian Partners

a. The Pacific Disaster Center (PDC) has provided a 7-day rainfall accumulation map to the AHA Centre (see Annexes).

b. The AHA Centre through its Disaster Monitoring and Analysis Unit requested for support from the United Nations Institute for Training and Research (UNITAR) on 13 October 2020. UNITAR has provided TS NANGKA track forecast, likely flood extent and existing water extent as well as an analysis of exposed populations to said flooding event for the specified area of interest in Central Viet Nam (see Annexes).

c. The United Nations Humanitarian Response Depot (UNHRD) continues to assist the AHA Centre’s logistical preparations for the mobilisation of DELSA regional stockpile in Subang, Malaysia.

Response by Other Partners

a. The AHA Centre, in lieu of VNDMA, acquired available data and maps from one of the Data Analysis Nodes (DAN) (Asian Institute of Technology in Bangkok, Thailand) of the Asian Disaster Reduction Center (ADRC) through the Sentinel Asia OPTEMIS Dashboard on 14 October 2020 (see Annexes).

5. RECOMMENDATIONS AND PLAN OF ACTIONS

The AHA Centre’s Plan

a. The AHA Centre stands ready to support and facilitate regional and international assistance, if and when requested by VNDMA.

b. The AHA Centre will continue its close coordination with VNDMA and will issue necessary updates accordingly.
ABOUT THE AHA CENTRE

The AHA Centre - ASEAN Coordinating Centre for Humanitarian Assistance on disaster management - is an inter-governmental organisation established by 10 ASEAN Member States – Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam - to facilitate the cooperation and coordination among ASEAN Member States and with the United Nations and international organisations for disaster management and emergency response in the region.

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ANNEXES: Information Products from Partners

Pacific Disaster Center (PDC)

Flooding – Vietnam – Rainfall Accumulation, Past 7 Days
14 OCTOBER 2020 | 01:00 ICT

REPORTED IMPACTS

POPULATION
166,900+ Affected
28 Deaths
12 Missing

HOUSING / SCHOOLS
415 Collapsed Houses
131,000+ Houses Flooded
244 Schools Flooded

Estimated Rainfall from Approaching Tropical Storm Nangka

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Data: PDC, JTWC, MAVD, CONDPC - Vietnam Disaster Management Authority, NASA IMERG, Kineticart TC, ESRI
United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT)
ANNEXES: Information Products from Partners

Asian Institute of Technology (AIT) through Sentinel Asia (Asian Disaster Reduction Center)

[Map of Quang Nam Province, Vietnam showing detected flood water areas.]
ANNEXES: Information Products from Partners

Asian Institute of Technology (AIT) through Sentinel Asia (Asian Disaster Reduction Center)

[Map Image: Detected Flood Water in Quang Nam Province, Vietnam]

Map Information:
- Map Scale 1:80,000
- Coordinate System: GCS WGS 84
- Datum: D WGS 84
- Unit: Degree

Legend:
- Detected Flood Water
- Waterbody
- Building
- Waterway
- Road
- District Boundary

Data Sources:
- Satellite Image:
  - Pre-disaster: ALOS-2, 28 May 2017
  - Post-disaster: ALOS-2, 11 October 2020
- GIS Data:
  - Waterway, Waterbody, Building, Road © OSM (2020)
  - Administrative Boundary © GADM (2020)

Description:
The blue areas shown in this map indicate the flood water areas detected in Phú Ninh and Thăng Bình districts in Vietnam, due to the heavy rain occurring on 6-11 October 2020. Note that the detected water may also include water in cultivated areas.

Map product made by GIS-AIT (v.3). Disclaimer: The accuracy of this product is not validated.

Data provider: AIT