



ONE ASEAN  
ONE RESPONSE

# SITUATION UPDATE

## FLOODING IN CENTRAL VIET NAM

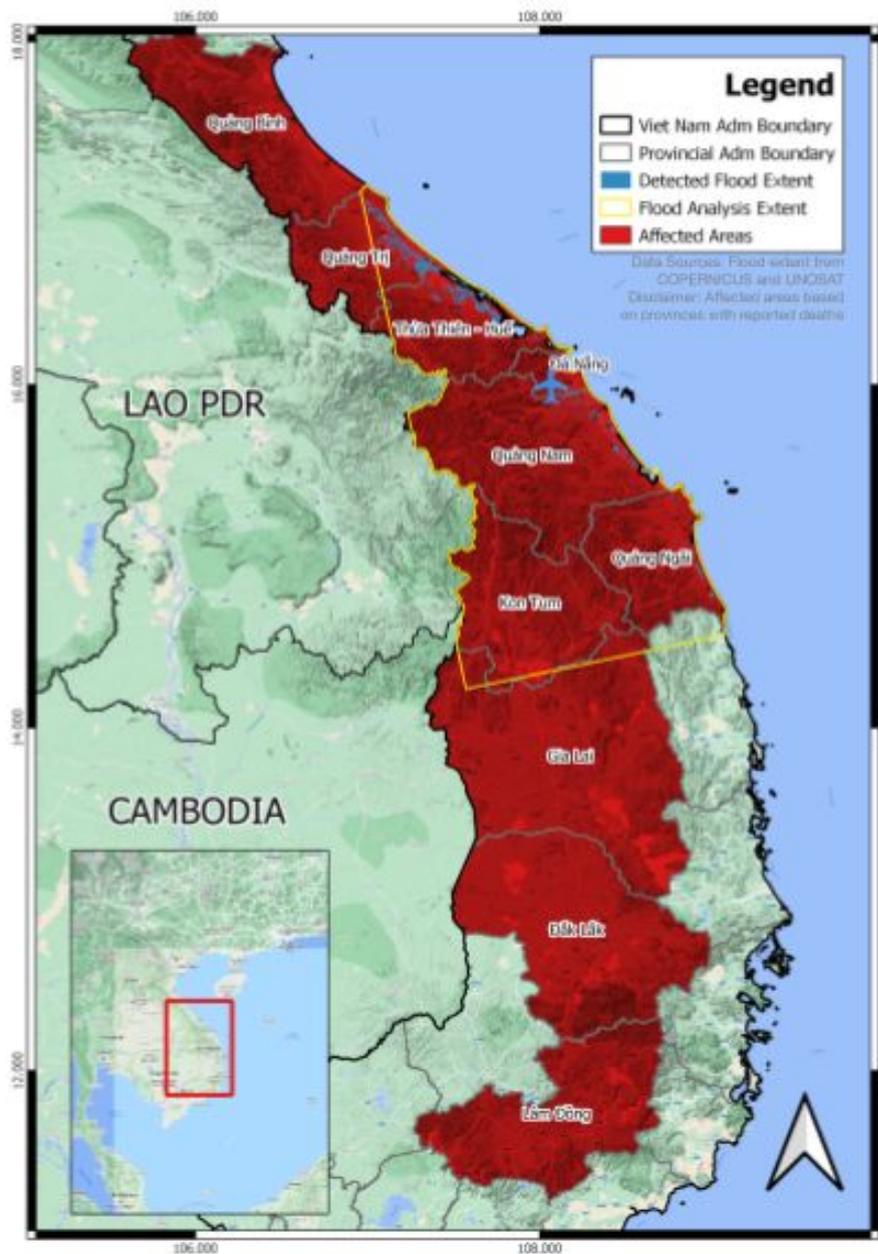
Saturday, 19 October 2020, 23:00 hrs (UTC+7)

No. **2**

This Situation Update is provided by the AHA Centre for use of the ASEAN Member States and relevant stakeholders. The information presented is collected from various sources, including but not limited to ASEAN Member States' Government Agencies, UN, IFRC, NGOs, Humanitarian and Dialogue Partners, and News Organisations.

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

Figures are the latest updates, correct as of 17 October 2020



## KEY FIGURES

- 801K\*** AFFECTED PERSONS
- 66.5K\*** PEOPLE EVACUATED
- 64\*** DEAD
- 12\*** MISSING
- 160K\*** AFFECTED HOUSES
- 14.7 KM\*** AFFECTED ROADS
- 112.8K** HECTARES OF LAND DAMAGED OR DESTROYED
- 362\*** AFFECTED SCHOOLS
- 26.3 KM\*** COASTAL LANDSLIDE
- 462K** 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, DISINFECTANTS, 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. A fourth weather disturbance (after Tropical Storms LINFA and NANGKA, and tropical depression INVEST 94W), currently named tropical depression INVEST 19W, is forecasted to impact the central provinces of Viet Nam between 24 to 26 October 2020.
- c. The floods, landslides, storms, and winds in Central Viet Nam affected an estimated **800.5K people, 160.1K houses, 112.8K hectares of land damaged or destroyed, 42 commune health stations (Quang Tri: 32; Quang Ngai: 5; Quang Nam: 4; and one regional clinic), 362 educational institutions, 14.7 km of roads, and the loss of 462K livestock (cattle and poultry)**. About **26.3 km of coastal landslide** was also reported. Casualties were also reported (**64 dead and 12 missing\***).  
*\*highest number reported as of 16 October 2020 source: [VNDMA](#)*
- d. The Government of Viet Nam identified several humanitarian needs: **6,500 tons of rice\*\***, **5.5 tons of dried food, 20,000 boxes of instant noodles, medicines, disinfectants, and search and rescue equipment**.  
*\*\*the Government of Viet Nam will shoulder rice provision*
- e. The UN Resident Coordinator in Viet Nam provided a report summarising sectoral needs for Education, Food Security, Health & Nutrition, Protection & Gener, Shelter, and Water, Sanitation and Hygiene.
- f. Viet Nam Disaster Management Authority (VNDMA) has organised response missions to the affected provinces. It has also maintained close coordination with its partners. On the morning of 19 October 2020, the Government of Viet Nam convened a meeting with Disaster Risk Reduction partners to discuss and coordinate support from international organisations. Several organisations – United Nations Development Programme (UNDP), Save the Children, World Health Organization (WHO), Japan International Cooperation Agency (JICA), and the United States Agency for International Development (USAID) also provided or pledged assistance to Viet Nam.
- g. From **20 to 23 October 2020**, three (3) teams, coordinated by VNDMA, will conduct **damage assessment and needs analysis** in the provinces of Quang Binh, Quang Tri, Thua Thien Hue, Quang Nam, and Quang Ngai.
- h. The ASEAN relief items, consisting of **1,000 shelter repair kits** and **1,300 kitchen sets** from the Disaster Emergency Logistics System for ASEAN (DELSA) regional stockpile in Subang, Malaysia have been prepared by the AHA Centre for air freight. The relief items are expected to arrive in Da Nang International Airport on the evening of 20 October 2020.

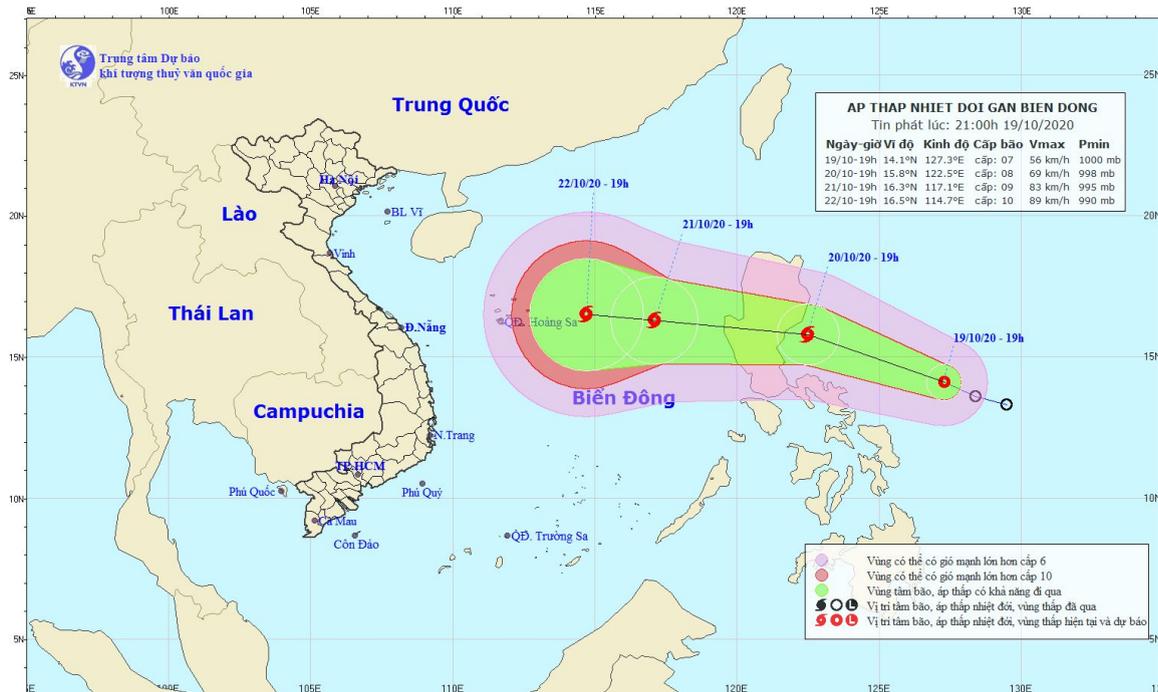


- i. The AHA Centre stands ready to support and facilitate regional and international assistance, if and when requested by VNDMA. The AHA Centre will continue its close coordination with VNDMA and will issue necessary updates accordingly.

## 2. SUMMARY OF EVENTS, FORECAST, AND ANTICIPATED RISK

- 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 (ITCZ) 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. In the evening 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 gradually weakened before dissipating.
- f. According to the National Centre for Hydro-Meteorological Forecasting (NCHMF) of Viet Nam, the provinces of Ha Tinh and Quang Binh in Central Viet Nam are expected to continuously experience heavy to very heavy rain (**150 to 300 mm**) until 21 October due to the incessant influence of ITCZ combined with cold air. Meanwhile, the areas of Quang Tri to Da Nang is forecasted to receive between **150 to 250 mm** of rainfall until 21 October.
- g. The Joint Typhoon Warning Center (JTWC), Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), and the Viet Nam NCHMF detected **tropical depression INVEST 19W**, which is currently in the Philippine Sea. Based on forecasts, the weather disturbance will strengthen into a tropical storm before making landfall in Luzon, Philippines. After it exits the Philippine landmass, it is expected to go westward towards the East Sea of Viet Nam and threaten to make landfall in the central provinces between 24 to 26 October 2020. Since the weather disturbance is still far from Viet Nam, forecast models may significantly change in the coming days.





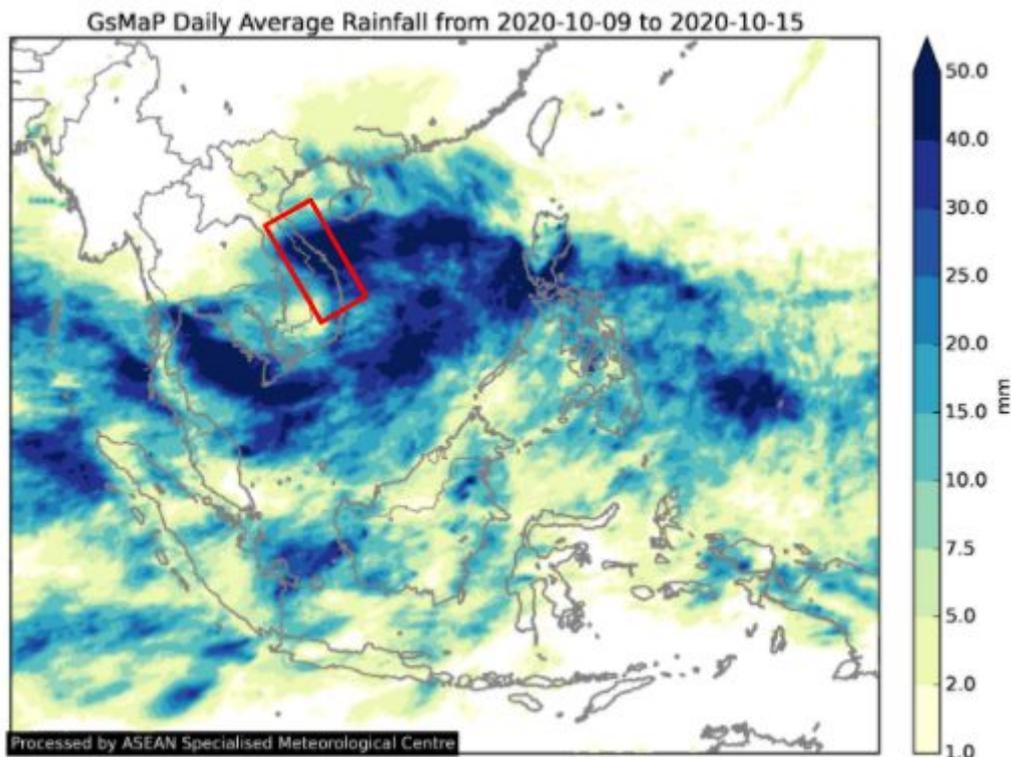
**Figure 1.** Forecast track of INVEST 19W (NCHMF) - a tropical depression in the Philippine Sea. The weather disturbance is forecasted to strengthen into a tropical storm before making landfall in the Philippines, and eventually becoming another threat to the central provinces of Viet Nam.

### 3. ASSESSMENT OF IMPACT AND HUMANITARIAN NEEDS

#### Assessment of Impact

- 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.
- 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.





**Figure 2.** 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. Based on the latest report of the UN Resident Coordinator in Viet Nam, an estimated five (5) million people were exposed and may have been affected in the provinces of Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue, Da Nang, Quang Nam, Quang Ngai, and Binh Dinh.
- e. Material damages and losses:
  - i. Residential: **24,734 collapsed** and **135,371 flooded**
  - 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. **106,616 ha of crops**
  - ii. **470 ha of fruit trees**
  - iii. **450 tons of seedlings**
  - iv. **46,562 tons of seeds**
  - v. **3,889 ha of aquatic products**



vi. **461,267 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

## Humanitarian Needs

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



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

- i. **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)\*
- ii. **5.5 tons of dried food** (1.5 tons to Quang Tri; 2 tons to Thua Thie Hue; 2 tons to Quang Nam)
- iii. **20,000 boxes of instant noodles** (10,000 boxes to Thua Thien Hue; 10,000 boxes to Quang Nam)
- iv. **Medicines, disinfectants**
- v. **Search and rescue equipment**

*\*The government of Viet Nam will shoulder rice provision*

b. **Report of the UN Resident Coordinator in Viet Nam**

i. **Education**

- 1. To date, 27 schools have reportedly been damaged and a further 335 are flooded.

ii. **Food Security**

- 1. Although most paddy rice was harvested before the floods, around 924 ha of rice, 430 ha of rice seedlings, 106,616 ha of crops, 470 ha of forest trees, 462 ha of fruit trees, 450 tons of seedlings, 46,562 tons of seeds, and 3,889 ha of aquatic products in the central provinces are reportedly flooded, buried, or damaged.
- 2. The floods have killed around 461,627 livestock and poultry. The damage could increase substantially once a full damage



assessment has been conducted. The Government is taking action to protect livestock from further storms and floods.

3. Though the data on damage to harvested products and stored water has not been collected, significant damage is likely given the high and widespread floods in the affected provinces.
4. COVID-19 had already significantly impacted the income and food security of vulnerable households, especially the current flood-affected provinces which have just undergone strict social distancing due to the second wave of the virus. This has significantly reduced their capacity to cope with the floods.
5. 6 transport ships and 4 fishing boats were damaged.

### **iii. Health & Nutrition**

1. A number of care facilities (HCFs) have reportedly been damaged, including at least 42 commune health stations (CHSs) (Quang Tri: 32; Quang Ngai: 5; Quang Nam: 4; and one regional clinic). Many other CHSs are isolated and inaccessible due to flooding.

### **iv. Protection & Gender**

1. The most vulnerable women are at increased risk of food insecurity and related illnesses, while a lack of access to healthcare and other stresses is likely to raise the risk of miscarriage for pregnant women.
2. Thousands of people have had to evacuate to locations that may not have sleeping areas separated by gender, which can increase the risk of violence, sexual harassment, and abuse to women and girls.
3. Lack of clean water, clothing, and personal hygiene items will increase the risk of disease amongst flooded affected households.

### **v. Shelter**

1. VNDMA reports 24,734 houses have collapsed or have been damaged, and 135,371 are flooded.

### **vi. Water, Sanitation and Hygiene**

1. In Thua Thien Hue, 12 water supply systems in 3 communes are reportedly not functional.



## 4. ACTIONS TAKEN AND RESOURCES MOBILISED

### 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. On the morning of 19 October 2020, the Government of Viet Nam convened a meeting with Disaster Risk Reduction partners to discuss and coordinate international support. The meeting was co-chaired by the Deputy Minister of Agriculture and Rural Development (MARD), Mr. Nguyen Hoang Hiep, and the Country Director of the Asian Development Bank (ADB), Mr. Andrew Jeffries. The meeting reiterated that all humanitarian partners must coordinate with VNDMA.
- g. The Government of Viet Nam has provided 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) and 20,000 boxes of instant noodles (10,000 boxes to Thua Thien Hue; 10,000 boxes to Quang Nam).
- h. The Ministry of Health (MOH) deployed a team led by MOH leaders to visit affected provinces to assess the damage to the health sector and to support local health authorities in response to the situation. Local health authorities, in close collaboration with other sectors, are actively responding to the floods
- i. From 20 to 23 October 2020, three (3) teams, coordinated by VNDMA, will conduct damage assessment and needs analysis in the provinces of Quang Binh, Quang Tri, Thua Thien Hue, Quang Nam, and Quang Ngai.

### 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.
- f. The AHA Centre is mobilising **1,000 shelter repair kits** and **1,300 kitchen sets** from the DELSA warehouse in Subang, Malaysia to augment the relief resources of the Government of Viet Nam. The relief items are expected to arrive in Da Nang International Airport on the evening of 20 October 2020.



**Figure 4.** Loading of kitchen sets to be freight by air from the DELSA Warehouse in Subang, Malaysia to Da Nang, Viet Nam.



## Response by Other Humanitarian Partners

- a. The Pacific Disaster Center (PDC) has provided a 7-day rainfall accumulation map to the AHA Centre.
- b. The AHA Centre through its Disaster Monitoring and Analysis Unit requested for support from the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT) on 13 October 2020. UNOSAT 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. [UNOSAT released a new analysis for Quang Ngai province \(see Annex\)](#).
- 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.
- d. [The United Nations Development Programme \(UNDP\) pledged to mobilise USD 100,000 to support assessment and coordination.](#)
- e. [Save the Children mobilised USD 100,000.](#)
- f. [The World Health Organization \(WHO\) pledged to support the health assessment of the Ministry of Health amounting to USD 10,000. WHO is also providing emergency support of 320,000 tabs of water purification \(67 mg\).](#)
- g. [The Japanese Government, through the Japan International Cooperation Agency \(JICA\), is supporting VNDMA with plastic sheets and water filters. 50 water filters and 250 plastic sheets are planned to be delivered to Thua Thien Hue province.](#)
- h. [The United States Agency for International Development \(USAID\) pledged to provide financial support to the Viet Nam Red Cross \(VNRC\) amounting to USD 100,000.](#)

## 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.

## 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.



**Prepared by:**

The AHA Centre - Emergency Operations Centre (EOC)

**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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# ANNEX: Information Products from Partners

## United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT)



### VIET NAM

Quang Ngai Province

Imagery analysis: 17 October 2020 | Published 18 October 2020 | Version 1.0



TC20201013VN



### Satellite detected waters in Quang Ngai Province of Viet Nam as of 17 October 2020

This map illustrates satellite-detected surface waters in Quang Ngai Province of Viet Nam as observed from a Sentinel-1 image acquired on 17 October 2020. Within the analyzed area of about 2,000 km<sup>2</sup>, a total of about 70 km<sup>2</sup> of lands appear to be flooded. Based on Worldpop population data and the detected surface waters, about 20,000 people are potentially exposed or living close to flooded areas. This is a preliminary analysis and has not yet been validated in the field. Please send ground feedback to UNITAR-UNOSAT.

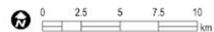
Important Note: Flood analysis from radar images may underestimate the presence of standing waters in built-up areas and densely vegetated areas due to backscattering properties of the radar signal.

#### Legend

- City / Town
- Road
- Railway
- Province boundary
- District boundary
- Reference water
- Analysis Extent
- Satellite detected water [17 October 2020]
- Satellite detected water [13 October 2020]

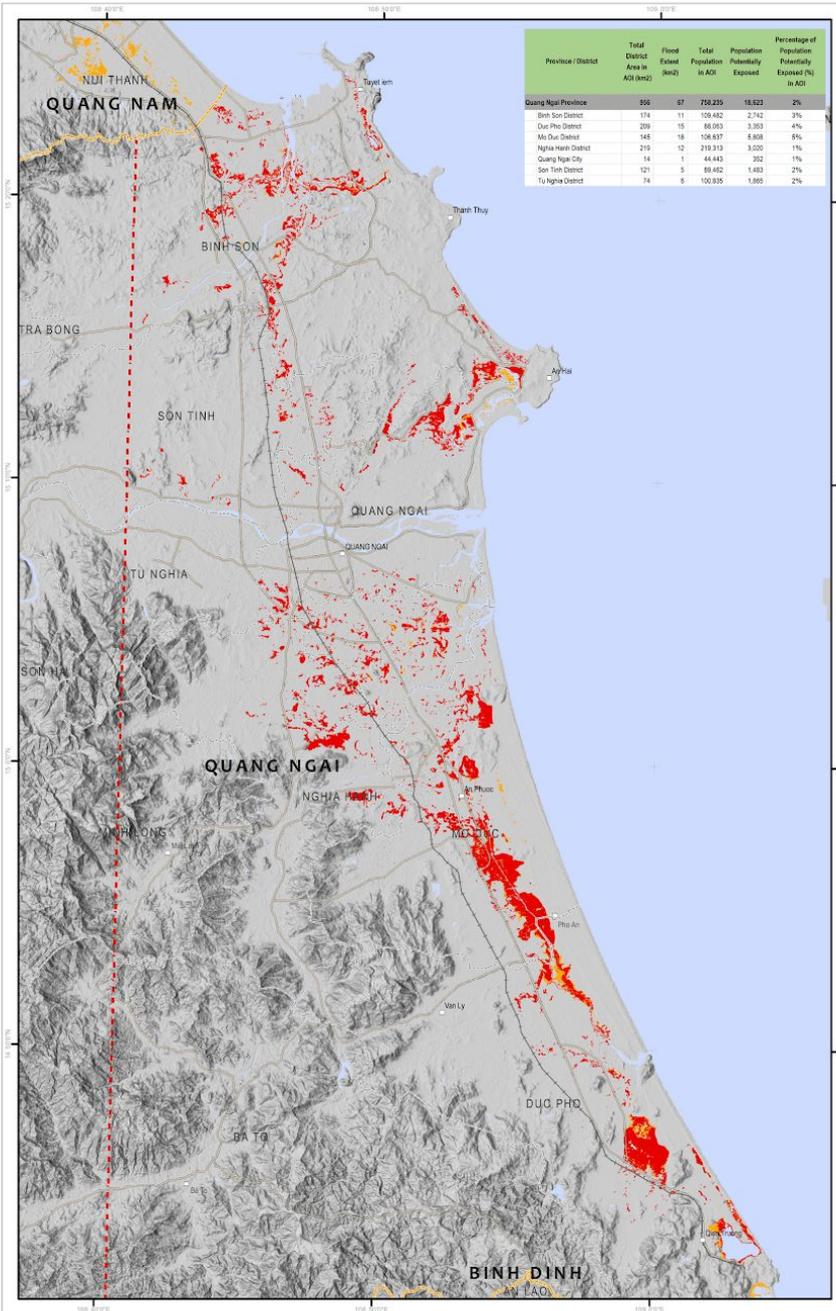


Map Scale for A3: 1:250,000



Analysis conducted with: ArcGIS v10.7

Coordinate System: WGS 1984 UTM Zone 49N  
 Projection: Transverse Mercator  
 Datum: WGS 1984  
 Units: Meter



Satellite Data: Sentinel-1  
 Imagery Date: 17 October 2020  
 Resolution: 10 cm  
 Copyright: Contains modified Copernicus Sentinel Data (2020)  
 Source: ESA

Administrative boundaries: OCHA/ROAP  
 Population data: WorldPop (2020)  
 Reference Water: The European Commission's Joint Research Centre  
 Road: OpenStreetMap  
 Background: ALOS Global DSM

Analysis: UNITAR - UNOSAT  
 Production: UNITAR - UNOSAT

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