



ONE ASEAN  
ONE RESPONSE

# SITUATION UPDATE

## TROPICAL CYCLONE NORU LAO PDR, PHILIPPINES, THAILAND, VIET NAM

No. **3**

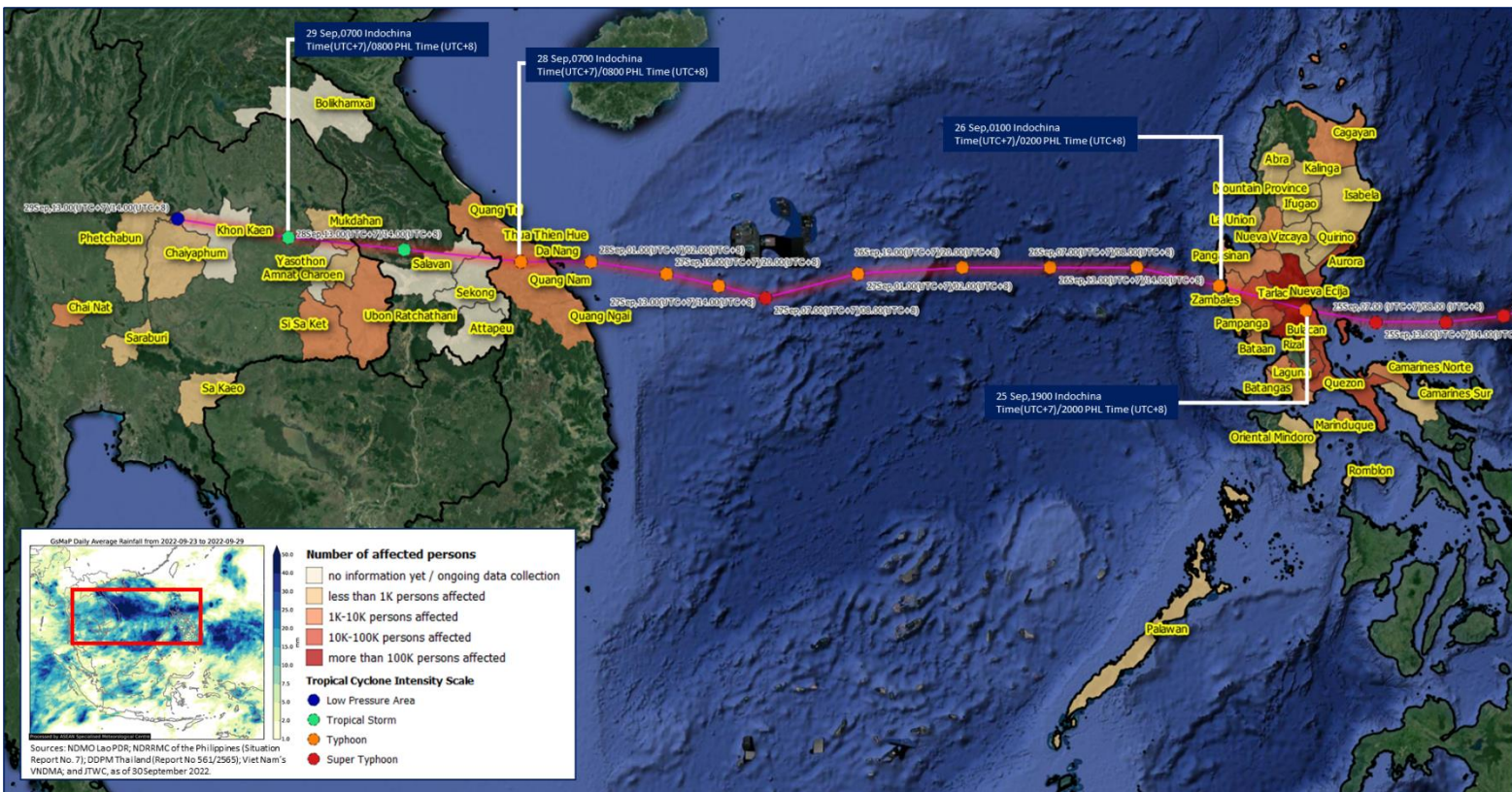
Friday, 30 September 2022, 1700 HRS (UTC+7)

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.

### Tropical Cyclone NORU



Figures are the updates as of 30 September 2022



**940.4K**

AFFECTED PERSONS



**13**

DEAD



**53.1M USD**

WORTH OF DAMAGES TO AGRICULTURE AND INFRASTRUCTURE



**47.8K**

DISPLACED PERSONS



**75.2K**

HOUSES



**623K USD**

WORTH OF ASSISTANCE



**70**

INJURED



**6**

MISSING



SITUATION UPDATE

**Note:**

Text in **BLUE** are updated information

**1. HIGHLIGHTS**

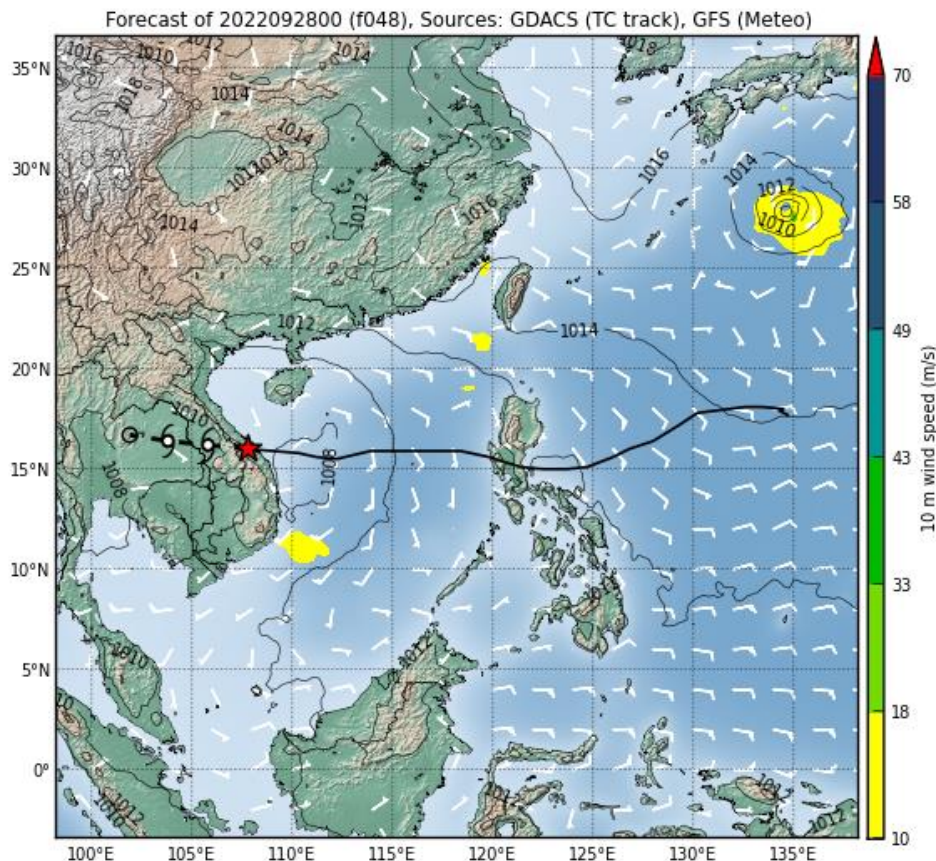
- a. **Meteorological History (Philippines):** From 22-24 September 2022, Tropical Cyclone (TC) NORU (local name: Karding) developed from a Low-Pressure area into a Tropical Storm (TS) over the Philippine Sea while moving towards Central Luzon. On 24 September, TC NORU intensified into a Severe tropical Storm (STS). By 1900 UTC+7, NORU rapidly intensified into a Typhoon (TY) with maximum sustained winds of 120 km/h near the centre (equivalent to a Category 1 Hurricane in the Saffir-Simpson Hurricane Wind Scale (SSHWS)). In the early morning of 25 September, NORU underwent a series of rapid intensifications and a period of explosive intensification and reached Super Typhoon (STY) Category by 0700 UTC+7. On 25 September, 1630 UTC+7, TC NORU made its initial landfall in the vicinity of Burdeos, Quezon and again at 1920 UTC+7 in Dingalan, Aurora as a TY-category cyclone. On 26 September, TC NORU left the Philippine Area of Responsibility at 1900 HRS UTC+7 according to the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) (Figure 1).
- b. **Meteorological History (Viet Nam):** From 26-28 September 2022, TC NORU made its way from the Philippine Area of Responsibility across the West Philippine Sea-South China Sea-Viet Nam's East Sea going through a series of intensification and maintenance of strength towards the Thua Thien Hue-Quang Ngai area of the South-Central Coast region of Viet Nam. On the morning of 28 September, according to Viet Nam's National Center for Hydrometeorological Forecasting, TC NORU (Storm No. 4) made landfall with winds of 117 km/h in the province of Quang Nam. As of the advisory on 1300 UTC+7, 28 September from the National Centre for Hydrometeorological Forecasting (NCHMF), moved further inland of Mainland Southeast Asia.
- c. **Meteorological History (Lao PDR):** On the afternoon of 28 September 2022, Lao PDR's weather bureau reported that TC NORU has made landfall in Lao PDR as a Tropical Storm (TS)-category TC.
- d. **Meteorological History (Thailand):** On the evening of 28 September 2022, TS NORU made its way to the eastern regions of Thailand and was located over Kham Khoen Kaeo district at 0400 UTC+7, 29 September and has already weakened into a Tropical Depression (TD) and was predicted by the Thai Meteorological Department to further weaken into a low pressure cell the same day.
- e. **Preparedness and Response (Philippines):** As of 0700 UTC+7, 592.1K USD worth of assistance has been provided to the victims and 133 SAR teams have been deployed. At 1500 UTC+7 on 29 September 2022, Undersecretary Raymundo Ferrer (Executive Director of NDRRMC and Civil Defense Administrator) sent a letter to the AHA Centre acknowledging the offer of assistance and appreciation of usual support.
- f. **Preparedness and Response (Viet Nam):** The Prime Minister established a Steering Committee that shall direct the response. Dispatches have been issued to the localities as well as the authorities and emergency meetings were conducted. The Viet Nam Disaster Management Authority (VNDMA) also held the Disaster Risk Reduction Partnership (DRRP) meeting to discuss and update on the response to TC NORU (Viet Nam local name: Storm No. 4). Widespread evacuations (108,441 households or 340,863 people), aquatic vessel safe anchorage, thousands of hectares of aquaculture bracing, mobilisation of 40,000 soldiers and 200,000 militia in anticipation of the impacts of TC NORU (Storm No. 4). On 1100 UTC+7 of 30 September, Director DOAN THI THUYET NGA of the Department of Science, Technology and International Cooperation and Head of the DRRP Office of VNDMA





sent a letter of gratitude to the AHA Centre. The letter also officially suggested the cancellation of activation of the AHA Centre's humanitarian assistance to Viet Nam.

- g. **Preparedness and Response (Thailand):** as of 0500 UTC+7, 30 September 2022, the King has ordered Admiral Pongthep Nuthep, to provide relief items to the people affected by the flood (1,388 sets).
- h. **Preparedness and Response (AHA Centre):** On 1630 UTC+7, 27 September, the AHA Centre deliberated on its course of action for the assistance to be provided and shall complement on-going efforts in the potentially affected areas in Viet Nam in accordance as well with the directives from VNDMA detailed in the DRRP meeting. [The In-Country Liaison Team \(ICLT\)](#), [ERAT](#), and [DELSA](#) have stood down in consideration of the statements from [NDRRMC \(Philippines\)](#) and [VNDMA \(Viet Nam\)](#).



## 2. SUMMARY OF EVENTS

- a. 25 September 2022 (UTC+7)
  - 1730 HRS: TC NORU made its initial landfall in Philippine landmass (Burdeos, Quezon)
  - ~1900 HRS: TC NORU made its second landfall in Philippine landmass (Dingalan, Aurora)
- b. 26 September 2022 (UTC+7)
  - 1900 HRS: according to PAGASA, TC NORU left the Philippine Area of Responsibility and started making its way through the West Philippine Sea-South China Sea-Viet Nam's East Sea waters towards Viet Nam
- c. 27 September 2022 (UTC+7)



- 1500 HRS: VNDMA DRRP held a meeting to discuss updated early warning information, response activities, and emergency action plan in response to the impacts of TC NORU
  - 1630 HRS: the AHA Centre deliberated on its course of action for the assistance to be provided and shall complement on-going efforts in the potentially affected areas in Viet Nam in accordance as well with the directives from VNDMA detailed in the DRRP meeting.
  - ~1900 HRS: TC NORU directly affected localities in the central region and caused heavy rain (150-300 mm, even reaching 628 mm in Viet An in Quang Nam).
- d. 28 September 2022 (UTC+7)
- ~0400 HRS: according to the NCHMF, TC NORU (Storm No. 4) made landfall in the early hours with winds of 117 km/h in the province of Quang Nam and continued to rapidly weaken due to strong vertical wind shear. Shortly after the landfall, TC NORU weakened into a Severe Tropical Storm (STS).
  - Afternoon: Lao PDR's weather bureau reported that TC NORU has made landfall in Lao PDR as a Tropical Storm (TS)-category TC.
  - Evening: TS NORU made its way to the eastern regions of Thailand and was located over Kham Khoen Kaeo district at 0400 UTC+7,
  - The Joint Typhoon Warning Center (JTWC) discontinued issuing warnings for TC NORU
- e. 29 September (UTC+7)
- 0400 HRS: TS NORU has weakened into a Tropical Depression (TD) and was predicted by the Thai Meteorological Department to further weaken into a low pressure cell the same day.

### 3. ASSESSMENT OF IMPACT AND HUMANITARIAN NEEDS

#### Impacts in the Philippines (as of 0500 UTC+7, 30 September 2022)

- a. **Related incidents:** 108 flooded areas (34 of which have subsided), 1 rain-induced landslide.
- b. **Affected population:** 12 dead, 6 missing, 52 injured; 245,063 families (911,404 persons) affected in 1,759 barangays in Regions I, II, III, MIMAROPA, V, CAR (MAJOR disaster based on DMA guidelines); 47,815 displaced in Regions I, II, III, CAR, CALABARZON, and V – 3,955 of which are in 27 evacuation centres while 43,860 others are taking temporary shelter in friends/relatives' homes (NDRRMC).
- c. **Damages:** 53.1M USD worth of damages have been reported (408K USD worth of infrastructure, 52.7M USD worth of agriculture, and 241K USD worth of livestock); 56,916 damaged houses (50,025 partially, 6,891 totally); 45 road sections, 18 bridge sections (NDRRMC).
- d. **Critical lifelines:** 116 cities/municipalities experienced power outage, power was returned to 74; 6 areas have communication outage/issues, and services were returned to 4 (NDRRMC).

#### Impacts in Viet Nam (as of 1500 UTC+7, 29 September 2022)

- a. **Related incidents:** 37 landslide locations
- b. **Affected population:** 16 people injured (Quang Tri: 8, Thua Thien Hue: 8)



- c. **Damages:** 2,676 houses damaged (76 totally and 2,600 partially - Quang Nam: 1,150, Quang Ngai: 630, Hue: >410)
- d. **Critical lifelines:** 10,510 substations were damaged along with some roads, highways, and bridges.

**Impacts in Lao PDR** (as of 1000 UTC+7, 29 September 2022)

- a. Reports from EOC Focal person from NDMO Lao PDR of TC NORU-associated flooding in Attapeu, Sekong, Saravan, Borikhamxay Provinces. Data collection is still on-going.

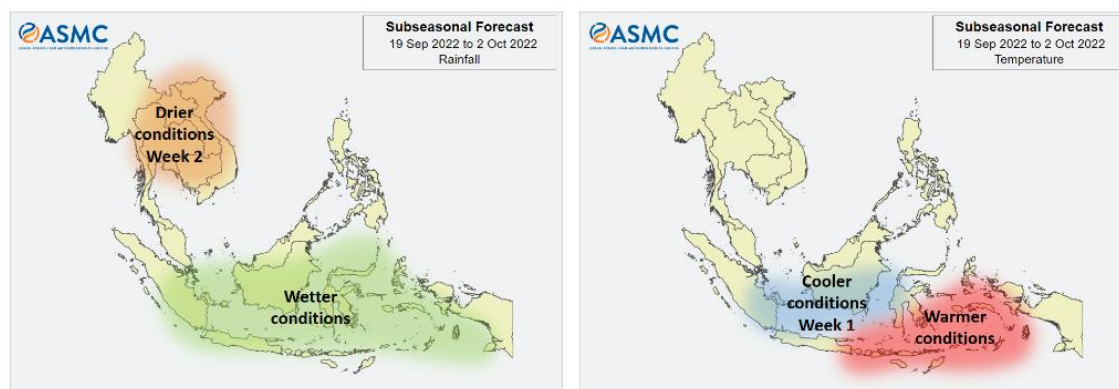
**Impacts in Thailand** (as of 0500 UTC+7, 30 September 2022)

- a. **Related incidents:** flooding and windstorms associated to TC NORU in 11 provinces (Phetchabun, Amnat Charoen, Sisaket, Yasothon, Ubon Ratchathani, Khon Kaen, Chaiyaphum, Mukdahan, Saraburi, Chainat, Sakaeo).
- b. **Affected population:** 1 death (Sisaket Province), 2 injuries (Sisaket Province); 3,121 households or an estimated 9,456 persons (based on latest average household size data (2018: 3.03)) (MINOR disaster based on DMA guidelines).

**Anticipated Risks**

- a. According to the ASEAN Specialised Meteorological Centre ([ASMC](#)), for the period of 26 September – 2 October 2022, wetter conditions are expected over most of the southern ASEAN region. Drier conditions are expected over much of Mainland Southeast Asia. Warmer conditions are expected over parts of the southeastern Maritime Continent. For the regional assessment of extremes, there is a small increase in chance for extreme hot conditions to occur in southeastern Indonesia. La Niña conditions have been present. At the seasonal timescale, La Niña events tend to bring wetter conditions to much of the ASEAN region. A negative Indian Ocean Dipole (IOD) is now established. Negative IOD tends to bring wetter conditions to much of the southern ASEAN region.

*First forecast week: 19 September – 25 September  
Second forecast week: 26 September – 2 October*



**Figure 2.** Subseasonal Weather Outlook (Source: [ASMC](#))

- b. According to WFP’s Automated Disaster Analysis and Mapping (ADAM) 5 days precipitation forecast, Tropical Cyclone NORU is expected to make heavy to very heavy rainfall along Mekong River in the southern parts of Lao PDR. This condition can also bring flooding (including flash flood) in Cambodia, particularly in the riversides area of Mekong River.





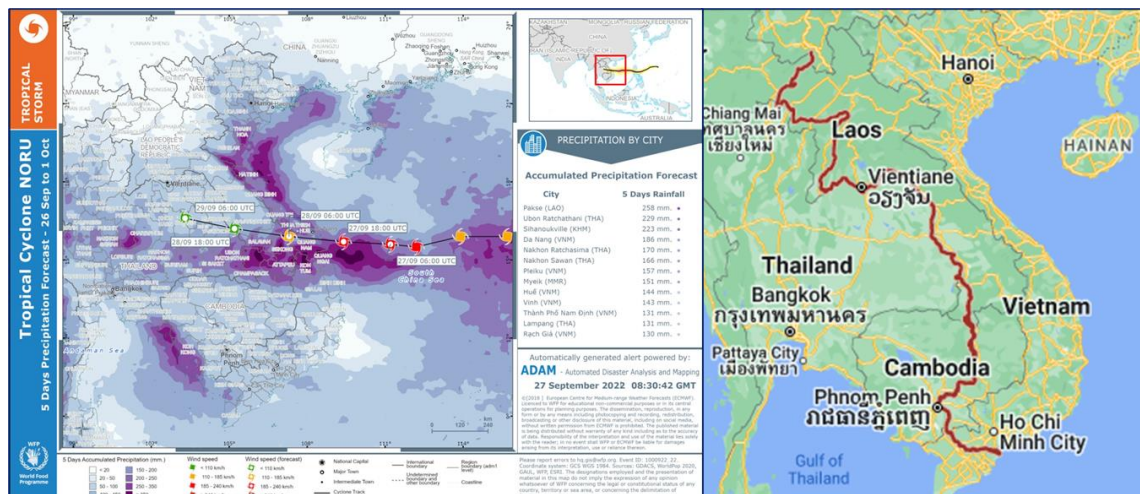


Figure 3. WFP ADAM 5 days precipitation forecast (left) and Mekong River (right).

#### 4. ACTIONS TAKEN AND RESOURCES MOBILISED

##### Response by the Philippine Government (as of 0700 UTC+7, 30 September 2022)

- NDRRMOC raised to Red Alert on 23 September
- 592.1K USD worth of assistance has been provided to the victims
- 19.9M USD total standby funds and stockpile are available in the central and field offices of the Department of Social Welfare and Development (DSWD).
- 133 SAR teams deployed, 2.8K transportation and 1.6K road clearing and engineering assets on standby, 60 deployed emergency ICT equipment; 43 schools used as evacuation centers
- NDRRMOC has downgraded to Blue Alert (in preparation for a slow onset disaster or anticipation of any escalation) as of 30 September
- NDRRMOC sent a letter to the AHA Centre stating that current government resources can support response operations and address the needs of the affected population.

##### Response by the Government of Viet Nam (as of 1500 UTC+7, 28 September 2022)

- The Prime Minister has decided to establish a Front Steering Committee headed by Deputy Prime Minister Le Van Thanh to directly direct the response.
- The Prime Minister issued 02 dispatches directing localities, especially 11 provinces and cities where the storm hit from Quang Binh - Khanh Hoa, Gia Lai and Kon Tum to respond to the storm.
- In the days of 25-27 September, the Front Steering Committee organized 3 working groups to directly inspect, urge, and direct the response to TC NORU (Storm No. 4).
- On the night of 27 September, the Front Steering Committee continuously monitored closely and held online meetings with the chairmen of the People's Committees of the provinces and cities to understand the situation in each locality, and promptly directed the implementation of the response.
- The VNDMA held the DRRP meeting at 1500 HRS, 27 September to discuss updated forecast information for TC NORU (Storm No. 4), on-going response activities, action plan triggering the emergency relief, FAO sharing on anticipatory action trigger responding to TC NORU (Storm No. 4) in Quang Tri and Thua Thien Hue. During the meeting, the general plan on emergency assistance response was presented. The setup of the Joint Rapid Assessment mission was also presented to the attendees of the DRRP meeting.
- According to a news article from VNDMA that on 27 September 2022, preemptive evacuation of 108,441 households (340,643 persons) and mobilisation of 40,000



soldiers and 200,000 militia in preparation for rescue and relief operations have been undertaken to minimise the impacts of TC NORU to life and property.

- g. On 1100 UTC+7 of 30 September, Director DOAN THI THUYET NGA of the Department of Science, Technology and International Cooperation and Head of the DRRP Office of VNDMA sent a letter to the AHA Centre. The letter expressed gratitude to the AHA Centre for its active participation in the response meeting and readiness to activate humanitarian programs and assistance teams to Viet Nam. The letter also thanks the AHA Centre for its prompt action and offer. The letter also officially suggests the cancellation of the activation of the ASEAN Emergency Response and Assessment Team (ERAT) and the Disaster Emergency Logistics System for ASEAN (DELSA) to save resources for future incidents that would deem them necessary as the impacts of TC NORU, which was foreseen to be a devastating disaster, had no recorded serious damage.

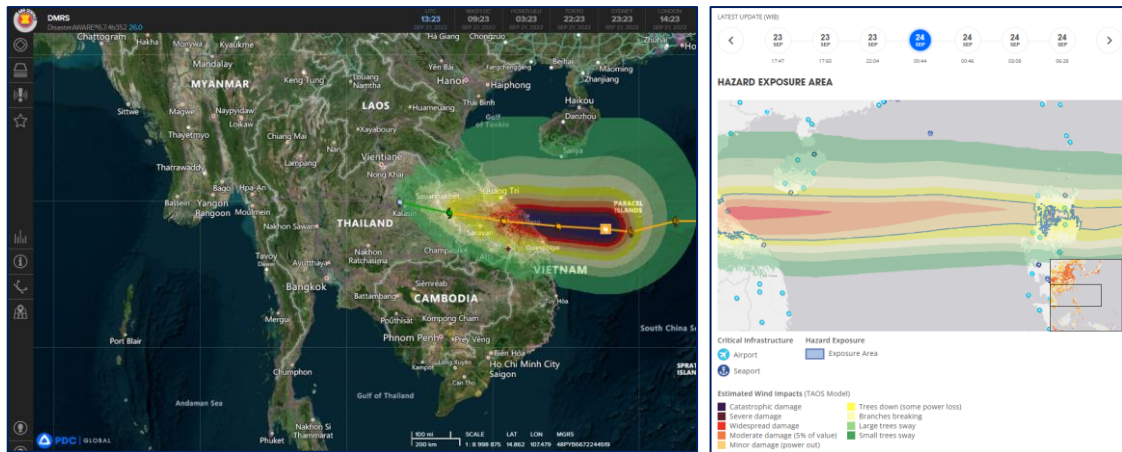
### **Response by the AHA Centre**

- a. On 24 September 2022, the AHA Centre issued Flash Update #1 in anticipation of the tropical cyclone impacts in the Philippines
- b. On 26 September 2022, the AHA Centre issued Flash Update #2 to relay the impacts of TC NORU (Karding) in the Philippines and in anticipation of the tropical cyclone impacts in Viet Nam (Storm No. 4) and Lao PDR.
- c. On 26 September 2022, the AHA Centre conducted an Emergency Response Organisation Briefing, also attended by the ASEAN Secretariat, to discuss the latest information on TC NORU and the potentially impacted ASEAN Member States such as the Philippines, Viet Nam, Lao PDR, and Thailand and the possibility of support that ASEAN and the AHA Centre can provide.
- d. On 26 September 2022, the AHA Centre raised its Emergency Operations Centre's Alert Level to **ORANGE** (Preparedness for Response).
- e. On 27 September 2022, the AHA Centre has issued Situation Update #1 in anticipation of TC NORU's (Storm No. 4) impacts to Viet Nam due to information from VNDMA stating that it will be the strongest TC to make landfall in the last 20 years.
- f. On 28 September 2022, the AHA Centre has issued Situation Update #2 to report on the updated impacts of TC NORU to the Philippines (Karding) and Viet Nam (Storm No. 4).

### **Response by Other Humanitarian and Operational Partners**

- a. **Pacific Disaster Centre (PDC)** has issued the first Warning for the potential impacts of Tropical Cyclone NORU in Viet Nam since 24 September 2022 0044 HRS UTC+7, with the name Tropical Storm NORU originating from JTWC. Until 27 September 2022 at 1556 HRS UTC+7 PDC has issued 57 Warnings related to Tropical Cyclone NORU that have been distributed through DisasterAWARE products and ASEAN Disaster Monitoring and Response System (DMRS)





**Figure 5.** Early Warning Information from the ASEAN Disaster Monitoring and Response System for TC NORU (Storm No. 4)

- b. **PDC, WFP** and **OCHA** have released the Joint Analysis of Disaster Exposure (JADE) products. The latest Jade products was on 27 September 2022 at 1100 HRS UTC+7 which displays breakdown impact estimates based on population, vulnerable groups, key needs, hospitals exposed, school exposed, and cost to rebuild in worst affected areas. The product have been distributed through email lists of relevant stakeholders, ASEAN Disaster Monitoring and Response System (DMRS), DisasterAWARE, EMOPS, as well as WFP and UNOCHA's ReliefWeb websites.
- c. **WFP** has the Automated Disaster and Mapping (ADAM) product on 27 September 2022 1530 HRS UTC+7 which estimates population exposure from Tropical Cyclone NORU and accumulated five (5) days precipitation forecast.
- d. On 26 September 2022, **Emergency Response Coordination Centre (ERCC) - DG ECHO** has published Tropical Cyclone NORU DG ECHO Daily Map.
- e. During the meeting with Viet Nam Government, ASEAN, AHA Centre, and other humanitarian partners on 27 September 2022, United Nations in Viet Nam, UNFPA, UN Woman, World Vision, UNDP, and other humanitarian organisation are willing to support Joint Rapid Assessment which was led the by Viet Nam Government. UN Women also willing to provide gender-sensitive support and activated emergency plan. World Vision will also focus on children, caregiver, and identified NFI as well as family kit that can be given to the people affected by TC NORU (Storm No. 4) in Viet Nam. UNDP will also conduct damage and needs assessment following Viet Nam authority standards and directives.
- f. The Food and Agriculture Organisation (FAO) has started the preparation of Anticipatory Action (AA) 5 days prior to the landfall of Tropical Cyclone NORU in Viet Nam. Upon 48 hours ahead FAO Anticipatory Action (AA) can deliver cash vouchers and item allocations. Detail of FAO Anticipatory Action (AA) is disseminating early warnings, distribution of 640 waterproof drums, cash distribution, and livestock evacuation. Livestock evacuation will be implemented immediately after Tropical Cyclone NORU landfall as well as assessment of the Tropical Cyclone NORU impacts.
- g. On 26 September 2022, Ministry of Natural Resources and Environment (MONROE) of Viet Nam has made an emergency observation request through the Sentinel Asia OPTEMIS Dashboard for the date of occurrence by 28 September 2022 (immediately after landfall of TC NORU (Storm No. 4) in Viet Nam.





## 5. PLAN OF ACTION

### The AHA Centre's Plan

- a. In consideration of the official statements made by the Philippines' NDRRMC and Viet Nam's VNDMA, the ICLT, ERAT, and DELSA officially stands down from potential activation.
- b. The AHA Centre remains ready to support and provide any additional assistance, if and when requested by the Philippines' National Disaster Risk Reduction and Management Council (NDRRMC), Viet Nam Disaster Management Authority (VNDMA), National Disaster Management Office (NDMO) Lao PDR, and Thailand's Department of Disaster Prevention and Mitigation (DDPM).
- c. The AHA Centre will continue its close monitoring of the affected member states and close coordination with the Philippines' National Disaster Risk Reduction and Management Council (NDRRMC), Viet Nam Disaster Management Authority (VNDMA), National Disaster Management Office (NDMO) Lao PDR, and Thailand's Department of Disaster Prevention and Mitigation (DDPM).
- d. **This will be the last Situation Update for TC NORU, unless there is any significant development. The AHA Centre will continue to monitor the impacts of TC NORU and issue updates as necessary. Updated impact figures will be through ASEAN Disaster Information Network ([ADINet](#)) with AHA Disaster ID (AHADID): AHA-TC-2022-001033-(PHL/VNM/LAO/THA).**



**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.

The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre), Graha BNPB 13<sup>th</sup> Floor, JL Raya Pramuka Kav 38, East Jakarta, 13210, Indonesia  
Phone: +62-21-210-12278 | [www.ahacentre.org](http://www.ahacentre.org) | email: [info@ahacentre.org](mailto:info@ahacentre.org)

**Contact:**

- 1) Agustina Tnunay, Assistant Director for Preparedness and Response, [agustina.tnunay@ahacentre.org](mailto:agustina.tnunay@ahacentre.org)
- 2) Keith Paolo Landicho, Disaster Monitoring and Analysis Officer, [keith.landicho@ahacentre.org](mailto:keith.landicho@ahacentre.org)
- 3) Sadhu Zukhruf Janottama, Disaster Monitoring and Analysis Officer, [sadhu.janottama@ahacentre.org](mailto:sadhu.janottama@ahacentre.org)



## ANNEXES: Information Products from Partners

### ASEAN DMRS

Estimated Still Water Storm Surge and Storm Surge layer in DMRS: [link](#)

Emergency Services (emergency shelters, pharmacies, hospitals, health centers, fire stations) near Da Nang, Viet Nam layer in DMRS: [link](#)

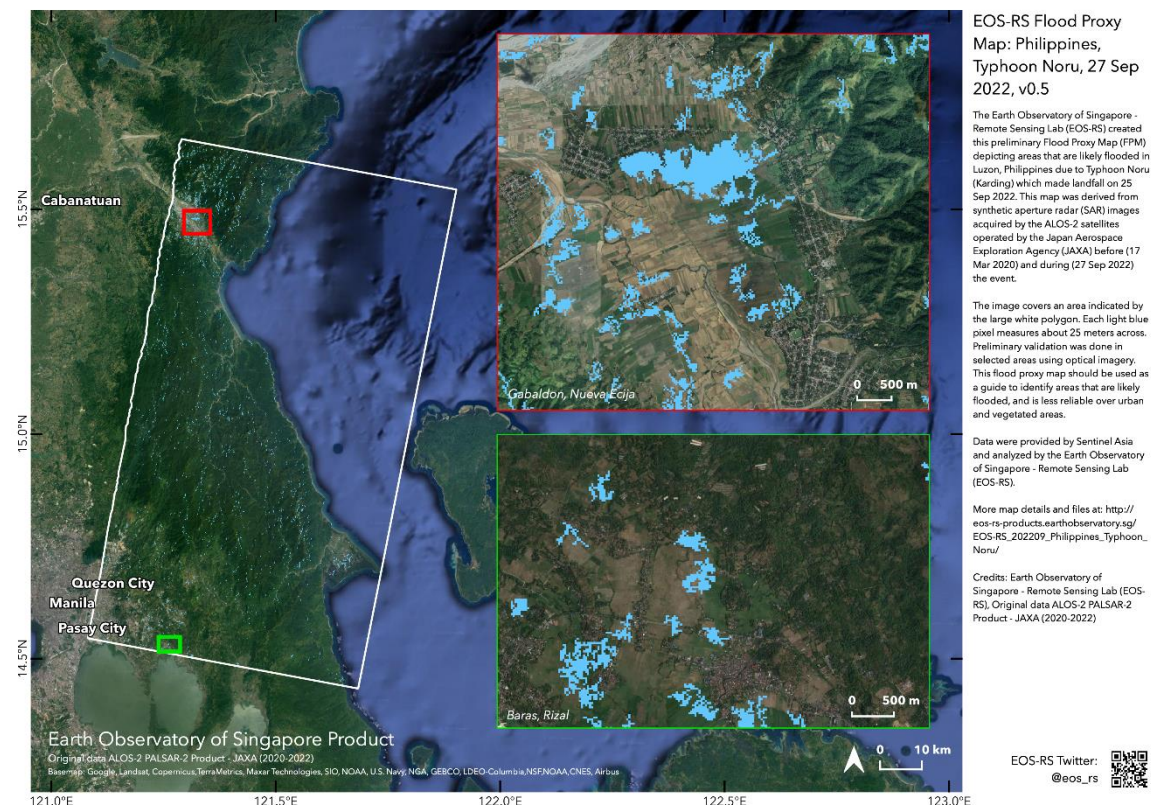
Government and Public Facilities (government buildings, places of worship, and schools) layer in DMRS: [link](#)

Utilities (dams, electric substations, electric transmission lines, dams, power plants, water supply stations) layer in DMRS: [link](#)



Map of Emergency Shelter in Da Nang from DMRS

### Sentinel Asia OPTEMIS – Earth Observatory Singapore (EOS)

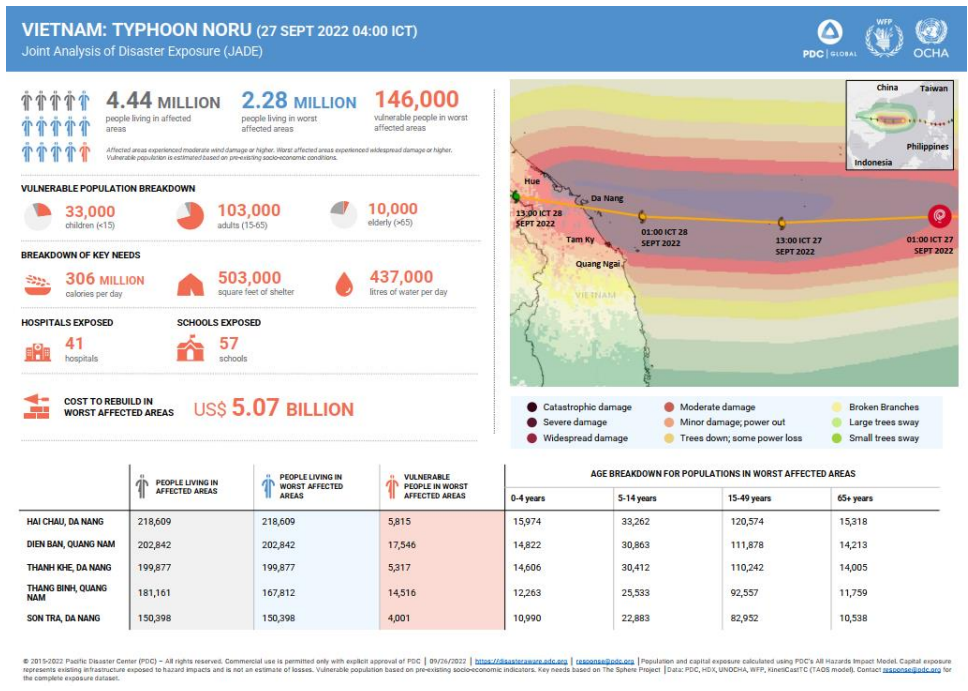


Flood proxy map from Earth Observatory Singapore (EOS) through Sentinel Asia OPTEMIS



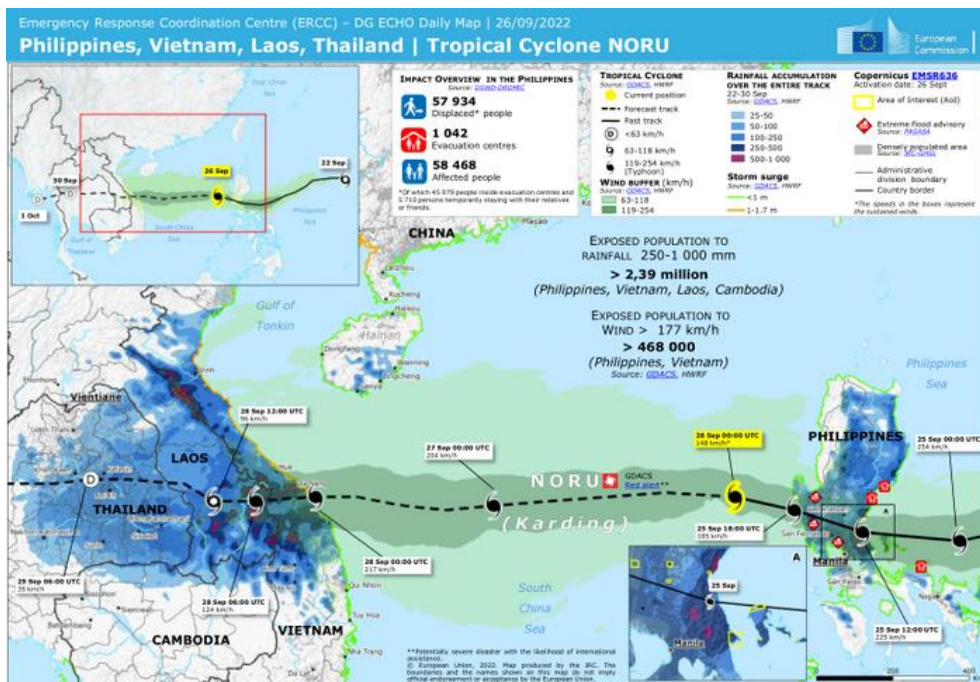


# Pacific Disaster Center (PDC-Global), WFP and OCHA



## Joint Analysis of Disaster Exposure (JADE) for Tropical Cyclone NORU in Viet Nam on 27 Sep 2022 0400AM ICT

## Emergency Response Coordination Centre (ERCC) - DG ECHO



ERCC – DG ECHO Daily Map on 26 Sep 2022

