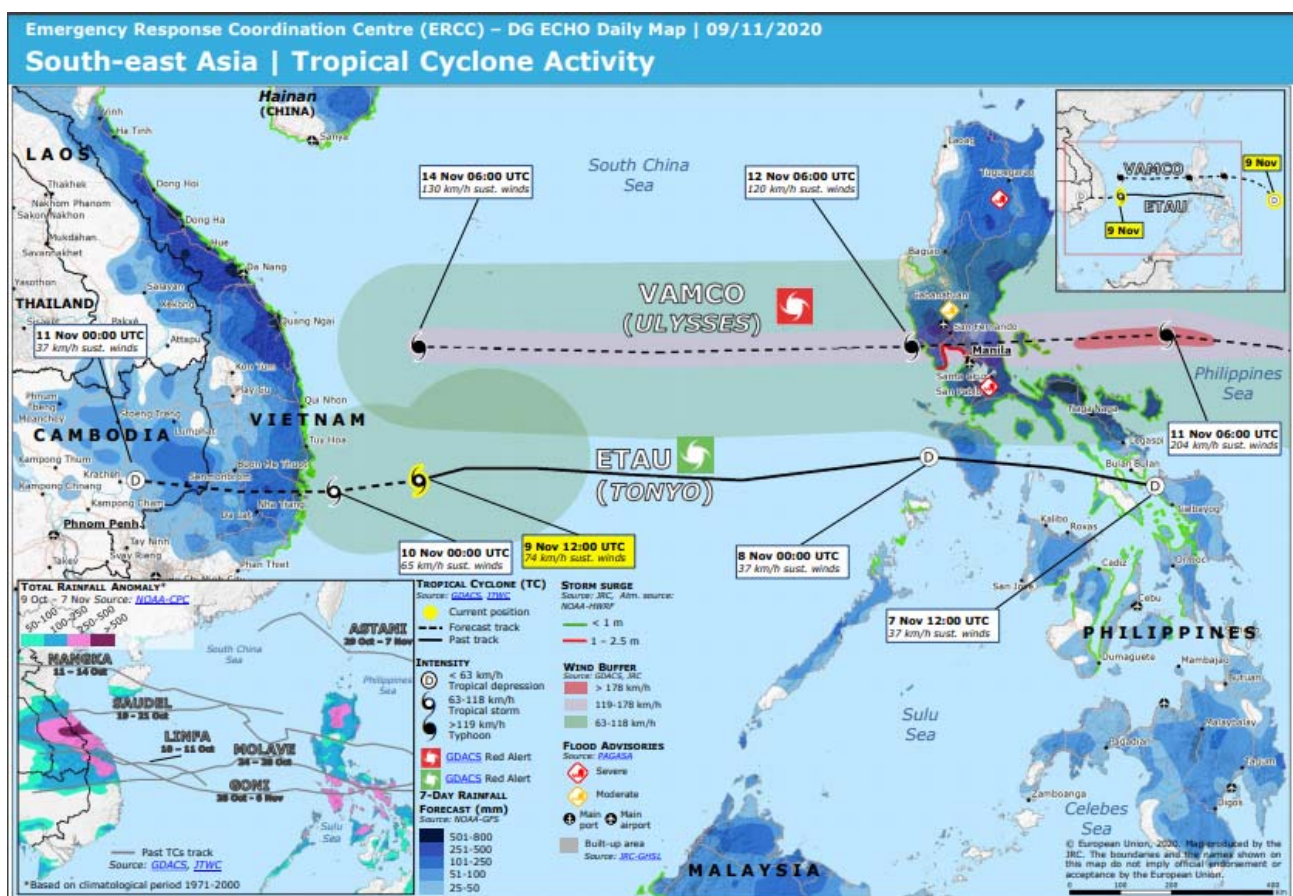


The Philippines Typhoon Vamco = Ulysses

Areas	Northern Philippines and Central Vietnam Philippines: Luzon Vietnam: Ha Tinh, Quang Binh, and Quang Tri	Death Toll	102 Philippines: 101 Vietnam: 1
Period	November 11 to 16, 2020	Missing	10
Outline	Vamco hit the most populous island of Luzon. It triggered the worst flooding since 2009 in the capital Manila and 45 years in the province of Cagayan.		

Based on information from media and humanitarian / government organizations



Source : Reliefweb / European Commission

<https://reliefweb.int/sites/reliefweb.int/files/resources/South-east%20Asia%20-%20Tropical%20Cyclone%20Activity%20-%20DG%20ECHO%20Daily%20Map%2C%202009-11-2020.pdf>





Satellite detected waters in CAR and Cagayan Valley regions, Philippines as of 13 November 2020

This map illustrates satellite-detected surface waters in CAR and Cagayan Valley regions, Philippines as observed from a Sentinel-1 image acquired on 13 November 2020 at 17:55 local time. Within the analyzed area of about 18,000 km², a total of about 970 km² of lands appear to be flooded. Based on Worldpop population data and the detected surface waters, about 370,000 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.

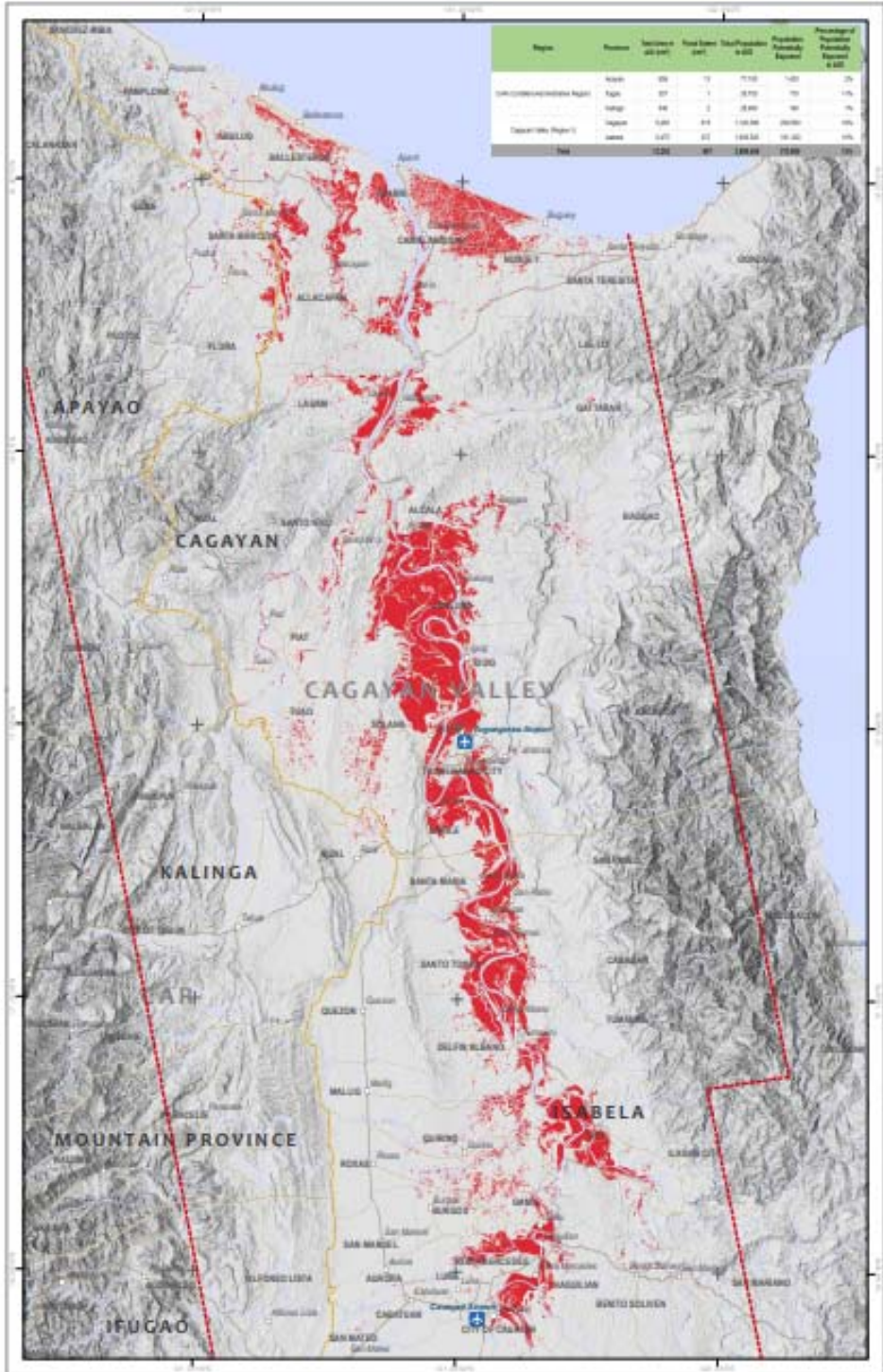
Legend

- Airport
- City/Town
- Primary road
- Secondary road
- River
- Region boundary
- Province boundary
- Municipality boundary
- Analysis extent
- Reference water
- Satellite detected water (13 November 2020)

Map Scale for A3: 1:550,000



Analysis conducted with ArcGIS v10.7
Coordinate System: WGS 1984 UTM Zone 52N
Projection: Transverse Mercator
Datum: WGS 1984
Units: Meter



The depiction and use of boundaries, geographic names and related data shown here are not warranted to be error free nor do they imply official endorsement or acceptance by the United Nations. UNOSAT is a program of the United Nations Institute for Training and Research (UNITAR), providing satellite imagery and related geographic information, research and analysis to UN humanitarian and development agencies & their implementing partners. The work by UNITAR/UNOSAT is licensed under a CC BY-NC 4.0.

Source: Reliefweb / Unitar

https://reliefweb.int/sites/reliefweb.int/files/resources/UNOSAT_A3_Natural_Protrait_TC2020111PHL_Cagayan_%2020201113.pdf

















Satellite detected waters in Ilocos, Central Luzon and National Capital regions of Philippines as of 17 November 2020

This map illustrates satellite-detected surface waters in Ilocos, Central Luzon and National Capital regions of Philippines as observed from a Sentinel-1 image acquired on 17 November 2020 at 05:46 local time. Within the analyzed area of about 16,500 km², a total of about 300 km² of lands appear to be flooded. The water extent appears to have receded of about 800 km² since 13 November 2020. Based on Worldpop population data and the detected surface waters, about 200,000 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

-  Minor airport
-  Main airport
-  City/Town
-  Primary road
-  Secondary road
-  River
-  Region boundary
-  Province boundary
-  Municipality boundary
-  Reference water
-  Satellite detected water (17 November 2020)
-  Satellite detected water (13 November 2020)



Map Scale for A3: 1:500,000



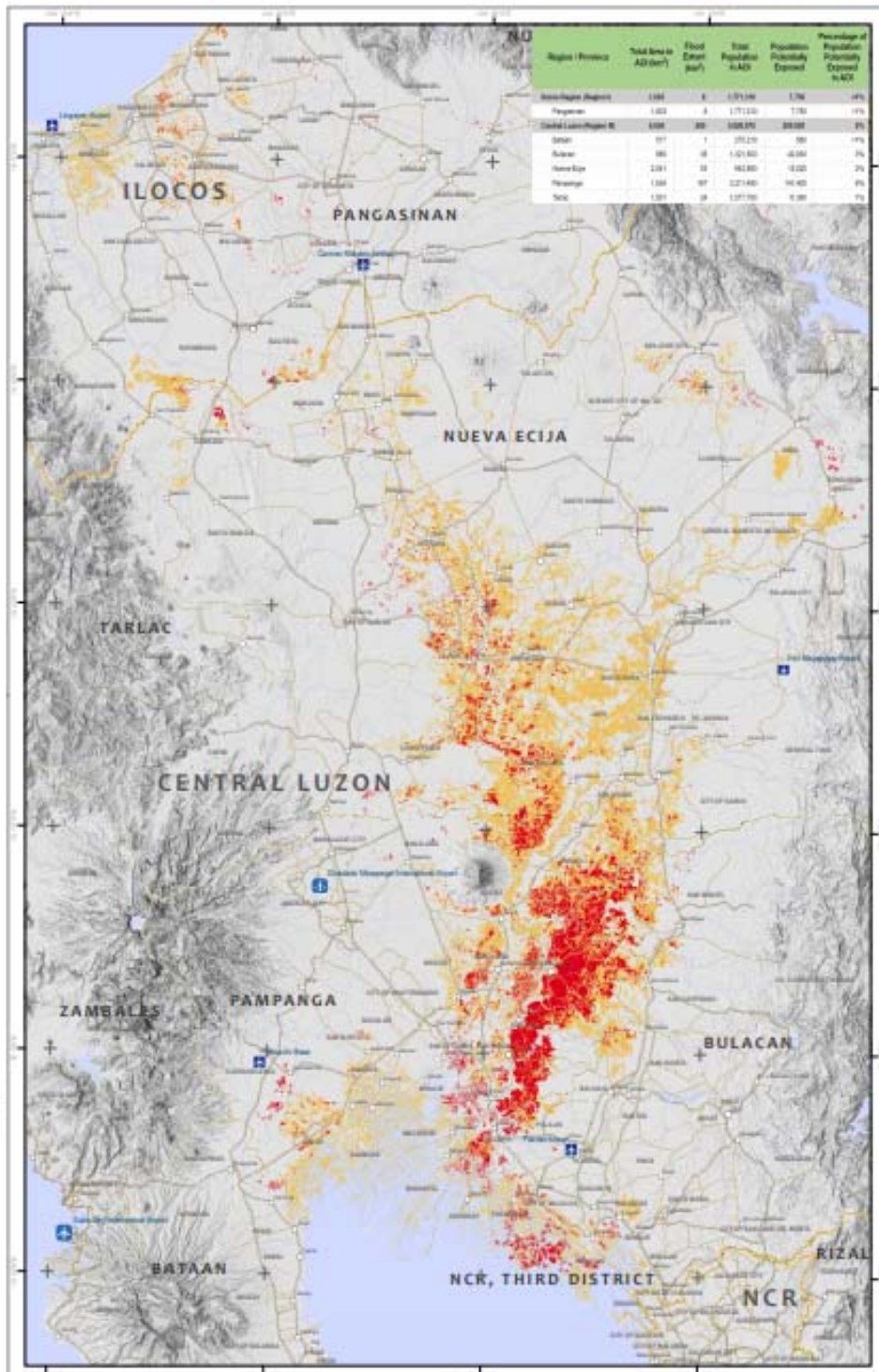
Analysis conducted with ArcGIS v 10.7

Coordinate System: WGS 1984 UTM Zone 51N
Projection: Transverse Mercator
Datum: WGS 1984
Units: Meter

Health Data Imagery: Imagery Date: 17 November 2020
Analysis Date: 17 November 2020
Prepared Date: 18 November 2020
Prepared By: The Program Coordinator, UNOSAT
Project: Flood Detection in the Philippines
Version: 1.0
Author: UNOSAT
Sponsor: UNOSAT

Administrative boundaries: Polygons
Municipality: Polygons
Province: Polygons
Region: Polygons
Reference Water: The Program Coordinator, UNOSAT
Road: Line
River: Line
Secondary Road: Line
Primary Road: Line

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Region / Province	Total Area in AD (km ²)	Flood Extent (km ²)	Total Population in AD	Population Potentially Exposed	Percentage of Population Potentially Exposed in AD
Ilocos Region	1,094	4	1,571,146	1,776	<0%
Pangasinan	1,022	3	1,771,120	1,770	<0%
National Capital Region (NCR)	1,008	88	10,823,370	10,823	0%
Tarlac	977	7	2,512,170	180	<0%
Zambales	885	16	1,521,840	45,000	3%
Pampanga	2,091	35	16,180,000	15,000	0%
Bulacan	1,169	97	2,271,480	16,400	0%
Bataan	1,001	18	1,071,760	6,300	0%

Source: Reliefweb / Unitar

https://reliefweb.int/sites/reliefweb.int/files/resources/UNOSAT_A3_Natural_Protrait_TC20201111PHL_Ilocos_CentralLuzon_PHL_20201117.pdf





Satellite detected waters in Albay and Camarines Sur Provinces, Bicol Region (Region V) of Philippines as of 13 November 2020

This map illustrates satellite-detected surface waters in Albay and Camarines Sur provinces of Philippines as observed from a Sentinel-1 image acquired on 13 November 2020 at 17:57 local time. Within the analyzed area of about 2,500 km², a total of about 210 km² of lands appear to be flooded. The water extent appears to have receded of about 40 km² since 12 November 2020. Based on Worldpop population data and the detected surface waters, about 140,000 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 UNSTAR-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.

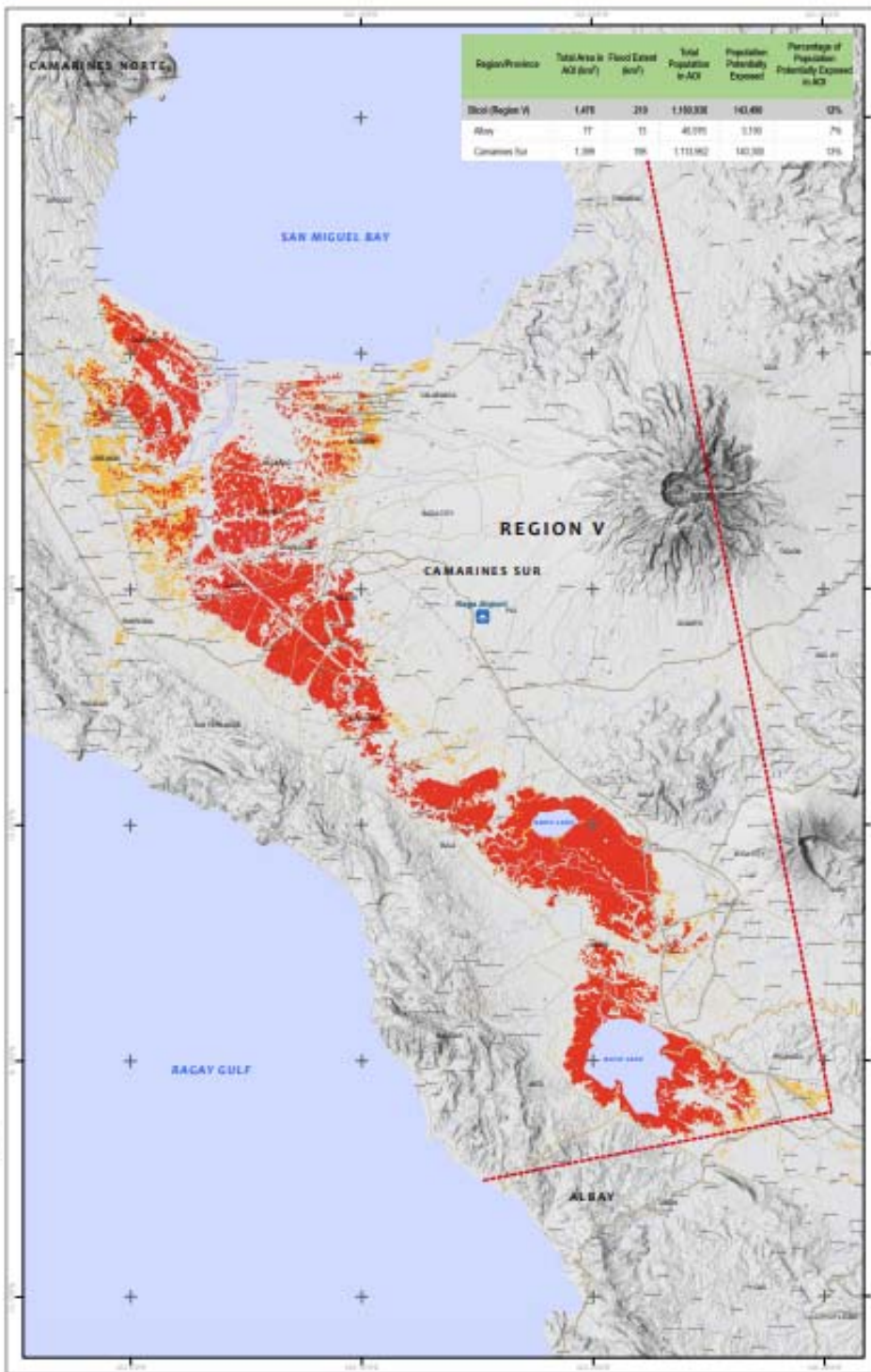
Legend

- Airport
- Villages
- City/Town
- Primary road
- Secondary road
- Local road
- Railway
- River
- Province boundary
- Municipality boundary
- Analysis extent
- Reference water
- Satellite detected water (13 November 2020)
- Satellite detected water (12 November 2020)

Map Scale for A2: 1:250,000



Analysis conducted with: ArcGIS v 10.7
 Coordinate System: WGS 1984 UTM Zone 51N
 Projection: Transverse Mercator
 Datum: WGS 1984
 Units: Meter



Imagery Data Source: Sentinel-1 (ESA)
 Imagery Date: 13 November 2020
 Imagery Resolution: 10m (S1)
 Project Date: 13 November 2020
 Imagery Type: Synthetic Aperture Radar (SAR)
 Sensor: Interferometric Wide Swath (IW)
 Mission: Sentinel-1A
 Platform: ESA Sentinel-1A
 Mission ID: S1A_IW_SLC__1SDV_0000000000_0000000000_0000000000_0000000000_0000000000

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Source: Reliefweb / Unitar

https://reliefweb.int/sites/reliefweb.int/files/resources/UNOSAT_A3_Natural_Protrait_TC2020111PHL_Albay_CmarinesSur_1312020.pdf

