



TROPICAL CYCLONE PRELIMINARY REPORT Tropical Storm KABAYAN (JELAWAT)

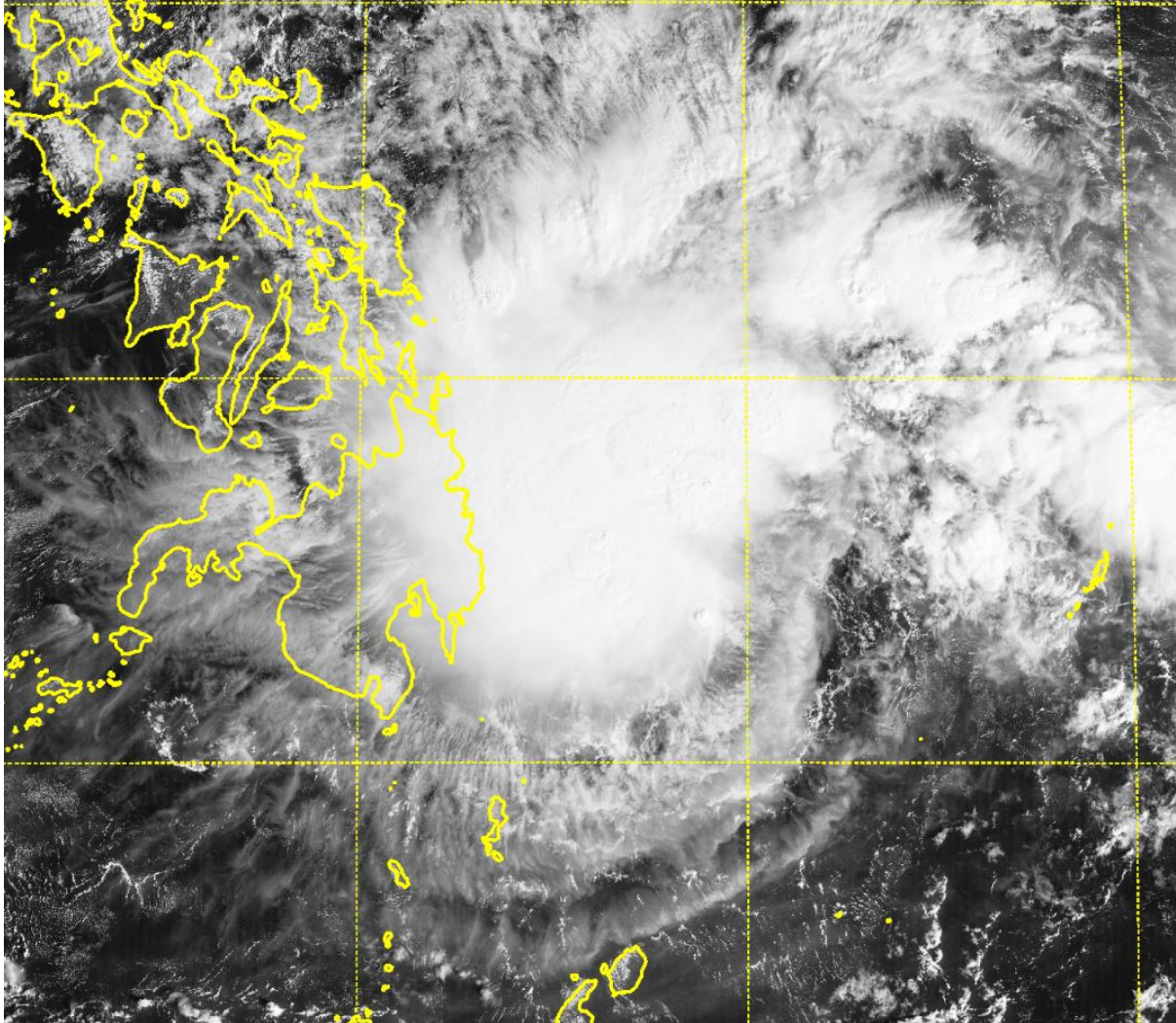


Fig. 1. GK2A high-resolution visible image of Tropical Storm KABAYAN at 0000 UTC on 17 December 2023 while over the waters east of Davao Oriental. Image from the National Meteorological Satellite Center/Korea Meteorological Administration

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Disclaimer: The information herein is based on publicly-issued bulletins, advisories, and warnings and the result of the near-real time (initial) best track analysis. As such, the information provided herein are considered preliminary only and will be replaced by the information that will become available once the Annual Report on Philippine Tropical Cyclones (2023 Edition) is published.



Summary of Meteorological History

Based on PAGASA preliminary best track position and intensities

First tracked as a disturbance	1200 UTC, 13 December 2023 Over the sea near Yap, Federated States of Micronesia
Developed into a tropical cyclone	1200 UTC, 15 December 2023 Over the sea near Yap, Federated States of Micronesia or sea southeast of Palau
Weakened into a remnant low	1200 UTC, 18 December 2023 In the vicinity of Matalam, Cotabato
Peak intensity (lifetime ²)	35 kt (65 km/h), 1002 hPa, Tropical Storm 0000 UTC, 17 December 2023
Period of occurrence (lifetime)	3 days
Entered the PAR region	0100 UTC, 16 December 2023
Exited the PAR region	Not applicable
Peak intensity (within the PAR)	35 kt (65 km/h), 1002 hPa, Tropical Storm 0000 UTC, 17 December 2023
Period of occurrence (within the PAR)	2 days and 11 hours
Observed landfalls in the Philippines	Manay, Davao Oriental: 0100 UTC, 18 December 2023
Significant hydrometeorological hazard observed over the country	<p>Severe Winds³</p> <p>Strong wind gusts generally over Eastern Visayas, Central Visayas, and Caraga Region, with some areas (coastal or upland localities exposed to onshore winds) along the east coast reaching gale-force wind gusts</p> <p>Heavy Rainfall</p> <ul style="list-style-type: none"> • Total rainfall > 100 mm over most of Caraga Region and the southern portion of Southern Leyte, with peak rainfall of 200+ mm over Surigao del Norte, Dinagat Islands, and the northern portion of Surigao del Sur. • Monsoon total rainfall > 100 mm over the northern portion of Aurora.

² Lifetime is the period from the development into a tropical depression to its weakening into a remnant low or its transitioning into a post-tropical low.

³ Resulting from tropical cyclone winds only.



Extremes of Surface Weather Observations during Tropical Cyclone Days⁴

Based on reports from PAGASA manned surface weather stations

Highest storm duration (16 December to 18 December 2023) rainfall over land:

- Surigao City, Surigao Del Norte: 209.5 mm
- Casiguran, Aurora: 141.5 mm
- Maasin City, Southern Leyte: 140.2 mm

Highest 24-hour rainfall over land:

- Surigao City, Surigao Del Norte: 184.0 mm, 17 December 2023
- Maasin City, Southern Leyte: 98.8 mm, 17 December 2023
- Casiguran, Aurora: 97.0 mm, 18 December 2023

Lowest sea level pressure over land:

- Cotabato City: 1005.8 hPa, 1800 UTC, 17 December 2023
- Davao International Airport, Davao City: 1006.1 hPa, 1900 UTC, 17 December 2023
- Zamboanga City: 1006.1 hPa, 0600 UTC, 18 December 2023
- General Santos City: 1006.4 hPa, 0600 UTC, 18 December 2023

Highest peak gust over land:

- Surigao City, Surigao del Norte: 40.8 kt (21 m/s), between 0900 and 1000 UTC, 17 December 2023
- Guiuan, Eastern Samar: 40.8 kt (21 m/s), between 1800 and 2100 UTC, 17 December 2023
- Tacloban City, Leyte: 31.1 kt (16 m/s), between 0300 and 0600 UTC, 18 December 2023
- Mactan-Cebu International Airport, Lapu-Lapu City: 29.2 kt (15 m/s), between, between 0900 and 1200 UTC, 17 December 2023

Summary of Tropical Cyclone Product Issuances

Public and Marine Tropical Cyclone Products:

- Tropical Cyclone Updates:
 - First issuance: 4:00 AM, 17 December 2023
 - Last issuance: 4:00 PM, 18 December 2023
 - Total issued: 4
- Tropical Cyclone Advisories: None
- Tropical Cyclone Bulletins:
 - First issuance: 5:00 AM, 17 December 2023
 - Last issuance: 5:00 PM, 18 December 2023
 - Total issued: 13
- Tropical Cyclone Warnings for Shipping:
 - First issuance: 5:00 AM, 17 December 2023
 - Last issuance: 5:00 PM, 18 December 2023
 - Total issued: 7

Tropical Cyclone Wind Signals:

- Highest wind signal level hoisted: Wind Signal No. 2
- Number of localities under wind signal: 31
- Timeline of hoisting and lifting of wind signals:
 - Initial hoisting of Wind Signal No. 1: 5:00 AM, 17 December 2023
 - Initial hoisting of Wind Signal No. 2: 11:00 PM, 17 December 2023

⁴ Also called "storm duration", it refers to the meteorological days of occurrence of the tropical cyclone within the PAR region.

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- Final lifting of Wind Signal No. 2: 11:00 AM, 18 December 2023
- Final lifting of Wind Signal No. 1: 5:00 PM, 18 December 2023

Other Pertinent Information

- Due to the sheared nature of KABAYAN, much of the higher rainfall accumulations resulting from its passage were observed in Caraga region despite the landfall occurring in Davao Oriental. A similar distribution in reported wind gusts was also noted (i.e., higher wind gusts in weather stations north of the observed track). Moreover, a cold surge of the Northeast Monsoon also occurred during the same period as the passage of the tropical storm, resulting in rainfall along some areas in the east coast of Luzon (especially in Aurora).
- In its Situational Report No. 9 dated 26 December 2023, the National Disaster Risk Reduction and Management Council reported that Tropical Storm KABAYAN (and its remnant low) and the coinciding surge of the Northeast Monsoon resulted in two casualties (1 injured and 1 missing person) and combined cost of damage to houses, agriculture, and infrastructure amounting to at least PHP 2,382,000.00.
- The international name “JELAWAT” (meaning: a fresh water fish) was contributed by the Malaysian Meteorological Department.
- Despite the proximity of the manned weather station in Hinatuan, Surigao del Sur to KABAYAN, no weather observations were made from this station as it was heavily damaged following the 03 December 2023 Surigao del Sur Earthquake.

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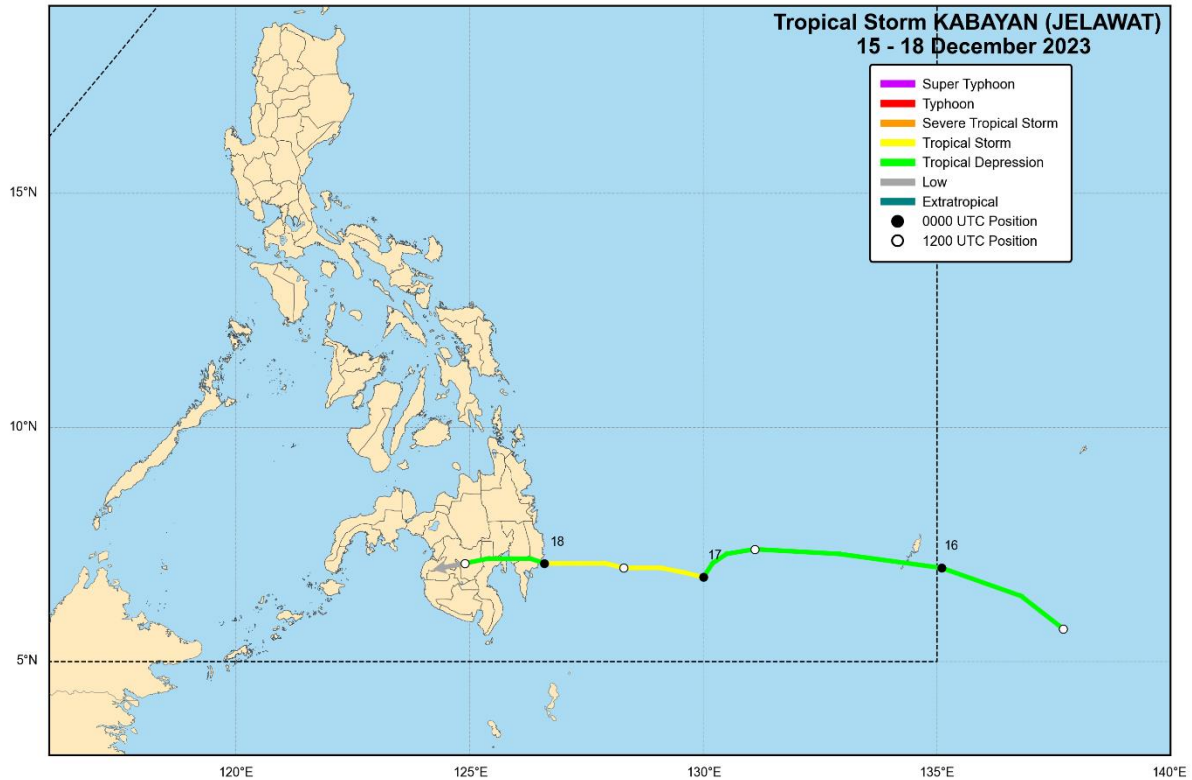


Fig. 2. Preliminary best track positions and intensities (as categories) of Tropical Storm KABAYAN. Line color indicates the category of tropical cyclone. Shaded circles with date labels indicated 00 UTC positions while open circles indicate 12 UTC positions.

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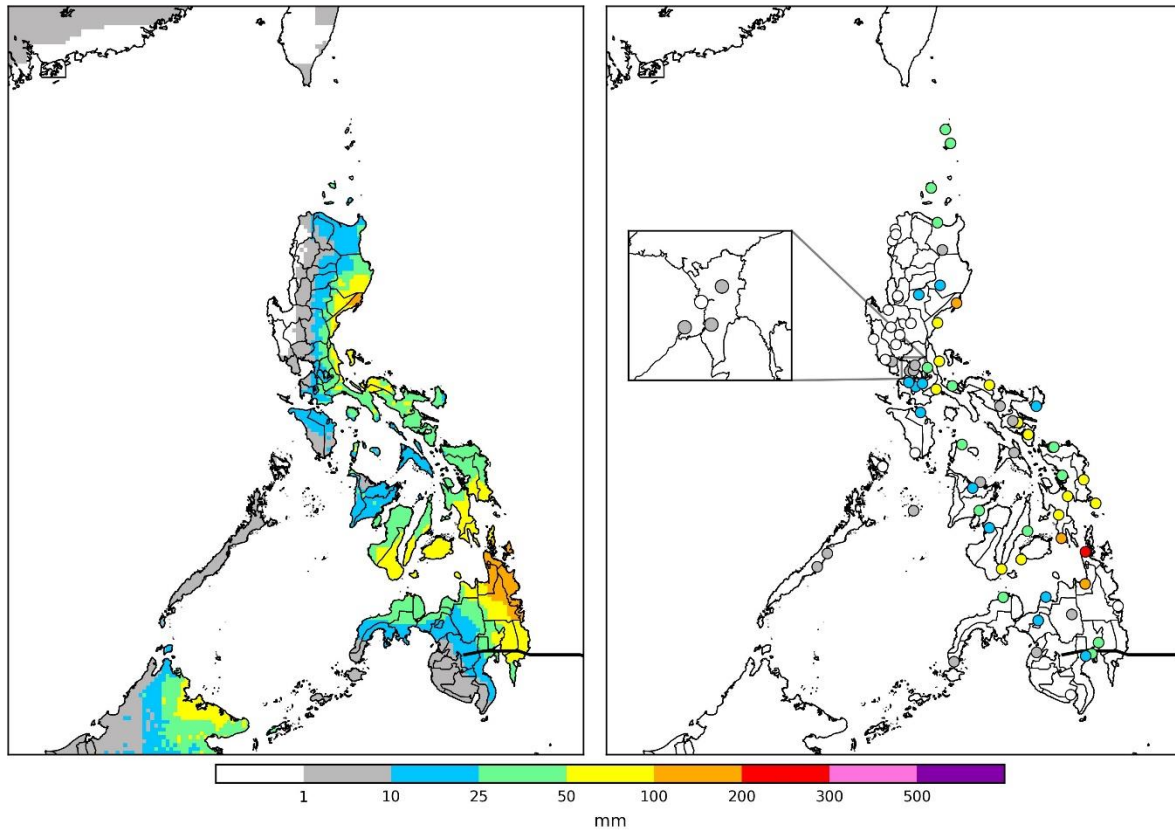


Fig. 3. Nationwide satellite-derived estimates and corresponding gauge observations from PAGASA manned surface weather stations of accumulated rainfall for the period of 16 to 18 December 2023. The preliminary best track of the tropical cyclone is shown as thick black line.

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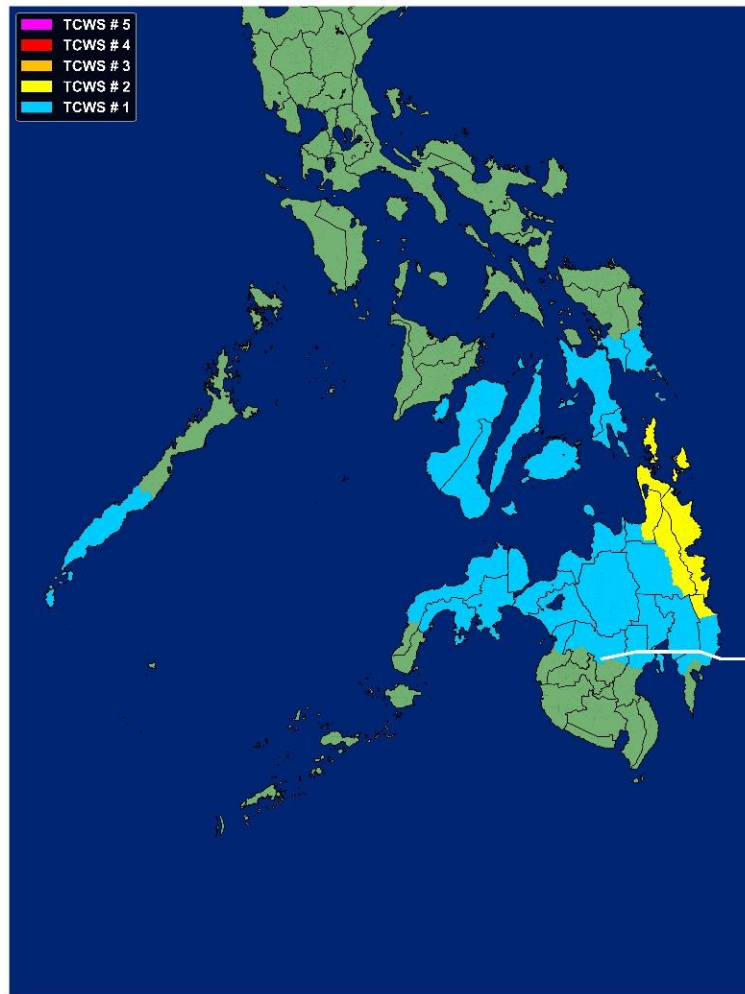


Fig. 4. Highest level and maximum extent of hoisted wind signals during the occurrence of Tropical Storm KABAYAN. The preliminary best track of the tropical cyclone is outside the geographic extent of this figure.

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