Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)
Weather Division

TROPICAL CYCLONE PRELIMINARY REPORT

Typhoon MARCE
YINXING (2422)

03 to 12 November 2024

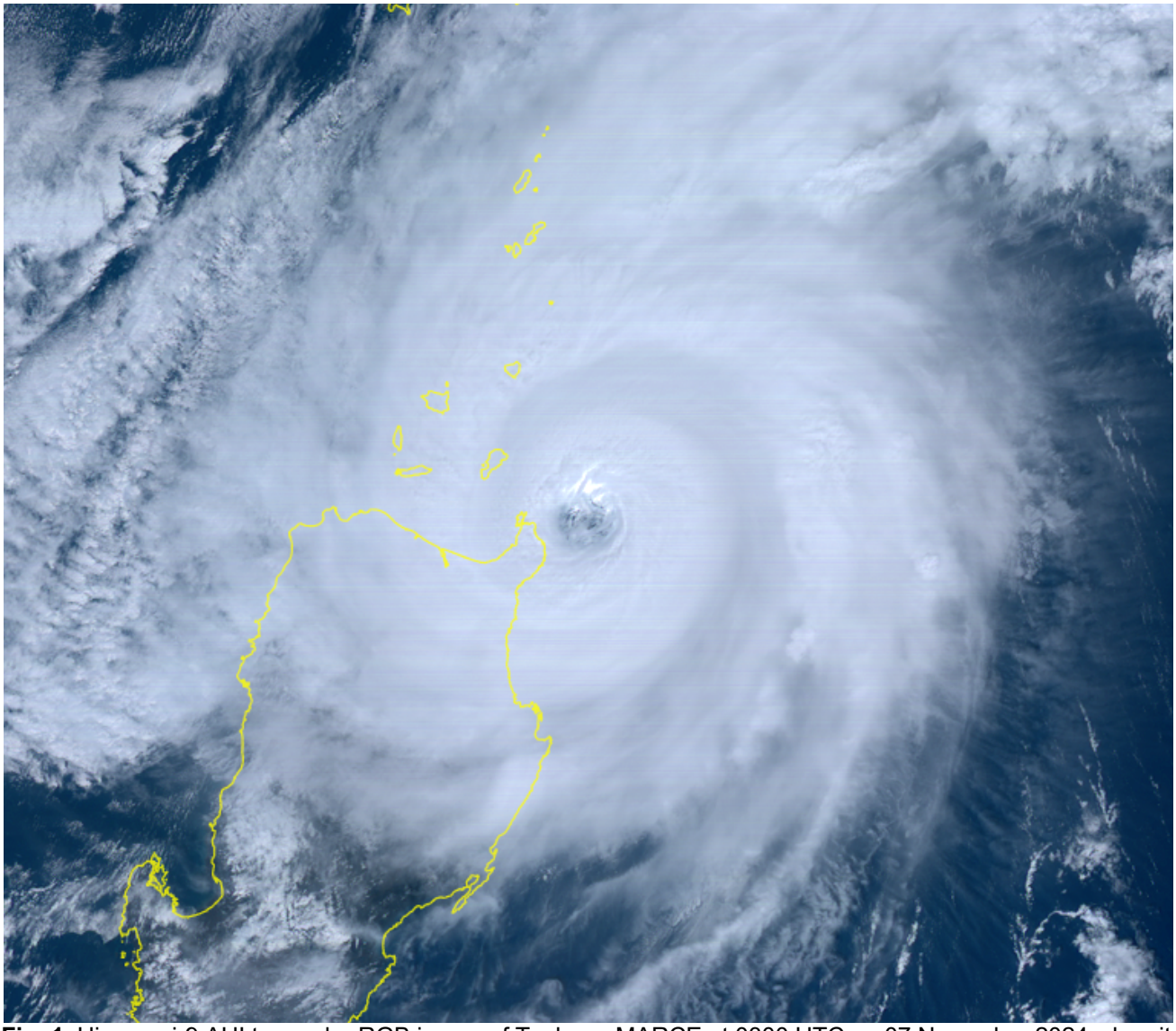

Fig. 1. Himawari-9 AHI true color RGB image of Typhoon MARCE at 0300 UTC on 07 November 2024 when it was nearing landfall over Santa Ana, Cagayan. Image courtesy of National Institute of Information and Communications Technology (NICT), Japan.

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Summary of Meteorological History

Based on PAGASA preliminary best track[1] position and intensities

First tracked as a low pressure area	1800 UTC, 01 November 2024 Over the Western North Pacific waters south of Yap, Federated States of Micronesia
Developed into a tropical cyclone	0300 UTC, 03 November 2024 Over the Western North Pacific waters SE of Micronesia 1,425 km East of Northeastern Mindanao (8.6ºN, 139.3ºE)
Weakened into a remnant low or transitioned into a post-tropical low	1800 UTC, 12 November 2024 In the vicinity of Ou Chum, Cambodia 1,465 km West of Central Luzon (13.8ºN, 106.9ºE)
Peak intensity (lifetime[2])	95 kt (175 km/h), 945 hPa, Typhoon 0900 UTC, 06 November 2024
Period of occurrence (lifetime)	9 days and 18 hours
Entered the PAR region (as tropical cyclone)	1700 UTC, 03 November 2024
Exited the PAR region (as tropical cyclone)	0800 UTC, 08 November 2024
Peak intensity (within the PAR)	95 kt (175 km/h), 945 hPa, Typhoon 0900 UTC, 06 November 2024
Period of occurrence (within the PAR)	4 days and 15 hours
Observed landfalls in the Philippines	• Santa Ana, Cagayan: 0740 UTC, 07 November 2024 • Sanchez Mira, Cagayan: 1400 UTC, 07 November 2024

[1] With preliminary best track as reference, the information provided in this report may be different from those reported during the warning period of the subject tropical cyclone.
[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.

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Extremes of Surface Weather Observations during Tropical Cyclone Days[3]

Based on reports from PAGASA surface weather stations

Table 1. Highest storm duration (03 to 08 November 2024) rainfall over land.

Location of weather station	Rainfall (mm)
Calayan, Cagayan	301.8
Mambusao, Capiz	178.1
Tuguegarao City, Cagayan	168.6
Aparri, Cagayan[4]	166.5
Laoag City, Ilocos Norte	162.4

Table 2. Highest 24-hour rainfall over land.

Location of weather station	Rainfall (mm)	Date
Calayan, Cagayan	242.6	07 November 2024
Aparri, Cagayan[5]	131.0	07 November 2024
Laoag City, Ilocos Norte	85.9	07 November 2024
Sinait, Ilocos Sur	84.4	07 November 2024
Tuguegarao City, Cagayan	81.5	07 November 2024

Table 3. Lowest mean sea level pressure (MSLP) over land.

Location of weather station	Minimum MSLP (hPa)	Date (MM/DD) and Time (UTC)
Aparri, Cagayan	977.7	11/07 1120
Bangui, Ilocos Norte (AWS)	981.5	11/07 1530
		11/07 1540
Laoag City, Ilocos Norte	986.6	11/07 1700
Sinait, Ilocos Sur	995.6	11/07 1730
Calayan, Cagayan	1001.8	11/07 0900

Table 4. Highest peak gust over land.

Location of weather station	Peak gust speed (m/s)	Peak gust direction	Date (MM/DD) and Time (UTC)
Aparri, Cagayan	42	WSW (240°)	11/07 1058
		S (180°)	11/07 1145
		-	11/07 1300 *rep.*
Calayan, Cagayan	33	ENE (60°)	11/07 1145
Laoag City, Ilocos Norte	30	NW (320°)	11/07 1541
Itbayat, Batanes	26	NE (40°)	11/06 1342
Tuguegarao City, Cagayan	16	S (180°)	11/07 1142

Notes:

- For peak gust data retrieved using standard, intermediate, or hourly synoptic observation reports (i.e., QNT), "*rep.*" indicates the time when the observation was reported in the message, but not necessarily its time of occurrence.
- Over land extremes for MSLP and peak gust only covered areas with hoisted Wind Signals to ensure that the extremes are more likely associated with the tropical cyclone itself. There may be lower MSLP and higher peak gust outside these coverage areas.
- Table 3 also includes extremes observed by digital barometers of automatic weather stations.

[3] Also called "storm duration", it refers to the meteorological days of occurrence of the tropical cyclone within the PAR region.
[4] From 1000 UTC to 1400 UTC on 07 November 2024, hourly rain gauge measurements were not made by the weather observer at Aparri weather station due to dangerous conditions. As such, while the station submitted a peak 24-hour rainfall of 131.0 mm, further reexamination of this extreme value will have to be undertaken.
[5] *Ibid.*

- The anemometer of the weather station in Basco, Batanes was not operational.
- The weather station in Batac, Ilocos Norte may have experienced lowest MSLP and/or higher peak gust during the passage of MARCE. However, no hourly observation reports were received from the station.

Summary of Tropical Cyclone Product Issuances

Issued by the Weather Division, DOST-PAGASA

Tropical Cyclone Products:

- Tropical Cyclone Advisories:
  - First issuance: 5:00 PM, 03 November 2024
  - Last issuance: 5:00 AM, 04 November 2024
  - Total issued: 3
- Tropical Cyclone Bulletins:
  - First issuance: 5:00 AM, 04 November 2024
  - Last issuance: 5:00 PM, 08 November 2024
  - Total issued: 28
- Tropical Cyclone Warnings for Shipping:
  - First issuance: 5:00 AM, 04 November 2024
  - Last issuance: 5:00 PM, 08 November 2024
  - Total issued: 19
- WC SIGMET
  - First issuance: 10:50 PM, 04 November 2024
  - Last issuance: 10:45 PM, 08 November 2024
  - Total issued: 18

Tropical Cyclone Wind Signals:

- Highest level of wind signal hoisted: Wind Signal No. 4
- Number of provinces where wind signals had been hoisted: 18
- Timeline of hoisting/lifting of wind signals:
  - 11:00 PM, 04 November 2024: Initial hoisting of Wind Signal No. 1
  - 11:00 PM, 05 November 2024: Initial hoisting of Wind Signal No. 2
  - 11:00 AM, 06 November 2024: Initial hoisting of Wind Signal No. 3
  - 2:00 AM, 07 November 2024: Initial hoisting of Wind Signal No. 4
  - 8:00 AM, 08 November 2024: Lifting of all hoisted Wind Signal No. 4
  - 11:00 AM, 08 November 2024: Lifting of all hoisted Wind Signal No. 3
  - 5:00 PM, 08 November 2024: Lifting of all hoisted Wind Signals

Other Pertinent Information

- According to the National Disaster Risk Reduction and Management Council (NDRRMC), a total of 387,514 individuals were affected by MARCE. A total of 1 dead, 1 injured, and 1 missing individuals were also reported, while the combined cost of damage to agriculture, infrastructure, housing, and other assets reached PHP 192.726 million.
- The international name “YINXING” (meaning: a gingko tree) was contributed by China.

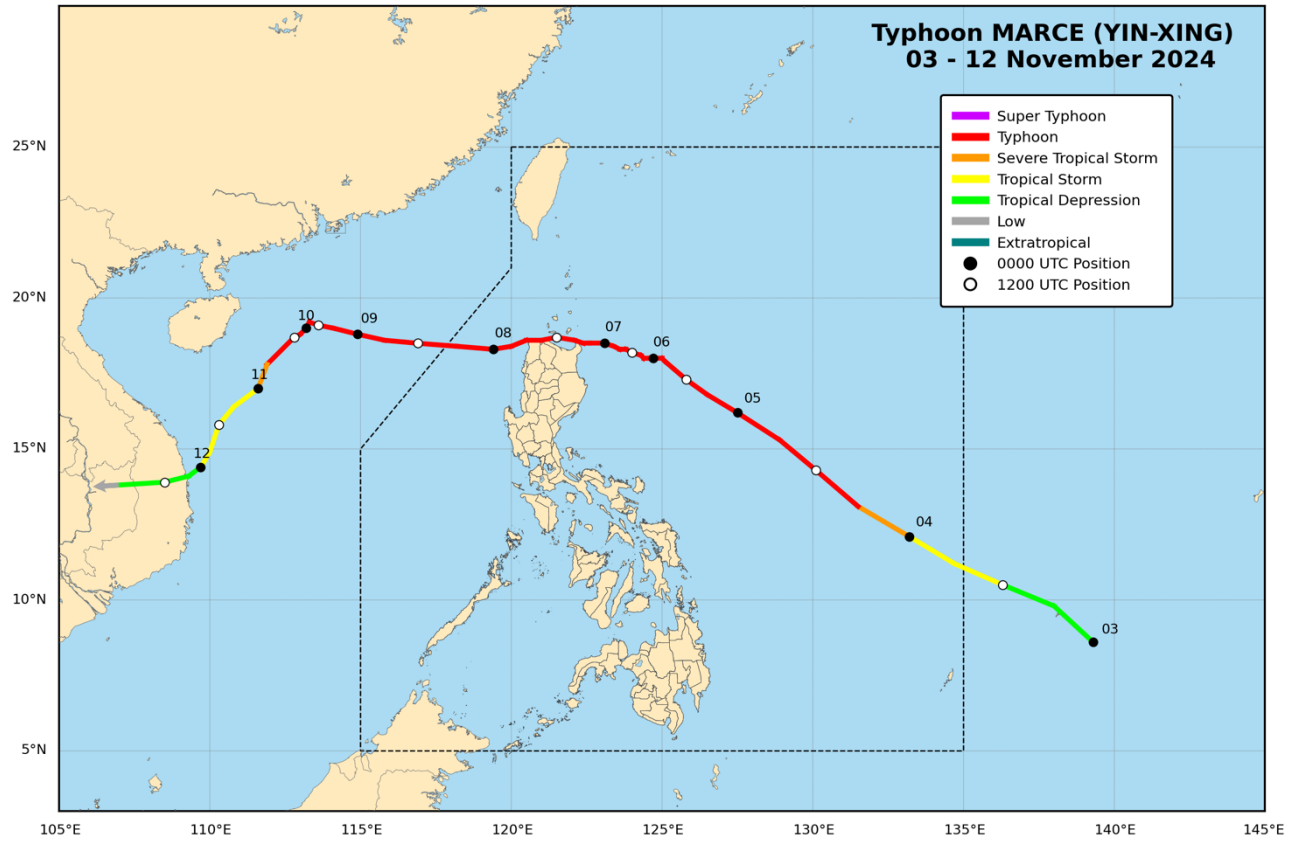

Fig. 2. Preliminary best track positions and intensities (as categories) of Typhoon MARCE. Line color indicates the category of tropical cyclone. Shaded circles with date labels indicated 00 UTC positions while open circles indicate 12 UTC positions.

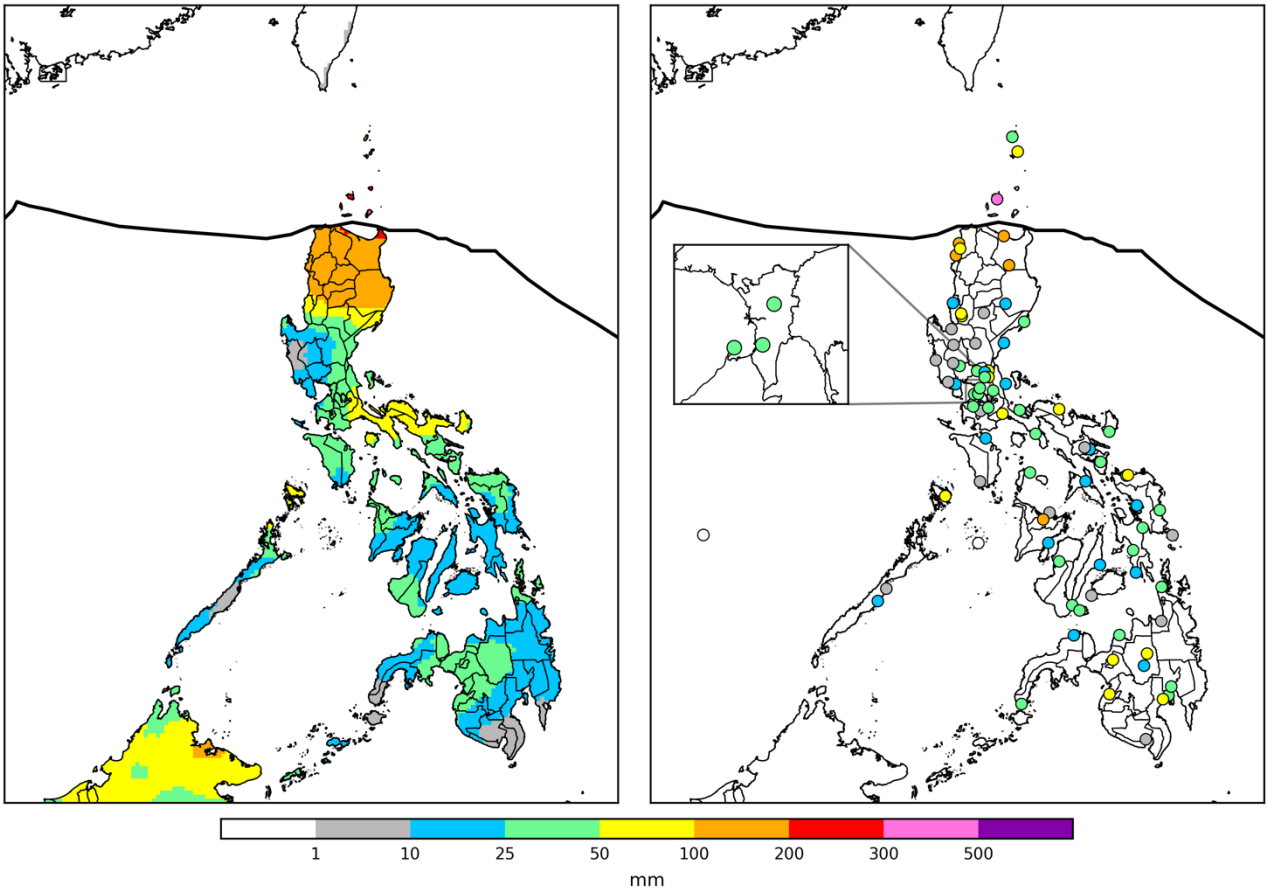

Fig. 3. Nationwide satellite-derived estimates and corresponding gauge observations from PAGASA manned surface weather stations of accumulated rainfall for the period of 03 to 08 November 2024. The preliminary best track is shown as thick black line.

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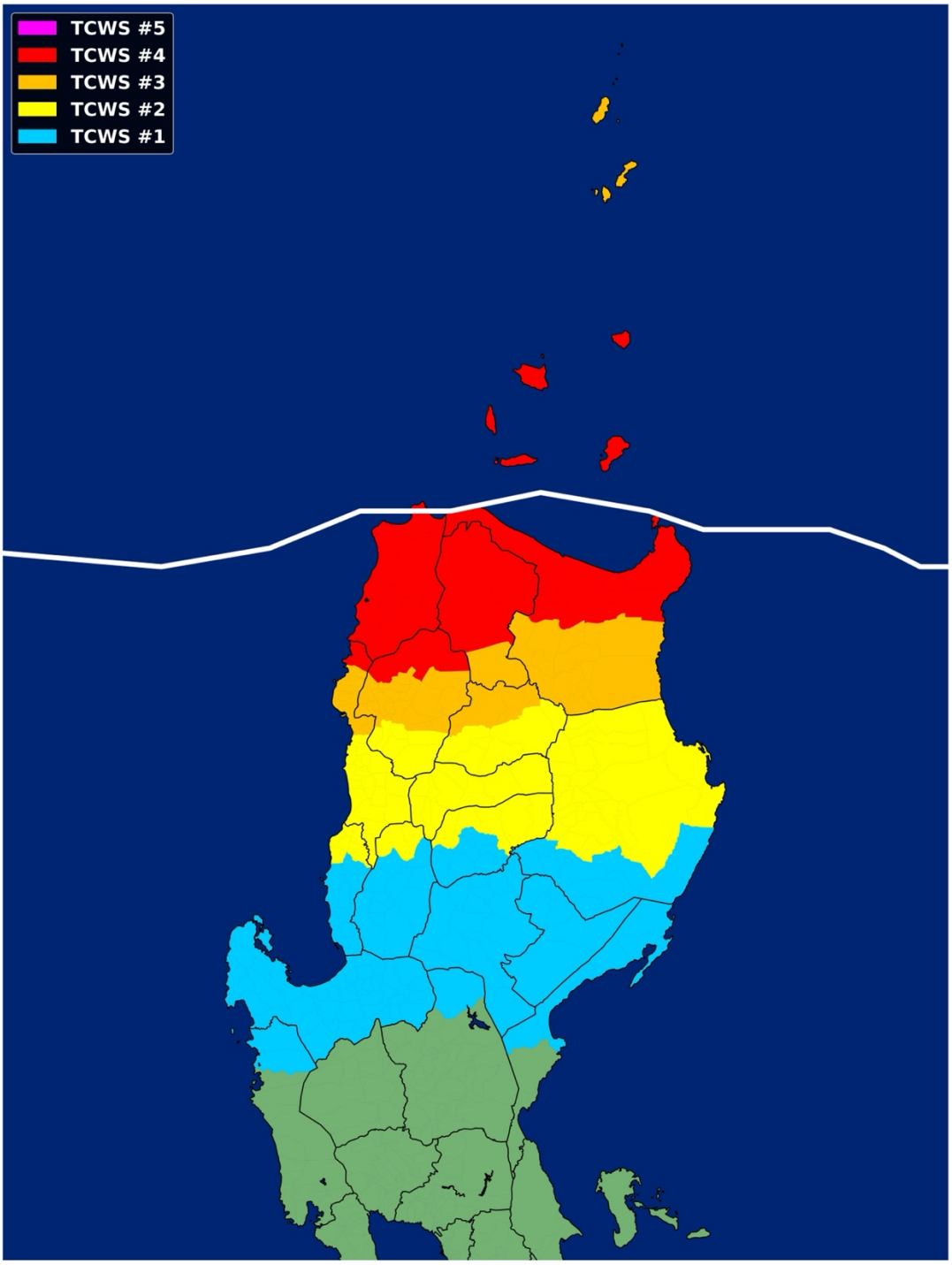

Fig. 4. Highest level and maximum extent of hoisted wind signals during the occurrence of Typhoon MARCE. The preliminary best track is shown as thick white line.

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This technical report is published on behalf of the DOST-PAGASA by the:

Marine Meteorological Services Section
Weather Division, DOST-PAGASA

While we ensure the factual correctness and accuracy of the entries in this preliminary tropical cyclone report, readers are advised to report any text or figure in this report which may require correction to the Marine Meteorological Services Section by email at **typhoon.ops@pagasa.dost.gov.ph** with the subject *"Prelim Report [Name of TC], [Year]: For Correction"*.

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