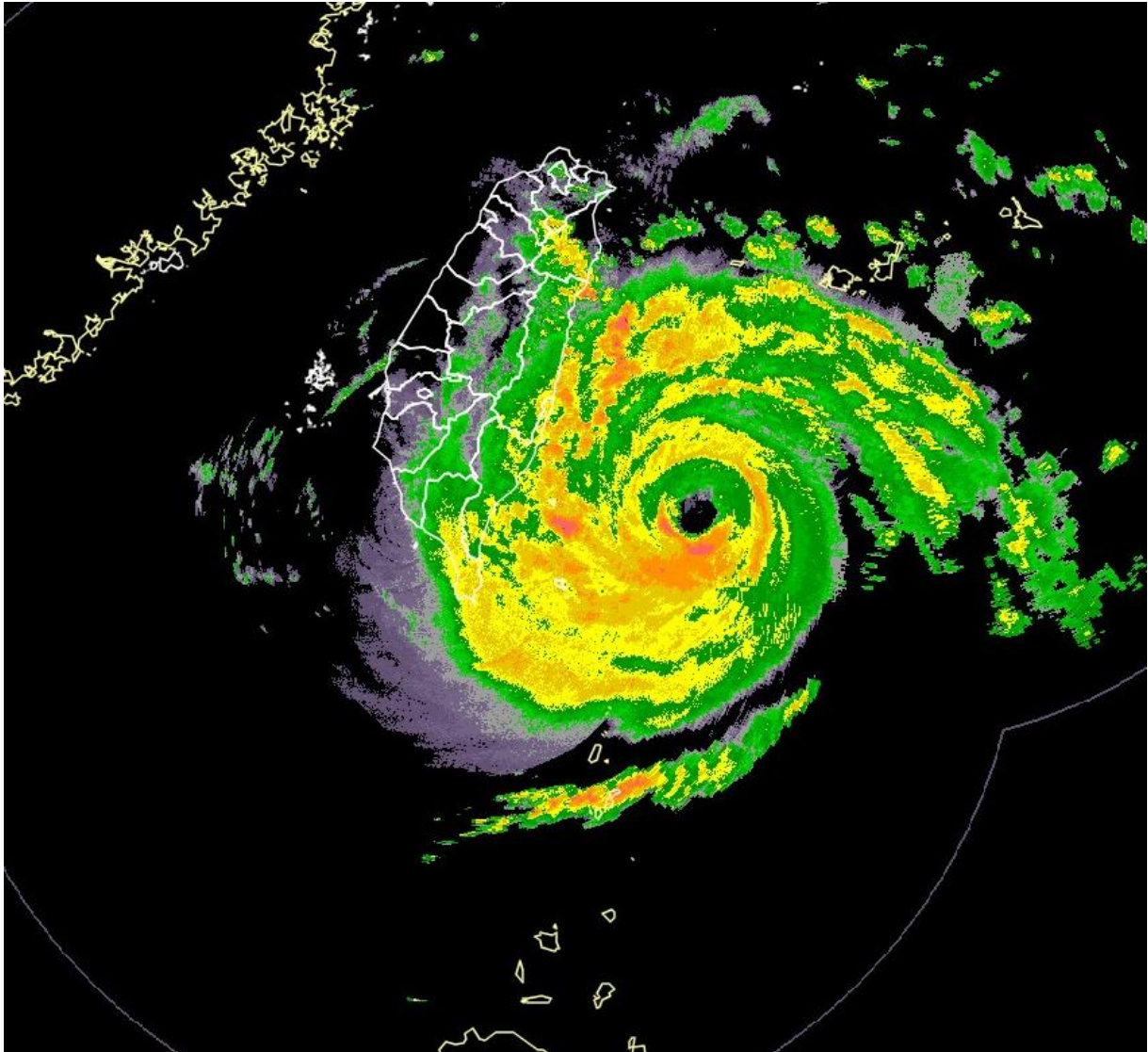




## TROPICAL CYCLONE PRELIMINARY REPORT Typhoon HANNA (HAIKUI)



**Fig. 1.** Composite weather radar image of Typhoon HANNA during its peak intensity at 0000 UTC on 03 September 2023. Image from the Central Weather Administration (Taiwan).

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*Date Published: 18 September 2023*

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### Summary of Meteorological History

Based on PAGASA preliminary best track position and intensities

First tracked as a disturbance	0600 UTC, 25 August 2023 Over the sea southwest of Guam (United States)
Developed into a tropical cyclone	0600 UTC, 27 August 2023 Over the sea west of the northern portion of the Northern Mariana Islands (United States)
Weakened into a remnant low	1200 UTC, 05 September 2023 In the vicinity of Guangdong, China
Peak intensity (lifetime <sup>1</sup> )	85 kt (155 km/h), 945 hPa, Typhoon 0000 UTC, 03 September 2023
Period of occurrence (lifetime)	9 days and 6 hours
Entered the PAR region	1100 UTC, 30 August 2023
Exited the PAR region	2300 UTC, 03 September 2023
Peak intensity (within the PAR)	85 kt (155 km/h), 945 hPa, Typhoon 0000 UTC, 03 September 2023
Period of occurrence (within the PAR)	4 days and 12 hours
Observed landfalls in the Philippines	None
Significant hydrometeorological hazard observed over the country	<p><b>Severe Winds</b></p> <p><b>Strong to gale-force wind gusts</b> over Batanes and Babuyan Islands</p> <p><b>Heavy Rainfall</b></p> <p><b>Monsoon total rainfall &gt; 100 mm</b> over Ilocos Region, most of Cordillera Administrative Region, the western portion of Central Luzon, Metro Manila, most of CALABARZON, the southern portion of Mindoro Provinces, and Calamian Islands. <b>Peak rainfall reaching 300+ mm</b> over most of Ilocos Region, the southern portions of Zambales and Bataan, and portions of Metro Manila, Rizal, and Bulacan.</p>

<sup>1</sup> 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<sup>2</sup>

Based on reports from PAGASA manned surface weather stations

### Highest storm duration (30 August to 03 September 2023) rainfall over land:

- La Trinidad, Benguet: 470.7 mm
- Baguio City: 436.6 mm
- Abucay, Bataan: 436.3 mm

### Highest 24-hour rainfall over land:

- Science Garden, Quezon City: 152.5 mm, 30 August 2023
- Abucay, Bataan: 139.0 mm, 03 September 2023
- Dagupan City, Pangasinan: 130.7 mm, 02 September 2023

### Lowest sea level pressure over land:

- Basco, Batanes: 997.2 hPa, 0600 UTC, 03 September 2023
- Itbayat, Batanes: 999.0 hPa, 0600 UTC, 03 September 2023
- Calayan, Cagayan: 999.3 hPa, 0600 UTC, 03 September 2023

### Highest peak gust over land:

- Basco, Batanes: W (260°) at 42.8 kt (22 m/s), between 21 UTC, 02 September 2023 and 00 UTC, 03 September 2023
- Calayan, Cagayan: 33.0 kt (17 m/s), between 06 and 12 UTC, 03 September 2023
- Itbayat, Batanes: S (180°) at 29.2 kt (15 m/s), 1739 UTC, 03 September 2023

## Summary of Tropical Cyclone Product Issuances

### Public and Marine Tropical Cyclone Products

- Tropical Cyclone Updates:
  - First issuance: 4:00 PM, 27 August 2023
  - Last issuance: 4:00 PM, 05 September 2023
  - Total issued: 19
- Tropical Cyclone Advisories:
  - First issuance: 5:00 PM, 27 August 2023
  - Last issuance: 11:00 PM, 30 August 2023
  - Total issued: 9
- Tropical Cyclone Bulletins:
  - First issuance: 11:00 PM, 30 August 2023
  - Last issuance: 11:00 AM, 04 September 2023
  - Total issued: 19
- Tropical Cyclone Warnings for Shipping:
  - First issuance: 11:00 PM, 30 August 2023
  - Last issuance: 11:00 AM, 04 September 2023
  - Total issued: 19

<sup>2</sup> Also called "storm duration", it refers to the meteorological days of occurrence of the tropical cyclone within the PAR region.

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### Tropical Cyclone Wind Signals:

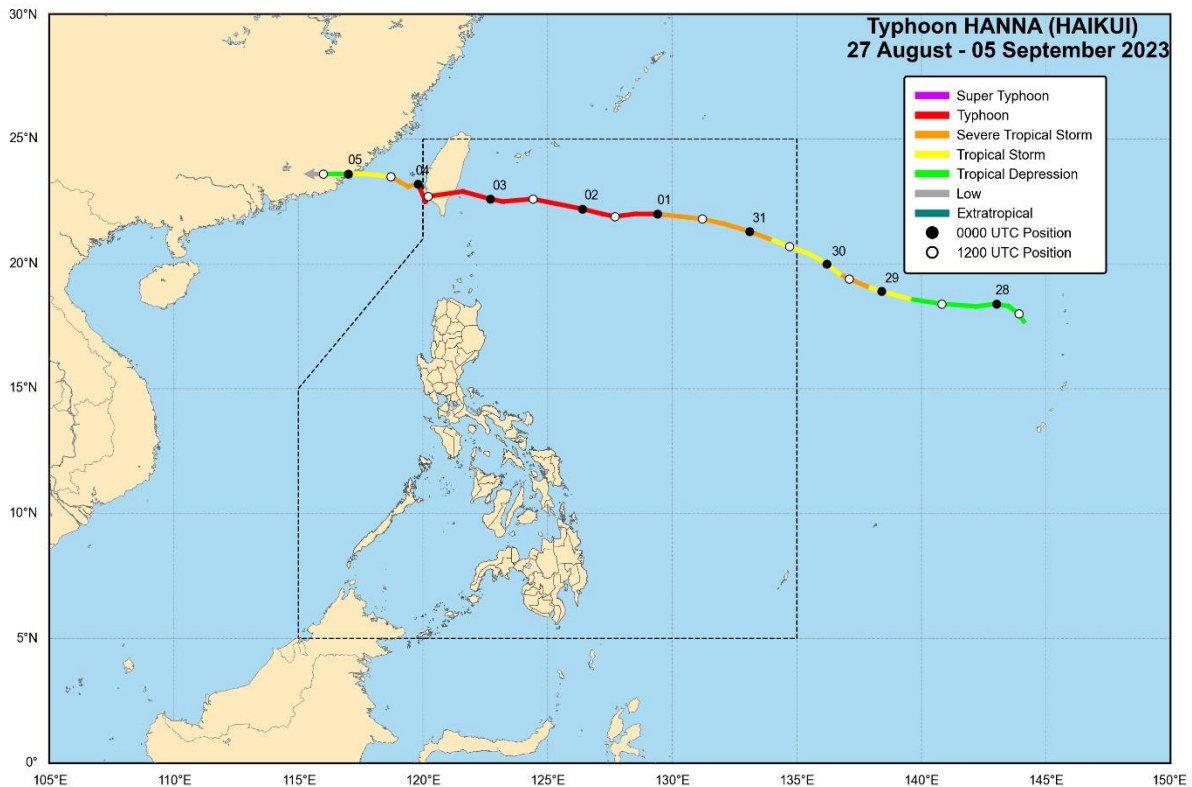
- Highest wind signal level hoisted: Wind Signal No. 1
- Number of localities under wind signal: 2
- Timeline of hoisting and lifting of wind signals:
  - Initial hoisting of Wind Signal No. 1: 5:00 AM, 02 September 2023
  - Final lifting of Wind Signal No. 1: 11:00 AM, 04 September 2023

### Other Pertinent Information

- Much of the area of effect of the hydrometeorological hazards from HANNA were limited to Extreme Northern Luzon. However, the Southwest Monsoon, which was strengthened by the earlier passage of Super Typhoon GORING, was strongly enhanced during the passage of HANNA, resulting in widespread rains over the western portion of Luzon.
- In its Situational Report No. 16, the National Disaster Risk Reduction and Management Council reported that the Southwest Monsoon enhanced by it, GORING, and INENG, resulted in 7 casualties (2 dead, 3 injured, and 2 missing persons) and combined cost of damage to housing, infrastructure, and agriculture amounting to PHP 2,421,157,164.28.
- The international name “HAIKUI” (meaning: a kind of submarine animal whose appearance likes sunflower) was contributed by the China Meteorological Administration.

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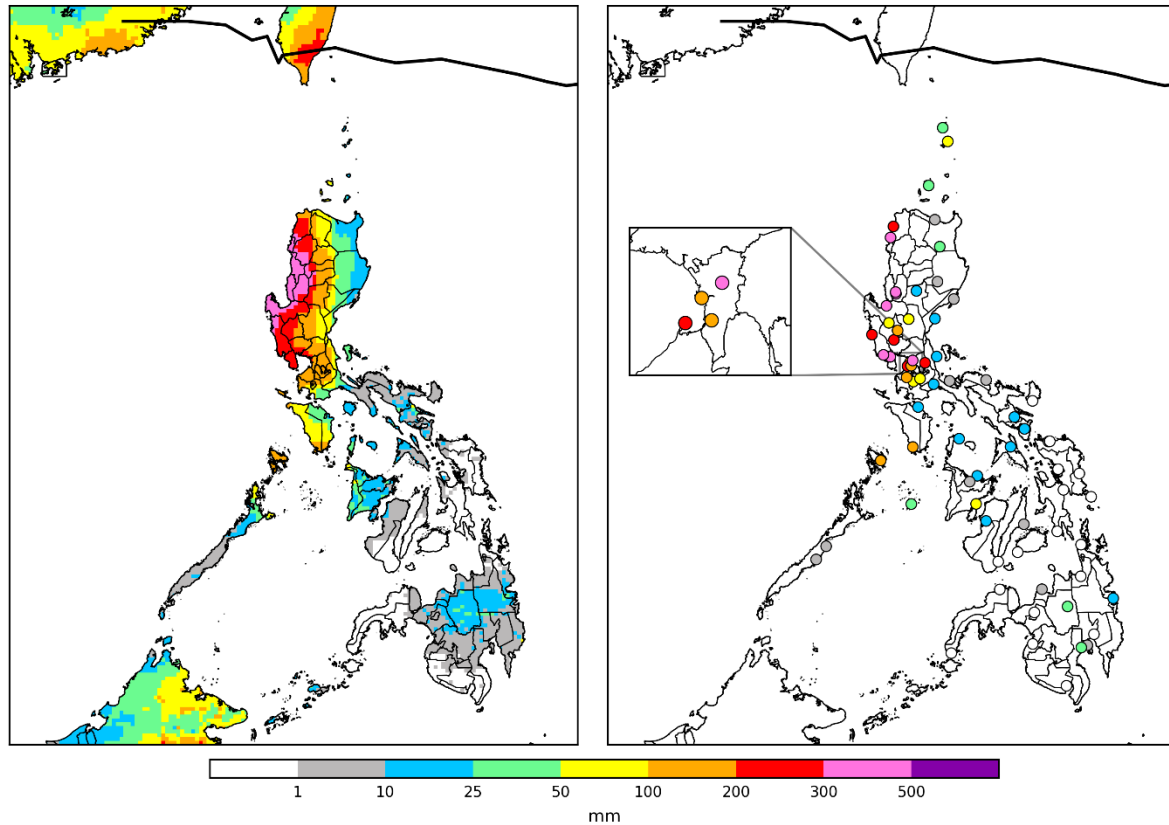
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**Fig. 2.** Preliminary best track positions and intensities (as categories) of Typhoon HANNA. Line color indicates the category of tropical cyclone. Shaded circles with date labels indicated 00 UTC positions while open circles indicate 12 UTC positions.

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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 30 August to 03 September 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 Typhoon HANNA. The preliminary best track of the tropical cyclone is outside the geographic extent of this figure.

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