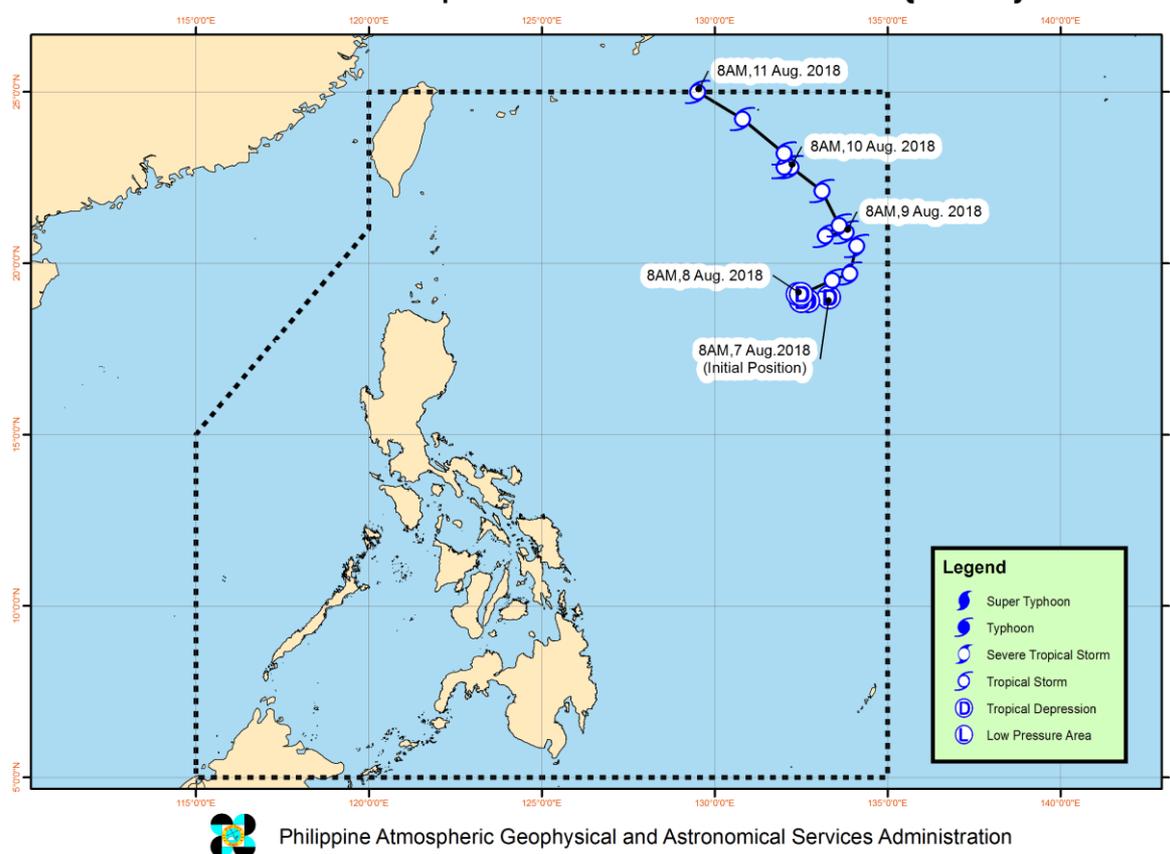


## Tropical Storm KARDING (Yagi / 1814) Summary Report

### Track of Tropical Storm "KARDING" {YAGI}



Tropical Storm “KARDING” is the 11<sup>th</sup> tropical cyclone (TC) that entered or developed within the Philippine Area of Responsibility (PAR) in 2018 and the 1<sup>st</sup> TC for the month of August. The Regional Specialized Meteorological Center also named the system “Yagi”, a Japanese word for “goat” or “Capricorn”.

Originating from an area of low pressure over the Philippine Sea, KARDING was first noted as a tropical depression at 8:00 AM (07 August 2018). Despite marginally favorable atmospheric conditions, the system intensified into a tropical storm at 2:00 PM the following day. Its peak intensity within the PAR was reached by 2:00 AM (10 August), with maximum winds of 75 km/h and 90 km/h gusts.

During its tropical depression stage, KARDING remained nearly stationary over the Philippine Sea. However, it began moving generally northwestward as soon as it reached Tropical Storm category, although erratic behavior in its movement was still observed in the afternoon on both 9 and 10 August. By 9:00 AM of 11 August, the center of Tropical Storm KARDING has left the PAR.

The passage of KARDING resulted in the enhancement of the Southwest Monsoon, which brought scattered to widespread monsoon rains over Central Luzon and the western sections of Northern and Southern Luzon. Due to the nature of its track, KARDING continued to enhance the monsoon rains over the country even after leaving the PAR. These heavy rains resulted in severe flooding in many areas in Region 1, CALABARZON and NCR.

## Significant Meteorological Observations

The lowest recorded mean sea level pressure and the highest recorded winds during the passage of KARDING within the PAR are 998.6 hPa and 55 km/h respectively, which was observed at 2:00 PM (7 August) by a ship located approximately 205 km northwest of the TC center (20.2°N, 131.2°E).

Meanwhile, the highest total accumulated rainfall during the passage of KARDING (Figure 1) was recorded in Baguio City station (441.8 mm). This is followed by Science Garden station in Quezon City (345.2 mm) and then by Sinait station in Ilocos Sur (344.2 mm). These values constitute 49% and 68% of the long-term (30-year) average rainfall received during the month of August in Baguio and Science Garden stations, respectively. It should be noted that the observed rainfall was caused by the enhanced monsoon rather than the direct effect of the TC.

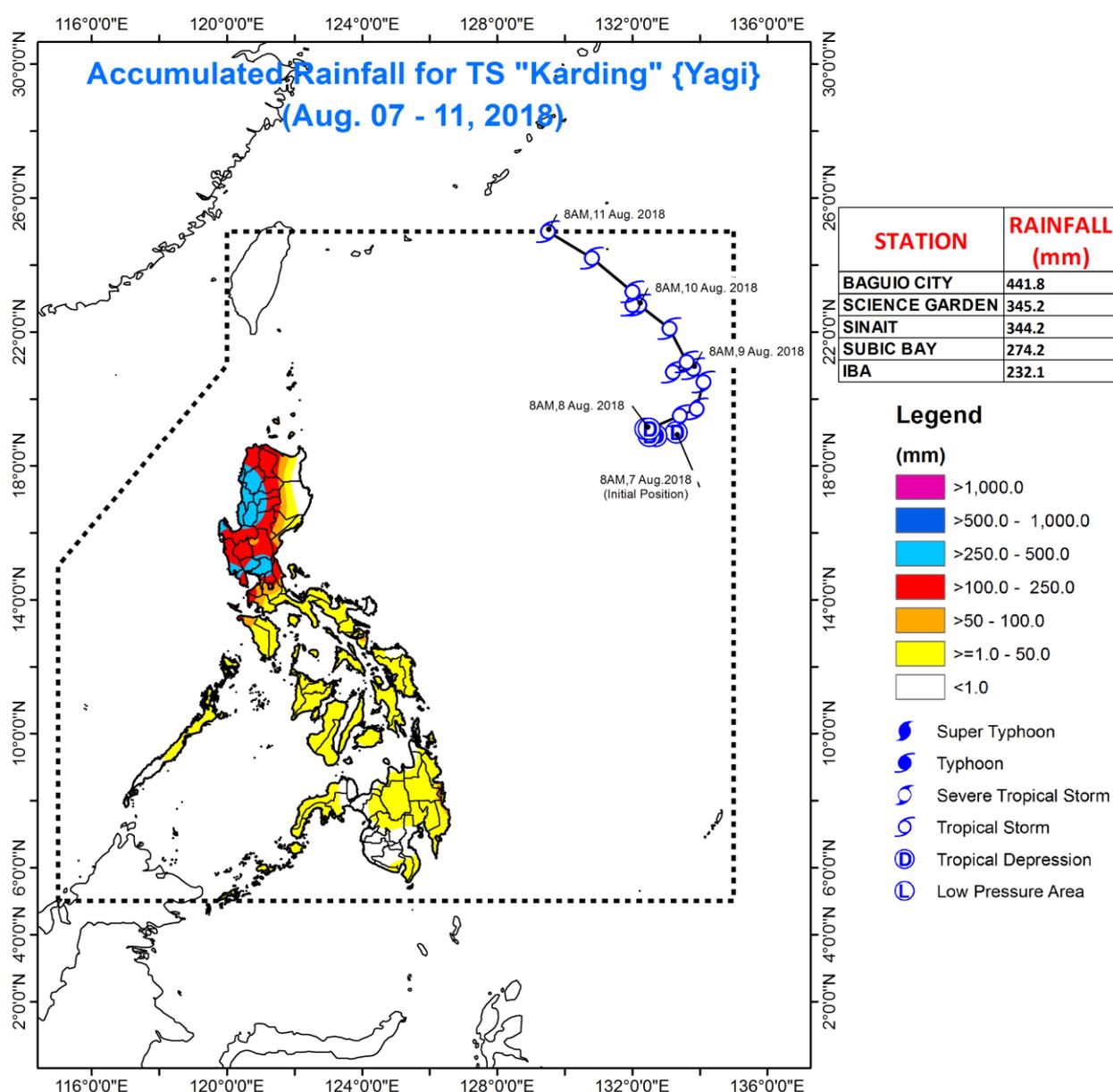


Figure 1. Total accumulated rainfall during the passage of Tropical Storm "Karding" (07 - 11 August, 2018).

To put the severity of the monsoon rains into context, we can compare the observed rainfall during the passage of KARDING (Table 1) and the rainfall associated with ONDOY (Ketsana) back in 2009 (Table 2). The data shows that the highest 24-hour rainfall recorded in Metro Manila during the passage of TC KARDING is about half of the rainfall observed during the passage of ONDOY. In addition, the highest 6-hourly rainfall recorded in Science Garden Station is 151 mm (11 August 2018) in the former, while it is 347.5 mm (26 September 2009) in the latter. Overall, the monsoon rains enhanced by KARDING, although severe, is lower than the rains that resulted from the direct effects of ONDOY.

**Table 1.** 6-Hourly Rainfall on 11 August 2018 during the Passage TC Karding (Yagi)

Station	2:00 PM	8:00 PM	2:00 AM	8:00 AM	Total (24 hrs)
<b>Tanay</b>	30.0	55.0	22.0	3.4	181.4
<b>Science Garden</b>	59.0	151	60	0.2	<b>270.2</b>
<b>Port Area</b>	31.0	77.0	27.0	Trace	136.5

**Table 2.** 6-Hourly Rainfall on 26 September 2009 during the Passage TC Ondoy (Ketsana)

Station	2:00 PM	8:00 PM	2:00 AM	8:00 AM	Total (24 hrs)
<b>Tanay</b>	26.6	6.4	18	0	51.0
<b>Science Garden</b>	347.5	101.0	6.5	0	<b>455.0</b>
<b>Port Area</b>	158.7	91.6	8.4	Trace	258.7

### Warning Information

A total of 9 domestic information, in the form of Severe Weather Bulletin (SWB), and 17 International Warnings for Shipping (IWS) were issued during the passage of Tropical Storm KARDING.

### Preliminary Damage Statistics

The National Disaster Risk Reduction Management Council (NDRRMC) reported a total of two (2) casualties and an estimated Php 36.4 million worth of damages brought about by the monsoon rains during the passage of KARDING.

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### Disclaimer

This report presents a summary of pertinent information obtained during the **operational warning** period. As such, the information presented herein are not final and may change based on the result of the post-analysis to be conducted by the Tropical Cyclone Group, Weather Division. An in-depth investigation report will be released following the post-analysis.