

# 2022 WESTERN NORTH PACIFIC BASIN TROPICAL CYCLONE PREDICTIONS

The Guy Carpenter Asia-Pacific Climate Impact Centre (GCACIC) at the School of Energy and Environment, City University of Hong Kong has released its 2022 predictions for tropical cyclone formations and landfalls using a regional climate model focusing on East Asia. This model uses information from a global climate prediction model made available in April 2022.

## Introduction

Tropical cyclones have always been a significant peril in Asia and a major focus for risk assessment in the region. In recent years, we have seen a number of severe typhoons claim hundreds of lives and cause significant economic damage across countries throughout Asia.

This is an annual forecast, and our 2021 predictions matched well to what occurred during last year, with totals and landfalls well aligned with the model. The forecast predicted 10 storms to make landfall (9.9) and 11 landfalls occurred in the season. Major storms to make landfall included In-fa (China), Chanthu (Philippines and Japan) and Rai (Philippines).

## Highlights of Findings of 2022 Forecast

Consistent with that of a typical weak La Niña year, the number of tropical cyclones predicted to form between May 1 and October 31 is likely above normal. Predicted landfalls remain near normal.

However, across the regions of East Asia, the number of tropical cyclone landfalls is quite varied, with below-normal numbers for the Japan and Korea region, above-normal numbers for the Southern Mainland China and Vietnam region, and near-normal numbers for the Eastern Mainland China and Taiwan region, and the Philippines.

- The number of tropical cyclone formations predicted for the 6-month period from May 1 to October 31 is approximately 24.9, which is likely above the 1980-2020 6-month average of 20.7.
- Of the 24.9 formations predicted, 14.1 are predicted to make landfall, which is near the 1980-2020 average of approximately 14.3.

**Table 1:** Historical and Predicted Averages of Tropical Cyclone Landfalls from May to October.

Location	RSMC Tokyo 1980-2020 Average	GCACIC Regional Climate Model Forecast, 2022	Forecast Accuracy <sup>1</sup>
Japan and Korea	6.0	3.8	Low <sup>2</sup>
Eastern Mainland China and Taiwan	4.0	3.6	High
Southern Mainland China and Vietnam	5.9	6.4	High
Philippines	4.6	4.3	High

1. Forecast Accuracy is a qualitative assessment based on the model performance in the last few years.  
 2. This region shows a systematic low bias compared to the Regional Specialized Meteorological Center (RSMC) historical data.

Source: RSMC Tokyo Typhoon Center, GCACIC

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