

## Updated Prediction of Seasonal Tropical Cyclone Activity over the Western North Pacific for 2008 Season

24 June 2008

### 1. Introduction

This is an update of the predictions of the annual number of tropical cyclones (TCs) in the western North Pacific (WNP) for 2008 that we issued on 18 April 2008<sup>1</sup>. These updates are made based on new information for the months of April and May 2008.

### 2. ENSO conditions in 2008

The 2007 La Niña event continues to weaken and the consensus is that the ENSO condition is currently in a neutral status. In May, SSTs are slightly colder than normal in the central and east-central equatorial Pacific but become warmer than normal in the far eastern equatorial Pacific. The Niño3.4 index in May is -0.59. Most model forecasts of ENSO from different climate centres call for a neutral condition in 2 to 7 months time<sup>2</sup>. Out of the 6 forecasts, 4 suggest that the ENSO will return to its neutral condition during the summer and fall and 2 suggest a transition to a weak El Niño event. These predictions suggest that it is unlikely for the La Niña event that developed in 2007 to persist for the rest of the 2008 season. In other words, 2008 will most likely be an ENSO-neutral year although a transition to an El Niño event cannot be ruled out.

### 3. The predictions for 2008

Compared with the forecast made in April<sup>1</sup>, no significant change is found on the predicted total number of TCs. All the predictors give numbers similar to those in the April forecast and therefore the final predicted number is 33.

For the number of tropical storms and typhoons, the prediction based on the west Pacific index gives an increase in TC number (from 28 in the April forecast to 29) but the Niño3.4 predictor gives a predicted number of 30 compared with 31 in the April forecast. No change occurs using the index of the strength of the subtropical high and the India-Burma trough. The final predicted number therefore is still 30.

A similar situation is found for the predicted number of typhoons. The west Pacific index gives an increase in TC number but the Niño3.4 predictor gives a decrease and no change occurs using other index. The final predicted number therefore is still 19.

With these changes, the average predictions from all the potential predictors therefore call for a slightly above-normal to above-normal year for all TC categories for the entire WNP.

### Summary of predictions

	<b>Forecast</b>	<b>Normal</b>
All TC	<b>33</b> <i>(slightly above-normal)</i>	31
Tropical storms and typhoons	<b>30</b> <i>(above-normal)</i>	27
Typhoons	<b>19</b> <i>(slightly above-normal)</i>	17

1 [http://www.cityu.edu.hk/gcacic/2008\\_forecast\\_APR.htm](http://www.cityu.edu.hk/gcacic/2008_forecast_APR.htm)

2 <http://www.bom.gov.au/climate/ahead/ENSO-summary.shtml>

An analysis of the TC activity in a year after a La Niña event and becoming neutral or changing to warm ENSO conditions (see Table 1) suggests that the TC season in 2008 tends to be normal or above-normal, which is consistent with our forecast.

**Table 1.** Number of tropical storms and typhoons and number of typhoons in a year after a La Niña event. Green and blue shadings indicate the above-normal and below-normal TC activity respectively.

	No. of tropical storms and typhoons	No. of typhoons	ENSO status
1965	34	21	El Niño
1972	30	22	
1976	25	14	
1985	25	17	Neutral
1989	31	21	
1996	33	21	
2001	29	20	

The predictor related to the subtropical high (HWNP) continues to suggest an above-normal TC activity, which is probably related to the weaker-than-normal subtropical high over the western part of the WNP (Fig. 1).

**Fig. 1.** 500-hPa geopotential height anomalies between April and May in 2008. Thick contour indicates the geopotential height (contour interval = 10 m)  $\geq 5860$  m.

