



# August Forecast Update for Northwest Pacific Typhoon Activity in 2002

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## Forecast Summary

**TSR anticipates Northwest Pacific intense typhoon activity in 2002 being 25-30% above the 10-year climate norm.**

The TSR (Tropical Storm Risk) consortium early August forecast update continues to anticipate an active typhoon and intense typhoon season for the Northwest Pacific. Intense typhoon numbers are expected to be 25-30% higher than the 10-year climate norm. The forecast spans the full Northwest Pacific season from 1st January to 31st December 2002 and is based on data available through the end of July 2002. Our main predictor is the forecast anomaly in August-September Niño 4 sea surface temperature (SST) which we anticipate will be  $0.80 \pm 0.16^\circ\text{C}$  warmer than normal this summer. This is the final monthly forecast update TSR will be issuing for the 2002 Northwest Pacific typhoon season.

## NW Pacific Total Numbers in 2002

		Intense Typhoons	Typhoons	Tropical Storms
TSR Forecast ( $\pm$ FE)	2002	11.5 ( $\pm$ 1.7)	19.0 ( $\pm$ 3.4)	28.4 ( $\pm$ 4.2)
10yr Climate Norm ( $\pm$ SD)	1992-2001	9.0 ( $\pm$ 3.1)	16.9 ( $\pm$ 4.3)	27.4 ( $\pm$ 4.6)
30yr Climate Norm ( $\pm$ SD)	1972-2001	8.2 ( $\pm$ 3.3)	16.4 ( $\pm$ 3.6)	26.3 ( $\pm$ 4.0)
Forecast Skill at this Lead	1987-2001	48%	23%	13%

Key: Intense Typhoon	=	1 Minute Sustained Wind > 95Kts	=	Hurricane Category 3 to 5
Typhoon	=	1 Minute Sustained Wind > 63Kts	=	Hurricane Category 1 to 5
Tropical Storm	=	1 Minute Sustained Wind > 33Kts		
SD	=	Standard Deviation		
FE (Forecast Error)	=	Standard Deviation of Errors in Simulated Real Time Forecasts 1992-2001		
Forecast Skill	=	Percentage Improvement over Running 10-year Prior Climate Norm from Simulated Real Time Forecasts 1987-2001		
Northwest Pacific	=	Northern Hemisphere Region West of 180°W Including the South China Sea. Any Tropical Cyclone (Irrespective of Where it Forms) Which Reaches Tropical Storm Strength Within this Region Counts as an Event.		

## Key Predictor for 2002

The key factor behind our forecast for an active Northwest Pacific typhoon season in 2002 is the anticipated enhancing effect of warmer than average Niño 4 (150°W-160°E, 5°S-5°N) SST. Our forecast anomaly (1972-2001 climatology) for August-September 2002 Niño 4 SST is  $0.80 \pm 0.16^\circ\text{C}$  (down slightly from  $0.88 \pm 0.24^\circ\text{C}$  last month). Forecast skill for this predictor at this lead is 73% (assessed using replicated real-time forecasts over the last 15 years).

## Further Information

Further information on the TSR forecast methodology, the TSR simulated real-time forecast skill 1987-2001 as a function of lead time, and on TSR in general, may be obtained from the 'Extended Range Forecast for Northwest Pacific Typhoon Activity in 2002' document issued on the 6th March 2002. Our forecast models for typhoon and tropical storm numbers changed at the end of June 2002 to models where these numbers are obtained by regression from intense typhoon numbers. A summary of the 2002 Northwest Pacific typhoon season and a verification of our seasonal forecasts will be issued in early January 2003.

## Appendix - Predictions from Previous Months

<b>NW Pacific Total Numbers 2002</b>				
		Tropical Storms	Typhoons	Intense Typhoons
Average Number ( $\pm$ SD) (1992-2001)		27.4 ( $\pm$ 4.6)	16.9 ( $\pm$ 4.3)	9.0 ( $\pm$ 3.1)
Average Number ( $\pm$ SD) (1972-2001)		26.3 ( $\pm$ 4.0)	16.4 ( $\pm$ 3.6)	8.2 ( $\pm$ 3.3)
TSR Forecast ( $\pm$ FE)	6 August 2002	28.4 ( $\pm$ 4.2)	19.0 ( $\pm$ 3.4)	11.5 ( $\pm$ 1.7)
	11 July 2002	28.6 ( $\pm$ 4.4)	19.2 ( $\pm$ 3.7)	11.8 ( $\pm$ 2.2)
	7 June 2002	30.8 ( $\pm$ 4.5)	21.1 ( $\pm$ 3.5)	10.5 ( $\pm$ 2.2)
	7 May 2002	30.5 ( $\pm$ 4.6)	20.9 ( $\pm$ 3.4)	10.3 ( $\pm$ 2.2)
	5 Apr 2002	29.6 ( $\pm$ 5.0)	19.8 ( $\pm$ 4.1)	9.8 ( $\pm$ 2.6)
	6 Mar 2002	28.6 ( $\pm$ 4.8)	18.7 ( $\pm$ 4.0)	9.3 ( $\pm$ 2.5)

