# Summary of 2025 Northwest Pacific Typhoon Season and Verification of Seasonal Forecasts

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## Summary

The 2025 NW Pacific typhoon season saw activity approximately 35% below the 1991-2020 climate norm in terms of ACE index. TSR over-predicted the ACE index as intense typhoon activity was below what was anticipated, due to several suppressing factors alongside the cold-neutral ENSO and negative PDO.

## Features of the 2025 NW Pacific Typhoon Season

- 28 names storms, 17 typhoons, 5 intense typhoons and an ACE index of 187. Since reliable records begin in 1965, there has never been a season that has had 17 typhoons with only 5 intense typhoons. Activity was suppressed in the eastern portion of the NW Pacific basin, resulting in typhoons developing much further west closer to land masses, giving less time over warm ocean waters to intensify into intense typhoons. This is very characteristic of a typhoon season during a moderate to strong La Niña, despite neutral conditions present for the majority of the season.
- The season's first named storm, Wutip, developed on the 11th June, the fifth latest date for the first named storm to form.
- Typhoon activity increased significantly from mid-September. The ACE index from the 16th September onward was 130, compared to just 55 for the period 1st January to 15th September. All five intense typhoons developed after mid-September.
- Typhoon Neoguri reached category 4 intensity at a latitude near 40°N, one of the strongest tropical cyclones on record for such a high latitude.

No typhoons made landfall in Japan; however, the Philippines, southern China and Vietnam were impacted by numerous tropical cyclones. This is, again, very characteristic of a La Niña typhoon season where storms tend to form further west than normal and track across the Philippines and South China Sea.

## Verification of Seasonal Forecasts

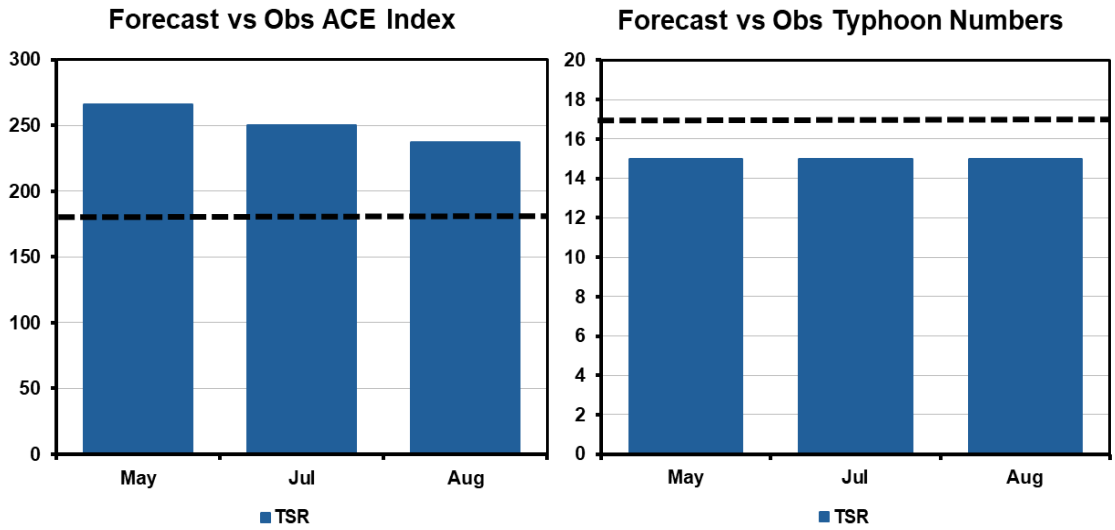


*Figure 1: Comparison of ACE index and Typhoon number forecasts with observations. TSR overpredicted ACE index and underpredicted typhoon numbers.*

## Discussion of the 2025 NW Pacific Typhoon Season

The 2025 NW Pacific season saw activity well below average in terms of the ACE index. The ACE index of 187 is the 11$^{th}$ lowest and is within the lowest 20% of typhoon seasons since 1965. There were several inhibiting atmospheric conditions present which similarly present during typhoon seasons with a moderate or strong La Niña which are discussed below.

## Comparison of Anomalies Present During 2025 With Anomalies During Previous La Niña Years

The La Niña years used in the mean anomaly plots below are years with moderate to strong events, consisting of the years 1970, 1973, 1975, 1988, 1995, 1998, 1999, 2007, 2010, 2011, 2020 and 2021.

The average ACE index and number of typhoons across these years was 187 and 12 respectively. Whilst the ACE index for the 2025 NW Pacific

typhoon season is very close to the average ACE index across these years, the number of typhoons in 2025 was much higher than the average number across these years. This suggests that the well below-average ACE index in 2025 was not due to an unusually low number of typhoons, but generally due to the typhoons developing further west than normal, struggling to develop into intense typhoons due to unfavourable atmospheric conditions and land interaction, and reduced storm lifetimes due to having less time over warm ocean water before making landfall (due to development further west and closer to land).

## a) **August-September Sea Level Pressure Anomalies**

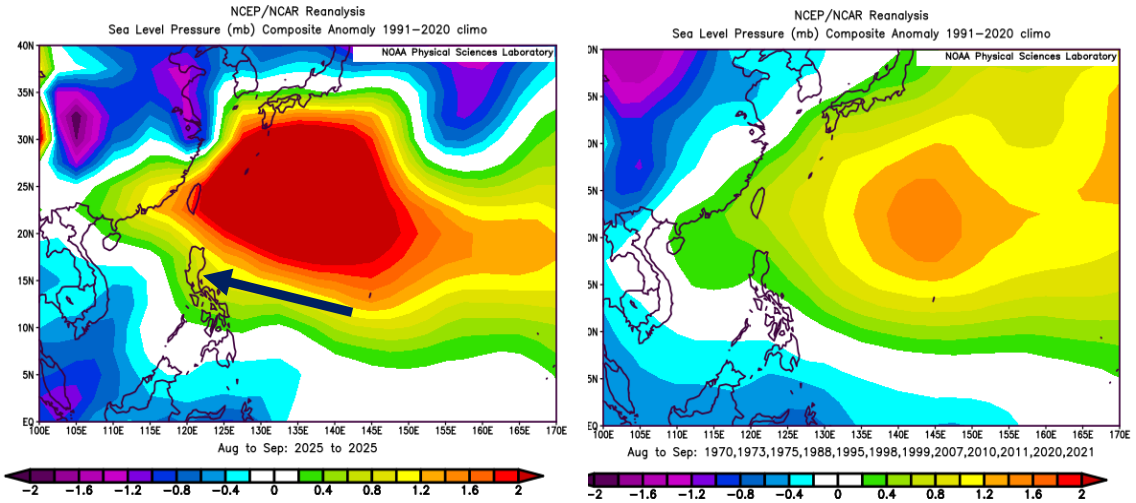


*Figure 2: Mean sea level pressure anomalies during August-September 2025 (left) and August-September for years with a moderate or strong La Niña (right).*

A positive mean sea level pressure anomaly was present between the Philippines and Japan during August-September 2025. This represents westward ridging of the North Pacific sub-tropical high-pressure system and an enhanced chance of tropical cyclones being steered west into the Philippines instead of recurving towards Japan. Positive surface pressure anomalies also indicate a more stable atmosphere, less conducive to deep convection and tropical cyclone development. There is similarity between 2025 and the August-September mean sea level pressure anomaly across twelve years since 1965 which featured at least a moderate La Niña.

## b) **August-September Zonal Wind Anomalies**

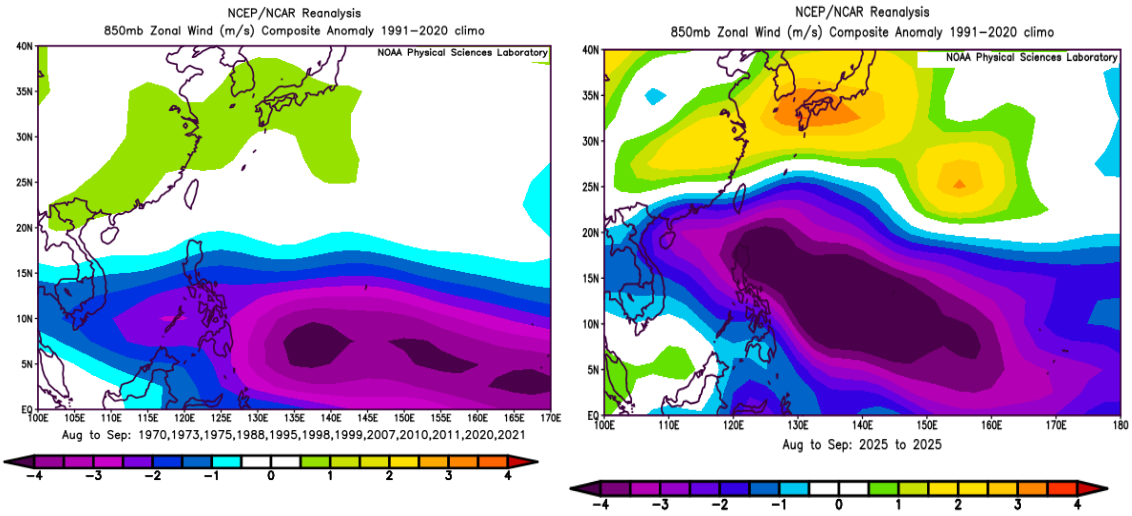


*Figure 3: 850 hPa zonal mean wind anomalies during August-September 2025 (left) and August-September for years with a moderate or strong La Niña (right).*

Negative (easterly) zonal wind anomalies were present across the NW Pacific basin during August-September 2025, indicative of stronger than normal trade winds. Stronger trade winds are associated with reduced cyclonic vorticity over the tropical NW Pacific where most typhoons form and hence are more inhibitive to tropical cyclone genesis and development. Stronger than average easterly winds will tend to steer storms to the west across the Philippines and the South China Sea. These easterly wind anomalies are characteristic of moderate or strong La Niña years when typhoon activity across the NW Pacific basin is suppressed.

## c) **August-September Surface Precipitation Rate**

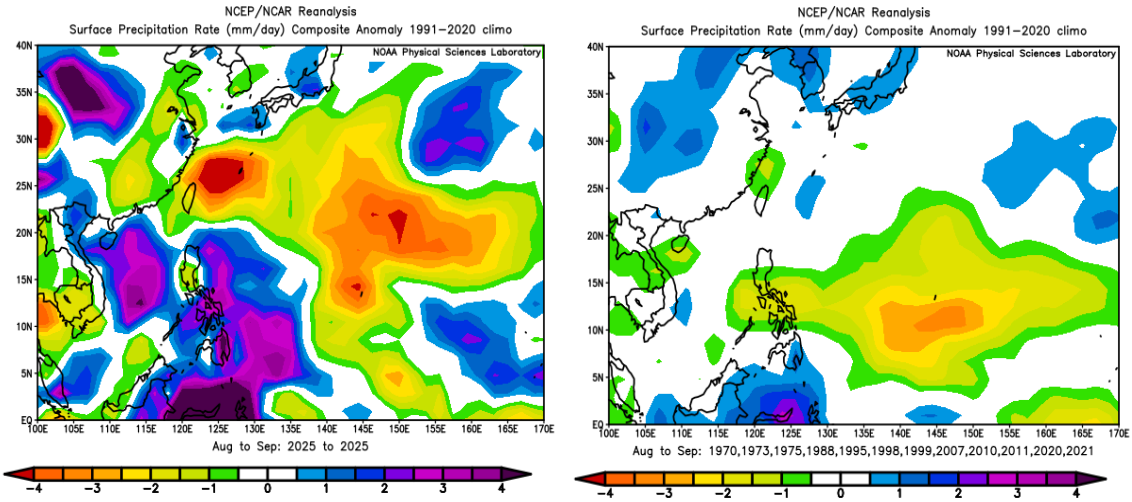

*Figure 4: Precipitation rate anomalies during August-September 2025 (left) and August-September for years with a moderate or strong La Niña (right).*

August-September precipitation rates in 2025 were below-average across much of the basin, especially across the eastern portion of the basin and north of the Philippines. Reduced rainfall implies conditions were less favourable than normal for deep convection and the development of tropical cyclones. Compared to the average across twelve moderate or strong La Niña years, below-average precipitation across the basin was more widespread, implying deep convection was more suppressed in general even compared to seasons during La Niña years.

## Summary

Despite ENSO conditions being neutral or cold-neutral throughout the majority of the 2025 NW Pacific typhoon season, tropical cyclone activity was characteristic of a moderate to strong La Niña typhoon season, with tropical cyclone activity heavily biased towards the western portion of the basin, storms steered west into The Philippines and across the South China Sea, no typhoon landfalls in Japan, and unfavourable atmospheric conditions closely resembling a typhoon season with strong La Niña present during peak season. The TSR over-forecast of ACE and under-forecast of typhoon numbers was primarily because we did not expect atmospheric conditions to be as unfavourable as they were given the anticipated ENSO state, and because since 1965, no season with an ACE index below 230 has had as many as 17 typhoons. The ratio of ACE index to typhoons in 2025 is the second lowest on record since 1965, behind 1999 which was a strong La Niña year.

## Forecasts for 2026

The TSR extended range forecast and forecast updates for the 2026 NW Pacific typhoon season will be issued on the 5th May, 7th July and the 5th August.