

## 2000 UTC 27 August 2018 Forecast Discussion

### Summary

Low possibility of direct impact from a tropical cyclone over the operation area (12.5N 136.3E) for the next 48 hours. TD 25W recently designated by JTWC is intensifying and moving northwestward. Swells from TD 25W may influence the operation area beyond 48 hours, but it is highly dependent on the track and intensification speed of the storm. Increased chances of precipitation is expected associated with a weak surface low propagating into the operation area. Surface wind is expected go be below 15 knots but variable and wave heights will be 1-3 feet.

**Day One (24 hr) Outlook:** Increased chances of precipitation is expected associated with a weak surface low propagating into the area of operation. Surface wind is expected to be less than 15 knots, and wave heights below 2 feet from the northwest for the first 24 hours.

**Day Two (48 hr) Outlook:** Increased chances of precipitation is expected associated with a weak surface low propagating into the area of operation. Surface wind is expected to be variable but below 15 knots. Swells are expected to increase to 2-3 feet from the northeast.

**Extended Outlook:** Uncertainty in precipitation increases beyond 48 hours, as GFS shows a brief period of low precipitation chances between 48 and 72 hours. GFS also indicates that an elongated band of precipitation associated with an intensifying TD 25W would affect the area of operation beyond 72 hours, but that is highly dependent on the intensity and track of TD 25W. Swell forecast would also depend on the evolution of 25W. With much uncertainty surrounding 25W, swells and precipitation forecast beyond 48 hours remains difficult. However, the chances for direct wind and precipitation impact from TD 25W remain low at this moment.

### Discussion

**TCs:** JTWC has upgraded Invest 94W to TD 25W. This intensification was not expected, given the global models' difficulty in spinning up the storm. But it was not surprising as well, seeing that the vertical wind shear around the storm has been favorable over the past 24 hours. As of 18 UTC on the 27th, JTWC has the circulation center located at 14.7N 158.2E moving towards the northwest with 30 knot intensity. ECMWF is still not representing TD 25W well, showing only a broad region of positive vorticity at 850 mb even on its analysis plots. Whereas the 0827 12 UTC GFS run is now capturing the storm intensity better than previous model runs, showing a concentrated area of positive vorticity at 850 mb. According to JTWC, TD 25W is expected to keep moving northwestward around 0828 12 UTC then move westward with the steering flow along the subtropical ridge. However, there are some discrepancies between global models for the track forecasts of TD 25W. EC's track forecast is westward, but NCEP and some of FNMOC's ensemble runs predict northwestward propagation. It seems like this track difference is coming from the difference in intensity forecast from the global models. EC has much weaker

representation of TD 25W thus it follows shallow layer mean steering flow, which is easterly whereas 200-850 hPa layer mean steering flow around TD 25W is moving northwest.

**Convection:** There was a burst of convective activity located at around 15N 140E over the past 24 hours. This convective burst seems to have been associated with an upper level low (associated with a series of upper level lows) located around 20N 145E and an area of disturbance south of 10N and around 138E. The disturbance to the south is associated with the weak surface low that was forecast to propagate into the area of operation behind the blob of drier air mentioned in the previous forecast discussion. 19Z 20180829 IR image shows colder cloud tops associated with this convective burst propagating southward towards the disturbance to the south, forming a north-south region of convection. Associated with the propagation of the surface low and this region of convection, increased chances of precipitation is expected over the next 48 hours. Beyond 48 hours, there is some uncertainty as the area of weak surface low pressure weakens further and moves out of the area of operations. There are increased chances of precipitation beyond 72 hours as GFS seems to indicate the formation of an elongated rainband associated with a stronger TD 25W to the north. But this would depend on the strength and the track of the TC.

**MJO/BSISO:** (No updates from yesterday's) BSISO indices have significant amplitude in phase 3-4 for the next 10 days. MJO has a marginally significant signal at phase 4-5 (maritime continent) and forecast to decrease into low next week.

**SSTs:** Sea surface temperatures should remain warm between 28-29C.

**Currents and Wave Heights:** Wave heights below 2 feet from the northwest for the first 24 hours and expected to increase to 2-3 feet from the northeast for 24-48h period.

FORECASTERS: RAZIN and NAM

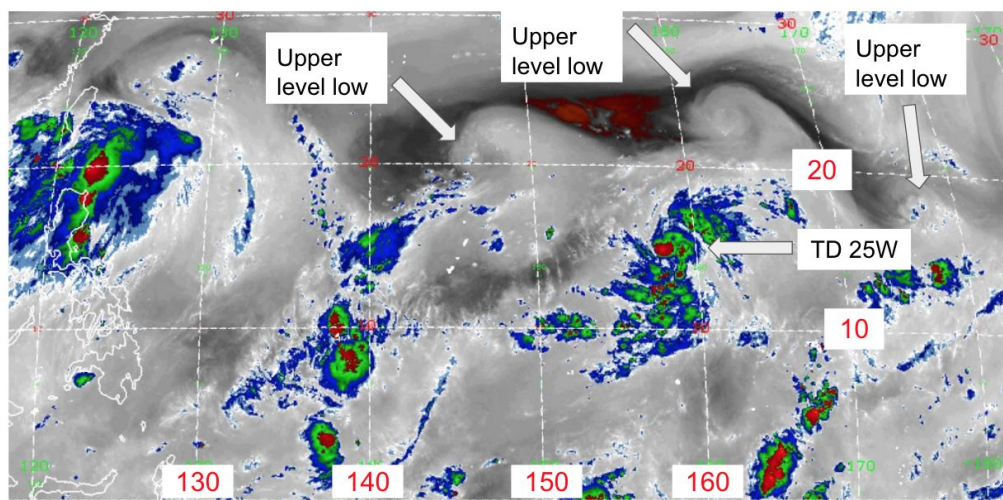


Fig. 1. Himawari upper-level water vapor channel (6.2 microns) at 18 UTC 20180829.[1]

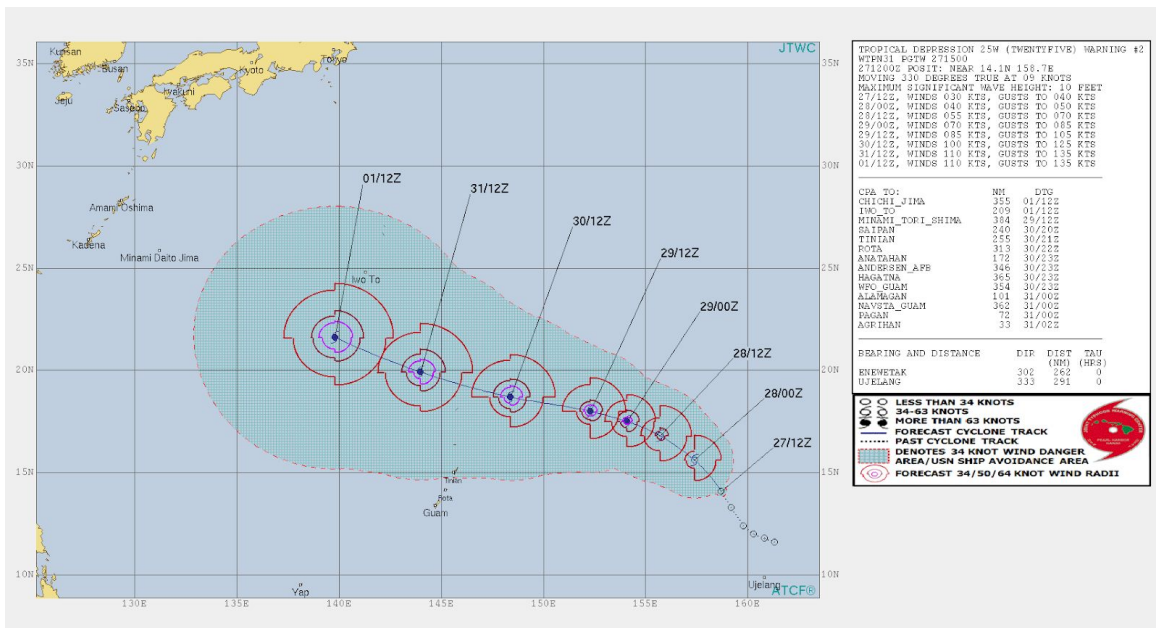


Fig. 2. JTWC Warning graphic for TD 25W [2]

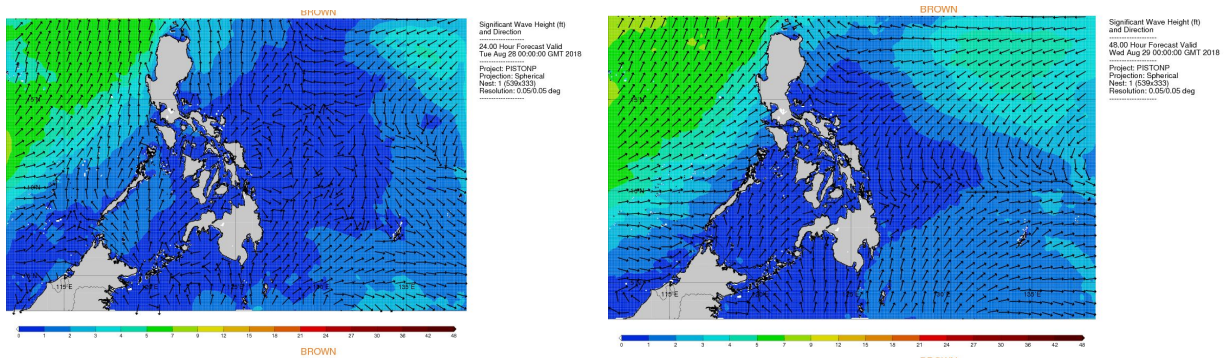


Fig. 3. COAMPS significant wave height and direction (left) valid at 0828 0000 UTC (right) valid at 0829 0000 UTC showing low significant wave heights.