Summary

TY Trami has moved a little farther north near 22N 128.8E with an intensity of 90 knots, and is forecast to slowly pass over the Japanese islands over the next two days. Swells from Trami are on the decline, with significant waves heights in the area of operations forecast to decrease below 7 ft after 12-24 hours. Invest 94W now looks likely to develop into a significant TC with a track to the northeast of the area of operations. Wind and wave impacts from 94W could be possible after 48-h. Convection over the area of operations is largely suppressed and is expected to remain light and scattered in the short-term, with increasing chances of distant rainbands from 94W as that system moves closer. It is still too early to determine whether 94W will directly impact the area of operations, but given the potential for impacts it will be monitored very closely in the next forecast cycles.

Day One (24 hr) Outlook: Scattered and isolated convection is possible throughout 24-h forecast period, and chances for organized convection remain low. Winds will come from the S-SW between 10-20 knots. FNMOC WW3 shows significant wave heights between 7-9 ft persisting for the next 24-h forecast period, while COAMPS shows significant wave heights between 5-7 ft persisting for the next 24-h forecast period.

Day Two (48 hr) Outlook: Scattered and isolated precipitation is expected throughout 48-h forecast period, and chances for organized convection remain low. Winds will transition from the S-SW to the NW between 10-20 knots. FNMOC WW3 shows significant wave heights between 5-7 ft persisting throughout the 24-48 h forecast period.

Extended Outlook: Convective activity is still expected to be suppressed over the next 48-72 hours, and chances for scattered and organized convection increase as 94 W tracks to the NW and passes over Guam between the 72-96 h forecast period. Winds over the area of operation will rotate to the W between 10-20 knots throughout the 48-72 h forecast period, and increase to 15-30 knots throughout the 72-96 h forecast as Invest 94 W tracks closer to the area of operation. FNMOC WW3 shows significant wave heights increasing to 7-9 ft between the 48-72 h forecast period near the area of operation, and possibly reaching 9-12 ft between the 72-96 h forecast period.

Discussion

TCs: TY Trami was located near 22N 128.8E at 12 UTC 27 September with an intensity of 90 knots, and is forecasted to maintain its intensity in the next 24 hours. Trami has started to move a little faster to the north at 5 kts, but will stay around the Ryukyu Islands of Japan in the 24 - 48 hour time frame. Swells from Trami will continue to affect the area of operation in the next 24 hours but are on the decline as the TC moves away.
JTWC has upgraded Invest 94W to a ‘high’ chance for development and issued a TC formation alert that a depression will form within 12-24 hours. The companion cyclone in the southern hemisphere has been upgraded to a named tropical storm “Liua”, and is the earliest known TC formation in the southern Pacific in the last 50 years of record keeping. Both the ECWMF and GFS have stayed consistent in bringing 94W to the northwest, but they differ in the intensification rate. The HWRF model intensifies 94W to a strong 950 hPa storm in 72 hours with a location to the northeast of the current ship location. The track guidance has been consistent in indicating a path to the northeast of the area of operations, but the size of the wind and wave field is uncertain. All reliable guidance suggests a tropical storm strength or higher TC to the northeast of the ship location in 72 hours. We will continue to closely monitor 94W.

**Convection:** The Himawari-8 IR satellite imagery currently shows some scattered precipitation over the area of operation. Scattered convection is possible throughout the 48-h forecast period, and chances for scattered and organized convection are expected to increase over the next 48-96 h forecast period.

**MJO/BSISO:** Both the MJO forecast provided by the ECMWF and the BOM show a phase 8 MJO signal currently and then rotating to phase 1 in the beginning of October. The BOM with an extended outlook to November 4 shows a stationary phase 1 signal with decreasing amplitude throughout October. No updates for the BSISO forecasts. The BSISO forecast from both the BOM and ECMWF show a BSISO1 phase 1 signal currently and then moving into phase 2 near the end of September. The BOM show a phase 2 signal propagating to phase 6, while the ECMWF show a relatively stationary phase 2 signal in the beginning of October.

**SSTs:** Sea surface temperatures are expected to be between 28-30 C throughout the 24-h forecast period.

**Currents and Wave Heights:** FNMOC WW3 shows significant wave heights near the area of operation persisting 7-9 ft throughout the 24-h forecast period, decreasing to 5-7 ft throughout 24-48 h forecast period, increasing to 7-9 ft between the 48-72 h forecast period near the area of operation, and possibly reaching 9-12 ft between the 72-96 h forecast period. Currents will transition from the W to NW throughout the 24-h forecast period, and remain the NW between the 24-96 h forecast period.

FORECASTERS: BELL and CHA
Fig. 1. Himawari IR imagery (10.4 microns) valid at 1800 UTC 27 September 2018. [1]

Fig. 2. GEFS ensemble 10-m circulation forecast initiated at 1200 UTC 27 September 2018 and valid from the analysis time through 1200 UTC 30 September. Circulation centers are colored with respect to maximum wind speed. Purple: ≤ 20 knots, Blue: 20-34 knots, Red: > 34 knots. [2]
Fig 3. (left) ECMWF and (right) GFS 850-hPa vorticity (shaded) and wind barbs, and MSLP (contoured) initiated at 1200 UTC 27 September 2018 and valid at 1200 UTC 30 September 2018. [3]
Fig. 4. FNMOC WW3 significant wave height forecast initiated at 1200 UTC 27 September and valid at (top left) 0000 UTC 28 September, (top right) 0000 UTC 29 September, (bottom left) 0000 UTC 30 September, and (bottom right) 0000 UTC 1 October. [4]