

## 2000 UTC 29 August 2018 Forecast Discussion

### Summary

Convective activity in the area of operation is forecasted to diminish as the surface low (Invest 96W) continues to track westward out of the vicinity. A pocket of drier air is forecasted to supplant this low-level circulation in the next 24 h and winds will shift to the E-SE at 5-10 knots. Increasing wave heights are expected; 5-6 ft at 48 hr and 6-10 ft after 72 hours as typhoon Jebi moves northwest and intensifies. The trailing rainband SE to the center of Typhoon Jebi is forecast to influence the operation area after 96 hours.

**Day One (24 hr) Outlook:** Convective activity is forecast to diminish over the next 24 h as Invest 96W near the area of operation continues to track westward towards the Philippines. Furthermore, a broad pocket of drier air to the east of 96W is moving to the west into the area of operation. Winds are also expected to decrease, shifting to the E-SE at 5-10 kts and then shifting to the S. No tropical cyclones are forecasted to impact the area of operation in the next 24 h. Wave heights are expected to remain between 2-4 ft in the next 24 h.

**Day Two (48 hr) Outlook:** Widespread activity is currently not forecasted to impact the area of operation in the 48 h forecast. As the low-level circulation continues to track further west and trailing it, the pocket of drier air, CAPE is forecasted to gradually recover to ~1000 J/kg. Precipitation is therefore expected to increase near the end of the forecast period. Surface winds are forecasted to remain S between 5-10 knots. No tropical cyclones are forecasted to impact the area of operation in the next 48 h. Wave heights are expected to remain between 2-4 ft in the next 48 h, increasing to 5-6 ft near the end of the forecast period. An increased wave period of ~14 s is also expected near the end of the forecast period as the swell produced by Jebi begins to enter the area of operation.

**Extended Outlook:** As Typhoon Jebi continues to track to the W-NW, precipitation is expected to increase in the area of operation after 96 h (beginning around 1200 UTC 02 September). Trailing rainbands are expected to draw in moisture from the SW, increasing the likelihood for precipitation in the area of operation. Jebi will remain well north of the area of operation and thus no significant wind threats are expected. Wave heights are forecasted to increase to 6-10 ft as Jebi makes its closest approach to the area of operation, with the wave period remaining around 14 s.

### Discussion

**TCs:** JTWC has upgraded TS Jebi to Typhoon Jebi with maximum sustained winds of 70 knots and gusts up to 85 knots. Its current location as of 1200 UTC 29 August is 13.1 N, 151.3E, currently tracking west-northwest (heading 280 degrees) at 12 knots. JTWC forecasts Jebi to continue on its WNW track with a sharper turn to the NW taking place in ~48 h (1200 UTC 31 August) as Jebi crosses 140E. Environmental conditions are expected to remain favorable for

intensification with low-to-moderate deep-layer vertical wind shear between 10-15 knots, sea-surface temperatures between 28-29 degrees Celsius, and mid-level relative humidity around 70%. An upper-level low near 25N, 140E is currently producing larger vertical wind shear to its SW in the forecasted path of Jebi; however, the global models are in agreement that this region will have a relatively small impact on Jebi's intensity in the next 48 h. Jebi is currently not forecasted to produce winds exceeding 34 knots (considered the ship avoidance area by JTWC) in the area of operation over the next 72 h as it makes its approach to the longitudinal location of the ship (~134 E). At this point, Jebi is forecasted to be located well north of the area of operation at ~22N. However, precipitation is expected to increase in the area of operation beginning at the 96 h forecast (valid 1200 UTC 02 September) as trailing rainbands persist to the SE of Jebi, drawing in moisture from the SW. Therefore, high winds are not expected to be a threat to the area of operation in the next 96 h, although precipitation is expected to increase at the end of this forecast period.

**Convection:** The surface low discussed yesterday is designated as Invest 96W by NOAA's experimental track forecast but not yet shown from JTWC's webpage as of now. Deep convection of Invest 96W, currently located around 11N 133E, is expected to move WNW near to Luzon of the Philippines, but some ensemble runs show more NW movement to Taiwan. Invest 96W may intensify to a tropical depression having sustained wind speed > 34 kts in 36 hours with its location around 12N 130E according to some ensemble runs from GEFS. Then after 48 hours, both EC and GFS predict this depression to dissipate. Lower convective activity is expected over the area of operation for the next 36 hours since Invest 96W is moving westward and the following is an air pocket having a drier mid-level humidity as shown by Himawari's mid-level water vapor channel (6.9 microns). Isolated precipitation is possible since COAMPS shows CAPE initially low (< 200 J/kg) but increasing back to ~1000 J/kg after 24h, with CIN decreasing from ~130 J/kg to near zero. Beyond the next 72 hours, convection associated with Jebi is expected to influence over the operation area.

**MJO/BSISO:** The most recent forecasts for MJO and BSISO from ECMWF and BOM say the amplitude of the indices will be low for the next two week. Updated BSISO forecast from ECMWF (initial date: 0827) and BOM forecast (initial date: 0826) show similar phase change patterns but the signals are very weak for BOM and ECMWF has a slightly larger amplitude for both BSISO 1 and 2 indices. MJO forecasts from BOM (initial date: 0826) and ECMWF (initial date: 0829) show very weak amplitude for the next two weeks.

**SSTs:** Sea surface temperature will remain around 29C.

**Currents and Wave Heights:** Significant wave heights are expected to be 3-4 ft for the next 24 hours and increasing to 5-6 ft for the 24-48 hours due to the impacts of typhoon Jebi. Surface currents will be light and variable near ship location. In terms of wave period, it will be 5-7 sec for the next 36 hours then with much longer periods entering domain at 48 hours (13-15s).

FORECASTERS: NAM and MARTINEZ

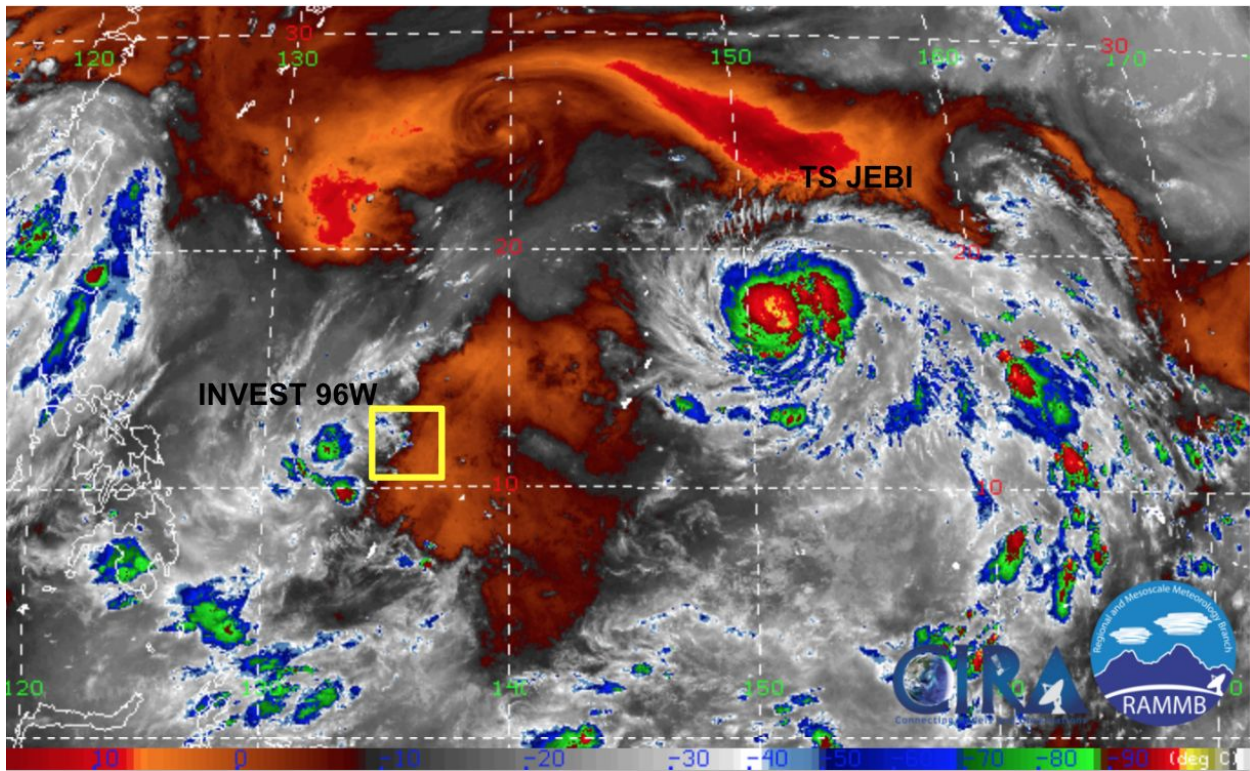


Fig. 1. Himawari WV channel (6.9 microns) at 1810 UTC on 20180829. Yellow box indicates the area of operation [1]

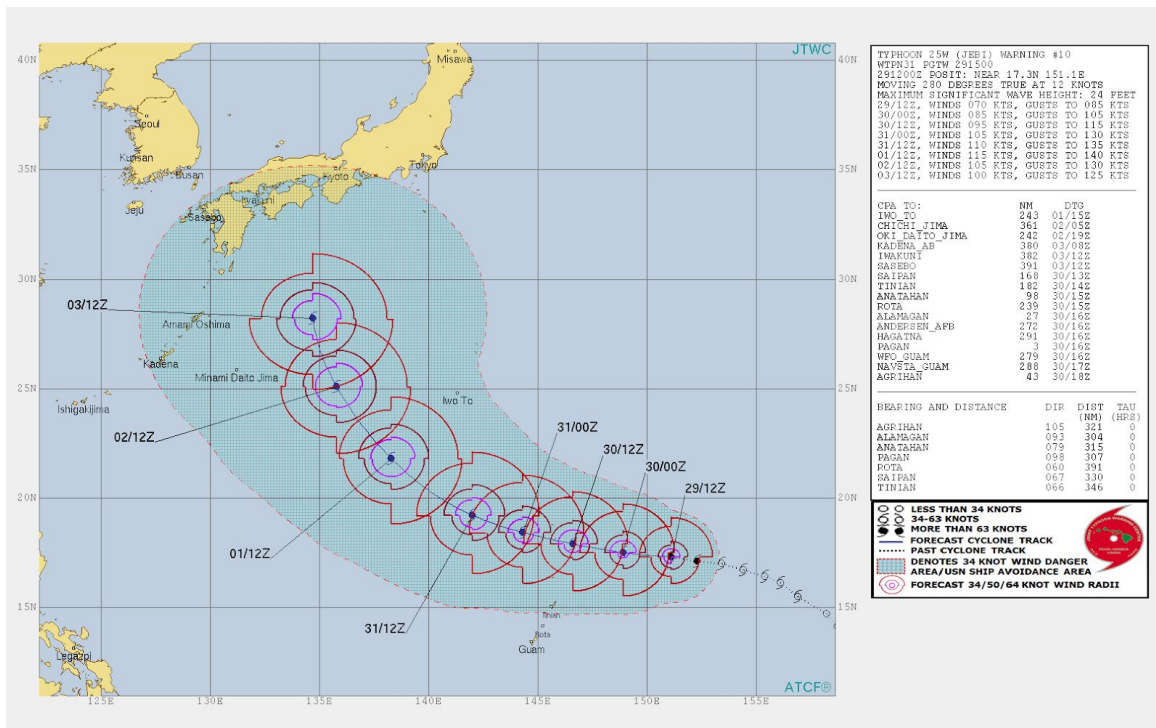


Fig. 2. JTWC forecast graphic for Typhoon Jebi [2]

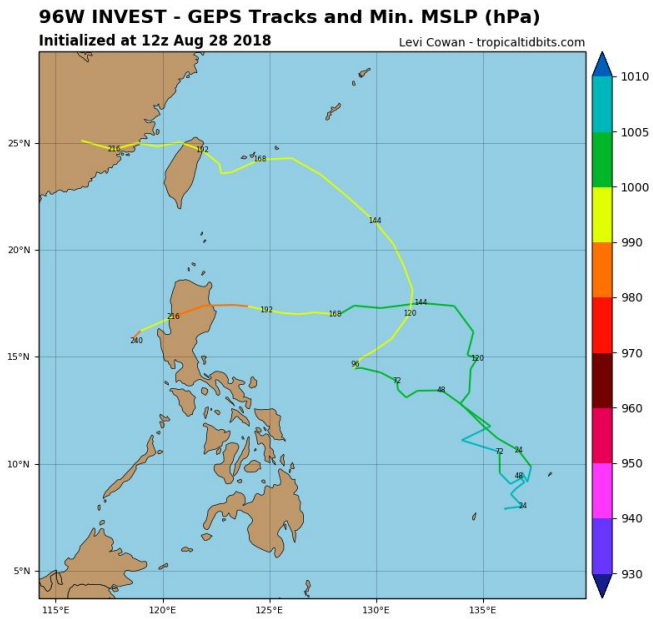


Fig 3. GEFS forecast of the track for INVEST 96W as of 12Z 20180828. [3]

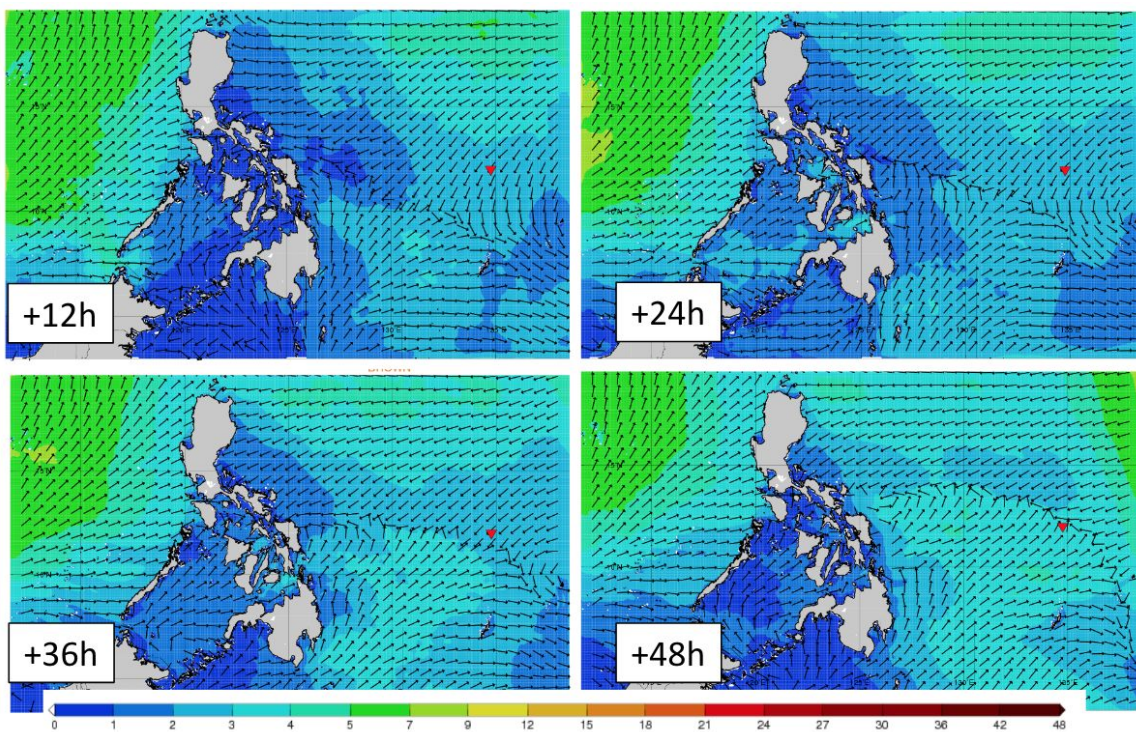


Fig. 4. 0000 UTC 29 August COAMPS Significant Wave Height (shading, ft), and Direction (vectors)