

Summary

Effects from Typhoon Soulik are minimal going forward, so this document will be our final discussion on Soulik as it heads toward the Korean peninsula. Typhoon Cimaron will continue slowly intensifying under the presence of shear, but its continued northwest movement should take the strongest winds and largest significant wave heights far north of the current, intended, and Mirai ship locations. In the short term, wave heights should remain below 7 feet and decrease to 3-4 feet in the longer term. A broad region of widespread convection is currently present southwest of Cimaron, supported by upper-level divergence and low-level convergence directly south of Cimaron. This convection should track northwest alongside Cimaron, reducing the convective intensity and coverage after ~00Z 22 August, but scattered convection should continue near the location of the Mirai after that time. If Cimaron tracks more slowly to the northwest, the widespread convection could linger, but it seems likely that the Thompson and Mirai will miss the best conditions for sampling.

Day One (24 hr) Outlook: Typhoon Soulik should weaken slightly as it approaches Jeju Island. Typhoon Cimaron is continuing its track north-northwest and is expected to further intensify over the next 24 hours. Stronger waves from Cimaron are now forecasted to the northwest of the most recent ship location (15.5N, 129.3E) and should not be an issue. The area of convection near 12N, 140E is should begin to accelerate towards the northwest away from the Mirai (13N, 137E). The Thompson will likely see scattered thunderstorms as it continues its southeasterly track with an increased chance as it moves further east in the short term.

Day Two (48 hr) Outlook: Typhoon Soulik will likely make landfall somewhere on the Korean Peninsula weakening under the influence of colder SSTs and increasing vertical wind shear. Typhoon Cimaron over 48 hours should be making landfall around Kyoto Japan. No effects on current or forecasted ship location from TCs expected. Scattered convection will be possible around arrival time (~36-48h) but there is a lower chance for organized and widespread convection as it moves northeast.

Extended Outlook: The subtropical ridge is forecasted to strengthen and move south over a large portion of the west Pacific Basin in the long term. There remains potential for genesis east of Taiwan in the GFS although the ECMWF is backing off the possibility and even if genesis does occur it will not impact operations in any way. The strengthening monsoonal flow will occur to the northwest of the ship location and also not impact the ship on its transit. Scattered convection associated with convergent westerlies and easterlies in the band southwest of typhoon Cimaron will continue to move towards the northwest away from the Mirai around (13N, 137E) and the global models are suggesting isolated convection possible over the next 120 hours.

Discussion

TCs: Typhoon Soulik continues moving northwest with an intensity of 95 kts (high Cat 2 SS), but is far enough removed from the ship and has relatively low impact on operations, so we will stop discussions of it. Typhoon Cimaron (22.0N, 142.8E) also continues moving to the northwest with an intensity of 80 kts (high Cat 1 SS), which is on par with what JTWC forecasted yesterday (Dvorak intensity estimate caveats applying) and 15 kts lower than the GFS forecast. We still expect modest strengthening due to a generally favorable environment despite strong shear and a broadening wind field and increased wave heights. However, since Cimaron is moving northwest as it intensifies, the ship should see only modest wave height increases through 12Z August 22 and then decreasing wave heights thereafter. Please see the Wave Heights section for additional details. No other tropical systems are expected to develop at this time.

Convection: A broad area of scattered deep convection continues southwest of Cimaron in a box from 10-20N and 130-140N, supported by a broad area of upper-level divergence. Over the past 24 hours, the region of convection has roughly translated to the northwest, along with Cimaron. Given the continued northwest movement of Cimaron expected over the next 48 hours, we expect the large envelope of convection to follow a similar trajectory. In terms of the ship locations, COAMPS suggests that a broad region of precipitation should persist through 00Z 22 August, but if Cimaron tracks slower than forecasted, it's possible the broad area of convection could persist near the location of the Mirai for a longer period. Scattered, isolated convection will likely still occur through 36-48 hours regardless, but it probably wouldn't be as widespread if the current guidance holds.

MJO/BSISO: MJO/BSISO indices ensembles are widespread, but both BOM and EC show BSISO in phase 3-4 and MJO in phase 4-5 over the next week. Amplitude is relatively low but BOM forecasts have slightly bigger amplitude compared to EC's.

SSTs: Temperatures remain between 29-30C over most of the transit region and near the operation area, with a few pockets of 28-29C.

Currents and Wave Heights: The most recent boat location update (15.5N, 129.3E) has moved south enough to avoid large waves from the strengthening monsoonal flow and Typhoon Cimaron. Over the next 48 hours as the boat moves southeast wave heights should start to diminish to 3-4 ft. The extended outlook for wave heights for the Mirai and forecasted location of the Thompson should remain around the 3-4 ft range.

FORECASTERS: DEHART and TRABING

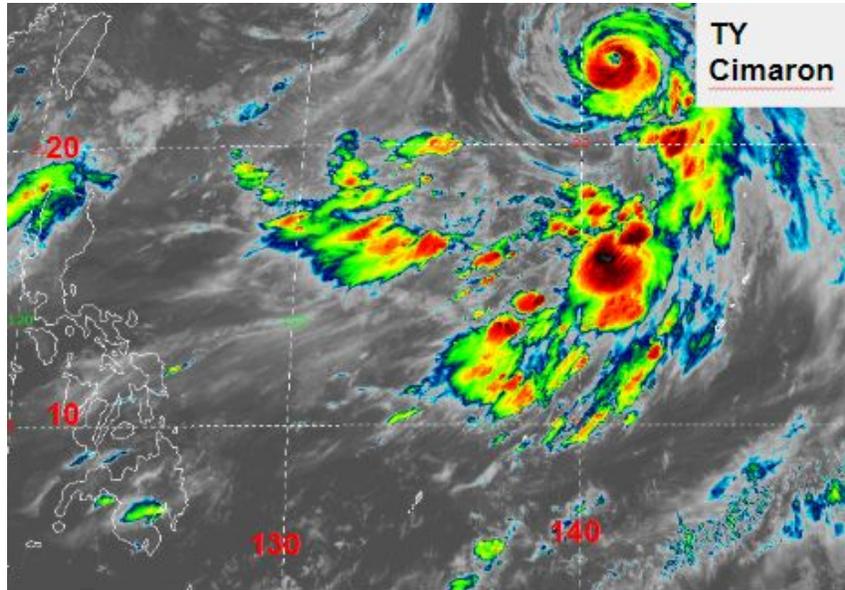


Fig. 1. 10.4 micron IR imagery at 1810 UTC August 21.[1]

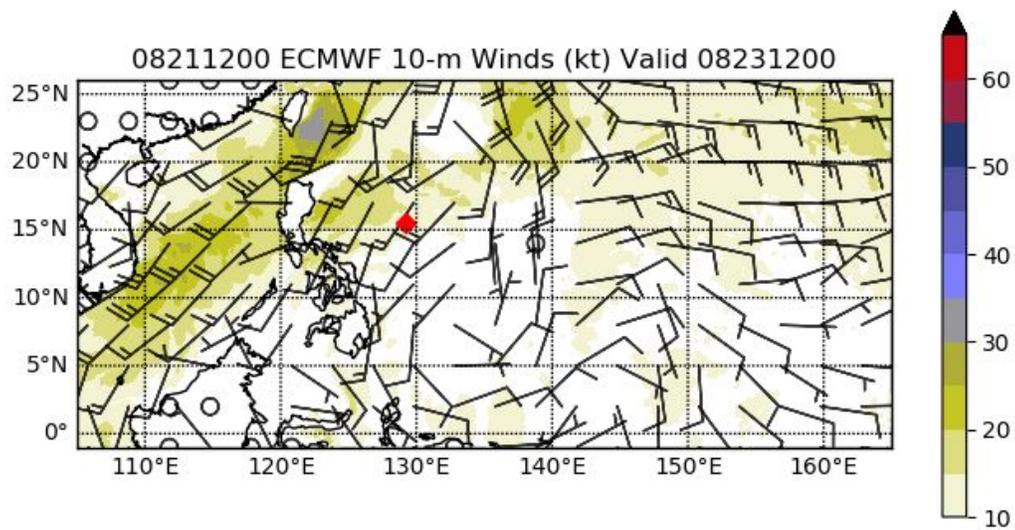


Fig. 2. 48h ECMWF 10-m wind forecast valid 12Z August 23. [2]

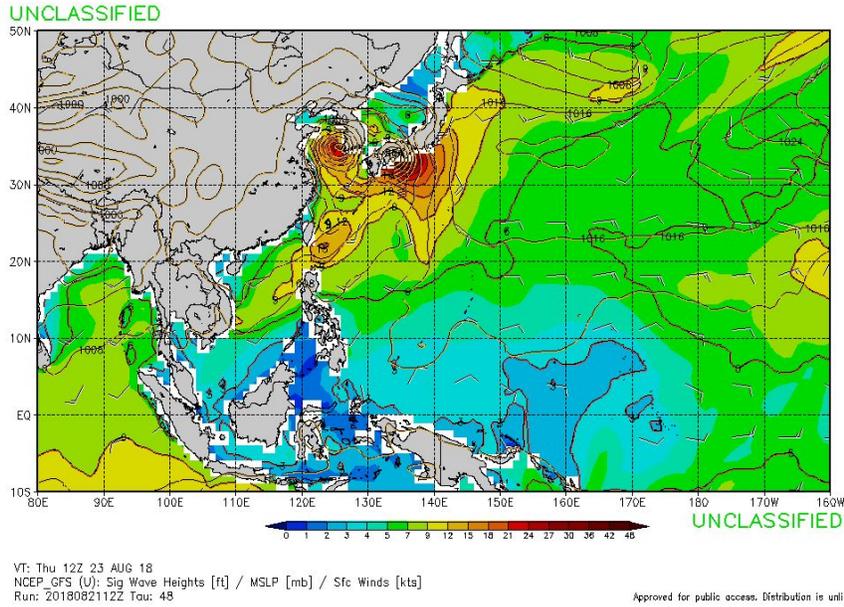


Fig 3. Valid 12Z August 23 significant wave height based on GFS.[3]

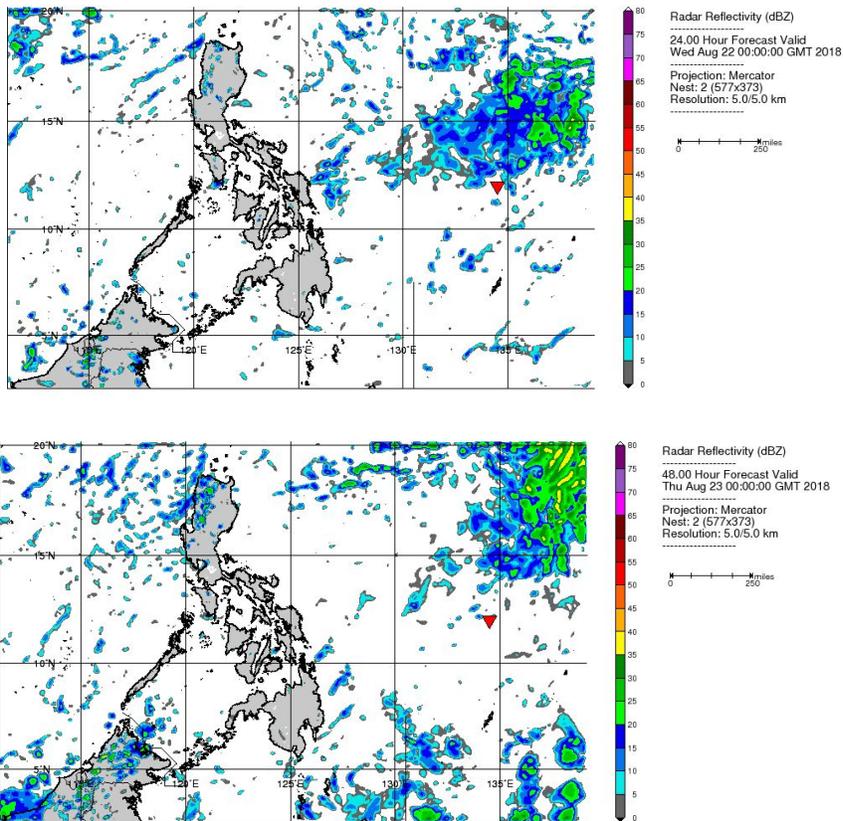


Fig. 4. 24-h (top) and 48-h (bottom) COAMPS simulated reflectivity forecast valid for 00Z August 22 and 00Z August 23 [4]