

Summary

Typhoon Soulik and TS 23W are both tracking towards the northwest towards Japan. Modest intensification is expected for both storms and both will contribute to larger than normal significant wave heights (9-12 ft) along the transit region particularly beyond 48 hours. The further east the boat moves the higher the chances for taller waves and the wave period increases. Southwesterly monsoonal flow has weakened and moved towards the northwest resulting in a sparser area of convection which is now located just east of Luzon. Winds east of the Philippines are expected to be around 20-25 kt from the west with pockets of higher winds associated with convection likely over the next few days. An active area of convection has formed west of TS 23W which is forecast to persist and move towards the northwest supported by low-level convergent flow over the next 96 hours.

Day One (24 hr) Outlook: Typhoon Soulik will continue to push northwestward and JTWC is forecasting modest intensification of ~5 kts. TS 23W is expected to travel west-northwest and intensify into a typhoon with wind speeds increasing to 55 kt despite some moderate shear.

Day Two (48 hr) Outlook: Soulik's intensity should plateau as it continues moving towards southwest Japan. TS 23W should reach the Northern Mariana Islands in 48 hours with wind speeds forecasted to be around 65 kt.

Extended Outlook: Beyond 48 hours Typhoon Soulik is expected to recurve to the northeast with possible impacts on South Korea and Japan. TS 23W is expected to continue its slow intensification as it travels to the northwest towards Japan. The subtropical ridge to the northeast of TS 23W is forecasted to persist through another potential landfall on Japan before weakening. Similar to last week, the monsoon trough moving to the northwest towards Taiwan is forecasted to spin up a TC in the GFS but there is low confidence in the ensembles. No impacts from tropical cyclones are expected to form with implications on the transit or area of operations over the next 120 hours.

Discussion

TCs: Typhoon Soulik (24.8N, 139.9E) continues to flourish in a pocket of low shear. JTWC estimates the intensity at 100 kts (Category 3 on Saffir-Simpson) and modest intensification is expected as Soulik continues moving northwest towards SW Japan and the Korean peninsula. Meanwhile, TS 23W (14.4N, 153.2E) has undergone genesis as organized convection has become more collocated with the low-level circulation. Strong shear (partially aided by Soulik's outflow) should keep intensification rates modest, but favorable sea surface temperatures and upper-level divergence should enable weak intensification. Although neither poses a direct

threat on the ship transit through strong winds, the broad wind field is expected to influence currents and wave heights during the transit (see those sections for relevant discussions).

Convection: Due to weakening winds and a retreat to the northwest, convective coverage and intensity over the research domain is weak. However, this shift places the ship in a region of isolated convection between southern Taiwan and the east coast of the northern Philippines. This pattern should hold for the next ~24-48 hours or so, before shifting back east of the Philippines as the southwesterly flow strengthens and pushes east as the aforementioned tropical systems push northwest. Models suggest enhanced convection will center around 20N between 123-131E starting 21 August with some southward extent possible. FNMOC does suggest precipitation along the transit route will weaken after 24 hours. East of 140E, deep convection is currently supported by strong upper-level divergence west of TS 23W. Global models indicate this convection should track northwest alongside TS 23W pushing as far west as 135E through 120 hours.

MJO/BSISO: The signals remain weak in amplitude with the BSISO and MJO signals again being dominated by low frequency modes including the monsoonal flow and TC. The ECM and BOM do suggest a continued weakening trend of the BSISO signal.

SSTs: SSTs remain warm between 28-30°C, with some isolated pockets down to 26-27°.

Currents and Wave Heights: Over the next 48 hours we expect significant wave heights of 5-7 feet to continue through the expected transit region of the boat. The farther east the boat goes the higher the potential for larger waves due to the swells of Typhoon Soulik and TS23. The wave period is expected to increase from the east to northeast over the next 48 hours from 9-10s to 11-13s. Beyond 48 hours the potential remains for waves between 9-12 feet.

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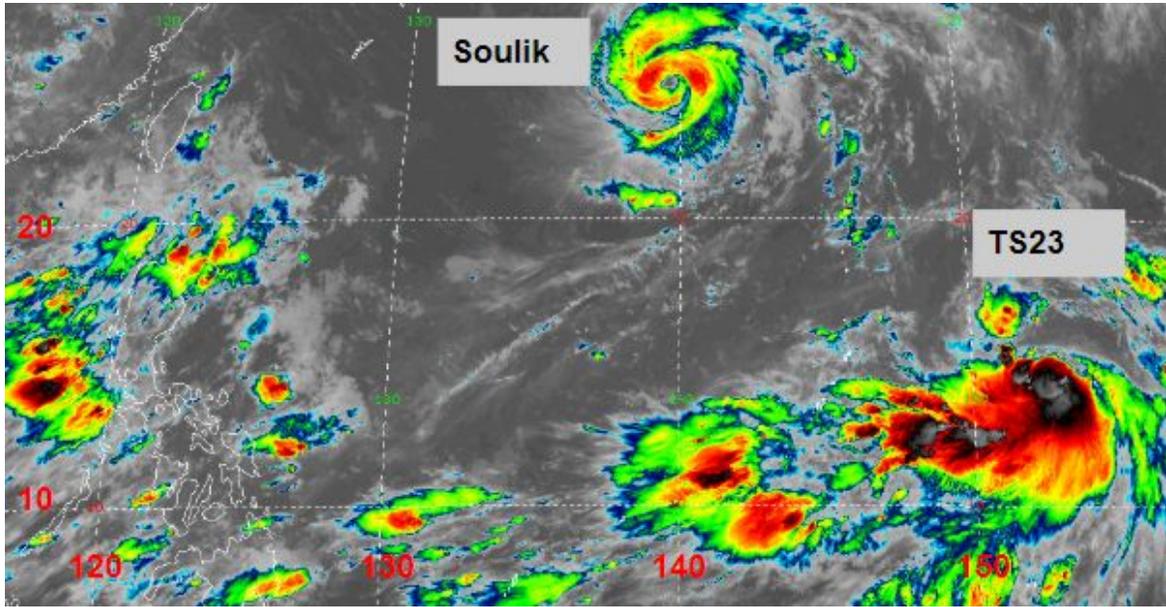


Fig. 1. 1840 UTC 18 August 10.4 micron IR image from Himawari-8. [1]

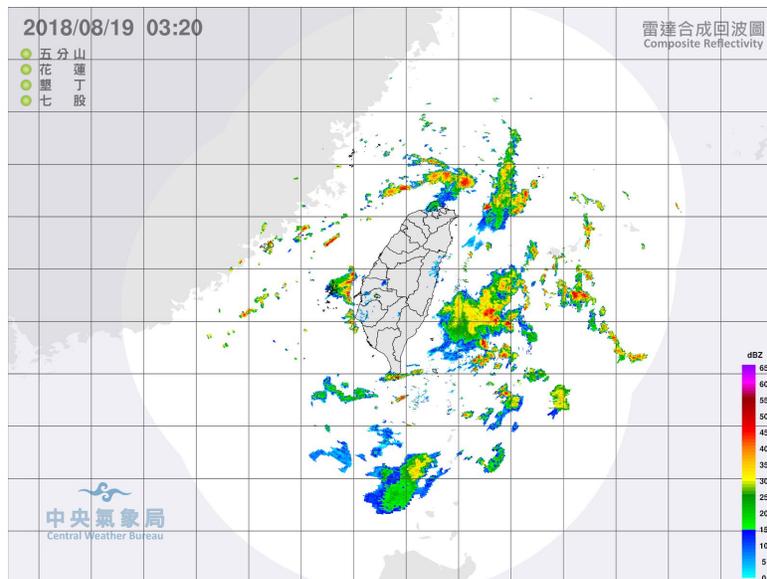


Fig. 2. Composite radar imagery from Taiwan [2]

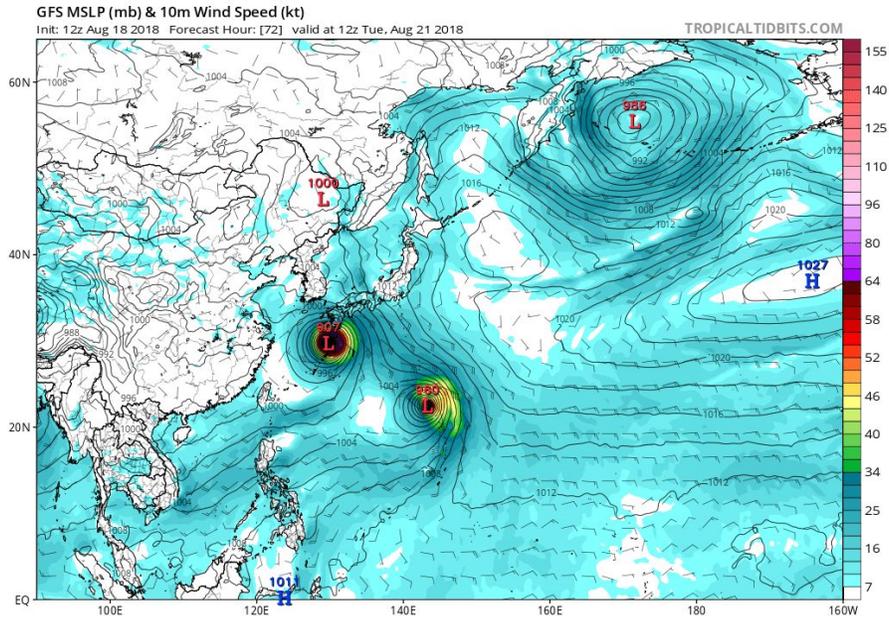


Fig 3. GFS 10-m winds valid 12Z August 21 showing persistent westerly and southwesterly winds below 20 kt east of the Philippines. [3]

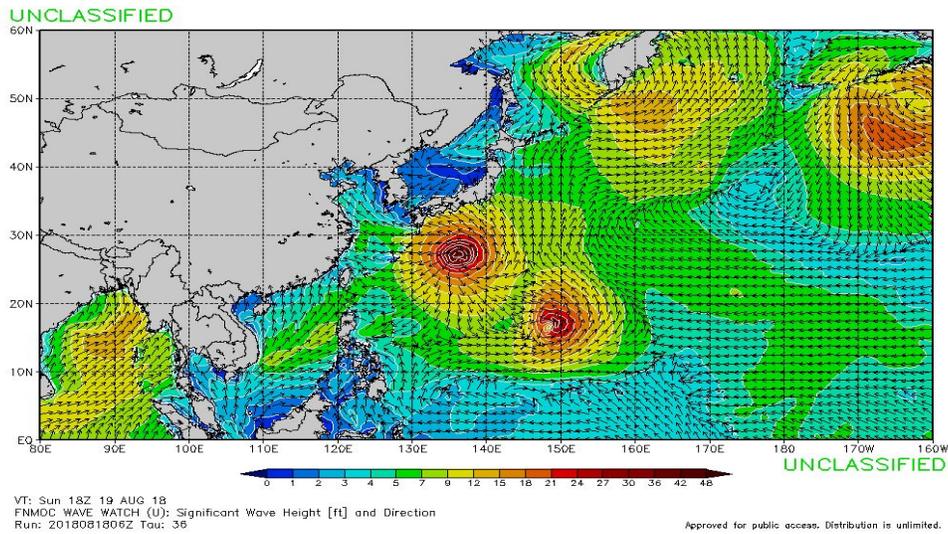


Fig. 4. Significant wave heights and direction valid 18Z 19 August from NAVGEM. [4]

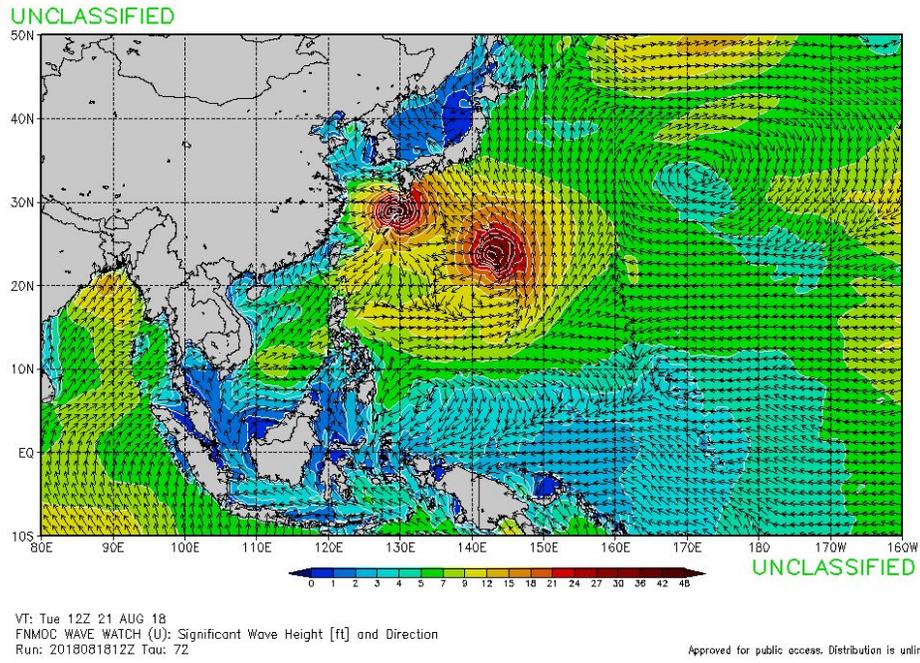


Fig. 5. Significant wave heights and direction valid 12Z 21 August from NAVGEM. [5]