

2000 UTC 09 September 2019 Forecast Discussion
Current Ship Location: Near 17.2N, 126.2E

Summary: 95W is currently centered around 13.0N and 139.7E and expected to track generally WNW towards the area of operation. The models continue to indicate a large circulation which may be considered more of a monsoon gyre than a more compact TC. Regardless of a potential genesis of this system, the impacts should remain the same for the area of operation as intensification would be slow to occur. Impacts may begin to occur in the area of operation past +24hrs with more significant impacts past +48hrs. BSISO is currently in phase 6 with potential for a weaker amplitude phase 5 next week.

Day One (24 hr) Outlook: Tropical cyclogenesis of 95W not likely to occur. Decreased chances of precipitation to continue. Significant wave heights range from 4-6ft.

Day Two (48 hr) Outlook: Higher chances for tropical cyclogenesis of 95W. However, impacts to the ship is not expected to change due to the large monsoon gyre circulation from which the system is expected to form. Chances of precipitation associated with rain showers and thunderstorms is expected to increase towards the end of Day Two. As 95W continues to move slowly westward, wave heights are expected to increase slightly, though models suggest they will remain below 9-10 ft through Day 2.

Extended Outlook: Models are in better agreement on the track of 95W, with GFS trending more towards the ECMWF solution of having the storm track over the northern portion of the area of operation. However, both models have backed off on the intensification of 95W. Instead, a large area of circulation of the monsoon gyre with which 95W is associated is expected to bring strong winds and large swells into the area of operation.

Discussion

TCs: 95W, currently centered around 13.0N and 139.7E, continues to have a medium chance with development likely beyond 24 hours by JTWC. The GFS and ECMWF have started to agree more with each other. The models continue to indicate a large circulation which may be considered more of a monsoon gyre than a more compact TC. Any intensification that could occur would be slow to do so, however, the circulation remains capable of bringing adverse effects in the form of stronger winds and large swells to the research domain regardless of the system's potential genesis. The system is expected to track generally WNW from its current location towards the area of operation. Although the storm may be weak when it arrives in the vicinity of the ship's current location, the large fetch of wind associated with it should be capable of producing threatening wave activity. Impacts may begin to occur past +24hrs with more significant impacts past +48hrs.

Convection: Aside from slight differences in timing, yesterday's forecast still holds. The ship is currently located in an area of decreased precipitation. This decrease in precipitation in the area of operation is expected to persist over the next 24 hours, with increasing chances of precipitation associated with deep convection beyond 24 hours associated with 95W. However, given the threat of strong winds and large swells associated with 95W, the ship is not expected to be in the area of operation for this next round of deep convection.

MJO/BSISO: No change to the BSISO forecast. The current BSISO index is in phase 6. Both GFS and ECMWF are in agreement of a retrograde to phase 5 next week, before propagating back to a phase 6 and onward. However, GFS is indicating a stronger amplitude than the ECMWF. The ECMWF MJO index has a weak amplitude phase 5 but remains near the border of phase 6. The amplitude is expected to weaken with a phase no longer able to be indicated. The long range shows a reemergence into a weak amplitude phase 8 at the end of the ECMWF MJO forecast period.

SSTs: SSTs are still expected to remain warm around 29°C.

Currents and Wave Heights: As 95W slowly tracks west, wave heights in the operations area will begin to increase. Heights in the area of operations should remain relatively low below 6 ft through 12Z on 10 Sep, but will increase to 6-7 feet through 12Z on Sep 11. Whether the heights increase beyond that will depend on the track of 95W. There is still a fair amount of uncertainty in the wave height. Currents throughout 48 hours should be variable between 1-2 kts.

CAMP2EX: Coordination with the Learjet with wheels up at 00Z Sept. 10th, followed by an hour transit to Sally Ride, to sample shallow convection for an hour. Ship will be pointed to the west by default, to accommodate for the Learjet's fuel restriction and the SEAPOL's field of view. However, that may change depending on where convection forms. If the Sally Ride will still be in the area of operation on Wednesday, an update will be provided tomorrow.

FORECASTER: DEHART, DESROSIERS, RAZIN

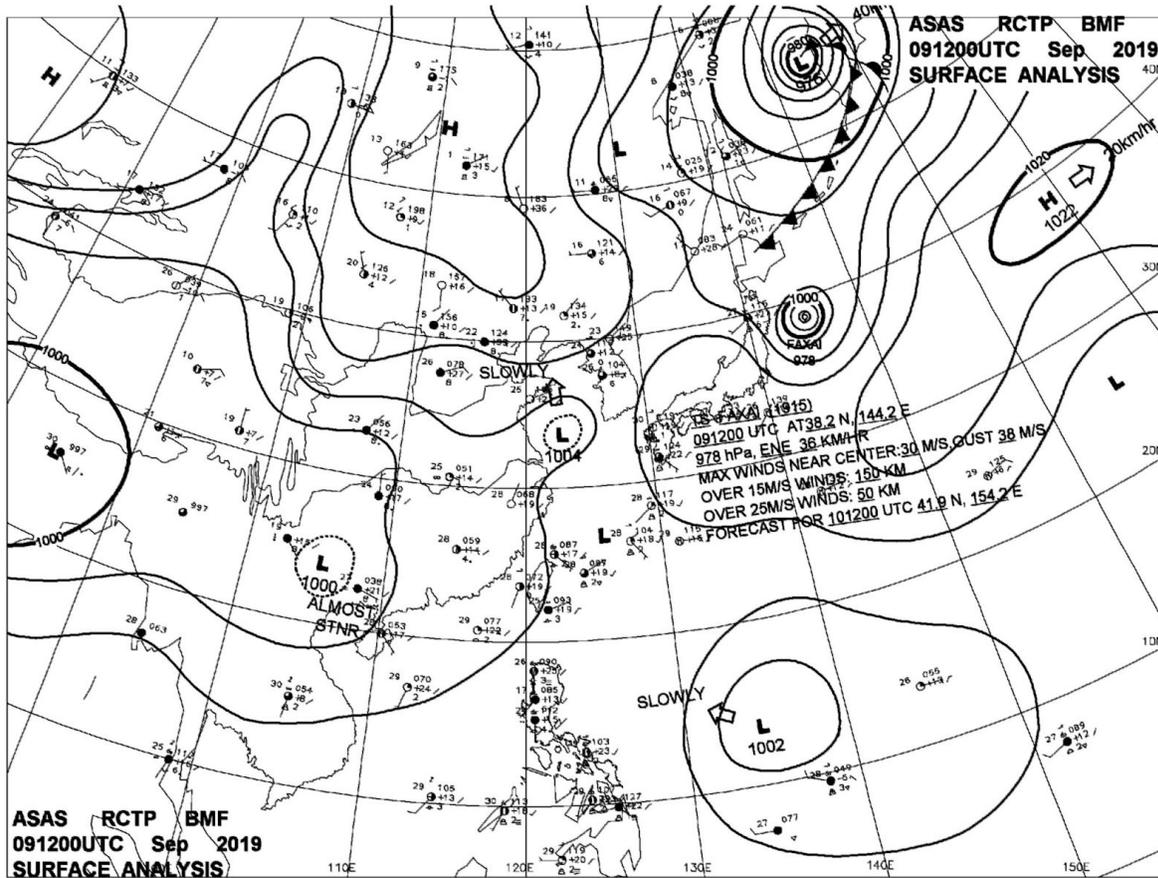


Fig. 1. CWB surface analysis at 12Z on Sept. 9th.

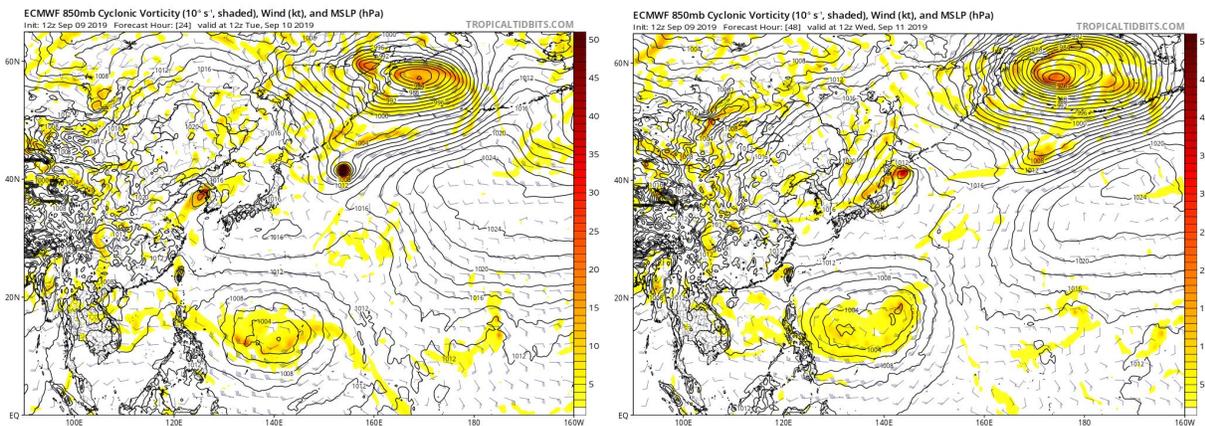


Fig. 2. ECMWF 850 mb vorticity and wind field and mean sea-level pressure initialized at 12Z on Sept. 9th, valid for 12Z Sept. 10th (left) and 12Z Sept. 11th (right).

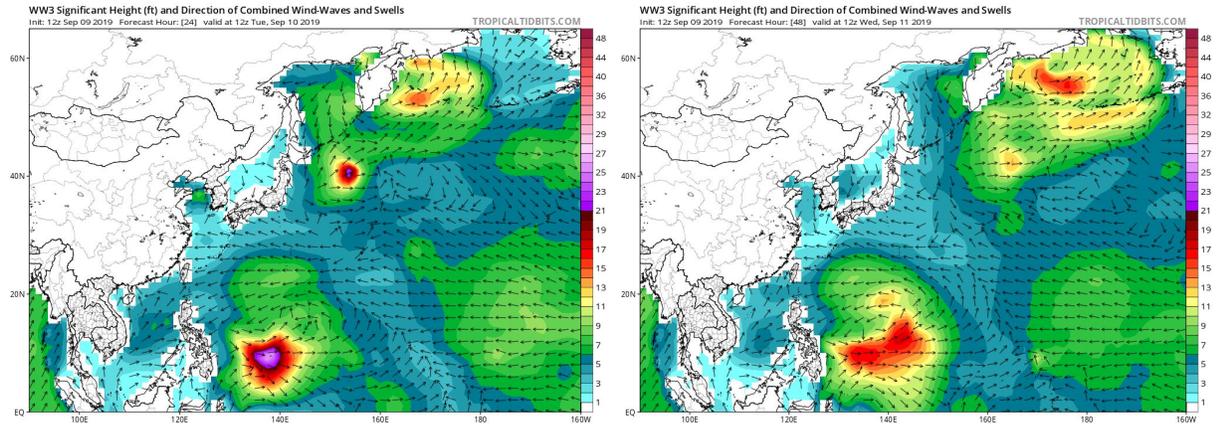


Fig. 3. WW3 output initialized on Sept. 9th, valid for 12Z Sept. 10th (left) and 12Z Sept. 11th (right).