

2000 UTC 03 September 2019 Forecast Discussion

Current Ship Location: Near 25.3N, 128.5E (Ferry to Ops Area)

Summary

Tropical Storm Lingling (15W) has intensified to a typhoon with 65 kt sustained winds near its center. The JTWC 34-kt wind danger zone has expanded due to Lingling's intensification but remains west of 130E up to 27N. Wave heights are expected to increase and could reach as high as 11-ft near 130E in 24-hrs according to the WW3 product. Invest 93W which is located around 10N 139E is not forecasted to intensify in any of the global models but will be monitored closely in the next several days. There is no change in MJO/BSISO forecasts at this time. There might be an opportunity to sample the cold wake of Typhoon Lingling as it tracks north at a later time.

Day One (24 hr) Outlook: Typhoon Lingling (15W) has moved north to 21.4N 124.2E and intensified rapidly to 65 kt winds at 12 UTC 3 Sep. JTWC forecast is to continue to intensify and track North with a slight east component over the next 24 hours (Fig. 1). Estimated position and intensity in 24 hours are 23.5N 125.E at 85 kts. Winds at the ship will increase slightly as Lingling approaches, but the radius of 34 kt winds is not forecasted to reach 130E and impact the current ship route. Some isolated showers are expected.

Day Two (48 hr) Outlook: Typhoon Lingling will continue to intensify under favorable conditions to a strong typhoon with 100 kt winds near the center. The track guidance still shows roughly 35 nm of spread in the next 48 hours but all models indicate a more northward track due to the influence of the subtropical ridge. None of the model guidance brings the TC further east than ~126E through the next 48 hours. Even with the track uncertainty, the ship destination of 130E is forecast to be outside the JTWC ship avoidance zone. WW3 initialized from GFS brings the SWH ranging between 9-14 ft near 130E with larger waves to the west and smaller waves further east. The ship will likely have turned south by this time, and wave heights should decrease to ~7ft.

Extended Outlook: Typhoon Lingling is expected to accelerate to the north towards Korea after it passes East of Taiwan. The TC is expected to continue to intensify and grow in size, but winds and waves should decrease behind the storm along the ship route. A broad area of low pressure that is currently Invest 93W is located around 10N 139E and is not expected at this time to intensify but will be followed closely in the coming days.

Discussion

TCs: JTWC estimates TY Lingling at an intensity of 65 kt with gusts to 80 kt at 15Z Sep 03. The intensity is forecast to steadily increase to sustained winds of 85 kts on 12Z Sep 04 and 100 kt on 12Z Sep 05, which is currently its forecast maximum lifetime intensity. JTWC's forecast track is generally going northward, with a slight westward component in the 24-hr time frame. After 24 hr, TY Lingling is expected to head towards the NNE. TY Lingling is not expected to be a direct

threat to the ship since the ship is now to the east of TY Lingling. However, the significant wave heights from TY Lingling may still be too large for the Sally Ride at 130 E, especially if the more eastward forecast of the GFS is more correct. TY Lingling will continue to be monitored, but will soon be north of the area of operation.

Invest 93W is the next system that may pose a threat to operations, and is located at approximately (10N, 139E). However, neither the ECMWF nor the GFS favor genesis in their 12Z Sep 03 runs, because Invest 93W is currently experiencing large vertical wind shear. Invest 93W will be closely monitored in case it undergoes genesis or follows a similar track to TY Lingling.

TS 14W is still not expected to impact operations, because it is expected to recurve northward well before approaching the area of operation.

Convection: Precipitation from outer rainbands of Lingling is expected over the ship, but the core of convection will still remain at a significant distance.

MJO/BSISO: Still no significant updates for the BSISO forecasts. Models are suggesting that BSISO is in phase 4 right now but disagree with future propagation. CWB expects a retrograde towards phase 3 while ECM has a continual propagation towards phase 5 and 6. The GFS is forecasting a decay of the BSISO amplitude. Regardless, BSISO is not expected to bring enhanced convection in the northwest Pacific over the next couple weeks based on the latest models. The MJO forecast from ECMWF suggests the magnitude grow in phase 5 for the next few days and propagate towards phase 6. Nevertheless, the magnitude of MJO index is not very significant.

SSTs: SSTs are still expected to be warm around 29°C, but the ship may encounter the cold wake of Lingling when it moves westward towards the Ops Area in the next few days. This cold wake may be an oceanographic science opportunity.

Currents and Wave Heights: Wave heights are expected to increase as Lingling approaches. ECMWF suggests the SWH could be ~8 ft near 130E for the next 24-hr, whereas WW3 suggests the maximum SWH could approach ~11 ft, depending on the forecast trajectory of Lingling from models. For the next 24-48 hr, WW3 suggests the SWH could increase up to 16 ft near 130E and decrease the amplitude southward.

CAMP-EX: no coordination planned in the next 48 hours. Coordination is possible on or after Monday, Sep 09.

FORECASTER: CASAS, CHA, TRABING

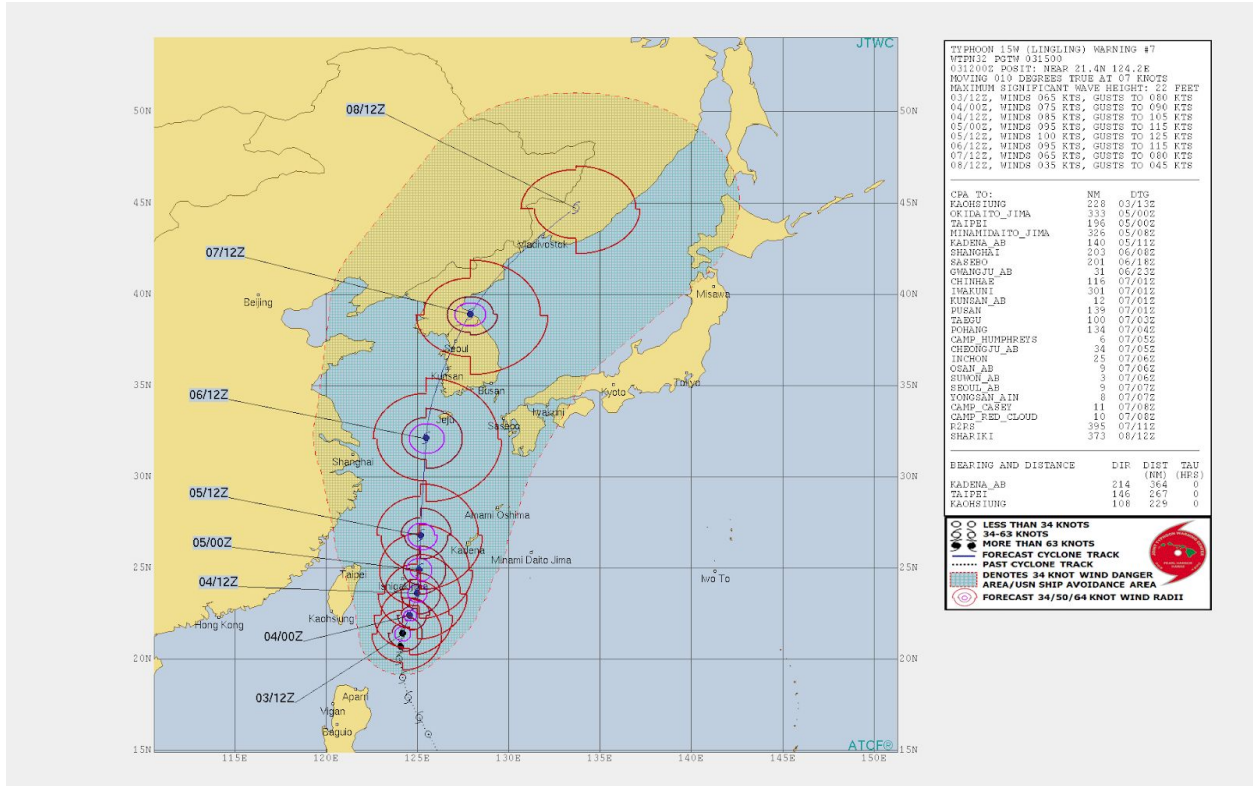
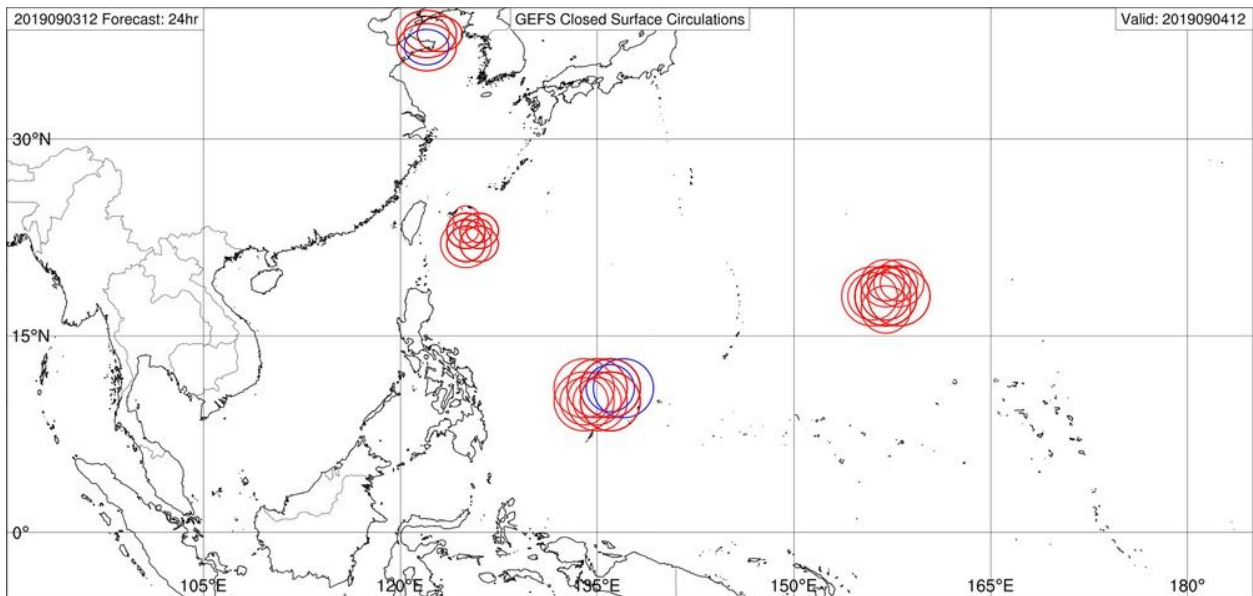


Fig. 1. [1] JTWC tropical cyclone forecast for 15W issued at 1500Z Sep. 03.



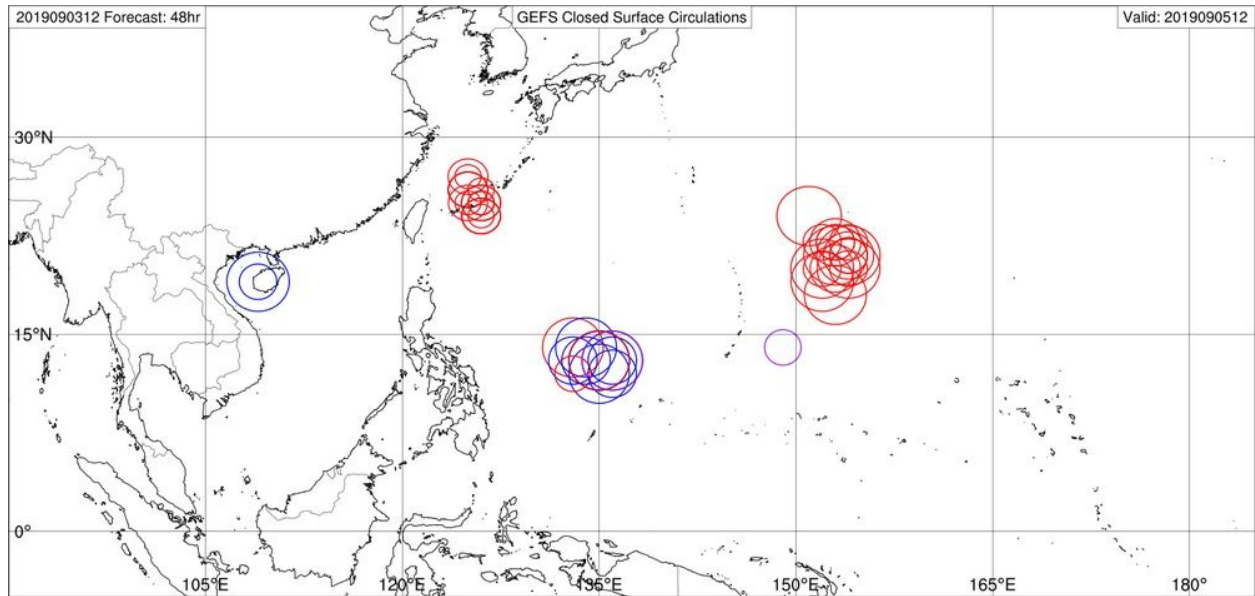


Fig. 2. [2] Alan Brammer's GEFS Closed Surface Circulation initialized at 12Z Sep. 03, valid at 12Z Sep 04 (Top) and 12Z Sep 05 (Bottom).

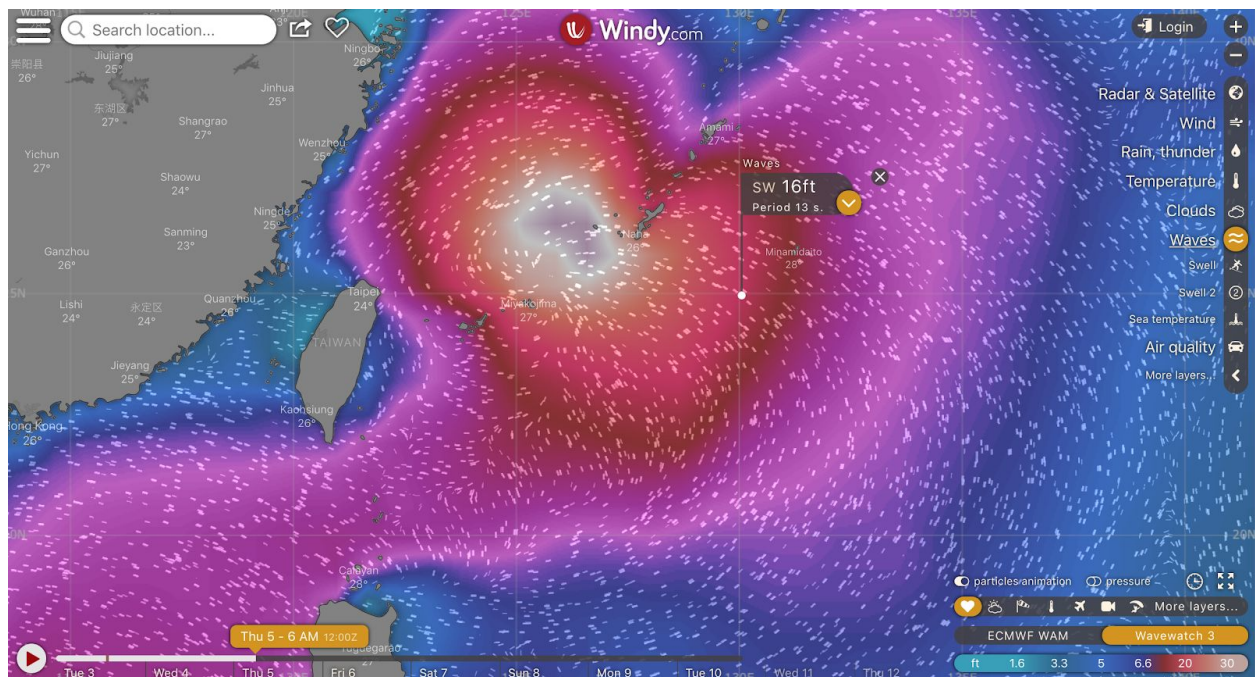


Fig. 3. [3] WW3 significant wave heights initialized at 12Z Sep. 03, valid at 12Z Sep 05.

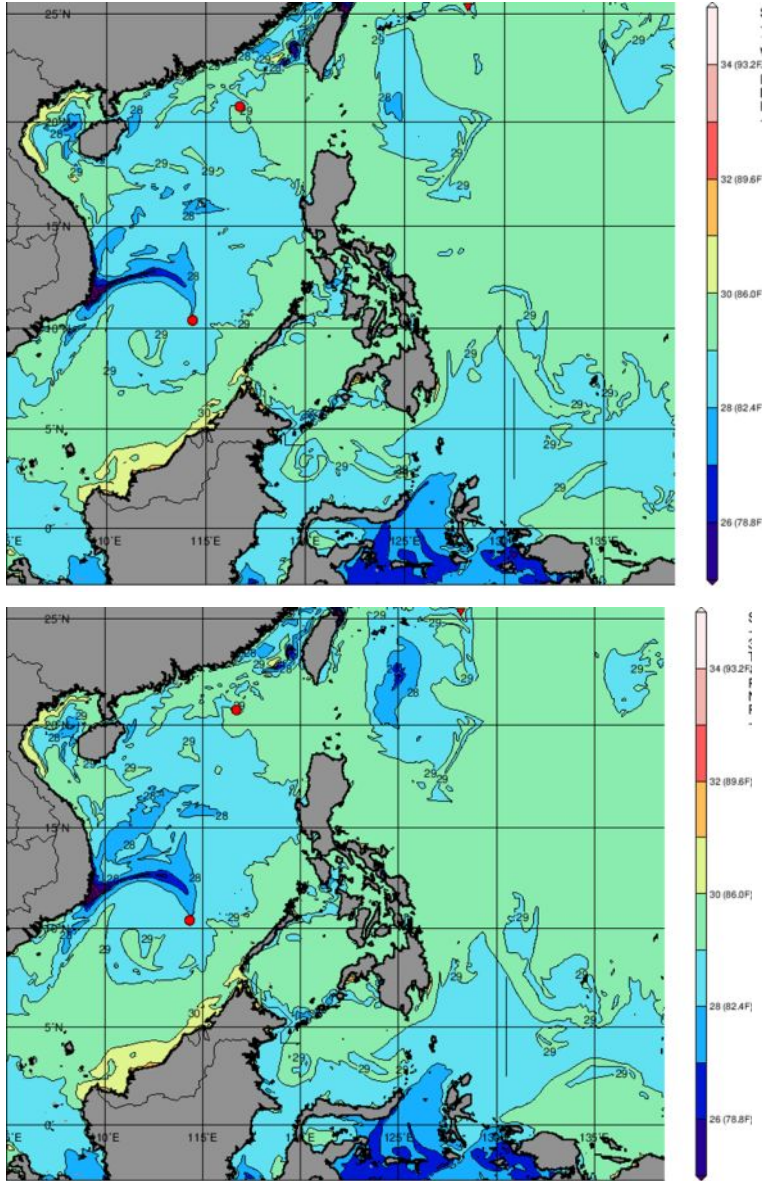


Fig 4. COAMPS SSTs valid at 00Z on Sep 4 (TOP) and 00Z on Sep 5 (BOTTOM) initiated from the 12Z Sept 3 run highlighting the cold wake expected from Typhoon Lingling.