

TROPICAL STORM ALEX (24)

Tropical Storm Alex, the 24th tropical cyclone of 1980, was induced by a Tropical Upper Tropospheric Trough (TUTT) in a manner similar to that described by Sadler (1976). A small disturbed area of convection drifting westward from near 170E was observed on satellite imagery on 7 October. By the 8th, this area had come under the influence of a relatively strong upper-level divergent area generated by a dissipating TUTT cell. The convection increased noticeably with outflow to the north, but little outflow was evident in the southern and western quadrants.

The restricted outflow pattern was characteristic throughout Alex's existence and is attributed to the proximity of Super Typhoon Wynne, which was located west of Alex. Alex's coexistence with Wynne was significant in light of Wynne's overall dominance of the western Pacific region. Wynne absorbed much of the energy that otherwise would have been available to Alex (Fig. 3-24-1).

Satellite imagery showed that the convective area continued to persist until late on the 9th when JTWC issued a Tropical Cyclone Formation Alert (TCFA). Aircraft reconnaissance on the 10th found a weak surface circulation with the associated convection located north and east of the surface center.

Nearly the entire western half of the circulation was exposed at that time.

For the following 48 hours, the disturbance intensified gradually and tracked north-westward at 12 kt (22 km/hr). At 120600Z, the first warning was issued for TD 24. Within 24 hours, TD 24 intensified to Tropical Storm Alex with maximum surface winds of 35 kt (18 m/sec). At that time, Alex's low-level circulation center was not exposed to the west, but aircraft reconnaissance encountered only weak convective activity around the circulation's center. During the next 6 hours, Alex recurved to the northeast and weakened to 30 kt (15 m/sec) intensity.

After Alex had recurved, Alex and Wynne were within 800 nm (1482 km) of each other such that a Fujiwhara effect was possible. This was not observed, however, because Alex and Wynne were both beginning to interact with the jet stream which became the dominant steering mechanism over both cyclones. Due to this jet stream, Alex rapidly accelerated northeastward. At 140000Z, JTWC issued the final warning on Alex as he was beginning to transition into an extratropical system. Satellite imagery received after the final warning showed that the transition was very rapid.

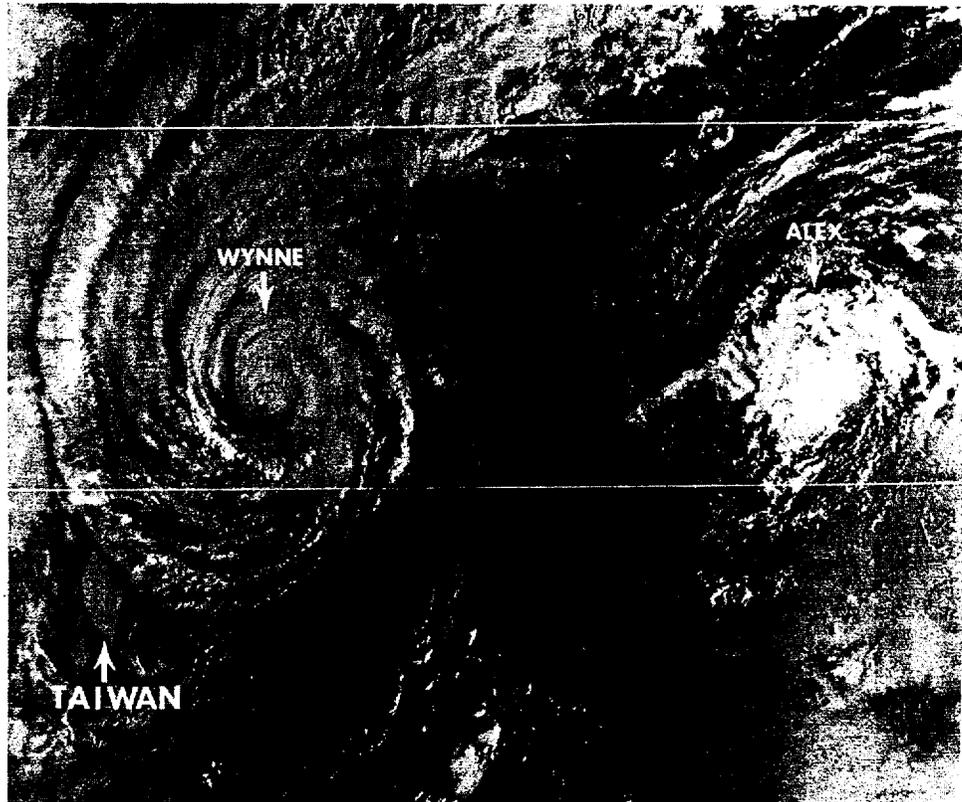


FIGURE 3-24-1. Visual imagery of Tropical Storm Alex at 30 kt (15 m/sec) intensity, 12 October 1980, 2314Z. (NOAA6 imagery)