

TROPICAL DEPRESSION (22)

Tropical Depression 22 began its brief existence as a significant tropical cyclone in the wake of Typhoon Ken (20). An exposed low-level circulation, with convection displaced well west-southwest of the circulation center, was a persistent feature of this system throughout its lifetime as it was apparently dominated by Typhoon Ken's upper-level outflow.

The first aircraft investigative mission flown on 20 September closed a surface circulation with 15 kt (8 m/sec) winds and a central sea level pressure of 1002 mb. The mission Aerial Reconnaissance Weather Officer reported no mid- or upper-level cloud features associated with the low-level center. A second investigative flight on 21 September reported winds had increased to 20 kt (10 m/sec) near the circulation center, while winds of 30 kt (15 m/sec) were evident 70 nm (130 km) south of the center. Convection was displaced 90 nm (167 km) west-southwest of the low-level center but was increasing in intensity. This information prompted the issuance of a Tropical Cyclone Formation Alert (TCFA) at 210123Z.

Subsequent synoptic data carried a growing number of reports of 30 kt (15 m/sec) winds in the alert area, plus visual satellite imagery at 210300Z depicted a strengthening of the low-level circulation. Based on these factors, the first warning was issued

on Tropical Depression 22 at 210600Z calling for movement toward the northwest. At this time Typhoon Ken was 900 nm (1667 km) to the west-northwest but minimal interaction was expected. However, Ken's outflow pattern was expected to inhibit rapid development of Tropical Depression 22. Therefore intensification to only 55 kt (28 m/sec) was forecast by the end of 72 hours. (See Figure 3-22-1).

During the ensuing 24-hour period aircraft and satellite data showed no indication of vertical development. Synoptic data at 220000Z indicated that surface winds had weakened to 20 kt (10 m/sec) and surface pressures had not changed from the previous 1002 mb level. Because Tropical Depression 22 was continuing to move more rapidly toward the north-northeast, little opportunity for further development was expected. Additionally, satellite imagery continued to show a weakening of the low-level circulation, thus warnings were suspended at 220700Z.

After dissipating as a significant tropical cyclone, a weak convective disturbance persisted and began accelerating northeastward. This disturbance did maintain enough integrity to induce the development of a small extratropical system upon merging with a frontal zone southeast of Japan on 24 September.

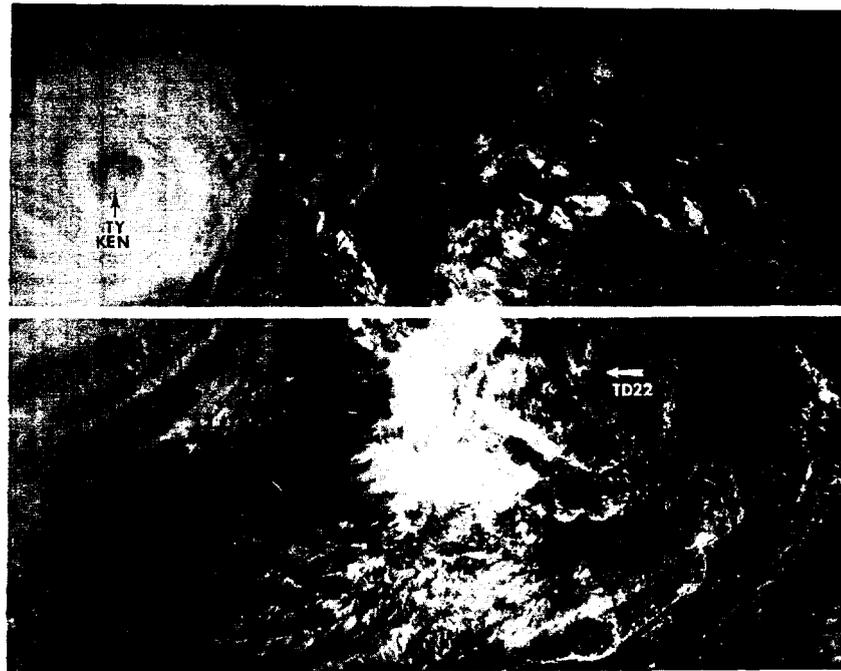


Figure 3-22-1. Tropical Depression 22 at 30 kt (15 m/sec) intensity as an exposed low-level circulation. Convection is displaced to the west-southwest. Typhoon Ken can be seen 900 nm (1667 km) to the northwest. 210529Z September (NOAA 7 visual imagery).