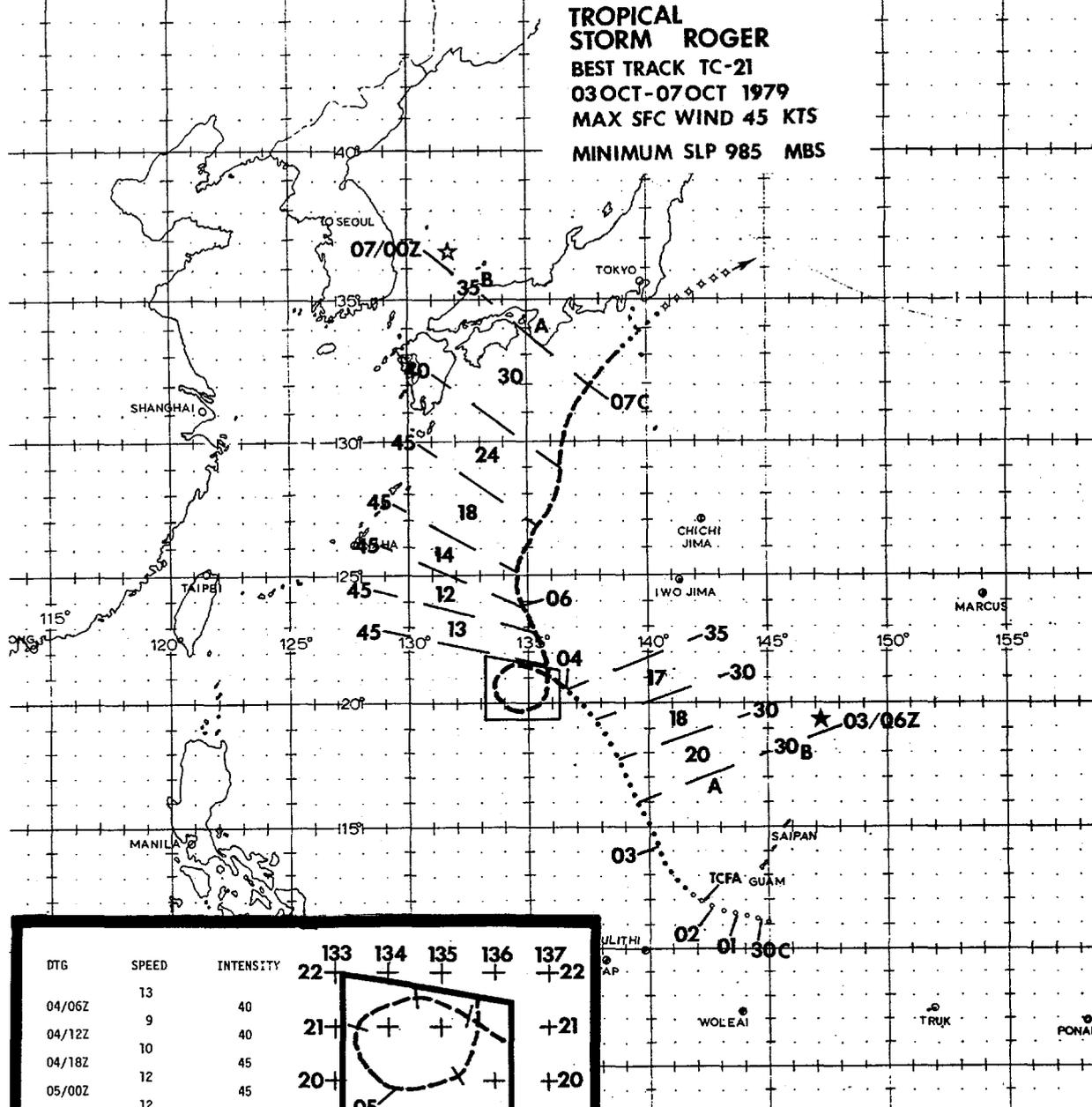
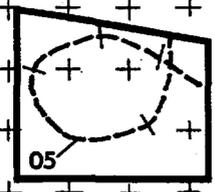


115° 120° 125° 130° 135° 140° 145° 150° 155°

TROPICAL STORM ROGER
BEST TRACK TC-21
03 OCT-07 OCT 1979
MAX SFC WIND 45 KTS
MINIMUM SLP 985 MBS

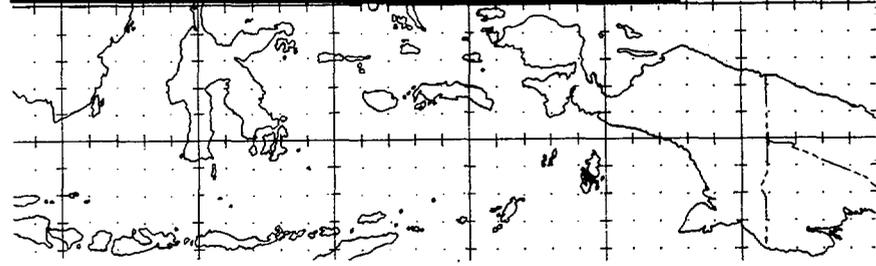


DTG	SPEED	INTENSITY
04/06Z	13	40
04/12Z	9	40
04/18Z	10	45
05/00Z	12	45
05/06Z	11	45



LEGEND

- 06 HOUR BEST TRACK POSIT
- A SPEED OF MOVEMENT
- B INTENSITY
- C POSITION AT XX/0000Z
- ... TROPICAL DISTURBANCE
- ... TROPICAL DEPRESSION
- TROPICAL STORM
- TYPHOON
- ◆ SUPER TYPHOON START
- ◇ SUPER TYPHOON END
- ◆◆ EXTRATROPICAL
- ◆◆◆ DISSIPATING STAGE
- ★ FIRST WARNING ISSUED
- ★ LAST WARNING ISSUED



TROPICAL STORM ROGER (21)

As Typhoon Owen began recurving toward Japan, activity increased in the monsoon trough that extended over the Caroline Islands. The increased activity was noted in the Significant Tropical Weather Advisory (ABEH PGTW) on 28 September. For the next 5 days, 2 weak surface circulations and associated cloud clusters within the broad trough, one southwest of Guam and the other southeast of Guam, were closely monitored. As Owen began weakening over Japan, the southwest monsoon flow into the trough oriented NW-SE increased on 30 September, and a line of strong convective activity developed from the southern Philippines to a position south of Guam.

Post-analysis indicated the existence of a weak circulation southwest of Guam which was to become Tropical Storm Roger. During the entire time preceding the issuance of the first warning on Roger, JTWC's attention was focused on another area of major convective activity 5° west of the circulation center which was associated with strong low-level convergence and cyclonic shear. Gradient-level winds at Yap of 56 kt (29 m/sec), Palau 52 kt (27 m/sec) and Guam 28 kt (14 m/sec) are indicative of the strong low-level winds around the periphery of the trough. Thus, the initial and the reissued formation alerts (020600Z Oct and 022200Z Oct) covered the area of heavy convective activity rather than the actual surface circulation center.

Numbered warnings began at 0600Z on 3 October when a reconnaissance aircraft at

030220Z reported a surface pressure of 998 mb and estimated surface winds of 40 kt (21 m/sec) in a band of strong southwesterly flow 60 nm (111 km) south of the surface center. The aircraft also observed a calm wind center at the surface of 30 nm (56 km) in diameter with clear skies over the area.

Synoptic and satellite data at 031200Z indicated that TD 21 was beginning to separate from the broad trough as convective activity was becoming more directly associated with the circulation center (Fig. 3-21-1). TD 21 was upgraded to a tropical storm at 0600Z on 4 October based on 35 kt (18 m/sec) surface winds and a 982 mb sea-level pressure reported by aircraft reconnaissance at 040308Z. Post-analysis indicates tropical storm intensity was attained 6 hours earlier.

A break in the mid-tropospheric subtropical ridge north of Roger existed as Owen recurved over Japan. The strong mid-level southeasterly steering current along the southwestern periphery of the ridge was responsible for Roger's 15 to 20 kt (8 to 10 m/sec) northwestward movement. The ridge retreated eastward between 0000Z and 1200Z on 4 October as a mid-level trough deepened over Korea. The loss of definitive steering flow permitted Roger to execute a cyclonic loop. After emerging from the loop, Roger continued on a northwestward track until north of the ridge axis, after which he accelerated north-northeastward. Extratropical transition was complete by 070600Z as Roger merged with a cold front south of Japan.

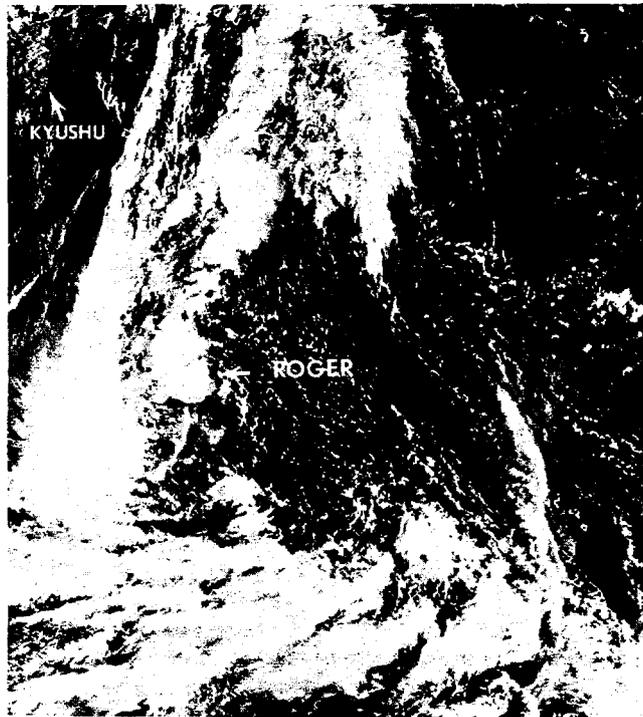


FIGURE 3-21-1. Tropical Storm Roger at 35 kt (18 m/sec) intensity 04 October 1979, 0054Z. (DMSP imagery)