

TROPICAL CYCLONE 20-82

During late April, the monsoon trough was anchored in the latitudes south of Sri Lanka and extended eastward into the central portion of the Bay of Bengal. On 26 April, an area of convection associated with this trough became suspect and was discussed in the Significant Tropical Weather Advisory (ABEH PGTW); however, center fixes from satellite data were not available until 30 April when an upper-level circulation center was analyzed over the convection. On 1 May, a Tropical Cyclone Formation Alert was issued as a central dense overcast (CDO) formed over the system.

During this period, there was some concern about the actual intensity of the system at the surface. Surface observations from India, Sri Lanka, and throughout the Bay of Bengal indicated light and variable winds close to the developing system and the strongest winds (15 to 20 kt (8 to 10 m/sec)) far removed from the convection. Additionally, satellite fixes lacked continuity in tracking the system and the possibility that a significant surface circulation had not yet established itself seemed very realistic. However, NOAA 7 satellite imagery at 012132Z, received and analyzed at Air Force Global Weather Central (AFGWC), indicated a substantial increase in the system's convective organization, which prompted the issuance of the first warning for Tropical Cyclone 20-82 at 020200Z. From the initial warning position 440 nm (815 km) north-northeast of Sri Lanka, Tropical Cyclone 20-82 moved northeastward, remaining approximately 120 nm (222 km) east of India. Fix positions remained somewhat erratic in the early stages but improved when satellite imagery (021327Z NOAA 7) indicated that an eye had developed. The appearance of the eye also laid to rest any lingering doubts as to whether Tropical

Cyclone 20-82 had developed into a significant tropical cyclone.

Track forecasts for Tropical Cyclone 20-82 were very good. From the first warning, Tropical Cyclone 20-82 was expected to move northeastward and turn more eastward with time. As Tropical Cyclone 20-82 approached 18N, its movement became virtually eastward across the Bay of Bengal until landfall. While crossing the Bay of Bengal, Tropical Cyclone 20-82 continued to intensify and reached an estimated maximum intensity of 125 kt (64 m/sec) just prior to landfall. Best track intensities were based almost exclusively on Dvorak intensity estimates received from AFGWC and from Detachment 1,1WW, Nimitz Hill, Guam. However, despite the absence of verifying synoptic reports, satellite imagery (Figure 3-29-1) and later, casualty reports from Burma were convincing evidence that Tropical Cyclone 20-82 was a very intense (although quite compact) tropical cyclone.

The value of the meteorological satellite, especially in data sparse regions, has once again proven itself. In the era prior to the availability of imagery from satellites, Tropical Cyclone 20-82 would have been an undetected storm of great intensity that would strike without warning. A news release from Rangoon, Burma on 6 May, reported 7,000 homes destroyed in one township, and 85% of the homes and buildings in another township had their roofs blown away. Elsewhere, along Tropical Cyclone 20-82's path, schools, industries and hospitals were damaged or destroyed. Yet despite this extensive destruction, there were just five deaths reported in a region of the world where loss of human life is frequently in the hundreds from the effects of tropical cyclones.

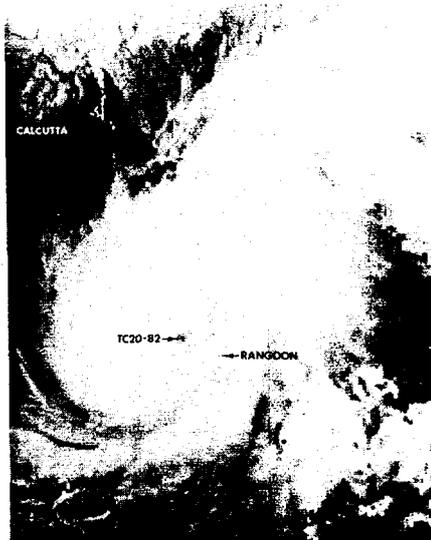


Figure 3-29-1. Tropical Cyclone 20-82 near maximum intensity, just west of Burma, 050423Z May. (NOAA 7 visual satellite imagery from AFGWC, Offutt, AFB, Nebraska)