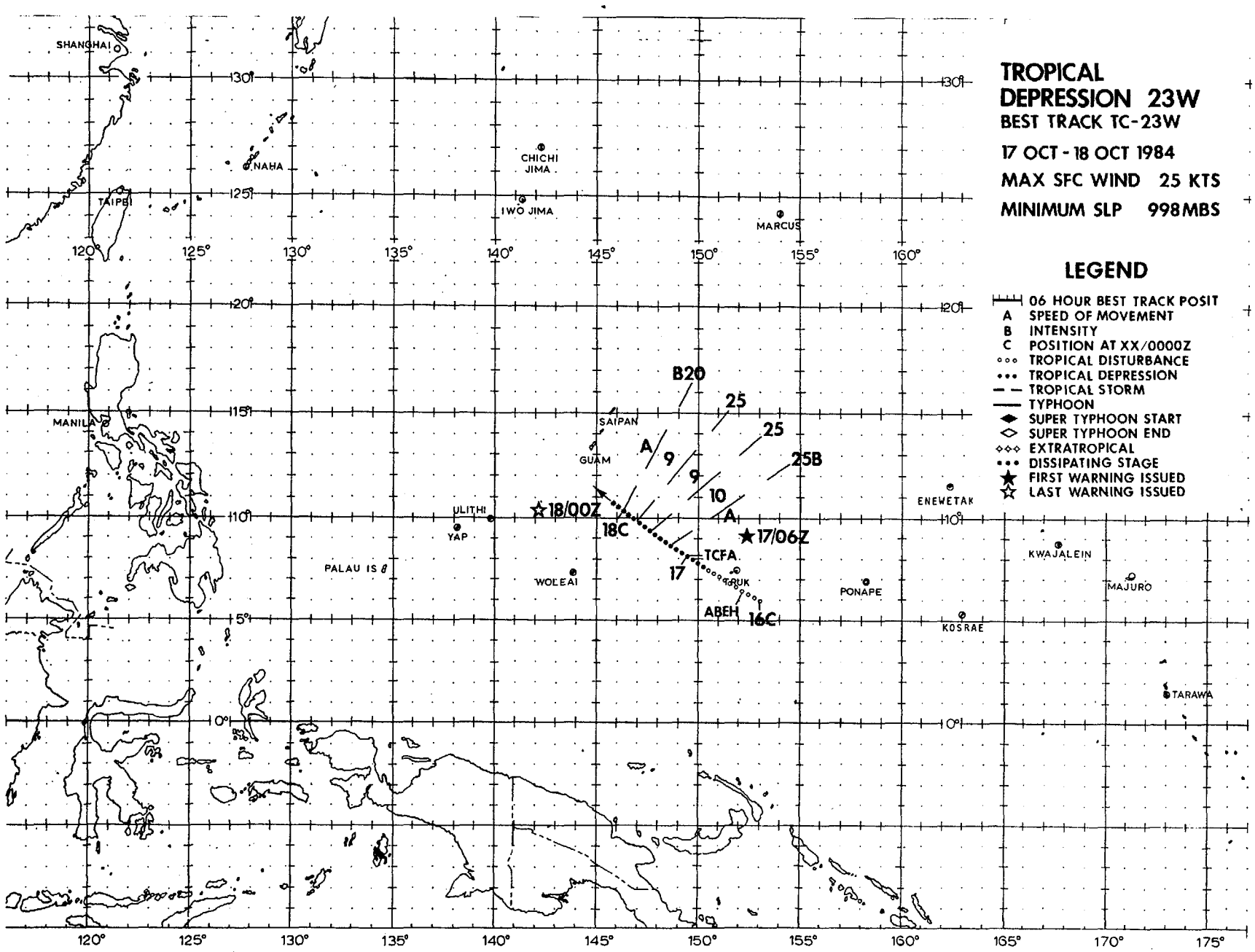

TROPICAL DEPRESSION 23W

BEST TRACK TC-23W

17 OCT - 18 OCT 1984

MAX SFC WIND 25 KTS

MINIMUM SLP 998MBS

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 Depression 23W was a short-lived system which developed in the monsoon trough. The lack of upper-level support resulted in dissipation only 18 hours after it became a significant tropical cyclone.

After the dissipation of Typhoon Phyllis on 14 October, the low-level monsoon trough still extended from Southeast Asia to the Marshall Islands. At 150000Z, the upper-level wind-flow was similar to the pattern present several days earlier, with a large anticyclone located near Marcus Island (Minami Tori-Shima (WMO 47991)). In addition, a westward moving TUTT cell was now located near 18N 172E. At this time the convection associated with the monsoon trough showed little organization. Upper-level flow over the area was generally easterly, with northeast flow inhibiting convective development along the northern side of the low-level trough.

Early on the 16th, the convection began to show signs of increased organization. This was especially evident near the island of Truk (WMO 91334), where the eastward extension of the monsoon trough and the strongest low-level cyclonic turning were located. Synoptic data at this time indicated a 1005 mb surface circulation was present. The Significant Tropical Weather Advisory (ABEH PGTW) at 160600Z mentioned this area as having a "fair" potential for significant tropical cyclone development.

Satellite imagery during the next 18 hours showed the convection had become more organized with the development of a central convective feature. Synoptic data revealed sea-level pressures of 1003 mb to 1006 mb around the periphery of the circulation with the central pressure estimated to be near 1000 mb. These developments prompted the issuance of a TCFA at 170000Z. Upper-level data indicated the flow was now slightly diffluent as the disturbance was located in the TUTT axis.

An investigative reconnaissance flight into the disturbance closed-off a surface circulation at 170600Z and reported maximum surface winds of 25 kt (13 m/s). The MSLP had decreased to 998 mb. Since further development was expected, the first warning on Tropical Depression 23W valid at 170600Z was issued a short time later (Figure 3-23-1).

During the next 18 hours, Tropical Depression 23W moved northwest and weakened rather than intensified. Aircraft reconnaissance at 172030Z could not locate a surface circulation, but instead observed winds which indicated that a much larger circulation was developing to the southeast. Consequently, the final warning on the dissipated Tropical Depression 23W was issued at 180000Z.

Post-analysis indicates that Tropical Depression 23W dissipated as a result of unfavorable upper-level support. As the poorly organized depression moved west-northwest along the northern periphery of the low-level monsoon trough, it moved into an area of 30 to 40 kt (15 to 21 m/s) northerly upper-level winds from the combined effects of the anticyclone (now located near Iwo Jima (WMO 47981)) and the TUTT cell to the northeast. The strong wind shear over the depression created an environment which was unfavorable for tropical cyclone development. In comparison, the area southeast of Tropical Depression 23W was located in a region of diffluent flow with the upper-level TUTT cell to the northeast enhancing the diffluence. Satellite imagery reflected this favorable upper-level outflow as much stronger convection was forming in this area. This area of convection would soon develop into Typhoon Thad.

Figure 3-23-1. Tropical Depression 23W at the time the first warning was issued. A TUTT cell is located northeast of the depression (170537Z October NOAA visual imagery).