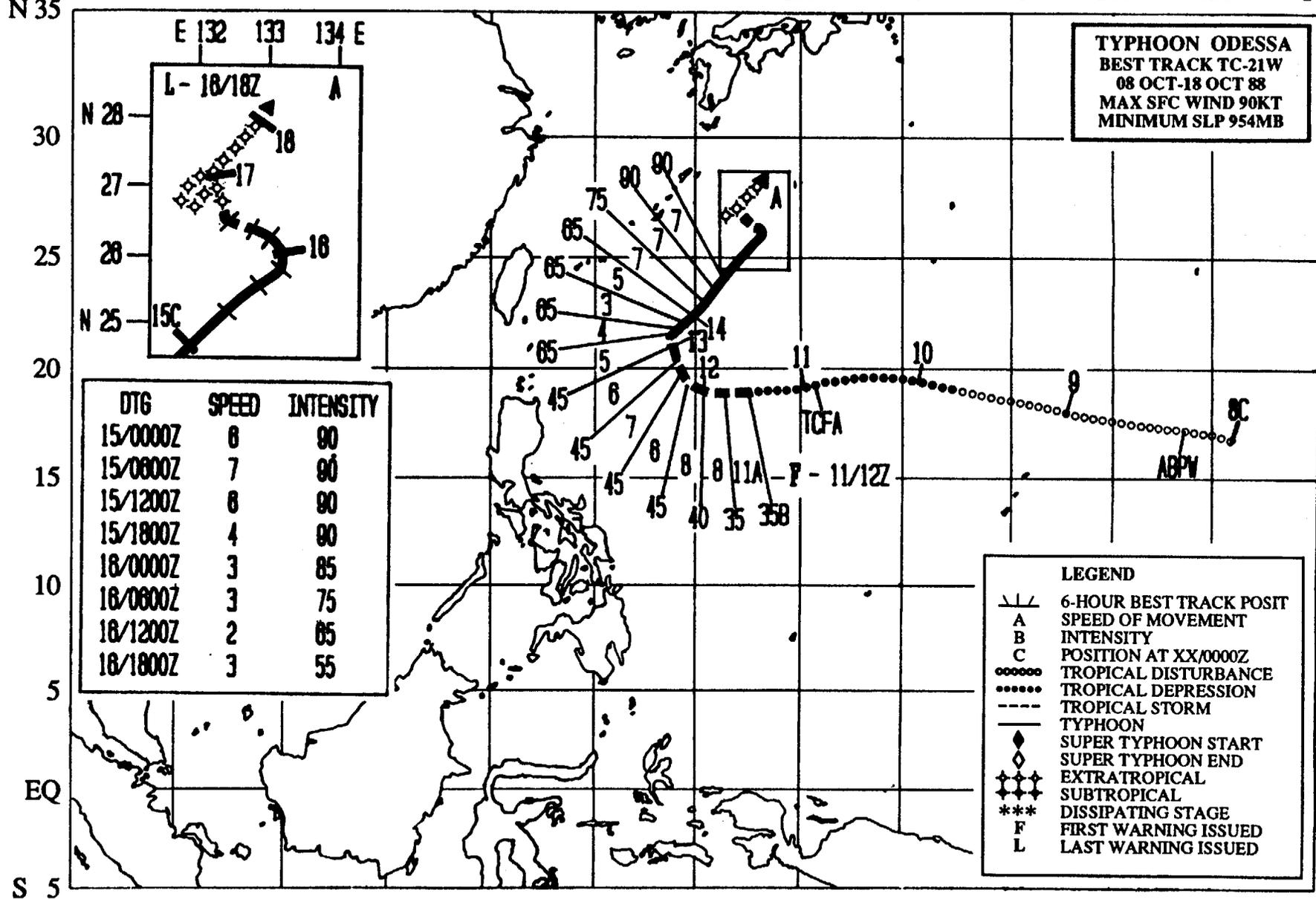


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**TYPHOON ODESSA**  
**BEST TRACK TC-21W**  
**08 OCT-18 OCT 88**  
**MAX SFC WIND 90KT**  
**MINIMUM SLP 954MB**

DTG	SPEED	INTENSITY
15/000Z	8	90
15/0600Z	7	90
15/1200Z	8	90
15/1800Z	4	90
16/0000Z	3	85
16/0600Z	3	75
16/1200Z	2	65
16/1800Z	3	55

- LEGEND**
- /—/— 6-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
  - ◆ ◆ ◆ ◆ ◆ SUBTROPICAL
  - \*\*\* DISSIPATING STAGE
  - F FIRST WARNING ISSUED
  - L LAST WARNING ISSUED

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S 5

## TYPHOON ODESSA (21W)

Odessa was the second of four significant tropical cyclones to occur during October. Slow to develop, it was tracked for three and a half days by satellite before the first warning was issued. After recurvature, Odessa rapidly intensified into a midget typhoon, despite interaction with a frontal system.

On 8 October, as Super Typhoon Nelson (20W) was weakening and accelerating to the northeast in higher latitudes, Odessa began as an area of convection superimposed on broad low-level easterly tradewinds 460 nm (852 km) south-southeast of Minami Tori-Shima. The persistence of this convective area was first mentioned on the Significant Tropical Weather Advisory at 080600Z. After two days of faster than normal — 17 to 18 kt (32 to 33 km/hr) — movement to the west-northwest, surface winds

in the area increased to 30 kt (15 m/sec). At 102100Z, the Significant Tropical Weather Advisory was reissued to address this increase (Figure 3-21-1) and a Tropical Cyclone Formation Alert followed at 102300Z. A satellite intensity estimate of 35 kt (18 m/sec) prompted the first warning at 111200Z.

At 121800Z, Odessa was moving north-northwestward toward the cooler, drier polar air that was spilling off the Asian mainland. As interaction with this air mass commenced, the tropical cyclone began tracking to the northeast and intensifying. Satellite intensity analysis at 131106Z indicated sustained surface winds of 65 kt (33 m/sec) and Odessa was upgraded to a typhoon at 131200Z. Initially, the interaction with the cold front was expected to weaken the tropical cyclone; instead Odessa intensified into

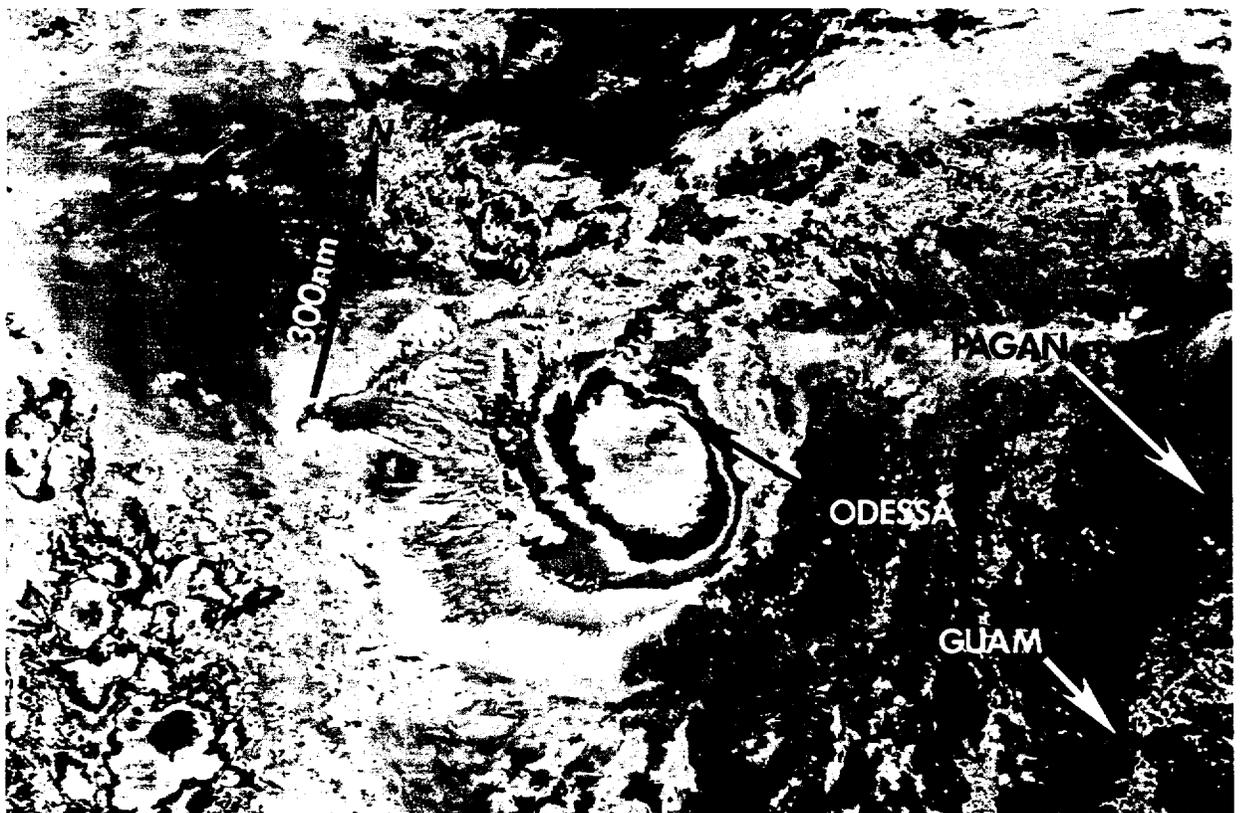


Figure 3-21-1. Odessa as a tropical disturbance (110021Z October DMSP infrared imagery).

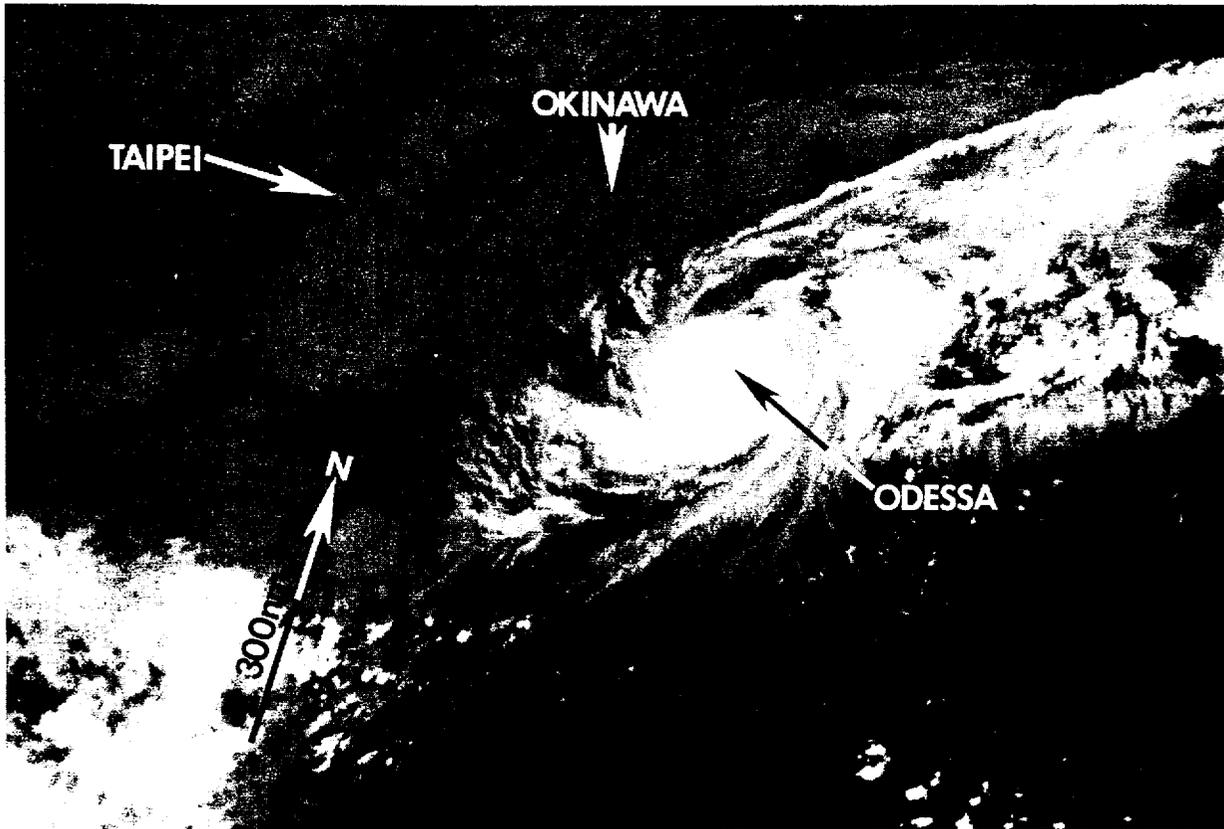


Figure 3-21-2. Typhoon Odessa displays a small eye before attaining its peak intensity (141044Z October NOAA visual imagery).

a midlevel typhoon. At 141200Z, the intensity peaked at 90 kt (46 m/sec) (Figure 3-21-2).

Loss of organization and deep convection started to be evident at 151200Z. With extratropical transition underway and the

low-level circulation exposed, the final warning was issued at 161800Z. The extratropical circulation (Figure 3-21-3) made a counter-clockwise loop on 17 October before moving off to the northeast along the frontal zone.

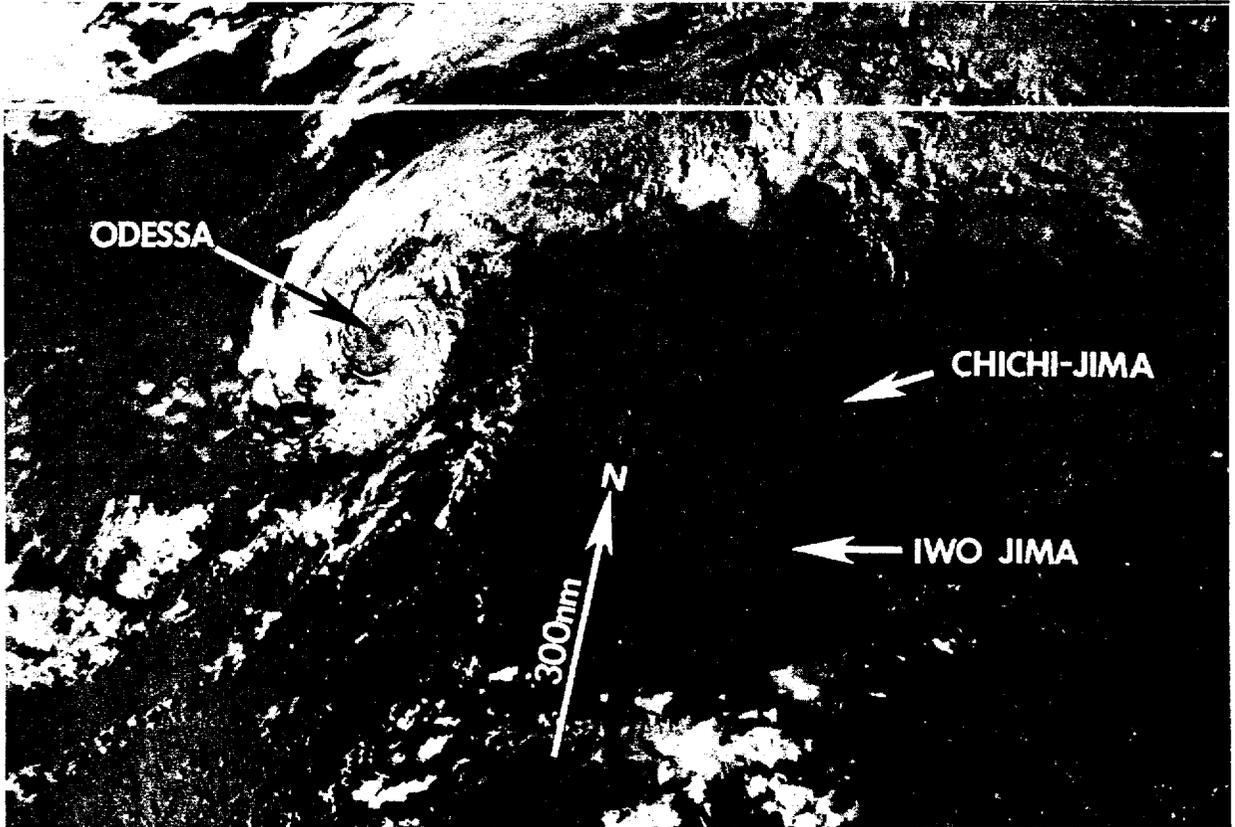


Figure 3-21-3. Odessa's well organized low-level circulation persists (170627Z October NOAA visual imagery).