

SUPER TYPHOON KENT (11W)

I. HIGHLIGHTS

The second of eight tropical cyclones to develop in August, Kent became the first super typhoon of 1992. During the trek toward Japan, it underwent binary interaction with Tropical Storm Lois (12W). Requiring a total of 58 warnings, Kent was second only to Super Typhoon Gay (31W) for the total number of warnings and longevity for the western North Pacific in 1992.

II. TRACK AND INTENSITY

As Janis (10W) intensified south of Guam, the tropical disturbance that later became Kent developed east of the international date line. Its persistent convection was first mentioned on the 030600Z August Significant Tropical Weather Advisory. An increase in the amount and organization of the disturbance's deep convection prompted JTWC to issue a Tropical Cyclone Formation Alert at 051500Z. Early intensification was rather rapid. The first warning was issued at 051800Z with an upgrade to tropical storm intensity at 060000Z, and to typhoon intensity at 070000Z. Then the rate of intensification slowed. On 8 August, increased vertical wind shear associated with the passage of a mid-level trough to the north resulted in a reduction in size of Kent's central dense overcast (CDO). Although intensification was arrested, a small core of persistent central convection remained. As the trough passed by, the reappearance of an eye confirmed that intensification was once again underway. At 111200Z, Kent reached super typhoon intensity (Figure 3-11-1).

Under the influence of a subtropical ridge located to the north, the super typhoon continued to move west-northwestward until a short wave trough moved across Honshu on 13 August. Kent, weakened, slowed and its track became more northerly in response to the weakness in the subtropical ridge. Then, the trough passed by and the typhoon, which was weakening due to increasing upper-level winds, headed for Honshu. On 16 August, Kent became involved in a binary interaction with Tropical Storm Lois (12W), which had formed two days earlier. As a consequence, Kent changed its course for Kyushu. By 18 August, the binary interaction between the tropical cyclones had ceased, and Kent was approaching recurvature. After landfall, interaction with the mountainous terrain of Kyushu, along with increased upper-level wind shear, quickly weakened Kent. At 191200Z, the tropical cyclone was downgraded to a tropical depression when it became evident that all deep convection had been completely sheared by upper-level flow. The final warning on Kent was issued on 200000Z.

III. FORECAST PERFORMANCE

Overall JTWC track forecasting was better than average with mean errors of 70, 140, and 235 nm (130, 265, and 435 km) for 24, 48 and 72 hours, respectively, and consistently better than CLIPER's guidance. General guidance provided by the forecast aids for Kent was excellent until the binary interaction with Tropical Storm Lois (12W) commenced and premature recurvature was suggested. Once the binary interaction between both storms ended, however, all forecast aids correctly predicted Kent's track across Kyushu and into the Sea of Japan. Overall JTWC intensity forecasts were handled well with the exception of a number of 72-hour forecasts, which remained 20 to 40 kt (37 to 74 m/sec) too high for three days after Kent's winds reached their maximum.

IV. IMPACT

On 18 August, Kent's high winds and torrential rains struck Kyushu resulting in at least four deaths, disruption of air and ground transportation, and numerous localized power outages.

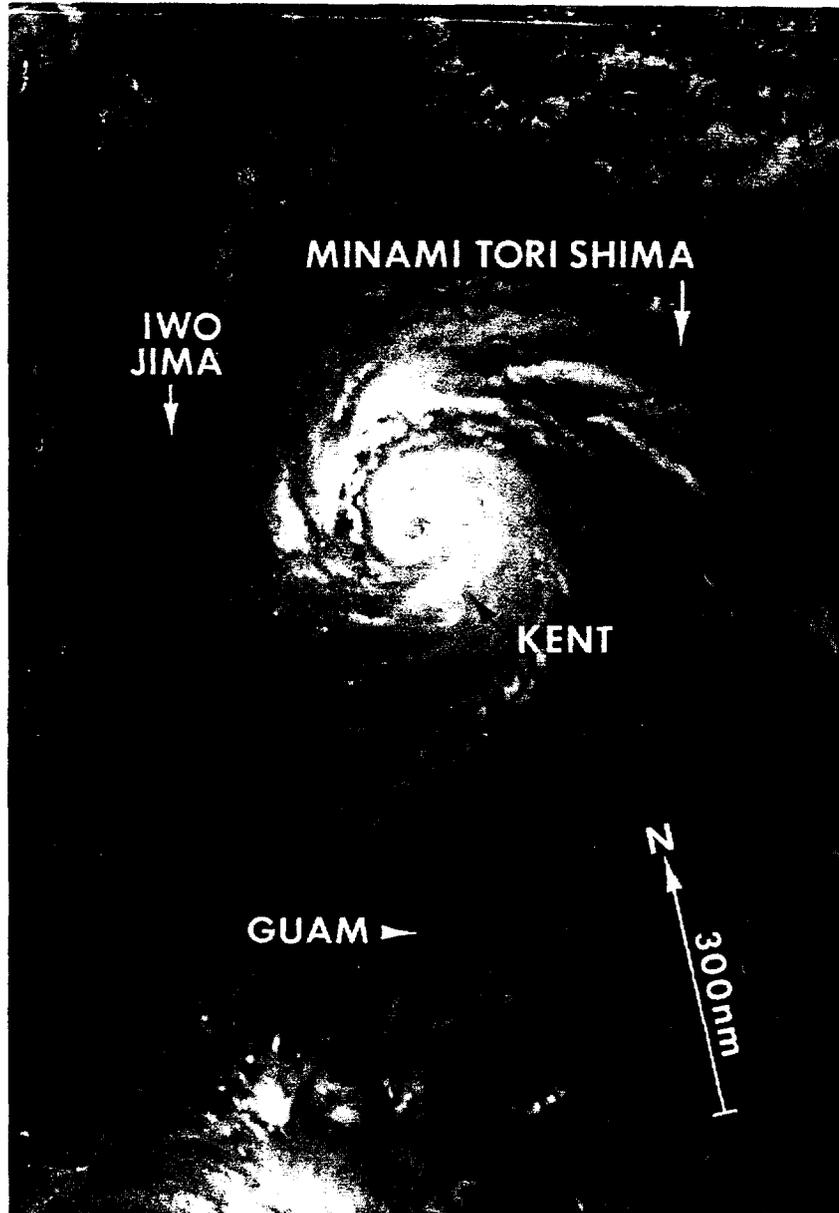


Figure 3-11-1. Kent at super typhoon intensity passes just to the north of the Mariana Islands (112325Z August DMSP visual imagery).