

LEGEND

- 6 HR BEST TRACK POSITS
- A SPEED
- B INTENSITY
- C POSITION AT XX/0000 Z
- TYPHOON
- TROPICAL STORM
- TROPICAL DEPRESSION
- ○ ○ TROPICAL DISTURBANCE
- × × × EXTRATROPICAL
- *** DISSIPATING STAGE
- ★ FIRST WARNING ISSUED
- ☆ LAST WARNING ISSUED

TYPHOON IRMA
 BEST TRACK TC-19
 12 SEP-15 SEP 1978
 MAX SFC WIND 65 KTS
 MINIMUM SLP 972 MBS

TYPHOON IRMA

Irma, the eighth typhoon of the 1978 season, developed in the monsoon trough southeast of Taiwan. Located in the Luzon Straits over the previous week, the monsoon trough slowly drifted northward and a weak surface circulation became evident southeast of Taiwan on the 11th. The monsoon trough at 500 mb was also observed to have shifted well northward signifying the trough becoming vertically aligned with the surface circulation. This northward shift also moved the monsoon circulation under favorable outflow aloft. The mechanism for rapid tropical cyclone development being present, numbered warnings began without the issuance of a formation alert.

Aircraft reconnaissance, at 0935Z on the 12th, confirmed TB-19 had undergone rapid development. Post analysis determined that the cyclone reached tropical storm strength at 120000Z. Due to the lack of a strong subtropical high pressure ridge to the north of Irma and the fact that the southwest monsoon flow was more intense than the easterlies north of the monsoon trough, Irma moved northeast. Then, on the 13th at 1800Z, Irma began accelerating northeastward as mid-level steering strengthened when a short-wave, westerly trough tracked eastward off China. Diffidence aloft, ahead of the short-wave, allowed Irma to reach a maximum intensity of 65 kt (33 m/sec) by 141200Z.

Irma remained a typhoon for only 12 hours becoming the shortest-lived typhoon of the season. The 140000Z, 500 mb analysis indicated that Irma was north of the broad subtropical ridge axis, building in behind her, and she was accelerating northeastward. Her

maximum forward speed of 21 kt (39 km/hr) was obtained while tracking through the Tsushima Straits prior to making landfall on Honshu.

In the last 24-36 hours of her existence, Irma experienced increased vertical shear which brought on rapid weakening. The terrain effects of Kyushu and Honshu caused Irma to dissipate near 1200Z on the 15th.

Although remaining a typhoon for only 12 hours and weakening rapidly as she tracked towards southwest Japan, Irma produced widespread damage to Kyushu with estimated gusts in excess of 100 mph (45 m/sec) reported. Irma smashed windows, overturned cars, and capsized several fishing boats. Several athletes at the Japan-China Friendship Track and Field Meet in Kitakyushu were injured when a freak gust blew them ten feet in the air.

Irma exhibited a movement to the northeast similar to previous 1978 recurvers (Olive, Polly, Virginia, Gloria and Hester).

Irma's track indicates she traveled parallel to, but just outside, the 200 mb strong wind flow; actually just outside the 50 kt (26 m/sec) isotach (Fig. 3-17). The observed relationship appears to provide an excellent forecast aid and was particularly important during Irma. All forecasts, however, must take into account the possible northward adjustment of the max wind band as well as the possible deepening of short-wave troughs off the China mainland. An accurate 36-hour to 48-hour, 200 mb prog should help greatly.

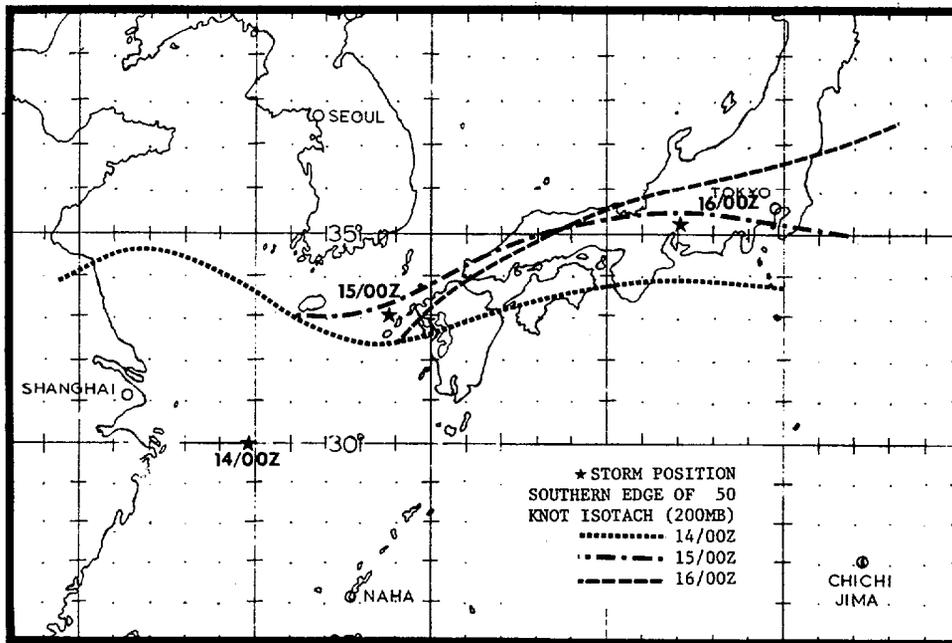


FIGURE 3-17. Irma's positions relative to the southern boundary of the 200 mb, 50 kt isotach from 140000Z to 160000Z September 1978.