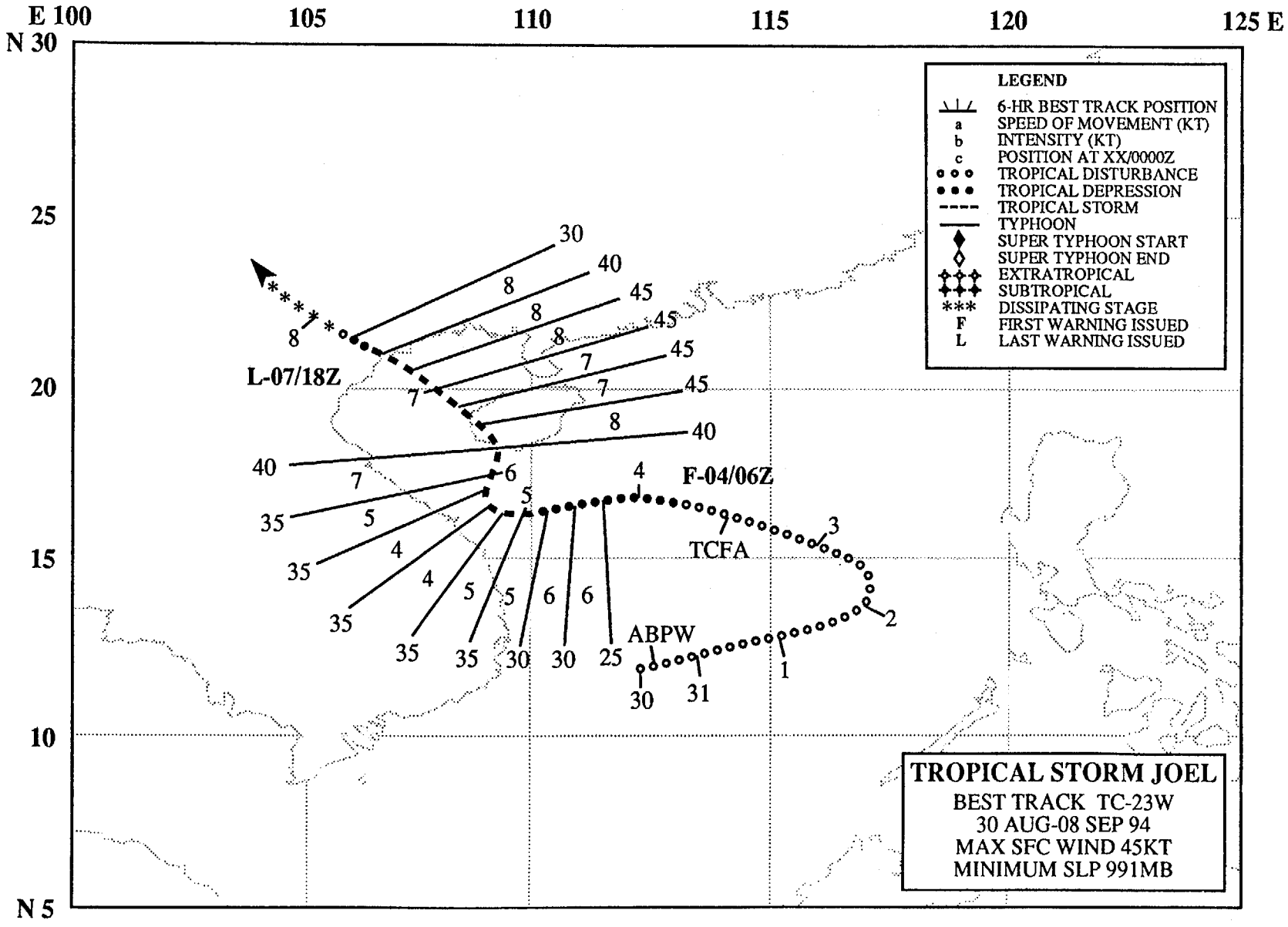
E 100
105
110
115
120
125 E
N 30
25
20
15
10
N 5
LEGEND
6-HR BEST TRACK POSITION
SPEED OF MOVEMENT (KT)
INTENSITY (KT)
POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
L-07/18Z
F-04/06Z
TCFA
ABPW
TROPICAL STORM JOEL
BEST TRACK TC-23W
30 AUG-08 SEP 94
MAX SFC WIND 45KT
MINIMUM SLP 991MB

TROPICAL STORM JOEL (23W)

As Typhoon Gladys (20W) approached Taiwan, the monsoon trough in the South China Sea became active near 12°N. An area of persistent convection within this trough was first mentioned on the 300600Z August Significant Tropical Weather Advisory. For three days, the disturbance moved east-northeastward, and upon reaching 117°E at 020000Z September, it turned toward the west-northwest. At 031130Z, the JTWC issued a Tropical Cyclone Formation Alert, which was followed 19 hours later by the first warning on Tropical Depression 23W. During most of its westward track, strong upper level winds from the north-northeast kept the deep convection south of the small low level circulation center. By the morning of 05 September, the upper level winds began to weaken. This allowed the convection to wrap around the north side of the system, and the depression was upgraded to Tropical Storm Joel. About 50 nm (93 km) east-northeast of Da Nang and 70 nm (130 km) east of Hue, Vietnam, Joel turned sharply toward the north. At 060600Z, the tropical storm passed over the extreme southwestern edge of Hainan Island where it reached its estimated maximum intensity of 45 kt (23 m/sec). Joel then turned to the northwest. After entering the Gulf of Tonkin, a ragged, cloud-filled banding-type eye appeared (Figure 3-23-1). At about 071000Z, Joel went ashore near Haiphong, and moved inland toward Hanoi. News reports (09 September USA Today) indicated that Joel knocked down large trees in Hanoi. The final warning was issued on Tropical Depression 23W at 071800Z as it dissipated over land west of Hanoi.

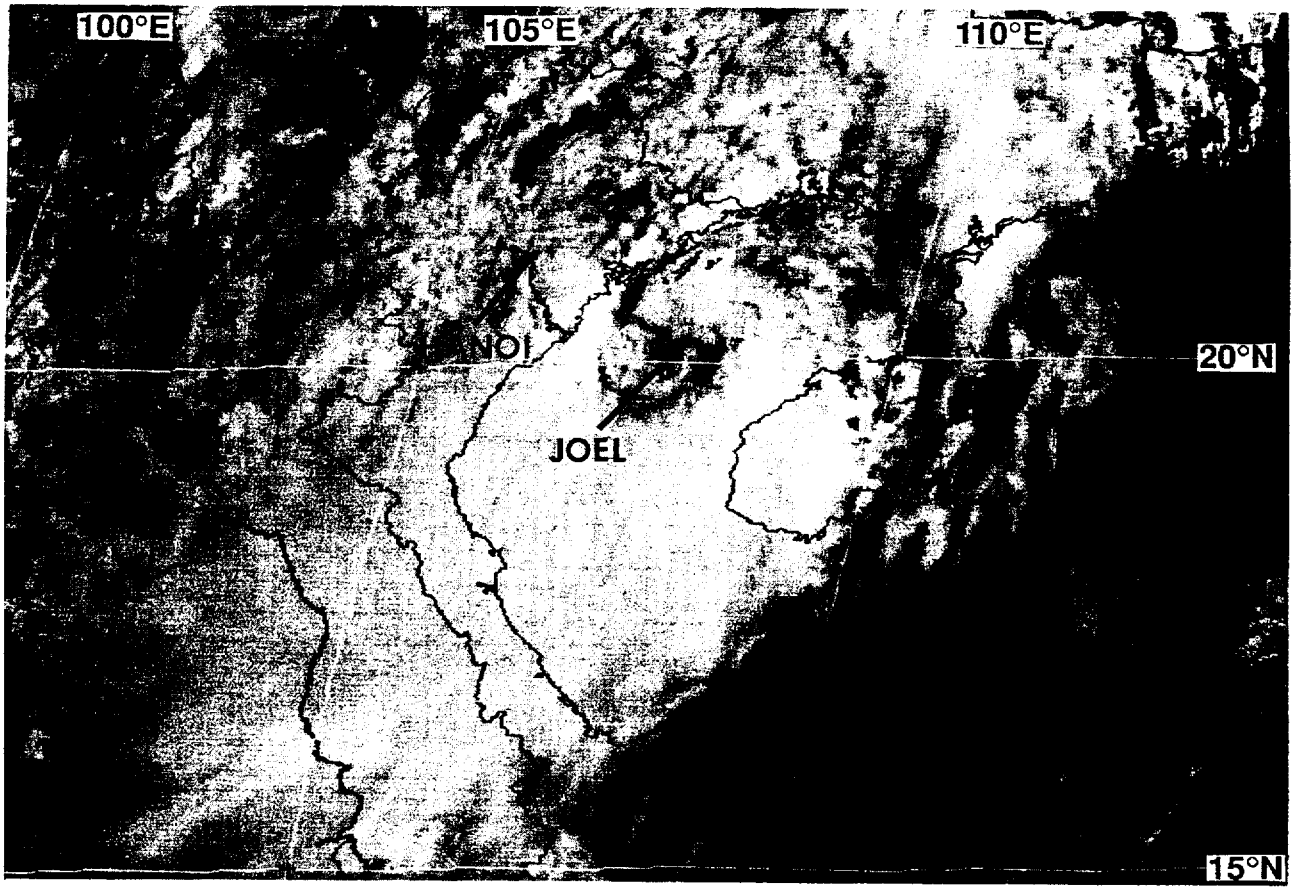

Figure 3-23-1 Tropical Storm Joel about 60 nm (111 km) southeast of the Vietnam coast, near Haiphong (070031Z September GMS visible imagery).