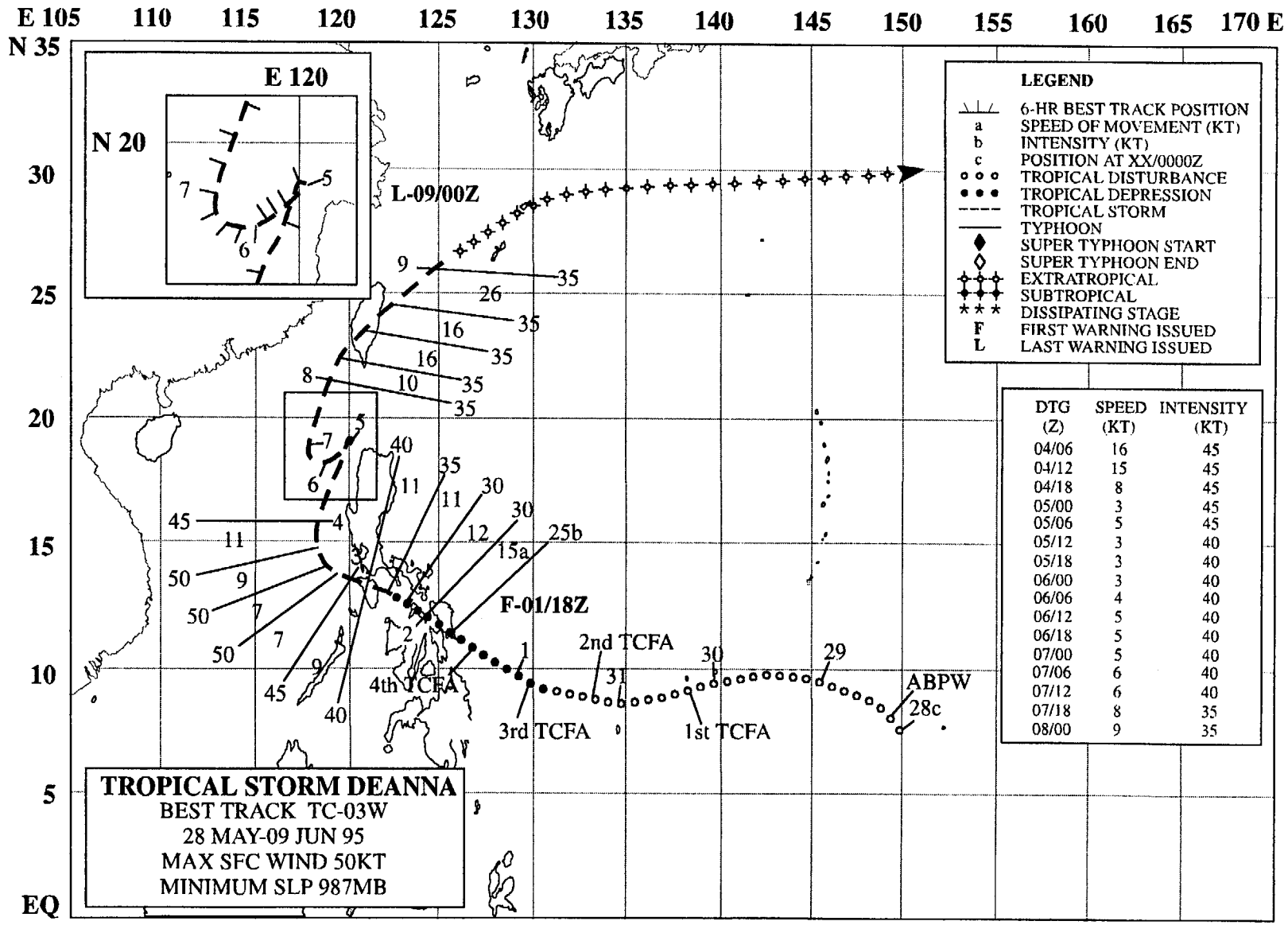

DTG (Z)	SPEED (KT)	INTENSITY (KT)
04/06	16	45
04/12	15	45
04/18	8	45
05/00	3	45
05/06	5	45
05/12	3	40
05/18	3	40
06/00	3	40
06/06	4	40
06/12	5	40
06/18	5	40
07/00	5	40
07/06	6	40
07/12	6	40
07/18	8	35
08/00	9	35

TROPICAL STORM DEANNA (03W)

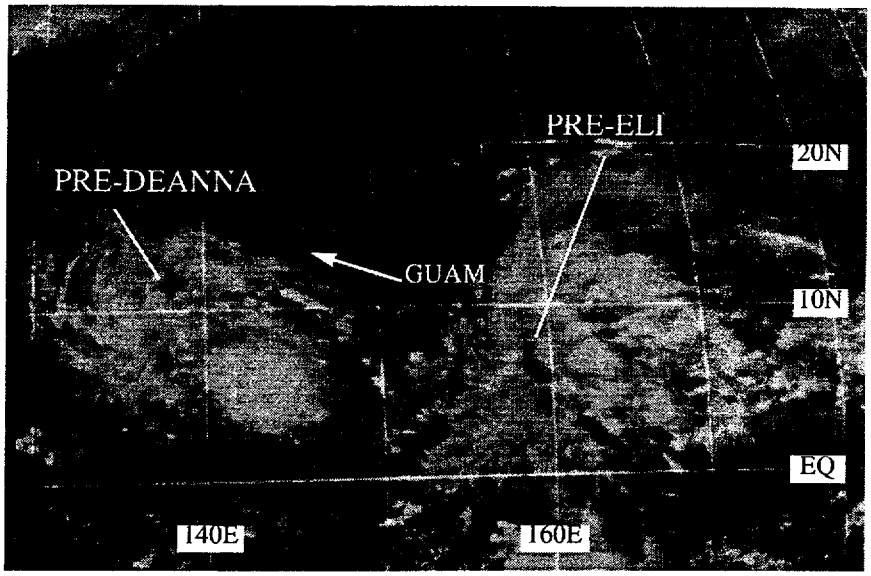

Figure 3-03-1 The tropical disturbances that became Deanna (03W) and Eli (04W) are found along a weak monsoon trough that stretched across Micronesia during late May (301332Z May infrared GMS imagery).

I. HIGHLIGHTS

Tropical Storm Deanna formed in a weak monsoon trough that stretched across Micronesia during late May. Deanna was a relatively weak tropical cyclone that crossed the central Philippines, stalled in the South China Sea for about two days, and then accelerated toward the northeast as it came under the steering influence of strong southwesterly flow to the south of the axis of the mei-yu trough. Deanna merged with the mei-yu cloud band as it moved rapidly northeastward through the Ryukyu island chain.

II. TRACK AND INTENSITY

During the last week of May, there were two tropical disturbances located along a weak monsoon trough that stretched east-west across Micronesia (Figure 3-03-1). The westernmost of the two became Deanna (03W), while the easternmost became Eli (04W). The tropical disturbance that became Deanna was first mentioned on the 280600Z May Significant Tropical Weather Advisory when satellite and synoptic data indicated that a weak low-level cyclonic circulation center had formed in an extensive area of persistent deep convection in the Caroline Islands. Over the next three days, this disturbance moved westward, just south of 10°N, and passed 240 nm (445 km) south of Guam on the evening of 29 May. During the daylight hours of 30 May, satellite imagery indicated that a broad area of persistent convection was consolidating near the island of Yap. Based upon the imagery, and lowered sea-level pressure at Yap (WMO 91413), a Tropical Cyclone Formation Alert (TCFA) was issued at 300730Z May. The tropical disturbance continued moving westward toward the central Philippines, however, on 31 May, it appeared that it had become less organized, and thus the TCFA was cancelled at 310600Z May. Reasons cited for cancellation of the TCFA included:

". . . Satellite imagery and synoptic data from Yap and Koror indicate that the tropical disturbance east of Mindanao has a weak cyclonic circulation near the surface. Winds and pressure trends at Yap and Koror do not indicate that a tropical cyclone is developing at the present time. The disturbance appears to be primarily a mid-level feature with active unorganized convection. The long-term outlook favors very slow intensification. . . ."

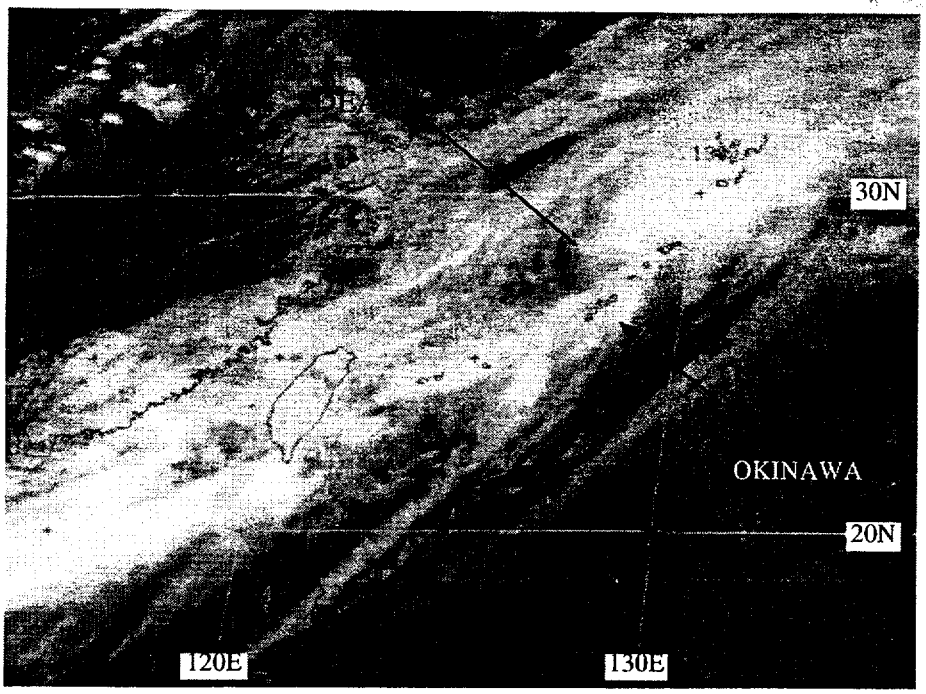

Figure 3-03-2 Absorbed into the mei-yu cloud band, the remnants of Deanna race northeastward (090424Z June visible GMS imagery.)

As the system approached Mindanao, satellite imagery and synoptic data once again indicated that intensification was taking place. A TCFA was issued at 312200Z May. The tropical disturbance now began to track toward the islands of the central Philippines. Evidence of further intensification was lacking, but further development was considered possible, so another TCFA was issued at 011500Z June. Shortly thereafter, satellite imagery showed an increase in the amount of deep convection near the estimated position of the low-level circulation center, and the JTWC issued the first warning on Tropical Depression 03W valid at 011800Z June.

Tropical Depression 03W moved rapidly through the islands of the central Philippines. Tropical Depression 03W was upgraded to Tropical Storm Deanna at 021200Z June based on satellite intensity estimates and synoptic data.

On 03 June, Deanna entered the South China Sea where it slowed and turned toward the north. It is here also, while southwest of Luzon, that Deanna reached its peak intensity of 50 kt (26 m/sec). Subsequently, a slight weakening occurred as Deanna moved slowly northward. On 05 June, Deanna stalled northwest of Luzon, and began a very slow drift back toward the southwest. At this time, northeasterly vertical shear caused the low-level circulation center to become partially exposed on the northeastern side of the deep convection. On 07 June, Deanna resumed a slow north-northeastward movement toward Taiwan. On 08 June, Deanna began to increase its speed of translation as it neared Taiwan. The low-level circulation center became fully exposed and the system was downgraded to tropical depression intensity at 080000Z. (In postanalysis, however, it was determined that Deanna retained tropical storm intensity through 09 June based on a 49-kt 925-mb report from Kadena (WMO 47931) at 290000Z and later a 35-kt surface wind from the buoy (WMO 21004) near 29°N, 135°E at 091800Z). On 09 June, Deanna was absorbed into the mei-yu cloud band, (Figure 3-03-2), although it retained a distinct circulation center. The final warning was issued at 090000Z June when it was deemed that the rapidly moving low pressure system along the mei-yu cloud band (that had been Deanna) had become extratropical. The remnants of Deanna retained gale force winds for 18 hours following the final warning.

III. DISCUSSION

NEXRAD observed wind profile as pre-Deanna passed south of Guam

On the evening of 29 May, the tropical disturbance that became Deanna passed 240 nm (445 km) south of Guam. At this time, Guam was experiencing heavy showers and gusty easterly winds. The vertical wind profile over Guam at this time (obtained from Guam's NEXRAD) (Figure 3-03-3) shows three characteristics that are typical of the vertical wind profiles obtained within the vicinity of tropical cyclones:

1) A peak wind velocity in the lowest levels of the troposphere (2000 to 5000 ft).

2) A relatively deep unidirectional wind flow— in this case, deep easterly — through at least 35,000 ft.

3) Evidence of upper-level outflow (winds directed away from the tropical cyclone) restricted to 40,000 feet and higher.

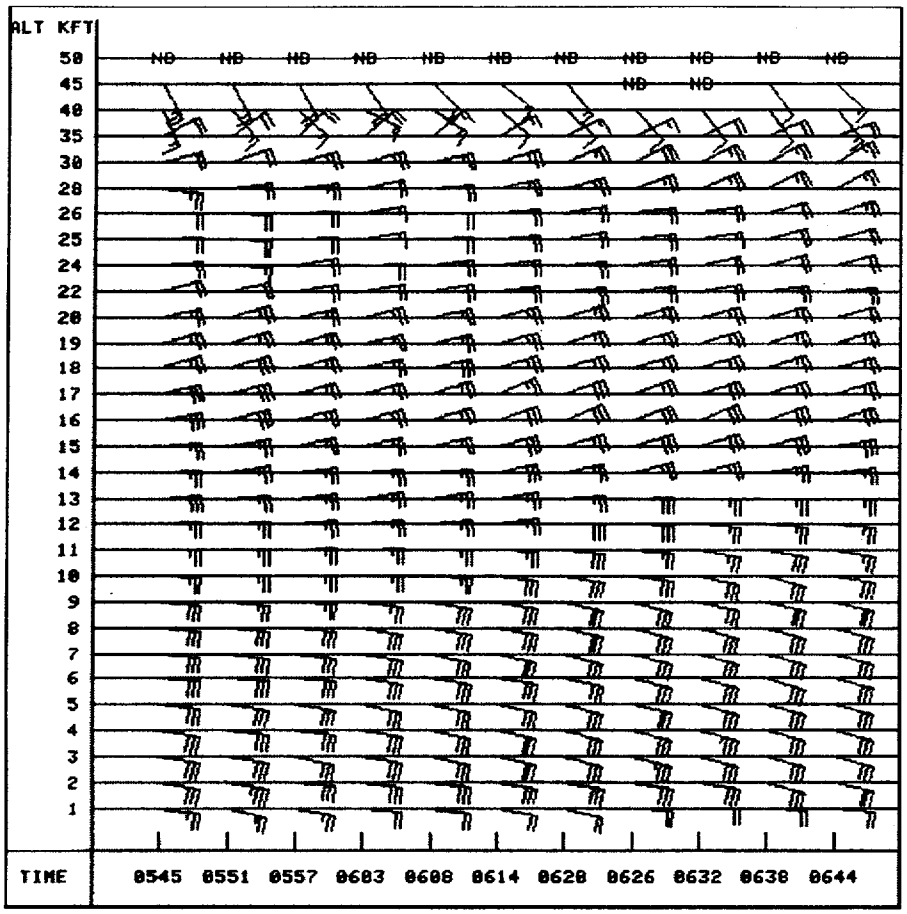

Figure 3-03-3 Vertical wind profile over Guam from the NEXRAD for the period 290545Z to 290644Z May reflects the passage of Deanna to the south.

IV. IMPACT

Heavy rains associated with Tropical Storm Deanna caused mudslides near Mayon Volcano, located in southeastern Luzon. These mudslides buried 140 homes; it is not known if there were any associated injuries or deaths. No additional reports of damage or injuries were received.