

LEGEND

- 06 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
- ○ ○ DISSIPATING STAGE
- ★ FIRST WARNING ISSUED
- ☆ LAST WARNING ISSUED

TYPHOON

NANCY

BEST TRACK TC-24
 11OCT-18OCT 1982
 MAX SFC WIND 115KTS
 MINIMUM SLP 926MBS

TYPHOON NANCY (24)

A large area of weakly organized convection consolidated into a single mass on 8 October near 17N 158E in a region made favorable for cyclogenesis by the divergence aloft near an upper cold low. This convection was strong enough to become separate from the surrounding cloudiness lying south of an upper cold low embedded within a tropical upper-tropospheric trough (TUTT). Sustained surface pressure falls, however, weren't realized as this convective area degenerated later that day into a random pattern of cloudiness. The upper cold low continued to drift westward and was located

near 148E on 10 October. This time the conditions were right for cyclogenesis - the upper-level divergence coupled with a pre-existing low-level cyclonic circulation and a tropical depression formed in the enhanced cloudiness just south of the TUTT. This cloudiness was separate and distinct from the routinely observed maximum cloud zone, which lay to the south, between 7N and 10N.

A Tropical Cyclone Formation Alert was issued at 100730Z for the area 200 nm (370 km) north of Guam due to the 1005 mb surface pressures and the significant

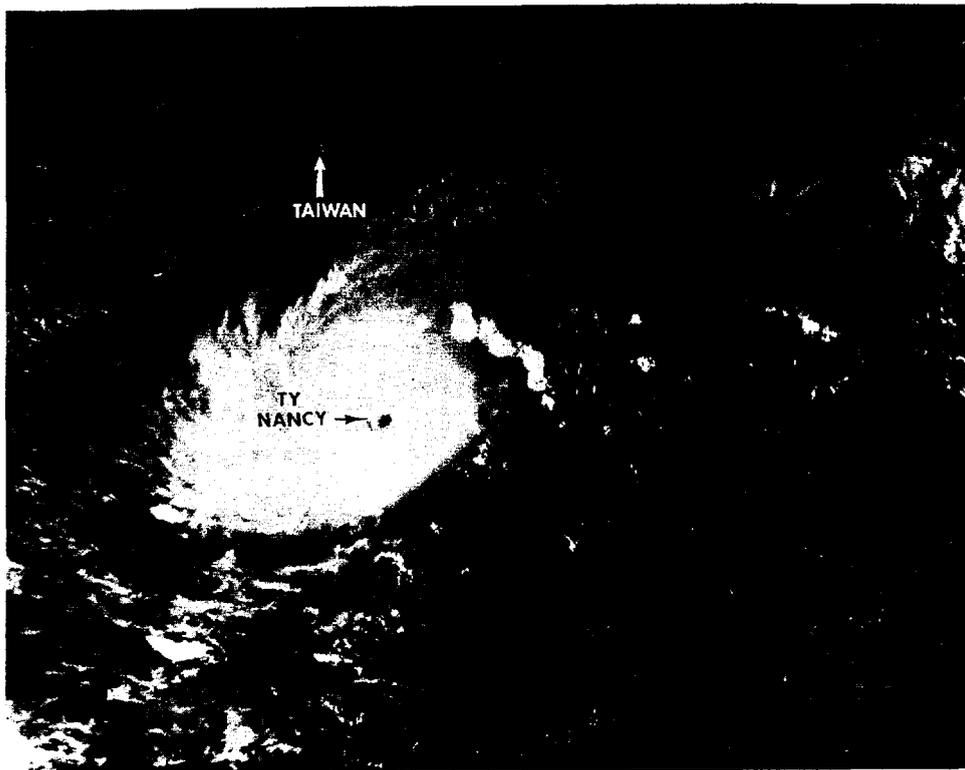


Figure 3-24-1. 140556Z October NOAA 7 visual imagery shows Typhoon Nancy at its peak intensity of 115 kt (59 m/sec) and approximately six hours away from landfall on northern Luzon. Note the island of Taiwan can be seen to the north of Nancy's cloud shields.

increase of cloud pattern organization. Again, because of the sparse conventional data, satellite images had been the key indicator of cyclogenesis and aircraft reconnaissance could not be scheduled to investigate the area until the following day.

The initial reconnaissance aircraft located a closed circulation and surface winds of 25 kt (13 m/sec) which prompted the first warning at 110200Z. Upgrading from tropical depression to tropical storm status followed within six hours, when the follow-on aircraft fix found 35 kt (18 m/sec) winds and a minimum sea level pressure of 999 mb. Nancy stabilized at moderate tropical storm strength and maintained a westward track for the next 24 hours.

Much of Nancy's early warning period was marked by several changes in the basic forecast track. The first four warnings anticipated that

Nancy would track northward toward recurvature; however, due in part to the strengthening of the low-level easterly winds north of Nancy, this forecast movement did not occur and Nancy moved rapidly westward with the low-level steering flow. The next four warnings anticipated a west-northwestward movement and through the Bashi Channel, north of Luzon. This track was abandoned at 130000Z when analysis and numerical prognostic data showed evidence that a mid-latitude trough would deepen south of Korea and lessen the influence of the low-level steering on Nancy. Thus until 140600Z (warning 14), the JTWC forecasts showed a pronounced northwestward track toward Taiwan and mainland China. On 14 October, as it became evident that the forecast weakening of the low-level steering current would not materialize, the JTWC forecasts turned toward the west-southwest.

During this period of changing forecast scenarios, Nancy began to intensify. On 13

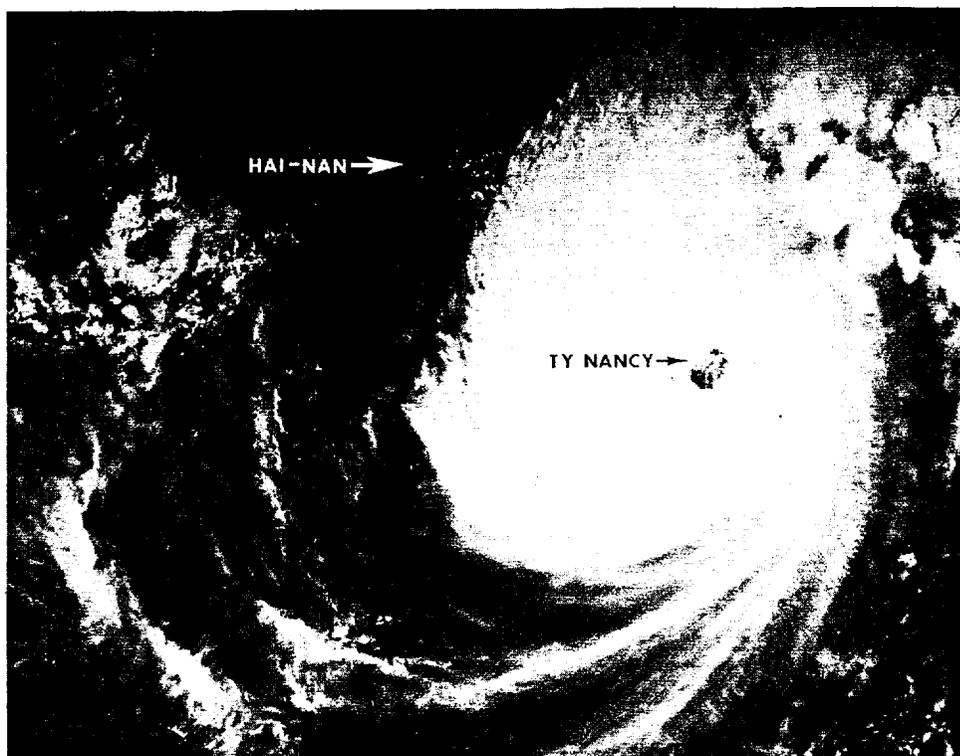


Figure 3-24-2. Typhoon Nancy was located near 17.0N 113.8E or 210 nm (389 km) east-southeast of the island of Hai-Nan at 160714Z October. Hai-Nan island was located on the northwestern edge of Nancy's cirrus cloud cover. Note the fair weather as indicated by the small, fair weather cumulus over the island and coastal areas of Vietnam, in sharp contrast to the approaching typhoon. (NOAA 7 visual imagery).

October, Nancy attained typhoon strength and then rapidly deepened to a peak intensity of 115 kt (59 m/sec) just six hours prior to landfall on northeastern Luzon. Nancy was reduced to tropical storm strength by a rugged overland transit, but was quick to regain typhoon strength upon reaching the open waters of the South China Sea. Nancy was the most intense typhoon to strike the Republic of the Philippines this year; in its wake, Nancy left at least 110 dead, 12,000 people homeless, and caused an estimated 46 million dollars damage.

The presence of a continuing strong mid- and upper-level circulation pattern made Nancy's reintensification in the South China Sea possible. At 161200Z, Nancy reached a second peak intensity of 80 kt (41 m/sec) as it passed just north of the Paracel Islands (WMO 59981). The influence of a subtropical ridge over

southern China and the continuing presence of of the low-level northeasterly (monsoon) flow across the South China Sea kept Nancy on a westward track until it approached Hai-Nan Island late on 16 October. From near Hai-Nan until landfall, Nancy maintained a slower, northwestward track along the southern periphery of the subtropical ridge.

On 18 October, Nancy crossed the coast of Vietnam 15 nm (38 km) north of the city of Vinh (18.7N 105.7E) in the Nghe Tinh province, causing at least 71 deaths, leaving 194,200 people homeless, and devastating 185 square miles (48,000 hectares) of winter rice crops that were ready for harvest. Later satellite imagery (at 180600Z) indicated that Nancy's central convection had dissipated over the mountains of Vietnam.