Australian Government
Bureau of Meteorology

# Severe Tropical Cyclone *Amy*

5 – 11 January 1980

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

## A. Summary

*Amy* was an intense tropical cyclone that crossed the east Pilbara coast near Pardoo early on 10 January. *Amy* then passed close to the mining town of Goldsworthy where it caused severe damage. Fortunately there were no major injuries or fatalities, however, the impact helped lead to the demise of both the mine and the town of Goldsworthy.

## B. Meteorological Description

The convective cloud cluster that developed into the severe cyclone *Amy* was first evident over the Timor Sea to the west of Scott Reef on 3 January. The tropical depression drifted slowly west- southwest and winds reached gale force on 5 January. Intensification continued as *Amy* accelerated southwards on 7 January towards Port Hedland. Early on 9 January 1980, when the cyclone was approaching its peak intensity, it changed direction towards the southeast then, as it approached the coast next morning, it again changed direction towards the southwest.

*Amy* crossed the coast near Pardoo Station about 110 km east of Port Hedland at 0200 UTC 10 January with a central pressure of 915 hPa. Six hours later, *Amy* passed very close to Goldsworthy where a mean sea level pressure of 932 hPa was recorded. During the following 12 hours winds decreased markedly although they are estimated to have remained above gale force for about 30 hours after landfall. The maximum measured wind gust was 130 km/h at Port Hedland. However, gusts of 200 to 240 km/h are estimated to have occurred near the centre during the first 100 km of overland travel of the cyclone.

## C. Impact

Extensive damage to buildings and windmills together with some loss of stock due to drowning was reported by pastoral properties up to 200 km to the east and south of Port Hedland. Severe damage to company housing, buildings and mining equipment occurred at Goldsworthy. Damage to Goldsworthy Mining Co. property was estimated to be about $8 million.

Total losses, including property damage and industrial disruption, are estimated at around $25 million. No lives were lost, nor injury sustained despite destruction of houses at Goldsworthy.

## D. Observations

The maximum measured wind gust was 130 km/h at Port Hedland. However, gusts of 200 to 240 km/h are to the east and south of Port Hedland. Goldsworthy recorded a (corrected) pressure of 932 hPa, as shown in Fig. 3.

Table 1. Best track summary for Tropical Cyclone *Amy* 4 – 12 January 1980
Note: Add 8 hours to convert to WST. Refer to best track database for complete track details.

| Year | Month | Day | Hour | Latitude | Longitude | Max Wind Knots | Central Pressure hPa | Radius of Gales nm |
|---|---|---|---|---|---|---|---|---|
| 1980 | 1 | 4 | 1200 | 14.5 | 120.5 | | 998 | |
| 1980 | 1 | 4 | 1800 | 14.7 | 120.1 | | 997 | |
| 1980 | 1 | 5 | 0000 | 14.8 | 119.8 | | 995 | |
| 1980 | 1 | 5 | 0600 | 14.8 | 119.8 | | 992 | |
| 1980 | 1 | 5 | 1200 | 14.8 | 119.7 | | 990 | |
| 1980 | 1 | 5 | 1800 | 14.8 | 119.7 | | 987 | |
| 1980 | 1 | 6 | 0000 | 14.8 | 119.7 | | 985 | |
| 1980 | 1 | 6 | 0600 | 14.8 | 119.5 | | 980 | |
| 1980 | 1 | 6 | 1200 | 14.8 | 119.3 | | 975 | |
| 1980 | 1 | 6 | 1800 | 14.9 | 119.1 | | 970 | |
| 1980 | 1 | 7 | 0000 | 15.0 | 118.8 | | 965 | |
| 1980 | 1 | 7 | 0600 | 15.4 | 118.5 | | 959 | |
| 1980 | 1 | 7 | 1200 | 15.8 | 118.3 | | 954 | |
| 1980 | 1 | 7 | 1800 | 16.4 | 118.3 | | 949 | |
| 1980 | 1 | 8 | 0000 | 17.1 | 118.3 | | 945 | |
| 1980 | 1 | 8 | 0600 | 17.6 | 118.3 | | 937 | |
| 1980 | 1 | 8 | 1200 | 18.1 | 118.4 | | 932 | |
| 1980 | 1 | 8 | 1800 | 18.5 | 118.5 | | 925 | |
| 1980 | 1 | 9 | 0000 | 18.8 | 118.8 | | 920 | |
| 1980 | 1 | 9 | 0600 | 19.2 | 119.3 | | 918 | |
| 1980 | 1 | 9 | 1200 | 19.4 | 119.6 | | 916 | |
| 1980 | 1 | 9 | 1800 | 19.6 | 119.8 | | 915 | |
| 1980 | 1 | 10 | 0000 | 19.8 | 119.8 | | 915 | |
| 1980 | 1 | 10 | 0600 | 20.3 | 119.6 | | 915 | |
| 1980 | 1 | 10 | 1200 | 20.6 | 119.2 | | 917 | |
| 1980 | 1 | 10 | 1800 | 21.1 | 118.4 | | 974 | |
| 1980 | 1 | 11 | 0000 | 22.0 | 117.9 | | 985 | |
| 1980 | 1 | 11 | 0600 | 22.8 | 117.0 | | 989 | |
| 1980 | 1 | 11 | 1200 | 24.0 | 116.8 | | 992 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1980 | 1 | 11 | 1800 | 25.3 | 116.9 | | 995 | |
| 1980 | 1 | 12 | 0000 | 26.4 | 117.0 | | 999 | |
| 1980 | 1 | 12 | 0600 | 28.6 | 117.6 | | 1000 | |
| 1980 | 1 | 12 | 1200 | 30.1 | 119.0 | | 1002 | |
| 1980 | 1 | 12 | 1800 | 31.4 | 121.3 | | 1003 | |

Figure 1. Track of Severe Tropical Cyclone Amy, 4-13 January 1980.
*All times in WST.*

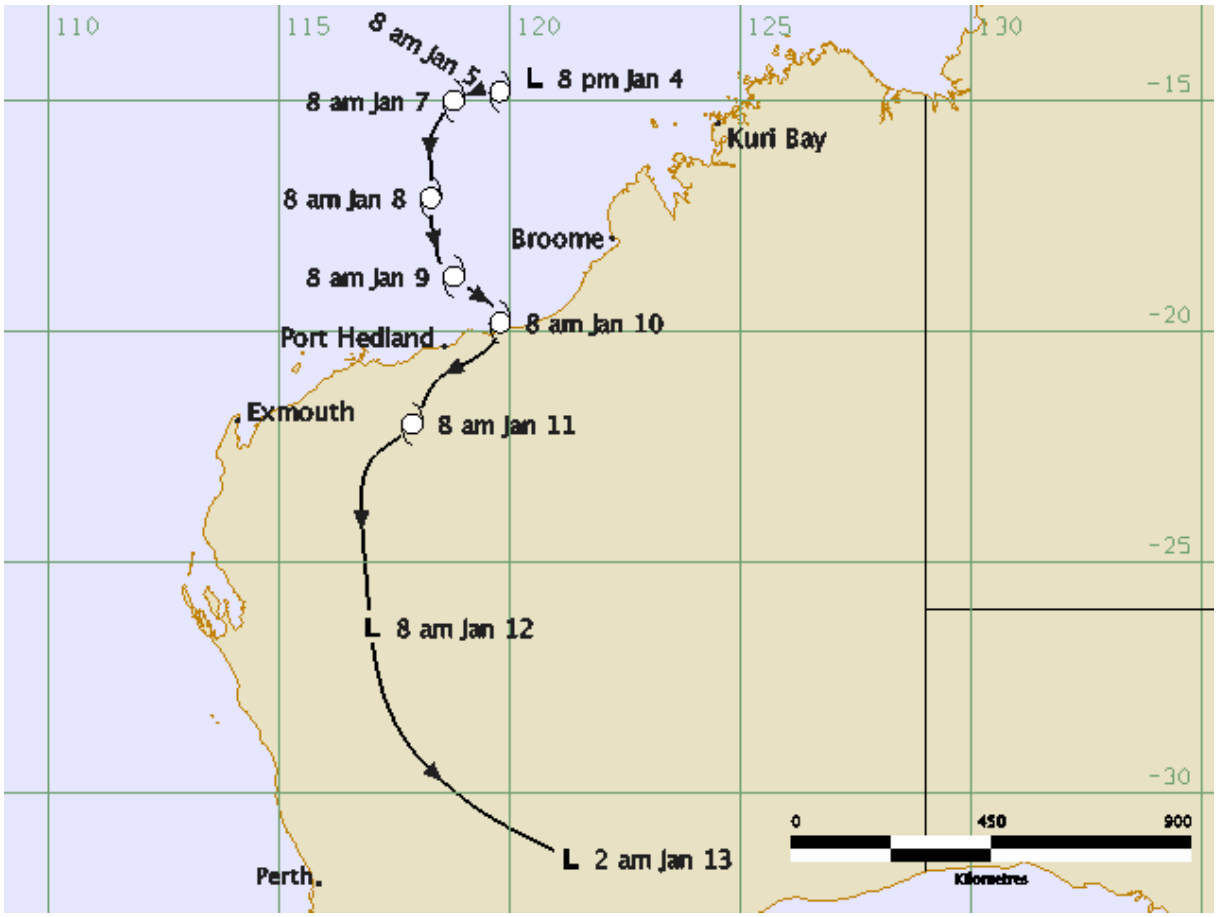



Figure 2. Photograph of Port Hedland radar display of TC Amy taken at 1824 UTC 9 January (0234 WST 10 January). Range rings are at 20 nm intervals.

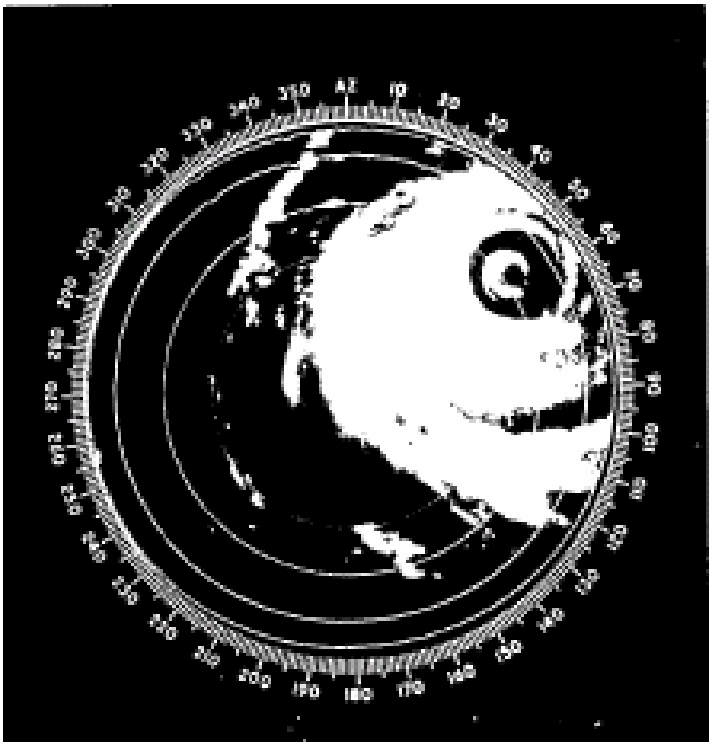

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Figure 3. The Goldsworthy barograph trace showing the pressure fell to approximately 932 hPa (corrected) during TC Amy.

