



CENTRAL PACIFIC HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL CYCLONES 1976

Central Pacific Hurricane Center

The tropical cyclone summaries for the years between 1832 and 1979 were taken from A History of Tropical Cyclones In the Central North Pacific and the Hawaiian Islands 1832-1979. This Department of Commerce publication was printed in 1981 and authored by Samuel Shaw of the Central Pacific Hurricane Center (CPHC) and the National Weather Service Forecast Office in Honolulu, Hawaii.

JULY 15-22, 1976 (HURRICANE DIANA)

DIANA was first recognized a tropical disturbance near 10N 99W, 400 miles south of Acapulco at 0600Z on July 15. The RACHEL, 75 miles west, reported intermittent, moderate rain and west-northwesterly 20 knot winds. At 1200Z the NORSE VIKING, 140 miles northeast of the disturbance, reported east-southeasterly 35-knot winds in squalls.

The disturbance was upgraded to Tropical Depression #6 at 15/1800Z near 11.5N 102.5W. The RACHEL, now 90 miles to the south, continued to report intermittent, moderate rain, but the winds had decreased to 10 knots. The depression was upgraded to Tropical Storm DIANA as it moved west-northwest over 85F water at 16/1200Z near 13N 107W with 35- knot winds. By 1800Z winds near the center increased to 45 knots. The RACHEL reported 15 knot westerly winds 180 miles to the south. Enhanced infrared satellite imagery showed DIANA with a diameter of 200 nautical miles and upper level clouds extending out about 400 miles.

By 17/1800Z, DIANA had developed an eye and winds near the center had increased to 5 knots, causing the storm to be upgraded to a hurricane near 14.4N 114.3W. DIANA continued to intensify as she moved west at 10-12 knots over 83F water. At 18/1800Z winds near the center had increased to 85 knots with gusts to 95 knots. The hurricane continued on a westerly track at 12-15 knots and began to move over cooler water toward a large low level cloud field.

Weakening slowly, DIANA was downgraded to a tropical storm with 55-knot winds at 20/1200Z near 17.1N 129.4W. Although infrared satellite imagery no longer showed DIANA with an eye, daylight visual pictures continued to show a weak remnant of the eye through 20/1800Z. Winds near the center then began to diminish quite rapidly, and the storm was downgraded to a depression with 30-knot winds at 21/1800Z near 18.4N 138W. Advisory responsibility was then handed over from the EPHC to the CPHC which tracked the depression, once again designated Tropical Depression #6, to 18.2N 145.7W at 23/0000Z when cyclonic circulation no longer existed and the final advisory on the system was issued. The vortex which was composed of the remnants of DIANA was tracked via satellite imagery for another 18 hours to 18.2N 150.0W at which point it, too, lost identity.

1976: Tropical Depression Diana (TD #6)					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
07/22/0600	18.3	141.2		30	Tropical Depression
07/22/1200	18.4	142.6		30	"
07/22/1800	18.4	144.1		25	"
07/23/0000	18.2	145.7		25	"

JULY 27 - AUGUST 3, 1976 (TROPICAL STORM FERNANDA)

A tropical disturbance was identified in satellite imagery near 13N 132.9W at 1200 GMT on the 27th. It moved west-southwest and was designated as Tropical Depression #8 near 12.4N 13.3W at 27/1800Z. By 28/0600Z winds near the center had increased to 35 knots and the system was named Tropical Storm FERNANDA and positioned near 11.9N 133.8W. Satellite pictures showed FERNANDA with a small diameter of about 200 nautical miles and no visible eye. As FERNANDA turned westward, the remnants of the earlier tropical storm, ESTELLE, 250 miles north, turned southwestward and merged with FERNANDA. This in itself was especially unusual since the cloud mass which blossomed into the disturbance which became FERNANDA had originally spun off the north side of ESTELLE.

By 29/1800Z FERNANDA began to weaken and was downgraded to a tropical depression at 13N 137W with 30-knot winds. The WAKAHATA MARU, 300 miles west, reported northerly

20-knot winds in squalls. The same vessel, at 30/0600Z, then 60 miles south of the depression reported southerly 20-knot winds.

The depression crossed 140W near 13N and was then followed the CPHC at Honolulu through 0600Z on August 1 when it dissipated near 14N 149.9W.

The vortical remnant was followed along 15N to 169W on the 3rd of August. That vortex passed south of the Hawaiian Islands on the 1st and 2nd but the associated cloud and shower shield was too far to the south of the islands to significantly affect them.

1976: Tropical Depression Fernanda (TD #8)					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
07/30/1800	12.9	142.5		30	Tropical Depression
07/31/0000	13.0	143.5		30	"
07/31/0600	13.0	144.9		30	"
07/31/1200	13.5	146.0		30	"
07/31/1800	13.7	147.5		30	"
08/01/0000	13.8	148.4		30	"
08/01/0600	14.0	149.9		30	"
08/01/1200	14.1	151.2		25	"
08/01/1800	14.3	153.1		25	"

AUGUST 3-17, 1976 (TROPICAL STORM GWEN)

GWEN began as a tropical disturbance at 1800Z on August 3 about 380 miles south of Acapulco, Mexico, near 10.5N 99W. Moving west at 13 knots the disturbance was upgraded to Tropical Depression #9 with 30-knot winds near 9.8N 107W at 05/0000Z. Within 24 hours winds had increased to 35 knots and the depression was upgraded to tropical storm GWEN near 10N 110W at 06/0000Z.

Winds increased steadily to 45 knots by 06/0600Z and to 55 knots by 08/0000Z. GWEN continued west and passed over cooler (80F) water. The storm began to slow down and weaken. At the same time, Tropical Depression #11, 900 miles to the west, was dissipating rapidly, and tropical storm HYACINTH, 75 miles to the east, was moving west and intensifying. At 08/1800Z the SERGEY YESENTN, 200 miles south-southeast of GWEN, reported 30-knot

southwesterly winds. As GWEN passed to the north of the SERGEY YESENTN winds on the ship increased to 35 knots, still out of the southwest.

By 09/0600Z GWEN had become quasi-stationary near 11N 124W. At 11/1200Z the storm was downgraded to Tropical Depression #9 (its prior nomenclature) with 30-knot winds with the center still near 11N 124W.

Between 0600Z and 1200Z on the 12th, the depression began move again. Under the influence of hurricane HYACINTH, 500 mi to the north, the depression accelerated northward at 25 knots and intensified rapidly. The depression was upgraded again to tropical storm GWEN with 45-knot winds at 12/1800Z near 15.5 N 124.0W. The ATTICA, 30 miles east of GWEN, reported southerly 45-knot winds.

By 13/1200Z GWEN was at 22N 128.5W, with 40-knot winds while HYACINTH was weakening rapidly 330 miles to the west wit 35-knot winds. The HOBART STAR, 235 miles north of GWEN at 13/1200Z, reported easterly 25-knot winds. By 1800Z the winds the HOBART STAR, now 150 miles northeast of GWEN, had shifted southeasterly at 25 knots. The COLUMBUS CAPRICORN was 140 miles west of GWEN with 30-knot northeasterly winds

Turning to the west, GWEN began to slowly weaken. The system was again downgraded and renamed Tropical Depression #9, with 30-knot winds at 14/0600Z near 24.0N 136.2W. Tropical storm HYACINTH, 200 miles to the south, continued to weaken, then turned to the north and merged with Tropical Depression #9 near 23.5N 139.0W at 14/1200Z.

The merged system, designated Tropical Depression #9, moved westward toward Kauai and maintained a minimal 25-knot circulation. After reaching 22.0N 153.0W at 17/0000Z it took a more west-northwesterly course, almost as though being deflected by the nearby presence of the Hawaiian Islands.

The final advisory on the system was issued b the CPHC at 17/1800Z locating the dying center at 23.0N 157.3W. It was possible to follow the vortical remains to 24.5N 163.8W at 18/1145Z by use of satellite imagery and interpretation.

Collapse of the trade winds over Kauai on the 17th due to the passage of the vortex some 90 nautical miles to the north resulted in a convective weather pattern which brought 1-2 inches of rainfall over the entire island. Rainfall over the other islands of the chain was not significant.

1976: Tropical Depression Gwen (TD #9)

Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
08/14/1800	22.3	140.5		30	Tropical Depression
08/15/0000	21.4	142.6		25	"

08/15/0600	21.7	143.5		25	"
08/15/1200	21.7	146.0		25	"
08/15/1800	21.7	147.5		25	"
08/16/0000	21.8	148.3		25	"
08/16/0600	22.0	149.6		25	"
08/16/1200	22.1	151.3		25	"
08/16/1800	21.9	152.1		25	"
08/17/0000	22.0	153.0		25	"
08/17/0600	22.4	154.3		25	"
08/17/1200	22.6	155.5		25	"
08/17/1800	23.0	157.3		25	"

SEPTEMBER 19 - OCTOBER 1, 1976 (HURRICANE KATE)

KATE began as a tropical disturbance noted on satellite pictures near 10N 133W on September 19 on the ITCZ. From that point it detached from the ITCZ and drifted northwest to 12.7N 140.7W where a circulation with 30-knot winds was estimated at 21/1800Z and the system was designated Tropical Depression #22. The non-AMVER listed vessel, the URFJ, about 150 miles southwest of the center reported 30-knot southwest winds at that time.

KATE reached tropical storm intensity the next day and generally drifted aimlessly along an inverted "U" track near 14N 142W. KATE reached hurricane strength on the morning of the 24th and then traveled slowly westward for a day before sharply veering north-northwestward.

On the evening of the 25th, the ATAY, about 120 miles south of KATE, reported 25- knot west winds indicating the strong winds in KATE were tightly wound near its center. Attaining maximum winds of 85 knots on the afternoon of the 26th 600 miles east-southeast of Hawaii Island, KATE did not appear an immediate threat to the State. However, by the following day it had turned northwest, and on the morning of the 28th was positioned only 330 nautical miles due east of the island of Hawaii.

A hurricane watch was issued for Hawaii Island at 6 AM HST on the 28th. The watch was continued until 11 AM on the 29th when KATE was downgraded to a tropical storm and veered sufficiently to the right of its previously expected path to pass harmlessly 240 nautical miles east-northeast of Hilo, Hawaii. Seas generated by the hurricane caused surf up to 15 feet

along the northern and eastern shores of Hawaii, Maui, and Oahu, but no significant damage was reported.

Late on the 29th the HAWAIIAN PRINCESS was caught in KATE's circulation and encountered 42-knot winds and 17-foot seas near 23.9N 152.3W. Uni-directional vertical shear in upper air westerlies then quickly caused rapid disintegration of the storm and the final advisory on the system was issued by the CPHC at 25.9N 152.9 W at 0300Z on the 2nd of October.

1976: Hurricane Kate					
Date/Time (UTC)	Latitude (N)	Longitude (W)	Pressure (mb)	Wind Speed (kt)	Stage/Notes
09/21/1800	12.9	140.5		30	Tropical Depression
09/22/0000	13.4	141.2		30	"
09/22/0600	13.6	141.6		30	"
09/22/1200	13.9	142.0		30	"
09/22/1800	14.0	142.0		30	"
09/23/0000	14.1	141.9		35	Tropical Storm
09/23/0600	14.1	141.8		35	"
09/23/1200	14.2	141.8		40	"
09/23/1800	14.3	141.8		45	"
09/24/0000	14.4	141.9		45	"
09/24/0600	14.4	142.0		60	"
09/24/1200	14.3	142.2		60	"
09/24/1800	14.1	142.3		65	Hurricane Cat. 1
09/25/0000	14.1	142.6		70	"
09/25/0600	14.1	142.9		70	"
09/25/1200	14.2	143.2		70	"
09/25/1800	14.2	143.6		70	"

09/26/0000	14.3	144.0		70	"
09/26/0600	14.6	144.3		70	"
09/26/1200	15.1	144.6		70	"
09/26/1800	15.7	144.9	971	80	"
09/27/0000	16.0	145.0		85	Hurricane Cat. 2
09/27/0600	16.4	145.1		85	"
09/27/1200	17.0	145.4		80	Hurricane Cat. 1
09/27/1800	17.5	145.8	979	80	"
09/28/0000	18.2	146.6		75	"
09/28/0600	18.7	147.3		75	"
09/28/1200	19.1	148.3		75	"
09/28/1800	19.4	149.1	984	70	"
09/29/0000	20.2	150.0		65	"
09/29/0600	21.1	150.9		65	"
09/29/1200	21.8	151.5		60	Tropical Storm
09/29/1800	22.4	152.2	988	55	"
09/30/0000	22.8	152.5	986	50	"
09/30/0600	23.5	152.6		50	"
09/30/1200	24.6	152.3	987	45	"
09/30/1800	24.9	152.2		45	"
10/01/0000	25.2	152.2		40	"
10/01/0600	25.4	152.2		35	"
10/01/1200	25.6	152.2		35	"
10/01/1800	25.8	152.4		30	Tropical Depression

10/02/0000	26.0	152.7		30	"
------------	------	-------	--	----	---