Tropical Cyclone Report
Hurricane Kristy
(EP122006)
30 August - 8 September 2006
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National Hurricane Center
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Hurricane Kristy spent most of its lifetime over the tropical eastern North Pacific.

a. Synoptic History

Kristy developed from a tropical wave that crossed Dakar, Senegal on 13 August and was identified by a large swirl of low clouds and little convection. The wave moved westward for two weeks across the Atlantic Ocean, the Caribbean Sea and a good portion of the eastern North Pacific. There was very little thunderstorm activity associated with the wave until it reached Central America on 22 August. The wave continued westward and it was not until 29 August that the shower activity became persistent and began to show signs of organization. Based on Dvorak classifications, it is estimated that a tropical depression formed at 0000 UTC 30 August about 520 n mi southwest of the southern tip of Baja California. Six hours later, it became a tropical storm.

The cyclone strengthened further as it moved slowly toward the northwest and became a hurricane at 0600 UTC 31 August. It reached its peak intensity of 70 kt and a minimum pressure of 985 mb at 1200 UTC on the same day, when an eye-like feature was observed on microwave imagery. Thereafter, the steering currents collapsed and Kristy began to meander for a while. It then weakened due to the northeasterly wind shear caused by the outflow associated with Hurricane John which was approaching Baja California. The high pressure ridge built to the north of the cyclone and Kristy began to move slowly westward fluctuating in intensity between storm and depression status until 0600 UTC 8 August when it became a remnant low. The low continued to move slowly westward and degenerated into a wave on the 9 September.

The “best track” chart of the tropical cyclone’s path is given in Fig. 1, with the wind and pressure histories shown in Figs. 2 and 3, respectively. The best track positions and intensities are listed in Table 1.

b. Meteorological Statistics

Observations in Kristy (Figs. 2 and 3) include satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB), the Satellite Analysis Branch (SAB) and the U. S. Air Force Weather Agency (AFWA). Microwave satellite imagery from NOAA polar-orbiting satellites, the NASA Tropical Rainfall Measuring Mission (TRMM), the NASA QuikSCAT, and Defense Meteorological Satellite Program (DMSP) satellites were also

useful in tracking Kristy. The 70-kt peak intensity was based on the average of the Dvorak T-numbers.

c. Casualty and Damage Statistics

There are no reports of casualties or damage associated with Kristy.

d. Forecast and Warning Critique

The description of the disturbance from which Kristy originated was included in Tropical Weather Outlooks (TWO) products beginning on 28 August. However, the possibility of tropical cyclone formation was not mentioned in the TWO until 4 PM PDT 29 August, just two hours before Kristy formed.

Average official track errors (with the number of cases in parentheses) for Kristy were 36 (35), 66 (33), 96 (31), 122 (28), 196 (18), 284 (10) and 317 (10) n mi for the 12, 24, 36, 48, 72, 96, and 120 h forecasts, respectively. These errors are above the average official track errors for the 5-yr period 2001-2005 of 35, 60, 83, 103, 145, 192, and 231 n mi, respectively. Table 2 displays the forecast track model statistics and shows the comparison with the official forecast track.

Average official intensity errors were 5, 9, 12, 13, 11, 8 and 8 knots for the 12, 24, 36, 48, 72, 96 and 120 h forecasts, respectively. These errors are much lower than the long-term averages of 6, 11, 14, 17, 19, 18, and 19 knots for the same 5-yr period. Table 3 includes the forecast intensity model statistics as well as the average official intensity forecast errors. With the exception of the 4 and 5 day forecasts, the models performed better than the official forecast errors.

No watches or warnings were required for Kristy.

Table 1. Best track for Hurricane Kristy, 30 August – 8 September 2006.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
30 / 0000	16.0	114.0	1007	30	tropical depression
30 / 0600	16.3	114.4	1005	35	tropical storm
30 / 1200	16.5	114.9	1000	50	"
30 / 1800	16.7	115.2	994	55	"
31 / 0000	17.0	115.5	990	60	"
31 / 0600	17.4	115.9	987	65	hurricane
31 / 1200	17.8	116.4	985	70	"
31 / 1800	18.2	116.9	987	65	"
01 / 0000	18.7	117.4	990	65	"
01 / 0600	19.0	117.9	992	60	tropical storm
01 / 1200	19.0	118.2	995	50	"
01 / 1800	19.0	118.6	998	45	"
02 / 0000	19.0	118.7	1003	40	"
02 / 0600	18.9	118.8	1004	35	"
02 / 1200	18.7	118.8	1005	35	"
02 / 1800	18.4	118.7	1007	30	tropical depression
03 / 0000	18.3	118.5	1009	30	"
03 / 0600	18.2	118.3	1009	30	"
03 / 1200	18.1	118.1	1009	30	"
03 / 1800	17.8	118.1	1005	35	tropical storm
04 / 0000	17.7	118.3	1006	35	"
04 / 0600	17.1	118.3	1007	30	tropical depression
04 / 1200	16.8	118.7	1007	30	"
04 / 1800	16.4	119.1	1007	30	"
05 / 0000	16.2	119.5	1007	30	"
05 / 0600	16.2	120.2	1007	30	"
05 / 1200	16.3	121.1	1005	35	tropical storm
05 / 1800	16.5	122.3	1003	35	"
06 / 0000	16.5	123.5	1004	35	"
06 / 0600	16.5	124.8	1005	35	"
06 / 1200	16.5	126.1	1007	30	tropical depression
06 / 1800	16.5	127.3	1007	30	"
07 / 0000	16.4	128.2	1007	30	"
07 / 0600	16.3	129.0	1008	25	"
07 / 1200	16.2	129.6	1009	25	"
07 / 1800	16.0	130.1	1009	25	"
08 / 0000	15.5	130.9	1009	25	"
08 / 0600	15.2	131.4	1009	20	remnant low
08 / 1200	15.0	131.8	1009	20	"
08 / 1800	15.0	131.9	1009	20	"

09 / 0000	15.0	132.0	1009	20	"
09 / 0600	15.0	132.5	1009	20	"
09 / 1200					dissipated
31 / 1200	17.8	116.4	985	70	minimum pressure

Table. 2. Preliminary forecast evaluation (heterogeneous sample) for Hurricane Kristy, 30 August - 8 September 2006. Forecast errors (n mi) are followed by the number of forecasts in parentheses. Errors smaller than the NHC official forecast are shown in bold-face type. Verification includes the depression stage, but does not include the extratropical stage.

Forecast Technique	Forecast Period (h)						
	12	24	36	48	72	96	120
CLP5	40 (35)	83 (33)	126 (31)	176 (29)	299 (25)	418 (21)	475 (17)
GFNI	48 (33)	110 (31)	190 (29)	276 (22)	568 (9)	541 (4)	628 (2)
GFDI	42 (35)	77 (33)	113 (31)	137 (29)	197 (25)	288 (21)	349 (17)
GFSI	43 (33)	75 (30)	102 (29)	124 (24)	**177 (15)**	**268 (5)**	499 (2)
AEMI	43 (35)	66 (30)	**87 (29)**	**108 (28)**	197 (15)	425 (7)	581 (3)
NGPI	47 (35)	99 (33)	158 (31)	222 (29)	283 (23)	286 (17)	344 (10)
UKMI	38 (32)	70 (30)	102 (28)	125 (26)	**182 (14)**	**272 (6)**	295 (2)
BAMD	60 (34)	114 (32)	167 (30)	220 (28)	365 (24)	549 (20)	708 (17)
BAMM	49 (34)	85 (32)	116 (30)	149 (28)	256 (24)	400 (20)	535 (17)
BAMS	45 (35)	78 (33)	106 (31)	126 (29)	**192 (25)**	296 (21)	403 (17)
CONU	**35 (35)**	66 (33)	**95 (31)**	**119 (29)**	**153 (25)**	**229 (19)**	**297 (12)**
GUNA	37 (30)	67 (27)	**91 (26)**	**105 (21)**	**134 (8)**		
FSSE	**35 (24)**	**63 (24)**	**89 (23)**	**103 (21)**	**155 (19)**	**244 (12)**	**315 (10)**
OFCL	36 (35)	66 (33)	96 (31)	122 (28)	196 (18)	284 (10)	317 (10)
NHC Official (2001-2005 mean)	35 (1300)	60 (1152)	83 (1009)	103 (877)	145 (652)	192 (465)	231 (313)

Table 3. Preliminary intensity forecast evaluation (heterogeneous sample) for Hurricane Kristy, 30 August - 8 September 2006. Forecast errors (kt) are followed by the number of forecasts in parentheses. Errors smaller than the NHC official forecast are shown in bold-face type. Verification includes the depression stage, but does not include the extratropical stage, if any.

Forecast Technique	Forecast Period (h)						
	12	24	36	48	72	96	120
SHF5	5.4 (35)	**8.6 (33)**	**11.9 (31)**	**12.7 (29)**	19.4 (25)	20.6 (21)	18.0 (17)
GFDI	5.6 (35)	**8.3 (33)**	**9.8 (31)**	**9.7 (29)**	**8.8 (25)**	**7.6 (21)**	**8.4 (16)**
SHIP	5.1 (35)	**8.0 (33)**	**10.3 (31)**	**12.0 (29)**	12.4 (22)	9.0 (17)	**7.7 (12)**
DSHP	5.1 (35)	**8.0 (33)**	**10.3 (31)**	**12.0 (29)**	12.4 (22)	9.0 (17)	**7.7 (12)**
FSSE	5.5 (24)	**8.4 (24)**	**10.5 (23)**	**11.0 (21)**	**10.8 (19)**	10.8 (12)	14.0 (10)
ICON	**4.8 (34)**	**6.7 (32)**	**8.0 (30)**	**8.7 (28)**	**8.7 (21)**	**4.6 (16)**	**4.3 (11)**
OFCL	5.0 (35)	9.7 (33)	12.3 (31)	13.4 (28)	11.1 (18)	8.0 (10)	8.0 (10)
NHC Official (2001-2005 mean)	6.2 (1300)	10.8 (1152)	14.3 (1009)	16.5 (876)	18.7 (652)	18.3 (465)	19.3 (313)

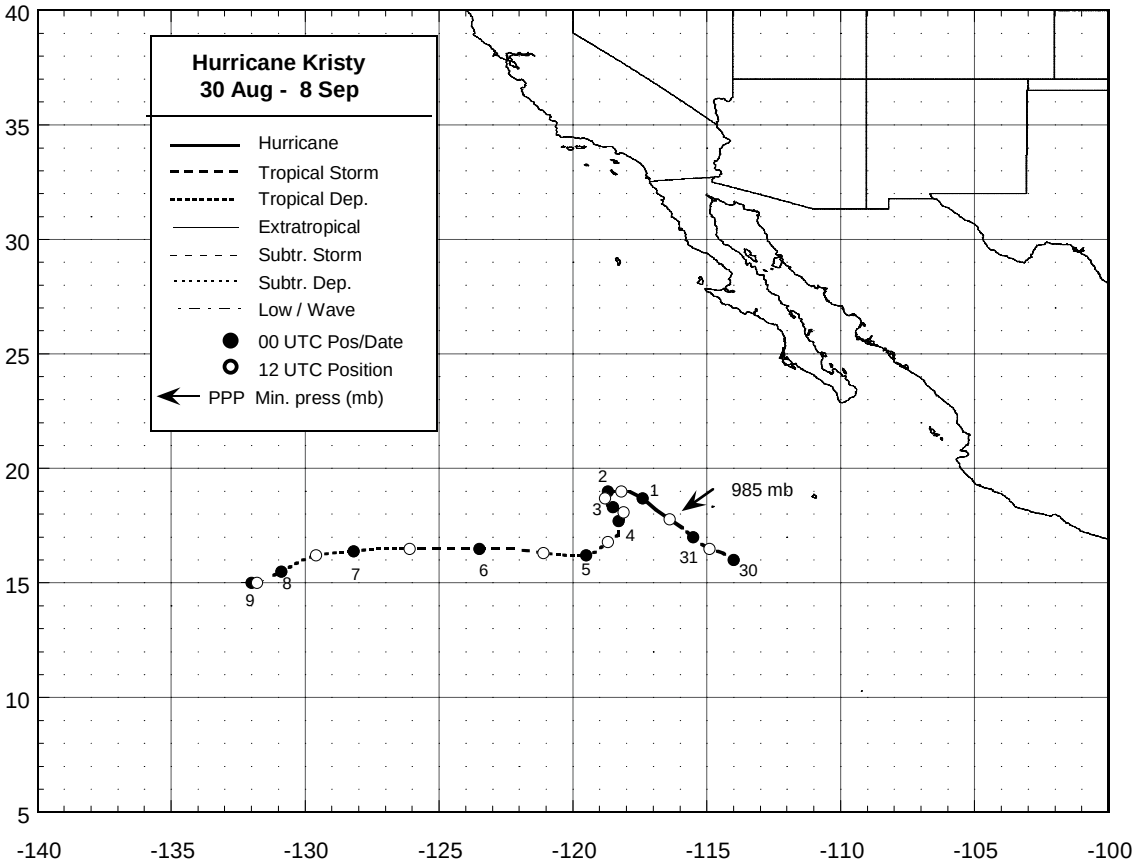

Figure 1. Best track positions for Hurricane Kristy 30 August - 8 September 2006.

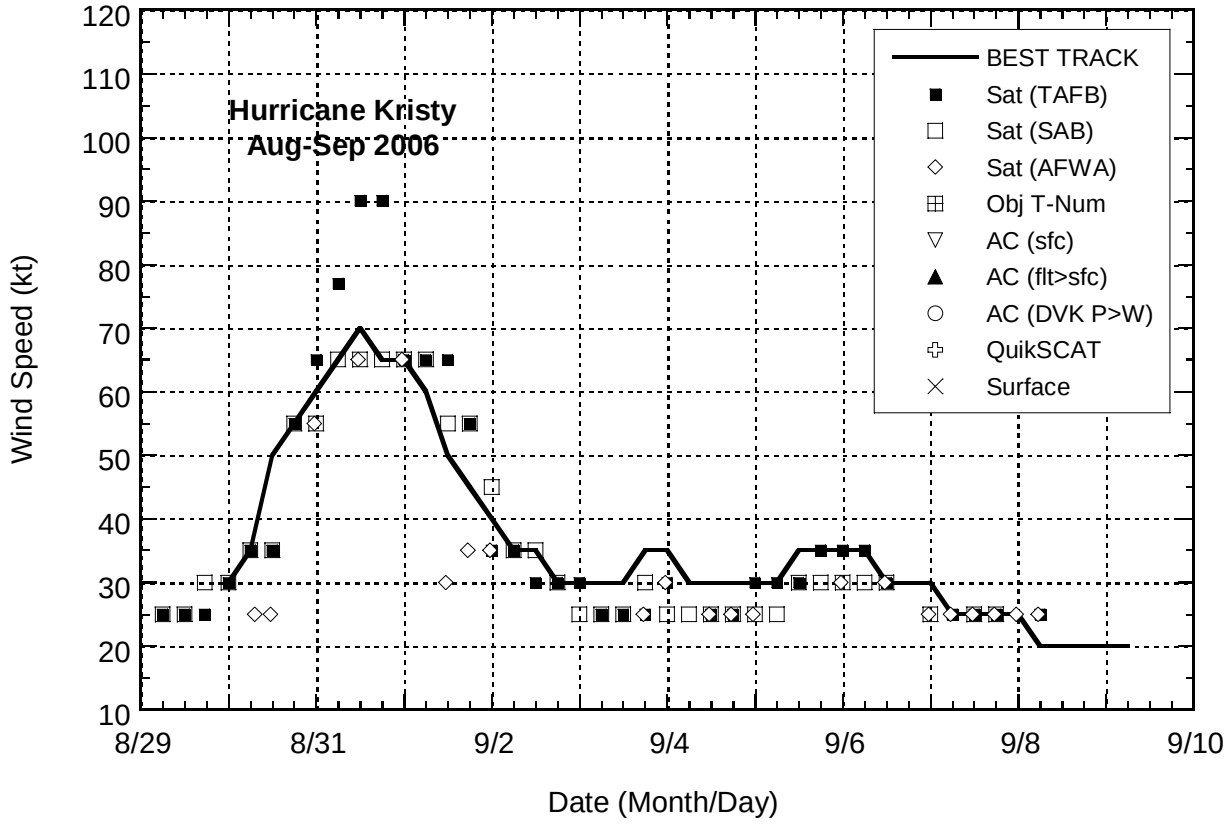

Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Hurricane Kristy, 30 August - 8 September 2006

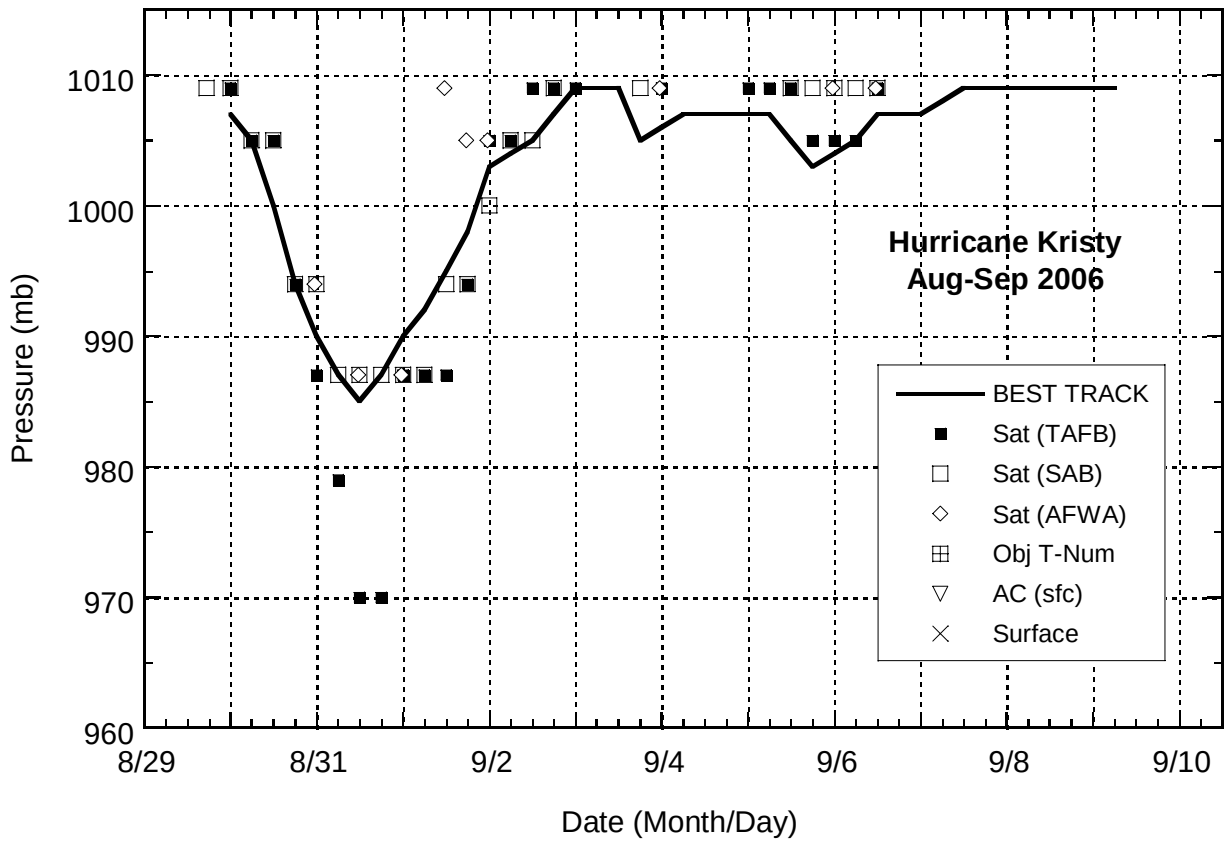

Figure 3. Selected pressure observations and best track minimum central pressure curve for Hurricane Kristy, 30 August- 8 September 2006.