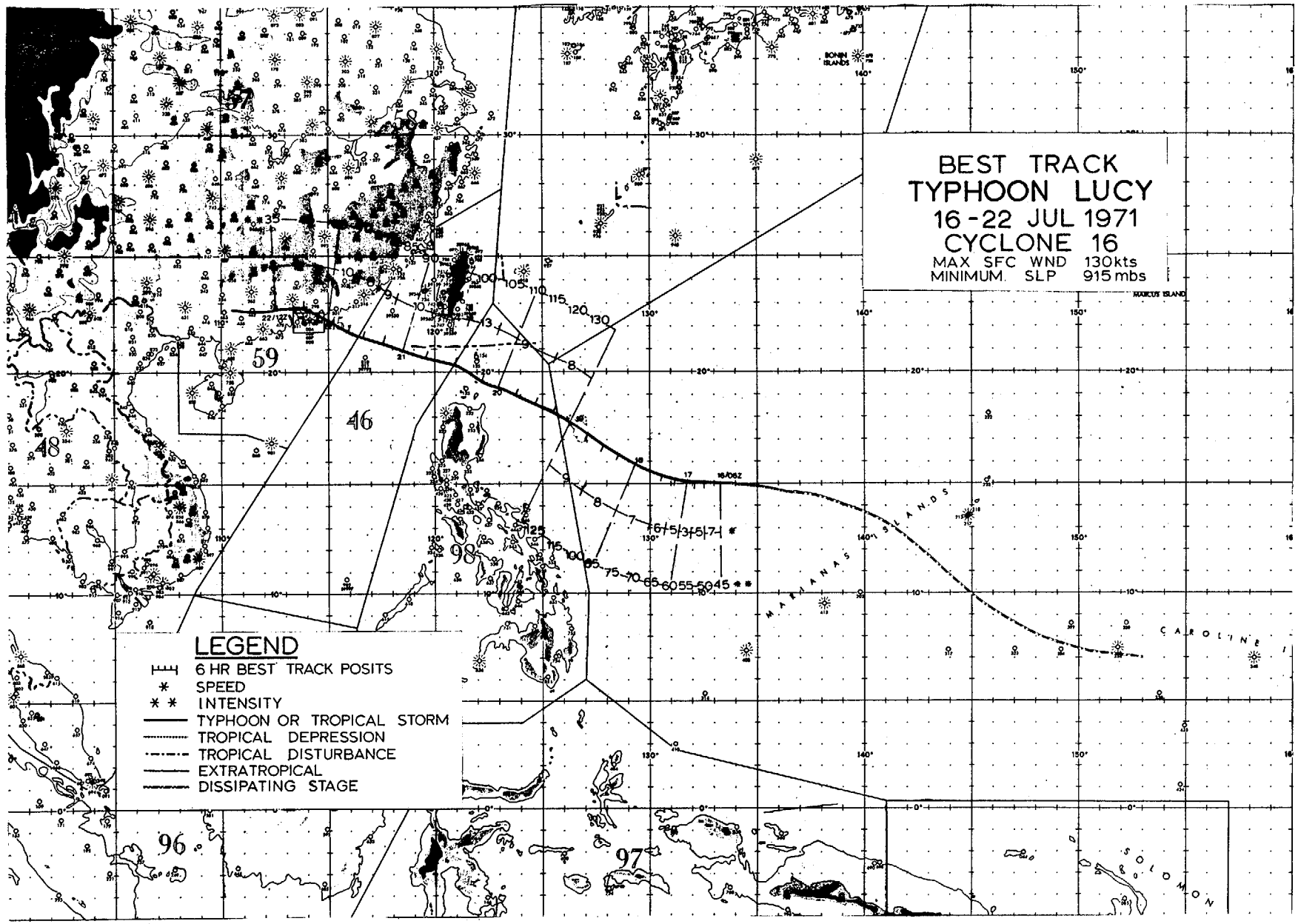
BEST TRACK
TYPHOON LUCY
16-22 JUL 1971
CYCLONE 16
MAX SFC WND 130kts
MINIMUM SLP 915 mbs
LEGEND
6 HR BEST TRACK POSITS
SPEED
INTENSITY
TYPHOON OR TROPICAL STORM
TROPICAL DEPRESSION
TROPICAL DISTURBANCE
EXTRATROPICAL
DISSIPATING STAGE
MARIANAS ISLANDS
CAROLINE I
SOLOMON
BONIN ISLANDS
MARCUS ISLAND
46
48
59
58
96
97
98

LUCY

The second super typhoon of the year showed her early signs of origin on 11 July as a circulation in the equatorial trough near the Truk Islands. After a five-day journey which brought the system into the Philippine Sea, Lucy became a tropical storm at a point 750 miles east of Manila.

While typhoon Jean was churning the waters of the South China Sea, aircraft reconnaissance measurements noted a steady reduction in Lucy's central pressure once she became a typhoon on the 17th. Thirty hours later a dropsonde reading in the eye indicated Lucy had bottomed out at 915 mb the morning of the 19th and that super typhoon level (130 kt) had been reached (Figure 5-21).

On a west-northwest track of 8-9 kt, the typhoon headed for the Luzon Straits. Navigating the straits, Lucy weakened slightly and passed 50 miles south of the Bataan Islands on the afternoon of the 20th. The Philippine Weather Bureau station at Basco registered a maximum sustained wind of 103 kt during Lucy's passage.

The circulation associated with the typhoon had grown to a diameter of 600 n mi by this time. Manila, located 300 miles to the south, came under strong southwesterly winds of 16 to 25 kt with gusts to 30 kt.

Lucy did not only buffet northern and central Luzon with destructive strong winds but dumped heavy rains causing severe flooding and landslides. Baguio city, during this period, reported a 24-hour rainfall total of 14.92 inches.

In Taiwan, highest winds reported were at Lanyu with 64 kt and gusts to 85 kt. Rainfall was considerably less in Taiwan with a maximum 24-hour amount of 4.97 inches measured at Taitung. Casualty reports in Taiwan listed two persons killed and five missing.

Lucy weakened to tropical storm force as she continued on her westerly course for the South China mainland (Figure 5-22). Striking the coast 15 miles northeast of Hong Kong, gusts of 80 kt were measured at Tate's Cairn in the colony while a minimum pressure of 977.9 mb was observed at the Royal Observatory. The storm continued to weaken as she moved inland and finally dissipated in the interior north of the Luichow peninsula.

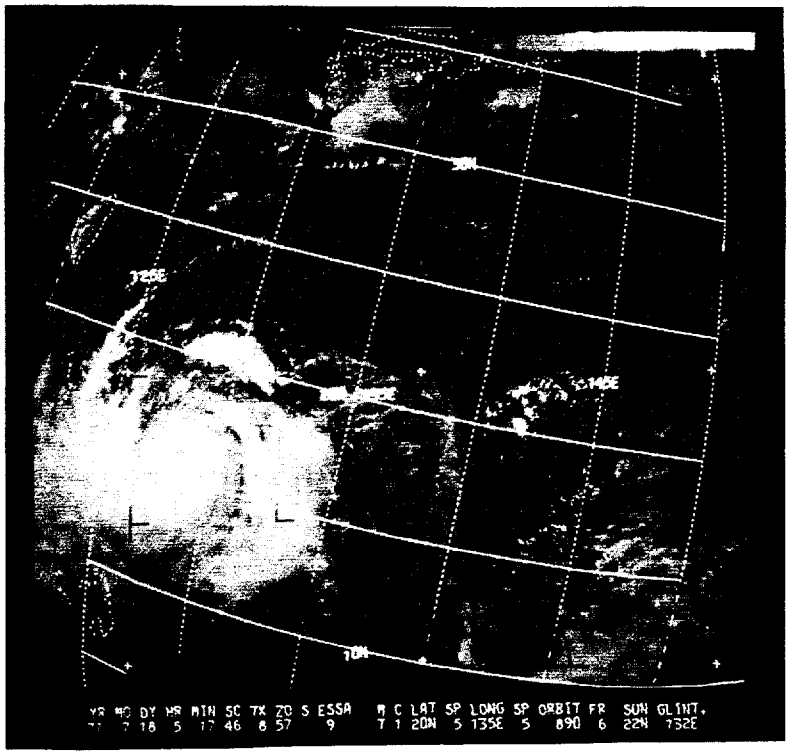

FIGURE 5-21. LUCY, LESS THAN A DAY FROM DEVELOPING TO A SUPER TYPHOON, AS SEEN BY ESSA-9 IN THE PHILIPPINE SEA ON 18 JULY.

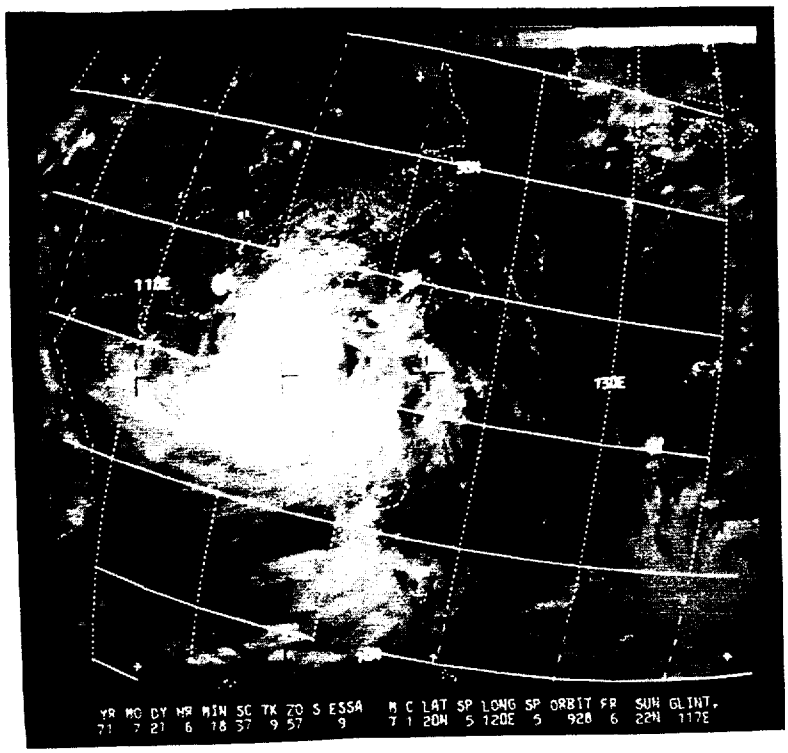

FIGURE 5-22. WEAKENED BY HER TRANSIT OF THE LUZON STRAITS, LUCY IS SEEN EAST OF HONG KONG ON 21 JULY. DISTURBANCE IN THE LOWER RIGHT PORTION OF THE ESSA-9 PHOTO IS TROPICAL STORM NADINE.

TYPHOON LUCY
EYE FIXES FOR CYCLONE NO. 16
16 JUL - 22 JUL 71

FIX NO.	TIME	POSIT	UNIT-METHOD -ACCY	FLT LVL	FLT LVL WND	OBS SFC WND	OBS MIN SLP	MIN 700MB HGT	FLT LVL TI/TO	EYE FORM	ORIEN-TATION	EYE DIA	THKN WALL CLD	REMARKS	POSIT OF RADAR
1	110509Z	7.0N 152.0E	SATELIT---	STG B										BANDS TO S	
2	120507Z	8.0N 148.0E	SATELIT---	STG B										LITTLE CHG	
3	130411Z	13.0N 145.0E	SATELIT---	STG B										POORLY ORGANIZED	
4	140509Z	13.0N 142.0E	SATELIT---	STG B										LITTLE CHG	
5	150412Z	13.0N 140.0E	SATELIT---	STG B										LITTLE CHG	
6	160511Z	15.0N 132.5E	SATELIT---	STG C+										STRONGER	
7	161108Z	15.0N 132.5E	54-P- 3- 7	700MB	75	----	972	2966	14/11	CIRC		30	--	WC FORMING W	
8	161545Z	15.1N 132.1E	54-P- 5- 7	700MB	50	----	980	2966	13/08	CIRC		35	--	WC OPEN F-N	
9	162236Z	15.1N 131.8E	54-P- 5---	700MB	55	55	981	2923	15/09	CIRC		65	--	CLSD WC	
10	170415Z	15.2N 131.4E	54-P- 1-19	700MB	50	60	979	2883	12/07	----	-----	--	--	NO WC-SFC WIND CNTR 6NM DIA	
11	170610Z	15.5N 131.0E	SATELIT---	STG X	DIA	3	CAT 2.0							MORE INTENSE	
12	171000Z	15.5N 131.0E	54-P- 1- 9	700MB	70	65	963	2819	15/10	CIRC		40	--	WC POORLY DEF-700 CNTR 5NM SE	
13	171607Z	15.6N 130.1E	54-P- 5- 3	700MB	60	----	961	2752	14/06	CIRC		30	--	CLSD WC-STG FBS	
14	171810Z	15.9N 129.9E	54-P------	700MB	----	----	----	2707	15/--	----	-----	--	--		
15	172100Z	16.1N 129.0E	54-P- 5---	700MB	70	75	----	2707	15/08	CIRC		35	--	CLSD WC-STG FBS	
16	180428Z	16.7N 128.3E	VQ-R-10---	300M	----	75	----	----	--/25	CIRC		25	8	CLSD WC	15.8N 129.1E
17	180517Z	16.0N 128.0E	SATELIT---	STG X	DIA	4	CAT 4.0								
18	180632Z	16.4N 128.4E	VQ-R------	300M	----	----	----	----	--/--	----	-----	--	--	90KT SFC WIND OBS 80NM N OF CNTR	17.5N 128.2E
19	180910Z	16.6N 128.2E	VQ-P- 5- 3	700MB	120	115	929	2509	21/13	CIRC		23	8	CLSD WC	
20	181600Z	17.0N 127.4E	54-P- 5---	700MB	110	----	915	2356	23/15	CIRC		20	8	CLSD WC	
21	181745Z	17.2N 127.2E	54-P------	700MB	----	----	----	----	--/--	----	-----	--	--		
22	182200Z	17.8N 126.6E	54-P- 2---	700MB	95	110	918	2368	22/13	CIRC		20	7	CLSD WC-FIX OVR VISUAL CIRC CNTR	
23	190600Z	18.3N 125.5E	54-P- 2- 2	700MB	110	115	912	2295	19/11	CIRC		30	10	CLSD WC-TOPS 30K	
24	190616Z	18.2N 125.2E	SATELIT---	STG X	DIA	5	CAT 4.0								
25	190737Z	18.4N 125.3E	54-P------	700MB	----	----	----	----	--/--	----	-----	--	--		
26	191000Z	18.6N 125.0E	54-P- 2- 2	700MB	105	110	920	2356	18/12	CIRC		30	10	CLSD WC-TOPS 30K	
27	191600Z	19.0N 124.4E	VQ-R- 5- 5	300M	----	----	----	----	--/--	CIRC		60	--	CLSD WC-PSBL CONC EYE+INDISTINCT	18.0N 124.6E
28	192050Z	19.1N 123.4E	VQ-R- 5- 5	-----	----	----	----	----	--/--	CONC	-	60X11	4	CLSD OUTER WC	17.9N 123.8E
29	200100Z	19.5N 122.8E	54-P- 5---	700MB	95	120	935	2512	17/13	CONC	-	15X45	10	CLSD OUTER WC TOPS INNER WC 15K	
30	200300Z	19.6N 122.7E	LND RDR---							----	-----	--	--	TAIWAN RDR	
31	200400Z	19.5N 122.3E	54-P- 2- 1	700MB	105	120	937	2530	17/11	CIRC		15	2	CLSD WC-OUTER WC DISSIPATED	
32	200400Z	19.7N 122.5E	LND RDR---							----	-----	--	--	TAIWAN RDR	
33	200500Z	19.8N 122.3E	LND RDR---							----	-----	--	--	TAIWAN RDR	
34	200500Z	19.8N 122.8E	LND RDR---							----	-----	--	--	REP PHIL RDR	
35	200530Z	19.9N 122.3E	LND RDR---							----	-----	--	--	TAIWAN RDR	
36	200540Z	20.0N 122.0E	LND RDR---							----	-----	--	--	REP PHIL RDR	
37	200600Z	19.9N 122.2E	LND RDR---							----	-----	--	--	TAIWAN RDR	
38	200700Z	20.0N 122.0E	LND RDR---							----	-----	--	--	TAIWAN RDR	
39	200700Z	19.9N 122.4E	54-P- 2---	700MB	105	110	937	2505	--/--	ELIP	NE-SW	45X30	10	INNER WC WEAKENED	
40	200710Z	20.0N 122.0E	SATELIT---	STG X	DIA	4	CAT 4.0							EYE VISIBLE	
41	200900Z	20.3N 121.8E	LND RDR---							----	-----	--	--	TAIWAN RDR	
42	200900Z	20.1N 121.8E	54-P- 5---	700MB	95	110	939	2566	--/--	CIRC		40	10	INNER WC GONE-RDR PRES CHG RAPIDLY	

TYPHOON LUCY
EYE FIXES FOR CYCLONE NO. 16
16 JUL - 22 JUL 71

FIX NO.	TIME	POSIT	UNIT-METHOD -ACCY	FLT LVL	FLT LVL WND	OBS SFC WND	OBS MIN SLP	MIN 700MB HGT	FLT LVL TI/TO	EYE FORM	ORIEN-TATION	EYE DIA	THKN WALL CLD	REMARKS	POSIT OF RADAR
43	201100Z	20.3N 121.6E	LND RDR---							----	-----	--	--	TAIWAN RDR	
44	201200Z	20.5N 121.1E	LND RDR---							----	-----	--	--	TAIWAN RDR	
45	201300Z	20.5N 120.8E	LND RDR---							----	-----	--	--	TAIWAN RDR	
46	201538Z	20.6N 120.0E	54-P- 2---	500MB	75	----	952	----	+3/-5	CIRC		20	10	WC OPEN N	
47	201652Z	20.8N 120.0E	LND RDR---							----	-----	--	--	TAIWAN RDR	
48	201800Z	20.6N 119.8E	LND RDR---							----	-----	--	--	TAIWAN RDR	
49	201900Z	20.7N 119.6E	LND RDR---							----	-----	--	--	TAIWAN RDR	
50	201900Z	20.7N 119.5E	54-P- 2---	500MB	90	----	945	----	+3/-6	CIRC		25	10	POOR RDR PRES	
51	202000Z	20.9N 119.5E	LND RDR---							----	-----	--	--	TAIWAN RDR	
52	202000Z	20.5N 119.3E	LND RDR---							----	-----	--	--	REP PHIL RDR	
53	202100Z	20.9N 119.3E	LND RDR---							----	-----	--	--	TAIWAN RDR	
54	202115Z	20.9N 119.1E	54-P- 2---	500MB	100	----	953	----	+2/ 0	CIRC		30	3	WC CLSD	
55	202200Z	20.9N 119.0E	LND RDR---							----	-----	--	--	TAIWAN RDR	
56	210000Z	20.8N 118.6E	LND RDR---							----	-----	--	--	TAIWAN RDR	
57	210100Z	20.9N 118.4E	LND RDR---							----	-----	--	--	TAIWAN RDR	
58	210200Z	21.0N 118.2E	LND RDR---							----	-----	--	--	TAIWAN RDR	
59	210300Z	21.2N 118.2E	LND RDR---							----	-----	--	--	TAIWAN RDR	
60	210400Z	21.3N 118.0E	LND RDR---							----	-----	--	--	TAIWAN RDR	
61	210500Z	21.4N 117.7E	LND RDR---							----	-----	--	--	TAIWAN RDR	
62	210500Z	21.3N 117.9E	LND RDR---							----	-----	--	--	TAIWAN RDR	
63	210600Z	21.1N 117.6E	LND RDR---							----	-----	--	--	TAIWAN RDR	
64	210618Z	21.0N 117.0E	SATELIT---	STG X	DIA	4	CAT 3.5							EYE NOT VISIBLE	
65	210618Z	21.0N 117.8E	LND RDR---							----	-----	--	--	TAIWAN RDR	
66	210630Z	21.2N 117.4E	54-P-30---	500MB	----	----	----	----	--/--	CIRC		25	8	RDR PRES POOR	20.7N 117.5E
67	210700Z	21.1N 116.8E	LND RDR---							----	-----	--	--	POOR FIX-VHHH	22.3N 114.2E
68	211200Z	21.2N 116.6E	LND RDR---							----	-----	--	--	POOR FIX-VHHH	22.3N 114.2E
69	211500Z	21.5N 116.4E	LND RDR---							----	-----	--	--	POOR FIX-VHHH	22.3N 114.2E
70	211800Z	21.8N 115.9E	LND RDR---							----	-----	--	--	GOOD FIX-VHHH	22.3N 114.2E
71	212100Z	22.0N 115.6E	LND RDR---							----	-----	--	--	GOOD FIX-VHHH	22.3N 114.2E
72	212200Z	22.0N 115.4E	LND RDR---							----	-----	--	--	GOOD FIX-VHHH	22.3N 114.2E
73	212300Z	22.1N 115.3E	LND RDR---							----	-----	--	--	GOOD FIX-VHHH	22.3N 114.2E
74	220000Z	22.2N 115.2E	LND RDR---							----	-----	--	--	GOOD FIX-VHHH	22.3N 114.2E
75	220100Z	22.2N 114.9E	LND RDR---							----	-----	--	--	FAIR FIX	
76	220200Z	22.4N 114.8E	LND RDR---							----	-----	--	--	FAIR FIX-VHHH	22.3N 114.2E
77	220300Z	22.6N 114.7E	LND RDR---							----	-----	--	--	POOR FIX-VHHH	22.3N 114.2E
78	220400Z	22.6N 114.4E	LND RDR---							----	-----	--	--	GOOD FIX-VHHH	22.3N 114.2E
79	220500Z	22.7N 114.2E	LND RDR---							----	-----	--	--	GOOD FIX-VHHH	22.3N 114.2E

TYPHOON LUCY

0600Z 16 JUL TO 1200Z 22 JUL

	BEST TRACK		WARNING				24 HOUR FORECAST				48 HOUR FORECAST				72 HOUR FORECAST			
					ERRORS				ERRORS				ERRORS				ERRORS	
	POSIT	WIND	POSIT	WIND	DST	WIND	POSIT	WIND	DST	WIND	POSIT	WIND	DST	WIND	POSIT	WIND	DST	WIND
160600Z	15.0N 133.2E	45	15.2N 133.3E	30	13	-15	16.0N 129.5E	50	109	-15	--.- ---.-	--	--	--	--.- ---.-	--	--	--
161200Z	15.1N 132.5E	50	15.1N 132.4E	60	6	10	16.1N 128.1E	100	151	30	18.2N 123.5E	120	264	5	21.2N 119.0E	100	356	-20
161800Z	15.1N 132.0E	55	15.1N 131.8E	60	12	5	16.2N 128.0E	100	115	25	18.1N 123.8E	120	192	-5	--.- ---.-	--	--	--
170000Z	15.1N 131.7E	60	15.1N 131.7E	65	0	5	15.6N 129.7E	80	29	-5	16.7N 126.7E	95	72	-30	18.6N 123.0E	115	48	5
170600Z	15.2N 131.2E	65	15.3N 130.8E	70	24	5	16.4N 127.2E	95	80	-5	18.4N 123.2E	115	131	-15	--.- ---.-	--	--	--
171200Z	15.3N 130.6E	70	15.5N 130.8E	70	17	0	16.2N 128.8E	85	63	-30	17.5N 125.8E	95	91	-25	19.6N 122.3E	105	87	5
171800Z	15.6N 129.9E	75	15.7N 129.9E	80	6	5	17.2N 126.6E	100	31	-25	18.8N 123.4E	110	21	-5	--.- ---.-	--	--	--
180000Z	15.9N 129.3E	85	16.0N 129.2E	90	8	5	17.4N 126.0E	110	26	-15	19.1N 123.1E	120	21	10	21.0N 120.3E	115	100	20
180600Z	16.4N 128.6E	100	16.5N 128.3E	100	18	0	17.9N 125.0E	115	37	-15	19.7N 122.2E	120	6	15	--.- ---.-	--	--	--
181200Z	16.8N 127.9E	115	16.8N 127.8E	115	6	0	18.7N 124.7E	130	6	10	20.8N 121.6E	120	41	20	22.5N 119.2E	110	156	30
181800Z	17.4N 127.1E	125	17.2N 127.2E	120	13	-5	18.9N 124.4E	130	40	15	20.6N 121.8E	120	123	25	--.- ---.-	--	--	--
190000Z	17.8N 126.2E	125	17.9N 126.4E	130	13	5	19.7N 123.4E	140	33	30	21.5N 120.6E	125	121	35	23.4N 118.0E	100	178	40
190600Z	18.3N 125.5E	130	18.3N 125.5E	130	0	0	20.0N 122.5E	140	21	35	21.9N 120.0E	125	138	40	--.- ---.-	--	--	--
191200Z	18.6N 124.7E	120	18.7N 124.7E	125	6	5	20.7N 121.8E	115	48	15	22.6N 119.1E	100	153	25	24.7N 116.5E	60	246	20
191800Z	19.0N 123.7E	115	19.1N 124.1E	125	23	10	20.9N 121.4E	115	101	20	22.9N 118.7E	100	173	30	--.- ---.-	--	--	--
200000Z	19.4N 122.9E	110	19.6N 123.0E	120	13	10	21.3N 119.7E	100	69	10	23.0N 116.3E	90	83	30	--.- ---.-	--	--	--
200600Z	19.8N 122.2E	105	19.7N 122.0E	115	13	10	21.0N 118.5E	100	53	15	22.2N 114.9E	95	65	50	--.- ---.-	--	--	--
201200Z	20.4N 121.0E	100	20.2N 121.4E	110	25	10	21.6N 117.8E	100	67	25	22.8N 114.2E	85	94	50	--.- ---.-	--	--	--
201800Z	20.7N 119.6E	95	20.8N 119.8E	110	13	15	22.2N 115.8E	100	24	30	--.- ---.-	--	--	--	--.- ---.-	--	--	--
210000Z	21.0N 118.5E	90	21.0N 118.6E	105	6	15	22.2N 114.8E	90	13	30	--.- ---.-	--	--	--	--.- ---.-	--	--	--
210600Z	21.3N 117.6E	85	21.3N 117.5E	100	6	15	22.5N 113.4E	85	23	40	--.- ---.-	--	--	--	--.- ---.-	--	--	--
211200Z	21.5N 116.6E	75	21.6N 116.6E	95	6	20	22.7N 112.3E	40	13	5	--.- ---.-	--	--	--	--.- ---.-	--	--	--
211800Z	21.8N 115.8E	70	21.5N 115.9E	95	19	25	--.- ---.-	--	--	--	--.- ---.-	--	--	--	--.- ---.-	--	--	--
220000Z	22.3N 115.0E	60	22.2N 115.0E	90	6	30	--.- ---.-	--	--	--	--.- ---.-	--	--	--	--.- ---.-	--	--	--
220600Z	22.6N 113.8E	45	22.7N 114.0E	65	13	20	--.- ---.-	--	--	--	--.- ---.-	--	--	--	--.- ---.-	--	--	--
221200Z	22.8N 112.5E	35	22.9N 112.8E	35	18	0	--.- ---.-	--	--	--	--.- ---.-	--	--	--	--.- ---.-	--	--	--

	TYPHOONS WHILE WIND OVER 35KTS				ALL FORECASTS			
	WARNING	24-HR	48-HR	72-HR	WARNING	24-HR	48-HR	72-HR
AVERAGE FORECAST ERROR	12NM	52NM	105NM	167NM	12NM	52NM	105NM	167NM
AVERAGE RIGHT ANGLE ERROR	7NM	20NM	44NM	69NM	7NM	20NM	44NM	69NM
AVERAGE MAGNITUDE OF WIND ERROR	9KTS	20KTS	24KTS	22KTS	9KTS	20KTS	24KTS	22KTS
AVERAGE BIAS OF WIND ERROR	8KTS	10KTS	15KTS	16KTS	8KTS	10KTS	15KTS	16KTS
NUMBER OF FORECASTS	26	22	17	7	26	22	17	7