

I. TYPHOON IRIS 03 OCT 2300Z-08 OCT 0500Z

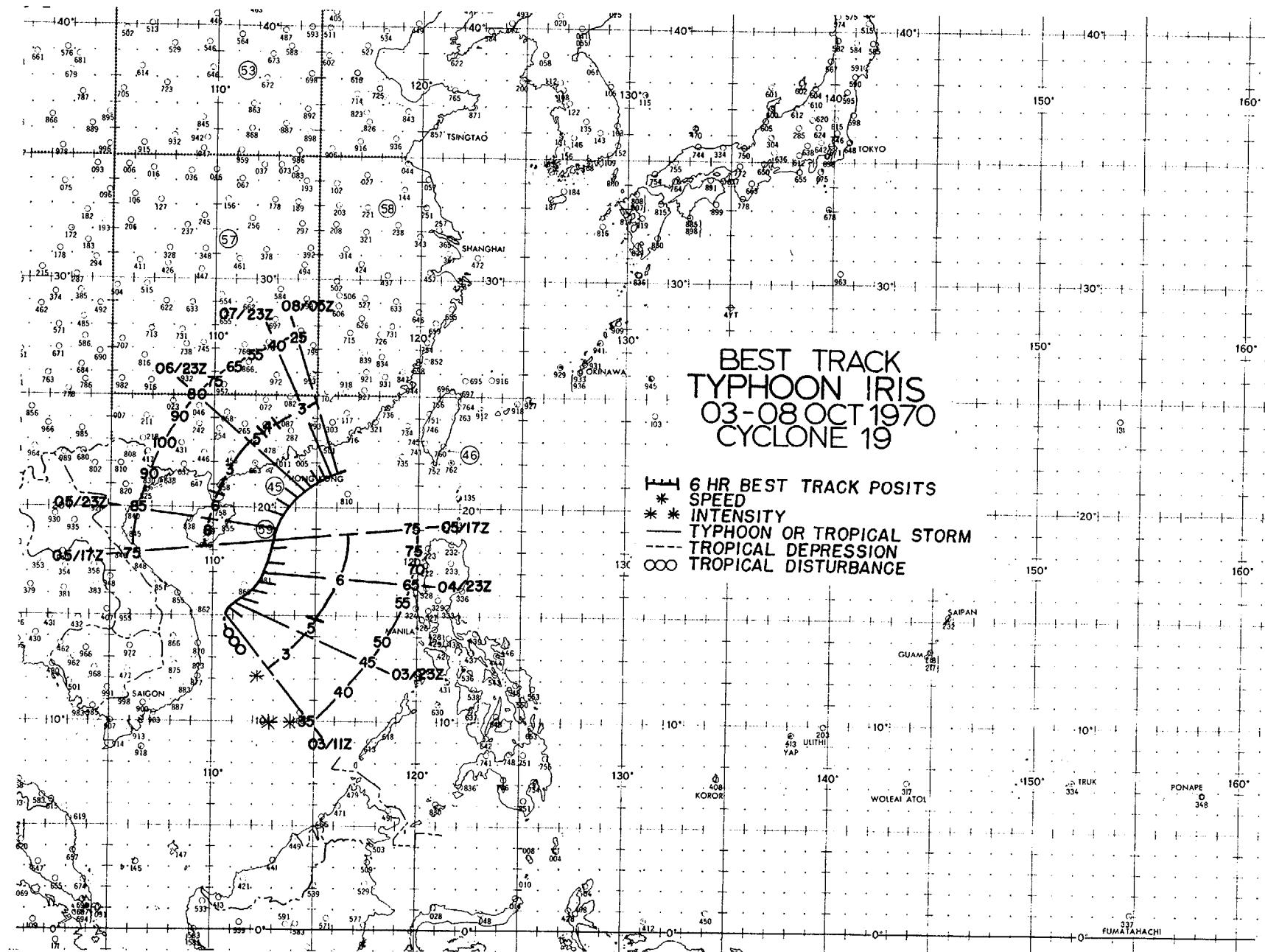
1. STATISTICS

- a. Number of Warnings Issued - 18
- b. Number of Warnings with Typhoon Intensity - 11
- c. Distance Traveled During Warning Period - 492 MI

2. CHARACTERISTICS AS A TYPHOON

- a. Minimum Observed SLP - 944 MBS at 06/0902Z
- b. Minimum Observed 700 MB Height - 2743 M at 06/0315Z
- c. Maximum Surface Wind - 100 KTS (From Best Track)
- d. Maximum Radius of Surface Circulation - 180 MI

5-68



### 3. TYPHOON IRIS NARRATIVE

Iris was the first tropical storm in the waters of the South China Sea to develop to typhoon strength in the month of October since 1957.

A surge in the northeast monsoon late in September created a rather sharp northeast to southwest shear line across the South China Sea by early October. This intensified the lower tropospheric cyclonic shear in the western portion of the area and as the surge began to recede on the 2nd, a small weak circulation remained off the Vietnam Coast.

Evidence of a developing storm became apparent on the 3rd as gradient level winds (3,000 feet) along the central Vietnam Coast ran as high as 46 knots while showing a sharp cyclonic curvature. An aerial reconnaissance investigation on the 4th located Iris 135 miles east of Quang Ngai with maximum winds of 45 knots, a weak wall cloud, and a central pressure of 992 mb.

With the presence of a southern extension of a mid-tropospheric ridge to the east of the storm and a weak trough to the northwest, Iris moved at a rate of 5 to 6 knots towards the northeast. Evidence of further deepening was noted during the morning of the 5th (Figure 5-17) as the USS Chipola passed within 3 miles of the eye recording a barometer drop to 985 mb, while the Chinese weather station in the Parce Island group, 10 miles west of the center, reported winds of 68 knots.

A jet max associated with a 200 mb trough in central China provided the main mechanism for outflow from the system as Iris reached its maximum intensity the afternoon of the 6th about 140 miles south of Hong Kong. Aerial reconnaissance at this time observed a central pressure of 944 mb and winds estimated near 100 knots.

The eye of Iris came under surveillance of the Hong Kong Royal Observatory radar early on the 7th (Figure 5-18) and commenced to slow to a forward speed of 3 knots. The system completely collapsed in less than a 24 hour period as a 200 mb short wave emerging from the Gulf of Tonkin arrived in the vicinity on the 7th. Upon drifting over the storm the confluent pattern aloft inhibited any further outflow from the storm and by the following afternoon the typhoon was reduced to little more than a depression. All traces of Iris had disappeared by the 9th.

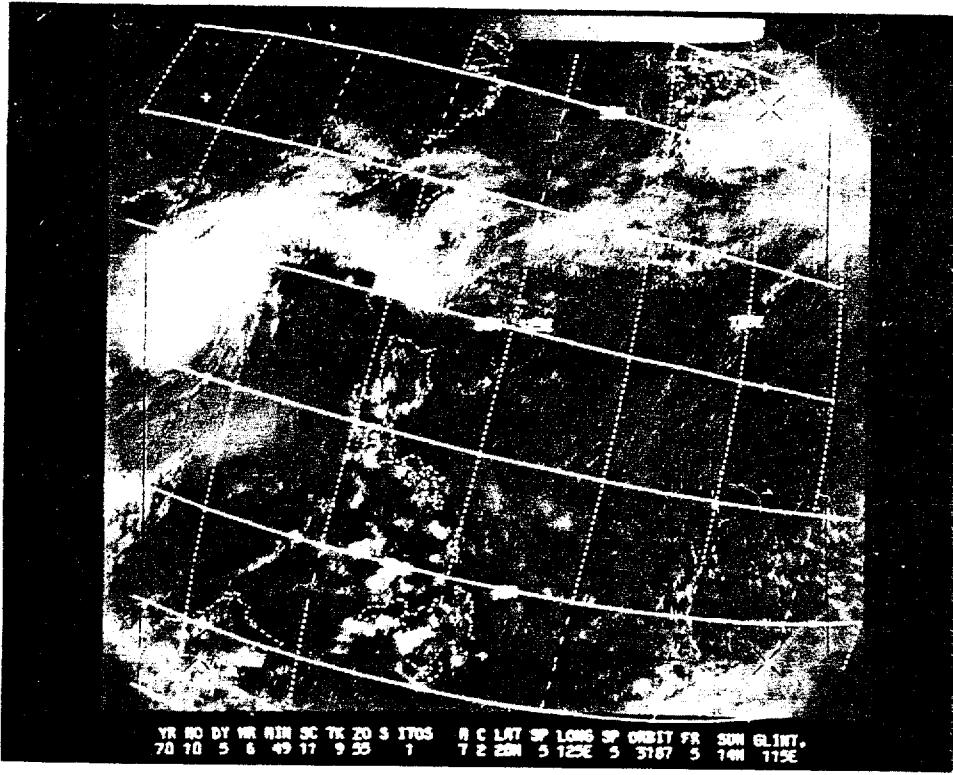


FIGURE 5-17 ITOS-1 PHOTO OF IRIS THE AFTERNOON OF 5 OCTOBER AS A NEWLY DEVELOPED TYPHOON.

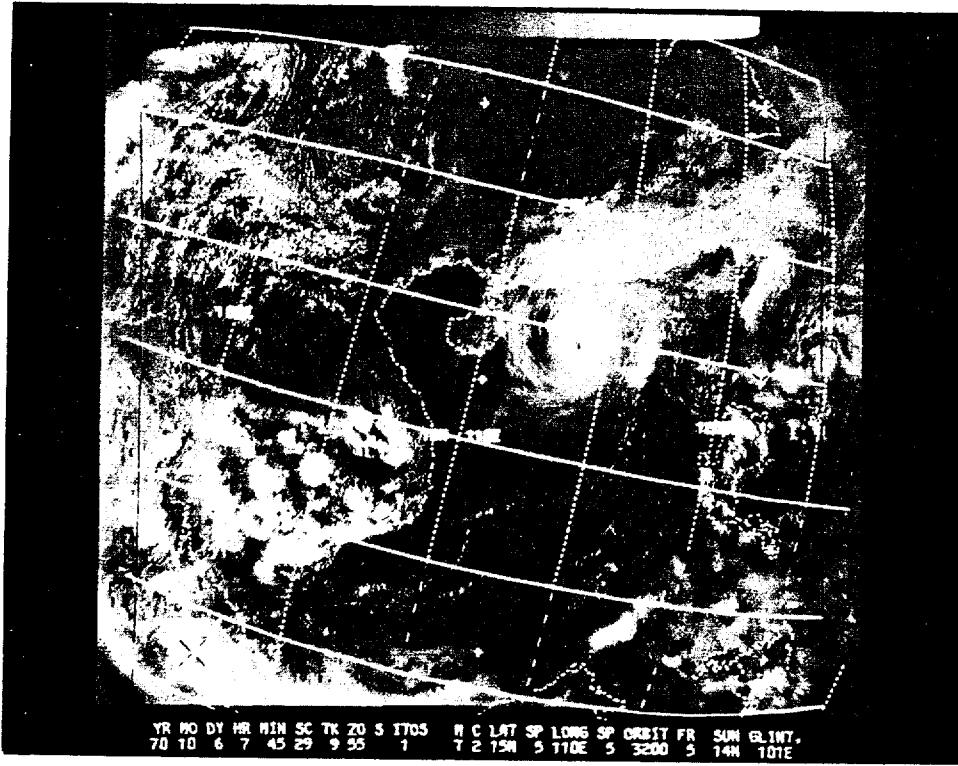


FIGURE 5-18 TYPHOON IRIS LOCATED SOUTH OF HONG KONG ON 7 OCTOBER.

TYPHOON IRIS EYE FIXES CYCLONE 19															
FIX NO.	TIME	POSIT	UNIT- MET- TAC	FLT LVL	LVL WIND	SFC AND	DBS SLP	DHS MIN	MIN 700MB	FLT LVL	TT/T0	EYE FORM	ORIEN- TATION	EYE DIA	CHARACTER WALL CLOUD
1	040012Z	15.5N 111.4E	VW-->10---	---	045	992	---	26/24	CIRC	---	29	WK W/C CLOSED			
2	040200Z	15.9N 111.2E	LND RVR	---	---	---	---	---	---	---	---				
3	040315Z	15.6N 111.3E	VW-->05---	---	050	990	---	26/23	CIRC	---		CLSD 8-15NM THK			
4	040400Z	16.0N 111.3E	LND RVR	---	---	---	---	---	---	---	---				
5	040610Z	15.7N 111.6E	54-->05--- 700MB	045	045	994	3027	15/10	CIRC	---	40	APRNT CLSD W/C			
6	040748Z	15.5N 111.5E	SLTLS STG C	01A	--	CAT -									
7	050130Z	17.4N 112.6E	SHR RVR	---	---	---	---	---	---	---	---				
8	050320Z	17.3N 112.5E	VW-->03---	---	---	---	---	---	---	---	---	CLSD			
9	050649Z	17.5N 112.5E	SLTLS STG X	01A 02	CAT 4										
10	050801Z	17.8N 112.9E	VW-->05--- 700MB	070	075	973	2911	26/23	ELIP	NW-SE	18X--	CLSD ALQUADS 5-7NM THK			
11	051440Z	18.4N 113.0E	VW-->07---	015	---	---	---	---	---	---	---	CLSD			
12	052031Z	19.0N 113.0E	VW-->10---	---	---	---	---	---	---	---	---	CLSD 5-7NM THK			
13	052200Z	19.0N 113.1E	LND RVR	---	---	---	---	---	---	---	---				
14	060100Z	19.4N 113.2E	LND RVR	---	---	---	---	---	---	---	---				
15	060315Z	19.6N 113.4E	54-->07--- 700MB	070	080	960	2743	16/09	CIRC	---	21	CLSD			
16	060535Z	19.8N 113.7E	54-->05--- 700MB	080	090	960	2749	15/09	CIRC	---	18	CLSD			
17	060600Z	19.7N 113.5E	LND RVR	---	---	---	---	---	---	---	---				
18	060746Z	19.5N 113.5E	SLTLS STG X	01A 01	CAT 4										
19	060900Z	19.7N 113.7E	LND RVR	---	---	---	---	---	---	---	---				
20	060902Z	19.9N 113.9E	VW-->10---	100	944	---	24/23	CIRC	---	23	CLSD				
21	061000Z	19.9N 113.7E	LND RVR	---	---	---	---	---	---	---	---				
22	061200Z	20.0N 113.9E	LND RVR	---	---	---	---	---	---	---	---				
23	061400Z	20.3N 114.4E	VW-->20---	---	---	---	---	---	---	ELIP	NW-SE	25X12	12NM THK, OPEN S		
24	061900Z	20.3N 113.9E	LND RVR	---	---	---	---	---	---	---	---				
25	062200Z	20.4N 114.0E	LND RVR	---	---	---	---	---	---	CIRC	---	42			
26	062300Z	20.4N 114.1E	LND RVR	---	---	---	---	---	---	CIRC	---	42			
27	070000Z	20.5N 114.2E	LND RVR	---	---	---	---	---	---	CIRC	---	34			
28	070125Z	20.6N 114.5E	54-->03--- 700MB	090	090	975	2896	18/09	CIRC	---	20	CLSD			
29	070400Z	20.7N 114.6E	LND RVR	---	---	---	---	---	---	CIRC	---	30			
30	070425Z	20.8N 114.7E	54-->03--- 700MB	085	080	980	2920	17/08	CIRC	---	20		W/C DSPTG SE QUAD		
31	070600Z	20.8N 114.7E	LND RVR	---	---	---	---	---	---	CIRC	---	32			
32	070647Z	22.0N 115.5E	SLTLS STG X	01A 01	CAT 3										
33	070800Z	20.8N 114.8E	LND RVR	---	---	---	---	---	---	---	---				
34	071000Z	20.9N 115.2E	LND RVR	---	---	---	---	---	---	---	---				
35	071100Z	20.8N 115.2E	LND RVR	---	---	---	---	---	---	---	---				
36	071400Z	21.1N 115.7E	LND RVR	---	---	---	---	---	---	---	---				

## TYPHOON IRIS

TROPICAL CYCLONE 19 -- 10/3/1100Z TO 10/8/0500Z  
 POSITION AND FORECAST VERIFICATION DATA

WARN NO.	DTG	WARNING POSIT		BEST TRACK		24 HR FCST		24 HR ERROR		48 HR FCST		48 HR ERROR		72 HR FCST		72 HR ERROR	
		LAT	LONG	LAT	LONG	LAT	LONG	DEG DIST	LAT	LONG	DEG DIST	LAT	LONG	DEG DIST	LAT	LONG	DEG DIST
01	03/2300Z	15.5N	111.3E	15.4N	111.0E	15.5N	111.3E	217-0108	15.1N	109.7E	219-0324	-----	-----	-----	-----	-----	-----
02	04/0500Z	15.6N	111.3E	15.6N	111.4E	15.6N	111.3E	215-0138	15.2N	109.7E	221-0360	-----	-----	-----	-----	-----	-----
03	04/1100Z	15.7N	111.6E	16.0N	111.8E	15.7N	111.6E	208-0150	15.3N	109.5E	222-0378	-----	-----	-----	-----	-----	-----
04	04/1700Z	16.2N	112.5E	16.4N	112.2E	17.4N	114.1E	140-0090	-----	-----	-----	-----	-----	-----	-----	-----	-----
05	04/2300Z	17.0N	112.4E	17.0N	112.5E	18.9N	114.3E	113-0054	20.9N	117.1E	084-0150	22.7N	121.0E	075-0306	-----	-----	-----
06	05/0500Z	17.5N	112.8E	17.5N	112.7E	19.4N	114.7E	116-0048	21.1N	116.8E	082-0114	-----	-----	-----	-----	-----	-----
07	05/1100Z	18.0N	113.2E	18.0N	112.9E	20.1N	115.4E	086-0084	22.6N	118.9E	067-0234	-----	-----	-----	-----	-----	-----
08	05/1700Z	18.5N	113.3E	18.6N	113.0E	20.3N	115.5E	090-0078	22.4N	118.7E	068-0198	-----	-----	-----	-----	-----	-----
09	05/2300Z	19.3N	113.1E	19.3N	113.3E	22.1N	113.4E	329-0102	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	06/0500Z	19.8N	113.8E	19.8N	113.8E	22.4N	114.1E	342-0096	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	06/1100Z	20.1N	114.1E	20.0N	113.9E	21.8N	116.2E	054-0078	23.9N	118.0E	-----	-----	-----	-----	-----	-----	-----
12	06/1700Z	20.6N	114.7E	20.3N	114.1E	22.3N	116.7E	048-0102	24.4N	118.4E	-----	-----	-----	-----	-----	-----	-----
13	06/2300Z	20.5N	114.4E	20.6N	114.4E	21.9N	115.1E	326-0042	23.3N	115.6E	-----	-----	-----	-----	-----	-----	-----
14	07/0500Z	20.8N	114.6E	20.8N	114.7E	22.2N	115.3E	-----	23.7N	115.7E	-----	-----	-----	-----	-----	-----	-----
15	07/1100Z	21.1N	114.9E	21.0N	115.0E	22.2N	115.3E	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	07/1700Z	21.6N	115.0E	21.1N	115.3E	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17	07/2300Z	21.1N	115.5E	21.3N	115.6E	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
18	08/0500Z	21.3N	115.8E	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

AVERAGE 24 HOUR ERROR - 0090 MI.  
 AVERAGE 48 HOUR ERROR - 0251 MI.  
 AVERAGE 72 HOUR ERROR - 0306 MI.