

N. TYPHOON ELAINE (192200Z-250600Z AUGUST 1960)

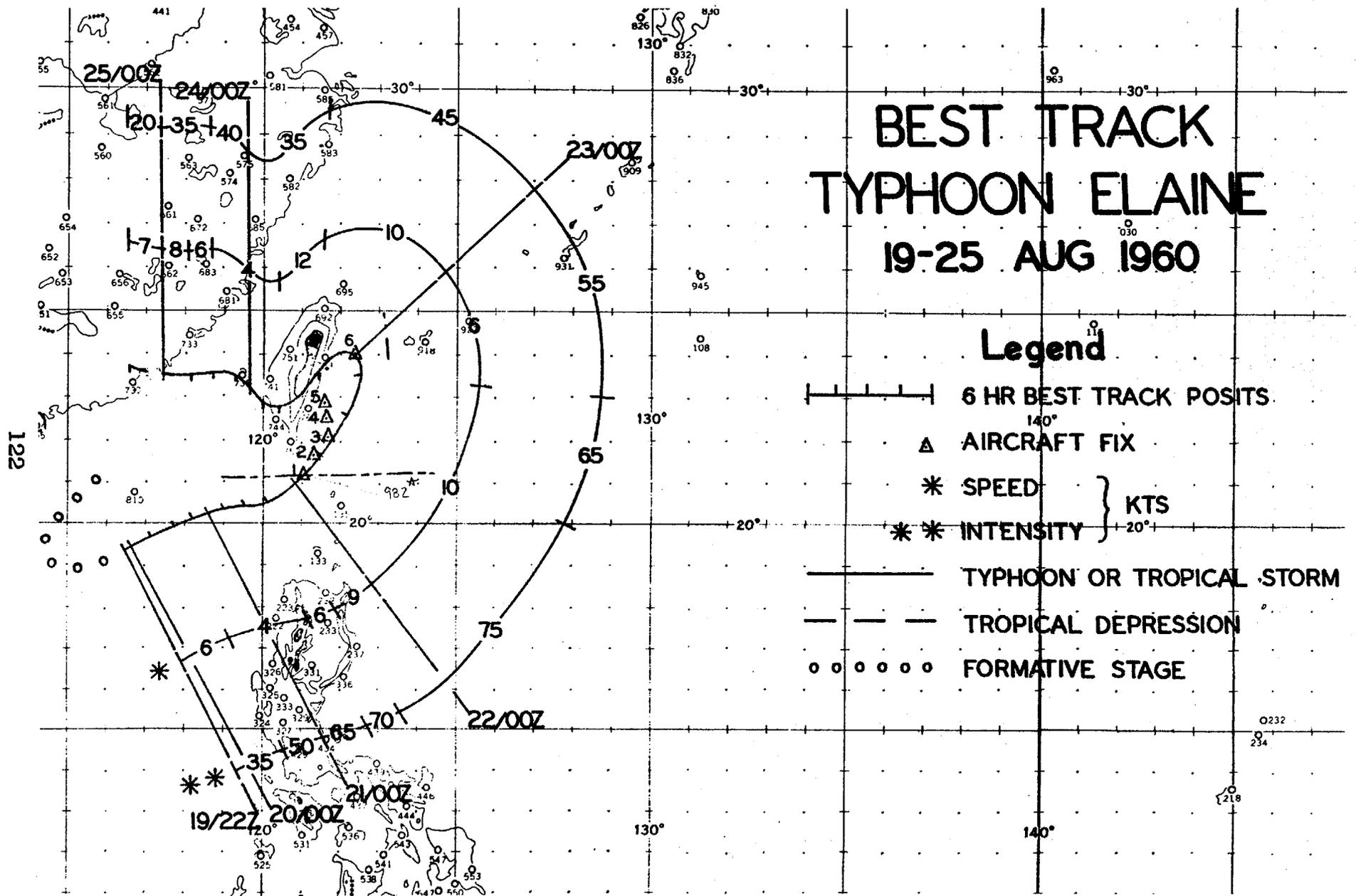
At 200000Z, 2 hours after the first warning was issued on T.D. 13, later to become Typhoon ELAINE, the surface chart indicated that the trough (161200Z chart discussed in BESS narrative) had become oriented NE, from W of 18N 100E to 34N 143E. An average of the isobars through this trough equalled 995 mb. This represented an area of more than 1,000,000 square mi of poor weather, for embedded in it were Typhoons BESS and CARMEN as well as T.D. 13. At the time of the first warning the tropical depression, located 210 mi SE of Hong Kong, was moving ENE at 6 kts along the trough. A tropical storm warning was issued at 201200Z and ELAINE was classified as a typhoon at 211800Z, 110 mi W of Batan Island, although post analysis indicates that ELAINE was of tropical storm intensity at the time of the first warning and of typhoon intensity at 210600Z. ELAINE then moved NE to NNE, roughly parallel to and about 50 mi off the E coast of Taiwan to 24N before reversing direction. The typhoon was downgraded to a tropical storm at 221800Z, and by 230600Z had reversed direction and moved onto Taiwan. ELAINE "jumped" across the island between 230600Z and 231400Z. The speed of ELAINE was 10 kts when it touched land, 12 kts over land and then 4 kts after moving over the water area of Taiwan Strait. The storm moved WNW after departing Taiwan, passing the coastline of the Asiatic mainland at 250000Z. The final warning was issued at 250600Z.

It appears that ELAINE was "steered" by the circulation associated with Typhoon CARMEN until 221800Z, and then by the circulation, above the 700 mb level, of the high over the Asiatic mainland. Windwise, ELAINE had a closed circulation through the 300 mb level for part of the period that it was a typhoon, but was never closed at the 200 mb level.

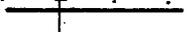
During its "warning life", ELAINE traveled 850 mi over a period of 5 days and 8 hours, at an average speed of 7 kts or 158 mi a day. The minimum speed was 4 kts on 20, 21, 23 and 24 August, and the maximum speed was 12 kts on 23 August. Warnings were also issued on Typhoons BESS, CARMEN, DELLA and FAYE during this period.

ELAINE's track was quite unusual, but very similar to that of a typhoon that occurred during 1924 between 31 July and 6 August. The 1924 typhoon track was extracted from "Tropical Cyclones in the Western Pacific and China Sea area, 1884 to 1953", published by the Royal Observatory, Hong Kong.

# BEST TRACK TYPHOON ELAINE 19-25 AUG 1960



## Legend

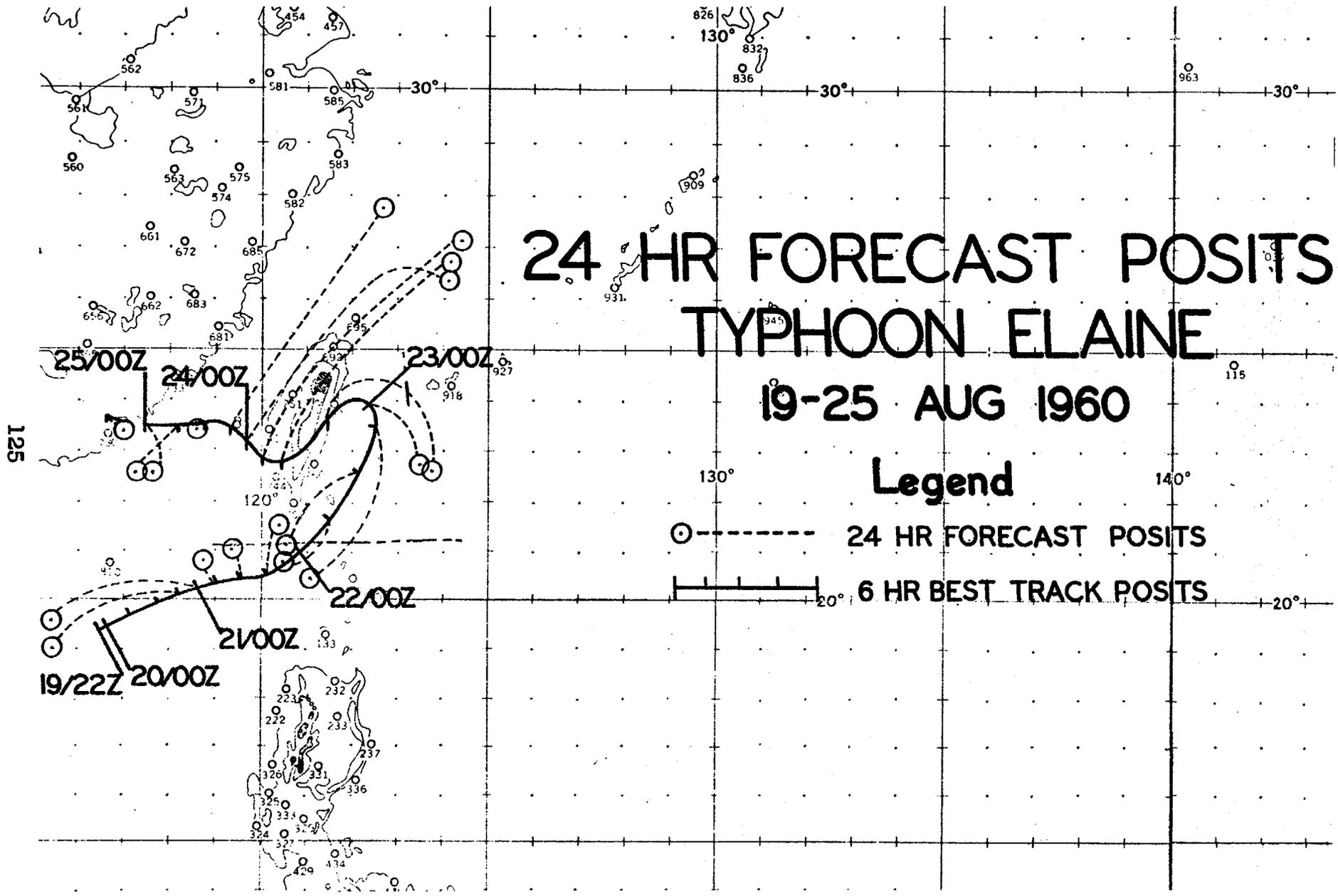
-  6 HR BEST TRACK POSITS.
  -  AIRCRAFT FIX
  -  SPEED
  -  INTENSITY
  -  TYPHOON OR TROPICAL STORM
  -  TROPICAL DEPRESSION
  -  FORMATIVE STAGE
- } KTS  
 } 20°

RECONNAISSANCE AIRCRAFT FIXES - TYPHOON ELAINE

FIX NO.	TIME	LAT.	LONG.	UNIT METHOD & ACCY	MIN SLP MBS	MAX SFC WND	MIN 700MB HGT	MAX 700MB WND	700MB TT/Td (°C)	EYE CHARACTERISTICS
1	220130Z	21.2N	121.0E	315-P-05	- -	60	9610 <sup>982</sup>	- -	17/--	ILL DEFINED, OPEN N & NE
2	220515Z	21.7N	121.3E	56-P-02	976	- -	9700 <sup>985</sup>	50	15/--	ORIEN NE-SW
3	220820Z	22.1N	121.7E	56-P-02	988	80	9690 <sup>984</sup>	60	15/--	ORIEN NE-SW
4	221531Z	22.6N	121.6E	VW1-R-05	- -	- -	- - -	- -	- - -	CIRC DIA 10MI ILL DEFINED
5	221653Z	22.9N	121.5E	VW1-R-10	- -	- -	- - -	- -	- - -	CIRC DIA 06MI ILL DEFINED
6	230100Z	24.0N	122.3E	56-P-01	994	45	9980 <sup>995</sup>	39	17/--	POORLY DEFINED OPEN SE-N

TYPHOON ELAINE 19-25 AUGUST 1960  
POSITION AND FORECAST VERIFICATION DATA

DTG	STORM POSITION		24 HR. ERROR		48 HR. ERROR	
	LAT.	LONG.	DEG.	DISTANCE	DEG.	DISTANCE
192200Z	19.3N	116.5E	-	-	-	-
200000Z	19.4N	116.6E	-	-	-	-
200600Z	19.7N	117.2E	-	-	-	-
201200Z	19.9N	117.8E	-	-	-	-
201800Z	20.1N	118.1E	-	-	-	-
210000Z	20.2N	118.6E	-	-	-	-
210600Z	20.3N	119.0E	-	-	-	-
211200Z	20.3N	119.5E	340	44	-	-
211800Z	20.4N	120.1E	015	75	-	-
220000Z	21.0N	120.9E	262	33	-	-
220600Z	21.7N	121.5E	229	91	-	-
221200Z	22.6N	122.1E	222	132	238	94
221800Z	23.5N	122.5E	206	203	192	53
230000Z	24.0N	122.4E	139	98	198	160
230600Z	23.5N	121.4E	112	138	180	146
231200Z	22.8N	120.3E	041	316	138	110
231800Z	22.9N	120.0E	044	352	135	180
240000Z	23.2N	119.6E	052	308	076	388
240600Z	23.4N	119.2E	030	380	080	384
241200Z	23.5N	118.8E	233	15	033	633
241800Z	23.5N	118.1E	222	82	041	604
250000Z	23.5N	117.2E	175	64	052	566
250600Z	23.8N	116.5E	130	38	037	562
AVERAGE 24 HOUR ERROR			148	MI		
AVERAGE 48 HOUR ERROR			323	MI		



# 24 HR FORECAST POSITS

## TYPHOON ELAINE

### 19-25 AUG 1960

### Legend

- 24 HR FORECAST POSITS
- ▶ 6 HR BEST TRACK POSITS