

PRELIMINARY REPORT

TROPICAL STORM ELENA

29 AUGUST - 1 SEPTEMBER 1979

The tropical wave from which Elena developed was relatively weak when it passed over Florida on 27 August. After that the wave amplified slowly and by the morning of 29 August, ship and data buoy reports and satellite photographs suggested that a low level circulation was forming. An Air Force reconnaissance flight confirmed the existence of a tropical depression in the central Gulf of Mexico at 2308 GMT on the 29th. Slow development ensued as the depression moved generally west northwestward about 10 kt, and by early afternoon on 30 August minimal tropical storm strength was attained.

Elena continued toward the west northwest without intensification but turned gradually toward the north as the center reached the Texas coast near Matagorda on the morning of 1 September. Barely of tropical storm strength when it made landfall, Elena could no longer be identified even as a tropical depression by the morning of 2 September.

The steering of Elena was controlled by a high pressure area located over the Southern United States. Pressure falls ahead of an approaching frontal trough began to erode the high by 31 August, allowing the storm to turn toward the north as it neared the Texas coast.

The flow at 200 mb was anticyclonically curved throughout Elena's existence, but generally from a northerly direction. When the depression formed on 29 August, the 200 mb anticyclone was centered over extreme south Texas, and by 1 September when the storm made landfall it had moved westward to Baja, California. Although tropical storms sometimes develop under this type of upper flow, it is not usually conducive to continued strengthening.

Elena

Gale warnings were issued from Port O'Connor, Texas to Morgan City, Louisiana in the first tropical storm advisory, and remained in effect until the center moved inland on the afternoon of 1 September. The highest wind reported on shore was a gust to 40 kt at Galveston on the evening of 1 September.

Some heavy rains fell along the Texas coast on 1 September, including 4.6 inches in downtown Houston, 3 inches in Beaumont, and over an inch at Victoria.

Highest tides reported were just over three feet MSL at Galveston, Texas City, and Baytown.

There have been no reports of damages or casualties associated with Elena.

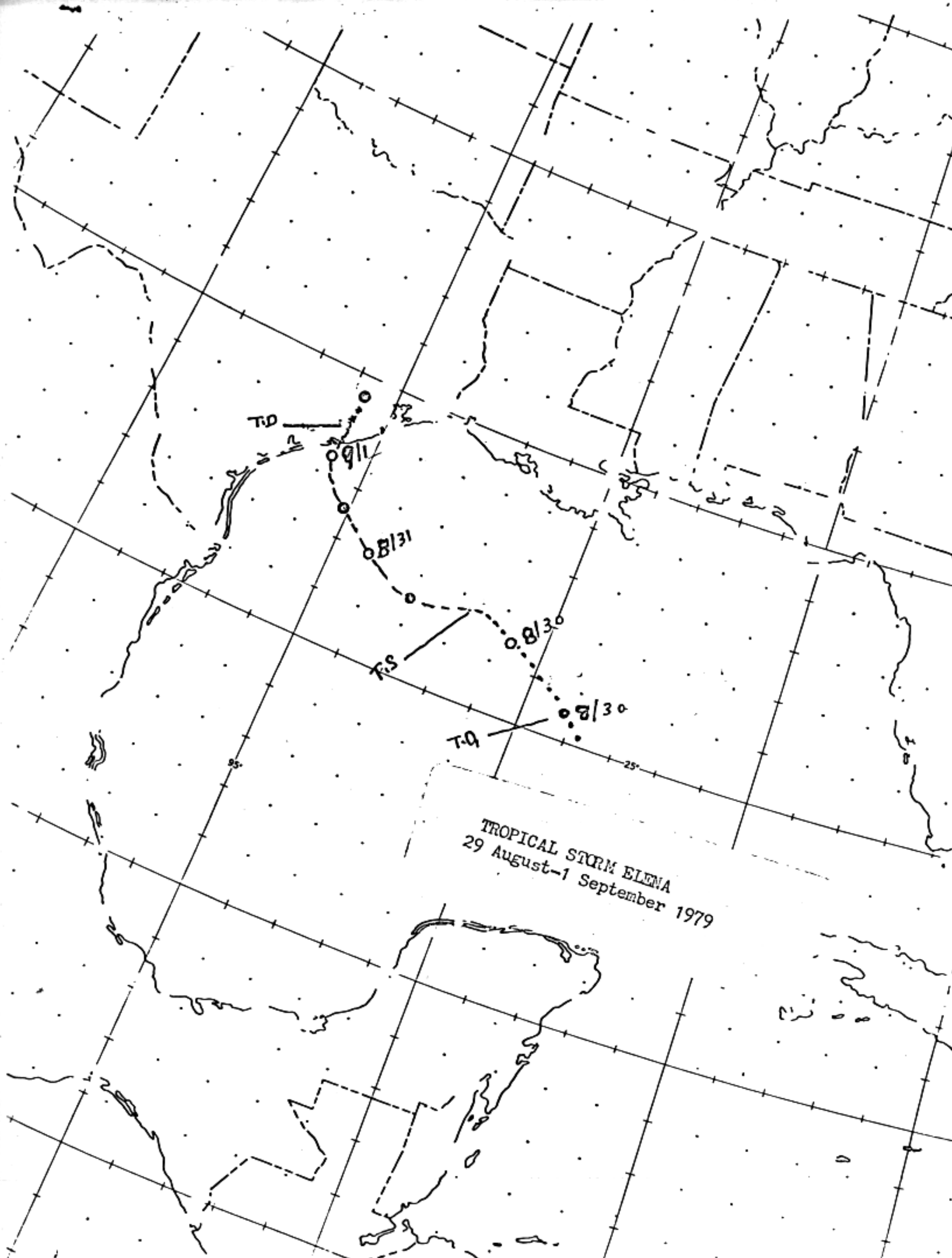
JRH

PRELIMINARY BEST TRACK

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<u>DATE</u>	<u>TIME (GMT)</u>	<u>LAT.</u>	<u>LONG.</u>	<u>PRESSURE (MB)</u>	<u>WIND (KT)</u>	<u>STAGE</u>
8/30	0000	25.5	89.1	1008	25	DEPRESSION
	0600	26.0	89.9			
	1200	26.4	90.7			
	1800	26.8	91.8	1006	35	TROPICAL STORM
8/31	0000	26.5	93.0	1004		
	0600	26.8	93.8			
	1200	27.0	94.2	1008		
	1800	27.3	94.7			
9/01	0000	27.6	95.1			
	0600	27.9	95.5			
	1200	28.5	95.8			
	1800	29.0	95.8		25	DEPRESSION
9/02	0000	29.6	95.8			



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