TROPICAL STORM DELIA
Sept. 2-7, 1973

HISTORY

Tropical Storm Delia formed from a rapidly developing depression in the northern Yucatan Channel during the afternoon of Sunday, September 2. The depression formed during the morning and afternoon of the previous day and was located near the Island of Cozumel early Saturday afternoon, September 1. A military reconnaissance flight Sunday morning found a poorly organized center with a movement toward the north-northwest at slightly less than 10 mph; a second flight that afternoon reported that the depression had rapidly strengthened and had attained storm intensity. Early Sunday evening the tropical storm was designated "Delia" in the first Tropical Storm Advisory issued. Central pressure at that time was determined to be 1000 mb with highest sustained winds of 45-50 mph.

Aircraft reconnaissance Monday morning (Sept. 3) indicated that Delia had strengthened during the night and was still moving toward the north-northwest at about 10 mph; consequently, late that morning, the Hurricane Warning Office in New Orleans issued a Hurricane Watch and Gale Warning for most of the Louisiana Coast. At that time, Delia was located approximately 260 miles south of New Orleans with highest sustained winds of about 60 mph. During the afternoon of the 3rd, the storm assumed a more westerly direction of movement and the Hurricane Watch and Gale Warnings were extended southwestward to Palacios, Texas. Highest sustained winds were now near 70 mph. Late that night, as it became increasingly apparent that Delia would continue on a northwesterly course toward the Texas Coast, the Hurricane Watch and Gale Warnings were discontimued along the eastern Louisiana Coast. That night and early the next morning (Tuesday, Sept. 4), Delia's movement became slow and erratic, and it apparently made a small loop to the south before resuming its northwestward movement toward the upper Texas Coast later Tuesday morning.

Early Tuesday evening, the ill-defined center of Delia moved inland near Galveston, Texas with highest sustained winds estimated at near 70 mph. Just prior to landfall, a reconnaissance flight reported Delia's lowest observed central pressure, 986 mb (29.12 inches). After moving inland, Delia turned sharply toward the southwest and then toward the south, until her center moved offshore just south of Freeport, Texas shortly after midnight (CST). During the next 24 hours, Delia made another loop to the south, weakened slightly and moved inland (for the second time) between Freeport and Galveston around midnight, Wednesday, Sept. 5. Prior to her second landfall, Gale Warnings were extended southwestward to just south of Corpus Christi, and were then in effect from that point northward to Port Arthur. All formal coastal warnings were discontinued late Thursday morning (Sept. 6), approximately 12 hours after its second landfall.

Delia continued on a northwesterly course into south central Texas Thursday morning before making a gradual turn to the west-southwest Thursday afternoon and crossing the Mexican border just east of the Big Bend area of Texas shortly after midnight Thursday. Precautions for flash flooding were issued for portions of West Texas and Oklahoma during Delia's trek across Texas Thursday, but the resultant rainfall was evidently more beneficial than harmful. The last Bulletin on Delia was issued late Friday morning, September 7, as she dissipated west of Del Rio, Texas in the mountains of Mexico.

METEOROLOGICAL DATA

Pressure: The lowest central pressure observed in Delia was 29.12 inches (986 mb) recorded around noon (CST) Tuesday, September 4, by aircraft reconnaissance when the storm center was located about 60 nm SSE of Galveston. With its second landfall between Freeport and Galveston, pressures of 29.30 inches (992 mb) and 29.36 inches (994 mb) were recorded at the Freeport Coast Guard Station and the Galveston WSO, respectively, both around midnight, Wednesday, September 5.

Wind: The highest sustained wind reported by a land-based observing station was 46 mph at Galveston, which also reported the highest gust, 68 mph, both occurring during the early afternoon of the 4th. Information presently available from coastal stations indicates that sustained winds beyond about 50 miles of the storm center as it moved inland were generally less than 40 mph and gusts less than 50 mph. Reconnaissance aircraft reported winds in excess of hurricane strength three times, twice just prior to the initial landfall on the 4th (once as high as 80 kts with gusts to 90 kts) and once while Delia was making its second coastal approach on the 5th; however, based on central pressure reports, it was decided that these winds were brief thunderstorm gusts and Delia was, therefore, never upgraded to hurricane status.

Tides: Highest tides generated by Delia were 5-7 feet msl in Galveston Bay, 6-1/2 feet msl at Baytown and 4 1/2-5 1/2 feet msl at Sabine Pass.

Rainfall: The greatest rainfall amounts associated with Delia occurred over southwest and central Louisiana where totals were generally between 8 and 10 inches. Amounts over the remainder of Louisiana were generally between 3 and 5 inches. Totals over southeast and east Texas ranged from 4-1/2 to 8 inches, with amounts decreasing significantly as the storm moved westward across south central and southwest Texas. Heavy rains were reported, however, in the mountains of southwest Texas. Amounts of 6 to 8 inches prevailed over most of Arkansas. Rains of 3 to 4 inches were fairly common over eastern Oklahoma, but dropped off to 1 to 3 inches over the western and southwestern portion of the state.

Flash flooding was generally confined to southwest Louisiana and southeast Texas where the heavier rainfall amounts were recorded, although occurrences of relatively minor flash flooding were reported over various other areas. No damage estimates of flash flooding are available at this time.

Tornadoes: Delia triggered no significant tornado outbreaks, with only one tornado of consequence being reported. This occurred in northeast Louisiana and caused injuries to four persons. Three other tornado reports were received, two in Louisiana and one in northeast Texas, but apparently caused no injuries or damage.

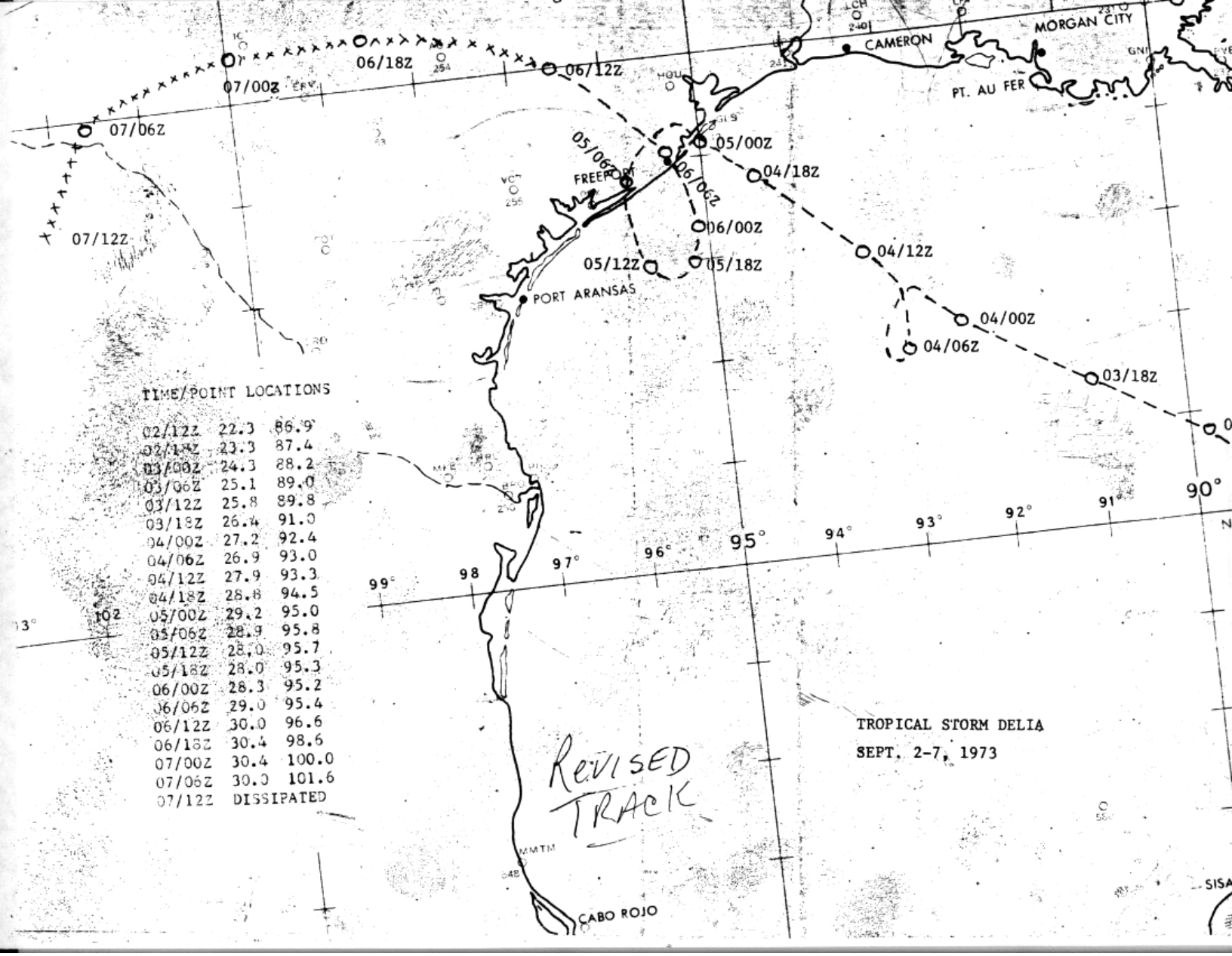
DEATHS, DAMAGES

Detailed information concerning damages caused by Delia are limited at this time; however, it appears that, except for agricultural losses due to excessive rainfall, it was not a particularly destructive storm.

Five fatalities have been reported, but whether Delia should be declared the direct cause or not is questionable: one man in the Beaumont-Port Arthur area died of a heart attack while preparing his trailer for evacuation; two men in the Houston area were killed in an automobile accident apparently caused by gusty winds and a rain-slick highway; and two youngsters drowned while playing near swollen bayous and drainage canals--one in Houston and one in Little Rock, Arkansas.

Except for houses (number not known) in low-lying coastal areas suffering damages caused by tidal flooding, property damages done by Delia appear to be relatively minor. Losses incurred by homeowners in the Baytown, Texas area have been estimated at $3 million, with additional damages (no estimates available) being done elsewhere along the immediate coast.

Perhaps the greatest losses caused by Delia will be felt by coastal farmers. Substantial damage was done to rice, cotton and sugarcane crops along the upper Texas and southwestern Louisiana coasts, with losses in the Beaumont-Port Arthur area alone estimated at $3-1/2 to 4-1/2 million.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SEPT. 2-7, 1973
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