PRELIMINARY REPORT ON HURRICANE "HILDA"
September 28 to October 5, 1964

Hilda developed in an easterly wave which was moving slowly westward through the Western Caribbean Sea. On the morning of September 28th, a weak cyclonic circulation formed just off the southern coast of Western Cuba. The circulation became organized and gradually intensified as it moved slowly westward. It reached storm intensity in the extreme Southeastern Gulf of Mexico after it crossed the western tip of Cuba near Cape San Antonio.

Hilda moved west-northwestward at an average speed of 9 m.p.h. for 48 hours, and intensified steadily while in the South Gulf of Mexico. The storm reached hurricane force early on September 30th, and reached maximum intensity about 350 miles south of New Orleans on October 1st. The minimum computed sea level pressure from reconnaissance aircraft at that time was 941 millibars or 27.79 inches. Severe hurricane Hilda turned gradually northward on October 1st. It moved northward at an average speed of 6 m.p.h. for the next two days, and crossed the Central Louisiana coast about dark on October 3rd. Some decrease in intensity had occurred on October 2nd but "Hilda" was still an intense hurricane when it reached the coast.

As the pre-hurricane squall line moved into Southeastern Louisiana during the morning of the 3rd, several tornadoes occurred. At Larose, Louisiana, 21 persons were killed and 200 injured in one of these tornadoes. Three tornadoes in the New Orleans Metropolitan area caused much damage but no deaths.

After the eye moved inland, the storm gradually weakened and moved north-northeastward toward Baton Rouge. When the center approached the Baton Rouge area, the storm was forced eastward as cold air and the associated strong pressure rises moved into the circulation from the northwest. Soon after the eastward turn, the winds decreased to less than hurricane force. "Hilda" continued to weaken

as cold air moved rapidly into its circulation, and the storm became extra-tropical over extreme Southern Mississippi. The low continued eastward and moved into the Atlantic Ocean near Jacksonville, Florida. The rapid advance of cold air into the storm was manifested by abrupt wind shifts to the north and increased speeds. This sharp increase in northerly winds across Lake Pontchartrain caused large waves to break and spill over the seawall along the New Orleans Lake Front. Flooding occurred between the seawall and the back levee. The high waves on the lake caused considerable damage to fishing camps and some business establishments which were built out over the water and on the lake shore. To the east of New Orleans, the strongest winds in most areas occurred after the cold front had passed rather than in the southerly flow ahead of the low.

Data are scarce from the hard-hit areas of South Central Louisiana. The highest wind reported so far was 120 m.p.h. at Franklin, Louisiana. The lowest pressure at Franklin was 28.40 inches as the eye of the storm passed over. The highest tide reported so far was an unofficial estimate of 10 feet near Point au Fer. Tides were 2 to 6 feet above MSL from the mouth of the Mississippi River eastward to Apalachicola, Florida, and 2 to 5 feet above MSL on the extreme Western Louisiana and upper Texas Coasts.

Rainfall was excessive over most of Southeast Louisiana and Southern Mississippi. Amounts in excess of 10 inches occurred over much of that area and considerable flooding resulted.

Reports on loss of life in Hurricane Hilda have now reached 37, caused primarily by tornadoes. Excluding the tornadoes, the hurricane death toll was less than 10 persons. Almost complete evacuation of the entire Louisiana Coastal area accounted for this low death toll. Civil Defense records indicate that more than 150,000 persons evacuated the low lying coastal areas and moved to higher ground.

Damages to property, crops, and industries were extremely heavy. A preliminary estimate of these damages is about 100 million dollars, with the greater part of the monetary value borne by the oil and sugar cane producers.

***Most of the non-tornado deaths occurred at Erath, La., when a large water tower fell on the City Hall where Civil Defense activities were being directed.

Preliminary Report

HURRICANE HILDA

September 28 to October 5, 1964

On the morning of September 28, a weak cyclonic circulation formed just off the southern coast of Western Cuba. It moved slowly westward, crossed the western tip of Cuba near Cape San Antonio, then advanced west-northwestward and increased in intensity, reaching maximum intensity about 350 miles south of New Orleans on October 1. Based upon reconnaissance aircraft reports, the lowest computed sea level pressure at that time was 27.79 inches (941 mbs.). Hurricane Hilda continued its slow progress, but gradually turned northward with some decrease in intensity. It crossed the Louisiana coast at St. Mary Parish about dark on October 3, with winds up to 120 miles per hour or so in the Franklin-New Iberia-Morgan City area. The storm gradually weakened, advanced north-northeastward to East Baton Rouge Parish, where cold air and the associated strong pressure rises from the northwest moved into the circulation and forced the storm east-northeastward through the Florida Parishes. Soon after this turn, the winds decreased to less than hurricane force. Hilda continued to weaken as it progressed eastward through the Coastal Division of Mississippi, and as cold air moved rapidly into its circulation the storm became extra-tropical, with the low pressure center continuing eastward into Alabama.

Offshore oil drillers started advance precautions on September 29. Most of the personnel on the offshore rigs (over 2,000 workers), were evacuated on September 30 or October 1. Oil drilling operations throughout South Louisiana were halted by Hilda. About 100 miles south of Morgan City, 14 men volunteered to ride out the storm on the seven million dollar "Ocean Driller", where, on October 2, about 11 pm, winds of 120 m.p.h. were recorded. This was the peak that the instrument could record. During the night, "substantially higher winds" were apparent. The eye of the hurricane passed during the morning of October 3, when the winds dropped to 30 m.p.h., but after the eye moved toward shore the winds increased to over 120 m.p.h. Huge

waves, 50 feet or higher, lashed the rig for hours. Hilda is said to be the most costly storm in Louisiana's oil history. Early estimates of damages are in the higher ranges of Category 7, but the evacuation of the structures and vessels precluded loss of life.

In coastal areas, residents evacuated on October 1 or 2. Civil Defense records indicate over 150,000 persons left low-lying and/or potentially threatened places and moved further inland to locations with higher elevations. Due to this vast exodus there was only a limited death toll. The total reported loss of life attributable to Hurricane Hilda is about 37 persons. More than two-thirds of the deaths were associated with tornadoes which were chiefly reported in the Southeast Division of Louisiana. These mainly occurred as the pre-hurricane squall line moved into that area during the morning of October 3. At Larose, Louisiana, at least 21 persons perished, and over 160 were injured, and some 35 homes were reduced to rubble. Some three tornadoes in the New Orleans Metropolitan area caused much damage but no deaths. The next greatest loss of life occurred in Vermilion Parish, where eight persons were killed when a 125-ft. high water tank toppled over onto the Erath, Louisiana, City Hall, which was then being used by Civil Defense personnel. The wind speed at Erath is not known, but six miles away in Abbeville the wind was reported at 110 m.p.h.

Around Lake Pontchartrain, most camp owners and people living in low-lying places evacuated. The winds raised waves and pushed the water up on the shores. The north side of the lake experienced these effects during the passage of Hilda. However, the rapid advance of cold air into the storm on October 4 was accompanied by abrupt wind shifts to the north and increased speeds. This sharp increase in northerly winds across Lake Pontchartrain caused large waves to break and spill over the seawall along the New Orleans Lake Front. Flooding occurred between the seawall and the back levee. The high waves on the lake caused considerable damage to fishing camps and

some business establishments built over the water, and on the lake shore. To the east of New Orleans, the strongest winds in most areas occurred after the cold front had passed rather than in the southerly flow ahead of the low pressure area.

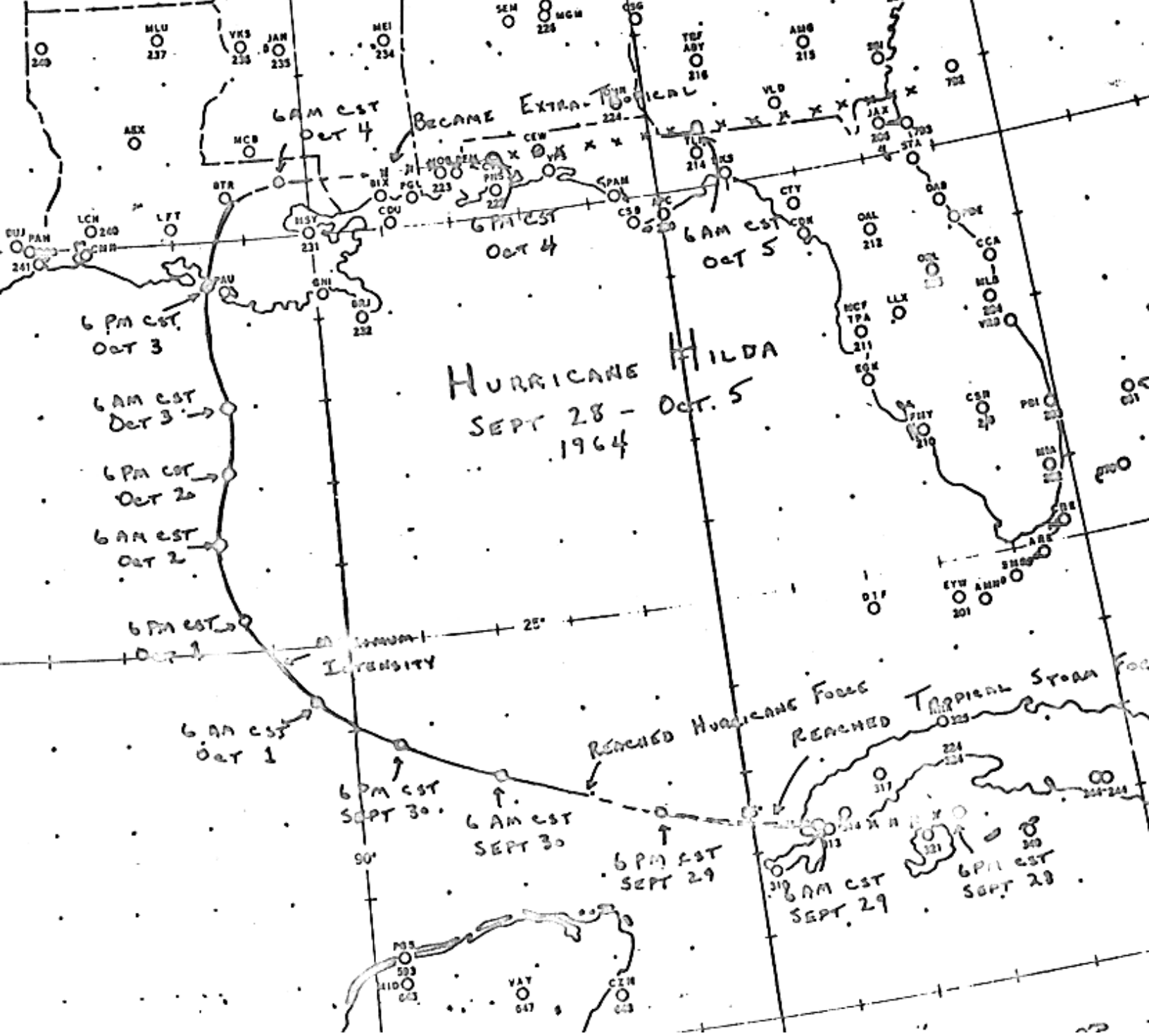
Data are scarce from the hard-hit areas of South Central Louisiana. The highest wind reported so far was 120 m.p.h. at Franklin, Louisiana. The lowest pressure at Franklin was 28.40 inches as the eye of the storm passed over. The highest tide reported so far was an unofficial estimate of 10 feet near Point au Fer. Tides were two to 6 feet above MSL from the mouth of the Mississippi River eastward to Apalachicola, Florida, and two to five feet above MSL on the extreme Western Louisiana and upper Texas coasts.

Rainfall was excessive over much of Southeast Louisiana and Southern Mississippi. Amounts in excess of 10 inches occurred over much of the area and considerable flooding resulted. In many areas, the combination of the wind and the rain combined to do considerable damage to crops. The greatest single crop damage was to sugar. The American Sugar Cane League said that 98 percent of the Louisiana sugar fields were hit by damaging winds and rains. The winds caused a large proportion of the cane stalks to lean at such an angle that the mechanical harvesters would miss them. It is estimated that an additional 11,000 field hands from outside Louisiana will be needed to supplement the Louisiana workers to complete the harvest before the danger of frost. Major hurricane damage to cotton was due to high winds blowing cotton from the opened bolls to the ground. Most of the cotton in the southern areas of Louisiana was flattened by the storm. However, from one-half to three-quarters of the crop had been harvested in the affected areas. The Louisiana State University Agricultural Extension Service estimated a ten million dollar loss to the State's cotton crop as a result of Hurricane Hilda. In Central and Southern Louisiana, many pecan and tung nuts were prematurely blown off trees and substantial losses are reported.

In Mississippi, as Hurricane Hilda moved across the southern part of the state, five inches of rain was common along its path, and 12.05 inches were reported in McComb. The worst damage suffered by Mississippi was atributed to Hilda's backlash of heavy winds which tore down signs, trees, power lines, and contributed to the crop damage. The hardest hit was the pecan crop which was almost ripe. In those areas where the pecan nuts blown off the trees were still in their green hulls, the crop will be lost; in other areas the crop was more mature and can be saved. The harvest of corn along the path of Hilda will be hampered because of the amount blown down. A large amount of cotton had been harvested before the storm, but a considerable portion of that remaining was damaged during the storm. The plants that were hurt worse were those which had defoliated and were waiting for pickers.

It is expected that the total damages due to Hurricane Hilda in Louisiana and Mississippi will be in the Category 8 range. In excess of 14,000 homes were affected, almost 3,000 of them demolished or grossly damaged. President Johnson has declared the hard-hit Louisiana Parishes disaster areas.

	STATION	Co.	Date	PRESSURE Low	Time	WIND (m.p.h.) Fst. Mile	Dir	Time	Peak Gust	Dir.	TIDE Highest Time	MSL	Time	RAIN Storm Total	Grt. 24-hr	REMARKS
Central Division	Morrisville	Avo	5	27.75	1200	E 40	N	2300	E 50		2300			2.85		
	Melville	S. La	4	29.78	1530	E 75	NE	1600						2.82		
	Grand Coteau	S. La	4			E 70	N	0100-0300						7.00		
East Central Division	Bogalusa	Was	4	29.25	1020	E 60	NW	1330						3.67		
	Clinton	E. Fe	4	29.16	0425	62+								10.67		Anemometer blew Down
	Franklinton	Was	4	29.3	0700		E	0230						3.18		
	Abita Springs	S. Ta	4				SW	0200						6.00		
	Angola	W. Fe	4				N	0100						6.13		
	Baton Rouge	E.B.R.	4	28.895	0200	76	NE	2358	67		0624					2nd on 3rd
	Kentwood	Tom	4				NW	0000						7.47		
	Oaknolia	E Fe	4			E 60	N	0700	E 80		0700			8.76		
	Pine Grove	S. Ile	3				NW	2300						2.42		
	Stonypoint	E.B.R.	4				NE	0200-0300						6.53		
	Weyanoke	W. Fe	4				NW	0400						8.70		


HURRICANE HILDA
SEPT 28 - OCT. 5
1964
6 AM CST Oct 4
BECAME EXTRA-TROPICAL
6 PM CST Oct 4
6 AM CST Oct 5
6 PM CST Oct 3
6 AM CST Oct 3
6 PM CST Oct 2
6 AM CST Oct 2
6 PM CST Oct 1
6 AM CST Oct 1
MAXIMUM INTENSITY
REACHED HURRICANE FORCE
REACHED TROPICAL STORM FORCE
6 PM CST SEPT 30
6 AM CST SEPT 30
6 PM CST SEPT 29
6 AM CST SEPT 29
6 PM CST SEPT 28
25°
90°

Reproduced from Mississippi Crop Report issue of

WEATHER BUREAU OFFICE, JACKSON, MISSISSIPPI

STATION	TEMPERATURE Average (oF)	TEMPERATURE Normal	PRECIPITATION Total Inches	PRECIPITATION Days With .01	PRECIPITATION Snow Depth * Accumulation
UPPER DELTA					
Charleston	58	--	.05	1	3.20
Clarksdale	60	70	.60	1	5.37
Cleveland	61	--	T	0	2.41
Scott	60	68	T	0	3.34
Tunica	58	--	T	0	2.97
NORTH-CENTRAL					
Calhoun City	69	--	.70		
Hernando (6 days)	58	68	0	0	3.45
Holly Springs	57	69	.95	2	5.57
University	58	69	.07	2	4.53
NORTH-EAST					
Corinth	M	68	M	M	M
Ripley	59	--	.07	1	5.18
Tupelo	[illegible]	[illegible]	[illegible]	2	4.70
DELTA					
Belzoni	61	69	1.26	2	5.14
Greenwood AP	62	70	.68	2	3.98
Indianola	60	--	T	0	4.50
Moorhead	57	69	.39	2	3.42
Rolling Fork	62	--	1.01	2	8.74
Stoneville	60	68	.04	2	2.84
Yazoo City	61	71	1.37	2	6.46
CENTRAL					
Canton	M	69	M	M	M
Forest	61	69	6.56	3	12.88
Kosciusko	57	69	1.20	2	3.85
Lexington	59	--	2.20	1	8.57
Winona	60	70	1.92	2	6.43
Carthage	61	--	3.30	2	4.46
EAST-CENTRAL					
Aberdeen	M	69	M	M	M
Columbus	57	70	M	M	M
Louisville	59	69	1.56	1	4.17
Philadelphia	61	--	3.13	2	8.31
SOUTH-EAST					
Crystal Springs	59	71	9.95	3	11.63
Jackson AP	64	70	6.97	2	10.27
Macdville	60	--	9.10	2	11.35
Port Gibson	61	70	3.57	2	5.70
Vicksburg WB	61	70	1.85	2	6.03
Woodville	M	71		M	M

0820

e of Oct 12, 1964

WEATHER DATA FOR WEEK ENDING FRIDAY OCTOBER 9, 1964

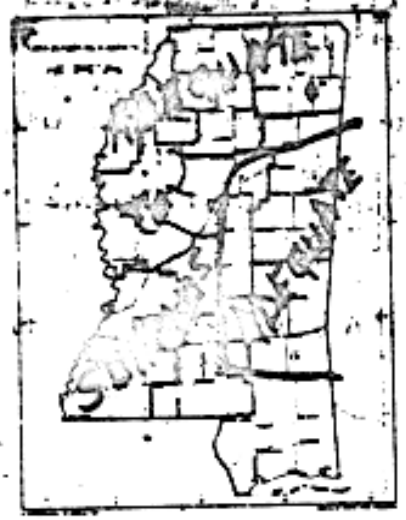
STATION	TEMPERATURE Average (°F)	TEMPERATURE Normal	PRECIPITATION Total Inches	PRECIPITATION Days With .01	Four Weeks * Accumulation
SOUTH-CENTRAL					
Columbia	62	72	4.69	3	8.33
D'Lo	61	--	7.05	3	10.52
McComb AP	67	72	12.53	3	14.56
SOUTH-EAST					
Bay Springs	60	--	4.12	3	8.81
Hattiesburg	62	71	3.84	3	5.75
Laurel	62	70	5.18	2	11.70
Meridian AP	61	69	3.48	3	5.31
Waynesboro	61	70	3.98	2	5.87
COASTAL					
Biloxi AP	65	73	1.70	3	4.10
Merrill	62	--	1.91	3	3.65
Picayune	64	--	3.43	3	7.09
Wiggins	62	--	3.54	2	5.27
Poplarville	M	--	M	M	M

* = Sept. 12 - Oct. 9, 1964
M = Missing Data
T = Trace - less than 0.005 inch.

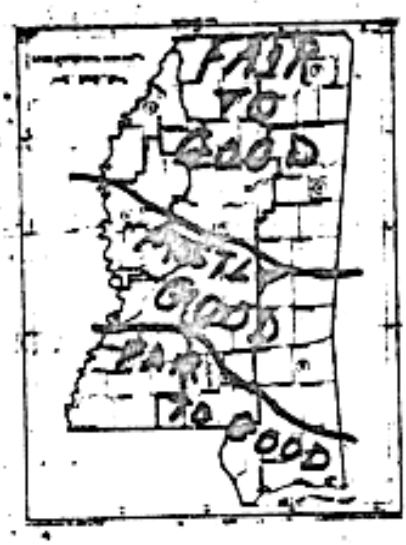
PRECIPITATION 6 [illegible] 6 [illegible] AY

[illegible]	TOTAL	[illegible]	TOTAL
[illegible]	0	McComb	0
[illegible] AP	0	Meridian AP	0
[illegible] AP	0	[illegible] AP	[illegible]
Wiggins	0	Merrill	[illegible]
Yazoo City	0	Stoneville	[illegible]
		Columbus	[illegible]

SOIL MOISTURE



PASTURES



COTTON HARVESTED