

U. S. ARMY CORPS OF ENGINEERS  
Mobile District

Disaster Operations, Mississippi Gulf Coast  
Following Hurricane CAMILLE, 17-18 August 1969

1. History and Description of Hurricane CAMILLE.

Hurricane CAMILLE, although small in area, is said by the U. S. Weather Bureau to have been the most intense ever recorded on the United States mainland. It was first reported as a tropical storm which formed rapidly in the Caribbean near Grand Cayman Island on 14 August 1969. Moving northwest at about 10 miles per hour, it reached hurricane intensity during the morning of 15 August and passed over the western tip of Cuba into the Gulf of Mexico that night. It continued on a north-northwest track at about the same forward speed until the afternoon of 16 August, when it stalled for several hours as it intensified.

During the night it resumed its forward movement on a north-northwestward course with winds at the center estimated at 150 miles per hour. Early Sunday an Air Force plane which forced its way into the eye found the central barometric pressure to be 26.61 inches, the lowest ever recorded by an aircraft in the western hemisphere. As the hurricane passed near the mouth of the Mississippi River Sunday evening, 17 August, winds had increased to nearly 200 miles per hour, and the forward speed had increased to about 15 miles per hour. The eye crossed the Mississippi coast near Waveland around 10 p.m., CDT. From there it moved north across Mississippi, weakening as it continued inland. After turning eastward and causing disastrous flooding in West Virginia and Virginia, it finally broke up in the North Atlantic on 22 August (Exhibit 1).

Complete meteorological data from the affected coastal area is not yet available. Dr. Robert H. Simpson, Chief of the National Hurricane Center in Miami, said, "We will never know the maximum velocity of the winds, but on the basis of my experience and observations, I would conservatively estimate they ranged at or about 200 miles an hour. This is on the threshold of tornado intensity." Since most tide gages and records were lost, information on stages is being developed from high water marks. On the basis of present information, the static high tides along the coast were approximately as follows:

Mobile	7.4 feet msl
Pascagoula	10 to 11 feet msl
Biloxi	15.5 to 20 feet msl
Gulfport	20 feet msl
Pass Christian	21.4 feet msl
Bay St. Louis	20 feet msl

## 2. Effects of Hurricane CAMILLE Along Mississippi Gulf Coast.

After inspecting the Gulf Coast area hit by the hurricane, Dr. Robert H. Simpson, Chief of the National Hurricane Center, stated, "By any yardstick, CAMILLE was the greatest storm of any kind that has ever affected this nation." The beachfront from Biloxi to Waveland, including the famed luxury Gold Coast, was a scene of utter devastation. Newspapers compared the destruction to that caused by an atomic bomb.

Despite the fact that the coastal areas were largely evacuated, loss of

life was heavy. The total may never be known, since it is feared that many people were buried in the shifting sands or washed out to sea. Latest Red Cross estimates show 139 dead and 76 missing.

According to newspaper accounts, overall monetary losses in Mississippi may be in excess of \$100,000,000; and more than 200,000 people have been affected. More than 5,500 homes were destroyed and 36,000 homes experienced major or minor damage. The port facilities at Gulfport and Biloxi, small boat basins at Gulfport and Pass Christian, and other harbor works along the Mississippi coast were extensively damaged. Channels experienced light to heavy shoaling. There was also considerable damage to highways, roads, railroads, and utilities.

Jackson County on the east sustained somewhat lighter damage than Harrison and Hancock Counties, the other two coastal counties. Lesser damage was suffered by 23 inland counties in the path of the hurricane (Exhibit 2).

### 3. Declaration of Disaster Area.

On Monday, 18 August, President Nixon declared Mississippi a major disaster area. In accordance with Public Law 875, this action authorized 26 counties in southern Mississippi to be eligible for Federal assistance. This assistance includes activities required for the preservation of life and property, clearing debris and wreckage, and making emergency repairs to and temporary replacements of public facilities of local governments damaged or destroyed in the disaster.

Federal assistance in the disaster area is being directed by the Office of Emergency Preparedness, an agency of the Executive Office of the President.

In addition to U. S. Army Corps of Engineers units, other agencies include the Bureau of Public Roads; the Department of Health, Education, and Welfare; the Department of Housing and Urban Development; the Small Business Administration; the Federal Bureau of Investigation; the U. S. Department of Agriculture; and the American Red Cross.

4. Activities of Mobile Engineer District in Disaster Area.

a. Preliminary Activities.

Colonel Robert E. Snetzer, Mobile District Engineer, initiated a 24-hour watch on 16 August when Hurricane CAMILLE crossed over the western tip of Cuba into the Gulf. On Monday morning, 18 August, as soon as the hurricane winds and tides subsided the Mobile District dispatched reconnaissance teams into the areas affected. Reports indicated severe damage along the Mississippi coast in Harrison and Hancock Counties and lesser damage westward into Louisiana and eastward across Alabama into northwest Florida. The District began mobilizing for emergency operations, and immediately a representative was dispatched to Jackson, Mississippi, to establish liaison with the State Operations Center.

That same day the President declared Mississippi a major disaster area; and at the request of a representative of Region 3 of the Office of Emergency Preparedness, a District representative met Mr. Ronald Van Dame, Chief Field Coordinator of Region 3, in Gulfport that afternoon.

b. Mississippi Area Office. On 19 August an Area Office was established at Gulfport to supervise the public property clean-up work in the disaster area. The office began operations at the Gulfport Municipal Airport with

Mr. William R. Coryell, Chief of the Civil Construction Branch in the District office, in charge. His staff consisted of two civil engineers and four technician-inspectors.

The Area Office was reorganized and expanded. Military and civilian personnel were assigned from outside of the Mobile District and the South Atlantic Division, as well as from within (Exhibit 3). The staff has expanded to include 17 officers and 44 civilians on temporary duty from other Corps of Engineers districts. The Area Engineer is Colonel James W. Gilland, Deputy Division Engineer for the North Central Engineer Division, Chicago; and the Assistant Area Engineer is Mr. Coryell. Subordinate project offices have been established at Bay St. Louis, Pass Christian, Gulfport, and Biloxi.

c. Phase 1 - Clearing Operations. The initial operation involved clearing of roads and streets to provide access to all parts of the stricken areas and to clear utility rights-of-way to permit the restoration of utility services. The coastal areas sustaining the most severe damage were divided into 18 separate contract areas or parcels (Exhibit 4).

Letter orders for this work were issued to five civilian contractors on 19 and 20 August, each being assigned a specific portion of the coast from Pearlinton near the Louisiana line to the west end of the Biloxi Highway bridge. Three contractors began work on 20 August and the other two on 21 August. They used 121 men, 84 pieces of heavy equipment, and 26 chain saws. This emergency clearing was completed on 27 August.

The Gulfport Seabees had responded immediately after the storm and made an outstanding effort at clearing debris. Likewise, the 43rd Engineer

Battalion (Construction) from Fort Benning, Georgia, arrived the evening of 21 August to assist in clean-up. The 43rd was later augmented by D Company, 818th Engineer Battalion from Fort Benning.

d. Phase 2 - Removal and Disposal. By 25 August, Phase 1 was essentially completed and all necessary streets were considered passable. Contracts were awarded for the second phase operation for removal of debris from along streets and roads to 10 feet beyond the curb or ditch line. The first cleanup contract for Phase 2 was awarded 27 August, and by 31 August 19 cleanup contracts had been awarded. As private contractors moved into debris removal areas, U. S. Army Engineer and Seabee efforts were coordinated to provide smooth transition and phase out.

5. Exhibits.

1. Path of Hurricane CAMILLE.
2. Destruction Pattern.
3. Field Organization.
4. Contract Parcels.