

Introduction.—The approximate areas flooded by Hurricane Camille of August 18, 1969, along the Mississippi Gulf coast are shown in a series of hydrologic atlases. The area covered by the entire series of atlases extends from Bayou La Batre, Ala., westward along the Gulf coast through Mississippi to the mouth of West Pearl River, a distance of 90 miles.

The Ocean Springs-Deer Island map shows the coastal areas from Biloxi to a point 5 miles east of Ocean Springs, and the eastern part of Back Bay and Old Fort Bayou.

Camille was the most intense hurricane on record to enter the United States mainland. According to the U.S. Weather Bureau maximum winds were estimated to be at least 190 mph (miles per hour) and central pressure observed was 26.61 inches of mercury, lowest ever recorded on the Gulf coast. The eye of the storm, 5 miles in diameter, traveling almost due north, passed over the Waveland-Bay St. Louis area and hurricane force winds of more than 75 mph extended approximately 50 miles on either side. The maximum precipitation near the coast during the passage of the hurricane was 10 inches recorded at the Mississippi Test Facility, approximately 18 miles northwest of Bay St. Louis.

Flooding was the most severe in the Pass Christian-Long Beach area where tides reached elevations about 25 feet above mean sea level. In the St. Louis Bay, maximum elevations were about 18 feet and in the Back Bay of Biloxi, about 15 feet.

American Red Cross casualty figures listed 139 known dead and 76 missing in Mississippi. Known dead in Louisiana totaled five. Total number of persons injured was estimated to be 8,931. The total damage caused by Hurricane Camille, as reported by the Office of Emergency Planning, was \$1.3 billion; damage by Hurricane Betsy (1965) was \$500 million.

Past tide records and some Camille tide elevations were obtained by the U.S. Army Corps of Engineers, Mobile district. Most of the Camille flood data were obtained by the U.S. Geological Survey from August 19 to September 17, 1969.

Tide Records.—Reasonably accurate records of storm tides for the Mississippi coast since 1882 have been recorded at Biloxi by the Corps of Engineers and others. A tide gage is located near the center of the Louisville and Nashville Railroad bridge across the Back Bay of Biloxi. Elevations of the annual maximum tides at this gage are shown on figure 1.

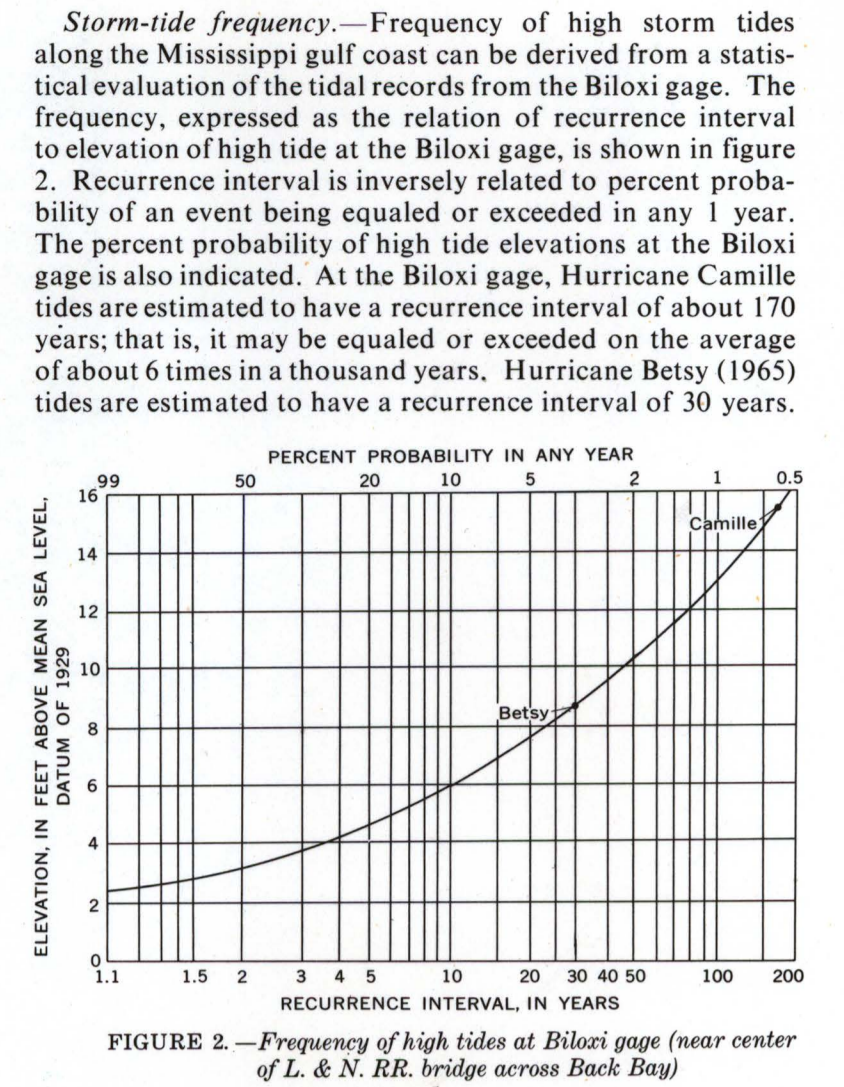


FIGURE 2.—Frequency of high tides at Biloxi gage (near center of L. & N. RR. bridge across Back Bay)

Storm-tide frequency.—Frequency of high storm tides along the Mississippi Gulf coast can be derived from a statistical evaluation of the tidal records from the Biloxi gage. The frequency, expressed as the relation of recurrence interval to elevation of high tide at the Biloxi gage, is shown in figure 2. Recurrence interval is inversely related to percent probability of an event being equaled or exceeded in any 1 year. The percent probability of high tide elevations at the Biloxi gage is also indicated. At the Biloxi gage, Hurricane Camille tides are estimated to have a recurrence interval of about 170 years; that is, it may be equaled or exceeded on the average of about 6 times in a thousand years. Hurricane Betsy (1965) tides are estimated to have a recurrence interval of 30 years.

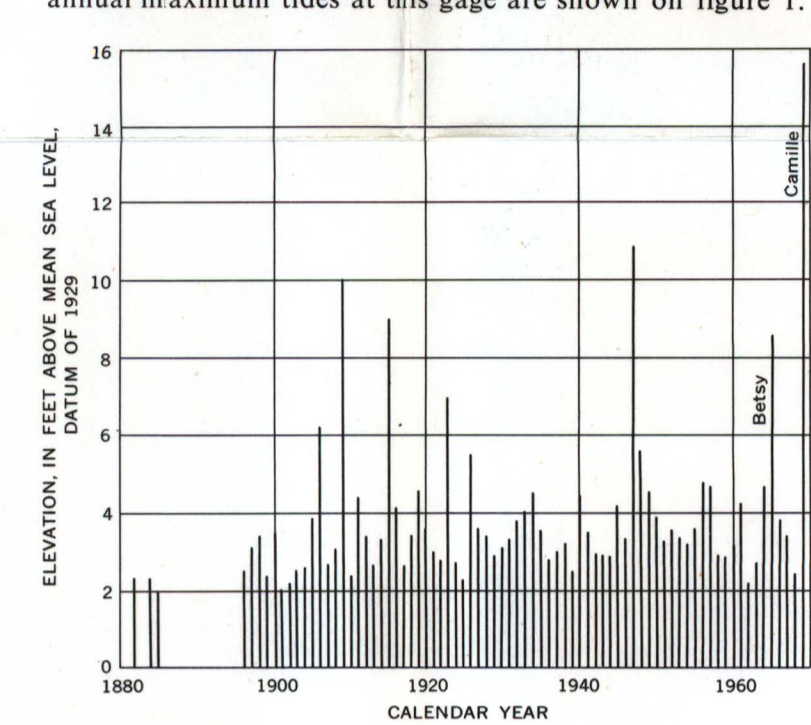


FIGURE 1.—Annual maximum tide at Biloxi, Mississippi, 1882, 1884-85, 1896-1969

Tide gages with much shorter records are operated by the Corps of Engineers at Mobile, Dauphin Island, Pascagoula, and Pearl River. Significant tide elevations at various points along the Mississippi coast for more than 20 hurricanes since 1893 have been recorded by the Corps of Engineers, the U.S. Geological Survey, and others. Data pertaining to some of the highest tides of record are shown in table 1. Additional data for the September 1965 hurricane tide (Betsy) are shown on the map.

TABLE 1.—Hurricane tide elevations at selected locations along the Mississippi Gulf coast, 1893-1969, in feet above mean sea level, datum of 1929.

Date	Biloxi		Pass Christian		Gulfport		Pascagoula	
	Windward	Levee Point	Windward	Levee Point	Windward	Levee Point	Windward	Levee Point
Oct. 2, 1893	10.8	—	—	—	—	—	—	—
Sept. 27, 1906	—	—	—	—	—	—	—	—
Sept. 30, 1909	—	—	—	—	—	—	—	—
Sept. 29, 1915	—	—	—	—	—	—	—	—
Sept. 19, 1947	—	—	—	—	—	—	—	—
Sept. 10, 1965	12.7	12.5	10.8	—	12.3	10.2	8.6	6.4
Aug. 18, 1969	15.7	14.5	24.2	21.0	20.1	15.5	15.5	15.5

Note: Elevations shown are from Corps of Engineers unless otherwise noted.



Flood tide destroyed business establishments along Biloxi beach. Photograph by Claude Sutherland, Jackson, Miss.

Map by U. S. Coast and Geodetic Survey
Edited and published by the Geological Survey
Control by USGS and USC&GS
Culture and drainage in part compiled from aerial photographs taken 1950. Topography by planimetric surveys 1951
Field check 1954.
Hydrography compiled from USC&GS charts 1267 (1953) and 875 (1957)
Polyconic projection. 1927 North American datum
10,000-foot grid based on Mississippi coordinate systems, east zone
1,000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue
Unchecked elevations are shown in brown
Dashed land lines indicate approximate locations

HURRICANE CAMILLE TIDAL FLOODS OF AUGUST 1969 ALONG THE GULF COAST, OCEAN SPRINGS-DEER ISLAND QUADRANGLES, MISSISSIPPI

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