

**FLOOD OF 1962 NEAR BATON ROUGE
LOUISIANA**

This report presents information pertaining to the depth and frequency of flooding by the Comite River and its tributaries in the vicinity of Baton Rouge, La. The approximate areas inundated by Blackwater Bayou, Comite River, Cypress Bayou, and White Bayou, during the flood of April 27-29, 1962, are delineated on a topographic base map to record the floodhazard in graphic form. The flood of May 1953 was about a foot higher and inundated a slightly larger area, but the 1962 flood caused greater damage because of the increased concentration of population and encroachment on the flood plain. There are insufficient data to define the boundaries of the 1953 flood. Greater floods are possible but no attempt has been made to show their probable overflow limits. Future dredging or protective works may reduce the frequency of flooding in the area but will not necessarily eliminate flooding. New highways and other cultural changes may influence the inundation pattern of future floods. Dredging of the main channel of the Comite River was completed in the reach from the mouth to the U.S. Geological Survey gaging station, located at the bridge on State Highway 946, near Comite, La., in late 1961. Damage by the flood of 1962 in this reach of channel was negligible.

Cooperation and acknowledgment.—The preparation of this flood inundation map is a part of an investigative program financed through a cooperative agreement between the Louisiana Department of Public Works and the U.S. Geological Survey.

Supplemental flood-profile data were furnished by the Louisiana Department of Public Works and the East Baton Rouge City-Parish Department of Public Works.

The flood map and text were prepared by Joseph D. Camp, and the flood-frequency relation was developed by Vernon B. Sauer of the Geological Survey.

Flood heights.—The height of a flood at a gaging station is usually stated in terms of gage height, or stage, which is the elevation of the water surface above a selected datum plane. Water-surface elevations shown on the flood map are in feet above mean sea level. Gage heights for the gaging stations shown on the map can be converted to elevations above mean sea level by adding the gage height to the appropriate datum of gage listed in the table below. The peak stage for the 1962 flood at the gaging station on Comite River at State Highway 946 is not comparable to the peak stages of previous floods because of dredging operations in the channel. The maximum water-surface elevation at the gage and in the reach downstream was about 9 feet lower in 1962 than in 1953 although the peak discharge in 1962 was slightly greater.

Discharge.—Discharge is the rate at which water flows, expressed as volume per unit time, usually cubic feet per second (cfs). Peak discharge is the maximum value of the discharge attained during a flood. A stage-discharge relation, or rating curve, is a graph showing the relation between the gage height and the rate of flow. Stage-discharge relations (rating curves) for the gaging station on Comite River near Comite, (State Highway 946) are shown in figure 1. The upper curve is the stage-discharge relation used prior to channel dredging in 1961; the lower curve is the stage-discharge relation after completion of dredging operations. For a discharge of 10,900 cfs, the dredging resulted in lowering the flood elevation more than 9 feet (fig. 1).

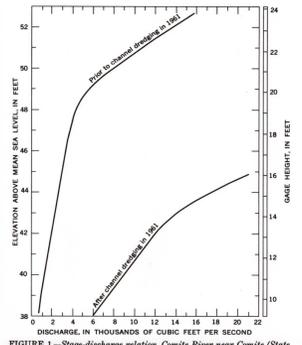


FIGURE 1.—Stage-discharge relation, Comite River near Comite (State Highway 946).

FIGURE 2.—Annual floods greater than 10,000 cfs, 1944-62, Comite River near Comite (State Highway 946).

The general relation between recurrence interval and discharge is shown in figure 3. Discharge can be converted to flood height or stage by using the appropriate rating curve in figure 1. The recurrence intervals of the 1962, 1953, and 1961 floods were 43, 40, and 12 years, respectively (fig. 3).

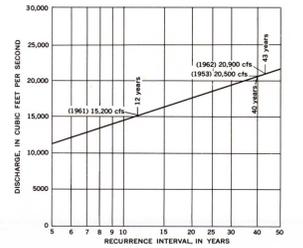


FIGURE 3.—Frequency of floods in Comite River near Comite (State Highway 946).

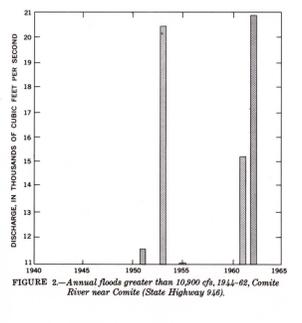


FIGURE 4.—Profiles of flood of April 27-29, 1962, on Blackwater Bayou, Comite River, Cypress Bayou, and White Bayou.

It is emphasized that recurrence intervals are average figures--the average number of years that will elapse between the occurrences of floods that equal or exceed a given magnitude. If a given flood is experienced in any one year, the chance of a similar flood being experienced in the next year or even in the next week is not reduced.

Flood profiles.—The profiles of the water surface along Blackwater Bayou, Comite River, Cypress Bayou, and White Bayou, constructed from highwater marks left by the flood of April 27-29, 1962, are shown in figure 4. The abrupt changes in the profiles shown at most highway crossings indicate the difference in water-surface elevations at the upstream and downstream sides of bridges. Baselines for the profiles are located along the main channels. River miles upstream from the mouth of the Comite River, used to plot the profiles in figure 4, are marked at half-mile intervals along the channels on the flood map. The gaging station, Comite River near Comite (State Highway 946), is located at mile 6.5.

At mile 21.3 the original channel of Cypress Bayou has been diverted into Baker Canal. Run-off from the headwaters of Cypress Bayou north of the town of Baker now flows into another basin.

Depth of flooding at any point can be estimated by subtracting the ground elevation (shown by contour lines on map) from the water-surface elevation indicated by the profiles in figure 4.

Additional data.—Other information pertaining to floods near Baton Rouge, La., may be obtained at the office of the U.S. Geological Survey, Baton Rouge, La., and from the following report:

U.S. Geological Survey, 1959, Floods of April-June 1953 in Louisiana and adjacent States; U.S. Geol. Survey Water-Supply Paper 1320-C, p. 155-320.

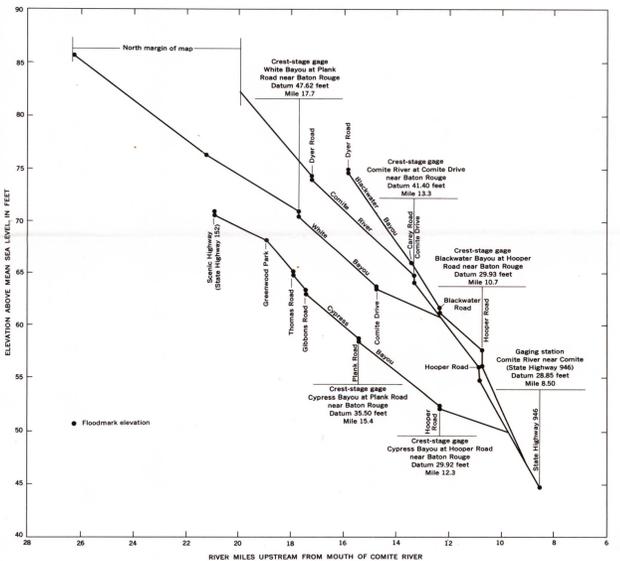


FIGURE 5.—Crest-stage gages on Comite River and tributaries.

FLOOD OF 1962 NEAR BATON ROUGE, LOUISIANA
By
Joseph D. Camp
1965