RIVERS AND FLOODS, FEBRUARY, 1913.

By Alfred J. Henry, Professor, in charge River and Flood Division.

Fortunately for the inhabitants of the lower Mississippi Valley the type of rainfall which prevailed during January, 1913, changed in the early part of the month, thus permitting the January flood in the Ohio which had reached Cairo, Ill., to pass down the Mississippi without any important increase in the volume of the flood water. The progress of that flood which began at Pittsburgh on January, 1913, changed in the early part of the month, thus permitting the January flood in the Ohio which had any important increase in the volume of the flood water. The 9th of Memphis, thereby shortening by several weeks the distance between Cairo and Vicksburg. Another factor possibly concerned in the changed stage relations is pointed out by Forecaster Emery, of the Memphis station, viz, the cutting of a new channel across a bend a short distance above Memphis, thereby shortening by several miles the distance the water has to travel, increasing the slope, and consequently the velocity of the current just before it reaches the Memphis gauge.

On January 25 a break occurred in the levee at Beulah, Miss., which later attained a width of several hundred feet. At the close of the month the Mississippi was 0.3 of a foot below the flood stage at New Orleans and a still greater amount below at places between Cairo and Vicksburg. It was frozen from St. Paul to Davenport.

The Missouri River, on account of the open winter, was open as far north as Pierre, S. Dak.

On the Pacific coast low stages prevailed, especially in California. In the Gulf and South Atlantic States, while precipitation was not unusually heavy, it was sufficient to keep the rivers at a moderately high stage. Flood stages were reached in the rivers of Mississippi as follows: Pearl River on the 3d, 4th, and 5th; Pascagoula River, on the 5th and 6th; Chickasawhay River on the 3d. The Tombigbee River, of Alabama, was at relatively high stages, especially on the headwaters. At the end of the month the waters on the lowlands below Demopolis had not yet receded, hence final report is deferred. Moderately heavy rain fell in the upper Alabama watershed on the 26-27, but flood stages were not quite reached in any of the headwater streams. In Georgia the flood stage was reached in the lower valley of the Ocmulgee, caused by the heavy rains of the 2d and 3d. Another period of heavy rains set in on the 27-28, and flood stages were again reached. A marked rise occurred in the Coosa River at Rome, Ga., viz, from the 11th to 12th and again on the 27-28, both due to heavy rains on those dates. The Santee River, of South Carolina, was above the flood stage on the 2d and 3d at Rimini and Ferguson, S. C.

In the region of the Great Lakes flood stages, due to local ice conditions, occurred in the Grand River at Grand Rapids, Mich., on the night of the 1st-2d.

Further details may be had from the reports of the several district editors.

Flood loss.—In general, the loss by flood during February was small; complete statistics, however, are not at hand at this writing (Mar. 22), but will doubtless be included in the Review for March, 1913.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

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