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A Science Service Feature

? WHY THE WEATHER ? Mailed February 19, 1930

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CAUSES OF MISSISSIPPI FLOODS

A recent publication of the American Red Cross refers to the long prevalent fallacy that "the natal chamber of the great Mississippi Valley floods is in the mighty mountains of the north, where heavy snows, accumulated through the winter, are sent roaring to the south by sudden thaws."

On the basis of information furnished by the U. S. Weather Bureau the Red Cross writer sets forth the causes of these floods as now understood. Mountain snows are of small importance. The determining factor is rain in the upper and lower valleys. Continued rains through the fall and winter until the land is saturated, followed by heavy rains in the spring, make floods inevitable. However, in 1884 a great flood was caused by ice damming the water in the north, when a sudden thaw in the spring sent a veritable sea through the lower valley. In 1912 six heavy rainstorms, progressing through the valley in a northeasterly direction at intervals of a few days, caused another great flood. But such causes are unusual; a slow, progressive saturation of the land during the winter with continued rain through the spring, remains the almost invariable cause of floods.

Evidence gathered by the Weather Bureau shows clearly that in considering the causes of floods in the lower Mississippi Valley conditions and effects arising in the Rocky Mountain headwaters system of great tributaries, such as the Missouri and the Arkansas, can be safely ignored. Under present conditions these mountains and forested regions can add no more than a small fraction to the flood crest in the lower Mississippi. The greatest effect they can have is to delay the subsidence of an existing flood, and even this effect has never yet been observed to any important extent.

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