

## GENERAL SCIENCE

# Disastrous Midwest Flood

Unusual weather conditions, found only once every hundred years in any one area, cause record floods in Kansas and Missouri.

► THE WEATHER conditions which were responsible for the rains which produced the Kansas-Missouri flood occur somewhere in the country about once each year. But they are only likely to happen in the Kansas-Missouri area, or at any other one spot, about once every 100 years.

This is the opinion of the U. S. Weather Bureau's I. R. Tannehill, head of the Synoptic Reports and Forecast Division. Artificial rainmaking had nothing to do with the flood.

The rains came in June and July as a result of conditions in the Pacific Ocean, the Gulf of Mexico, Canada and Alaska, Jerome Namias, chief of the Extended Forecast Section, told SCIENCE SERVICE. Cold air masses, he said, were delivered to the central plains states from the Gulf of Alaska and Canada.

"The chief delivering agent," he explained, "was an unusually strong area of high pressure in the eastern Pacific which extended its influence up to at least 40,000 feet and poured supplies of cold air into the northern and central plains.

"Coming up to meet these onrushing streams of cold air," Mr. Namias went on, "was a hot, moisture-laden current of air from the Gulf of Mexico. The two currents met repeatedly in the Kansas-Missouri area and there the warm moist stream of air, being lighter, was lifted over the cold air and forced to release its moisture in heavy rain."

Mr. Namias said that the abnormally cold weather observed during June and early July in the northern plains and northern Rocky Mountain states and the very hot weather in the western Gulf states were evidence of the great contrasting streams of air whose interaction was responsible for the flood rains.

## Possible Typhoid Danger

► FLOOD VICTIMS need not worry about the danger of getting typhoid fever or other water-spread diseases from the flood waters themselves.

There is more danger of typhoid and dysenteries developing in refugee camps from poor food handling and lack of adequate sanitary facilities.

The flood waters themselves create such a tremendous dilution that the chance of picking up typhoid fever germs is slim, in the opinion of health experts. Cases of typhoid fever are fairly rare in the United States now and of course unless a patient

or typhoid carrier is discharging germs into the water, there would be none to cause the disease.

Whether typhoid cases are developing in the flood areas will not be known immediately because it takes about 10 days for the disease to develop after germs have entered the body.

Vaccination against typhoid, though effective for protecting against the disease, is not of much value in an emergency such as the flood situation. The reason is that it takes two to three weeks to get the maximum immunity, or protection, from the vaccination. Persons exposed to the disease during the flood would probably get it before the vaccination could take effect.

## Civil Defense Workout

► THERE WAS one silver lining to the clouds which produced the flood that raged in Kansas. National, state and local civil defense organizations learned a lot about their jobs with the problems brought about by the flood to practice on.

Federal civil defense officials received constant reports from Kansas on the work of state and local civil defense organizations in caring for the flood victims, evacuating, feeding and housing them. All the peacetime organizations now active in flood relief work—the Red Cross and various branches of the government—will be integrated into civil defense in case of enemy attack.

Civil defense officials plan to use all "natural" disasters as laboratories in which to test existing CD plans and to train officials and volunteers. They point out that a flood does not present all of the problems of an A-bomb attack, a "shock" disaster like a huge explosion is more similar.

However, federal officials say, the civil defense welfare services in Kansas should get a good workout. As would be the case in an A-bomb attack, there are thousands of homeless to take care of. Officials must see to it, too, that disease is not permitted to spread because of the breakdown of the sanitary facilities and water systems.

The Kansas flood also tested the mutual assistance ideas of civil defense. Nearby communities and states not hit by the flood were called upon to help their less fortunate neighbors—just as they would be in an A-bomb attack.

Almost immediately medical and other emergency supplies and planes and helicopters were called in from all parts of the country.

Reports on various phases of the operation are being sent to national civil defense headquarters. These will be the basis for checking the efficiency of the plans and organizational set-up designed to defend the nation against the effects of A-bomb attacks.

## Alert for Encephalitis

► U. S. PUBLIC Health Service officials will be on the lookout until about the middle of August in the Kansas-Missouri flood areas for outbreaks of so-called sleeping sickness, or encephalitis, and intestinal diseases. City, state and federal health services, however, are pretty well equipped to handle these outbreaks if they come.

Encephalitis is carried by mosquitoes, diarrhea is carried by flies. The hundreds of thousands of square miles of flooded areas will shortly be covered by millions of stagnant pools of water—ideal places for the breeding of mosquitoes.

Flies—the blow fly and the house fly—breed on garbage and sewage, strewn about the landscape, and on wet and rotting grain.

Plans for spraying the breeding grounds have not yet been completed but already Kansas has requested, and received, 24,000 pounds of DDT from the federal Public Health Service.

It is almost sure that some of the \$25,000,000 just appropriated by Congress for flood relief will go to keep down the threat of epidemics of these diseases.

As a precautionary move against the possible spread of typhoid, workers in the staggering task of cleaning up areas which were inundated are being vaccinated against that disease. However, public health officials see little danger of an outbreak of typhoid since there was little of the disease around before the flood began. Also, workers are being told to take extra care in washing their hands before they eat.

During the flood itself there was little worry about the spread of disease. Although clean water was in short supply, portable chlorinating stations and Halazone tablets took care of the problem.

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## ASTRONOMY

### "New Star" Found in Constellation Aquila

► A HITHERTO unknown star in the constellation of Aquila, the eagle, has flared up enough to make its presence in the heavens known.

The nova or "new star" is only of 11th magnitude, however, and thus too faint to be seen without a good telescope. It was spotted by Dr. Fritz Zwicky of the California Institute of Technology reports Dr. Ira S. Bowen, Director of the Mount Wilson and Palomar Observatories.

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