CLIMATOLOGY

## Floods May Hit Northwest

THE Pacific Northwest may follow North Dakota's water-swept Red River Valley with rampaging spring floods this year. The potential is there in a heavier-thannormal snow pack over most of the Columbia River basin.

For six months the flow of the Columbia has been far above normal, reports the U.S. Geological Survey. The agency warns of possible Northwest floods in its semi-annual water resources review covering the entire nation.

How the still-unmelted 1950 snow comes off the watershed—slowly and evenly or in raging, dyke-breaking torrents—will be determined by the weather. The great atmospheric tides which control weather could bring tides of water into mountain valleys of Washington and Oregon.

Because the mountain snows are at far higher elevations than over the rest of the country, the dangerous melting season comes later in the Northwest than in the East and Midwest. Normally it arrives in May and early June.

In March the U.S. Weather Bureau in Portland, Oreg., reported to the Geological Survey, "Not only is the water content on the high snow courses well above normal, but the snow line is well down for this time of year. The snow pack is heavy over most of the Columbia Basin.

"If normal melting conditions prevail, the southern streams will have peaked before the northern ones reach a high stage . . .

(and) little if any damaging high water will occur down the lower Columbia.

"However, should the consistently heavy snow pack melt simultaneously . . . should weather conditions keep much of this heavy snow pack in storage later than normal, serious damage from fast runoff will be expected."

Translated from the jargon of the government report, that spells flood.

Similar conditions have already spelled flood for isolated thousands in North Dakota, northwestern Minnesota and southern Manitoba, where the Red River of the North has reached its highest levels in a century.

The ice broke in the headwaters of North Dakota's rivers in the second week of March, a Geological Survey engineer said. Then the rivers refroze, and 30 inches of snow fell between March 23 and 27. In the last week in March, the snow turned to

rain in some areas.

The result was that the three prime causes of spring floods—snow melt, rainfall and ice break-up—happened nearly simultaneously.

Raging tributaries of the Red River, shackled by ice jams but pushed from behind by melting snow drifts, broke from their banks. "Walls of water" rolled across northern plains.

As the crest of the flood moved downstream into Canada, the situation in Manitoba grew steadily worse until the peak of the swollen river passed.

Elsewhere in the nation, the six-month review of the Geological Survey showed conditions ranging from flood to drought. Throughout the Ohio and Mississippi

Throughout the Ohio and Mississippi Valley states, runoff during the winter was excessive, with minor local floods reported in all months except November.

From Texas to California across the Southwest, streams have been consistently low. In the Northeast, where fall and winter drought tightened water supplies, the situation has improved, the Geological Survey reported.

Science News Letter, May 6, 1950

**PSYCHOLOGY** 

## Work or Labor Class?

➤ DO you belong to the working class? Do you belong to the laboring class?

These questions are not synonymous as some people have thought. The membership in the two classes in America differs not only in numerical strength but in terms of attitudes, Dr. Richard Centers, of the University of California at Los Angeles, found from opinion surveys. His findings are reported in the Journal of Abnormal and Social Psychology.

Repeated surveys have shown that when Americans are asked, "To what social class do you feel you belong—middle class, or upper, or lower?" 88 % will call themselves middle class. Six percent feel that they are in the upper class and another 6 % place themselves in the lower class.

Dr. Centers repeated the opinion survey, adding a fourth social class to the list. In one survey he called the fourth class the working class and in another he called it the laboring class.

The working class is far more popular, he found. Over half the adult population identifies itself with the working class; only about a third claims membership in the laboring class.

People identifying with the laboring class are poorer, and tend to be more commonly of manual occupations, of somewhat lower educational level, and more often members of unions than those who say they belong to the working class.

There is more support for the New Deal and the Democratic party in the laboring class than in the working class and more preference for government rather than private ownership of industry.

In general, the survey indicates, Dr. Centers concludes, that the laboring and working classes are not actually two separate classes but that the laboring class is an inner and more proletarian core of the working class

Science News Letter, May 6, 1950

AERONAUTICS

## On-and-Off De-Icing for Jet Planes Is Better

➤ A SYSTEM for de-icing the wing surfaces of jet airplanes that is both lighter and more efficient than present equipment has been developed by Dr. Myron Tribus of the engineering department at the University of California at Los Angeles.

As a practical result, it may remove one of the obstacles that hitherto prevented commercial airlines from using jet transports.

Up until now, one of the problems of jet planes has been what to do about heavy icing conditions, which require weighty and costly continuous heating devices. Dr. Tribus' studies show that intermittent heating is the key to the problem because the formation of ice itself liberates heat. On the other hand, continuously heated surfaces are constantly above freezing and thus are not able to take advantage of the heat liberated by the formation of ice.

"Intermittent heating is thermodynamically more efficient for all phases of de-icing and requires lighter equipment," Dr. Tribus says.

Science News Letter, May 6, 1950

