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A Science Service Feature

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? WHY THE WEATHER ?

Dr. Charles F. Brooks,
of Clark University,
discusses:

FLOOD FORECASTING

The heavy rains and melting snows of spring make this the flood season in the big river valleys. In forecasting floods on the Ohio and Mississippi the Weather Bureau has attained a degree of accuracy unthought of at present in forecasting weather. For estimating the height of flood stages, rough computations based on the rainfall and, particularly, tabulations of former experiences are employed. Near the head of a river where the slope is steep and the length of stream involved shorter, the flood rises rapidly and the forecast can be only approximate. For instance, on the Ohio, flood forecasts are made by five foot intervals in West Virginia, while at Cincinnati the height of the river can be predicted to within one or two feet. When the conditions are known for a longer distance upstream, water levels farther down can be predicted with increased accuracy. Thus, at St. Louis, it is possible to forecast the flood stages to within one-tenth of a foot several days ahead of time. For the lower Mississippi, the height of a flood can be predicted to a fraction of a foot even two weeks in advance, but these forecasts for the lower river always contain the proviso "if the levees hold".

The practical value of flood forecasting is readily apparent. In Cincinnati police patrols remove people from the threatened streets in accordance with the estimated time of the flood's arrival on each street. It takes at least ten years experience to make a good flood forecaster. It is hoped, however, that experience may be largely supplemented by working out mathematical bases for flood forecasting. Such research in hydro-meteorology should prove highly profitable.

(Tomorrow: Average April Weather)

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