

METEOROLOGY

Five-Day Forecasts Launched By U. S. Weather Bureau

Issued Twice Each Week, They Will Enable People
To Plan Ahead for Business, Farming, Pleasure

YOUR daily newspaper, and perhaps your breakfast-time radio, are now bringing you U. S. Weather Bureau announcements that go something like this:

"Temperature markedly below normal at beginning of period, recovering to near normal by end, possibly to above normal in western part of district. Rain-fall slight in northern sections, but rain indicated at start of period in western portion. Subnormal totals indicated throughout district."

In such prosaic and unexciting language is the newest science-born revolution proclaimed to the world; for this is a sample five-day forecast, such as have just begun to be made twice a week from the ten cities that are designated as district headquarters by the Weather Bureau.

Many Benefits Foreseen

Thousandfold benefits can readily be seen as resulting from a five-day look ahead at what the weather's going to be. If you read a forecast like that on a Wednesday, you can guess that Jimmy, the office boy, will be wanting to go to his grandmother's funeral again on Friday afternoon, when there's a double-header. And you can plan to shoot a little golf on Saturday, yourself. And your wife will phone the cleaners to be sure to get your light suit back in time to wear on Sunday—it's going to be warmer.

Or if you are a farmer, you can decide to haul that load of hogs to town today, when it's cool and may possibly rain, and wait a couple of days to start plowing the south forty, after the rain is over.

Or if you are a general, you'll know that you can go ahead and blitzkrieg all you like—there isn't going to be enough rain to bog down your tanks and artillery and to make bad flying for your bombers and observation planes.

There are thousands of uses, in war and peace, work and play, for these new weather forecasts.

Twice weekly these longer-range looks ahead are sent out by the U. S. Weather

Bureau. The data on which they are based are assembled and interpreted on Tuesdays and Fridays. The Tuesday forecasts cover the period Wednesday-Saturday, the ones on Friday overlap them a day on each end, covering Saturday-Wednesday.

Basic Work in Boston

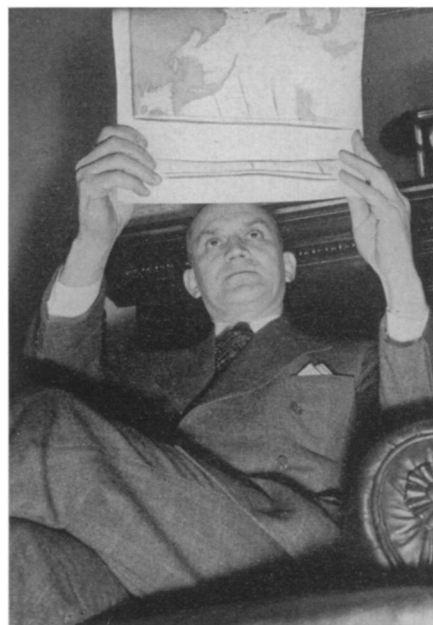
The work is all done at one central station; not in Washington, but in Boston. This is partly because the pioneer investigation leading to the new method was carried on largely at Massachusetts Institute of Technology under the direction of Dr. C. G. Rossby, who was on the Institute faculty before he became assistant chief of the U. S. Weather Bureau, in charge of research.

Boston is one of the district cities of the Weather Bureau, serving the New England area. Others are Washington, D. C., Jacksonville, Chicago, Kansas City, Denver, Salt Lake City, Southern California and San Francisco. For each district a separate forecast is made up and sent on from Boston by wire.

Two telegrams are sent to each district on the forecast days. The first, at not later than 11 a.m., consists of a long series of figures, meaningless to all but the weathermen themselves. This numerical code consists of the basic data gathered out of the air at many observation stations and reduced to terms of air pressure, temperature, etc., for spotting out on a map and connecting with the curving lines that have become so familiar.

The second telegram, filed before 2 p.m., is in plain English and resembles the one quoted at the beginning of this article. It is the interpretation derived from the scientific data by the meteorologists in Boston, and is sent to the forecast headquarters of each district.

The district forecasters will not necessarily issue this second message exactly as they receive it. It is intended for their guidance rather than for mere copying and re-transmission. Local conditions and last-minute developments may make modifications or omissions desirable. These the district man will make at his



A LOOK AHEAD

Commander F. W. Reichelderfer, chief of the U. S. Weather Bureau, leans back to take a good look at one of the maps on which the new five-day forecasts are based.

own discretion. Then the five-day forecast goes in final form to the newspapers and radio stations.

Instructions to the weather men handling the new forecasts call for proper caution in making statements. If there isn't better than a fifty-fifty chance that the forecast will pan out, the forecast is not to be made. If the chances of accuracy are between just an even break and three-to-one, the forecast is to be hedged with the word "indicated." Only when prospects look better than three-to-one is an unqualified prediction to be offered.

Science News Letter, September 7, 1940

PHYSIOLOGY

Very Essence of Life Is Absence of Repose

DO YOU seek rest? Look not among the living, is the admonition of Dr. R. W. Gerard, University of Chicago physiologist, in a new book *Unresting Cells*. The very essence of life, from simplest to most complex, is absence of repose, he points out.

Unresting motion is the mark of living protoplasm, whether in ameba or in man. When motion stops, it is safe to say that the organism (whether ameba or man) is dead. Life takes in the non-living, as food, water, oxygen;