

degrees in climatology, find that \$1800 is the best basic salary that can be offered even after more than 10 years of faithful, satisfactory service. Why does not Congress put the long hoped for reclassification into effect?—*C. F. B.*

The appropriation of nearly \$2,000,000 for the U. S. Weather Bureau astonishes one of our Belgian confreres. Considering that the area covered by the U. S. Weather Bureau net-work is greater than the combined networks of all the countries of Europe, the amount is not very impressive—it comes to about 40c a square mile. Also it is less than 2c per person per year! The meteorological expenditures and general interest in meteorology are greater in Europe than in the United States.—*C. F. B.*

The French meteorological service in its present organization is a combination of the civil meteorological bureau, the meteorological service of the sub-secretariat of aeronautics, and the military meteorological service. The last two organizations were created during the war. In the United States, the Weather Bureau stands as before the war, with the exception of a growing aerological service, primarily for the aviation branches of the various departments of the Government. The military meteorological service is still centered in the Signal Corps. The British meteorological work has, similarly, been centered under the Air Ministry. Its director and personnel are mostly civilian meteorologists, working under the same practically unrestrained research conditions as before.

French government weather forecasts received in the various communes by radio from Eiffel Tower three times daily may be transmitted to the farmers in the fields by a code of sound signals from church bells.—*Sci. Serv.*

M. Maneyrolle, French airman, beat the German glider record of three hours and ten minutes, by staying aloft for three hours and twenty-two minutes, at Lewes, England, October 21.—*Sci. Serv.*

## INDUSTRIAL AND COMMERCIAL METEOROLOGY.

### Some Applications of Weather Forecasts.

Weather conditions affect almost every phase of human life in some form, is the claim made by Charles D. Reed, weather observer.

Inquiries coming into his office show a varied line of questions voiced by persons whose anxiety is closely akin to that of a defendant at the bar awaiting sentence.

Duck hunters want to know when cold weather is coming to drive ducks southward within range of an Iowa sharpshooter. Coasting parties desire to be informed if the moon will shine on a certain night when a bobsled social is scheduled. Contractors engaged in the erection of buildings want advice on frost in advance so as to protect plaster work and cement construction. Fresh fruit dealers, especially those handling strawberries, are interested in Alabama and Texas weather. If storms are predicted in Alabama, strawberries are ordered in Texas and vice versa.

Automobilists call the weather man when they want to know the condition of the roads. Persons leaving the city for a day or so ask Reed's advice on shutting off water connections in basements as a preventative from freezing.

Shippers of sand keep in daily communication with the weather office for news concerning freezing weather. Instances of vast savings in demurrage charges brought on by frozen sand in cars make sand dealers friends of the weather observer. Railroad officials, chiefly train dispatchers, rely on the frequent warnings sent out by Reed.

To answer all these and hundreds of other questions is service rendered by the Des Moines Weather Bureau station.—*Des Moines Daily News*, Jan. 1, 1921.

### Seasonal Distribution of Retail Trade.

The Division of Analysis and Research of the Federal Reserve Board now compiles and publishes monthly statistics for the sales of 159 department stores, four mail order houses, and 35 chains (14,000 stores). Curves of department, music, shoe stores and mail-order houses are given which show that in all cases there are two distinct slumps, one in midwinter and one in midsummer, the latter being much more prolonged. There is a well-defined autumnal (Indian Summer?) break in the rising curves of all but that of mail-order houses. The heaviest sales occur at or shortly before Christmas, followed by a decided decline.—Abstr. from article by *L. B. Mann*, *The Annalist*, New York, July 10, 1922, p. 32.

### Shipping Snow Unintentionally.

In connection with the abstract from *Climatological Data*, Utah Section, on page 53 of the April Number of the BULLETIN entitled "Shipping Snow Unintentionally," some figures on the weight of snow on freight cars collected by the Western Pine Mfg. Ass'n. in 1915 in Idaho may be of interest. It was found that 6 inches of snow on the roof of a 32-foot box car added 3500 pounds to the weight, and on a 40-foot car, 4275 pounds. One inch of snow on a 36-foot gondola car increased the weight by 240 pounds, and 6 inches, 1380 pounds. It is not stated whether the snow from which these weights are taken was wet or dry. In the case of lumber which "increased in weight" by the addition of rain or snow during transit it is the shipper who has to pay the additional freight so that lumber companies are careful to complete loading and weighing of cars before they receive a heavy blanket of snow. Those companies who have no weighing facilities and have the weighing done at some transfer point must take a chance on the weather. There is room for a little business meteorology in this field.—*H. I. Baldwin*.

### Humidity and Climate Help Us.

Every mill man knows the manufacturing advantages of humid air, and is also fully aware that correct humidity is obtainable by mechanism. But too few New Englanders give their climate as a competitive factor its just dues. Their coast mill towns have a 75 per cent humidity all the year. On the contrary, Piedmont mill region has an extremely dry winter, and is drier at all times than is New England. The Piedmont with a larger annual rainfall has fewer rainy days than New England. Although spraying will modify humidity to any degree, it is an expense, produces an unnaturally stuffy atmosphere and exposes workers to disease when they go outdoors where the humidity may be quite different. Closed windows and worker psychology are also closely related.

New England's maritime climate is not only a manufacturing asset in respect to humidity, but also as regards its energy-bracing aspect. Ellsworth Huntington, a scientist who has made an unusually careful study of the relation of climate to worker efficiency, says that New England shares with the Pacific Northwest the most energizing climate of the United States. New Englanders might learn from Oregonians the practical business appreciation of climate.

In her water supply New England has another natural advantage for cotton manufacture that the South lacks.—*Malcolm Keir*, *Boston Herald*, Sept. 22, 1922.

When the temperature suddenly changed over night in Springfield (Ill.) a week or so ago, the next morning a local jeweler on the square had eighteen persons call with their watches to have them repaired. In each case the main spring had broken.—*Illinois State Register*, July 16, 1922.

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### REVOLUTIONARY WEATHER.

The revolutionist appears to be a somewhat fussy person. He won't revolt when the sun shines, and he won't revolt when it rains. Apparently, he demands a lowering, gloomy day, with a raw chill in the air, but without so much precipitation as to wet him through.—*New York Times*, May 3, 1921.

Dr. Georg Lomer sets forth that sultry political happenings attend sultry weather and stormy political events accompany stormy signs on the barometer—*Washington Herald*, Dec. 14, 1920.

The advent of real winter weather has served better than the police to restore order in Vienna after the serious rioting of Thursday. . . . The city yesterday was in the grip of a blizzard, with the temperature several degrees below the freezing point and the bitter wind driving the fine snow through the bleak almost deserted streets.—Associated Press, Dec. 3, 1921.

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"It is surprising how many people 'fuss' about the weather without reason. . . . Even 'gloomy' weather is good weather. Unfortunately, people are likely to remain indoors under such conditions, in spite of the fact that walking in the open, both in sunshine and gloom, brings roses to the cheeks and health to the body.

"Out on the northwest coast of the United States light to heavy rain is so continuous that people pay not the slightest attention to it, except that they dress for wet weather; they call it the 'Oregon mist' out there. . . .

"Several years ago Theodore Roosevelt called attention to the fact that the air is especially clean and wholesome during rainy periods, because the germs of disease are washed out of the air by the rain, and the disease germs of the street cannot be carried abroad by the winds. It was John Burroughs who said: 'Whoever breasted a snowstorm without being exhilarated and refreshed?' He might have included a rainstorm in his statement."

How beautiful is the rain!  
After the dust and heat,  
In the broad and fiery street,  
In the narrow lane.  
How beautiful is the rain!

—Longfellow.

—J. H. Spencer, in *Baltimore Sun*, Dec. 1, 1920.

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The German Meteorological Society lost a great many, mostly foreign, members during 1921. Apparently this was owing partly to the increased cost of membership. The receipts from members averaged 40 marks each. About 40 per cent of all receipts went to the *Meteorologische Zeitschrift*. There were at the end of the year 3 honorary members, 28 corresponding members and 295 ordinary members.

Daily reports of weather conditions have been received almost daily since June 23, 1922, from Amundsen's polar expedition ship, *Maud*, and will continue to be received so long as the ship is within reach of American stations.

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Come to the Boston Meeting, Dec. 29-30!  
(See announcement on back of cover.)