

Augusta, Maine, and Miss D. V. Noble, from western Wisconsin, graduate students at Clark, undertook to investigate the incidence of forest fires in relation to relative humidity, respectively, in Maine and in the Upper Great Lakes region. The U. S. Forest Service, the State Forester of Maine, and the U. S. Weather Bureau, all cordially supplied the available data.

When there were suggestive results to discuss, Mr. Stickel of the Forest Service, and Mr. G. A. Loveland of the Weather Bureau (New England's Section Director), attended a conference at Worcester. The discussion was most helpful in bringing out the present status of the subject, and in showing not only that there was a close relationship between humidities and forest fire incidence in the East, but also that it is possible to forecast afternoon relative humidities from early morning data accurately enough to be of immediate service in giving warnings of fire danger.

The conclusion of the conference was, that more observing stations for humidity should be established in the forest regions, and that in the coming fire season an effort should be made to use humidity as well as other weather factors in preparing fire weather warnings. It was thought that radio sets for receiving warnings would prove of value to eastern fire watchmen, rangers, and wardens, as they have to western fire fighting forces.—*Charles F. Brooks.*

FIRE WEATHER IN THE ADIRONDACKS

By G. S. LINDGREN

(Weather Bureau, Albany, N. Y.)

A fire-weather service was established in the Adirondack region on May 1, 1925, in co-operation with the New York State Conservation Commission. Believing that fire-weather forecasting is, to a considerable extent, a problem of local application, the region was divided into four districts, each with an observation station. These were located at Bloomingdale, Schroon River, Old Forge, and Northville, employees of the Conservation Commission acting as observers. Instrumental equipment consisted of anemometer, wind vane, rain gage, and sling psychrometer, and at two of the stations, good aneroid barometers also. Observations were taken at 7 A. M., 1 P. M., and 7 P. M., and immediately following the 7 A. M. observation a code message embodying the data of this and the two previous observations were telegraphed to the Weather Bureau office at Albany, thus forming in connection with other telegraphic data, the basis of fire-weather warnings when conditions warranted.

A preliminary study of the fire season of 1924, one of the severest of record, in connection with meteorological data of the Albany, Canton, and Burlington Weather Bureau stations, indicated in a general way that the humidity factor was as important here as it had been found to be in the West. Curves of fire frequency and the depression of the dew-point seemed to be correlated more closely than those of fire frequency and relative humidity or vapor pressure. It is probable that a greater

fire hazard exists, other conditions being equal, with a relative humidity of say 50 per cent and a temperature of 76 than with the same humidity at a temperature of 41. The former condition is expressed by a depression of the dew-point of 20 and the latter by one of 17 degrees. Therefore, a curve based on the depression of the dew-point includes in an appreciable manner the temperature factor.

As a result of this study, a depression of 14 degrees was arbitrarily fixed as a criterion for the beginning of a fire hazard, especially if the condition continued or increased in intensity. While the fire season of 1925 was very light, an analysis of the 118 fires from May to its close gave strength to this hypothesis. The mean depression for the total number of fires was 12.0, but by eliminating those which covered less than one-quarter of an acre this mean was brought up to 13.8. That fires are not likely to spread at a depression of about 9 or less is indicated by a mean of 8.8 for those fires (38 in number) which were less than a quarter of an acre in extent; a number of these covered only a few square feet.

The greatest fire hazard occurred from May 10th to 24th, inclusive. In District No. 1 the mean depression for this period was 13, ranging from 3 to 24; there were 2 days with showers, totalling .20 inch; and there were 5 fires. District No. 3 had 9 fires, with a mean depression of 19, ranging from 6 to 25, and 3 days with showers, totalling .92 inch.

The foregoing indicates that the fire-weather problem is largely one of a local nature, and that an intensive study of local data is a necessary prerequisite to forecasting fire-weather. Various other data emphasize this fact; for example, on October 24th the mean relative humidity at Old Forge was 74 per cent, whereas at Bloomington it was only 28 per cent. The mean seasonal humidity at Bloomingdale was 78, Old Forge 77, and Northville 72; for the entire region 75.6. For the same period at the surrounding Weather Bureau stations (Albany, Canton, Syracuse, and Burlington) the mean was 69, though this figure is probably a little too high, owing to the fact that P. M. humidities are not available at Canton, Syracuse, and Burlington. Indications are therefore that the humidity in the forested mountain regions ranges from about 5 to 11 per cent higher than at the surrounding Weather Bureau stations.

While humidity is an important factor in connection with the inception of fires, an analysis of several of the larger ones indicates that wind velocity becomes equally important in connection with fire-spreading. That this factor varies as much among the several districts as that of humidity is apparent; it therefore needs the same intensive study. As this is not practicable from two readings a day, an effort is being made to install wind-recording instruments during the season of 1926.

It seems therefore evident that fire-weather warnings, to be of practical value, should, if possible, include the following four elements: Precipitation, humidity in terms of decreasing or increasing dryness, strength and direction of winds, and last, but not least, the localization of forecasts.

The Weather Man in the Community

The official in charge of a local station of the U. S. Weather Bureau is a man constantly in the public eye. Twice daily he must make public pronouncement on a subject interesting to all: the probable state of the weather in the immediate future. People turn to him for all sorts of advice, which he gives to the best of his ability. The weather man is usually also a source of good cheer. For him even the worst of weather has its interest and its challenge of gloom. At times, Friend Weather Man rises to the heights of personal esteem gained by James H. Spencer, for five and a half years at Baltimore, and now beginning service in Buffalo.

A temporary committee of six of his friends printed a dinner invitation, headed with a picture of the guest of honor, Mr. Spencer:

Behold! The Weather Man!

Sunny, smiling "Jim," as he is known to his friends, which he can well number into the thousands, for "Jim" is a public servant in the true sense of the word, ever ready to greet you whole heartedly with a grasp of the hand, ready to give you service with a smile.

"Jim" has been promoted; he will leave for his new post in Buffalo, N. Y., the latter part of December. The host of friends who have learned to love "Jim," desire to give him a farewell dinner, the real Southern hospitality type with Entertainment de Luxe plus a souvenir for "Jim" to take with him as a memento ever to remind him that his friends in Baltimore appreciated him while he was here.

Dinner, at \$3 a plate, was attended by 150 friends!—*C. F. B.*

Maple-Sugar Makers, Do Your Tapping Early

(Clip Sheets, U. S. Dept. Agric., 1924)

Makers of maple sugar have lost half and even more of their crops many seasons by not being prepared for the first runs, says the United States Department of Agriculture. It is a good policy to tap early in the season, not only in order to obtain the earlier runs of sap, but also because these early runs are generally the sweetest and therefore the best sugar producers.

All sugar makers are familiar with "sugar weather." In general, the season is ready to open during the middle or last part of February in the southern sections and later in the northern ones, when the days are becoming warm, the temperature going above 32° F., and the nights are still frosty. If the days are very bright, warm, and sunny the sap starts with a rush, but soon slackens. A high wind, warm spell, or a heavy freeze checks the flow, but the return of seasonable weather causes it to start again.

Records of opening and closing dates kept in an Ohio sugar camp show the opening season as early as February 13 in 1891 and 1906. The latest opening date recorded was March 27 in 1885. The number of days of flow varied from 9 to 50, the average being about 30 days.

NOTES

Dr. William H. Hobbs of the University of Michigan delivered an illustrated address on "The Glacial Anticyclone—The Poles of the Atmospheric Circulation," at a joint meeting of the Washington Academy of Sciences and the Geological Society of Washington. Dr. Hobbs is