be picked, corn shocked, pumpkins gathered. An occasional rainy day interferes with the progress of the work, but at last it is completed.

The red maples and ash trees have shed their leaves, the nut trees in the hollow are turning a golden brown and the oaks are a rusty red. There is a feeling of fall in the air. The cycle of growth has been completed once more. After a spell of fine, mild, Indian Summer weather, we find ourselves in the midst of a cold, rainy, windy season. The wind whirls the leaves from the trees, dances them about field and road to lodge them finally in some sheltered nook against a stone wall. Winter is on its way.

What kind of a winter will it be? Will it be an open mild one with almost no snow or will it be blustering and cold, with so much snow that shovelling will become irksome and dull? Will there be skating before Thanksgiving Day and coasting before Christmas or must we wait until February for good snow shoeing and skiing?

Shall we have a winter like that of 1916 with such a heavy snowfall in February that it had been exceeded but once in forty-two years? And so much snow in March that it exceeded by 2.7 inches the heaviest fall on record for that month? Or will it be a winter like that of 1920 when the snowfall for January, February and March was so great that trolley cars did not run to the end of their lines in many places for a period of two months? Time alone will tell. But of this we may be certain. There will be a variety of weather. Sunshine and clouds, rain and snow, fair weather and foul, high winds and calms, extreme cold and warmth, all kinds of weather will be represented. There may be much snow on the ground or very little, but the New England weather will vary to such an extent from week to week, from day to day, yes from hour to hour at times that no one will be able to accuse it of being monotonous. Who would not live in New England?—*Martha Fagerstrom.*

BIRD MIGRATIONS MAY INDICATE CHARACTER OF A WINTER.

That long range weather forecasts of some winters can be based on the flight of birds is the belief of the late John Burroughs who writes (*Harpers Magazine May, 1921*).

"One season, [1919–20] I made my reputation as a weather prophet by predicting on the first day of December a very severe winter. I saw in Detroit a bird from the far North, a bird I had never before seen, the Bohemian Waxwing or chatterer. It breeds above the Arctic circle and is common to both hemispheres. I said when the Arctic birds come down be sure there is a cold wave behind them, and so it proved."

The writer has observed this year large numbers of Canadian geese flying south a month earlier than usual. Some people think that this is a sign of a hard winter but the writer is inclined to believe that these geese have been driven out of their usual feeding grounds thru the lack of food caused by the drought. Then again these geese, it must be remembered, probably reached their northernmost haunts one month earlier than usual last spring; hence the young have had sufficient time to grow up and prepare themselves for the long flight south. Then again as the young grew older the food problem, already a big one because of the drought, became more acute and hence the southerly migrations began earlier than usual.

While this flight may be indicative of a hard winter, the writer feels that in

this unusual season of drought the old saying, "all signs fail in a dry time" holds good.—*G. H. Burnham.*

MISCELLANEOUS NOTES.

[Submitted by A. H. Palmer.]

The diminished visibility attending fog was the indirect cause of two marine disasters on the Pacific Coast within a few days of each other during August, 1921. On August 6 the steamer "Alaska," bound from Seattle to San Francisco, ran ashore on Blunt's Reef during a dense fog. A total of 49 lives were lost, and the ship was a total loss. On August 10 the Pacific Mail liner "San Jose," en-route from the Panama Canal northward, ran ashore on San Roque Island, off Lower California, during a dense fog. Tugs summoned by wireless from San Diego were unable to pull the vessel into deep water. Though no lives were lost, the ship, valued at more than $1,000,000, was a total loss. Most of the cargo was salvaged.

The highest temperature recorded during the past summer at Greenland Ranch, in Death Valley, California, was 123°, which occurred on July 1 and 8. The temperature rose to 100° or higher on 22 days during June, on 31 days during July, and on 30 days during August.

Because of the frequency with which fires have started on automobile trucks carrying gasoline, a California oil company assigned one of its experts to investigate the problem with a view of discovering their origin. The investigator found that they were due to small electrical discharges. Because of their rubber tires, the trucks were found to be insulated from the ground. Small charges of electricity developed as a result of static electricity or through friction, and a tiny spark across a gap was sufficient to ignite the highly inflammable gasoline. As a remedy the investigator recommended that each truck carry a chain drag for the purpose of serving as a conductor with the ground. The suggestion was adopted, and fewer mysterious fires have since occurred. Hereafter, when you see an automobile truck dragging a small iron chain under it you will understand that this does not necessarily indicate carelessness on the part of the chauffeur, as the chain may be serving a useful purpose.

Dr. STEPHEN S. VISHER, who received the Bishop Museum Fellowship from Yale University, is in Honolulu for the purpose of making a study of the influence of climate upon the people of the Pacific, with special emphasis upon the influence of cyclonic storms.

Miss ANNE LOUISE BECK, who held the American-Scandinavian Fellowship in Meteorology last year has returned from Bergen Museum, Norway, and now holds a teaching fellowship in astronomy in the University of California, Berkeley, California.

Diameter growth in Box Elder and Blue Spruce.—By the use of the dendrograph, invented by MacDougal, C. F. Korstian, of Ogden, Utah, and MacDougal have found some interesting facts about diameter growth of trees (*Botanical Gazette* June, 1921, vol. 71, pp. 454–461, 3 figs, bibliog.).

In experimenting with the *Acer Negundo* it was learned that its growth begins about the 19th of May and that it is proportional to the *range* of temperature, *i. e.*, the greater the variation between night temperature and day temperature, the greater the diameter increase. With *Picea Parryana* no direct correlation could be found between the growth and the current temperature. The growth lagged behind the temperature changes. Cambial activity is dependent upon the temperature; while soil temperature and insolation are influential factors. During the non-growth period nothing was observed but alternate shrinkage and expansion due to changes in moisture and temperature.—*R. F. E.*