

CHATS WITH THE WEATHER MAN.

Friday, January 23, 1931.

ANNOUNCEMENT: How cold was it this morning? We were arguing about that, when who should show up but our old friend, Ob. Server. He said, that from what the specialists of the U. S. Weather Bureau tell him ---- But I'll let him tell you what they told him about these tricky thermometers ---- Well, Mr. Ob. Server? ----

First thing, let's settle this argument.

How cold is it?

I know how these arguments go ---- at least, how they used to go in our neighborhood.

Many a time we've tried to settle how cold it was, by the simple process of consulting the thermometer.

The way it worked out, that just gave the argument a fresh start. My thermometer might say one thing. And my neighbor's say something else. I thought mine was right. He knew his was; although it registered several degrees different from mine.

Then we might agree to take the U. S. Weather Bureau report for it; only to find it didn't back up either one of us. Then we would either cuss out each other, or our thermometers, or the Weather Bureau, just according to the way we were feeling that day.

After talking with Mr. B. C. Kadel, chief of the instrument division, of the U. S. Weather Bureau, I've come to understand that we may have all three been right. On a still cold night, temperatures of the air may differ by as much as ten degrees within short distances. The same thing might be said of a still, hot summer afternoon.

Those different conditions, Mr. Kadel says, are real; so you have no need to distrust your thermometer because it disagrees with your neighbor's thermometer or with the official U. S. Weather Bureau report.

Of course, if there is a good stiff breeze blowing, the air is better mixed and more uniform in temperature, and thermometers in the same neighborhood should agree more closely.

Because of the local differences in air temperatures, Mr. Kadel tells me, meteorologists have had to agree upon an ideal way to expose thermometers so as to compare the records of one location with another.

They have decided that the ideal exposure of a thermometer is five or six feet above grass-covered ground, with a thermometer housed in a covered or screened inclosure of wood slats so arranged as to keep off sun, rain, and radiation, and at the same time allow free circulation of the air.

You have probably noticed some of those kind of shelters around Weather Bureau stations. That's the ideal location. But like other ideals, the chief of the instrument division says, it is a hard one to realize.

For instance, how could you place a thermometer above grass in a desert? And what's still more to the point, how are you going to place it above grass in the downtown section of a city? We simply can't do it. But we can always keep that ideal in mind and choose the nearest approach to it we can get.

In fact, the United States Weather Bureau itself has about 150 of its thermometers in various parts of the country exposed on roofs of buildings. In such cases, board floor are interposed to screen off the effects of the heated roof.

Even so, thermometers on roofs and other high places are not satisfactory. On a still clear night, a killing frost may damage vegetation on the ground or on lower land when the high-up thermometer registers well above freezing.

Although the Weather Bureau has been forced to put 150 of its thermometers on roofs, it has nearly 5,000 thermometers exposed at five or six feet above the ground. Those thermometers are its main reliance in keeping tab on temperatures.

The thermometer had to be five or six feet above ground to get well away from the chief effects of the heat radiated from the ground.

But where are we going to put that thermometer we have at home? The one we use for getting the temperature outside the house; for that's the kind we are talking about now.

Mr. Kadel suggests that if you have a north porch, hang it there, so as to get away from the sun heated air of the south side of the house. And here's a good point, I know I used to neglect. He says hang your thermometer an inch or two away from the wall. The idea is to hang it in the air. It is the air temperature you want, not the temperature of the wall. Of course, you can't get away from the effect of walls and the like, or even the effect of the thermometer itself, altogether.

But if you hang the thermometer an inch or two away from the wall on a north porch screened from the sky by the porch roof, you can protect it fairly well from its own tendency to become heated or cooled without providing the covered enclosure we were talking about. And when a good stiff breeze is blowing to mix the air thoroughly, the results should be pretty much the same all over town, from well located thermometers.

R-C.W.M. 1/23/31

Here's a good rule. The most comfortable place for an individual outside on a winter day is probably the poorest place to hang the thermometer.

Now as to the choice of the thermometer. The mercury or alcohol in glass thermometer is the kind that's most common. That kind has stood the test of 300 years of use; so it must be a pretty fair kind of thermometer.

But there are all sizes. Mr. Kadel gave me a few simple principles to keep in mind in buying any of the good thermometers now to be had at a fair price.

As a rule, the smaller sizes are better than the great big ones. The Easy-to-Read kind are not generally the most accurate. The bulb must be small enough to respond to temperature changes within a few minutes. If the bulb is too big, the thermometer will be too slow. A drop in temperature will come along long before the thermometer finds it out.

The scale should be long enough so it can be read easily. And the space around the bulb must be open so the air can circulate about it. In the higher priced thermometers the scale is etched on the glass itself. If the graduations are on the back piece, then you must make sure that the tube can't slip up or down on the scale.

If you doubt your thermometer, put it in a vessel containing melting snow or shaved ice. After a few minutes, it should read 32 degrees.

To test other parts of the scale, you need to compare the thermometer in question in a liquid bath with another thermometer you know to be accurate. Generally speaking, Mr. Kadel tells me, you can rely on those on the market as being fairly accurate.

ANNOUNCEMENT: Our old Ob. Server has just told us of his chat with the chief of the instrument division of the United States Weather Bureau. They talked about our old standby, the thermometer. Two weeks today Station ----- will present another of these chats with the weather man.

National Oceanic and Atmospheric Administration

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages
Faded or light ink
Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library and the Climate Database Modernization Program, National Climate Data Center (NCDC). To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or Library.Reference@noaa.gov

HOV Services
Imaging Contractor
12200 Kiln Court
Beltsville, MD 20704-1387
July 23, 2010