UNITED STATES DEPARTMENT OF AGRICULTURE — Radio Service — OFFICE OF INFORMATION

CHATS WITH THE WEATHER MAN: Friday, April 17, 1931.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes

ANNOUNCEMENT: Shakespeare makes his fairy, Puck, say; "Ill put a girdle round about the earth in forty minutes." That is certainly a swift flight of fancy! But what the United States Weather Bureau actually does in "forty minutes" is not so slow either! Listen to this ----- Well, Mr. Ob. Server? -----

****

Speed is the subject of my story.

A lot of us think we know something about the weather. But Mr. H. B. Calvert, chief of the forecast division of the United States Weather Bureau, says that even many of us "weather cranks" don't appreciate what the Weather Bureau has to do to collect its observations for the use of its forecasters, quickly and completely.

Telegraph, telephone, cable, and radio are used.

Our Weather Bureau maintains 210 stations in the United States, where observations are made twice a day and promptly telegraphed to the district forecast centers and to other stations.

Similar observations are received from 64 Canadian stations, and from 16 in Alaska, and, during the hurricane season, observations are received by cable or radio from 21 stations in the West Indies and Central America, twice a day.

Observations from all these points are filed at approximately 8 o'clock Eastern Standard Time and, with the exception of very few outlying West Indian islands, all these observations are received at the forecast centers and other stations using them within one hour's time.

In fact, Mr. Calvert says, 90 per cent of the observations are received and charted within the space of 40 minutes.

That means the filing, and transmission, and delivery of about 15,000 messages inside of an hour. That is 30,000 messages each day during the two hours, morning and evening.

From the 210 stations in the United States, the messages are shot into one of the two distribution centers, Chicago and New York. From Chicago or New York each of those messages is wired out again to the number of stations designated to receive it. For forty minutes to an hour twice each day, weather messages rush over the wires in a continuous stream.

The 16 Alaskan station reports are collected by radio and sent by cable to Seattle and then forwarded by overland telegraph to Chicago.

The 64 Canadian reports are collected at Toronto and forwarded by telegraph to the two centers at Chicago and New York and distributed in the same manner as the reports from United States stations.

At Chicago 25 telegraph employees, and at New York 15, do nothing but handle Weather Bureau messages during these regular twice a day periods. As each message comes in, it is quickly passed to duplicators who copy it on ready-addressed and prepared forms for all stations which are to receive it. In some cases 60 other stations are to get it, in others 80, in others 100 or more. Messenger boys on skates snatch up the copies as they are prepared and whizz them to the telegraph operators who wire them out again to the many stations.

A single example will give you some idea of the speed of all this. Mr. Calvert says he has checked up on this many times. A message is filed in, say Abilene, Texas. In from four to seven minutes after the weather message is filed at the Abilene office, it has already been received at Chicago, and wired out again to the 140 other stations designated to get that particular report —— How do they do it!

Of course, those messages are in code. The code is not for secrecy. It is for speed and economy. The average length of those 30,000 messages a day, is only six code words. But at that, those messages mean the sending and receiving of nearly 180,000 weather words each day.

If a code was not used, it would take an average of about fifteen words to convey the same information in plain language, or about 2½ times as many words. It would not only cost more and take more time to send those 450,000 words a day, but it would actually take tremendously more time to scan the messages in plain language than it does to decode. The messages as now received can be translated by our Weather Bureau men as fast as a man can talk.

Here is one of those messages as it actually came over the wire in code. See what you can make of it:

JERSEY MUGGS DIFFORM TOGGING GASSING KINDLE WABASH CLODDYS VERMALEY

Sounds like a senseless jumble of meaningless words doesn't it.

Yet the Weather Bureau men readily read that message as saying, "Atlantic City, New Jersey, the barometer reads 29.50, and the temperature forty. The wind blowing from northeast, state of the weather raining,

lowest temperature during the night thirty-eight. At 8 P.M. of the previous day the pressure was 29.98 and maximum temperature yesterday forty-eight. The wind blowing forty two miles an hour, with .86 inch precipitation during the preceding 24 hours. Pressure falling, fell.04 inch in preceding 2 hours. Thunderstorms began during the hour preceding the hour of observation and continuing at the time of observation. Few nimbus clouds moving rapidly from the northeast. Maximum wind velocity since previous observation of fifty two miles an hour from the northeast."

All those facts and figures told in nine code words! Do you wonder they use code?

To the weather man, the position of those code words is the chief guide. He knows the first word stands for the name of the sending station. The second word gives the barometer and thermometer readings, the third word direction of the wind, and so on. The same word in a different position would be translated as covering some other phase of the observation.

The United States used a word code, because words lend themselves more readily to the detection of errors and because words are more economical than groups of figures would be. Groups of five figures, for instance, can be sent by cable or radio as one word, but under the system of telegraph charges in this country, each figure would be counted as a separate word.

In Europe, however, the system is different, and the European meterological services use figures to represent the weather data upon which forecasts are based. The figure-codes are a little shorter, but more liable to errors than the word code.

But the different countries of Europe had different figure-codes. For years it was recognized that there should be an international code so weather reports could be plainly read by all nationa. It was readily seen that for international reports, it would be impractical to use words. Not only would nations fail to agree on the words but to use words from any language would require some knowledge of the language used by everybody concerned. A figure code was essential, that was agreed. But the difficulty was in getting nations to agree what data should be included in the code and the order or arrangement. Last year at Copenhagen, Denmark, Mr. Calvert represented this country at a conference of the world's meterological services which finally agreed on an international weather code. Now all international exchange of weather reports between this country and Europe, and between the various countries of Europe, and between vessels in the Atlantic and Pacific is in the international figure code.

When the Graf Zeppelin flew around the world a couple of years ago, she was forced to take 31 different weather code books to read the needed weather news.

If she took the same trip now, she would need only two code books, one for land station reports, and one for the ship reports.

****

ANNOUNCEMENT: You have just heard a discussion of weather codes and the other speedy means by which observations are gathered from all over the country in the remarkable space of forty minutes. This chat with the weather man comes to you from Station _____ in cooperation with the United States Department of Agriculture.

#####

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