

METEOROLOGICAL MAPS FOR SCHOOL USE.

The Chief of Bureau recently issued a circular to a number of prominent educators and Weather Bureau officials engaged in teaching meteorology and climatology, requesting an expression of opinion as to what charts and data are needed in connection with the study of meteorology and climatology by college and high school students. The replies received indicate a demand for laboratory material and for lecture material.

The material required for practise in the laboratory comprises blank maps of the world and of the various physical subdivisions; maps with temperature, pressure, or other data entered upon them, ready for drawing isotherms, isobars, etc.; blank forms for recording observations; tables of average climatic data, and of data for the construction of typical weather maps; and tables for the reduction of observations.

The illustrative lecture material for which a need is expressed extends over a wide range of subjects and includes charts and diagrams illustrating the distribution of the climatic elements, storm tracks, typical weather conditions, pictures of instruments, clouds, floods and rivers, storm destruction, snow and fog photographs, etc.

The demand for lecture material is not so much a call for new material as for the republishing of what is already at hand, but on a larger scale, in order that the charts, diagrams, and pictures may be hung up on the wall and be visible in a room full of students. The preparation of such a series would be very expensive, and will probably not be undertaken by any publishing house until there is a large popular demand.

In the way of laboratory material, the base maps used by the U. S. Weather Bureau have for some time been sold to schools for the use of students at very reasonable rates. These maps are, however, printed on paper specially adapted for printing, and are consequently not well fitted for pen and ink or pencil work. A small map used by the Weather Bureau draftsmen in preparing the charts for the MONTHLY WEATHER REVIEW has been directed by the Chief of the Weather Bureau to be printed in sufficient quantities to be supplied to schools for the use of students. It is without the hachures used on the other maps to indicate water surfaces, and shows only the more important stations, including those for which the daily observations are published in the annual report of the Chief of the Weather Bureau and those for which climatological data were published in the report for 1901-2. There is no legend on the map, except the scale of miles. The map is printed on two different grades of paper; the cheaper grade is suitable for ordinary classwork and can be supplied at about \$2.50 per 1000; the better grade is suitable for the preparation of maps which are designed for school exhibitions or are to be preserved for other uses; maps on this quality of paper can be furnished at about \$5.00 per 1000. On account of the cost of production these maps can not be furnished gratuitously.

For the study of the dynamics of the moving atmosphere on the rotating earth, the Editor has prepared polar projections of the northern and southern hemispheres, respectively, as seen from the north point; in which, therefore, both hemispheres appear as rotating in the same direction, not, as ordinarily printed, in opposite directions.—C. A.

THOMAS R. RODMAN.

By the death of Capt. Thomas R. Rodman December 18, 1905, we lose one of the best known cooperating observers, and a man who was also widely respected as a member of the Grand Army of the Republic and as a layman in the Episcopal Church.

Captain Rodman was born in New Bedford, Mass., September 27, 1825, and was the son of the late Samuel Rodman. After finishing an academic course in the Friends' Academy he entered Harvard College, graduating in 1846, when he became

manager of his father's estate, which was quite an extensive one.

In the summer of 1862, then in his 37th year, at an age not to be carried away by excitement, but prompted to the performance of a duty which he felt belonged to every loyal citizen, he assisted his cousin, William Logan Rodman, in organizing a company for the 38th Massachusetts Regiment, a command which saw three years of hard service. He was commissioned captain of Company H, and his term of service expired July 11, 1865, at the close of the war. Port Hudson, Fishers Hill, and Cedar Creek were among the engagements in which the regiment participated.

Captain Rodman was always interested in weather observations, and for years kept up a record which his father started early in the nineteenth century. The following statement best illustrates the value of these observations:

My father, the late Samuel Rodman, began the record of temperature in October, 1812, at New Bedford, at the house on the northwest corner of Water and William streets. The position of the thermometer was at the east window of the second story and its elevation was about 30 feet above tide water.

On January 24, 1820, the location of the instruments was changed to the house on the northwest corner of Water and Middle streets. The position of the thermometer was at the northeast angle of the L of the house, and its elevation was about fifteen feet above tide water.

On January 19, 1828, the location of instruments was again changed to the house on the northeast corner of Spring and County streets, where it has been continuously maintained to the present time.

The first thermometer in this location, as I remember it, not very long after the date last mentioned, was on the pillars of the north portico of the house, where, by an arrangement of chains and hooks, it could be moved from side to side so as to escape the sun's rays. Its elevation in this position was about 108 feet above tide water.

At a subsequent date, which I can not now determine, the thermometer was removed to its present position in front of, and about eighteen inches from, the north window of the northwest room of the first story of the house. It is inclosed in a cage whose sides are of wood and whose front and back are of wire netting. The cage is suspended from an iron framework and is firmly held in place by iron braces. The elevation of the thermometer is about 106 feet above tide water. On each side of the window the blinds are bowed at right angles and permanently secured in this position so as to shield the instruments from the sun, and insulation is thus practically perfect.

The thermometer now in use is of the manufacture of J. Green & Sons, and its number is 2789. It was carefully selected by my father at a date which I am unable to establish. I am also unable to give the description and dates of the adoption of other thermometers prior to the selection of that now in use, but I am satisfied, from my own recollection and from my knowledge of my father's conscientious care in these matters, that the instruments employed in his meteorological work were the best obtainable. I know that he spared neither time nor money to obtain the best results.

The hours at which the thermometer was noted were: From October 1, 1812, to January 1, 1842, sunrise; 2 p. m.; sunset; 10 p. m. From January 1, 1842, to September, 1853, sunrise; 9 a. m.; 3 p. m.; 9 p. m. From September, 1853, to the present time, 7 a. m.; 2 p. m.; 9 p. m. These last hours were established to conform to blanks from the Smithsonian Institution.

My father died on August 1, 1876. Since his death, with some assistance from others for a year or two after his death, I have carried on the work.

This continuous series of observations, extending over a period exceeding 93 years, is a monument to the perseverance and faithfulness of these two men, father and son. The surviving members of the family state that they shall not be able to continue this important record any longer. Its termination at this time is a source of regret to those who have the advancement of meteorology at heart.

The city engineer of New Bedford has established and maintained a well equipped meteorological observatory, but the student of local climatology needs as many stations as possible; not one can be spared—least of all a station with a record for nearly a century under almost uniform conditions.

METEOROLOGY IN HOLLAND.

In 1853 the Royal Meteorological Institute of the Netherlands was established and for many years was under the direction of the famous Dr. C. H. Buys Ballot who at his death

in 1890 was succeeded by M. Snellen and he in turn by Prof. C. H. Wind as director in chief. In 1897 the institute was removed from Utrecht to its suburb De Bilt. According to a late number of *Minerva* the recent organization was as follows:

Director in chief—C. H. Wind.

Section directors—Dr. H. Ekama, Dr. J. P. Van der Stok.

Assistant directors—E. B. J. Kluit, Dr. C. M. A. Hartman.

Secretary—E. L. Olland.

Director of the branch in Amsterdam—L. Roosenburg.

Director of the branch in Rotterdam—A. E. Arkenbout-Schokker.

Under date of February 13, 1905, Prof. C. H. Wind announced that he had resigned his position as director in chief of the Royal Meteorological Institute of Holland, and that by a royal decree of February 13, 1905, Dr. E. van Everdingen is provisionally charged with the general management of the institute.

In October, 1905, Dr. Maurits Snellen announced that he should resign as director of the section in terrestrial magnetism and seismology of the Royal Meteorological Institute of the Netherlands, and that his future address will be Apeldoorn, Netherlands.

A LARGE METEOR.

A very large meteor is reported to have fallen in the water of Duck Thoroughfare near Atlantic City on the coast of New Jersey on October 3, 1905. Two fishermen stoutly maintain that the meteor fell within twenty feet of their boat, and it is said that many have been fishing for it with oyster tongs. On the other hand, this same meteor was seen rushing rapidly above many portions of Long Island during the night of the 3d-4th. The idea that it fell into the water on the coast of New Jersey is most likely to be an entire mistake. The Editor has known of cases in which persons ignorant of astronomy, and suddenly frightened by the appearance of a bright meteor overhead, have actually dodged or run to shelter, thinking it was coming straight for them; but the fact is that such objects are many miles away, and most frequently burn up entirely or split into many small fragments before they reach the earth; in fact, in many cases they pass entirely through the atmosphere and out into space.

It is very desirable that the public in general should endeavor to assist in the progress of our knowledge of meteors. Anyone may do this by merely recording and sending to the Editor a careful note as to the location of the apparent path of such a bright meteor. One has merely to say that it started at a certain altitude and azimuth, or at a certain bearing of the compass, and disappeared at a certain other bearing and apparent angular altitude; or one may say it started near a certain star, passed by certain other stars, and disappeared, always giving the time as accurately as possible. In some cases a most accurate record has been made by setting up stakes on the ground or making marks on the floor to show just where the shadow of a building or window was thrown. Do this promptly and let some surveyor measure the bearings for you. Observations of such bearings and altitudes made at different stations give us the basis for computing with much exactness the true distance and motion of the meteor. Perhaps 100 illustrations of such calculations may be found in the literature of science. Several such will be found in past numbers of the *MONTHLY WEATHER REVIEW*. See Volume XXII, page 128; Volume XXV, pages 56, 57, and 261.

Mr. William A. Carlson, of Victoria, Ill., writing under date of October 10, 1905, says:

I wish to call attention to a large meteor which I saw fall on September 26, 1905. It came from the southwest and traveled at an angle of 60° from where I stood. It traveled thence to the northeast until it came directly east of me and then it started to fall; when it had fallen to an

angle of 20° it exploded into three pieces; one piece fell to the south and one piece fell to the north, but the last and largest piece fell straight down. The meteor was much larger than the full moon.

WEATHER BUREAU MEN AS EDUCATORS.

Prof. A. G. McAdie, official in charge, San Francisco, Cal., reports that he attended the Thirty-first Annual Convention of Fruit Growers at Santa Rosa, Cal., and read a paper upon the influence of weather on crops, at the evening session of December 7, before an audience of about 300 fruit growers and representatives of the U. S. Department of Agriculture, the State University, the State Agricultural Society, and other bodies.

Mr. C. W. Ling, Assistant Observer, Havre, Mont., reports that on November 21, 1905, by invitation of the county superintendent of schools, he addressed the Teachers Institute of Chouteau County, Mont., on the work of the Weather Bureau.

By invitation of the official in charge many of the teachers visited the Weather Bureau office, and the meteorological instruments were explained to them.

Mr. I. M. Cline, District Forecaster, New Orleans, La., reports that Mr. H. F. Aleciatore, First Assistant at that station, gave a lecture in the office on November 14, to a class of boys from the Live Oak Public School. The lecture lasted about one hour and included an explanation of the meteorological instruments used by the Weather Bureau and an account of the weather map and its use in forecasting.

Mr. J. P. Slaughter, Observer, Pueblo, Colo., reports that on October 24, 4 teachers and 31 pupils of the Fountain School of that city, visited the office and had the instruments, the weather map, and methods of forecasting explained to them.

Dr. O. L. Fassig, Research Director, reports that on December 4, 1905, he delivered a lecture on the climate and weather of Baltimore, one of a series of twenty lectures for the teachers of the Baltimore public schools, on the natural history of the environs of Baltimore. The course is being given under the auspices of the Woman's College of Baltimore. There were present about 300 subscribers to the course.

Mr. M. L. Fuller, Assistant Observer in charge, Charles City, Iowa, reports that the physical geography classes of the high school and of Charles City College, about 45 students in all, have visited the office in three sections, during the month of November. Each section received a 45 minute explanation of the station equipment and work.

Mr. Fuller has made an arrangement to give addresses on elementary meteorology and the work of the Weather Bureau before both the local high school and Charles City College.

Mr. N. B. Conger, Inspector and Marine Agent, Detroit, Mich., addressed the Detroit Engineering Society, by invitation, on the evening of November 24, 1905. The subject was the Weather Bureau and its work. Special attention was given to the data furnished by the Weather Bureau to engineers, the compilation of temperature and precipitation data, and the manner of issuing and distributing special warnings.

Mr. W. P. Stewart, Assistant Observer in charge, Escanaba, Mich., reports that the class in physics of the Escanaba High School visited the office in two sections on December 11 and 12 and were instructed in the construction and use of barometers, and the distribution of atmospheric pressure, including the formation and movement of areas of high and low pressure and their relation to the weather.