MOUNT WASHINGTON OBSERVATORY

RESEARCH REPORT

Quarterly Progress Report
April 20, 1949

# CONTRIBUTIONS TO THE THEORY OF THE CONSTITUTION OF CLOUDS

By

Wallace E. Howell, Raymond E. Wexler, and Seymour Braun

The research reported in this document has been made possible through support and sponsorship extended by the Geophysical Research Directorate of the Cambridge Field Station, AMC, U. S. Air Force, under Contract No. AF 28 (099)-25. It is published for technical information only and does not represent recommendations or conclusions of the sponsoring agency.

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ABSTRACT

Stepwise integrations of drop growth from a specified representative cloud of condensation nuclei have been completed for three rates of cooling embracing the range of moist adiabatic ascent most important in cloud formation. The results are presented and discussed briefly. They will be used to compute the constitution of a cloud under assumed distributions of vertical velocity.

Routine data on the physical constitution of clouds at Mount Washington for the first trimester of 1949 are presented, with brief remarks.

## I. PERSONNEL AND ADMINISTRATION

a. Personnel. - Only one change in the personnel of the project was made since the last quarterly report. This was the appointment of Mr. Roland J. Boucher, on April 11, 1949, as research meteorologist, augmenting the research staff in Cambridge.

Mr. Boucher obtained his meteorological training at the Massachusetts Institute of Technology, where he took an M.S. degree in meteorology (1939), after graduating with a Ph.B. degree from St. Michael's College (1936). He was research associate at M.I.T. and later at New York University until 1944, when he was employed by the U. S. Weather Bureau as district forecaster in the New England regional office.

Mr. Boucher is especially fitted by training and experience to undertake research on the relationship between the physical constitution of clouds and the widespread meteorological conditions that bring about cloud formation. This portion of the Observatory's over-all program has been inactive since October 1947, and because of Mr. Boucher's qualifications an amendment of the present contract to include the work outlined above, without additional cost to the Government, has been requested.

b. Administration. - The execution of Contract AF 28(099)-25 was finally completed and a signed copy received on February 21, 1949, and a change order correcting a typopgraphical error was received March 4, 1949. Mr. James K. Morrison, the resident auditor assigned to Harvard University by the U. S. Navy, was named auditor for the contract.

Certain facilities at Mount Washington, controlled by Smith, Hinchman & Grylls under contract to the Air Materiel Command, were made available to the Observatory on February 17, 1949. These were the use of:

a. Photographic dark room, Yankee Network Building.
b. Machine shop to be used by qualified mechanics only.
c. Laundry
d. Bathing
e. Transportation on weasel during ascent and descent of regularly scheduled runs.

In lieu of certain bedroom and operating space requested by the Observatory, substitute facilities were offered on March 29 that are not suitable for our prospective use and were therefore declined.

A conference was held on January 13 for the purpose of reviewing the work of the first quarter and the plans for the future. The conference was held at the office of the Geophysical Directorate of the Cambridge Field Station and was attended by Capt. A. C. Trakowski, Dr. P. H. Wyckoff, and Mr. C. E. Anderson of the Directorate, and Dr. W. E. Howell, Mr. R. Wexler, and Mr. S. Braun of the Observatory. The work as presented in the first quarterly report was discussed, and a plan was concurred in looking toward completion of stepwise integrations during the second quarter, studies of cloud composition on the basis of them during the third, and correlation of this study with those of Langmuir and others during the final quarter.

## II. SCIENTIFIC RESULTS

### COMPUTATIONS OF DROPLET GROWTH IN CLOUDS

In the First Quarterly Report, an analysis of the nuclei distributions observed in sea air by Woodcock (1949) was made, and a representative distribution was arrived at by extrapolation of the mean of his data toward smaller nucleus sizes. In this report, this distribution is used for the computations of the growth of nuclei to cloud drops. A method for computing cloud growth has been described by Howell (1949).

The number and size of cloud drops depends on the maximum supersaturation reached in rising saturated air.[1] This maximum supersaturation depends, in turn, on the vertical velocity. By use of Howell's method, computations for cloud growth are carried out for three different rates of ascent: 3 cm/sec, 30 cm/sec, and 300 cm/sec, at a temperature of 0°C and a pressure of 800 mb. The vertical velocities are chosen to embrace the range important in cloud formation, and facilitate interpolation for actual vertical velocities.

In Table I the subdivision of the representative nucleus distribution utilized for the three rates of ascent are tabulated. These subdivisions are

TABLE I

NUCLEI DISTRIBUTIONS FOR CLOUD GROWTH COMPUTATIONS

| 3 cm/sec | | 30 cm/sec | | 300 cm/sec | |
|---|---|---|---|---|---|
| Moles | Number/cc | Moles | Number/cc | Moles | Number/cc |
| $10^{-15}$ | 10 | $10^{-15}$ | 10 | $10^{-15}$ | 10 |
| $3\times10^{-16}$ | 13 | $3\times10^{-16}$ | 13 | $10^{-16}$ | 50 |
| $10^{-16}$ | 14 | $10^{-16}$ | 27 | $2\times10^{-17}$ | 80 |
| $6\times10^{-17}$ | 10 | $3\times10^{-17}$ | 50 | $7.5\times10^{-18}$ | 100 |
| | | $10^{-17}$ | 60 | $3\times10^{-18}$ | 170 |
| | | $7.5\times10^{-18}$ | 40 | $1.5\times10^{-18}$ | 250 |
| Total | 47 | | 200 | | 660 |

---

[1] The supersaturation ($S_e$) is defined by the equation

$$\frac{S_e}{100} = \frac{e' - e}{e}$$

where e is the saturated vapor pressure, and e' is the actual vapor pressure.

chosen according to the supersaturations attained in the rising air, i.e., the faster the rate of ascent, the greater is the supersaturation reached, and hence, the greater is the number of nuclei activated. For example only 47 nuclei/cc are activated at the low vertical velocity, while 660 nuclei/cc are activated at the high velocity. Maximum supersaturations reached in these three rates of ascent are: 0.11%, 0.30%, and 0.76%, respectively.

Figures 1 and 2 are the supersaturation and growth curves for the intermediate (30 cm/sec) ascent rate. In Figure 1, the supersaturation rises to a maximum of 0.30% at 40 seconds (12 meters above the cloud base), falls somewhat steeply to 0.14% at 90 seconds, and then slopes gradually at a logarithmically linear rate with time (on log-log paper, the slope of supersaturation with time is equal to -1/3). Figure 2 is a plot of radius growth with time. From 20 to 90 seconds rapid growth occurs; after 90 seconds, gradual growth and a narrowing of the size distribution takes place. Thus, at 100 seconds (30 meters above the cloud base), all radii lie between 3.0 and

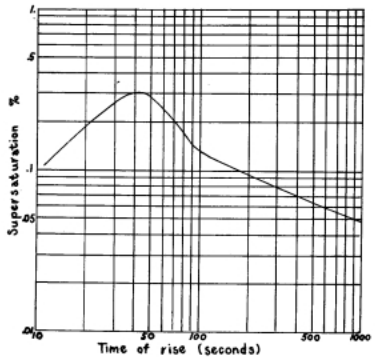


Fig. 1. Change of supersaturation with time during the growth of cloud drops under the conditions shown in Fig. 2.

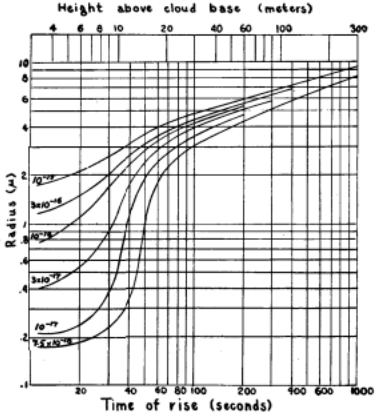


Fig. 2. Growth curves of cloud droplets ascending moist-adiabatically at a rate of 30 cm/sec, at a mean temperature of 0°C and mean pressure of 800 mb, starting with a specified representative cloud of condensation nuclei.

4.9 microns, while at 1000 seconds (300 meters) they lie between 8.2 and 9.4 microns.

The growth curves differ according to the vertical velocity of the saturated air. For the slow rate of ascent (3 cm/sec), the peak supersaturation of 0.11% is reached at 175 seconds. After 500 seconds, the stage of gradual growth and narrowing size distribution takes place, but the distribution is broader than at faster vertical velocities: at 1000 seconds (30 meters) the radius distribution is between 4.2 and 7.7 microns, and at 10,000 seconds (300 meters) it is between 10.8 and 14.7 microns.

For the 300 cm/sec vertical velocity, a peak of 0.77% supersaturation is reached in 10 seconds. After about 20 seconds the stage of slow growth and narrowing distribution is reached. This fast rate of ascent shows the narrowest size distribution. At 100 seconds (300 meters) all radii lie between 5.6 and 6.1 microns.

Figure 3 is a plot of volume median radius vs. height above the cloud base, for all three rates of ascent. Figure 4 is a plot of the modulus of

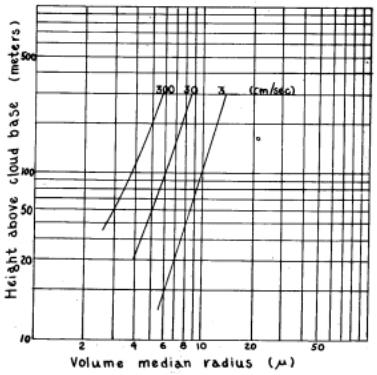


Fig. 3. The volume median radius of cloud drops according to computed growth at three different rates of moist-adiabatic ascent. Half the liquid water is contained in smaller, half in larger drops than the volume median.

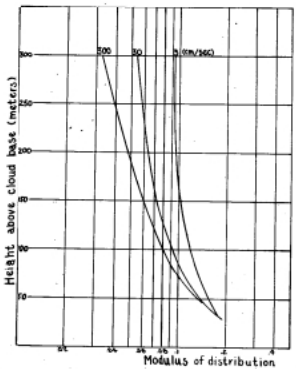


Fig. 4. Variation of the computed modulus of distribution with the height above the cloud base. This modulus is a measure of the degree of dispersion of drop sizes about the volume median radius.

distribution (h) against height, assuming a Gaussian distribution for the liquid water content.[2] A small modulus signifies a narrow distribution. It may be seen from these two figures that above a height of thirty meters, a slow rate of ascent is associated with a relatively broad distribution and a large volume median radius.

Liquid water contents in the cloud for all three experiments are approximately 0.26 $g/m^3$ at 150 meters, and 0.52 $g/m^3$ at 300 meters, above the cloud base.

FUTURE WORK:

The drop size distributions in clouds for the three different rates of ascent have been computed. From the appearance of the curves of volume median radius vs. height, and modulus of distribution vs. height, it appears possible to interpolate accurately the size distribution in clouds for any rate of ascent between 3 cm/sec and 300 cm/sec.

The literature is being investigated to ascertain reasonable distributions of vertical velocities in clouds. It is then intended to compute the size distribution at various levels for those vertical velocities, and to compare these distributions with observed drop size data.

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[2] ref. First Quarterly Report, page 7.

## III. CLOUD DATA OBSERVATIONS

Observations of the liquid water content, mean effective drop size, and drop size distribution in the clouds at Mount Washington were made during the first trimester of 1949 by the multicylinder method by the same procedure used heretofore at the Mount Washington Observatory and described in previous publications.

The period as a whole has been warmer than normal, especially at the beginning. Coming at the coldest part of the season, the warmth increased the amount of icing by increasing the amount of water vapor available. The 93 cloud data observations made in January 1949 are the greatest number made at the Observatory in any calendar month of record. The drop diameter for each of the three months was close to the average and the liquid water content slightly above average. However, the period of icing record contains two years that, by the fifteen-year record of weather at the Observatory, are extraordinarily warm, so contrast with the true mean may be greater.

With the temperature more normal in March, diminishing the normal seasonal trend, the similarity between the icing conditions for February and March 1949 was striking. The values of drop size, liquid water content, and icing rate were all within 1 to 3% of each other for the two months, as indeed were also the station pressure and wind speed.

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: JAN. 1-4, 1949

Prep: P.E.A.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Precipitation: began / ended Time | Precipitation: Melted water (Inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size $P_{cd}$ | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m³) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | E end E 0015 | | | | | | | | | | |
| | 0100 | -4 | 737 | E | 20.1 | 62 | SR | B 0015 E 0330 | | | | T | .73 | 33.3 | A | 540 | 3E1 | |
| | 0400 | -4 | 727 | SE | 20.1 | 49 | S | B 0330 | | | | | .62 | 43.6 | A | 480 | 3F1 | |
| | 0700 | -7 | 725 | SSE | 15.6 | 49 | | | | | | | .35 | 17.2 | A | 285 | SOR | |
| 1 | 1000 | -8 | 731 | E | 8.9 | 44 | S | E 1145 | | | | .21 | .13 | 11.6 | A | 185 | KR | |
| | 1300 | -7 | 731 | W | 1.8 | 49 | | | | | | | | | | | | |
| | 1600 | -9 | 734 | NW | 3.6 | 49 | | | | 7 | | T | .22 | 16.5 | A | 240 | KR | |
| | 1900 | -10 | 737 | NW | 8.4 | 49 | S | B 1945 | | | | | .18 | 15.1 | A | 170 | KR | |
| | 2200 | -11 | 747 | NW | 11.6 | 77 | S | E 2230 | | | | | .40 | 21.9 | A | 395 | KR | |
| | 0100 | -14 | 759 | NW | 11.6 | 49 | | | | | | | .76 | 15.1 | A | 170 | KR | |
| | 0400 | -13 | 850 | NW | 13.0 | 41 | | | | | | | .82 | 19.4 | A | 250 | KR | |
| | 0700 | -14 | 872 | WNW | 18.1 | 49 | | | | | | | | | | | | |
| 2 | 1000 | -9 | 833 | N | 1.3 | 01 | | | | | | | | | | | | |
| | 1300 | -8 | 850 | WNW | 4.5 | 40 | | | | | | | | | | | | |
| | 1600 | -11 | 874 | WNW | 8.0 | 41 | | | | | | | | | | | | |
| | 1900 | -11 | 908 | N | 2.0 | 00 | | | | | | | | | | | | |
| | 2200 | -12 | 946 | N | 2.0 | 00 | | | | | | | | | | | | |
| | 0100 | -12 | 957 | N | 4.5 | 46 | | | | | | | | | | | | |
| | 0400 | -12 | 965 | NNE | 2.2 | 49 | | | | | | | | | | | | |
| | 0700 | -12 | 972 | NNW | 18.1 | 49 | | | | | | | .12 | 15.4 | A | 120 | KR | |
| 3 | 1000 | -11 | 984 | NNW | 18.1 | 46 | | | | | | | | | | | | |
| | 1300 | -12 | 001 | WNW | 9.4 | 49 | | | | | | | .84 | 12.8 | A | 250 | KR | |
| | 1600 | -13 | 022 | NW | 4.5 | 49 | | | | | | | .33 | 23.4 | A | 350 | KR | |
| | 1900 | -12 | 040 | N | 6.3 | 48 | | | | | | | | | | | | |
| | 2200 | -12 | 051 | E | 10.1 | 00 | | | | | | | | | | | | |
| | 0100 | -13 | 067 | E | 10.1 | 00 | | | | | | | | | | | | |
| | 0400 | -8 | 000 | E | 10.7 | 40 | | | | | | | | | | | | |
| | 0700 | -4 | 112 | E | 6.3 | 02 | | | | | | | | | | | | |
| 4 | 1000 | -2 | 144 | E | 2.7 | 02 | | | | | | | | | | | | |
| | 1300 | -1 | 148 | SE | 2.2 | 02 | | | | | | | | | | | | |
| | 1600 | -4 | 138 | WSW | 4.9 | 03 | | | | | | | | | | | | |
| | 1900 | -4 | 134 | WSW | 2.4 | 03 | | | | | | | | | | | | |
| | 2200 | -3 | 123 | W | 11.3 | 03 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob

Dates: JAN. 1-4 1949

Prep: A.E.D.

Check:

| | Time run began | Length of exposure(s) t | Computed KØ KØ | Diameter for K = 1cm $D_K$ | Rate of growth (acft standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder P1 | Reliability, % | Mixing ratio (vapor) $X_v$ g/Kg | Mixing ratio (water) $X_w$ g/Kg | Mixing ratio, water isentropic, from observed cloud base $X_1$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0112 | 360 | 1680 | 16.0 | 15.9 | 4.4 | 79 | 83 | | | | |
| | 0206 | 360 | 844 | 7.4 | 11.4 | 2.6 | 62 | 67 | | | | |
| | 0741 | 900 | 324 | 3.7 | 4.3 | 1.1 | 26 | 67 | | | | |
| | 1004 | 2400 | 39.6 | 0.8 | 0.5 | 1.0 | 34 | 71 | | | | |
| 1 | 1253 | 1320 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | ICING ON #1 AND PARTIALLY ON #2 |
| | 1536 | 1800 | 12.3 | 0.6 | 2.4 | 0.1 | 26 | 67 | | | | |
| | 1817 | 3000 | 20.5 | 1.6 | 1.7 | 2.6 | 32 | 80 | | | | |
| | 2.124 | 2.100 | 247 | 3.6 | 6.6 | 1.2 | 72 | 56 | | | | |
| | 0000 | 900 | 171 | 2.5 | 9.2 | 1.6 | 74 | 82 | | | | |
| | 0206 | 900 | 250 | 3.4 | 3.1 | 0.6 | 41 | 71 | | | | |
| | 0745 | 900 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| 2 | | | | FOG AT DISTANCE | | | | | | | | |
| | | | | FOG IN PATCHES | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | 1200 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | 2200 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | 0722 | 1200 | 163 | 2.1 | 1.9 | 0.4 | 44 | 82 | | | | |
| | 0915 | 2400 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | FOG VERY THIN - SUN VISIBLE |
| 3 | 1625 | 2400 | 18.1 | 3.1 | 5.2 | 0.7 | 72 | 78 | | | | |
| | 1841 | 1500 | 84 | 1.9 | 2.5 | 0.3 | 32 | 61 | | | | |
| | 1200 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| • | | | | FOG AT ONTARIO | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| 4 | 1210 | 3000 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: JAN 5-8, 1949

Prep: R.A.H.

Check:

| Date | Time | Temp. (°C) $T_D$ | Press. (mb) Temp. (°C) $P_D$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres.weath. WW | Precipitation: Type and Intsty | Precipitation: began ended Time | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size $L_B$ | Precipitation: Snow content of Air (g/m³) | Liquid water content (g/m³) $L_W$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -4 | 110 | WNW | 8.9 | 03 | | | | | | | | | | | | |
| | 0400 | -4 | 100 | WNW | 12.1 | 41 | | | | | | | | | | | | |
| | 0700 | -1 | 097 | WSW | 8.9 | 02 | | | | | | | | | | | | |
| 5 | 1000 | 1 | 093 | WSW | 7.6 | 42 | | | | | | | | | | | | |
| | 1300 | -1 | 066 | SW | 14.7 | 45 | ZR | B 1415 | | | | | | | | | | |
| | 1600 | -1 | 043 | SW | 16.5 | 66 | | | | | | | | | | | | |
| | 1900 | -4 | 005 | WSW | 22.8 | 79 | R | E 1915<br>B 1915<br>E 2015 | | | | | | | | | | |
| | 2200 | -3 | 985 | SW | 24.9 | 67 | ZR | B 2015 | | | | | | | | | | |
| | 0100 | 0 | 949 | SW | 27.7 | 67 | ZR | E 0200<br>B 0230 | | | | | | | | | | |
| | 0400 | 1 | 930 | SW | 28.8 | 63 | R | | | | | | | | | | | |
| | 0700 | 1 | 888 | SW | 22.2 | 63 | | E 0800 | | | | | | | | | | |
| 6 | 1000 | -2 | 864 | W | 22.3 | 79 | E | B 0900<br>E 1145 | | | | | | | | | | |
| | 1300 | -7 | 840 | WNW | 17.0 | 49 | | | | | | | .57 | 11.4 | A | 450 | KR | |
| | 1600 | -12 | 809 | SW | 16.6 | 49 | | | | | | | .46 | 9.7 | A | 465 | 30R | |
| | 1900 | -13 | 809 | SW | 19.5 | 49 | | | | | | | .19 | 7.3 | A | 410 | KR | |
| | 2200 | -12 | 780 | W | 27.3 | 49 | | | | | | | | | | | | |
| | 0100 | -13 | 802 | W | 23.2 | 49 | | | | | | | .264 | 7.5 | A | 455 | KR | |
| | 0400 | -13 | 803 | W | 26.6 | 49 | S | B 0430 | | | | | .19 | 6.7 | A | 430 | KR | |
| | 0700 | -14 | 801 | W | 17.0 | 77 | | E 0900 | 0.12 | 4/7 1/2 | 1.5/.2 | .12 | .43 | 8.8 | A | 440 | KR | |
| 7 | 1000 | -11 | 815 | WNW | 20.5 | 49 | | | | | | | .28 | 7.5 | A | 455 | KR | |
| | 1300 | -9 | 823 | WNW | 23.2 | 49 | S | B 1215 | 0.03 | | | | .53 | 11.7 | B | 455 | KR | |
| | 1600 | -8 | 838 | SW | 22.4 | 77 | | | | 4/7 1/2 | 1.5/.2 | .53 | .22 | 12.4 | B | 200 | 30R | |
| | 1900 | -9 | 880 | SW | 17.4 | 77 | | | 0.12 | 4/7 1/2 | 2/.2 | .72 | .49 | 14.1 | A | 418 | RaR | |
| | 2200 | -5 | 865 | WNW | 17.6 | 77 | | E 2345 | | 4/7 1/2 | 2/.2 | .55 | 1.22 | 17.2 | C | 280 | 30R | |
| | 0100 | -8 | 881 | W | 19.6 | 49 | | | 0.01 | | | | .57 | 12.2 | A | 450 | RMI | |
| | 0400 | -7 | 895 | WNW | 19.6 | 49 | | | | | | | | | | | | |
| | 0700 | -5 | 956 | WNW | 15.6 | 48 | | | | | | | | | | | | |
| 8 | 1000 | -6 | 930 | WNW | 19.6 | 49 | | | | | | | .58 | 9.2 | A | 450 | KR | |
| | 1300 | -6 | 920 | WNW | 16.5 | 49 | | | | | | | .63 | 12.4 | A | 500 | KR | |
| | 1600 | -4 | 011 | NW | 12.2 | 00 | | | | | | | | | | | | |
| | 1900 | -3 | 058 | NW | 16.5 | 00 | | | | | | | | | | | | |
| | 2200 | -2 | 087 | NW | 6.3 | 00 | | | | | | | | | | | | |

Mount Washington Observatory — DAILY CLOUD DATA SUMMARY, Sheet 2 — Cloud Data Form 2b Rev. 10/47

Station: Mt. Washington Ob.
Dates: JAN. 6-8, 1947
Prep: F.E.O.
Check:

| Time run began | Length of exposure(s) t | Computed KØ KØ | Diameter for K = 1cm $D_K$ | Rate of growth (acft standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder P1 | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water isentropic from observed cloud base $X_i$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OVERCAST | | | | | | | | |
| 0300 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| 0915 | 4700 | | NO COLLECTION | | | | | | | | TEMPERATURE 32.0 |
| 5 1208 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 1521 | 3000 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 1647 | 600 | | TOO MUCH RUN OFF | | | | | | | | |
| 2100 | 1800 | | TOO MUCH RUN OFF | | | | | | | | |
| 0033 | 600 | | NO COLLECTION | | | | | | | | TEMPERATURE 31.7 FEW ISOLATED SPOTS OF ICE |
| | | | CONTINUOUS RUN NOT FREEZING | | | | | | | | |
| | | | CONTINUOUS RUN NOT FREEZING | | | | | | | | ICE VERY ROUGH |
| 0929 | 1700 | | TOO MUCH RUN OFF | | | | | | | | THICKNESS VARIED AS MUCH AS ¼" |
| 6 1221 | 1200 | 269 | 4.9 | 6.2 | 1.8 | 81 | 91 | | | | |
| 1548 | 1300 | 248 | 1.6 | 1.7 | 1.8 | 70 | 82 | | | | |
| 1854 | 1500 | 185 | 0.9 | 0.8 | 0.5 | 56 | 71 | | | | |
| 2134 | 0200 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0241 | 1500 | 169 | 0.8 | 0.3 | 0.5 | 44 | 71 | | | | |
| 0358 | 0100 | 119 | 0.7 | 0.7 | 0.4 | 46 | 47 | | | | |
| 0648 | 900 | 98 | 1.0 | 1.1 | 0.7 | 62 | 61 | | | | |
| 0907 | 1400 | 99 | 0.9 | 0.4 | 0.8 | 62 | 61 | | | | NO. 4 CYLINDER OFF (DROPPED) |
| 7 1214 | 1200 | 254 | 2.1 | 2.3 | 2.1 | 81 | 81 | | | | |
| 1530 | 1200 | 294 | 2.2 | 1.6 | 0.9 | 67 | 82 | | | | |
| 1843 | 1200 | 236 | 4.3 | 4.2 | 1.6 | 69 | 82 | | | | |
| 2120 | 1200 | 446 | 3.6 | 14.3 | 5.2 | 87 | 83 | | | | |
| 0244 | 900 | 190 | 1.6 | 3.7 | 1.9 | 79 | 78 | | | | OUT OF CLOUDS AT END OF RUN SCATTERED DEPOSITS ON NO. 4-2 DUSTING OF NO. 2 AND NOTHING ON NOS. 4, 5 & 6 |
| 0814 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0704 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0958 | 1200 | 107 | 1.2 | 1.8 | 1.3 | 81 | 82 | | | | |
| 8 1218 | 1200 | 163 | 1.7 | 4.2 | 1.6 | 88 | 82 | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: JAN. 9-12, 1949

Prep: R.E.C

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Precipitation: Time began | Precipitation: Time ended | Precipitation: Melted water (Inches) | Precipitation: Snow xtal type $P_c$ | Precipitation: Snow xtal size $P_d$ | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_a$ | Drop size distribn $s_a$ | Station height (m) above cloud base $h_o$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -2 | 099 | NW | 4.5 | 03 | | | | | | | | | | | | | |
| | 0400 | -3 | 105 | S | 10.7 | 03 | | | | | | | | | | | | | |
| | 0700 | -3 | 109 | S | 14.7 | 02 | | | | | | | | | | | | | |
| 9 | 1000 | -3 | 116 | SSW | 10.7 | 03 | | | | | | | | | | | | | |
| | 1300 | -3 | 103 | SSW | 13.8 | 03 | | | | | | | | | | | | | |
| | 1600 | -3 | 108 | SW | 9.4 | 05 | | | | | | | | | | | | | |
| | 1900 | -2 | 107 | SW | 8.0 | 05 | | | | | | | | | | | | | |
| | 2200 | -3 | 113 | SW | 8.0 | 40 | | | | | | | | | | | | | |
| | 0100 | -3 | 058 | W | 17.0 | 03 | | | | | | | | | | | | | |
| | 0400 | -3 | 053 | W | 18.3 | 02 | | | | | | | | | | | | | |
| | 0700 | -3 | 101 | W | 17.0 | 41 | | | | | | | | | | | | | |
| 10 | 1000 | -2 | 115 | WNW | 13.0 | 49 | | | | | | | | | | | | | |
| | 1300 | -4 | 085 | WNW | 14.7 | 41 | | | | | | | | | | | | | |
| | 1600 | -5 | 080 | NW | 16.5 | 01 | | | | | | | | | | | | | |
| | 1900 | -8 | 046 | NW | 24.1 | 01 | | | | | | | | | | | | | |
| | 2200 | -11 | 042 | NW | 24.1 | 02 | | | | | | | | | | | | | |
| | 0100 | -15 | 025 | NW | 26.8 | 02 | | | | | | | | | | | | | |
| | 0400 | -15 | 024 | NW | 27.3 | 01 | | | | | | | | | | | | | |
| | 0700 | -14 | 028 | W | 17.0 | 01 | | | | | | | | | | | | | |
| 11 | 1000 | -14 | 024 | WNW | 18.6 | 02 | | | | | | | | | | | | | |
| | 1300 | -16 | 006 | NW | 15.6 | 02 | | | | | | | | | | | | | |
| | 1600 | -17 | 995 | NW | 17.0 | 02 | | | | | | | | | | | | | |
| | 1900 | -17 | 993 | NW | 15.6 | 02 | | | | | | | | | | | | | |
| | 2200 | -16 | 997 | WNW | 9.4 | 01 | | | | | | | | | | | | | |
| | 0100 | -16 | 976 | W | 8.0 | 00 | | | | | | | | | | | | | |
| | 0400 | -18 | 954 | W | 4.5 | 00 | | | | | | | | | | | | | |
| | 0700 | -18 | 933 | W | 14.7 | 02 | | | | | | | | | | | | | |
| 12 | 1000 | -17 | 914 | W | 18.8 | 02 | | | | | | | | | | | | | |
| | 1300 | -17 | 892 | W | 14.7 | 03 | S | 0138 | | | | | | | | | | | |
| | 1600 | -18 | 870 | WNW | 13.2 | 78 | | | | | | | T | .36 | 6.6 | A | 4025 | KR | |
| | 1900 | -19 | 866 | WNW | 13.2 | 49 | | | | 0.02 | P | 1-2 | | .19 | 9.9 | A | 4175 | KR | |
| | 2200 | -18 | 857 | WNW | 24.1 | 77 | S | CONT. | | | P | 1-2 | .21 | .30 | 8.3 | A | 380 | KR | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: JAN 9-12 1949

Prep: R.E.O.

Check:

| Time run began | Length of exposure(s) | Computed KØ | Diameter for K = 1cm | Rate of growth (acft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio water isentropic from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | t | KØ | $D_K$ | $R_g$ | $r_1$ | $P_1$ | | $X_v$ | $X_w$ | $X_1$ | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| 9 | | | OVERCAST | | | | | | | | |
| | | | DRY HOLE | | | | | | | | |
| | | | DRY HOLE | | | | | | | | |
| | | | LIGHT FOG | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| 0702 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | SUN SHONE MOST OF TIME WHILE OB. WAS BEING TAKEN |
| 0952 | 2400 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 10 1200 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| 11 | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| 12 | | | OVERCAST | | | | | | | | |
| 1826 | 1800 | 69 | 0.5 | 0.9 | 0.4 | 16 | 71 | | | | |
| 1854 | 1500 | 135 | 1.1 | 0.7 | 0.5 | 89 | 71 | | | | |
| 2134 | 900 | 178 | 1.1 | 0.6 | 0.8 | 92 | 71 | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: Jan. 13-16, 1949

Prep: P.E.O

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsy | Precipitation: Time began ended | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_c$ | Precipitation: Snow xtal size $S_d$ | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distribn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -17 | 846 | NW | 29.0 | 77 | S | 0445 | 0.08 | | | | .21 | .40 | 9.9 | A | 460 | KR |
| | 0400 | -18 | 846 | NW | 29.0 | 77 | | | | | | | .48 | .34 | 6.8 | D | 425 | KR |
| | 0700 | -24 | 851 | WNW | 29.1 | 49 | | E 0920 | | | | | | .22 | 9.2 | B | 425 | KR |
| 13 | 1000 | -21 | 832 | NW | 29.1 | 00 | | | 0.00 | | | | | | | | | |
| | 1300 | -18 | 846 | NW | 24.1 | 00 | | | | | | | | | | | | |
| | 1600 | -18 | 843 | NW | 26.4 | 02 | | | | | | | | | | | | |
| | 1900 | -17 | 856 | WNW | 19.6 | 49 | | | | | | | | | | | | |
| | 2200 | -15 | 878 | WNW | 17.4 | 78 | S | B 0005 | | | | | | | | | | |
| | | | | | | | | 0445 | | | | | | | | | | |
| | 0100 | -13 | 834 | WNW | 19.8 | 78 | S | 0445 | 0.46 | | | | | | | | | |
| | 0400 | -13 | 816 | WNW | 19.2 | 78 | | | | | | | | | | | | |
| | 0700 | -13 | 848 | WNW | 22.9 | 49 | S | E 0846 | | | | | .35 | 10.9 | B | 360 | KR | |
| 14 | 1000 | -14 | 851 | WNW | 20.5 | 49 | | | | | | | | | | | | |
| | 1300 | -16 | 869 | WNW | 22.8 | 41 | | | 0.14 | | | | | | | | | |
| | 1600 | -20 | 870 | NW | 29.5 | 01 | | | | | | | | | | | | |
| | 1900 | -18 | 883 | NW | 29.5 | 00 | | | | | | | | | | | | |
| | 2200 | -19 | 911 | NW | 24.1 | 00 | | | | | | | | | | | | |
| | 0100 | -19 | 942 | NNW | 25.0 | 00 | | | | | | | | | | | | |
| | 0400 | -19 | 976 | NNW | 19.6 | 00 | | | | | | | | | | | | |
| | 0700 | -18 | 016 | NNW | 19.2 | 00 | | | | | | | | | | | | |
| 15 | 1000 | -14 | 038 | WNW | 17.0 | 00 | | | | | | | | | | | | |
| | 1300 | -11 | 045 | NW | 18.2 | 01 | | | | | | | | | | | | |
| | 1600 | -8 | 052 | WNW | 19.6 | 02 | | | | | | | | | | | | |
| | 1900 | -9 | 067 | WNW | 19.6 | 03 | | | | | | | | | | | | |
| | 2200 | -9 | 088 | WNW | 17.6 | 02 | | | | | | | | | | | | |
| | 0100 | -9 | 097 | WNW | 21.9 | 76 | S | B 0005 | T | | | | | | | | | |
| | 0400 | -9 | 078 | WNW | 21.4 | 78 | S R | E 0446 B 0446 | | 7 | 1 | | .068 | .62 | 11.3 | D | 425 | RQI |
| | 0700 | 1 | 036 | WNW | 29.0 | 61 | | | 0.24 | | | | | | | | | |
| 16 | 1000 | 1 | 024 | W | 27.3 | 61 | R | E 1130 | 0.05 | | | | | | | | | |
| | 1300 | 1 | 003 | W | 25.5 | 46 | | | | | | | | | | | | |
| | 1600 | 1 | 990 | W | 26.4 | 45 | | | | | | | | | | | | |
| | 1900 | 0 | 975 | W | 29.0 | 45 | | | | | | | | | | | | |
| | 2200 | -1 | 964 | W | 29.5 | 49 | - | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: Jan. 13-16, 1949

Prep: P.E.O.

Check:

| | Time run began | Length of exposure(s) t | Computed $K_\emptyset$ | Diameter for K = 1cm $D_K$ | Rate of growth (corr. standard) $r_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder Pi | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water isentropic, from observed cloud base $X_i$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2133 | 900 | 339 | 1.8 | 1.6 | 1.9 | 66 | 82 | | | | |
| | 0301 | 600 | 169 | 0.9 | 0.8 | 0.9 | 62 | 71 | | | | |
| | 0657 | 900 | 308 | 1.6 | 0.7 | 0.9 | 56 | 82 | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| 13 | | | | CLEAR | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | 1813 | 4750 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | MOSTLY SNOW VISIBILITY GOOD |
| | 2120 | 2120 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | MOSTLY SNOW - VISIBILITY GOOD |
| | 2218 | 2750 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | MOSTLY SNOW VISIBILITY GOOD |
| | 0256 | 4750 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | MOSTLY BLOWING SNOW |
| | 0726 | 900 | 216 | 1.6 | 1.8 | 1.2 | 63 | 91 | | | | |
| | 0945 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | SUN VISIBLE MOST OF TIME DURING OB. |
| 14 | 1405 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | HEAVY BLOWING SNOW - SUN VISIBLE NEAR TOPS OF CLOUDS |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| 15 | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | OVERCAST | | | | | | | | ICE NEEDLES WITHOUT FOG |
| | 0310 | 1200 | 213 | 1.7 | 3.8 | 2.0 | 93 | 73 | | | | |
| | | | | CONTINUOUS RAIN NOT FREEZING | | | | | | | | |
| | | | | CONTINUOUS RAIN NOT FREEZING | | | | | | | | |
| 16 | | | | LIGHT FOG | | | | | | | | TEMPERATURE 38°F |
| | | | | LIGHT FOG | | | | | | | | TEMPERATURE 33°F |
| | 1800 | 4700 | | NO ICE FORMED ON CYLINDERS | | | | | | | | TEMPERATURE 34°F |
| | 1910 | 4700 | | TOO MUCH RUN OFF | | | | | | | | VERY IRREGULAR ICE FORMED ON #1, 2 & 3 - RAPIDLY MELTED OF SUN ON E. EXPOSED TOWER |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: JAN. 19-20, 1948

Prep: R.A.N.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Precipitation: began ended Time | Precipitation: Melted water (Inches) P | Precipitation: Snow xtal type $o_d$ | Precipitation: Snow xtal size $s_d$ | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distribn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_p$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -3 | 960 | WNW | 28.0 | 49 | | | | | | | | | | | | |
| | 0400 | -5 | 963 | WNW | 27.7 | 49 | | | | | | | | | | | | |
| | 0700 | -6 | 979 | NW | 27.3 | 49 | | | | | | | .73 | 11.7 | C | 44 | STI | |
| 17 | 1000 | -6 | 003 | WNW | 24.1 | 49 | | | | | | | .42 | 12.7 | A | 315 | STI | |
| | 1300 | -7 | 003 | WNW | 22.4 | 49 | | | | | | | .42 | 16.9 | B | 346 | SCI | |
| | 1600 | -8 | 009 | W | 24.1 | 77 | 3 | B 1546 | | | | | .70 | 14.9 | A | 570 | SOR | |
| | 1900 | -9 | 034 | WNW | 22.2 | 49 | | E 1915 | T | | | | .61 | 11.9 | C | 550 | ROR | |
| | 2200 | -9 | 044 | NW | 21.0 | 41 | | | | | | | .30 | 15.4 | A | 310 | ROR | |
| | 0100 | -12 | 062 | NW | 14.7 | 00 | | | T | | | | | | | | | |
| | 0400 | -12 | 074 | NW | 16.5 | 00 | | | | | | | | | | | | |
| | 0700 | -10 | 083 | W | 17.2 | 00 | | | | | | | | | | | | |
| 18 | 1000 | -12 | 102 | WSW | 20.5 | 49 | | | | | | | .40 | 12.6 | A | 395 | KR | |
| | 1300 | -7 | 083 | W | 24.1 | 01 | | | | | | | | | | | | |
| | 1600 | -7 | 103 | W | 19.6 | 02 | | | | | | | | | | | | |
| | 1900 | -8 | 117 | W | 15.6 | 02 | S | B 1809 E 1900 | T | | | | | | | | | |
| | 2200 | -9 | 113 | WSW | 23.2 | 49 | | | | | | | .40 | 16.9 | B | 365 | RTI | |
| | 0100 | -11 | 078 | SW | 29.0 | 49 | | | T | | | | .66 | 42.5 | A | 665 | STI | |
| | 0400 | -4 | 066 | SW | 34.2 | 49 | | | | | | | .72 | 15.6 | A | 570 | RCI | |
| | 0700 | -4 | 052 | SE | 31.3 | 49 | | | | | | | .81 | 23.0 | A | 570 | RCI | |
| 19 | 1000 | -2 | 021 | S | 34.2 | 49 | | | | | | | .35 | 17.9 | A | 420 | RCI | |
| | 1300 | 1 | 963 | WSW | 31.3 | 79 | E | B 1310 E 1340 | 0.06 | | | | | | | | | |
| | 1600 | 1 | 975 | W | 31.3 | 49 | | | | | | | | | | | | |
| | 1900 | -2 | 991 | W | 31.3 | 49 | | | 0.03 | | | | .64 | 10.3 | A | 555 | RCI | |
| | 2200 | -11 | 976 | WNW | 32.2 | 49 | | | | | | | .36 | 9.2 | A | 360 | ROR | |
| | 0100 | -14 | 987 | NW | 29.8 | 49 | | | | | | | .47 | 10.9 | A | 485 | ROR | |
| | 0400 | -14 | 994 | NW | 29.0 | 49 | | | | | | | .41 | 9.9 | A | 465 | ROR | |
| | 0700 | -17 | 031 | NW | 29.0 | 49 | | | | | | | .30 | 11.0 | A | 360 | EI | |
| 20 | 1000 | -20 | 035 | NW | 28.2 | 41 | | | | | | | | | | | | |
| | 1300 | -21 | 039 | NW | 27.5 | 01 | | | | | | | | | | | | |
| | 1600 | -20 | 058 | NW | 27.3 | 02 | | | | | | | | | | | | |
| | 1900 | -22 | 069 | NW | 27.7 | 02 | | | | | | | | | | | | |
| | 2200 | -21 | 084 | WNW | 27.3 | 02 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: JAN 17-20, 1949

Prep: P.K.O.

Check:

| | Time run began | Length of exposure(s) | Computed KØ | Diameter for K = 1cm | Rate of growth (ac/ft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/Kg | Mixing ratio (water) g/kg | Mixing ratio water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | t | KØ | $D_K$ | $R_g$ | $r_1$ | Pl | | $X_v$ | $X_w$ | $X_I$ | |
| | 1209 | 2700 | | THE HOUR RUN ABR | | | | | | | | ICE VERY ROUGH RESEMBLED EDGES OF DRILL |
| | 1410 | 2700 | | THE HOUR RUN ABR | | | | | | | | ICE VERY ROUGH RESEMBLED EDGES OF DRILL |
| | 0709 | 600 | 463 | 2.2 | 4.7 | 3.4 | 93 | 91 | | | | |
| 17 | 0917 | 900 | 336 | 2.4 | 3.6 | 2.0 | 96 | 92 | | | | |
| | 1217 | 1200 | 500 | 3.8 | 4.8 | 2.1 | 93 | 73 | | | | |
| | 1518 | 900 | 475 | 3.2 | 6.6 | 3.6 | 85 | 71 | | | | #4,5,6 CYLINDERS FELL AND ICE BROKE |
| | 1800 | 900 | 278 | 2.0 | 4.1 | 2.3 | 81 | 82 | | | | ICE BROKE ACCIDENTLY OF #3&6 |
| | 2102 | 960 | 394 | 3.0 | 3.0 | 1.3 | 77 | 92 | | | | BROKE INTO CLEAR DURING RUN RESULTANT IN CYLINDERS AFTER 14 MIN. |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| 18 | 0345 | 900 | 268 | 2.1 | 2.7 | 1.4 | 71 | 82 | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| | 2119 | 900 | 573 | 3.9 | 4.5 | 2.1 | 90 | 83 | | | | |
| | 0022 | 600 | 1454 | 7.9 | 9.3 | 5.4 | 91 | 83 | | | | |
| | 0324 | 300 | 965 | 4.6 | 8.0 | 6.5 | 80 | 83 | | | | |
| | 0645 | 600 | 1860 | 10.1 | 13.2 | 7.2 | 77 | 67 | | | | |
| 19 | 0918 | 600 | 1455 | 7.1 | 4.3 | 3.2 | 76 | 55 | | | | |
| | 1530 | 15 | | | | | | | | | | |
| | | | | | | | | | | | | RUN POSSIBLY HIGHLY INACCURATE NOT INCLUDED IN MONTHLY SUMMARIES |
| | 1231 | 600 | 466 | 2.4 | 3.2 | 3.2 | 87 | 67 | | | | |
| | 2102 | 600 | 480 | 4.0 | 1.1 | 2.8 | 81 | 83 | | | | |
| | 0020 | 1200 | 345 | 2.0 | 2.9 | 2.1 | 82 | 67 | | | | |
| | 0324 | 2100 | 294 | 1.5 | 0.8 | 0.9 | 67 | 73 | | | | |
| | 0658 | 600 | 430 | 2.2 | 1.6 | 1.5 | 72 | 61 | | | | |
| 20 | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: JAN. 21 - 24, 1949.

Prep: A.E.G.

Check:

| Date | Time | Temp. ($^{o}$C) $T_o$ | Press. (mb) Temp. ($^{o}$C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Time began | Time ended | Melted water (inches) | Snow xtal type $P_d$ | Snow xtal size | Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distribn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -18 | 124 | WNW | 25.0 | 02 | | | | | | | | | | | | | |
| | 0400 | -18 | 131 | WNW | 19.6 | 03 | | | | | | | | | | | | | |
| | 0700 | -15 | 158 | WNW | 14.7 | 02 | | | | | | | | | | | | | |
| 21 | 1000 | -14 | 165 | WNW | 9.4 | 03 | | | | | | | | | | | | | |
| | 1300 | -13 | 148 | SW | 13.8 | 02 | | | | | | | | | | | | | |
| | 1600 | -16 | 125 | SW | 21.0 | 02 | | | | | | | | | | | | | |
| | 1900 | -19 | 132 | SW | 21.0 | 49 | S | B 1946 | T | | | | | .29 | 12.6 | A | 415 | RSR | |
| | 2200 | -16 | 065 | S | 8.0 | 78 | S | CONT. | | | | | | | | | | | |
| | 0100 | -4 | 098 | SSW | 25.5 | 78 | S | CONT. | 0.38 | | | | | | | | | | |
| | 0400 | -9 | 063 | SSW | 24.1 | 78 | | | | | | | .26 | .22 | 14.2 | C | 450 | RSR | |
| | 0700 | -7 | 034 | W | 22.4 | 78 | | | | 0.20 | 1/4 7 | 1/2 1 | .38 | .58 | 19.4 | C | 465 | STI | |
| 22 | 1000 | -9 | 027 | WNW | 29.1 | 49 | S | E 0930 | | | | | | .76 | 17.7 | A | 615 | STI | |
| | 1300 | -9 | 028 | WNW | 27.3 | 49 | | | | | | | | .64 | 12.6 | A | 510 | RSR | |
| | 1600 | -11 | 043 | NW | 27.3 | 49 | | | | | | | | .55 | 8.9 | B | 505 | SSR | |
| | 1900 | -13 | 062 | WNW | 27.3 | 49 | | | | | | | | .38 | 8.2 | B | 420 | KR | |
| | 2200 | -14 | 063 | NW | 26.8 | 78 | | | | | | | | .24 | 9.1 | B | 385 | KR | |
| | 0100 | -16 | 079 | NW | 28.1 | 49 | | | | | | | | .18 | 7.0 | B | 340 | RSR | |
| | 0400 | -15 | 061 | NW | 25.5 | 02 | | | | | | | | | | | | | |
| | 0700 | -12 | 100 | WNW | 18.3 | 03 | | | | | | | | | | | | | |
| 23 | 1000 | -7 | 135 | W | 13.0 | 03 | | | | | | | | | | | | | |
| | 1300 | -7 | 122 | W | 8.9 | 02 | | | | | | | | | | | | | |
| | 1600 | -9 | 125 | W | 11.2 | 03 | | | | | | | | | | | | | |
| | 1900 | -9 | 125 | W | 11.2 | 02 | | | | | | | | | | | | | |
| | 2200 | -9 | 126 | WSW | 15.6 | 02 | | | | | | | | | | | | | |
| | 0100 | -12 | 072 | WSW | 19.2 | 01 | | | | | | | | | | | | | |
| | 0400 | -9 | 071 | WSW | 17.0 | 78 | S | B 0838 | | | | | | .46 | 12.2 | A | 450 | RSR | |
| | 0700 | -9 | 039 | WSW | 13.9 | 78 | | | | 0.03 | | | | | | | | | |
| 24 | 1000 | -7 | 057 | WSW | 15.6 | 78 | | | | | 2 | 1/2 | T | .26 | 10.7 | A | 420 | KR | |
| | 1300 | -6 | 042 | WSW | 15.6 | 78 | S | E 1345 | | | 2 | 1/2 | T | .72 | 14.1 | A | 510 | KR | |
| | 1600 | -4 | 987 | WNW | 22.4 | 78 | ZL | B 1345 E 1646 | | | | | | .24 | 10.3 | A | 465 | RCI | |
| | 1900 | -7 | 996 | NW | 25.5 | 49 | | | | 0.07 | | | | .72 | 13.9 | A | 510 | RTI | |
| | 2200 | -8 | 996 | NW | 25.5 | 49 | | | | | | | | .72 | 14.9 | D | 605 | RTI | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob

Dates: JAN 21-24 1949

Prep: P.E.O

Check:

| | Time run began | Length of exposure(s) t | Computed KØ | Diameter for K = 1cm $D_K$ | Rate of growth (acft standard) $R_E$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder Pi | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water isentropic, from observed cloud base $X_i$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CLEAR | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| 21 | | | | OVERCAST | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| | 1216 | 1200 | 289 | 2.2 | 2.0 | 0.8 | 66 | 54 | | | | SNOWING VERY HEAVILY |
| | 2105 | 3800 | | NO COLLECTION | | | | | | | | APPARENTLY SUMMIT IN FREE OF FOG |
| | 0100 | 3100 | | NO COLLECTION | | | | | | | | HEAVY SNOW |
| | 0335 | 1200 | 458 | 3.0 | 2.6 | 1.3 | 86 | 67 | | | | NO FOG |
| | 0610 | 1600 | 630 | 4.9 | 7.7 | 0.3 | 91 | 67 | | | | |
| 22 | 0916 | 600 | 887 | 5.1 | 10.0 | 5.2 | 80 | 91 | | | | |
| | 1016 | 600 | 459 | 2.9 | 4.5 | 3.5 | 88 | 73 | | | | |
| | 1514 | 600 | 242 | 1.4 | 1.9 | 1.9 | 79 | 82 | | | | |
| | 1913 | 900 | 210 | 1.2 | 1.0 | 1.2 | 64 | 82 | | | | |
| | 2107 | 900 | 244 | 1.4 | 1.2 | 1.2 | 59 | 61 | | | | |
| | 0022 | 1620 | 148 | 0.9 | 0.6 | 0.2 | 62 | 61 | | | | FOG IN PATCHES DURING RUN |
| | | | | | | | | | | | | OUT OF CLOUDS 6056 |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| 23 | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | 0318 | 1520 | 156 | 1.5 | 1.8 | 0.7 | 55 | 61 | | | | |
| | 0645 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 24 | 0906 | 1520 | 99 | 1.1 | 1.8 | 0.7 | 74 | 82 | | | | |
| | 1216 | 1200 | 165 | 1.8 | 6.4 | 2.0 | 78 | 91 | | | | |
| | 1511 | 900 | 582 | 4.5 | 10.6 | 4.6 | 90 | 67 | | | | |
| | 1822 | 1200 | 627 | 4.2 | 6.3 | 4.1 | 91 | 83 | | | | |
| | 2136 | 600 | 677 | 4.4 | 7.0 | 3.9 | 84 | 83 | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: JAN. 25-27, 1949

Prep: R.A.H.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Precipitation: began ended Time | Precipitation: Melted water (inches) P | Snow xtal type $c_d$ | Snow xtal size $s_d$ | Snow content of Air (g/m³) $L_s$ | Liquid water content (g/m³) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -9 | 007 | NW | 21.2 | 49 | | | | | | | .41 | 14.1 | A | 350 | RMI | |
| | 0400 | -11 | 018 | NW | 25.9 | 49 | | | | | | | .32 | 9.9 | C | 330 | RMI | |
| | 0700 | -15 | 995 | NW | 49.0 | 28 | | | | | | | | | | | | |
| 25 | 1000 | -17 | 029 | N | 36.4 | 02 | | | | | | | | | | | | |
| | 1300 | -17 | 044 | N | 26.9 | 02 | | | | | | | | | | | | |
| | 1600 | -18 | 058 | NNW | 27.7 | 00 | | | | | | | | | | | | |
| | 1900 | -16 | 085 | N | 21.4 | 00 | | | | | | | | | | | | |
| | 2200 | -14 | 085 | NNW | 6.5 | 02 | | | | | | | | | | | | |
| | 0100 | -16 | 076 | NW | 15.6 | 02 | | | | | | | | | | | | |
| | 0400 | -16 | 065 | WNW | 17.9 | 02 | | | | | | | | | | | | |
| | 0700 | -17 | 061 | WNW | 20.1 | 02 | | | | | | | | | | | | |
| 26 | 1000 | -12 | 862 | WNW | 9.9 | 78 | S | B 0834 | | | | | | | | | | |
| | 1300 | -12 | 835 | W | 5.8 | 78 | | | .02 | | | | | | | | | |
| | 1600 | -13 | 818 | WNW | 8.0 | 78 | | | | | | | | | | | | |
| | 1900 | -14 | 810 | WNW | 6.3 | 78 | | | .06 | | | | | | | | | |
| | 2200 | -14 | 995 | WNW | 5.3 | 78 | | CONT. | | | | | | | | | | |
| | 0100 | -14 | 993 | W | 13.9 | 77 | S | CONT. | .06 | | | .07 | .19 | 7.2 | A | 210 | KR | |
| | 0400 | -14 | 989 | W | 18.9 | 77 | | E 0830 | | 1 3 5 | 1 2 3 | | .12 | 11.1 | A | 190 | KR | |
| | 0700 | -15 | 993 | W | 15.6 | 78 | | | .02 | 3 5 7 | 1 2 3 | .096 | .39 | 14.6 | B | 455 | ROR | |
| 27 | 1000 | -15 | 000 | WNW | 13.8 | 78 | S | B 0830 E 1130 | | 1 7 | | | .31 | 10.2 | A | 355 | KR | |
| | 1300 | -13 | 995 | WNW | 13.0 | 02 | | | .01 | | | | | | | | | |
| | 1600 | -13 | 005 | NW | 8.0 | 02 | | | | | | | | | | | | |
| | 1900 | -13 | 017 | NW | 6.3 | 03 | | | | | | | | | | | | |
| | 2200 | -12 | 017 | W | 4.5 | 09 | | CONT. | | | | | | | | | | |
| | 0100 | -11 | 004 | WSW | 9.4 | 02 | | | | | | | | | | | | |
| | 0400 | -13 | 994 | SW | 16.5 | 49 | | | | | | | .33 | 10.8 | A | 340 | KR | |
| | 0700 | -12 | 943 | S | 25.5 | 78 | S | B 0430 | .02 | | 2 | | .19 | 10.9 | A | 240 | SOR | |
| 28 | 1000 | -8 | 940 | S | 25.0 | 78 | | E 1600 | .01 | 2 | 2 | .56 | .33 | 13.9 | P | 310 | RMI | |
| | 1300 | -9 | 912 | S | 25.9 | 79 | E | B 1200 E 1430 | .04 | 8 9 | 2 | .32 | .33 | 23.8 | G | 305 | RTI | |
| | 1600 | -4 | 862 | WSW | 32.1 | 49 | | | | | | | .37 | 18.1 | D | 265 | RTI | |
| | 1900 | -4 | 855 | WSW | 36.4 | 49 | | | | | | | .34 | 10.3 | A | 245 | RTI | |
| | 2200 | -7 | 840 | WSW | 28.6 | 49 | | | | | | | .72 | 14.2 | A | 560 | RCI | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: JAN. 25-28, 1949

Prep: P.E.O.

Check:

| | Time run began | Length of exposure(s) t | Computed KØ | Diameter for X = 1 cm $D_K$ | Rate of growth (as of standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder PM | Reliability, % | Mixing ratio (vapor) g/Kg $X_V$ | Mixing ratio (water) g/Kg $X_W$ | Mixing ratio, water isentropic, from observed cloud base $X_1$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0027 | 600 | 479 | 3.3 | 3.6 | 1.9 | 71 | 93 | | | | COLLECTION ON #546 CALLED RIME FOR WANT OF BETTER TERM - ACTUALLY IT WAS ROUGH TRANSLUCENT |
| | 0328 | 900 | 320 | 1.9 | 1.9 | 1.2 | 74 | 83 | | | | |
| | | | | FOG DURING PAST HOUR BUT NOT DURING OB. | | | | | | | | |
| 25 | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| | | | | OVERCAST | | | | | | | | |
| 26 | | | | OVERCAST | | | | | | | | SNOWING |
| | 1200 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | 1529 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| | 1753 | 3600 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | SMALL COLLECTION OF POWDER RIME ON #1 |
| | 2102 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | POWDER RIME ON #1 |
| | 0030 | 2700 | 45 | 0.8 | 0.8 | 0.1 | 26 | 71 | | | | |
| | 0232 | 2680 | 133 | 1.6 | 0.9 | 0.5 | 46 | 61 | | | | |
| | 0630 | 2100 | 190 | 1.9 | 3.6 | 1.1 | 48 | 55 | | | | |
| 27 | 0909 | 1800 | 71 | 0.9 | 1.3 | 0.4 | 41 | 61 | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | PARTLY CLOUDY | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | 0911 | 1200 | 111 | 1.1 | 1.6 | 0.9 | 61 | 84 | | | | |
| | 0653 | 1200 | 244 | 1.5 | 1.0 | 0.8 | 63 | 55 | | | | |
| 28 | 0910 | 1200 | 329 | 2.5 | 2.9 | 1.5 | 90 | 100 | | | | |
| | 1200 | 1200 | 498 | 2.6 | 5.0 | 2.1 | 74 | 58 | | | | |
| | 1500 | 900 | 963 | 6.1 | 4.6 | 2.5 | 87 | 93 | | | | |
| | 1814 | 1200 | 240 | 1.5 | 1.4 | 1.4 | 82 | 91 | | | | |
| | 2210 | 900 | 740 | 4.4 | 6.4 | 4.6 | 77 | 83 | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: JAN. 29-31, 1949

Prep: P.E.D.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres.weath. WW | Precipitation: Type and Intsty | Precipitation: Time began | Precipitation: Time ended | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m³) $L_s$ | Liquid water content (g/m³) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrbn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -8 | 826 | W | 32.2 | 49 | | | | | | | | .91 | 9.2 | D | 710 | KR | |
| | 0400 | -11 | 830 | WNW | 33.1 | 49 | | | | | | | | .60 | 10.7 | A | 560 | KR | |
| | 0700 | -18 | 838 | WNW | 33.1 | 49 | | | | | | | | .36 | 10.6 | A | 460 | RAR | |
| 29 | 1000 | -19 | 860 | WNW | 36.6 | 42 | | | | | | | | .24 | 8.6 | A | 340 | RAR | |
| | 1300 | -19 | 878 | WNW | 39.8 | 49 | | | | | | | | .20 | 9.2 | C | 280 | RAR | |
| | 1600 | -19 | 895 | WNW | 36.6 | 49 | | | | | | | | .22 | 7.6 | C | 320 | RAR | |
| | 1900 | -14 | 913 | WNW | 43.6 | 49 | | | | | | | | .17 | 7.5 | A | 200 | KR | |
| | 2200 | -26 | 934 | W | 42.9 | 49 | | | | | | | | | | | | | |
| | 0100 | -29 | 877 | WNW | 38.0 | 49 | | | | | | | | .11 | 7.7 | D | 270 | KR | |
| | 0400 | -32 | 884 | WNW | 42.9 | 49 | | | | | | | | .15 | 3.6 | E | 425 | KR | |
| | 0700 | -31 | 856 | W | 30.1 | 49 | | | | | | | | | | | | | |
| 30 | 1000 | -26 | 904 | WNW | 30.5 | 48 | | | | | | | | .12 | 9.6 | C | 315 | RAR | |
| | 1300 | -23 | 935 | WNW | 36.6 | 45 | | | | | | | | .19 | 8.9 | B | 325 | KR | |
| | 1600 | -21 | 940 | WNW | 34.2 | 49 | | | | | | | | .04 | 3.5 | A | 65 | KR | |
| | 1900 | -20 | 959 | W | 35.7 | 00 | | | | | | | | | | | | | |
| | 2200 | -20 | 010 | NW | 35.7 | 00 | | | | | | | | | | | | | |
| | 0100 | -16 | 039 | NW | 27.7 | 00 | | | | | | | | | | | | | |
| | 0400 | -12 | 072 | W | 24.1 | 02 | | | | | | | | | | | | | |
| | 0700 | -11 | 066 | S | 18.8 | 03 | | | | | | | | | | | | | |
| 31 | 1000 | -12 | 021 | S | 28.6 | 03 | S | 8 1145 | | | | | | | | | | | |
| | 1300 | -8 | 011 | SSW | 28.1 | 78 | | | | .04 | 8 | | .29 | .13 | 13.0 | A | 155 | SMI | |
| | 1600 | -11 | 966 | SSW | 29.0 | 78 | | | | | 9 | | .67 | .02 | 7.4 | F | 90 | SMI | |
| | 1900 | -9 | 932 | SSW | 26.8 | 78 | | | | .60 | | | .47 | .10 | 9.4 | D | 95 | SMI | |
| | 2200 | -7 | 902 | W | 17.0 | 78 | | CONT. | | | | | .44 | .40 | 19.8 | C | 310 | KR | |
| | 0100 | | | | | | | | | | | | | | | | | | |
| | 0400 | | | | | | | | | | | | | | | | | | |
| | 0700 | | | | | | | | | | | | | | | | | | |
| | 1000 | | | | | | | | | | | | | | | | | | |
| | 1300 | | | | | | | | | | | | | | | | | | |
| | 1600 | | | | | | | | | | | | | | | | | | |
| | 1900 | | | | | | | | | | | | | | | | | | |
| | 2200 | | | | | | | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: JAN. 28-31, 1948

Prep: P.E.O.

Check:

| | Time run began | Length of exposure(s) t | Computed Kø | Diameter for K = 1cm $D_K$ | Rate of growth (act. standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder P1 | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water isentropic, from observed cloud base $X_1$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0017 | 900 | .394 | 2.0 | 2.9 | 3.9 | 90 | 67 | | | | |
| | 0437 | 900 | .562 | 2.7 | 2.9 | 3.5 | 82 | 73 | | | | |
| | 0632 | 1200 | .550 | 2.3 | 1.7 | 2.2 | 69 | 73 | | | | |
| 29 | 0921 | 900 | .454 | 1.9 | 0.5 | 1.4 | 68 | 55 | | | | |
| | 1820 | 960 | .523 | 2.0 | 0.8 | 1.3 | 67 | 61 | | | | BLUE JAY JOB A MIST OR RUN |
| | 1545 | 1200 | .326 | 1.4 | 0.6 | 1.0 | 61 | 61 | | | | BROKE INTO CLEAR SEVERAL TIMES |
| | 1800 | 1200 | .461 | 1.7 | 1.9 | 0.9 | 65 | 82 | | | | |
| | 1925 | 2400 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | D. ON #1 .197 POWDER ON #2 |
| | 0810 | 1520 | .327 | 1.4 | 0.4 | 0.5 | 54 | 71 | | | | |
| | 1316 | 1200 | .132 | 0.4 | 0.2 | 0.4 | 60 | 82 | | | | |
| | | | | ICING OR IMPOSSIBLE BECAUSE OF HIGH WINDS | | | | | | | | |
| 30 | 1087 | 1320 | .940 | 2.6 | 4.3 | 1.1 | 68 | 72 | | | | |
| | 1620 | 1320 | .490 | 1.8 | 0.5 | 1.0 | 55 | 61 | | | | |
| | 1538 | 3000 | .55 | 0.2 | 0.0 | 0.0 | 22 | 71 | | | | |
| | | | | OVERCAST | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | CLEAR | | | | | | | | |
| | | | | MOSTLY CLOUDY | | | | | | | | |
| 31 | | | | OVERCAST | | | | | | | | |
| | 1214 | 1200 | .610 | 3.4 | 1.0 | 0.8 | 82 | 67 | | | | |
| | 1583 | 2100 | .246 | 1.4 | 0.3 | 0.3 | 78 | 67 | | | | |
| | 1813 | 2400 | .248 | 1.5 | 0.5 | 1.0 | 82 | 61 | | | | |
| | 2115 | 2400 | .455 | 4.6 | 5.5 | 1.5 | 99 | 83 | | | | |

Mount Washington Observatory — Cloud Data Form No. 3 — Rev. 11/48

# MONTHLY CLOUD DATA SUMMARY

Station: Mt. Washington, N. H. — Date: JANUARY, 1949

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Possible Observations | 248 | 100 | Total Cloud Data Observations | 0 / 95 | 0 / 38 |
| Observations with fog | 146 | 59 | Longest period with con cloud data obs. (in days) | 1-3/4 | 6 |
| Obs.: Fog with melting | 10 | 4 | Longest period without cloud data obs. (in days) | 4 | 13 |

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Drop Size Distrib.: A | 57 | 60 | Drop Size Distrib.: F | 2 | 2 |
| Drop Size Distrib.: B | 15 | 16 | Drop Size Distrib.: G | 1 | 1 |
| Drop Size Distrib.: C | 10 | 11 | Drop Size Distrib.: H | - | - |
| Drop Size Distrib.: D | 8 | 8 | Drop Size Distrib.: J | - | - |
| Drop Size Distrib.: E | 2 | 2 | | | |

| Element | No. of Obs. | Mean | Max. | Min. | Element | No. of Obs. | Mean | Max. | Min. |
|---|---|---|---|---|---|---|---|---|---|
| Ambient Air Temperature (°C.) | 95 | -11.5 | -2 | -32 | Computed value of K | 95 | 391 | 1860 | 12 |
| Ambient Air Pressure (mb) | 95 | 783.6 | 813.2 | 778.5 | Rate of Accum. on 3" cyl. at 200 mph (g/cm²/hr.) | 95 | 3.4 | 15.9 | 0.0 |
| Air Speed (m/s) | 95 | 24.4 | 58.5 | 3.6 | Rate of accumulation on 1 cm. cylinder | 95 | 1.0 | 7.2 | 0.0 |
| Liquid water content (g/m³) | 95 | 0.40 | 1.22 | 0.04 | Density of ice on smallest cyl. (g/cm³) | 95 | .68 | .92 | .16 |
| Effective drop diameter (microns) | 95 | 12.8 | 33.3 | 3.5 | Snow crystal size (mm) | 43 | 1.3 | 4.0 | 0.2 |
| Station height above cloud base (m) | 95 | 328 | 880 | 65 | Snow water content (g/m³) | 28 | 0.26 | 0.72 | 0.01 |
| Length of exposure (seconds) | 95 | 1236 | 3000 | 300 | | | | | |

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Trace of Icing (Rime) Less than 1 g/cm²/hr | 23 | 24 | Trace of clear ice Less than 1 g/cm²/hr | 2 | 2 |
| Light Icing (Rime) From 1 to 6 g/cm²/hr | 36 | 38 | Light clear ice From 1 to 6 g/cm²/hr | 15 | 16 |
| Moderate Icing (Rime) From 6 to 12 g/cm²/hr | 5 | 5 | Moderate clear ice From 6 to 12 g/cm²/hr | 10 | 11 |
| Heavy Icing (Rime) Greater than 12 g/cm²/hr | 1 | 1 | Heavy clear ice Greater than 12 g/cm²/hr | 2 | 2 |

Remarks

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: FEB. 1-4, 1949

Prep: J.L.R.

Check:

| Date | Time | Temp. ($T_o$) (°C) | Press. ($P_o$) (mb) | Temp. (°C) | Wind direct. DD | Wind speed (m/sec) Vm | Pres.weath. WW | Precipitation: Type and Intsty | Precipitation: Time began | Precipitation: Time ended | Precipitation: Melted water (inches) | Precipitation: Snow xtal type Pc | Precipitation: Snow xtal size $d_d$ | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distribn $a_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -18 | 998.3 | WNW | 26.8 | 78 | | | 0045 | | 0.11 | | | T | .89 | 16.6 | A | 825 | KR | |
| | 0400 | -18 | 999.0 | WNW | 27.7 | 78 | | | E0730 | | | | | .05 | .52 | 11.4 | A | 570 | KR | |
| | 0700 | -20 | 999.0 | WNW | 30.4 | 67 | | | | | 0.05 | | | | .22 | 8.9 | A | 315 | KR | |
| 1 | 1000 | -19 | 997.8 | WNW | 27.2 | 49 | | | | | | | | | .16 | 4.2 | D | 445 | FR | |
| | 1300 | -17 | 995 | WNW | 26.8 | 49 | | | | | 0.01 | | | | | | | | | |
| | 1600 | -17 | 994.1 | WNW | 25.9 | 49 | | | | | | | | | .29 | 5.3 | B | 350 | FR | |
| | 1900 | -17 | 994.0 | NW | 24.6 | 49 | | | | | | | | | .22 | 7.5 | A | 295 | KR | |
| | 2200 | -18 | 994.1 | NW | 25.7 | 49 | S | B 2045 | | | | | | | .31 | 7.4 | A | 385 | KR | |
| | 0100 | -18 | 994.4 | NW | 22.4 | 78 | | | | | 0.18 | 1 2 4 7 | 1 2 4 7 | .01 | .34 | 7.5 | C | 425 | KR | |
| | 0400 | -20 | 994.4 | WNW | 22.4 | 78 | | | | | | 1 2 4 7 | 1 2 4 7 | .15 | .45 | 7.2 | B | 645 | KR | |
| | 0700 | -21 | 994.1 | WNW | 21.0 | 78 | | | | | 0.03 | | | | .23 | 9.9 | A | 390 | KR | |
| 2 | 1000 | -21 | 994.0 | WNW | 24.6 | 78 | | | | | | | | .38 | .22 | 6.6 | B | 360 | MKR | |
| | 1300 | -23 | 994.3 | WNW | 23.9 | 78 | | E 1400 | | | 0.03 | | | .22 | .08 | 5.2 | A | 60 | FR | |
| | 1600 | -25 | 994.9 | NW | 26.2 | 38 | | | | | | | | | | | | | | |
| | 1900 | -25 | 994.0 | NW | 41.1 | 49 | | | | | 0.01 | | | | .20 | 3.6 | E | 260 | KR | |
| | 2200 | -25 | 993.6 | WNW | 28.6 | 49 | | | | | | | | | .20 | 7.1 | A | 435 | KR | |
| | 0100 | -26 | 993.1 | WNW | 23.5 | 49 | | | | | | | | | .12 | 7.6 | A | 410 | KR | |
| | 0400 | -26 | 993.5 | WNW | 24.4 | 49 | | | | | | | | | .16 | 5.5 | B | 355 | KR | |
| | 0700 | -26 | 996 | WNW | 25.5 | 49 | | | | | | | | | | | | | | |
| 3 | 1000 | -24 | 996 | WNW | 19.6 | 41 | | | | | | | | | | | | | | |
| | 1300 | -21 | 996 | NW | 17.6 | 41 | | | | | | | | | | | | | | |
| | 1600 | -21 | 996 | NW | 17.4 | 49 | | | | | | | | | | | | | | |
| | 1900 | -20 | 996 | NW | 20.5 | 49 | | | | | | | | | .07 | 2.5 | A | 115 | KR | FROM VISIBLE, NEAR TOPS OF CLOUDS |
| | 2200 | -20 | 997 | W | 16.5 | 49 | | | | | | | | | | | | | | |
| | 0100 | -16 | 996 | W | 19.6 | 49 | S | B 2040 | | T | | | | | .18 | 6.2 | B | 210 | KR | |
| | 0400 | -15 | 997 | W | 11.6 | 78 | | | | | | | | | | | | | | |
| | 0700 | -13 | 996 | W | 13.0 | 78 | | | | T | | | | | | | | | | |
| 4 | 1000 | -14 | 997 | SW | 16.5 | 77 | | | | | | | | .18 | .16 | 9.3 | A | 185 | FR | |
| | 1300 | -14 | 993 | SSW | 17.9 | 78 | | | | 11 | | | | .23 | | | | | | |
| | 1600 | -13 | 996 | S | 15.6 | 78 | | | | | | | | .14 | .16 | 10.4 | A | 180 | FR | |
| | 1900 | -12 | 995 | SW | 17.4 | 78 | | | | 0.5 | | | | .27 | .12 | 7.4 | B | 185 | KR | |
| | 2200 | -12 | 995 | SW | 18.0 | 78 | | | | | | | | .24 | .38 | 11.5 | B | 935 | KR | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: Feb. 5-8 1949

Prep: J.L.R.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) / Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Type and Intsty | Precipitation began ended Time | Melted water (Inches) | Snow xtal type $P_{Cd}$ | Snow xtal size | Snow content of Air (g/m³) $L_s$ | Liquid water content (g/m³) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -12 | 962 | W | 18.0 | 78 | | | 02 | | | .07 | .43 | 11.9 | A | 440 | KR | |
| | 0400 | -13 | 980 | WNW | 16.4 | 70 | | E 0440 | | | | .14 | .35 | 13.7 | A | 360 | KR | |
| | 0700 | -15 | 995 | NW | 13.8 | 48 | | | 01 | | | | .07 | 8.2 | A | 85 | KR | |
| 5 | 1000 | -14 | 987 | WNW | 10.3 | 41 | | | | | | | | | | | | |
| | 1300 | -14 | 984 | NW | 14.7 | 41 | | | | | | | | | | | | |
| | 1600 | -17 | 981 | WNW | 13.2 | 41 | | | | | | | | | | | | |
| | 1900 | -17 | 981 | NW | 13.2 | 00 | | | | | | | | | | | | |
| | 2200 | -16 | 979 | NW | 8.0 | 00 | | | | | | | | | | | | |
| | 0100 | -17 | 984 | WNW | 7.2 | 00 | | | | | | | | | | | | |
| | 0400 | -17 | 990 | WNW | 8.0 | 00 | | | | | | | | | | | | |
| | 0700 | -18 | 996 | NW | 8.0 | 03 | | | | | | | | | | | | |
| 6 | 1000 | -17 | 005 | WNW | 9.4 | 01 | | | | | | | | | | | | |
| | 1300 | -16 | 008 | WNW | 10.7 | 00 | | | | | | | | | | | | |
| | 1600 | -15 | 018 | NW | 9.4 | 03 | | | | | | | | | | | | |
| | 1900 | -14 | 024 | WNW | 8.0 | 01 | | | | | | | | | | | | |
| | 2200 | -13 | 030 | W | 10.7 | 03 | | | | | | | | | | | | |
| | 0100 | -14 | 000 | W | 12.0 | 36 | | | | | | | | | | | | |
| | 0400 | -15 | 020 | SW | 20.5 | 36 | | | | | | | | | | | | |
| | 0700 | -14 | 968 | WSW | 26.1 | 49 | S | A 0745 | | | | | .68 | 14.5 | D | 655 | KR | |
| 7 | 1000 | -11 | 950 | WSW | 24.4 | 49 | | | | | | | .36 | 11.8 | A | 195 | RMS | |
| | 1300 | -9 | 942 | SW | 28.7 | 49 | | | 12 | | | | .25 | 11.8 | A | 145 | RMT | |
| | 1600 | -9 | 939 | NW | 23.2 | 77 | | | | | | | .56 | 8.4 | C | 485 | KR | |
| | 1900 | -14 | 953 | NW | 30.0 | 77 | | E 1315 | 13 | | | .50 | .26 | 7.4 | A | 295 | KI | |
| | 2200 | -18 | 970 | NW | 31.9 | 49 | | | | | | .38 | .21 | 8.6 | A | 400 | KR | |
| | 0100 | -17 | 986 | NW | 32.6 | 49 | | | T | | | | .21 | 9.3 | A | 395 | KR | |
| | 0400 | -17 | 994 | NW | 29.5 | 49 | | | | | | | .41 | 9.2 | A | 470 | KR | |
| | 0700 | -13 | 998 | NW | 32.6 | 36 | | | | | | | | | | | | |
| 8 | 1000 | -10 | 998 | NW | 19.2 | 02 | | | | | | | | | | | | |
| | 1300 | -8 | 985 | WNW | 25.6 | 02 | | | | | | | | | | | | |
| | 1600 | -9 | 979 | WNW | 17.0 | 01 | | | | | | | | | | | | |
| | 1900 | -9 | 976 | WSW | 32.9 | 00 | | | | | | | | | | | | |
| | 2200 | -7 | 984 | W | 24.1 | 01 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: FEB. 5-8, 1947

Prep: R.E.O.

Check: R.A.L.

| Time run began | Length of exposure(s) t | Computed $K_\emptyset$ | Diameter for K = 1 cm $D_K$ | Rate of growth (at standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder P1 | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water isentropic, from observed cloud base $X_s$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0001 | 1500 | 90 | 1.1 | 2.7 | 0.7 | .55 | 80 | | | | |
| 0200 | 1800 | 181 | 1.8 | 4.9 | 1.8 | .66 | 61 | | | | |
| 0449 | 3660 | 57 | 0.6 | 0.1 | 0.1 | .12 | 47 | | | | IN TOPS OF CLOUDS. ACu FORMS AT 12000 MSL TO EAST |
| 0911 | 2700 | | ICING | TOO LIGHT FOR MEASUREMENT | | | | | | | IN TOPS OF CLOUDS. SUN CLEARLY VISIBLE |
| 1217 | 3960 | | ICING | TOO LIGHT FOR MEASUREMENT | | | | | | | FOG SEEMS THICK ENOUGH TO GIVE MEASURABLE ICING. DROP SIZE MUST BE VERY SMALL |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| 0715 | 1200 | 584 | 3.6 | 6.2 | 3.3 | .80 | 83 | | | | |
| 0919 | 1300 | 720 | 3.8 | 1.1 | 1.3 | .81 | 67 | | | | |
| 1205 | 1800 | 490 | 2.1 | 0.9 | 0.6 | .76 | 82 | | | | |
| 1520 | 1200 | 454 | 1.1 | 2.3 | 1.5 | .78 | 61 | | | | |
| 1918 | 600 | 306 | 1.3 | 0.3 | 1.2 | .68 | 47 | | | | |
| 2115 | 1200 | 300 | 1.5 | 0.7 | 1.4 | .66 | 47 | | | | |
| 0010 | 900 | 354 | 1.7 | 1.0 | 1.6 | .69 | 71 | | | | |
| 0223 | 900 | 300 | 1.6 | 1.3 | 1.8 | .66 | 61 | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: FEB 9-10, 1949

Prep: J.L.P.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | began ended Time | Melted water (Inches) | Snow xtal type $P_c$ | Snow xtal size $d_d$ | Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -5 | 942 | W | 38.6 | 03 | | | | | | | | | | | | |
| | 0400 | -6 | 900 | W | 32.6 | 03 | | | | | | | | | | | | |
| | 0700 | -6 | 898 | W | 33.8 | 01 | | | | | | | | | | | | |
| 9 | 1000 | -5 | 885 | W | 39.5 | 02 | | | | | | | | | | | | |
| | 1300 | -7 | 878 | W | 36.4 | 02 | | | | | | | | | | | | |
| | 1600 | -11 | 889 | W | 33.2 | 49 | | B 1730 | | | | | | | | | | |
| | 1900 | -12 | 914 | W | 18.6 | 77 | S | E 1820 | T | | | | | | | | | |
| | 2200 | -14 | 926 | W | 19.6 | 49 | | | | | | | | | | | | |
| | 0100 | -15 | 932 | NW | 18.8 | 49 | | | T | | | | | | | | | |
| | 0400 | -17 | 909 | NW | 40.5 | 49 | | | | | | | | | | | | |
| | 0700 | -17 | 958 | NW | 9.4 | 49 | | | | | | | .48 | 12.0 | A | 445 | KR | |
| 10 | 1000 | -12 | 965 | NW | 6.7 | 01 | | | | | | | | | | | | |
| | 1300 | -10 | 948 | NW | 4.5 | 02 | | | | | | | | | | | | |
| | 1600 | -13 | 945 | W | 4.5 | 86 | SW | B 1528 | | | | | | | | | | |
| | 1900 | -14 | 930 | SW | 2.2 | 71 | | | .04 | | | | | | | | | |
| | 2200 | -14 | 896 | W | 6.3 | 71 | | E 2200 | | | | | | | | | | |
| | 0100 | -18 | 889 | WNW | 11.6 | 70 | S | B 0045 | .02 | | | | | | | | | |
| | 0400 | -18 | 881 | WNW | 15.2 | 70 | | E 0445 | .01 | | | | | | | | | |
| | 0700 | -17 | 911 | NNW | 19.2 | 49 | | | T | | | | | | | | | |
| 11 | 1000 | -20 | 893 | NNW | 31.0 | 49 | | | | | | | | | | | | |
| | 1300 | -24 | 900 | NW | 26.8 | 49 | | | | | | | | | | | | |
| | 1600 | -27 | 928 | NW | 22.4 | 01 | | | | | | | | | | | | |
| | 1900 | -25 | 967 | NW | 24.1 | 00 | | | | | | | | | | | | |
| | 2200 | -21 | 992 | NW | 17.0 | 00 | | | | | | | | | | | | |
| | 0100 | -20 | 026 | NW | 14.7 | 00 | | | | | | | | | | | | |
| | 0400 | -19 | 038 | NW | 13.2 | 02 | | | | | | | | | | | | |
| | 0700 | -16 | 037 | NW | 15.6 | 02 | | | | | | | | | | | | |
| 12 | 1000 | -11 | 035 | WNW | 19.2 | 02 | | | | | | | | | | | | |
| | 1300 | -11 | 001 | W | 26.4 | 03 | | | | | | | | | | | | |
| | 1600 | -11 | 981 | WNW | 32.1 | 03 | | | | | | | | | | | | |
| | 1900 | -11 | 978 | W | 37.3 | 02 | | | | | | | | | | | | |
| | 2200 | -9 | 949 | W | 39.5 | 02 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob

Dates: FEB 9-10, 1949

Prep: R.E.G.

Check: R.B.S.

| Time run began | Length of exposure (s) | Computed KØ | Diameter for K = 1 cm | Rate of growth (soft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio, water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | t | KØ | $D_K$ | $R_K$ | $r_1$ | $P_1$ | | $X_v$ | $X_w$ | $X_1$ | |
| | | | OVERCAST | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| P. | | | PARTLY CLOUDY | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| 1540 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | FOG VERY THIN |
| 1830 | 4640 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0113 | 3420 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0241 | 4760 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0800 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0703 | 900 | VSE | 0.8 | 3.1 | 4.4 | .48 | 71 | | | | HEAD TOPS OF CLOUDS SUN VISIBLE AT END OF RUN. |
| 10 | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| 1513 | 4160 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | PARTICULLY CALM. |
| | | | OVERCAST | | | | | | | | |
| 2011 | 3060 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | FOG VERY LIGHT. MOON AND STARS VISIBLE. GUSTY WIND |
| 0207 | 3540 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0451 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | HEAD TOPS OF CLOUDS. SUN FAINTLY VISIBLE DURING RUN. FOG VERY THIN. |
| 11 0900 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | FOG IN PATCHES. SUN VISIBLE |
| 1215 | 4700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | FOG IN PATCHES. SUN VISIBLE DURING ENTIRE RUN. |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| 12 | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: Feb. 13-16, 1949

Prep: J.L.R.

Check:

| Date | Time | Temp. (°C) | Press. (mb) Temp. (°C) | Wind direct. | Wind speed (m/sec) | Pres. weath. | Precipitation: Type and Intens. | Precipitation: Time began ended | Precipitation: Melted water (Inches) | Precipitation: Snow xtal type | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m3) | Liquid water content (g/m3) | Effective drop diameter (microns) | Drop size distrib. | Station height (m) above cloud base | Type of ice by eye | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $T_o$ | $P_o$ | DD | Vm | WW | | | | $P_{cd}$ | | $L_s$ | $L_w$ | $d_d$ | $s_d$ | $h_c$ | $i_r$ | |
| | 0100 | -7 | 939 | W/W | 33.1 | 49 | | | | | | | | | | | | |
| | 0400 | -6 | 938 | W/W | 29.5 | 49 | | | | | | | | | | | | |
| | 0700 | -6 | 939 | W | 26.4 | 77 | | | | | | .88 | .73 | 12.3 | A | 540 | STI | |
| 13 | 1000 | -3 | 937 | W | 28.1 | 77 | | | | | | .53 | .76 | 11.3 | A | 510 | STI | |
| | 1300 | -2 | 944 | W | 31.1 | 77 | | | | | | .89 | .61 | 11.9 | A | 405 | RCI | |
| | 1600 | -4 | 950 | NW | 28.1 | 77 | | | | | | .48 | .91 | 8.0 | A | 610 | STI | |
| | 1900 | -4 | 951 | W/W | 24.1 | 49 | | | | | | | 1.10 | 13.2 | C | 695 | RCI | |
| | 2200 | -4 | 958 | W/W | 23.4 | 49 | | | | | | | | | | | | |
| | 0100 | -4 | 956 | W/W | 18.3 | 49 | | | | | | | | | | | | |
| | 0400 | -6 | 962 | W/W | 17.9 | 49 | | | | | | | | | | | | |
| | 0700 | -7 | 965 | W/W | 21.0 | 49 | | | | | | | .90 | 13.6 | A | 698 | STI | |
| 14 | 1000 | -3 | 965 | W/W | 24.1 | 77 | | | | | | T | .60 | 11.3 | A | 585 | STI | |
| | 1300 | -5 | 962 | W | 28.1 | 49 | | | | | | | .54 | 11.0 | A | 420 | STI | |
| | 1600 | -8 | 956 | W | 32.4 | 49 | | | | | | | .20 | 10.0 | A | 320 | SOR | |
| | 1900 | -9 | 949 | W | 28.8 | 49 | | | | | | | .54 | 10.6 | A | 420 | ROR | |
| | 2200 | -9 | 939 | W | 26.1 | 02 | | | | | | | | | | | | |
| | 0100 | -7 | 933 | W | 24.7 | 41 | | | | | | | | | | | | |
| | 0400 | -8 | 935 | SW | 26.4 | 77 | | | | | | | | | | | | |
| | 0700 | -11 | 934 | SW | 28.5 | 77 | | | | | | .56 | | | | | | |
| 15 | 1000 | -9 | 940 | SW | 31.3 | 49 | | | | | | | .61 | 11.1 | A | 530 | STI | |
| | 1300 | -8 | 940 | WSW | 29.0 | 49 | | | | | | | | | | | | |
| | 1600 | 1 | 938 | WSW | 31.3 | 61 | | | | | | | | | | | | |
| | 1900 | -2 | 940 | W | 29.5 | 45 | | | | | | | | | | | | |
| | 2200 | -1 | 943 | W | 30.4 | 79 | | | | | | | | | | | | |
| | 0100 | -8 | 938 | WAW | 26.6 | 49 | | | | | | | .33 | 9.2 | A | 480 | RMI | |
| | 0400 | -12 | 935 | WAW | 32.2 | 49 41 | | | | | | | .20 | 7.2 | C | 315 | KR | END OF RUN WW 41 |
| | 0700 | -13 | 948 | WAW | 29.1 | 49 | | | | | | | .28 | 9.3 | F | 385 | KR | |
| 16 | 1000 | -13 | 951 | NW | 26.4 | 02 | | | | | | | | | | | | |
| | 1300 | -10 | 956 | NW | 19.6 | 01 | | | | | | | | | | | | |
| | 1600 | -9 | 955 | W | 14.7 | 03 | | | | | | | | | | | | |
| | 1900 | -9 | 949 | WSW | 13.2 | 02 | | | | | | | | | | | | |
| | 2200 | -10 | 940 | SW | 17.0 | 03 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: FEB. 13-16, 1949.

Prep: R.E.O

Check: R.O.S.

| Time run began | Length of exposure(s) | Computed KØ | Diameter for K = 1cm | Rate of growth (act standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/Kg | Mixing ratio (water) g/Kg | Mixing ratio, water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | t | KØ | $D_K$ | $R_g$ | $r_1$ | PI | | $X_v$ | $X_w$ | $X_i$ | |
| | | | DENSE FOG. | | No OBSERVER | | | | | | |
| | | | DENSE FOG. | | No OBSERVER | | | | | | |
| 0648 | 600 | 392 | 2.5 | 5.0 | 3.7 | .82 | 91 | | | | |
| 0906 | 600 | 346 | 2.2 | 4.1 | 3.7 | .80 | 73 | | | | |
| 1210 | 600 | 500 | 2.7 | 3.9 | 3.3 | .74 | 61 | | | | |
| 1502 | 600 | 199 | 1.2 | 1.6 | 2.9 | .87 | 61 | | | | |
| 1810 | 600 | 361 | 2.6 | 9.2 | 4.8 | .92 | 93 | | | | |
| | | | DENSE FOG. | | No OBSERVER | | | | | | |
| | | | DENSE FOG. | | No OBSERVER | | | | | | |
| | | | DENSE FOG. | | No OBSERVER | | | | | | |
| 0654 | 600 | 367 | 2.5 | 7.5 | 3.6 | .86 | 93 | | | | |
| 0906 | 600 | 287 | 2.0 | 3.3 | 2.5 | .94 | 61 | | | | |
| 1208 | 600 | 384 | 2.6 | 2.7 | 2.4 | .86 | 61 | | | | |
| 1508 | 600 | 200 | 1.5 | 2.9 | 2.2 | .86 | 61 | | | | |
| 1815 | 900 | 188 | 1.4 | 2.7 | 1.8 | .74 | 91 | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | FOG IN PATCHES | | | | | | | | |
| | | | DENSE FOG. | | No OBSERVER | | | | | | |
| 0757 | 600 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | NOT MUCH FOG. MUCH SNOW IN AIR |
| 0908 | 600 | 450 | 2.3 | 3.3 | 2.5 | .76 | 73 | | | | |
| | | | No ICING RUN-MELTING | | | | | | | | |
| | | | No ICING RUN-ABOVE FREEZING | | | | | | | | |
| | | | No ICING RUN-ABOVE FREEZING | | | | | | | | |
| | | | No ICING RUN — RUNNER TOO GREAT | | | | | | | | |
| 0811 | 600 | 400 | 1.8 | 1.4 | 1.9 | .72 | 73 | | | | |
| 0816 | 1200 | 410 | 1.0 | 0.5 | 0.6 | .62 | 61 | | | | CYLINDERS TAKEN IN AS SUMMIT ABOVE OUT OF FOG. |
| 2155 | 900 | 45 | 0.2 | 0.4 | 0.3 | .47 | 71 | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: Feb 17-20, 1948

Prep: J.K.R.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) / Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Precipitation: Time began / ended | Precipitation: Melted water (Inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop-size distribn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_f$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -12 | 900 | WSW | 13.8 | 02 | | | | | | | | | | | | |
| | 0400 | -13 | 864 | W | 13.9 | 00 | | | | | | | | | | | | |
| | 0700 | -13 | 838 | W | 22.3 | 77 | | | | | | | | | | | | |
| 17 | 1000 | -14 | 858 | W | 31.3 | 49 | | | | | | | .38 | 9.6 | A | 310 | KR | |
| | 1300 | -16 | 815 | WNW | 37.1 | 49 | | | | | | | | | | | | |
| | 1600 | -18 | 796 | WNW | 38.6 | 49 | | | | | | | | | | | | |
| | 1900 | -22 | 800 | WNW | 31.3 | 49 | | | | | | | | | | | | |
| | 2200 | -23 | 794 | WNW | 28.1 | 49 | | | | | | | .15 | 6.0 | D | 265 | KR | |
| | 0100 | -23 | 804 | WNW | 29.0 | 41 | | | | | | | .09 | 7.8 | D | 165 | KR | |
| | 0400 | -19 | 782 | WNW | 33.2 | 00 | | | | | | | | | | | | |
| | 0700 | -18 | 820 | WNW | 28.8 | 02 | | | | | | | | | | | | |
| 18 | 1000 | -10 | 835 | NW | 27.3 | 01 | | | | | | | | | | | | |
| | 1300 | -9 | 820 | WNW | 27.3 | 01 | | | | | | | | | | | | |
| | 1600 | -6 | 814 | W | 22.1 | 01 | | | | | | | | | | | | |
| | 1900 | -5 | 802 | W | 31.7 | 04 | | | | | | | | | | | | |
| | 2200 | -4 | 793 | W | 35.7 | 02 | | | | | | | | | | | | |
| | 0100 | -4 | 793 | W | 35.9 | 02 | | | | | | | | | | | | |
| | 0400 | -6 | 793 | W | 34.6 | 03 | | | | | | | | | | | | |
| | 0700 | -6 | 805 | WSW | 29.0 | 49 | | | | | | | | | | | | |
| 19 | 1000 | -6 | 858 | WNW | 29.0 | 49 | | | | | | | .16 | 5.3 | A | 140 | KR | |
| | 1300 | -5 | 867 | W | 26.4 | 49 | | | | | | | .29 | 6.8 | A | 215 | KR | |
| | 1600 | -3 | 881 | WNW | 21.0 | 49 | | | | | | | .05 | 4.9 | A | 35 | 90% PR | WW 41 000. |
| | 1900 | -4 | 882 | W | 15.6 | 02 | | | | | | | | | | | | |
| | 2200 | -4 | 869 | W | 17.4 | 49 | | | | | | | | | | | | |
| | 0100 | -4 | 854 | SW | 19.2 | 02 | | | | | | | | | | | | |
| | 0400 | -4 | 883 | SW | 15.6 | 41 | | | | | | | | | | | | |
| | 0700 | -2 | 856 | WSW | 14.7 | 49 | | | | | | | .23 | 14.9 | B | 320 | RCI | |
| 20 | 1000 | -1 | 851 | W | 16.5 | 49 | | | | | | | .66 | 12.5 | A | 410 | RCI | |
| | 1300 | -3 | 837 | W | 17.0 | 49 | | | | | | | .78 | 14.9 | A | 490 | RCI | |
| | 1600 | -6 | 818 | WNW | 24.1 | 49 | | | | | | | 1.00 | 10.3 | E | 695 | STI | |
| | 1900 | -11 | 842 | NW | 27.3 | 49 | | | | | | | .38 | 10.6 | A | 355 | RMI | |
| | 2200 | -11 | 826 | NW | 20.5 | 29 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: Feb. 17-20 1948

Prep: R.E.C.

Check: R.A.S.

| Time run began | Length of exposure(s) | Computed KØ | Diameter for K = 1cm | Rate of growth (act standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio water isentropic from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | t | KØ | $D_K$ | $R_g$ | $r_1$ | PI | | $X_v$ | $X_w$ | $X_i$ | |
| | | | OVERCAST | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| 0455 | 3240 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | VISIBILITY VERY GOOD |
| 17 0911 | 900 | 208 | 1.5 | 0.7 | 1.4 | .55 | 71 | | | | |
| 1307 | 3240 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | NEAR TOPS OF CLOUDS. SUN VISIBLE |
| 1507 | 3060 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | VISIBILITY GOOD |
| 1706 | 3000 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | No. 1 CYLINDER LOST DURING RUN. SMALL COLLECTION OF RIMED ON No. 2 #3 |
| 0116 | 2700 | 160 | 0.7 | 1.8 | 0.3 | .33 | 71 | | | | |
| 0212 | 2700 | 216 | 1.0 | 0.2 | 0.3 | .35 | 61 | | | | SUMMIT IN CLEAR AT END OF RUN |
| | | | CLEAR | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| 18 | | | MOSTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| 0705 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | ONSTICK on No. 1 CYLINDER. PINKHAM NOTCH VISIBLE OCCASIONALLY. |
| 19 0904 | 1200 | 103 | 0.6 | 0.0 | 0.2 | .63 | 71 | | | | VALLEY TO WINDWARD NOT VISIBLE. |
| 1204 | 1200 | 102 | 0.6 | 0.0 | 0.4 | .72 | 71 | | | | |
| 1454 | 3600 | 87 | 0.3 | 0.0 | 0.0 | .31 | 47 | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| 0708 | 1200 | 188 | 0.1 | 7.9 | 2.1 | .86 | 80 | | | | No. 1 CYLINDER GREW SOF. DENSITY FROM No. 2 CYLINDER |
| 20 0904 | 900 | 168 | 1.7 | 4.6 | 1.6 | .78 | 84 | | | | |
| 1214 | 900 | 235 | 2.4 | 7.4 | 2.2 | .82 | 73 | | | | |
| 1503 | 600 | 285 | 1.6 | 5.8 | 0.6 | .90 | 83 | | | | |
| 1840 | 900 | 326 | 1.9 | 1.7 | 1.8 | .78 | 67 | | | | |
| 2116 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | POWDER RIME on No. 1 CYLINDER. |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: FEB. 21-24, 1949

Prep: J.L.P.

Check:

| Date | Time | Temp. ($T_o$) (°C) | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsy | Precipitation: Time began ended | Precipitation: Melted water (inches) | Precipitation: Snow xtal type | Precipitation: Snow xtal size $P_{cd}$ | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -17 | 869 | NNW | 19.6 | 02 | | | | | | | | | | | | |
| | 0400 | -18 | 838 | NNW | 13.8 | 02 | | | | | | | | | | | | |
| | 0700 | -17 | 860 | NNW | 13.1 | 02 | | | | | | | | | | | | |
| 21 | 1000 | -16 | 875 | NNW | 12.1 | 02 | | | | | | | | | | | | |
| | 1300 | -17 | 877 | NW | 4.6 | 03 | | | | | | | | | | | | |
| | 1600 | -15 | 883 | WNW | 10.1 | 03 | | | | | | | | | | | | |
| | 1900 | -16 | 882 | WNW | 13.0 | 01 | | | | | | | | | | | | |
| | 2200 | -16 | 884 | WNW | 13.8 | 02 | | | | | | | | | | | | |
| | 0100 | -14 | 880 | W | 12.0 | 02 | | | | | | | | | | | | |
| | 0400 | -13 | 876 | WNW | 16.5 | 00 | | | | | | | | | | | | |
| | 0700 | -14 | 874 | WSW | 13.8 | 03 | | | | | | | | | | | | |
| 22 | 1000 | -11 | 877 | WSW | 17.4 | 69 | | | | | | | .13 | 8.6 | A | 130 | KR | |
| | 1300 | -9 | 851 | W | 20.1 | 77 | S | B 1145 | .04 | | | .33 | .11 | 6.0 | A | 105 | KR | |
| | 1600 | -9 | 837 | WSW | 15.6 | 77 | | | | | | .17 | .23 | 9.0 | C | 205 | KR | |
| | 1900 | -7 | 845 | WSW | 17.0 | 77 | | | .22 | | | .05 | .52 | 9.7 | A | 425 | RaR | |
| | 2200 | -5 | 836 | WSW | 17.0 | 77 | | | | | | .09 | .25 | 14.6 | A | 265 | SMI | |
| | 0100 | -6 | 813 | WSW | 22.4 | 78 | | | .18 | | | .31 | .39 | 11.9 | D | 304 | SMI | |
| | 0400 | -4 | 798 | WSW | 14.7 | 77 | | | | | | | .54 | 21.4 | A | 390 | SMI | |
| | 0700 | -6 | 796 | NNW | 10.7 | 77 | | | .14 | | | .11 | .06 | 15.9 | A | 65 | KR | |
| 23 | 1000 | -6 | 796 | NW | 17.9 | 48 | | E 1015 | | | | .08 | .28 | 12.4 | B | 220 | KR | |
| | 1300 | -9 | 792 | WSW | 22.8 | 41 | | | .04 | | | | .33 | 12.9 | C | 270 | RaR | |
| | 1600 | -8 | 778 | NNW | 20.1 | 02 | | | | | | | | | | | | |
| | 1900 | -7 | 804 | NNW | 23.4 | 01 | | | | | | | | | | | | |
| | 2200 | -8 | 807 | NNW | 26.4 | 00 | | | | | | | | | | | | |
| | 0100 | -7 | 820 | NNW | 27.5 | 00 | | | | | | | | | | | | |
| | 0400 | -7 | 828 | NW | 25.5 | 49 | | | | | | | | | | | | |
| | 0700 | -6 | 864 | NW | 17.0 | 02 | | | | | | | | | | | | |
| 24 | 1000 | -3 | 868 | WNW | 13.8 | 02 | | | | | | | | | | | | |
| | 1300 | -5 | 861 | W | 16.7 | 03 | | | | | | | | | | | | |
| | 1600 | -6 | 864 | W | 13.0 | 02 | | | | | | | | | | | | |
| | 1900 | -5 | 861 | W | 13.8 | 01 | | | | | | | | | | | | |
| | 2200 | -4 | 848 | SW | 17.4 | 03 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: Feb. 21-24, 1949

Prep: P.E.S.

Check: R.B.S.

| Time run began | Length of exposure(s) | Computed KØ | Diameter for K = 1 cm | Rate of growth (drift standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio, water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | t | KØ | $D_K$ | $R_g$ | $r_1$ | Pi | | $X_v$ | $X_w$ | $X_i$ | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| 1047 | 1800 | 83 | 0.7 | 0.3 | 0.2 | .27 | 61 | | | | |
| 1250 | 3600 | 56 | 0.4 | 0.6 | 0.9 | .26 | 67 | | | | |
| 1546 | 1800 | 73 | 0.8 | 0.8 | 0.3 | .42 | 71 | | | | |
| 1821 | 1800 | 112 | 1.1 | 0.6 | 0.9 | .66 | 61 | | | | |
| 2138 | 1800 | 831 | 2.4 | 0.2 | 1.1 | .80 | 67 | | | | |
| 0021 | 1800 | 225 | 1.7 | 2.7 | 1.5 | .80 | 70 | | | | |
| 0326 | 1800 | 417 | 4.2 | 2.0 | 1.9 | .83 | 83 | | | | |
| 0700 | 2400 | 103 | 1.7 | 0.7 | 0.1 | .39 | 61 | | | | |
| 1004 | 2700 | 124 | 1.8 | 3.0 | 0.8 | .63 | 55 | | | | SUN VISIBLE FROM TIME TO TIME AT 0400 OR SUN APPEAR TO BE IN TOPS OF SCU CLOUD DECK |
| 1242 | 3000 | 834 | 2.4 | 2.7 | 1.8 | .81 | 83 | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | OVERCAST | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: Feb. 25-28, 1948

Prep: J.L.G.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Press. (°C) $P_o$ | Wind direct DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsy | Precipitation: Time began ended | Precipitation: Melted water (inches) P | Precipitation: Snow xtal type $c_d$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m³) $L_s$ | Liquid water content (g/m³) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop. size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -4 | 982 | SSW | 22.8 | 41 | | | | | | | | | | | | |
| | 0400 | -9 | 970 | S | 17.6 | 72 | SW | B 0330 K 0515 | | | | | | | | | | |
| | 0700 | -10 | 980 | SSW | 26.4 | 41 | | | .02 | | | | | | | | | |
| 25 | 1000 | -9 | 996 | S | 22.4 | 49 | SW | B 0838 | | | | | .25 | 18.1 | B | 430 | RaR | |
| | 1300 | -7 | 962 | SSW | 25.5 | 72 | | | .04 | | | .15 | .29 | 13.9 | C | 240 | SMI | |
| | 1600 | -7 | 958 | SSW | 17.0 | 72 | | | | | | .12 | .22 | 14.3 | A | 130 | RMI | |
| | 1900 | -8 | 961 | SSW | 10.7 | 72 | | | .02 | | | T | .30 | 12.5 | D | 253 | KR | |
| | 2200 | -6 | 969 | W | 5.4 | 72 | | | | | | .08 | .33 | 16.6 | A | 260 | SMI | |
| | 0100 | -7 | 950 | NW | 5.4 | 72 | | | .02 | | | .36 | .22 | 14.6 | A | 185 | KR | |
| | 0400 | -9 | 944 | NW | 7.2 | 72 | | | | | | .09 | .42 | 14.7 | D | 360 | KR | |
| | 0700 | -11 | 940 | NW | 14.7 | 49 | | | .03 | | | | .54 | 17.9 | A | 520 | RaR | |
| 26 | 1000 | -9 | 969 | NNW | 13.1 | 49 | | E 0930 | | | | | .29 | 6.2 | C | 265 | KR | |
| | 1300 | -11 | 957 | NNW | 13.9 | 49 | | | .01 | | | | .19 | 9.4 | C | 190 | KR | |
| | 1600 | -13 | 966 | NNW | 17.6 | 49 | | | | | | | .27 | 5.8 | E | 285 | KR | |
| | 1900 | -13 | 972 | NNW | 18.2 | 49 | | | | | | | .11 | 7.4 | A | 185 | KR | |
| | 2200 | -14 | 985 | N | 9.6 | 00 | | | | | | | | | | | | |
| | 0100 | -13 | 985 | NE | 8.0 | 00 | | | | | | | | | | | | |
| | 0400 | -12 | 999 | NE | 15.6 | 02 | | | | | | | | | | | | |
| | 0700 | -10 | 014 | NE | 9.9 | 02 | | | | | | | | | | | | |
| 27 | 1000 | -7 | 015 | N | 6.3 | 02 | | | | | | | | | | | | |
| | 1300 | -6 | 018 | NNW | 4.5 | 02 | | | | | | | | | | | | |
| | 1600 | -4 | 007 | NNW | 6.3 | 02 | | | | | | | | | | | | |
| | 1900 | -6 | 002 | NW | 3.6 | 02 | | | | | | | | | | | | |
| | 2200 | -7 | 998 | WSW | 4.7 | 00 | | | | | | | | | | | | |
| | 0100 | -7 | 966 | WSW | 6.3 | 00 | | | | | | | | | | | | |
| | 0400 | -8 | 942 | WSW | 6.0 | 02 | | | | | | | | | | | | |
| | 0700 | -7 | 933 | SW | 5.4 | 03 | | | | | | | | | | | | |
| 28 | 1000 | -7 | 909 | SSE | 10.7 | 03 | | | | | | | | | | | | |
| | 1300 | -8 | 893 | SSE | 13.0 | 08 | | | | | | | | | | | | |
| | 1600 | -10 | 854 | ESE | 13.9 | 03 | | | | | | | | | | | | |
| | 1900 | -14 | 844 | E | 13.7 | 03 | SW | B 1945 | | | | .02 | | | | | | |
| | 2200 | -11 | 814 | E | 22.6 | 78 | | | | | | .03 | .10 | 18.2 | A | 95 | EI | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: FEB 26-27, 1949

Prep: R.E.O

Check: R.B.S.

| Time run began | Length of exposure(s) t | Computed KØ | Diameter for K = 1cm $D_K$ | Rate of growth (a/t standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density ice on smallest cylinder $P_1$ | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water isentropic, from observed cloud base $X_1$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OVERCAST | | | | | | | | |
| 0230 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | POWDER RIME ON No.1 CYLINDER. FOG VERY THIN |
| 0648 | 2700 | | ICING TOO LIGHT FOR MEASUREMENT | | | | | | | | |
| 0919 | 1800 | 901 | 2.2 | 1.7 | 1.0 | .70 | 73 | | | | |
| 1103 | 1800 | 196 | 1.4 | 0.8 | 0.6 | .72 | 73 | | | | SPECIAL OBSERVATION |
| 1245 | 1800 | 436 | 3.0 | 2.5 | 1.5 | .26 | 82 | | | | |
| 1537 | 1800 | 225 | 2.3 | 2.0 | 0.7 | .29 | 67 | | | | |
| 1915 | 2700 | 77 | 1.2 | 1.2 | 0.8 | .60 | 73 | | | | |
| 2049 | 2700 | 35 | 1.1 | 3.6 | 0.3 | .71 | 82 | | | | |
| 2245 | 2700 | 22 | 0.7 | 0.3 | 0.1 | .44 | 71 | | | | |
| 2405 | 2700 | 42 | 1.0 | 4.0 | 3.6 | .58 | 82 | | | | |
| 0626 | 1260 | 268 | 3.0 | 6.6 | 1.6 | .68 | 91 | | | | No.1 CYLINDER LOST DURING RUN. DENSITY COMPUTED FROM No.2 CYLINDER. |
| 1614 | 1800 | 21 | 0.3 | 0.5 | 1.0 | .38 | 71 | | | | SUN VISIBLE AT END OF RUN. |
| 1240 | 3000 | 80 | 0.9 | 0.8 | 0.3 | .43 | 82 | | | | |
| 1518 | 2700 | 36 | 0.3 | 0.6 | 0.2 | .34 | 67 | | | | |
| 1848 | 2700 | 44 | 0.5 | 0.1 | 0.7 | .18 | 71 | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | PARTLY CLOUDY | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | CLEAR | | | | | | | | |
| | | | MOSTLY CLOUDY | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| | | | OVERCAST | | | | | | | | |
| 2130 | 1800 | 525 | 2.0 | 0.8 | 0.6 | .52 | 73 | | | | DENSITY COMPUTED FROM No.2 CYLINDER |

Mount Washington Observatory — Cloud Data Form No. 3 — Rev. 11/48

# MONTHLY CLOUD DATA SUMMARY

Station: Mt. Washington, N. H. — Date: FEBRUARY, 1949

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Possible Observations | 224 | 100 | Total Cloud Data Observations | 83 | 37 |
| Observations with fog | 124 | 55 | Longest period with con cloud data obs. (in days) | 1-1/2 | .5 |
| Obs.: Fog with melting | 2 | 1 | Longest period without cloud data obs. (in days) | 2-7/8 | 10 |

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Drop Size Distrib.: A | 51 | 61 | Drop Size Distrib.: F | - | - |
| Drop Size Distrib.: B | 12 | 14 | Drop Size Distrib.: G | - | - |
| Drop Size Distrib.: C | 8 | 11 | Drop Size Distrib.: H | - | - |
| Drop Size Distrib.: D | 7 | 8 | Drop Size Distrib.: J | - | - |
| Drop Size Distrib.: E | 4 | 5 | | | |

| Element | No. of Obs. | Mean | Max. | Min. | Element | No. of Obs. | Mean | Max. | Min. |
|---|---|---|---|---|---|---|---|---|---|
| Ambient Air Temperature (°C.) | 83 | -11.8 | -1 | -26 | Computed value of K$\phi$ | 83 | 2.15 | 8.18 | .21 |
| Ambient Air Pressure (mb) | 83 | 785.5 | 808.1 | 781.4 | Rate of Accum. on 3" cyl. at 200 mph (g/cm$^2$/hr.) | 83 | 2.1 | 9.8 | 0.0 |
| Air Speed (m/s) | 83 | 22.9 | 41.1 | 5.4 | Rate of accumulation on 1 cm. cylinder | 83 | 1.4 | 5.7 | 0.0 |
| Liquid water content (g/m$^3$) | 83 | 0.36 | 1.10 | 0.05 | Density of ice on smallest cyl. (g/cm$^3$) | 83 | 0.60 | 0.94 | 0.13 |
| Effective drop diameter (microns) | 83 | 10.1 | 21.2 | 3.3 | Snow crystal size (mm) | 62 | 1.5 | 5.5 | 0.3 |
| Station height above, cloud base (m) | 83 | 344 | 825 | 35 | Snow water content (g/m$^3$) | 34 | 0.22 | 0.53 | 0.02 |
| Length of exposure (seconds) | 83 | 1639 | 3630 | 600 | | | | | |

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Trace of Icing (Rime) Less than 1 g/cm$^2$/hr | 34 | 44 | Trace of clear ice Less than 1 g/cm$^2$/hr | 3 | 4 |
| Light Icing (Rime) From 1 to 6 g/cm$^2$/hr | 16 | 20 | Light clear ice From 1 to 6 g/cm$^2$/hr | 17 | 22 |
| Moderate Icing (Rime) From 6 to 12 g/cm$^2$/hr | 3 | 4 | Moderate clear ice From 6 to 12 g/cm$^2$/hr | 5 | 6 |
| Heavy Icing (Rime) Greater than 12 g/cm$^2$/hr | 0 | 0 | Heavy clear ice Greater than 12 g/cm$^2$/hr | 0 | 0 |

Remarks

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 1-4, 1949

Prep: R.A.H.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Type and Intsty S | Precipitation: Time began ended | Melted water (Inches) | Snow xtal type $P_{cd}$ | Snow xtal size $L_s$ | Snow content of Air (g/m3) | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distribn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -13 | 779 | E | 27.7 | PS | S | CONT. ENDED | | | | | | | | | | ITLFM |
| | 0400 | -13 | 760 | ENE | 29.5 | 02 | | | | | | | | | | | | |
| | 0700 | -13 | 787 | ENE | 23.2 | 49 | | BRSHW | .13 | | | | .12 | 10.9 | A | 210 | RIR | |
| 1 | 1000 | -13 | 798 | ENE | 17.4 | 79 | | | | -7 P | | 0.52 | .11 | 8.2 | C | 120 | SOR | |
| | 1300 | -13 | 837 | ENE | 7.2 | 79 | | | .12 | | | | .10 | 9.7 | C | 105 | SOR | |
| | 1600 | -14 | 838 | NW | 14.7 | 78 | | | | | | 0.29 | .32 | 9.0 | D | 450 | KR | |
| | 1900 | -14 | 850 | NNW | 19.2 | 78 | | | .07 | 1/2 2 P | 1/2 1/2 1/2 | 0.06 | .24 | 9.7 | A | 270 | KR | |
| | 2200 | -17 | 860 | NNW | 17.9 | 78 | | | | 1/2 2 P | 1/2 1/2 1/2 | 0.07 | .20 | 8.8 | A | 250 | KR | |
| | 0100 | -17 | 870 | NW | 18.8 | 78 | | SNOW | .02 | 1/2 2 P | 1/2 1/2 1/2 | 0.05 | .34 | 8.4 | D | 455 | KR | |
| | 0400 | -17 | 868 | NW | 22.4 | 49 | | | | | | | .22 | 12.0 | A | 395 | KR | |
| | 0700 | -18 | 874 | NNW | 21.0 | 48 | | | .01 | | | | | | | | | |
| 2 | 1000 | -16 | 892 | NNW | 12.1 | 44 | | | | | | | | | | | | |
| | 1300 | -14 | 899 | NW | 15.6 | 41 | | | | | | | | | | | | |
| | 1600 | -16 | 880 | NW | 21.4 | 02 | | | | | | | | | | | | |
| | 1900 | -18 | 889 | NW | 19.6 | 02 | | | | | | | | | | | | |
| | 2200 | -18 | 909 | NW | 17.4 | 03 | | | | | | | | | | | | |
| | 0100 | -17 | 902 | NW | 15.6 | 01 | | | | | | | | | | | | |
| | 0400 | -18 | 903 | WNW | 17.4 | 01 | | | | | | | | | | | | |
| | 0700 | -17 | 912 | NNW | 19.3 | 02 | | | | | | | | | | | | |
| 3 | 1000 | -16 | 923 | NNW | 17.4 | 02 | | | | | | | | | | | | |
| | 1300 | -16 | 928 | NW | 15.6 | 02 | | | | | | | | | | | | |
| | 1600 | -17 | 939 | WNW | 13.0 | 03 | | | | | | | | | | | | |
| | 1900 | -19 | 950 | NW | 12.1 | 41 | | | | | | | | | | | | |
| | 2200 | -17 | 968 | NE | 9.4 | 00 | | | | | | | | | | | | |
| | 0100 | -19 | 976 | N | 6.3 | 00 | | | | | | | | | | | | |
| | 0400 | -13 | 981 | NNW | 10.7 | 02 | | | | | | | | | | | | |
| | 0700 | -14 | 982 | NNW | 8.0 | 02 | | | | | | | | | | | | |
| 4 | 1000 | -10 | 999 | NNW | 4.5 | 01 | | | | | | | | | | | | |
| | 1300 | -11 | 998 | NW | 6.7 | 02 | | | | | | | | | | | | |
| | 1600 | -11 | 990 | W | 9.4 | 02 | | | | | | | | | | | | |
| | 1900 | -11 | 973 | W | 10.7 | 02 | | | | | | | | | | | | |
| | 2200 | -13 | 957 | W | 13.0 | 02 | S | SNOW | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: March 1-4, 1949

Prep: PEO

Check:

| | Time run began | Length of exposure(s) | Computed Kø | Diameter for K = 1 cm | Rate of growth (aoft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio, water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | t | Kø | $D_K$ | $R_K$ | $r_1$ | P1 | | $X_v$ | $X_w$ | $X_1$ | |
| | 0040 | 2700 | | Icing Too Light For Measurement | | | | | | | | Apparently Summit is Free of Fog Most of Time Heavy blowing snow |
| | | | | Overcast | | | | | | | | |
| | 0648 | 1800 | 217 | 1.6 | 0.9 | 0.7 | 78 | 73 | | | | |
| | 0928 | 3000 | 72 | 0.7 | 0.3 | 0.2 | 70 | 82 | | | | |
| 1 | 1230 | 3600 | 16 | 0.4 | 0.3 | 0.3 | 45 | 71 | | | | |
| | 1579 | 3000 | 67 | 0.7 | 0.9 | 0.3 | 49 | 61 | | | | Blue Sky visible after run Ac above |
| | 1810 | 1800 | 106 | 0.8 | 0.8 | 0.4 | 44 | 61 | | | | |
| | 2038 | 1980 | 112 | 1.0 | 0.5 | 0.4 | 40 | 82 | | | | |
| | 2351 | 1200 | 119 | 1.0 | 1.3 | 0.6 | 50 | 82 | | | | |
| | 0250 | 1200 | 302 | 2.1 | 1.4 | 0.9 | 60 | 73 | | | | |
| | | | | Fog depositing rime | | | | | SKy discernible | | | |
| 2 | | | | Fog in Patches | | | | | | | | |
| | | | | Fog in Patches | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | Overcast | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| 3 | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| 4 | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 5 - 6, 1949

Prep: R.A.N.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Precipitation: Time began / ended | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_d$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrbn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -11 | 946 | WNW | 15.6 | 77 | | CONT | 02 | | | | .45 | 5.8 | O | 420 | KR | |
| | 0400 | -7 | 981 | W | 19.2 | 73 | | | | 1 7 | 1-15 54 | 0.09 | .83 | 9.2 | A | 440 | KR | |
| | 0700 | -7 | 988 | W | 21.0 | 49 | | | 12 | | | | .80 | 10.0 | A | 405 | KR | |
| 5 | 1000 | -5 | 985 | W | 25.0 | 77 | | E1085 | | | | | .47 | 5.8 | D | 355 | KR | |
| | 1300 | -4 | 901 | W | 17.0 | 41 | | | 02 | | | | | | | | | |
| | 1600 | -4 | 991 | W | 16.5 | 02 | | | | | | | | | | | | |
| | 1900 | -4 | | W | 24.1 | 02 | | | | | | | | | | | | |
| | 2200 | -3 | 908 | WSW | 22.4 | 49 | S | B 2152 E 0020 | | | | | .58 | 5.1 | E | 370 | SOR | |
| | 0100 | -3 | 909 | WSW | 23.6 | 49 | S | B0220 | 02 | | | | .56 | 4.7 | D | 395 | SOR | |
| | 0400 | -4 | 910 | WSW | 23.7 | 49 | | | | | | | .38 | 6.6 | A | 455 | SOR | |
| | 0700 | -2 | 867 | WSW | 20.4 | 78 | | | 04 | 7 7 | 1-3 1/2-12 | .8 1.11 | .35 | 8.6 | D | 335 | RWI | |
| 6 | 1000 | -3 | 870 | WSW | 20.4 | 78 | | | | 1 7 | 1-06 .84 | 0.26 | .49 | 13.7 | B | 340 | RCI | |
| | 1300 | -6 | 858 | WNW | 19.2 | 78 | | E1340 | 10 | | | | .68 | 18.0 | A | 435 | RCI | |
| | 1600 | -11 | 864 | WNW | 10.7 | 49 | | | | | | | .73 | 13.5 | D | 658 | KR | |
| | 1900 | -13 | 876 | WNW | 14.7 | 81 | | | T | | | | | | | | | ITLFM |
| | 2200 | -13 | 894 | WNW | 14.7 | 00 | | | | | | | | | | | | |
| | 0100 | -13 | 910 | NNW | 9.4 | 00 | | | | | | | | | | | | |
| | 0400 | -16 | 906 | NW | 15.6 | 49 | | | | | | | | | | | | ITLFM |
| | 0700 | -17 | 868 | NW | 12.1 | 28 | | | | | | | | | | | | |
| | 1000 | -18 | 861 | NW | 13.8 | 02 | | | | | | | | | | | | |
| 7 | 1300 | -14 | 850 | NW | 13.8 | 01 | | | | | | | | | | | | |
| | 1600 | -13 | 865 | NW | 14.7 | 01 | | | | | | | | | | | | |
| | 1900 | -12 | 880 | NNW | 4.9 | 00 | | | | | | | | | | | | |
| | 2200 | -9 | 913 | NW | 2.2 | 00 | | | | | | | | | | | | |
| | 0100 | -6 | 922 | E | 1.8 | 00 | | | | | | | | | | | | |
| | 0400 | -3 | 926 | ENE | 3.7 | 00 | | | | | | | | | | | | |
| | 0700 | -2 | 934 | N | 1.8 | 02 | | | | | | | | | | | | |
| 8 | 1000 | 1 | 936 | NW | .89 | 02 | | | | | | | | | | | | |
| | 1300 | 0 | 933 | SW | 1.8 | 02 | | | | | | | | | | | | |
| | 1600 | 1 | 929 | W | 2.2 | 03 | | | | | | | | | | | | |
| | 1900 | -1 | 930 | NW | 5.4 | 03 | | | | | | | | | | | | |
| | 2200 | -2 | 918 | NE | 1.8 | 01 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob

Dates: March 5-6, 1949

Prep: PEO

Check:

| | Time run began | Length of exposure(s) | Computed $K_\emptyset$ | Diameter for K = 1 cm | Rate of growth (ac/ft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio, water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | t | $K_\emptyset$ | $D_K$ | $R_g$ | $r_1$ | $P_1$ | | $X_V$ | $X_W$ | $X_1$ | |
| | 0004 | 1200 | 32 | 0.3 | 0.7 | 0.3 | 48 | 71 | | | | |
| | 0400 | 1500 | 165 | 1.3 | 0.5 | 1.2 | 68 | 61 | | | | |
| | 0647 | 1500 | 167 | 1.4 | 2.8 | 1.6 | 80 | 71 | | | | Collection on No 1 cylinder damaged during measurement $P_1$ computed from No 2 cylinder |
| 5 | 0916 | 1800 | 66 | 0.4 | 0.6 | 0.1 | 72 | 71 | | | | |
| | | | | Fog in patches | | | | | | | | |
| | | | | overcast | | | | | | | | |
| | | | | overcast | | | | | | | | |
| | 2129 | 600 | 44 | 0.4 | 0.9 | 0.6 | 85 | 71 | | | | |
| | 0001 | 600 | 51 | 0.4 | 0.6 | 0.5 | 78 | 71 | | | | |
| | 0248 | 600 | 96 | 0.7 | 0.1 | 0.5 | 80 | 71 | | | | |
| | 0700 | 1500 | 115 | 0.9 | 1.4 | 0.9 | 917 | 82 | | | | |
| 6 | 0845 | 1800 | 326 | 2.6 | 4.1 | 2.1 | 95 | 100 | | | | |
| | 1144 | 1800 | 423 | 3.8 | 8.4 | 3.0 | 83 | 89 | | | | |
| | 1512 | 1500 | 77 | 1.3 | 6.1 | 1.0 | 73 | 73 | | | | |
| | | | | Came out of Fog during run | | | | | | | | No collection |
| | | | | overcast | | | | | | | | |
| | | | | overcast | | | | | | | | |
| | 0217 | 2700 | | Icing Too Light For Measurement | | | | | | | | |
| | | | | Fog During Last hour but not at time of observation | | | | | | | | |
| 7 | | | | Mostly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| | | | | clear | | | | | | | | |
| 8 | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | clear | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 9-12 1949

Prep: R.A.N

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Int. | Precipitation: began ended Time | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -2 | 024 | W | 2.7 | 00 | | | | | | | | | | | | |
| | 0400 | -1 | 013 | NW | 2.7 | 00 | | | | | | | | | | | | |
| | 0700 | -2 | 017 | NW | 1.3 | 00 | | | | | | | | | | | | |
| 9 | 1000 | -1 | 014 | NW | 5.4 | 03 | | | | | | | | | | | | |
| | 1300 | -2 | 011 | NW | 4.5 | 02 | | | | | | | | | | | | |
| | 1600 | -1 | 007 | NW | 8.6 | 03 | | | | | | | | | | | | |
| | 1900 | -3 | 013 | W | 1.3 | 00 | | | | | | | | | | | | |
| | 2200 | -2 | 002 | W | .89 | 03 | | | | | | | | | | | | |
| | 0100 | -3 | 997 | NW | 4.7 | 02 | | | | | | | | | | | | |
| | 0400 | -3 | 996 | N | 1.8 | 02 | | | | | | | | | | | | |
| | 0700 | -3 | 996 | N | 1.8 | 02 | | | | | | | | | | | | |
| 10 | 1000 | -3 | 989 | ENE | 4.5 | 02 | | | | | | | | | | | | |
| | 1300 | -4 | 979 | E | 8.0 | 02 | | | | | | | | | | | | |
| | 1600 | -4 | 970 | SW | 18.8 | 49 | | B 1805 | | | | | .57 | 19.9 | O | 410 | RCI | |
| | 1900 | -4 | 966 | SE | 18.8 | 49 | S | | .02 | | | | .24 | 17.8 | A | 170 | SCI | |
| | 2200 | -6 | 950 | SE | 16.5 | 77 | ZL | E 2340 B 2328 | | | | 1.14 | .30 | 12.2 | A | 225 | STI | |
| | 0100 | -4 | 946 | SE | 17.0 | 77 | | | .04 | | T | | .86 | 23.4 | T | 595 | SCI | |
| | 0400 | -4 | 942 | SE | 17.0 | 49 | | E 0645 | | | | | .50 | 26.7 | A | 375 | SCI | |
| | 0700 | -1 | 890 | SE | 10.7 | 66 | ZR | B 0710 E 0910 | .07 | | | | | | | | | ITLFM |
| 11 | 1000 | -2 | 881 | SE | 10.7 | 66 | ZL | B 1030 | | | | | .31 | 19.4 | E | 200 | SMI | MELTING ON MS+MB |
| | 1300 | -1 | 856 | SW | 4.5 | 45 | L | B 1030 E 1145 B 1255 E 1415 | .13 | | | | | | | | | |
| | 1600 | -1 | 830 | S | 4.5 | 79 | R | B 1510 | | | | | | | | | | THE MELT RUNOFF |
| | 1900 | -3 | 845 | S | 4.7 | 73 | S SP | E 1550 B 1700 E 1755 B 1830 | .10 | | | | | | | | | |
| | 2200 | -11 | 797 | WNW | 12.1 | 77 | S | E 1830 | | | | | | | | | | ETLFM |
| | 0100 | -14 | 775 | NW | 18.3 | 77 | S | CONT. | .12 | 7 | 1mm | 0.60 | .37 | 8.5 | A | 395 | SOR | |
| | 0400 | -15 | 764 | NW | 25.5 | 49 | | | | | | | .22 | 9.2 | C | 280 | EI | |
| | 0700 | -16 | 749 | NW | 29.5 | 78 | | | .14 | 1 2 3 | 1mm 1mm 1mm | 0.09 | .23 | 10.5 | A | 385 | KR | |
| 12 | 1000 | -16 | 731 | NW | 31.3 | 78 | | | | 1 2 3 | 1mm 1mm 1mm | 0.29 | .36 | 10.1 | A | 410 | KR | |
| | 1300 | -16 | 734 | NW | 34.2 | 78 | | | .06 | | T | | .35 | 9.1 | A | 405 | KR | |
| | 1600 | -17 | 746 | NW | 36.8 | 78 | | | | | T | | .21 | 9.0 | A | 260 | KR | |
| | 1900 | -19 | 731 | NW | 38.9 | 49 | | E 1830 | .13 | | | | .16 | 9.2 | E | 340 | EI | |
| | 2200 | -22 | 695 | WNW | 38.3 | 49 | | | | | | | | | | | | MECHANICAL FAILURE, CYLINDERS STOPPED ROTATING |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: March 9-12, 1947

Prep: PEO

Check:

| Time run began | Length of exposure(s) | Computed KØ | Diameter for K = 1cm | Rate of growth (acft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/Kg | Mixing ratio (water) g/Kg | Mixing ratio, water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | t | KØ | $D_K$ | $R_g$ | $r_1$ | P1 | | $X_v$ | $X_w$ | $X_s$ | |
| | | | clear | | | | | | | | |
| | | | clear | | | | | | | | |
| | | | clear | | | | | | | | |
| 9 | | | Partly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | overcast | | | | | | | | |
| | | | overcast | | | | | | | | |
| 10 | | | overcast | | | | | | | | |
| | | | overcast | | | | | | | | |
| 1536 | 1500 | 216 | 2.8 | 7.9 | 1.5 | 88 | 73 | | | | |
| 1810 | 3000 | 172 | 2.5 | 2.9 | 0.7 | 86 | 61 | | | | |
| 2137 | 600 | 126 | 1.4 | 2.0 | 0.7 | 92 | 47 | | | | |
| 0010 | 900 | 504 | 5.2 | 13.3 | 3.1 | 83 | 67 | | | | |
| 0248 | 600 | 427 | 4.5 | 9.7 | 2.3 | 917 | 61 | | | | |
| 0645 | 1800 | | Too Much run OFF | | | | | | | | very irregular activation Began to melt rapidly upon entrance into Tunnel |
| 0900 | 1800 | 161 | 2.7 | 4.3 | 6.2 | 917 | 61 | | | | ice melted on cylinders Nos 5+6 |
| 1225 | 30 | | Data unreliable | | | | | | | | Fog run |
| 1330 | 1800 | | To Much run OFF | | | | | | | | Fog very thin<br>Freezing rain with occasional snow |
| | | | continuous snow | | | | | | | | |
| 2102 | 2820 | | losing Too light for Measurement | | | | | | | | |
| 0010 | 900 | 91 | 0.8 | 0.9 | 0.6 | 91 | 47 | | | | |
| 0205 | 600 | 312 | 1.4 | 0.9 | 0.7 | 92 | 71 | | | | |
| 0600 | 1800 | 372 | 2.0 | 1.1 | 0.5 | 79 | 73 | | | | |
| 0840 | 1200 | 455 | 2.4 | 1.6 | 2.0 | 917 | 73 | | | | ice lost on No 1 cylinder<br>P1 computed From No 2 cylinder |
| 12 1155 | 1200 | 338 | 1.4 | 1.3 | 0.6 | 96 | 72 | | | | |
| 1410 | 1200 | 237 | 1.4 | 0.6 | 0.6 | 81 | 61 | | | | |
| 1815 | 600 | 388 | 1.8 | 0.5 | 0.9 | 71 | 71 | | | | |
| 2112 | | | Mechanical Failure | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 13-16 1949

Prep: R.A.M

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intens. | Precipitation: Time began ended | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distribn $a_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -23 | 751 | NNW | 19.6 | 49 | | | | | | | .12 | 7.1 | A | 245 | PR | MOON VISIBLE THROUGHOUT RUN |
| | 0400 | -23 | 787 | NW | 24.1 | 49 | | | | | | | .15 | 7.2 | A | 275 | E1 | |
| | 0700 | -24 | 751 | NW | 26.9 | 49 | | | | | | | .24 | 12.5 | A | 455 | KR | |
| 13 | 1000 | -22 | 757 | NW | 26.8 | 47 | | | | | | | .18 | 9.2 | A | 260 | KR | |
| | 1300 | -20 | 770 | NW | 25.9 | 49 | | | | | | | .24 | 11.8 | A | 355 | KR | |
| | 1600 | -20 | 788 | WNW | 33.5 | 49 | | | | | | | .26 | 9.3 | A | 365 | KR | |
| | 1900 | -19 | 808 | W | 25.3 | 49 | | | | | | | .40 | 7.8 | A | 520 | E1 | |
| | 2200 | -17 | 814 | WNW | 42.0 | 49 | | | | | | | .25 | 11.2 | A | 370 | E1 | |
| | 0100 | -17 | 806 | NW | 42.5 | 49 | | | | | | | .52 | 6.2 | A | 690 | E1 | M1 CYLINDER BLOWN AWAY |
| | 0400 | -18 | 869 | WNW | 38.9 | 49 | | | | | | | .36 | 10.6 | A | 440 | E1 | |
| | 0700 | -17 | 850 | NW | 37.2 | 49 | | | | | | | .35 | 10.9 | A | 425 | KR | SUN VISIBLE |
| 14 | 1000 | -14 | 896 | NW | 30.8 | 28 | | | | | | | | | | | | |
| | 1300 | -12 | 910 | NW | 14.7 | 03 | | | | | | | | | | | | |
| | 1600 | -12 | 909 | W | 19.6 | 03 | | | | | | | | | | | | |
| | 1900 | -13 | 914 | NW | 18.3 | 03 | | | | | | | | | | | | |
| | 2200 | -12 | 925 | WNW | 31.0 | 49 | | | | | | | .15 | 4.5 | A | 160 | PR | |
| | 0100 | -12 | 983 | NW | 25.5 | 49 | S | 0015 | | | | | | | | | | |
| | 0400 | -12 | 990 | W | 17.0 | 79 | | | | | | | | | | | | |
| | 0700 | -14 | 895 | WNW | 24.1 | 79 | | | .05 | 7 | 2 1/2 | .029 | .44 | 9.0 | A | 465 | KR | |
| 15 | 1000 | -16 | 888 | WNW | 28.2 | 49 | | E0730 | | | | | .22 | 7.7 | A | 280 | KR | |
| | 1300 | -16 | 869 | WNW | 19.3 | 41 | | | .01 | | | | | | | | | |
| | 1600 | -17 | 876 | NNW | 19.6 | 49 | | | | | | | | | | | | ETLFM |
| | 1900 | -19 | 872 | NNW | 16.5 | 49 | | | | | | | | | | | | ITLFM |
| | 2200 | -21 | 878 | NW | 13.1 | 49 | | | | | | | | | | | | |
| | 0100 | -23 | 861 | NW | 18.3 | 48 | | | | | | | | | | | | ITLFM |
| | 0400 | -24 | 847 | NW | 17.0 | 49 | | | | | | | | | | | | ITLFM |
| | 0700 | -25 | 829 | NW | 24.1 | 41 | | | | | | | | | | | | |
| 16 | 1000 | -24 | 832 | NW | 23.2 | 41 | | | | | | | | | | | | |
| | 1300 | -22 | 835 | NW | 24.1 | 41 | | | | | | | | | | | | |
| | 1600 | -21 | 840 | WNW | 25.5 | 00 | | | | | | | | | | | | |
| | 1900 | -21 | 830 | WNW | 29.8 | 02 | | | | | | | | | | | | |
| | 2200 | -20 | 855 | WNW | 31.0 | 49 | | | | | | | | | | | | ITLFM |

Mount Washington Obaervatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: March 13-16, 1949

Prep: PEO

Check:

| | Time run began | Length of exposure(s) | Computed KØ | Diameter for K = 1cm | Rate of growth (acft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio, water isentropic, from observed cloud line | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | t | KØ | $D_K$ | $R_g$ | $r_1$ | $P_1$ | | $X_v$ | $X_w$ | $X_L$ | |
| | 0010 | 900 | 79 | 0.6 | 0.1 | 0.2 | 87 | 47 | | | | Moon visible through run |
| | 0205 | 600 | 113 | 0.7 | 0.1 | 0.3 | 67 | 47 | | | | |
| | 0605 | 900 | 480 | 0.6 | 1.7 | 1.3 | 61 | 82 | | | | |
| 13 | 0700 | 900 | 309 | 1.3 | 0.5 | 0.6 | 72 | 82 | | | | |
| | 1127 | 900 | 382 | 2.3 | 1.3 | 1.1 | 76 | 61 | | | | |
| | 1546 | 900 | 329 | 1.4 | 0.5 | 1.2 | 75 | 61 | | | | |
| | 1840 | 600 | 300 | 1.3 | 0.6 | 1.8 | 84 | 61 | | | | |
| | 2126 | 600 | 810 | 2.1 | 1.4 | 2.1 | 90 | 61 | | | | |
| | 0007 | 600 | 291 | 1.1 | 0 | 2.3 | 75 | 47 | | | | No cylinder Blew away Wind 95 $P_1$ computed from No 2 cylinder |
| | 0214 | 600 | 499 | 2.3 | 1.8 | 2.3 | 917 | 61 | | | | |
| | 0749 | 600 | 388 | 2.1 | 1.7 | 1.7 | 74 | 61 | | | | Sun dimly visible |
| 14 | | | | clear | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | 2105 | 900 | 38 | 0.3 | 0 | 0 | 29 | 71 | | | | |
| | | | | Snow + Fog | | | | | | | | |
| | | | | continuous snow | | | | | | | | |
| | 0449 | 900 | 190 | 1.3 | 1.3 | 1.3 | 71 | 61 | | | | |
| 15 | 0912 | 900 | 137 | 1.0 | 0.3 | 0.5 | 59 | 71 | | | | |
| | | | | Fog in Patches | | | | | | | | |
| | 1502 | 2820 | | Icing Too Light For Measurement | | | | | | | | |
| | 1832 | 2600 | | Too much rain oFF | | | | | | | | Data unplottable. Exposure time too long, but some other reason data unplottable |
| | 2105 | 2700 | | Icing Too Light For Measurement | | | | | | | | Moon visible throughout run |
| | 0002 | 2700 | | Icing Too Light For Measurement | | | | | | | | Sky Discernible |
| | 0310 | 2700 | | Icing Too Light For Measurement | | | | | | | | Powder rime on No 1 cylinder |
| | | | | Fog in patches | | | | | | | | |
| 16 | | | | Fog in patches | | | | | | | | |
| | | | | Fog in patches | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | 2112 | 2700 | | Icing Too Light For Measurement | | | | | | | | Powder rime on No 1 cylinder |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 17-20 1949

Prep: R.A.W

Check:

| Date | Time | Temp. ($^{o}$C) $T_o$ | Press. (mb) Temp. ($^{o}$C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Precipitation: Time began ended | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m$^3$) $L_s$ | Liquid water content (g/m$^3$) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distribn $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_r$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -19 | 869 | WNW | 21.0 | 49 | | | | | | | .16 | 6.0 | A | 240 | FR | |
| | 0400 | -19 | 861 | WNW | 18.3 | 78 | S | A 0310 | | 8 | | 0.09 | .24 | 4.9 | A | 310 | FR | |
| | 0700 | -18 | 847 | WNW | 17.0 | 78 | | | .04 | | | | | | | | | ITLFM |
| 17 | 1000 | -18 | 863 | WNW | 24.1 | 77 | | | | 2 7 | 5 1 | 0.36 | .29 | 7.3 | A | 375 | KR | |
| | 1300 | -17 | 875 | W | 22.4 | 77 | | E 1244 | .09 | 2 7 | 1 | 0.44 | .36 | 5.0 | C | 430 | KR | |
| | 1600 | -17 | 860 | WNW | 22.4 | 02 | | | | | | | | | | | | |
| | 1900 | -18 | 879 | WNW | 17.0 | 49 | | | | | | | | | | | | ITLFM |
| | 2200 | -18 | 892 | WNW | 17.0 | 78 | | | | | | | | | | | | ITLFM |
| | 0100 | -18 | 880 | WNW | 21.0 | 49 | | | .01 | | | | | | | | | ITLFM |
| | 0400 | -18 | 882 | WNW | 13.6 | 41 | | | | | | | | | | | | |
| | 0700 | -17 | 887 | WNW | 17.0 | 41 | | | | | | | | | | | | |
| 18 | 1000 | -14 | 906 | WNW | 11.2 | 02 | | | | | | | | | | | | |
| | 1300 | -13 | 893 | W | 8.0 | 02 | S | A 1335 | | | | | | | | | | |
| | 1600 | -15 | 862 | WNW | 10.7 | 78 | | | | | | | | | | | | |
| | 1900 | -17 | 865 | NW | 13.0 | 78 | | | .05 | | | | | | | | | |
| | 2200 | -21 | 872 | NW | 13.8 | 78 | | E 2215 | | 8 | | 0.09 | .37 | 7.3 | D | 545 | FR | ITLFM |
| | 0100 | -22 | 858 | NW | 13.0 | 48 | | | | | | | | | | | | ITLFM |
| | 0400 | -25 | 855 | NW | 17.0 | 41 | | | | | | | | | | | | |
| | 0700 | -26 | 858 | NNW | 22.4 | 41 | | | | | | | | | | | | |
| 19 | 1000 | -26 | 857 | NW | 26.4 | 01 | | | | | | | | | | | | |
| | 1300 | -23 | 865 | NW | 28.1 | 03 | | | | | | | | | | | | |
| | 1600 | -24 | 894 | WNW | 25.5 | 02 | | | | | | | | | | | | |
| | 1900 | -26 | 907 | NW | 26.4 | 49 | | | | | | | | | | | | ITLFM |
| | 2200 | -27 | 946 | NW | 22.4 | 49 | | | | | | | | | | | | ITLFM |
| | 0100 | -26 | 952 | NW | 23.7 | 48 | | | | | | | | | | | | |
| | 0400 | -26 | 990 | NW | 15.6 | 00 | | | | | | | | | | | | |
| | 0700 | -26 | 012 | NW | 15.6 | 00 | | | | | | | | | | | | |
| 20 | 1000 | -22 | 033 | NW | 13.8 | 00 | | | | | | | | | | | | |
| | 1300 | -20 | 040 | NW | 9.8 | 03 | | | | | | | | | | | | |
| | 1600 | -19 | 040 | WNW | 14.7 | 02 | | | | | | | | | | | | |
| | 1900 | -19 | 046 | WNW | 16.5 | 02 | | | | | | | | | | | | |
| | 2200 | -18 | 056 | WNW | 13.8 | 02 | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: March 17-20, 1949

Prep: PEO

Check:

| Time run began | Length of exposure(s) t | Computed KØ | Diameter for K = 1cm $D_K$ | Rate of growth (act standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder Pi | Reliability, % | Mixing ratio (vapor) $X_v$ g/Kg | Mixing ratio (water) $X_w$ g/Kg | Mixing ratio, water isentropic, from observed cloud base $X_i$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0007 | 2700 | 78 | 0.6 | 0 | 0.2 | 25 | 71 | | | | |
| 0302 | 3700 | 35 | 0.3 | 0 | 0.7 | 27 | 71 | | | | |
| 0704 | 2880 | | Icing Too Light For Measurement | | | | | | | | Mostly dbl snow |
| 17 0908 | 1200 | 117 | 0.8 | 0.3 | 0.6 | 52 | 71 | | | | |
| 1209 | 900 | 48 | 0.3 | 0.3 | 0.3 | 54 | 71 | | | | |
| | | | overcast | | | | | | | | |
| 1806 | 2700 | | Icing Too Light For Measurement | | | | | | | | Fog in patches Light rime on No 1 |
| 2107 | 3000 | | Icing Too Light For Measurement | | | | | | | | Fog in Patches Powder rime on No 1 cylinder |
| 0010 | 2700 | | Icing Too Light For Measurement | | | | | | | | Moon visible through 20 minutes of Fog |
| | | | Fog in Patches | | | | | | | | |
| | | | Fog in Patches | | | | | | | | |
| 18 | | | overcast | | | | | | | | |
| | | | overcast | | | | | | | | |
| | | | overcast | | | | | | | | |
| | | | Snow + Fog | | | | | | | | |
| 2112 | 1800 | 113 | 0.5 | 1.1 | 0.3 | 21 | 71 | | | | |
| 0002 | 3000 | | Icing Too Light For Measurement | | | | | | | | Moon visible throughout rim Stars occasionally visible |
| | | | Fog in patches | | | | | | | | |
| | | | Fog in patches | | | | | | | | |
| 19 | | | overcast | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| 1807 | 3000 | | Icing Too Light For Measurement | | | | | | | | |
| 2102 | 2700 | | Icing Too Light For Measurement | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | clear | | | | | | | | |
| | | | clear | | | | | | | | |
| 20 | | | clear | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 21-24, 1949

Prep: R.A.H.

Check:

| Date | Time | $T_o$ (°C) | $P_o$ (mb) Temp. (°C) | DD | Vm | WW | Type and Intsty | Precipitation: began | Precipitation: ended | Precipitation: Melted water (Inches) | $P_{cd}$ | $L_s$ | $L_w$ | $d_d$ | $s_d$ | $h_c$ | $i_f$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Snow xtal type | Snow xtal size | Liquid water content (g/m3) | Effective drop diameter (microns) | Drop size distrbtn | Station height (m) above cloud base | Type of ice by eye | |
| | | | | | | | | | | | Snow content of Air (g/m3) | | | | | | | |
| | 0100 | -17 | 056 | WNW | 16.5 | 02 | | | | | | | | | | | | |
| | 0400 | -16 | 050 | W | 18.3 | 03 | | | | | | | | | | | | |
| | 0700 | -11 | 086 | W | 26.4 | 08 | | | | | | | | | | | | |
| 21 | 1000 | -9 | 053 | W | 24.1 | 77 | | | | | 7 | 1-2 | 0.47 | .98 | 7.9 | A | 325 | IKR |
| | 1300 | -6 | 018 | W | 33.2 | 77 | | | | | | | | | | | | 1 TLFM |
| | 1600 | -4 | 016 | W | 27.3 | 10 | S | @1730 | | | | | | | | | | |
| | 1900 | -4 | 032 | W | 27.7 | 78 | | E1945 | | .01 | | | | | | | | |
| | 2200 | -3 | 045 | W | 25.0 | 10 | | | | | | | | | | | | |
| | 0100 | -3 | 049 | W | 25.0 | 10 | | | | .01 | | | | | | | | |
| | 0400 | -2 | 063 | W | 22.4 | 10 | | | | | | | | | | | | |
| | 0700 | -2 | 089 | WNW | 14.7 | 02 | | | | | | | | | | | | |
| 22 | 1000 | 0 | 087 | W | 13.0 | 47 | | | | | | | | | | | | TOO MUCH RUNOFF |
| | 1300 | 0 | 070 | W | 19.6 | 45 | | | | | | | | | | | | TOO MUCH RUNOFF |
| | 1600 | -1 | 069 | SW | 24.1 | 49 | | | | | | | .42 | 11.2 | C | 370 | RCI | |
| | 1900 | -1 | 074 | SW | 25.9 | 49 | | | | | | | .49 | 9.9 | A | 335 | RCI | |
| | 2200 | -1 | 070 | SW | 23.7 | 49 | | | | | | | .42 | 7.7 | C | 220 | RCI | #5 #6 MELTED BEFORE MEASUREMENT, RCI on BOTH |
| | 0100 | 0 | 048 | SW | 28.1 | 66 | | | | | | | .21 | 5.8 | J | 190 | RCI | #5 MELTED BEFORE MEASUREMENT |
| | 0400 | 0 | 012 | SSW | 25.5 | 61 | | | | | | | | | | | | |
| | 0700 | 1 | 006 | SSW | 24.1 | 61 | | | | | | | | | | | | |
| 23 | 1000 | 2 | 998 | SSW | 19.6 | 61 | | | | | | | | | | | | |
| | 1300 | 2 | 989 | SW | 17.0 | 52 | | | | | | | | | | | | |
| | 1600 | 3 | 978 | WNW | 24.1 | 61 | | | | | | | | | | | | |
| | 1900 | -1 | 007 | WNW | 28.7 | 49 | | | | | | | .66 | 4.8 | J | 415 | RCI | |
| | 2200 | -6 | 017 | WNW | 21.0 | 49 | | | | | | | .66 | 11.9 | A | 545 | SM1 | |
| | 0100 | -8 | 024 | WNW | 19.6 | 49 | | | | | | | .74 | 15.0 | B | 585 | SM1 | |
| | 0400 | -7 | 014 | NW | 23.2 | 60 | | | | | | | | | | | | |
| | 0700 | -4 | 053 | NW | 18.3 | 08 | | | | | | | | | | | | |
| 24 | 1000 | -2 | 082 | NW | 9.4 | 02 | | | | | | | | | | | | |
| | 1300 | -2 | 098 | W | 8.0 | 01 | | | | | | | | | | | | |
| | 1600 | 1 | 098 | WNW | 9.4 | 02 | | | | | | | | | | | | |
| | 1900 | 0 | 107 | NW | 9.4 | 02 | | | | | | | | | | | | |
| | 2200 | -1 | 116 | WNW | 8.0 | 02 | | | | | | | | | | | | |

Mount Washington Observatory — DAILY CLOUD DATA SUMMARY, Sheet 2 — Cloud Data Form 2b, Rev. 10/47

Station: Mt. Washington Ob.
Dates: MARCH 21-24, 1949
Prep: PEO
Check:

| | Time run began | Length of exposure (s) | Computed KØ | Diameter for K = 1 cm | Rate of growth (acft standard) | Rate of growth on 1 cm. cylinder | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg | Mixing ratio (water) g/kg | Mixing ratio, water isentropic, from observed cloud base | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | t | KØ | $D_K$ | $R_g$ | $r_1$ | Pi | | $X_v$ | $X_w$ | $X_i$ | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| | | | | overcast | | | | | | | | |
| 21 | 0902 | 900 | 157 | 1.0 | 0.6 | 0.9 | 63 | 71 | | | | |
| | 1213 | 2880 | | Icing Too Light For Measurement | | | | | | | | |
| | | | | Light Fog | | | | | | | | |
| | | | | snow Fog | | | | | | | | |
| | | | | Light Fog | | | | | | | | |
| | | | | Light Fog | | | | | | | | |
| | | | | Light Fog | | | | | | | | |
| | | | | Mostly cloudy | | | | | | | | |
| 22 | 0942 | | | Too much run off | | | | | | | | No cylinder measurable |
| | 1218 | | | Too much run off | | | | | | | | |
| | 1604 | 1680 | 257 | 1.9 | 2.6 | 1.6 | 79 | 73 | | | | |
| | 1808 | 900 | 230 | 1.6 | 1.9 | 1.8 | 69 | 61 | | | | |
| | 2208 | 900 | 129 | 0.9 | 1.1 | 0.9 | 58 | 61 | | | | ice melted on cylinders Nos 4+6 |
| | 0046 | 900 | 94 | 0.6 | 0.7 | 0.6 | 65 | 55 | | | | collection melted on Nos cylinder Much run off |
| | | | | continuous rain + Fog | | | | | | | | |
| | | | | continuous rain + Fog | | | | | | | | |
| 23 | | | | continuous rain + Fog | | | | | | | | |
| | | | | Intermitted Drizzle + Fog | | | | | | | | |
| | | | | continuous rain + Fog | | | | | | | | |
| | 1840 | 900 | 55 | 0.4 | 1.5 | 1.4 | 78 | 61 | | | | |
| | 2120 | 720 | 284 | 1.3 | 4.0 | 2.9 | 83 | 87 | | | | |
| | 0029 | 720 | 328 | 2.8 | 7.1 | 2.8 | 75 | 67 | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | clear | | | | | | | | |
| 24 | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |
| | | | | Partly cloudy | | | | | | | | |

**Mount Washington Observatory** — DAILY CLOUD DATA SUMMARY, Sheet 1 — Cloud Data Form 2a, Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 25-28 1949

Prep: R.A.M.

Check:

| Date | Time | Temp. ($T_o$) (°C) | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres.weath. WW | Precipitation: Type and Int'sty | Precipitation: began ended Time | Precipitation: Melted water (inches) | Precipitation: Snow xtal type $P_{cd}$ | Precipitation: Snow xtal size | Precipitation: Snow content of Air (g/m³) $L_s$ | Liquid water content (g/m³) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_f$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | 1 | 090 | WNW | 23.7 | 45 | | | | | | | | | | | | |
| | 0400 | -2 | 114 | WNW | 13.0 | 02 | | | | | | | | | | | | |
| | 0700 | -1 | 123 | WNW | 12.1 | 02 | | | | | | | | | | | | |
| 25 | 1000 | 1 | 128 | WNW | 8.0 | 05 | | | | | | | | | | | | |
| | 1300 | 2 | 113 | W | 12.1 | 05 | | | | | | | | | | | | |
| | 1600 | 2 | 086 | WSW | 18.8 | 45 | R | 1540-2245 | | | | | | | | | | |
| | 1900 | 1 | 077 | W | 19.2 | 98 | T | 1844-1910 | .12 | | | | | | | | | |
| | 2200 | 1 | 071 | W | 17.4 | 63 | | | | | | | | | | | | |
| | 0100 | 1 | 053 | W | 28.2 | 45 | | | .14 | | | | | | | | | |
| | 0400 | 2 | 046 | W | 24.1 | 41 | | | | | | | | | | | | |
| | 0700 | 2 | 053 | W | 24.1 | 41 | | | | | | | | | | | | |
| 26 | 1000 | 1 | 057 | W | 22.4 | 41 | | | | | | | | | | | | |
| | 1300 | 2 | 047 | W | 21.9 | 01 | | | | | | | | | | | | |
| | 1600 | 3 | 037 | WNW | 21.0 | 02 | | | | | | | | | | | | |
| | 1900 | 1 | 027 | WNW | 24.1 | 02 | | | | | | | | | | | | |
| | 2200 | 2 | 029 | WNW | 19.2 | 02 | | | | | | | | | | | | |
| | 0100 | 2 | 032 | WNW | 12.1 | 02 | R | 0320 | | | | | | | | | | |
| | 0400 | 3 | 002 | SW | 18.8 | 61 | | E0430 | | | | | | | | | | |
| | 0700 | 4 | 986 | W | 32.4 | 45 | | | .02 | | | | | | | | | |
| 27 | 1000 | 4 | 986 | W | 19.6 | 61 | R | 0730 | | | | | | | | | | |
| | 1300 | 5 | 968 | W | 21.0 | 61 | | | .25 | | | | | | | | | |
| | 1600 | 6 | 948 | W | 25.0 | 45 | | E1650 | | | | | | | | | | |
| | 1900 | 7 | 960 | W | 21.4 | 45 | | | .16 | | | | .46 | 6.9 | O | 220 | | FOG RUN |
| | 2200 | 7 | 950 | W | 24.1 | 45 | | | | | | | .23 | 13.2 | A | 150 | | FOG RUN |
| | 0100 | 2 | 938 | W | 29.5 | 68 | R | 0300 CONT. | 0.28 | | | | | | | | | |
| | 0400 | 2 | 887 | W | 35.5 | 45 | | | | | | | | | | | | |
| | 0700 | -1 | 910 | WNW | 24.1 | 49 | | | 0.12 | | | | .55 | 8.8 | A | 350 | RTI | |
| 28 | 1000 | -3 | 900 | WNW | 29.5 | 49 | | | | | | | .32 | 7.8 | A | 220 | SMI | |
| | 1300 | -4 | 910 | WNW | 27.3 | 49 | | | | | | | .45 | 10.5 | A | 315 | RMI | |
| | 1600 | -6 | 929 | WNW | 21.0 | 49 | | | | | | | .33 | 8.0 | C | 255 | SMI | |
| | 1900 | -7 | 930 | WNW | 20.5 | 49 | | | | | | | .56 | 9.8 | C | 450 | SOR | |
| | 2200 | -8 | 944 | NW | 28.1 | 49 | | | | | | | .47 | 8.4 | C | 390 | SOR | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: March 25-28, 1949

Prep: PEO.

Check:

| Time run began | Length of exposure(s) t | Computed KØ | Diameter for K = 1cm $D_K$ | Rate of growth (acft standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water identical to that observed cloud base $X_1$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Partly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | clear | | | | | | | | |
| 25 | | | Mostly cloudy | | | | | | | | |
| | | | overcast | | | | | | | | |
| | | | Too much run off | | | | | | | | Large water droplets blowing off Yankee Tower onto cylinder |
| | | | Thunderstorm at time of observation | | | | | | | | |
| | | | Rain + Fog | | | | | | | | |
| 0045 | | | Data unreliable | | | | | | | | |
| | | | Fog in Patches | | | | | | | | |
| | | | Fog in Patches | | | | | | | | |
| 26 | | | Fog in Patches | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | Most cloudy | | | | | | | | |
| | | | overcast | | | | | | | | |
| | | | rain + Fog | | | | | | | | |
| | | | rain + Fog | | | | | | | | |
| 27 | | | rain + Fog | | | | | | | | |
| | | | rain + Fog | | | | | | | | |
| 1550 | 10 | | Data unreliable | | | | | | | | |
| 1910 | 20 | 74 | 0.7 | | | | 75 | | | | |
| 2207 | 20 | 320 | 3.6 | | | | 75 | | | | |
| | | | rain + Fog | | | | | | | | |
| | | | rain + Fog | | | | | | | | |
| 0707 | 900 | 161 | 1.2 | 1.8 | 1.3 | 87 | 71 | | | | Temperature in Tower above Freezing making accurate measurment difficult |
| 0939 | 1260 | 176 | 1.2 | 0.7 | 1.0 | 85 | 61 | | | | |
| 28 1347 | 1200 | 902 | 1.9 | 2.1 | 2.1 | 88 | 83 | | | | |
| 1546 | 1200 | 111 | 0.9 | 1.1 | 0.6 | 79 | 82 | | | | |
| 1803 | 1500 | 153 | 1.3 | 2.7 | 1.4 | 78 | 73 | | | | |
| 2101 | 1200 | 218 | 1.3 | 1.6 | 1.6 | 82 | 73 | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 1

Cloud Data Form 2a
Rev. 10/47

Station: Mt. Washington Observatory, N. H.

Dates: MARCH 29-31, 1949

Prep: R.A.H.

Check:

| Date | Time | Temp. (°C) $T_o$ | Press. (mb) Temp. (°C) $P_o$ | Wind direct. DD | Wind speed (m/sec) Vm | Pres. weath. WW | Precipitation: Type and Intsty | Time began ended | Melted water (inches) | Snow xtal type $P_c$ | Snow xtal size $d_c$ | Snow content of Air (g/m3) $L_s$ | Liquid water content (g/m3) $L_w$ | Effective drop diameter (microns) $d_d$ | Drop size distrib $s_d$ | Station height (m) above cloud base $h_c$ | Type of ice by eye $i_c$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0100 | -9 | 941 | NW | 32.6 | 49 | | | | | | | .42 | 11.3 | A | 360 | SOR | |
| | 0400 | -11 | 941 | NW | 33.1 | 41 | | | | | | | .39 | 10.7 | C | 365 | SOR | |
| | 0700 | -13 | 956 | WNW | 25.0 | 49 | | | | | | | | | | | | LT.FM |
| 29 | 1000 | -12 | 982 | WNW | 25.5 | 02 | | | | | | | | | | | | |
| | 1300 | -8 | 992 | WNW | 22.8 | 03 | | | | | | | | | | | | |
| | 1600 | -7 | 004 | NW | 19.2 | 03 | | | | | | | | | | | | |
| | 1900 | -7 | 016 | WNW | 18.3 | 78 | S | 0.1705 | 0.05 | 1 2 | 1 2 | | .42 | 8.7 | A | 385 | KR | |
| | 2200 | -6 | 028 | WNW | 21.4 | 78 | | | | | | | .56 | 16.7 | A | 480 | SCI | |
| | 0100 | -7 | 996 | WNW | 17.0 | 78 | S | CONT. | 0.13 | 1 2 | 1 2 | 0.38 | .41 | 19.9 | A | 320 | SMI | |
| | 0400 | -8 | 998 | WNW | 16.5 | 78 | | | | 1 2 | 1 2 | 0.13 | .46 | 20.2 | D | 390 | SCI | |
| | 0700 | -9 | 993 | NW | 17.4 | 78 | | E0830 | 0.07 | 2 | 1 | 0.07 | .80 | 16.1 | B | 655 | SMI | |
| 30 | 1000 | -10 | 993 | NW | 19.2 | 49 | | | | | | | .54 | 12.0 | A | 495 | ROR | |
| | 1300 | -9 | 984 | NW | 22.4 | 49 | | | 0.02 | | | | .32 | 8.4 | B | 280 | SOR | |
| | 1600 | -10 | 961 | NW | 25.5 | 96 | | | | | | | | | | | | |
| | 1900 | -11 | 989 | NW | 18.9 | 49 | | | | | | | .10 | 7.2 | A | 95 | KR | |
| | 2200 | -12 | 996 | NW | 19.6 | 49 | | | | | | | .10 | 6.6 | A | 110 | KR | |
| | 0100 | -13 | 950 | NNW | 20.5 | 00 | | | | | | | | | | | | |
| | 0400 | -12 | 937 | N | 23.7 | 02 | | | | | | | | | | | | |
| | 0700 | -12 | 932 | N | 20.4 | 02 | | | | | | | | | | | | |
| 31 | 1000 | -10 | 934 | NW | 17.4 | 03 | | | | | | | | | | | | |
| | 1300 | -9 | 947 | NNW | 18.3 | 03 | | | | | | | | | | | | |
| | 1600 | -8 | 965 | NNW | 16.5 | 01 | | | | | | | | | | | | |
| | 1900 | -8 | 972 | NNE | 6.3 | 02 | | | | | | | | | | | | |
| | 2200 | -8 | 973 | NNE | 6.3 | 02 | | | | | | | | | | | | |
| | 0100 | | | | | | | | | | | | | | | | | |
| | 0400 | | | | | | | | | | | | | | | | | |
| | 0700 | | | | | | | | | | | | | | | | | |
| | 1000 | | | | | | | | | | | | | | | | | |
| | 1300 | | | | | | | | | | | | | | | | | |
| | 1600 | | | | | | | | | | | | | | | | | |
| | 1900 | | | | | | | | | | | | | | | | | |
| | 2200 | | | | | | | | | | | | | | | | | |

Mount Washington Observatory

DAILY CLOUD DATA SUMMARY, Sheet 2

Cloud Data Form 2b
Rev. 10/47

Station: Mt. Washington Ob.

Dates: March 29-31

Prep: PEO

Check:

| Time run began | Length of exposure(s) t | Computed KØ | Diameter for K = 1cm $D_K$ | Rate of growth (acft standard) $R_g$ | Rate of growth on 1 cm. cylinder $r_1$ | Density, ice on smallest cylinder P1 | Reliability, % | Mixing ratio (vapor) g/kg $X_v$ | Mixing ratio (water) g/kg $X_w$ | Mixing ratio, water isentropic, from observed cloud base $X_i$ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0016 | 1200 | 519 | 2.6 | 1.3 | 2.7 | 917 | 100 | | | | Wind very Gusty |
| 0216 | 1200 | 480 | 2.4 | 3.4 | 1.2 | 77 | 100 | | | | Wind very Gusty |
| 0645 | 2700 | | Icing Too Light For Measurment. | | | | | | | | |
| 29 | | | Mostly cloudy | | | | | | | | |
| | | | clear | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| 1758 | 1520 | 94 | 0.8 | 1.1 | 0.8 | 64 | 47 | | | | No snow catcher run, No mount |
| 2112 | 1200 | 458 | 3.6 | 6.1 | 2.6 | 85 | 100 | | | | |
| 0006 | 1200 | 408 | 4.0 | 5.9 | 1.6 | 917 | 93 | | | | |
| 0240 | 1320 | 475 | 4.8 | 6.4 | 1.7 | 53 | 83 | | | | |
| 0647 | 1200 | 276 | 2.7 | 8.5 | 2.7 | 88 | 83 | | | | |
| 30 0826 | 1200 | 214 | 1.8 | 3.5 | 1.6 | 69 | 73 | | | | |
| 1216 | 1300 | 137 | 1.1 | 0.9 | 0.7 | 69 | 61 | | | | |
| | | | Blowing snow | | | | | | | | |
| 1916 | 2700 | 67 | 0.6 | 0.9 | 1.1 | 22 | 71 | | | | stars visible at end of run Fog thin |
| 2126 | 2700 | 64 | 0.5 | 0.2 | 0.9 | 27 | 71 | | | | corona visible stars visible Fog thin |
| | | | Mostly cloudy | | | | | | | | |
| | | | clear | | | | | | | | |
| | | | clear | | | | | | | | |
| 31 | | | clear | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | Mostly cloudy | | | | | | | | |
| | | | Partly cloudy | | | | | | | | |
| | | | clear | | | | | | | | |

Mount Washington Observatory — Cloud Data Form No. 3 — Rev. 11/48

## MONTHLY CLOUD DATA SUMMARY

Station: Mt. Washington, N. H. — Date: MARCH, 1949

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Possible Observations | 248 | 100 | Total Cloud Data Observations, T > 0°C / T < 0°C | 2 / 76 | 1 / 31 |
| Observations with fog | 143 | 58 | Longest period with con cloud data obs. (in days) | 1 3/8 | 4 |
| Obs.: Fog with melting | 25 | 10 | Longest period without cloud data obs. (in days) | 3 7/8 | 16 |

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Drop Size Distrib.: A | 43 | 55 | Drop Size Distrib.: F | | |
| Drop Size Distrib.: B | 9 | 12 | Drop Size Distrib.: G | | |
| Drop Size Distrib.: C | 10 | 13 | Drop Size Distrib.: H | | |
| Drop Size Distrib.: D | 11 | 14 | Drop Size Distrib.: J | 3 | 4 |
| Drop Size Distrib.: E | 2 | 3 | | | |

| Element | No. of Obs. | Mean | Max. | Min. | Element | No. of Obs. | Mean | Max. | Min. |
|---|---|---|---|---|---|---|---|---|---|
| Ambient Air Temperature (°C.) | 78 | -10.7 | +7.0 | -24 | Computed value of K∅ | 78 | 218 | 810 | 16 |
| Ambient Air Pressure (mb) | 78 | 795.3 | 807.4 | 773.1 | Rate of Accum. on 3" cyl. at 200 mph ($g/cm^2/hr.$) | 76 | 2.1 | 13.3 | 0.00 |
| Air Speed (m/s) | 78 | 22.6 | 42.5 | 7.2 | Rate of accumulation on 1 cm. cylinder | 76 | 1.2 | 6.2 | 0.00 |
| Liquid water content ($g/m^3$) | 78 | .37 | .86 | .10 | Density of ice on smallest cyl. ($g/cm^3$) | 76 | .70 | .917 | .21 |
| Effective drop diameter (microns) | 78 | 10.2 | 26.7 | 4.7 | Snow crystal size (mm) | 56 | 1.15 | 3.0 | .10 |
| Station height above cloud base (m) | 78 | 339 | 655 | 95 | Snow water content ($g/m^3$) | 26 | 0.27 | 1.14 | 0.01 |
| Length of exposure (seconds) | 78 | 1878 | 3600 | 20 | | | | | |

| Element | Number of Observations | Percent of Observations | Element | Number of Observations | Percent of Observations |
|---|---|---|---|---|---|
| Trace of Icing (Rime) Less than 1 $g/cm^2/hr$ | 33 | 43 | Trace of clear ice Less than 1 $g/cm^2/hr$ | 3 | 4 |
| Light Icing (Rime) From 1 to 6 $g/cm^2/hr$ | 17 | 22 | Light clear ice From 1 to 6 $g/cm^2/hr$ | 14 | 18 |
| Moderate Icing (Rime) From 6 to 12 $g/cm^2/hr$ | 1 | 1 | Moderate clear ice From 6 to 12 $g/cm^2/hr$ | 7 | 9 |
| Heavy Icing (Rime) Greater than 12 $g/cm^2/hr$ | 0 | 0 | Heavy clear ice Greater than 12 $g/cm^2/hr$ | 1 | 1 |

Remarks $R_9 = 0$ FOR 2 OBSERVATIONS