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Climatic Summaries and Documentation for the Primary Meteorological Station, H.J. Andrews Experimental Forest, 1972 to 1984

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Abstract

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This report describes the primary meteorological station at the H.J. Andrews Experimental Forest (elev. 426 m, lat. 44°15′ N., long. 122°10′ W.) in the Willamette National Forest, the automatic digital data logger, sensors, and data-processing procedures used in measuring air temperature, dewpoint temperature, windspeed, precipitation, and solar radiation. The quasi-Mediterranean climate has mild, moist winters and warm, dry summers. Average daily air temperature in July is 17.8 °C; in January, 0.6 °C. Six percent of the mean yearly rainfall of 230.16 cm falls from June through August. July is the driest month, with an average rainfall of 1.76 cm. Seventy-one percent of the precipitation falls from November through March. December is the wettest month, averaging 42.31 cm. The average number of days between the last spring frost and the first fall frost is 134.

Keywords: Climatology, meteorological conditions, Oregon (H.J. Andrews Experimental Forest).

Contents

Introduction

A primary meteorological station and networks of thermographs and rain gauges (fig. 1) provide data for many ongoing research projects at or near the H.J. Andrews Experimental Forest, Blue River, Oregon. The measurements also provide a long-term record of the climate. The primary meteorological station and thermograph network were established in 1971 and 1972 during the early days of the Coniferous Forest Biome Project (U.S. International Biological Program), and the rain-gauge network was established in 1978. This meteorological network is maintained by the College of Forestry, Oregon State University, Corvallis.

Waring and others (1978) documented meteorological data measured at the station, and Emmingham and Lundburg (1977) summarized the data produced by the thermograph network. Since these papers were published, equipment and data-processing procedures have changed. A history of the data-logging equipment used at the station and the current operating procedures, sensor descriptions, and data-processing procedures are in appendix 1. The primary purpose of this report is to provide a description of the climate based on 13 years of data from the station, as well as some data from the thermograph and rain-gauge networks. A condensed climatic description is given, followed by details of climatic variation for each measured variable. Data summaries are presented in appendix 2.

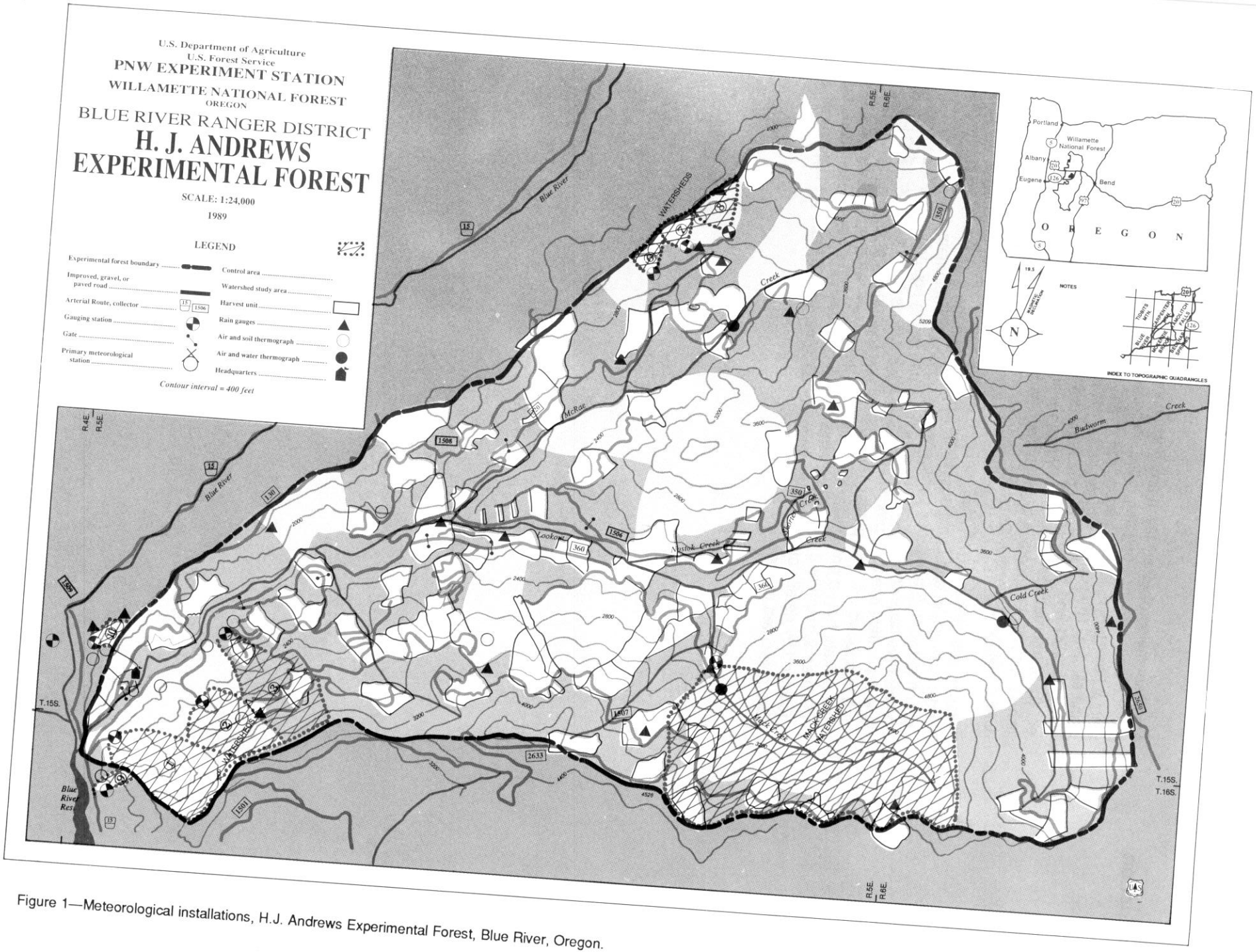

Figure 1—Meteorological installations, H.J. Andrews Experimental Forest, Blue River, Oregon.

Site Location and Description

Established in 1948, the H.J. Andrews Experimental Forest (lat. 44°15′ N., long. 122°10′ W.) is about 80 km east of Eugene, Oregon, in the Blue River Ranger District of the Willamette National Forest (fig. 1). The 6400-ha forest occupies the entire Lookout Creek watershed. Elevations range from 420 to 1630 m, and the terrain is extremely rugged, with steep slopes and deeply incised streambeds. The administrative site and primary meteorological station are located in a clearing at 426-m elevation on a Pleistocene alluvial terrace near the main entrance to the Experimental Forest.

Most soils of the Experimental Forest are classified as Inceptisols, but some Alfisols are present (Brown and Parsons 1973). These soils are highly porous, with 60- to 70-percent porosity in surface soil, of which half is macropores; and 50- to 60-percent porosity in subsoils, of which 20 percent is macropores (Ranken 1974). This high porosity allows rapid absorption of water. Water enters streams entirely by subsurface flow (Harr 1977). High porosity also provides storage for 30 to 40 cm of water (Dyrness 1969) in the soil's upper 120 cm, which serves as a water source for the forest during summer droughts.

Vegetation at the Experimental Forest is typical of the central portion of the western slope of the Cascade Range in Oregon and is stratified in two major forest zones. The *Tsuga heterophylla* zone is generally below 1050 m and has abundant western hemlock (*Tsuga heterophylla* (Raf.) Sarg.) and Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco). The *Abies amabilis* zone is found generally above 1050 m and has abundant Pacific silver fir (*Abies amabilis* Dougl. ex Forbes). These zones are mainly the result of the altitudinal temperature gradient. Each zone has several communities that reflect a moisture gradient (Dyrness and others 1974).

Climatic Description

The climate of the Experimental Forest is wet and fairly mild in the winter and warm and dry in the summer. The steering flow or polar jet stream shifts steadily southward from above 60° N. lat. in late autumn to northern California (40° N. lat.) in February, and funnels one low-pressure area and frontal storm after another into the area during the winter (Riley and Spolton 1974, p. 59-61). Rain comes mainly from cold or occluded fronts as warm fronts in the North Pacific are usually weak. Storms slowed by the Coast and Cascade Ranges are of long duration and low intensity. During summer and early autumn, the jet stream returns north of 60 °N. lat., and frontal storms are steered out of the area. A ridge of high pressure generally builds along the coast in the summer and results in high atmospheric stability and low rainfall.

Graphs of mean monthly precipitation, potential evapotranspiration, and monthly mean daily air temperature are combined in a climate diagram (fig. 2). Emphasis is given to the long winter rainy period and to the dry summer period when potential evapotranspiration exceeds precipitation. Months in which mean minimum temperature is below 0 °C, mean absolute minimum temperature is below 0 °C, and absolute minimum temperature is greater than 0 °C are shown along the bottom of the figure.

In January, the average daily air temperature at the meteorological station for the study period is 0.6 °C; in July, 17.8 °C. Yearly average daily air temperature is 8.5 °C. In most years, some days have temperatures higher than 37.8 °C, and some have temperatures in the -12.2 to -6.7 °C range or lower. Temperature inversions are especially common in the early morning of clear summer days. The average number of days between the last spring frost (<0 °C) and the first autumn frost at the station is 134.

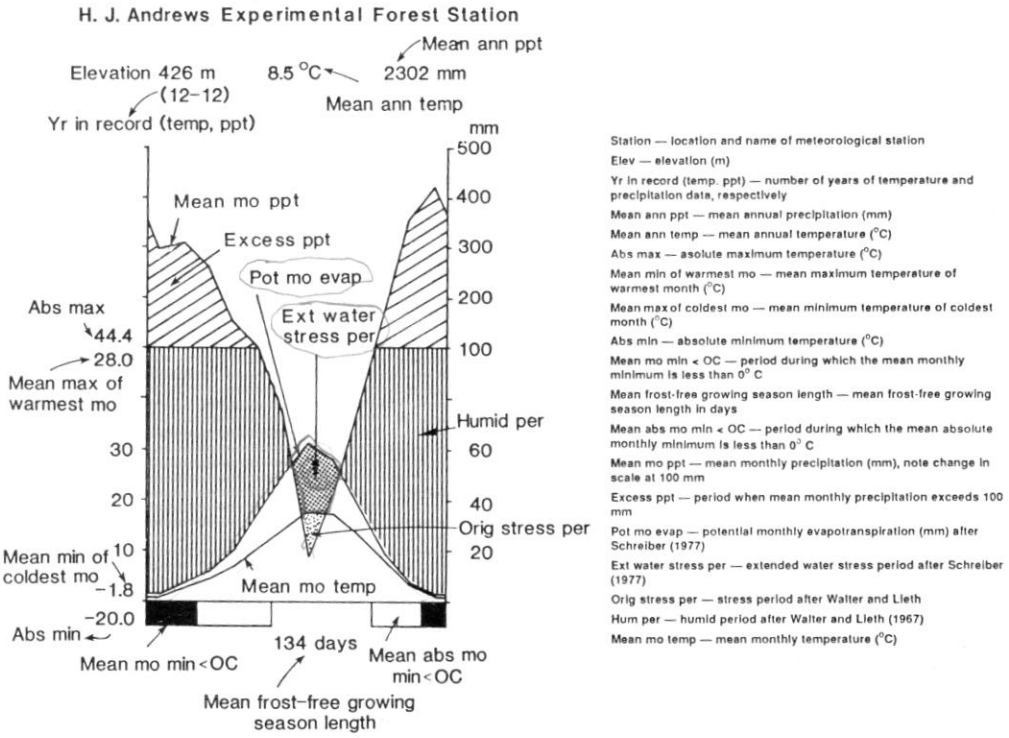

Figure 2—Climate diagram for the H.J. Andrews Experimental Forest; after Walter and Lieth (1967), with additional potential evaporation trace suggested by Schreiber (1977).

Yearly average rainfall for the study period was 230.16 cm; 71 percent fell from November through March. December was normally the wettest month, with an average of 43.71 cm of rain, and July the driest with only 1.88 cm. Precipitation generally increased with elevation; a gauge at 1203 m collected 21 percent more than a gauge at 460 m. A persistent snowpack that may be 4 m deep generally forms above 1050 m and may last into June. Lower elevations usually remain free of snow except for short periods.

July is normally the sunniest month and December the cloudiest.

Details of the Climate

In the following descriptions, "daily" means 24 hours, "daytime" means from sunrise to sunset, and "nighttime" means from sunset to sunrise.

Air Temperature

Figure 3 shows year-to-year variation in air temperature for the 12-year period from 1973 through 1984 (appendix 2, tables 20 through 31). Yearly daily air temperatures (appendix 2, table 6) averaged 8.5 °C. The mean daytime air temperature (appendix 2, table 7) for the period is 10.7 °C, and the mean nighttime air temperature (appendix 2, table 9) is 5.6 °C. The maximum yearly mean daytime air temperature (11.8 °C) occurred in 1977. The warmest yearly average daily (9.3 °C) and nighttime (6.8 °C)

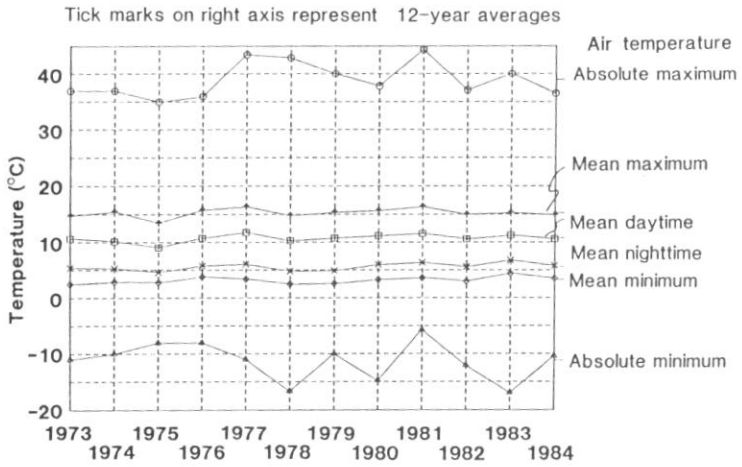

Figure 3—Mean and extreme yearly air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1973 through 1984.

air temperatures occurred in 1983. The coolest year was 1975, with a daily mean of 7.1 °C, a daytime mean of 9.1 °C, and a nighttime mean of 4.6 °C. Standard deviations for annual means of mean daily, mean daytime, and mean nighttime air temperatures are 0.6, 0.7, and 0.7 °C, respectively. Mean absolute maximum yearly temperature (appendix 2, table 8) for the period is 38.9 °C, with a standard deviation of 3.2 °C; mean absolute minimum yearly temperature (appendix 2, table 10) is -11.3 °C, with a standard deviation of 3.6 °C. The coldest temperature of the period, -20.0 °C, was recorded in December 1972 and the warmest, 44.4 °C, in August 1981. Yearly maximum temperatures have occurred in all months from May through August but are most common in July, and yearly minimum temperatures have occurred in all months from November through February but are most common in January.

Figures 4 through 15 show year-to-year variation in monthly mean and extreme air temperatures (appendix 2, tables 19 through 31). July and August, the warmest months, have nearly identical average air temperatures over the 12-year period. The mean daytime temperature in July is 21.2 °C, whereas in August the mean is 20.9 °C (appendix 2, table 7). The mean nighttime air temperature in July is 12.2 °C (appendix 2, table 7); 12.3 °C in August (appendix 2, table 9). August was warmer than July in 5 of 12 years. December and January, the coldest months, also have similar average temperatures. In December, daytime air temperature averages 1.8 °C; in January, 1.7 °C. In December, nighttime air temperature averages 0.3 °C; in January, -0.2 °C. January was warmer than December of the previous year in 5 of 12 years. January is the only month with a nighttime average below freezing.

December has the lowest average daily air temperature range (4.7 °C), and July (19.0 °C) and August (18.9 °C) the largest (appendix 2, table 11). The maximum temperature range occurred in August 1977 and was 34 °C. Diurnal range under canopy is lower than that in the open because of the insulating effects of the canopy. During July 1982, daily temperature ranges averaged 17.7 °C at the station; those at reference stand 7, a nearby site under an old-growth canopy, averaged 12.2 °C. Daytime mean and maximum air temperatures averaged lower and nighttime mean and minimum air temperatures averaged slightly higher under canopy than those in the open.

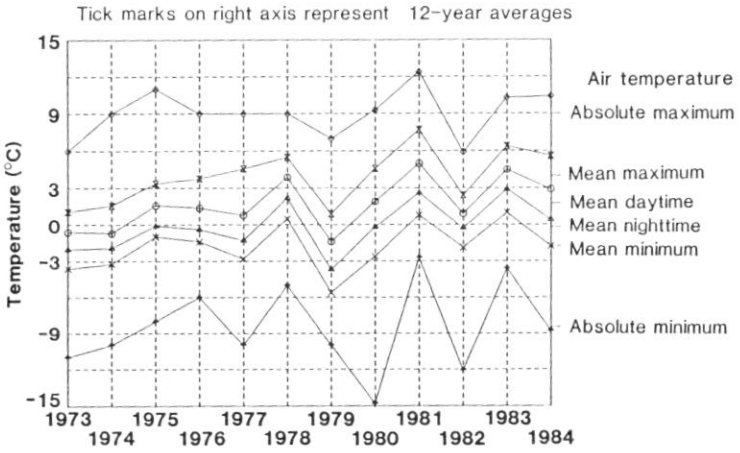

Figure 4—Mean and extreme January air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1973 through 1984.

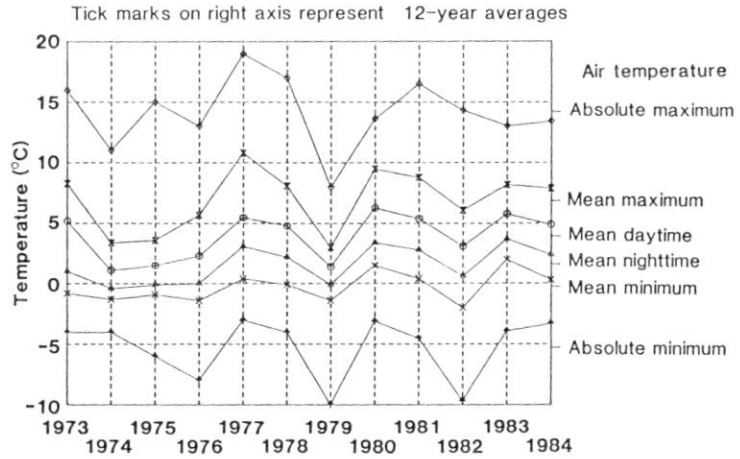

Figure 5—Mean and extreme February air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1973 through 1984.

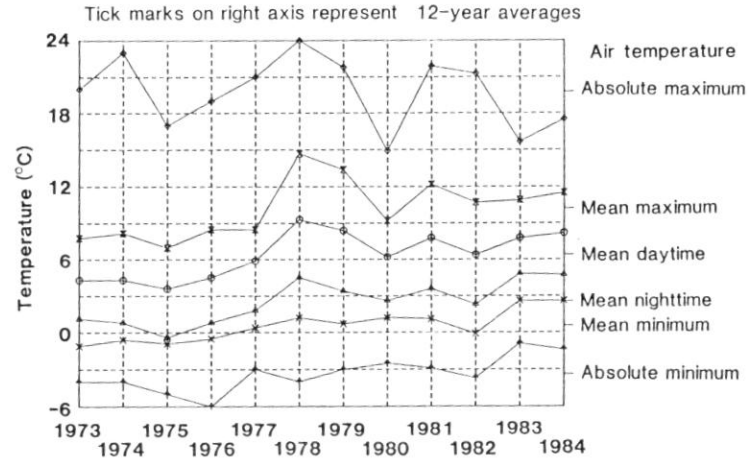

Figure 6—Mean and extreme March air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1973 through 1984.

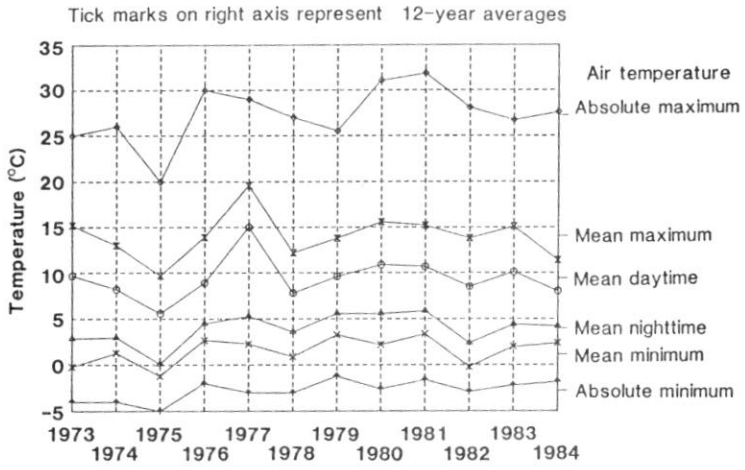

Figure 7—Mean and extreme April air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1973 through 1984.

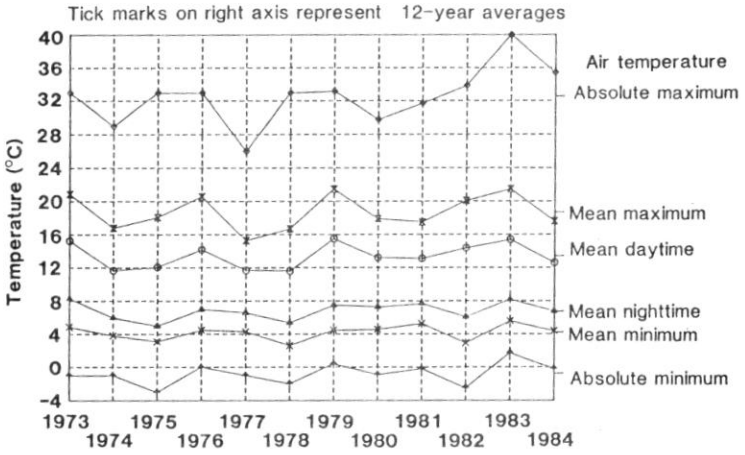

Figure 8—Mean and extreme May air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1973 through 1984.

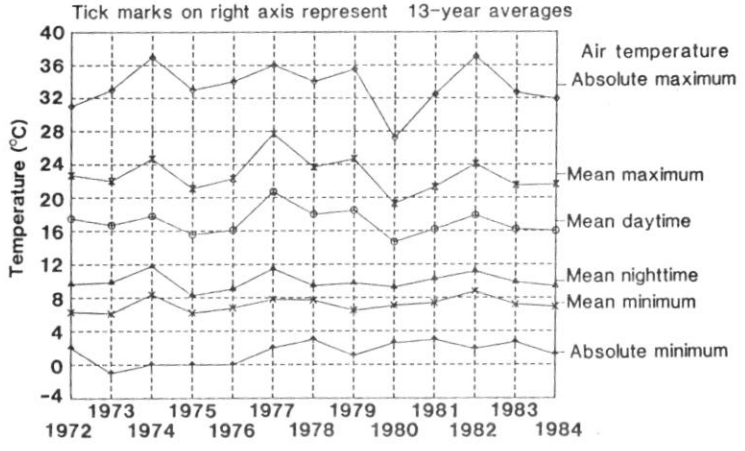

Figure 9—Mean and extreme June air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1972 through 1984.

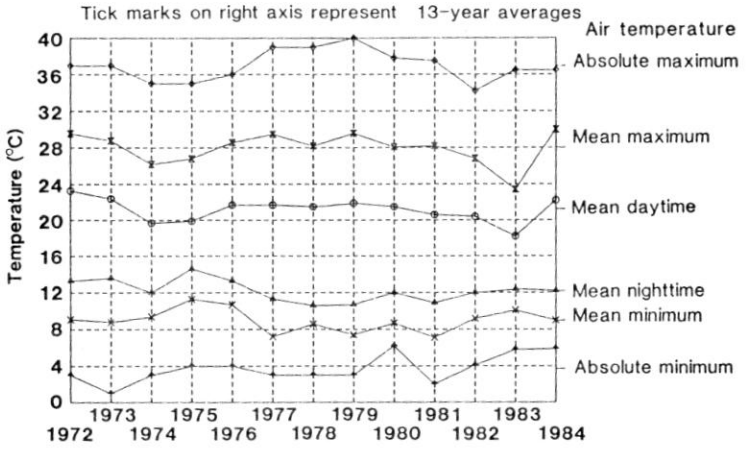

Figure 10—Mean and extreme July air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1972 through 1984.

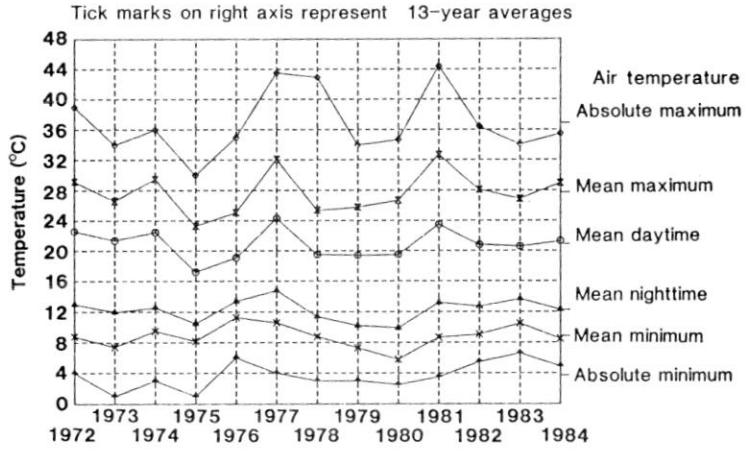

Figure 11—Mean and extreme August air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1972 through 1984.

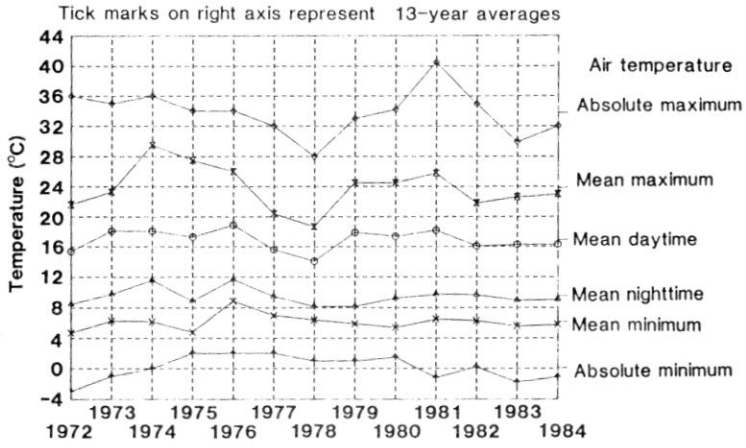

Figure 12—Mean and extreme September air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1972 through 1984.

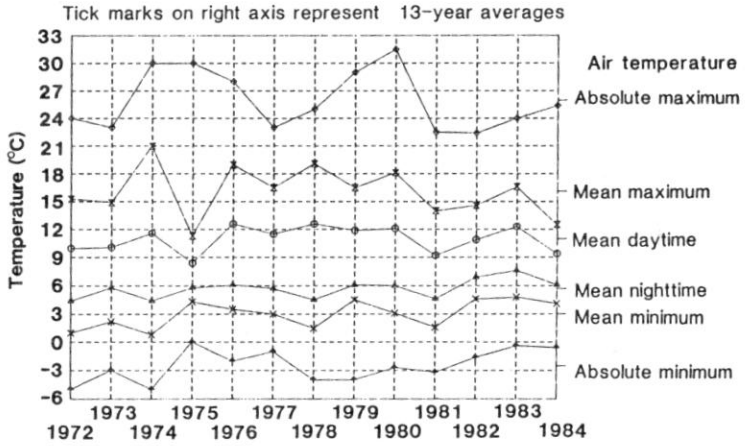

Figure 13—Mean and extreme October air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1972 through 1984.

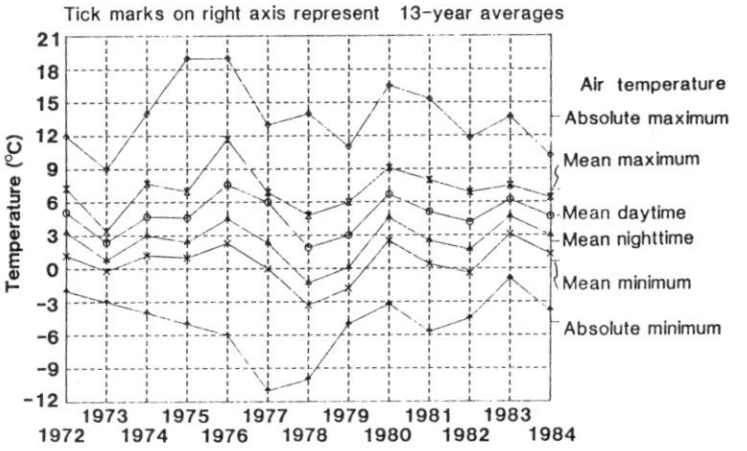

Figure 14—Mean and extreme November air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1972 through 1984.

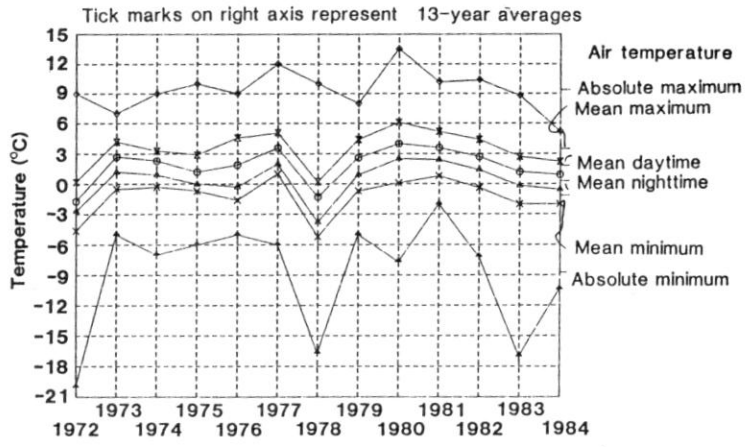

Figure 15—Mean and extreme December air temperatures at the primary meteorological station of the H.J. Andrews Experimental Forest, 1972 through 1984.

Figures 16 through 18 show air-temperature stratification with elevation. Various under-canopy temperature characteristics from three old-growth forest reference stands with similar aspects but different elevations and slopes were plotted. Reference stands 2 and 12 are valley-bottom sites, and 4 is a midslope site. Mean daytime and maximum temperatures show the expected decrease with elevation, but temperature inversions are evident in mean nighttime and minimum values for some warmer months. Mean minimum air temperatures at the high-elevation site were higher than at the midelevation site in July and August and equaled those at the low-elevation site in August. Mean nighttime air temperatures at the upper and midelevation sites were very close for the summer months, with the temperature at the highest site exceeding that at the midelevation site in August. These summer inversions are caused by strong radiation cooling during clear weather, combined with cold-air drainage into valleys. In winter, sunny, south-facing midslope sites at midelevation are often warmer than valley-bottom sites in the daytime because valley sites are much more shaded. Thermograph station 38, an open site at 1010 m, had warmer daytime average and average maximum temperatures during the months of January, February, and December 1982 than those at the primary meteorological station at 426 m (fig. 19). The closeness of nighttime average and average minimum temperature traces during winter indicates that temperature inversions caused by cold-air drainage also occurred. Nighttime temperature inversions caused by radiational cooling are more pronounced during summer at the open sites than under a canopy.

Dates of the last spring and the first autumn freezes at various temperatures at the station and the lengths of the frost-free period between them are shown in table 1 for each year. Mean dates and period lengths have been computed as well. Frosts (temperature <0.0 °C) have occurred as early in autumn as September 1 and as late in spring as June 10. Periods between the latest and the earliest heavy frost (temperature <-1.1 °C) averaged 38 days longer than those reaching 0 °C; the earliest fall frost occurred on September 24 and the latest spring frost on May 6. The shortest frost-free period was 82 days in 1973, and the longest was 181 days in 1979.

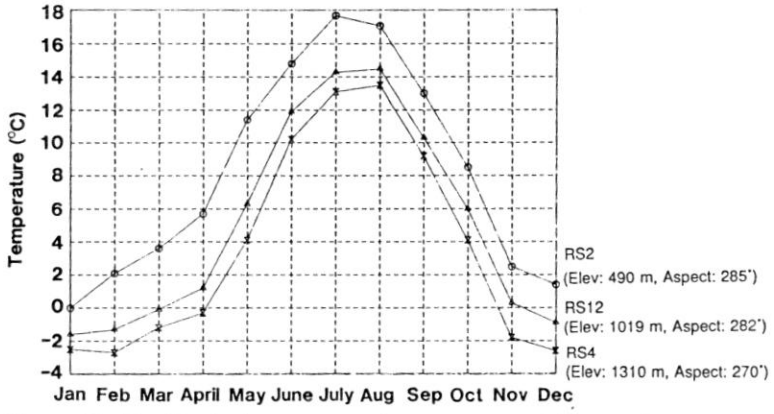

Figure 16—Monthly daytime average air temperatures at three under-canopy sites with similar aspects but different elevations and slopes, 1982.

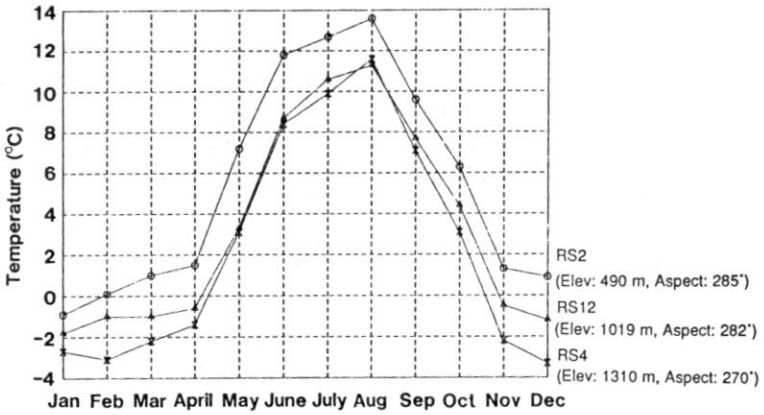

Figure 17—Monthly nighttime average air temperatures at three undercanopy sites with similar aspects but different elevations and slopes, 1982.

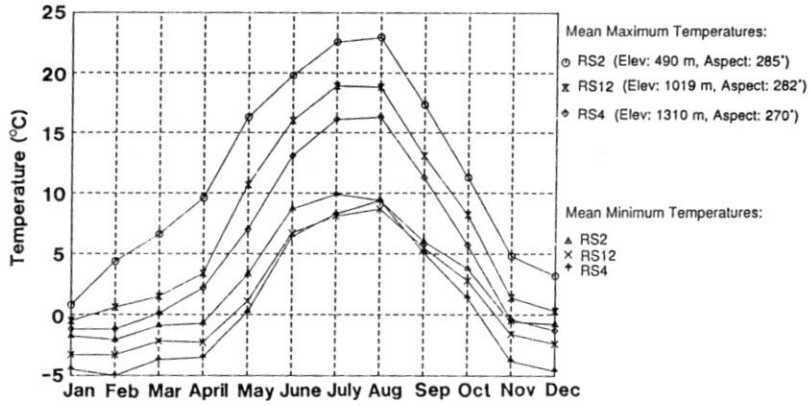

Figure 18—Monthly average extreme air temperatures at three undercanopy sites with similar aspects but different elevations and slopes, 1982.

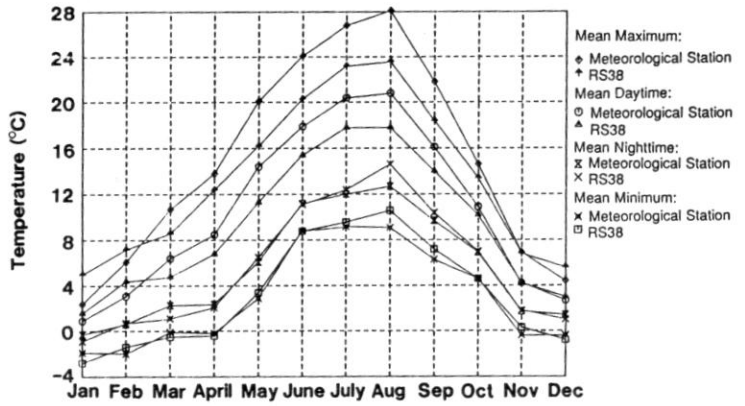

Figure 19—Monthly air temperatures at the primary meteorological station (elev., 426 m), a level-valley bottom site, compared with those at reference stand 38 (elev., 1010 m), a south-facing midslope site, 1982.

Table 1—Frost-free periods at the primary meterological station of the H.J. Andrews Experimental Forest by different freezing temperature thresholds; observed dates of last freeze in spring and first freeze in autumn and length of frost-free period in days, by year

Year	Minimum temperature greater than 32 °F (0 °C)			Minimum temperature greater than 30 °F (-1.1 °C)			Minimum temperature greater than 28 °F (-2.2 °C)			Mean night temperature greater than 32 °F (0 °C)		
	From	To	Days	From	To	Days	From	To	Days	From	To	Days
1972	5/25	9/26	123	—	9/26		—	9/27		—	10/29	
1973	6/10	9/1	82	4/30	10/2	154	4/30	10/2	154	4/28	11/2	187
1974	6/8	9/27	110	4/26	10/3	159	4/26	10/5	161	5/16	10/5	141
1975	6/7	10/27	141	5/24	11/11	170	5/24	11/11	170	5/24	11/11	170
1976	6/3	10/3	121	4/13	10/17	186	3/11	11/25	258	4/15	11/26	224
1977	5/11	10/3	144	4/18	11/2	197	4/18	11/3	198	4/18	11/2	197
1978	5/30	10/11	133	5/6	10/21	167	4/12	10/21	191	4/11	10/21	192
1979	4/20	10/19	181	4/20	10/31	193	3/1	10/31	243	3/1	10/31	243
1980	5/16	10/17	153	4/11	10/21	192	4/3	10/21	200	4/2	11/10	221
1981	5/12	9/29	139	4/13	9/29	168	3/6	10/12	219	3/5	10/12	220
1982	5/18	10/18	152	5/4	10/18	166	5/4	11/9	188	5/3	11/7	187
1983	4/27	9/27	152	4/14	9/28	166	4/13	12/20	250	4/13	12/19	249
1984	5/30	9/23	115	4/28	9/24	148	2/2	11/21	292	2/17	11/21	277
Mean	5/21	10/4	134	4/25	10/13	172	4/5	10/30	210	4/10	11/5	209

— = Data incomplete.

Soil Temperature

Soil temperatures measured at a depth of 20 cm vary with site, year, and elevation as do air temperatures and have peaks of 13 to 23 °C and minimums close to 0 °C at most sites. At this depth, soils generally remain unfrozen at most sites. Figure 20 shows variation of soil temperature with elevation at the same three sites as for air temperature. For reference stand 4, note the flat line showing the snowpack effect from January to May.

Precipitation

The variation of yearly rainfall (appendix 2, tables 19 through 31) over the study period is depicted in figure 21. Amounts varied about the mean of 230.16 cm from a high of 281.00 cm in 1984 to a low of 166.15 cm in 1978. The coefficient of variation is 16.0 percent for the period. About 71 percent of the yearly total fell from November through March. Only 6 percent fell from June through August. Figure 22 shows the distribution of precipitation throughout the year. December is clearly the rainiest month, with an average of 42.31 cm; July the driest, with an average of 1.76 cm.

Figures 23 through 34 show the strong year-to-year variation in the monthly totals (appendix 2, tables 19 through 31) that are averaged in figure 22. The largest monthly rainfall for the period was 74.96 cm in December 1981. By contrast, December 1976 had only 7.35 cm. No rain fell in July 1972 and September 1975. February has the least variation in rainfall, with a coefficient of variation of 30.2 percent; July the most, 92.6 percent.

Storms at the Experimental Forest are generally long lasting and not very intense. Figure 35 shows the frequency of occurrence of various daily rainfall amounts. Eighty-nine percent of the rainy days produced less than 3 cm of precipitation; 60 percent, less than 1 cm.

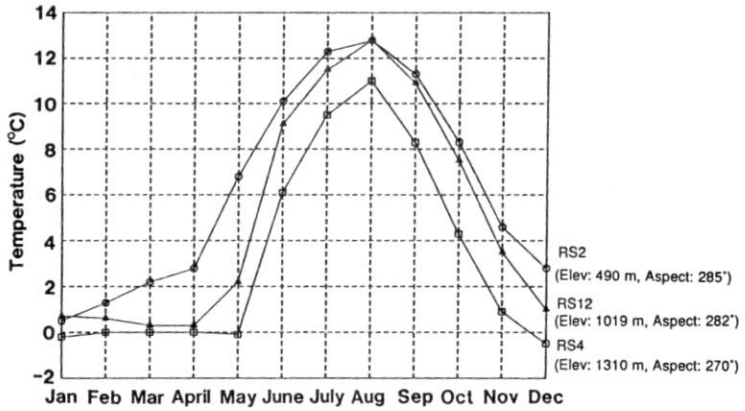

Figure 20—Monthly mean daily soil temperatures at three under-canopy sites with similar aspects but different elevations and slopes, 1982.

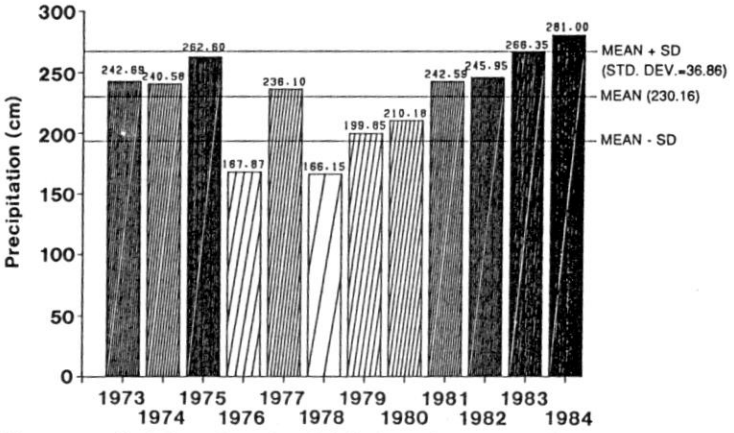

Figure 21—Variation of yearly rainfall about the mean at the H.J. Andrews Experimental Forest primary meteorological station.

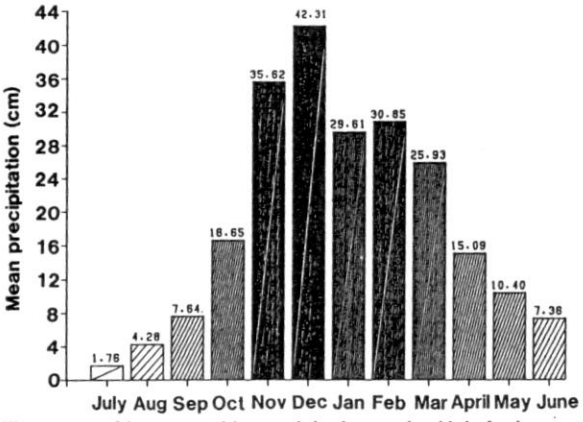

Figure 22—Mean monthly precipitation at the H.J. Andrews Experimental Forest, June 1972 through December 1984.

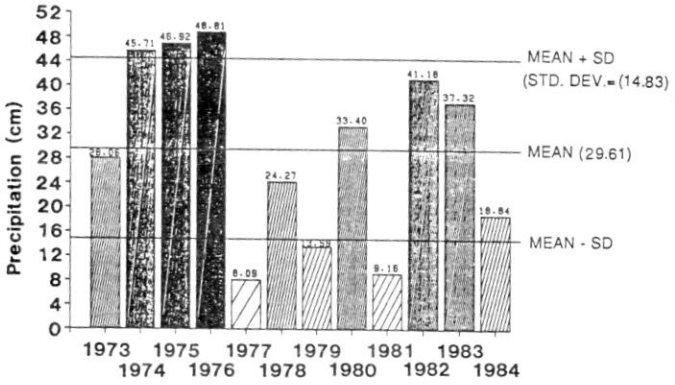

Figure 23—Variation of January rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

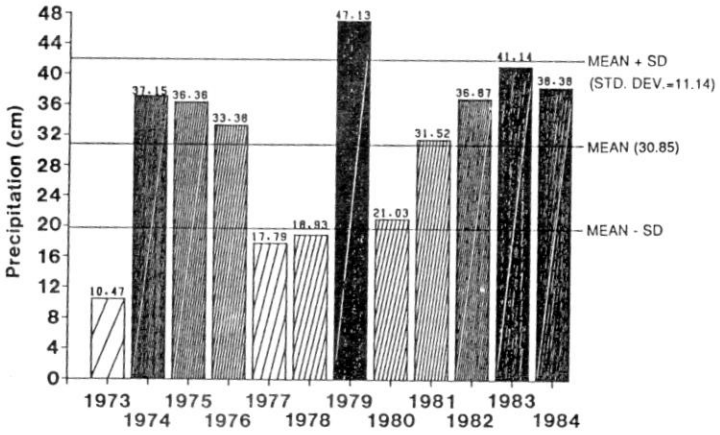

Figure 24—Variation of February rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

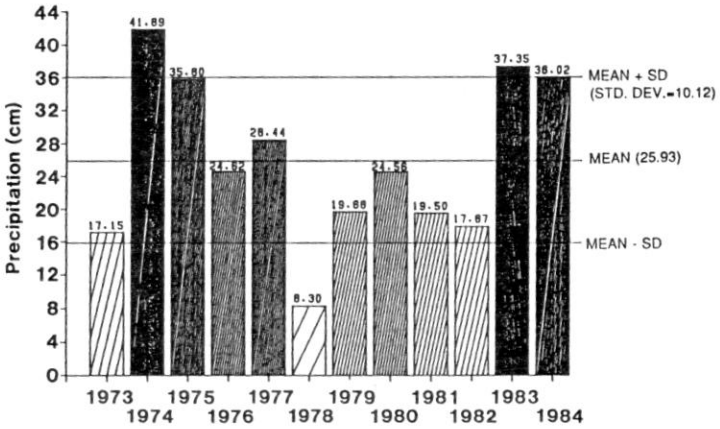

Figure 25—Variation of March rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

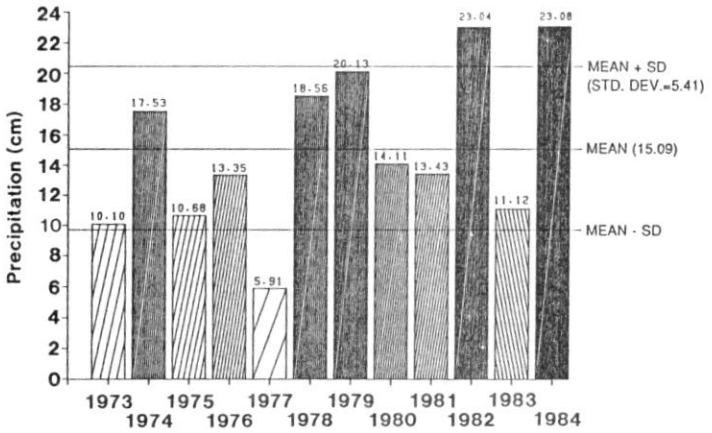

Figure 26—Variation of April rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

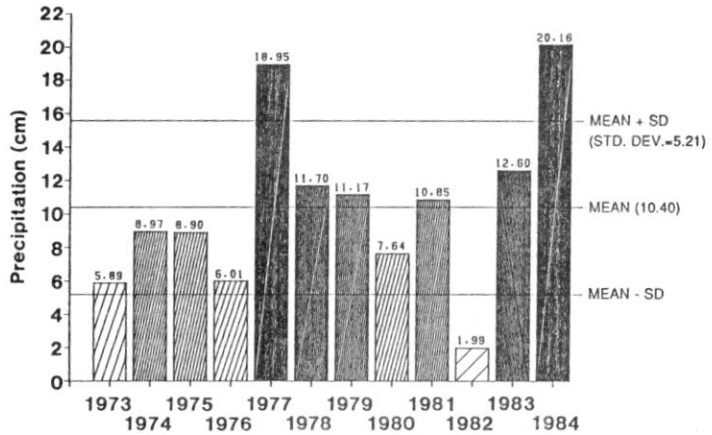

Figure 27—Variation of May rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

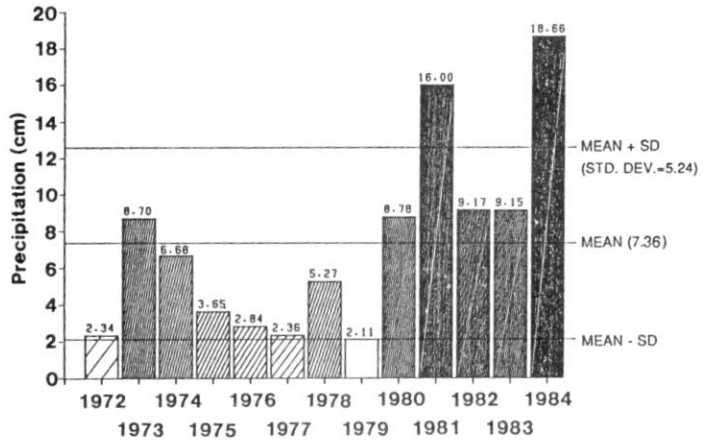

Figure 28—Variation of June rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

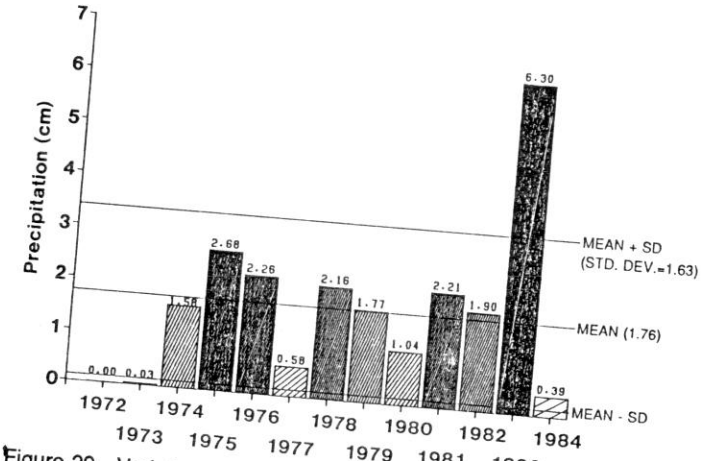

Figure 29—Variation of July rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

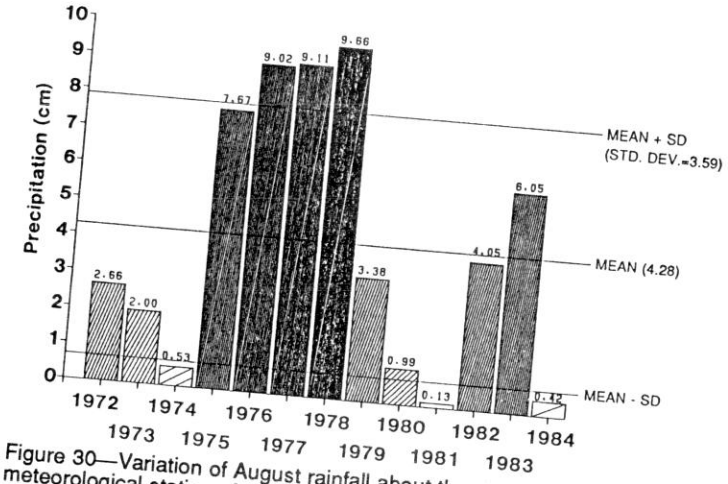

Figure 30—Variation of August rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

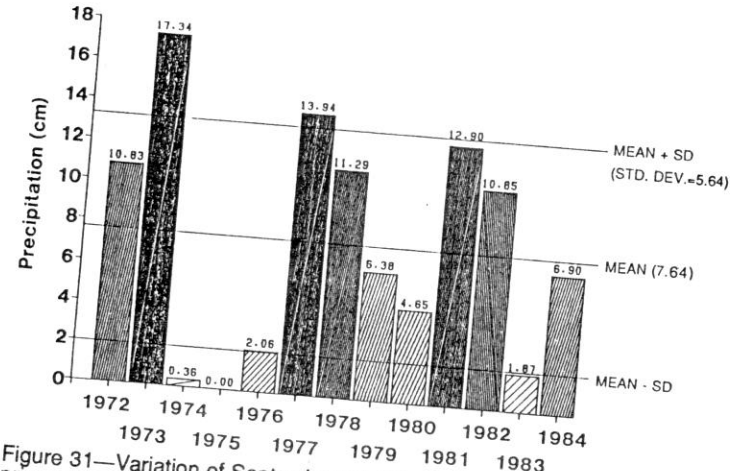

Figure 31—Variation of September rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

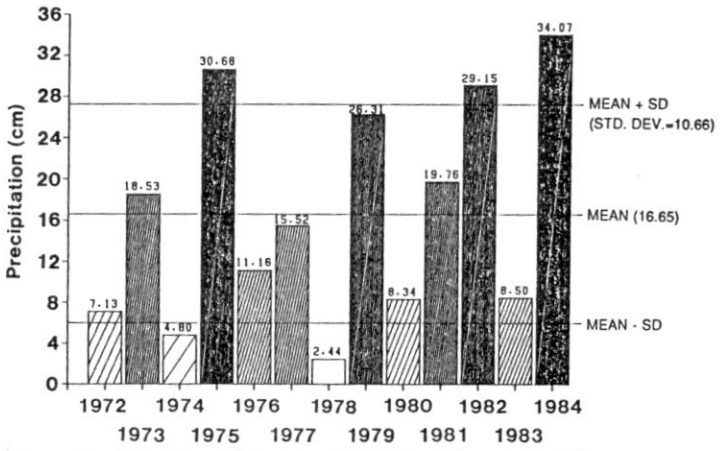

Figure 32—Variation of October rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

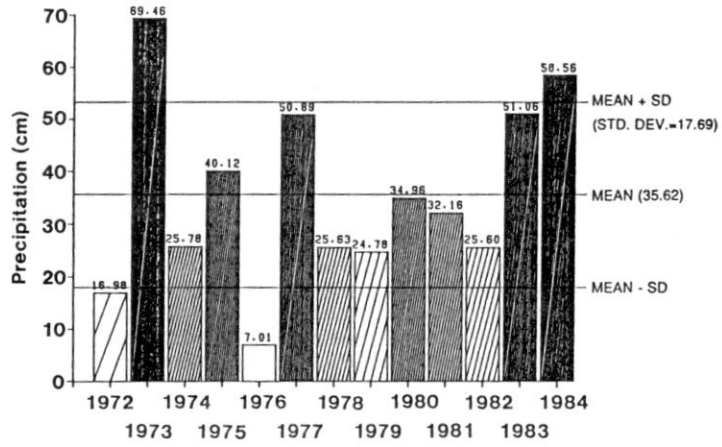

Figure 33—Variation of November rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

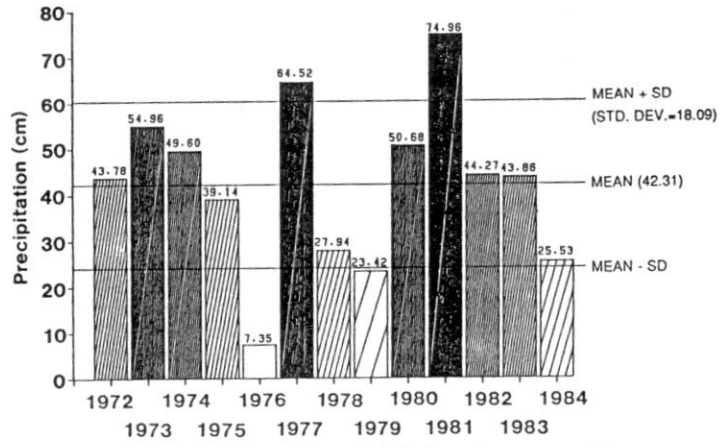

Figure 34—Variation of December rainfall about the mean at the primary meteorological station of the H.J. Andrews Experimental Forest.

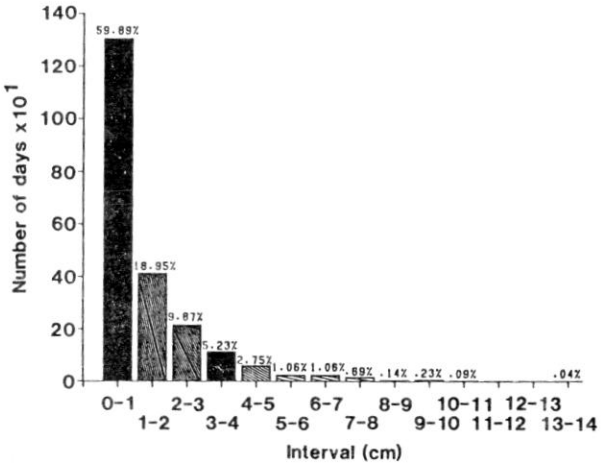

Figure 35—Frequency distribution of 2,179 days of rain at the H.J. Andrews Experimental Forest from 5/10/72 through 9/26/84.

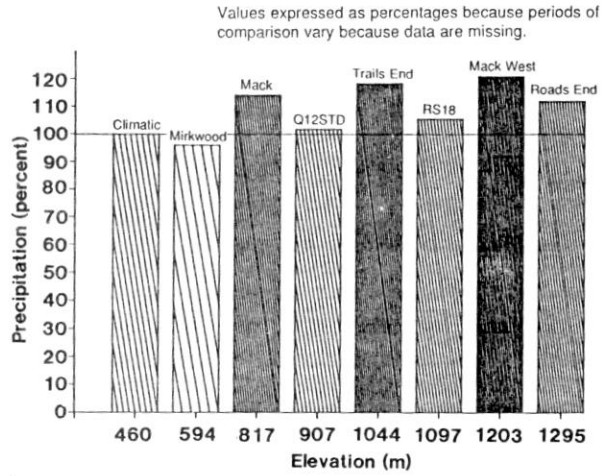

Figure 36—Variation of rainfall with elevation at the H.J. Andrews Experimental Forest, 1978 through 1983.

Rainfall variation with elevation is complicated. A comparison of data from sites in the rain-gauge network with data from the USDA Forest Service climatic station (elevation, 460 m), shows a general but highly irregular increase in precipitation with elevation (fig. 36). Values were compared on a percentage basis because of different lengths of comparison periods owing to missing data.

Reasons for the irregular increase with elevation are unclear because analysis of the data from the rain-gauge network is still preliminary. Orientation of the terrain to the prevailing winds, topographic position (midslope, ridgetop, valley, and so forth), slope, elevation of the cloud layer, and other factors probably combine to produce the differences. Measurement errors caused by snow-bridging of the upper-elevation gauges are probably also a significant factor.

A long-lasting snowpack generally develops from about the same elevation as the beginning of the *Abies amabilis* zone (1050 m). The snowpack shifts upward in warmer years and downward in cooler years and is found lower on north slopes and shaded areas than on south slopes. This snowpack can be quite deep, depending on the coolness and wetness of the year. Figure 37 shows snow measurements made at reference stand 4 during the 1981-82 winter. Maximum measured depth in the adjacent clearcut was 345.4 cm on April 12, with an average depth for 10 readings of 295.2 cm. Moisture content of the snowpack on the clearcut averaged 137.2 cm on April 12. In contrast, the snowpack under the old-growth canopy averaged only 166.6 cm, with a mean moisture content of 66.6 cm of water—only 49 percent of the moisture found in the snowpack in the adjacent clearcut. Much snow intercepted by the canopy disappears through evaporation and sublimation. Below the elevation of the long-lasting snowpack, temporary snowpacks form during cold spells. In December 1981, about 1 m of snow fell at lower elevations and lasted for several weeks, which made access to the forest difficult. Rain commonly falls on the snowpack even in midwinter as the freezing level fluctuates considerably from storm to storm.

Low rainfall typically coincides with high summer temperatures. This creates a moisture deficit. The forest could potentially evapotranspire more moisture than it receives during this period (Waring and others 1978 and fig. 2). Vegetation then relies on stored soil moisture and water conservation strategies. This results in a difference between potential and actual evapotranspiration of 11 to 59 cm of water.

Dewpoint Temperature

Humidity is usually high in the winter but relatively low on summer afternoons. Figure 38 compares typical winter and summer relative humidity characteristics. Relative humidities were computed for January 4 and July 29, 1984, from hourly averages of dewpoint and air temperature and plotted against time. The winter humidity stays near 100 percent, but the summer humidity drops from a high of 93 percent at 0600 to a low of 43 percent at 1600 and then rises to 91 percent at midnight. Figure 39 compares average dewpoint and air temperatures for each month in 1983. In the winter, dewpoint and air temperatures are close together, indicating high humidities; in the summer, they separate much more, indicating drier air. Nighttime average dewpoint temperatures

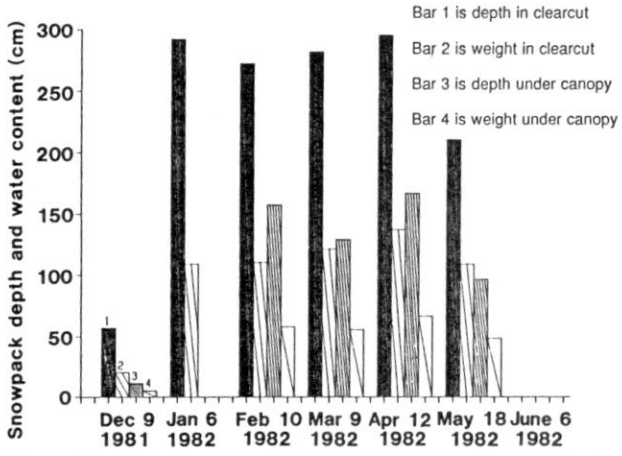

Figure 37—Winter snowpack measurements at reference stand 4 of the H.J. Andrews Experimental Forest, 1981-82.

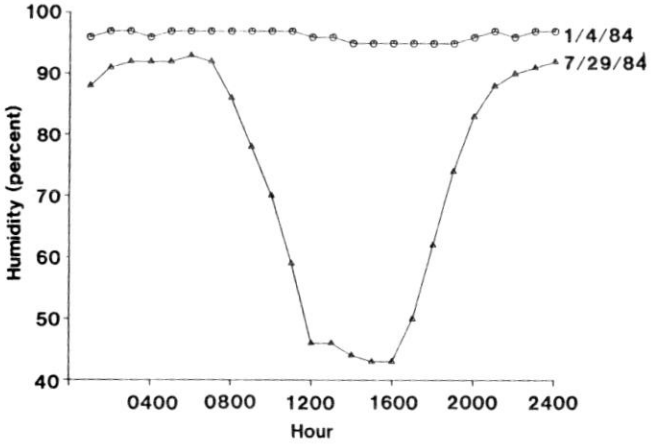

Figure 38—Comparison of typical winter and summer diurnal humidity characteristics at the primary meteorological station of the H.J. Andrews Experimental Forest.

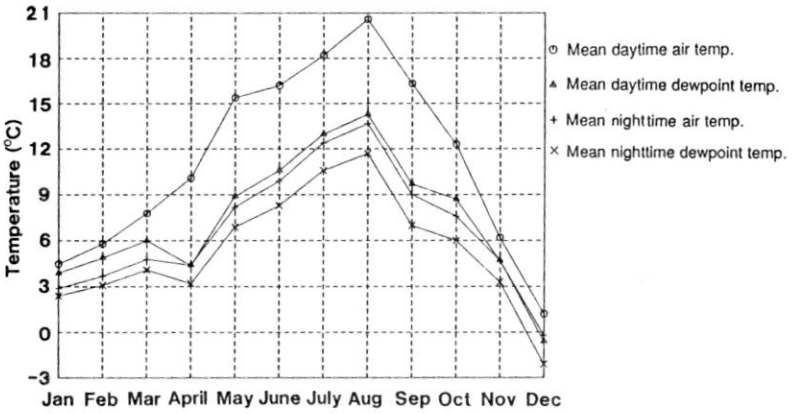

Figure 39—Comparison of 1983 dewpoint and air temperatures at the H.J. Andrews Experimental Forest.

do not depart as much from nighttime average air temperatures as do daytime values, reflecting the increase in nighttime humidity. Occasionally, the normal west-to-east flow of air is reversed, and dry air from the high desert east of the Cascades enters the area and lowers the humidity to 15 to 25 percent in midafternoon. If this happens in the winter, extremely low air and dewpoint temperatures can occur. Tables 12 through 16 of appendix 2 are overall summaries of the various dewpoint temperature statistics.

Solar Radiation

Figure 40 shows year-to-year variation in solar-radiation values (appendix 2, tables 19 through 31). Because earlier sensors were much less accurate than the ones currently used, data were normalized in the following manner. Average values for each year from 1973 through 1977 were divided by the average value for the period 1973 through 1977, and average values for each year from 1978 through 1983 were divided by the average value for the period 1978 to 1983. These normalized values are plotted in figure 41, which shows 1979 to be the sunniest year for the 1978-83 period and 1983 to be the cloudiest year, although table 5 of appendix 2 shows 1975 to be the sunniest year. The instrument values in table 5 have not been adjusted to account for the differences in sensor accuracy.

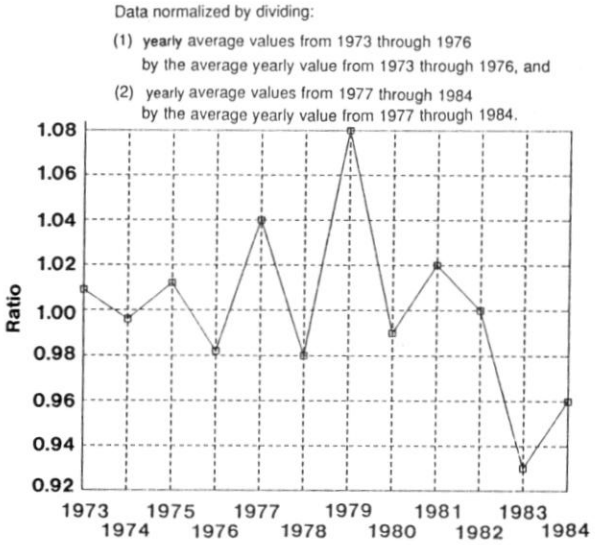

Figure 40—Yearly variation of solar radiation at the primary meteorological station of the H.J. Andrews Experimental Forest.

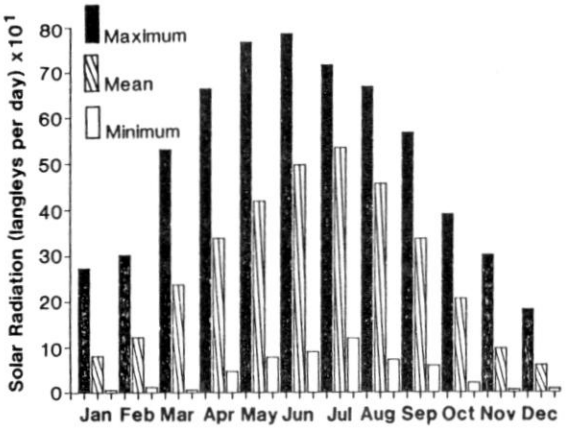

Figure 41—Comparison of 1972 through 1984 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

July is normally the sunniest month of the year (appendix 2, table 5, and fig. 41), although June sometimes gets more solar radiation; December normally receives the least sunshine, although this sometimes happens in January (figs. 42 through 53). Figure 54 shows estimates of the percentage of possible solar radiation that each month gets on the average. Values for the graph were obtained by averaging daily averages for each month that were expressed as percentages of the maximum daily value over the period. Sensor differences were taken into account by using maxima that coincided with the time when a particular sensor was used. This graph shows November to be slightly cloudier than December, although December usually receives less solar radiation. The graph also shows January to be slightly sunnier than either December or February. July has the highest percentage of possible radiation. Maximum daily solar-radiation values usually occur in June but sometimes in July; in 1982, May had the maximum value. Minimum daily solar-radiation values normally occur in December or January but occasionally in November, February, and even March.

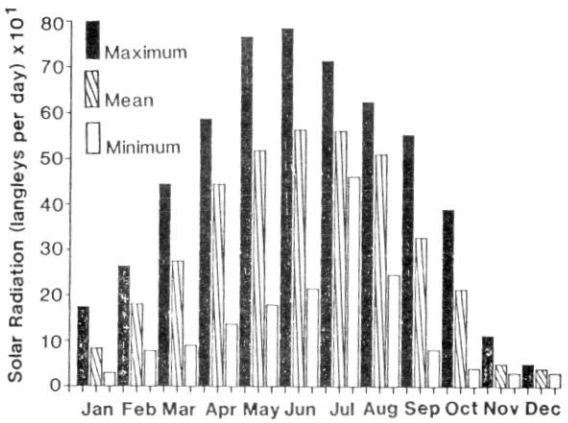

Figure 42—Comparison of 1973 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

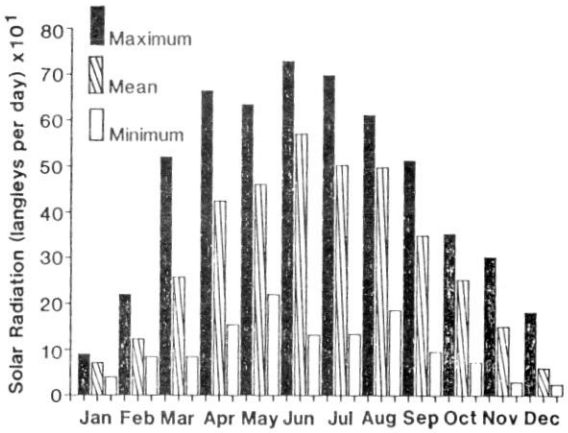

Figure 43—Comparison of 1974 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

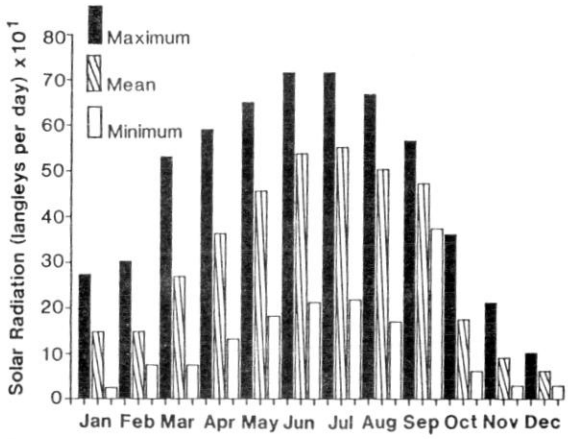

Figure 44—Comparison of 1975 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

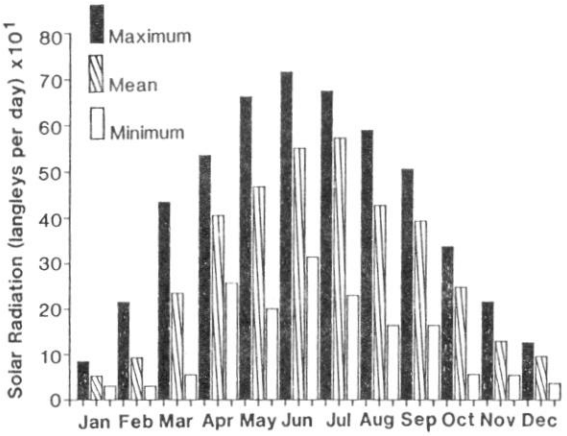

Figure 45—Comparison of 1976 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

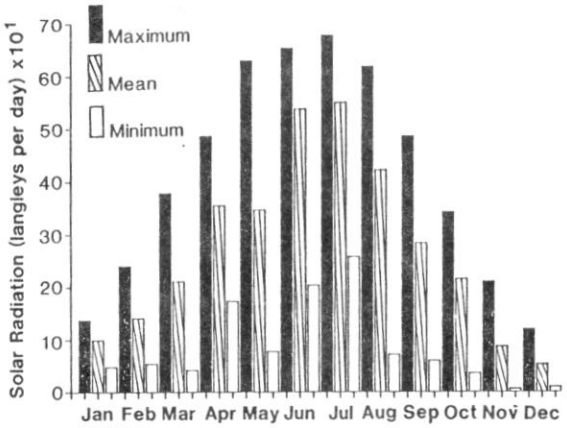

Figure 46—Comparison of 1977 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

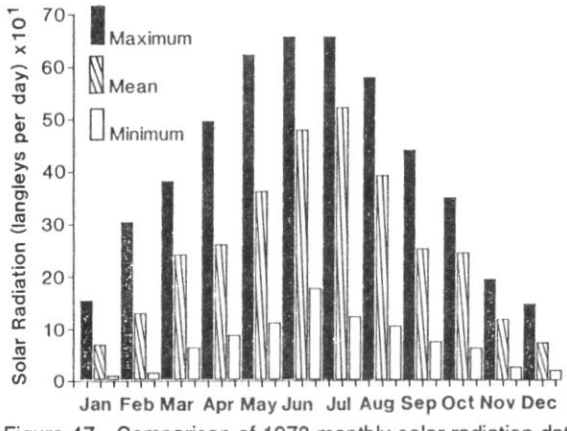

Figure 47—Comparison of 1978 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

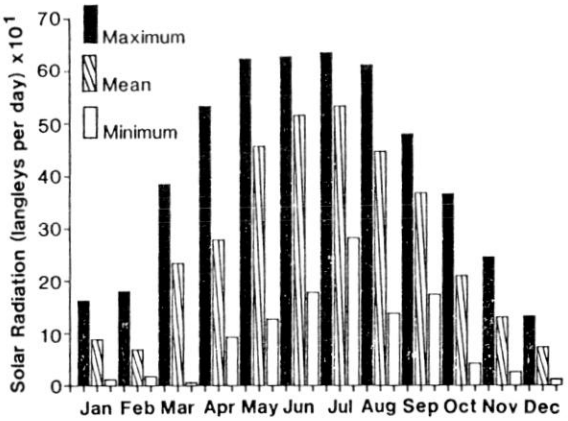

Figure 48—Comparison of 1979 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

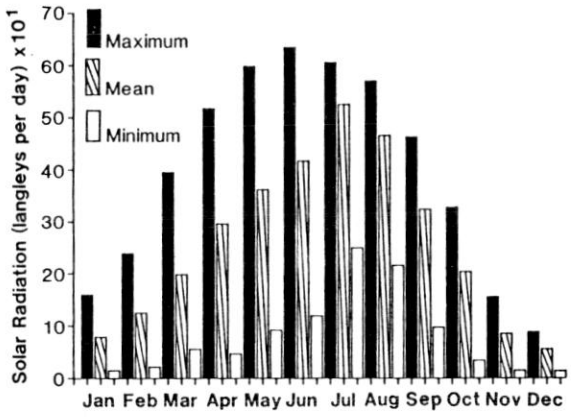

Figure 49—Comparison of 1980 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

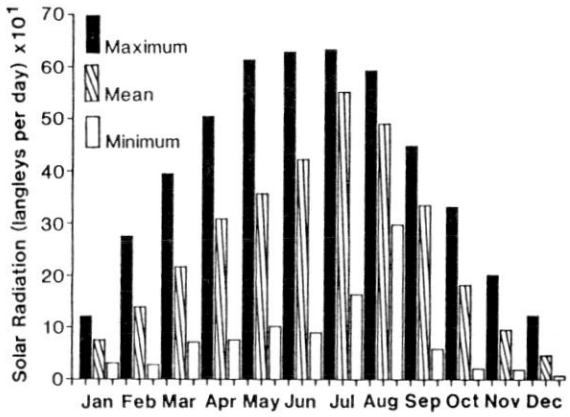

Figure 50—Comparison of 1981 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

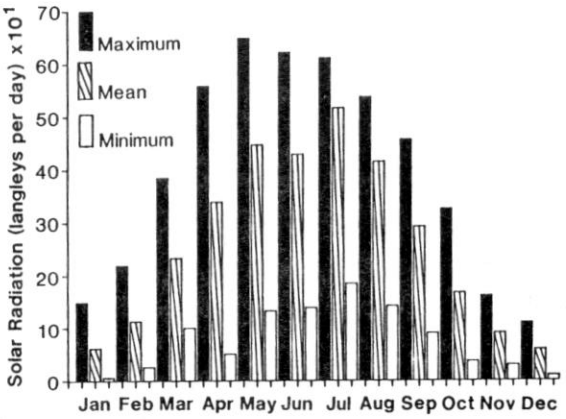

Figure 51—Comparison of 1982 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

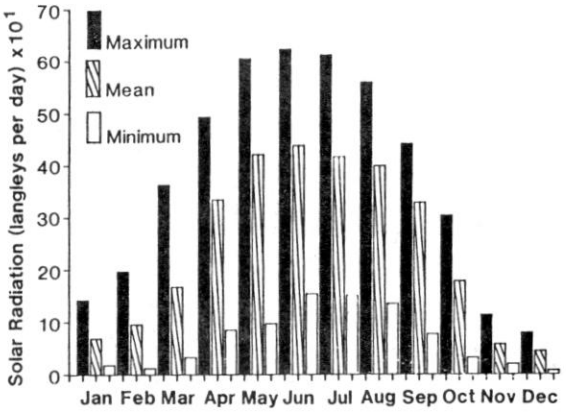

Figure 52—Comparison of 1983 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

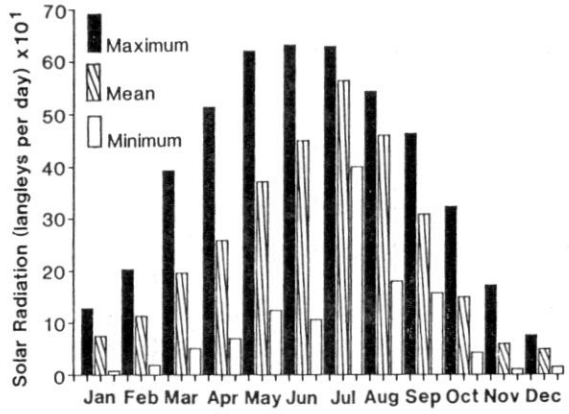

Figure 53—Comparison of 1984 monthly solar radiation data at the primary meteorological station of the H.J. Andrews Experimental Forest.

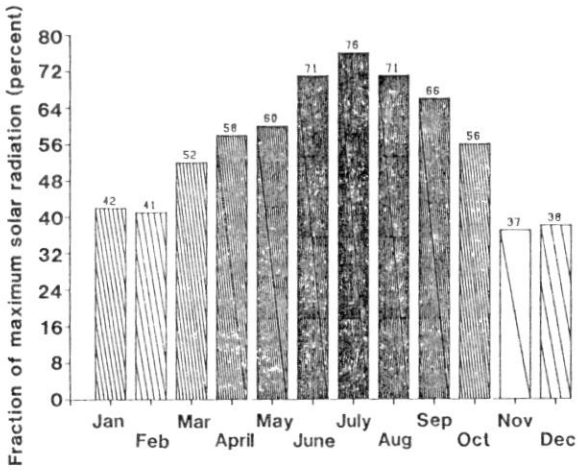

Figure 54—Percentage of possible solar radiation at the primary meteorological station of the H.J. Andrews Experimental Forest.

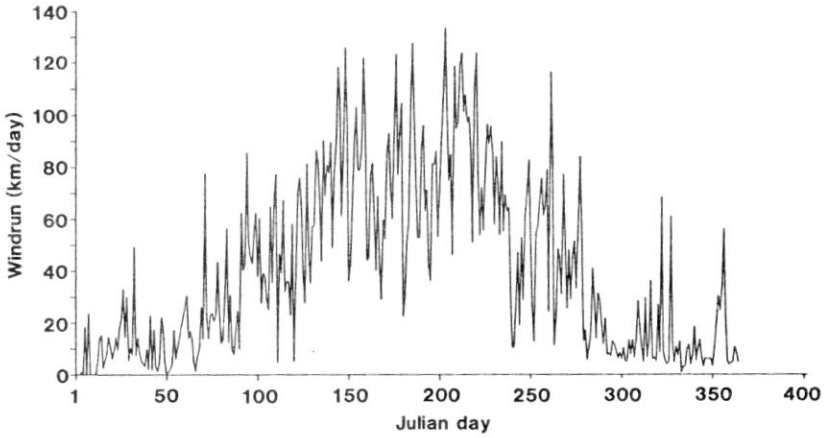

Figure 55—Daytime windrun at the primary meteorological station of the H. J. Andrews Experimental Forest, 1983.

Windrun

Windrun is the distance air moves past a point in a given amount of time and is calculated by multiplying the average windspeed for a time period by the length of the period. Figures 55 and 56 show daytime and nighttime windrun in 1983. Daytime windrun increased and decreased with the amount of solar radiation received. Nighttime windrun, although much lower in the summer, often equaled or exceeded daytime windrun in the winter. Note the sharp spike during a December storm that caused a considerable amount of windthrow damage in the Willamette National Forest.

Table 17 in appendix 2 is a summary of the windrun data collected for the period. This data set has the least amount of data available. Only about one complete year of data is available before 1980. In 1980, sensors were relocated at a higher point on the tower (at 12 m instead of 5 m).

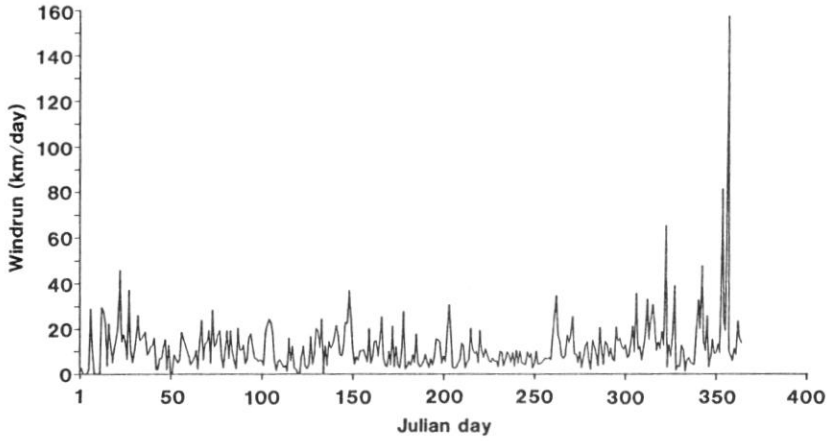

Figure 56—Nighttime windrun at the primary meteorological station of the H. J. Andrews Experimental Forest, 1983.

Summary

Mean monthly precipitation increased each month from July (1.76 cm) through December (42.31 cm) and, except for February, decreased each month from December through July. Slightly less precipitation in January than in either December or February coincided with a somewhat higher percentage of possible radiation. The coincidence in summer of minimum rainfall and maximum temperature usually causes a moisture deficit. Seventy-one percent of the 230.16-cm mean yearly precipitation fell from November through March. The large amount of precipitation during cold months generally results in a 2- to 4-m snowpack above the average snowfall level (1050 m). Yearly, January, and July mean daily air temperatures are 8.5, 0.6, and 17.8 °C, respectively. Mean yearly absolute maximum air temperature is 38.9 °C; mean yearly absolute minimum temperature, -11.3 °C. The average dates of the last spring and first fall frosts (<0.0 °C) are May 21 and October 4, with 134 days between.

Representativeness of Primary Meteorological Station Data

The location of the station causes some compromises in interpreting the data. The proper exposure is difficult to provide for the sensors because the station is located in a mountain valley and surrounded by an old-growth Douglas-fir forest. Latimer (1978) states that in forested terrain, instruments that measure solar radiation should be either in a clearing with a diameter 25 times the height of the surrounding vegetation or above the canopy. Because 76-m old-growth trees are the dominant vegetation, this becomes an impossible restriction. Moving the sensors to a high ridgetop would help, but problems of access and difficulty of maintenance to prevent snow accumulation in the sensors would preclude that option.

Solar-radiation values are therefore somewhat low, especially in winter. Direct sunlight, for example, does not strike the sensors until about 1130 in December, and the sensors are shaded off and on throughout the afternoon by terrain and trees.

Windrun and air temperature data are also compromised because of terrain. Surrounding trees and mountains somewhat shield the anemometers from wind. In winter, drainage of cold air onto the alluvial terrace containing the station clearing causes a frost pocket, and reduced windspeeds probably exaggerate high temperatures in the summer.

Acknowledgments

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English Equivalents

1 hectare (ha) = 2.47 acres

1 meter (m) = 3.27 feet

1 centimeter (cm) = 0.3937 inch

1 kilometer (km) = 0.625 mile

1 langley = 1 calorie cm^{-2} = 4.186 joules cm^{-2} = 3.69 Btu ft^{-2}

1 degree Fahrenheit = 1.8 degree Celsius (^{o}C) + 32.0

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Appendix 1. Station History, Instrument Operation, and Data Handling

History and Description of Data-Logging Equipment

The data-logging equipment used at the primary meteorological station has evolved from a data logger consisting of three inkless Rustrack[1] recorders and their signal-conditioning electronics mounted in a wooden box (table 2). The original M-2 meteorological station described in Waring and other's (1978) paper was replaced by the M-3 station in 1975 because of the age and the unreliability of the equipment. The main differences between the two stations were that the M-3 contained more reliable electronics and a more weather-resistant housing than the M-2 and that the M-3 did not record windspeed. Both the M-2 and M-3 were analog data loggers. Signals from the sensors were conditioned and amplified to drive inkless analog strip-chart recorders. The M-2 recorded windspeed by an event mark on one of the charts; each event represented 12 contact closures of the anemometer.

Because of an increase in National Science Foundation funded research at the Experimental Forest in 1977, the M-3 was deemed no longer sufficient to meet monitoring needs. Backup sensors were desired for each variable, and rainfall and windspeed measurements were needed at the site. Automatic digital data logging on magnetic tape would eliminate the inaccuracies of hand digitizing. Therefore, in March 1979 the M-4 meteorological station was purchased.

[1] The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by the U.S. Department of Agriculture of any product or service to the exclusion of others that may be suitable.

Table 2—Condensed history of the primary meteorological station, H.J. Andrews Experimental Forest

Data logger	Date installed	Date removed	Data recording method	Data retrieval method	Duplicate sensors	Variables measured					
						Solar radiation	Air temperature	Dewpoint temperature	Relative humidity	Windspeed	Rainfall
M-2	May 1972	December 1975	Strip chart with short hourly gap	Manual	No	Yes	Yes	Yes	No	Yes	[a]
M-3	December 1975	Current backup record for dewpoint temperature	Strip chart with short hourly gap	Manual	No	Yes	Yes	Yes	No	No	[a]
M-4	March 1979	Digital	Automatic on magnetic tape and strip chart	Automatic or manual	Yes	Yes	Yes	Yes,	Yes discontinued August 1980	Yes	Yes

[a] Precipitation recorded continuously by a universal weighing rain gauge at a site 0.2 km away.

The M-4 meteorological station is a digital data logger. The output from each analog sensor is first amplified and filtered. This conditioned signal is sampled once every 20 seconds and converted to a digital value by the analog-to-digital converter. Next, the digital value is added to the memory location for that particular sensor, and a sample count is incremented. An electronic multiplexor allows the eight analog inputs to share one analog-to-digital converter. At 1, 5, 15, or 60 min (time selected by the user), the recorder averages the values and records the data on magnetic tape. Electrical pulses from the tipping-bucket rain gauges are counted and total counts recorded.

Current values of any variable may be observed directly on a digital, light-emitting diode display. Time (day, hour, and minute) is also shown on this display. Data are recorded on both an incremental magnetic tape recorder (cassette type) and strip charts. The cassette can hold about 127 days of 10-channel hourly data.

Before July 1980, the batteries that power the station had to be removed and recharged elsewhere. When a 110-volt line was installed in 1980 at the administrative site, an automatic battery charger was also installed to keep fully charged at all times the three automobile batteries that power the M-4 and other equipment at the site.

In July 1979, the new meteorological station was vandalized. Sensors for solar radiation, relative humidity, and rainfall were damaged beyond repair and had to be replaced. The M-3 meteorological station was used for several months while new sensors were ordered, and the data logger was checked by the manufacturer to make sure it was operating properly. As a result, windrun data were lost for several months. A fence was installed around the site to protect the station from future vandalism.

There have been several problems with the M-4 data logger. Several circuit boards that became faulty for unknown reasons had to be replaced. Another problem has been loss of data caused by moisture on the magnetic tape. Although desiccants are kept in the instrument to absorb moisture, the tape drive is situated so that if the cover is opened when the data logger is cold, a person's breath may condense on the tape. This problem was eliminated by insulating the shelter and installing a heater in 1984.

Operation of the Meteorological Station

The station is usually checked daily (at the least, weekly). Values for each channel are observed on the display, and replicate channels are compared. Dewpoint temperature is checked to make sure it does not exceed air temperature and that the two temperatures are reasonably close when humidity is high. About once a month, dewpoint temperature calibration is checked with an aspirated psychrometer. Air temperature is compared regularly with the temperature measured by a calibrated check thermometer. Tipping buckets and radiometers are kept clean and free of snow and ice when possible. Radiometers are checked for moisture condensation inside the domes, and desiccants are changed regularly. Anemometers are checked periodically to make sure that the cups rotate freely and the bearings are lubricated. Strip charts are observed to spot any erratic operation. Any abnormalities are noted in the station log book and corrected as soon as possible. The battery pack of automotive batteries is serviced regularly to ensure that data are not lost during a power failure.

Magnetic tapes are changed about once a month. Time and date of change, as well as the counts from the electromagnetic counters for rainfall, are noted in the log book and on the tape. The electromagnetic counters are then reset, the day on the clock is reset to 1, and a new tape is mounted. Recording heads are cleaned periodically as well. Strip charts run for about 2 months.

Variables Measured and Sensors

The M-2 and M-3 sensors were previously described by Waring and others (1978). In 1977, the solarimeter for the M-3 was replaced by a more reliable and accurate sensor. Windspeed was not measured by the M-3.

Details of calibration accuracy, measurement resolution, and measurement range are listed in table 3 for the M-4 station. The M-4 data logger uses duplicate sensors to measure all of the following variables except dewpoint temperature, which has one sensor. The M-3 data logger is still maintained to provide a backup sensor for dewpoint temperature. The relative humidity sensor provided with the M-4 is no longer used because of repeated failure and exorbitant replacement costs.

Solar radiation—The radiometers have a spectral response of 0.3 to 2.5 μm. A thermopile in each sensor produces a voltage directly proportional to solar radiation intensity by measuring the temperature elevation of a black circular spot exposed to sunlight over that of the massive chrome-plated brass base, which is shielded from sunlight. Each radiometer is equipped with dual optical glass domes and comes with a built-in changeable silica gel desiccator. Output ranges from 8 to 10 millivolts per langley, depending on the individual sensor. The two radiometers are located side by side on a 1-m-high platform in the middle of the station clearing. Each sensor is factory calibrated at 20 °C and has a small temperature coefficient, 0.15 percent per degree Celsius, so that accuracy is normally within ±3 percent. The output signal is filtered to smooth cyclic fluctuations with frequencies higher than 0.004 hertz. Rates of sampling and filtering are chosen to avoid basing averages on peak values of natural periodic variations.

These sensors are very reliable. The only problem has been occasional short circuits caused by moisture in cable connectors.

Air temperature—Air temperature is measured electrically by precision thermistors. These sensors have a time constant of about 1 minute in air. The sensors are located in a standard meteorological shelter 2 m above the ground. The entire shelter is ventilated by an electric fan.

These sensors are very reliable.

Table 3—Sensor and measurement specifications for the M-4 at the primary meteorological station

Variable	Sensor type	Calibration accuracy	Measurement resolution	Measurement range	Manufacturer	Model	Location	Height
Solar radiation	Thermopile	±0.05 Langley	0.01 Langley	0 to 2 Langleys	Kipp and Zonnen Inc.	CM5	Instrument platform	1.1 m
Air temperature	Linear thermistor	±.5 °C	.1 °C	-50 to +50 °C	Yellow Springs Instrument Co.		Standard instrument shelter	2 m
Rainfall	Tipping bucket	±.254 mm	.254 mm	0 to 250 mm/h	Texas Electronics Corp.	525	Instrument platform	1.1 m
Dewpoint temperature	Indirectly heated lithium chloride hygrometer with linear thermistor	±.5 °C	.1 °C	-14 to +29 °C	Interface Instrument Co.		Standard instrument	2 m
Windspeed	3-cup, D.C. generator anemometer	±.25 m/sec	.1 m/sec	0 to 50 m/sec	R. M. Young Co.	6101	1.25 m booms on tower	12 m

Windspeed and windrun—Windspeed is measured by anemometers mounted 12 m up a tower on the ends of 1.25-m booms. These anemometers are direct current tachometer generators that produce voltage output directly proportional to windspeed. The output voltage is filtered, as is radiation, to reduce the effects of natural cyclic variation. Moisture occasionally gets into and shorts one or the other of the sensors despite efforts to seal them.

Windrun in kilometers is later calculated by multiplying mean hourly windspeed in meters per second by 3600 seconds per hour and dividing by 1000 m/km.

Rainfall—Rainfall is measured by tipping-bucket rain gauges. Each tip of the bucket is equal to 0.0254 cm of rainfall. Total tips are recorded on magnetic tape for each recording interval and are accumulated on electromagnetic counters. These sensors are mounted on the same 1-m-high platform as the solar-radiation sensors.

Sealed magnetic switches on these sensors sometimes must be replaced because of moisture penetration.

Dewpoint temperature—Dewpoint temperature is measured by an indirectly heated lithium chloride dewpoint hygrometer (Holbo 1980). This hygrometer consists of a fiberglass fabric wick and two sensing electrodes wrapped around a hollow, vitreous-enameled power resistor (heater) containing a precision thermistor in the hollow part to measure the resistor temperature. The cavity is filled with transistor heat-sink grease to thermally couple the thermistor with the resistor. The wick is doped with a saturated solution of lithium chloride.

Solutions of salt and water decrease the equilibrium vapor pressure of the atmosphere near them. For this pressure to be brought into equilibrium with that of the surrounding airmass, heat must be supplied. Equilibrium is attained when the phase of the saturated solution changes from liquid to solid. This hygrometer senses the phase change by sensing the accompanying large change in the resistance of the solution. The electronic circuitry can then maintain the solution at exactly the phase transition point by supplying more or less heat to the solution as the atmospheric humidity increases or decreases. The temperature of the heater is then directly related to the dewpoint temperature of the air.

The dewpoint sensor is located 2 m above the ground in the standard meteorological instrument shelter with the air-temperature sensors.

These sensors receive constant attention because frequent problems have occurred. The main problem has been a loss or partial loss of contact between the electrodes and the wick after a period of time because of shrinkage of the epoxy that holds the electrodes in place. Proper doping (wetting with the lithium-chloride solution) of the wick is essential; both underdoping and overdoping can cause faulty operation.

Data Processing and Editing

Data from the M-4 meteorological station are recorded on both magnetic tape and strip chart. When the M-4 was first purchased, no reader was purchased for the magnetic tapes. Tapes were sent to the University of Washington to be read, and punched cards were returned. Because of slow turnaround time, a magnetic tape reader and a microcomputer were purchased in the spring of 1981. Now all data processing is done by microcomputer.

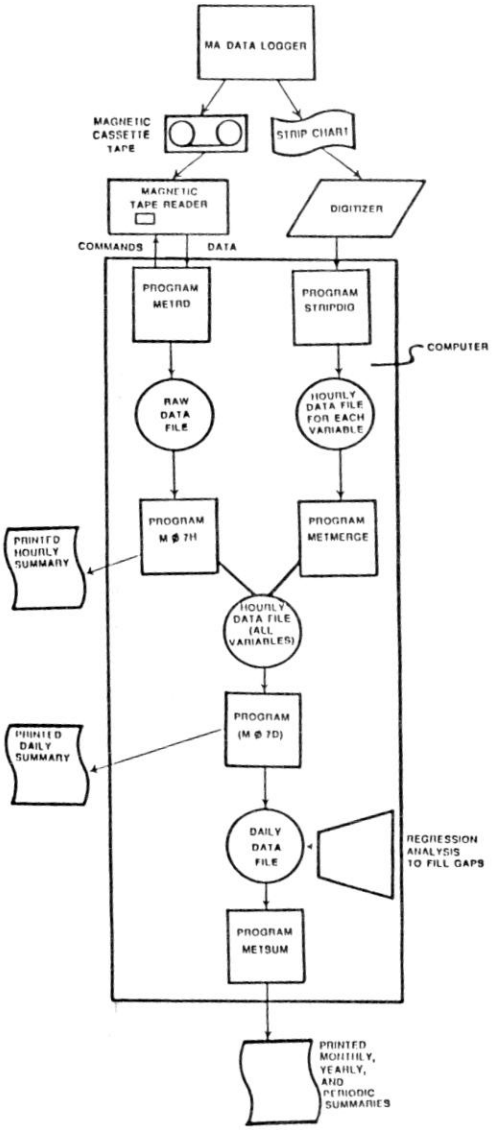

Figure 57—Data flow from the primary meteorological station of the H.J. Andrews Experimental Forest.

Figure 57 is a flowchart of the data from the primary station, and table 4 lists the functions of the programs in the figure.

Printed hourly data listings produced by PROGRAM MØ7H are edited to locate faulty data before PROGRAM MØ7D is run. Duplicate variables that were flagged by the program as too dissimilar are carefully examined along with the station's log book to find any problems. Erroneous data are so marked. Strip charts are also examined if necessary to locate and correct faulty or missing data. Past and potential problems include nonzero solar-radiation values during nighttime hours, dewpoint temperatures that are greater than air temperatures, dewpoint temperatures that either do not approach air temperature closely enough during periods of known high humidity or do not agree with hygrometer check readings, windspeeds that are not zero when they are known to be zero, and divergent tipping-bucket totals.

Table 4—Programs used for processing data from the primary meteorological station, H.J. Andrews Experimental Forest

Program name	Function	Output
METRD.COM	Controls cassette tape reader. Retrieves data from magnetic tape and stores it in a disk file.	Disk file of raw unformatted data.
MØ7H.COM	Converts data to user units. Establishes correct dates. Establishes correct signs. Flags duplicate variables for closeness.	Disk file of hourly formatted data. Printed data listing with duplicate variables compared for closeness.
MØ7D.COM	Computes daytime and nighttime averages for air temperature and dewpoint temperature. Computes daytime and nighttime windrun and daily totals of solar radiation and rainfall. Calculates daily maxima and minima for dewpoint temperature and air temperature.	Disk file with daily data summary. Printed daily data summary. Disk file of hourly data with faulty data replaced by the missing data designator, -99.0.
STRIPDIG.COM	Works with digitizer to digitize strip charts.	Disk file of hourly data for individual variable.
METMERGE.COM	Merges hourly data files for individual variables into the hourly data file for all variables.	Hourly data file.
METSUM.COM	Summarizes the data.	Monthly, yearly, and periodic printed data summaries.

After the daily data set has been computed, the data are edited. Rainfall totals are checked for closeness to those from a rain gauge at the same site. Missing rainfall data are also filled in with data from this gauge or from the gauge at the USDA Forest Service climatic station 0.2 km away. As a check on the calibration accuracy of the solar-radiation sensors, a radiation value from a clear day is selected and compared with a value from a clear day at the same time of year as when the sensors were new. Missing values for other variables are then filled in by use of either standard regression techniques or data from the backup (M-3) meteorological station. Data from before and after the gap to be filled are used in the regression analysis.

Missing air-temperature data are replaced by regressing station air-temperature data against data from a nearby thermograph. High R-square values on the order of 0.9 or greater are normally attained.

Missing solar-radiation data can usually be retrieved from the backup meteorological station. If not, multiple linear regressions are run against daily air-temperature range, air temperature, precipitation (a measure of the cloudiness), and whatever other variables help raise the R-square value to at least 0.70. Sometimes dewpoint temperatures improve the model.

Missing dewpoint temperature data are usually replaced by data from the backup meteorological station. When missing data cannot be replaced, multiple linear regressions are run against daytime air temperature, nighttime air temperature, and other variables. A computer program creates 10 rainfall variables that are the sum of rainfall for periods of 1 to 10 days before each day in the model. These variables improve the model greatly, especially during the summer. Predictions are then made as before.

No attempt has been made to fill missing windspeed values in the data set. When one or more measurements are regressed or estimated, data for that day is flagged with an R or E, respectively, in data set MØ7D. The missing data flagged in the tables are those that could not be replaced by regressed or estimated values.

Data can be received by contacting either:

Forest Science Data Bank
Department of Forest Science
Oregon State University
Corvallis, OR 97331

or:

H. J. Andrews Experimental Forest
P.O. Box 300
Blue River, OR 97413

Appendix 2. Tables 5-31: Detailed Overall, Monthly, and Yearly Data Summaries

Table 5—Daily total solar radiation (langleys), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES								
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN	YR	MINIMUM MEAN	YR	OVERALL HIGH	YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW	YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	80.8	24.6	75.2	148.0	75	52.5	76	274.0	75	147.6	48.2	145.5	6.0	78	22.4	13.8	21.5	12
FEB	122.6	29.3	124.3	181.5	73	69.4	79	303.0	75	237.9	40.0	229.0	12.0	78	38.2	27.2	27.0	12
MAR	228.2	31.9	233.7	276.0	73	167.4	83	531.0	75	416.9	55.9	394.0	6.0	79	60.4	26.3	58.0	12
APR	339.3	63.0	337.6	445.2	73	257.7	78	665.0	74	539.7	52.9	525.0	47.0	80	113.7	61.0	89.0	12
MAY	419.4	57.4	434.5	519.9	73	346.6	77	768.0	73	639.7	44.7	627.0	78.0	77	137.2	47.3	125.5	12
JUN	498.0	60.1	515.9	571.4	74	416.9	80	786.0	73	671.8	53.3	654.0	90.0	81	173.6	60.5	174.0	13
JUL	534.7	42.5	550.7	579.3	72	416.8	83	717.0	75	656.2	39.0	654.0	120.0	78	244.2	102.3	231.0	13
AUG	456.5	42.5	459.0	512.0	73	390.2	78	669.0	75	594.5	37.4	594.0	72.0	77	180.5	68.3	171.0	13
SEP	337.4	55.5	328.8	474.4	75	250.0	78	567.0	75	484.3	40.9	480.0	59.0	81	122.5	85.2	90.0	13
OCT	206.5	34.1	209.8	253.1	74	149.0	84	390.0	73	343.3	22.5	342.0	21.0	81	47.7	18.0	42.0	13
NOV	97.1	30.6	91.6	151.2	74	50.2	73	302.0	74	191.9	51.5	202.0	6.0	77	25.5	12.2	26.0	13
DEC	56.0	21.2	57.7	95.8	76	1.9	82	182.0	74	111.5	32.5	115.0	8.0	81	18.7	10.5	14.5	14
YEARLY VALUES:																		
	259.4	81.4	269.7	316.6	75	0.8	82	786.0	73	672.4	49.9	650.0	6.0	77	13.7	9.9	8.0	13

Table 6—Mean daily air temperature (degrees Celsius), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES								
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN	YR	MINIMUM MEAN	YR	OVERALL HIGH	YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW	YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	0.6	2.0	0.3	3.6	81	-2.8	79	9.8	81	5.5	2.8	5.4	-10.0	80	-5.5	3.5	-5.8	12
FEB	2.6	1.7	3.0	4.6	80	0.2	74	10.1	77	7.3	2.4	8.0	-6.7	79	-1.9	2.2	-1.4	12
MAR	4.4	1.8	4.3	6.9	78	1.6	75	11.9	78	8.8	1.9	9.4	-1.3	75	0.7	1.7	0.6	12
APR	7.0	1.9	6.7	10.8	77	3.2	75	18.1	81	13.7	3.1	12.9	-1.0	75	1.8	1.6	1.8	12
MAY	10.9	1.3	10.9	12.7	83	9.3	78	24.0	83	19.1	2.4	18.5	1.5	75	4.4	1.6	4.9	12
JUN	14.6	1.2	14.3	17.4	77	12.8	80	22.4	77	20.3	1.4	20.2	5.6	73	8.1	1.4	8.2	13
JUL	17.8	1.0	17.8	19.6	72	16.1	83	25.8	73	23.5	1.3	23.3	8.8	81	11.8	1.7	11.8	13
AUG	17.3	1.6	17.5	20.4	77	14.5	75	26.7	77	22.8	2.8	22.8	9.5	75	11.9	1.8	11.6	13
SEP	13.3	1.1	13.1	15.4	76	11.2	78	22.4	74	19.5	1.7	19.5	5.2	72	7.8	1.6	7.9	13
OCT	8.1	0.9	8.1	9.8	83	6.6	81	16.2	76	13.1	1.5	13.1	-1.5	72	3.1	2.1	3.6	13
NOV	3.3	1.7	3.5	5.7	76	0.0	78	12.2	76	8.8	2.1	8.3	-6.5	77	-2.1	2.3	-1.9	13
DEC	0.8	1.8	0.9	3.0	80	-2.8	78	11.8	80	6.6	2.4	6.2	-15.6	72	-5.6	4.6	-3.9	14
YEARLY VALUES:																		
	7.8	2.4	8.3	9.3	83	0.0	82	26.7	77	24.0	1.5	23.5	-15.6	72	-7.9	2.9	-8.4	13

Table 7—Mean daytime air temperature (degrees Celsius) based on mean of hourly integrated average temperatures from sunrise to sunset, primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES							
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN YR	MINIMUM MEAN YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	1.7	2.1	1.5	5.0 81	-1.4 79	10.7 81	6.7	2.6	6.6	-8.0 74	-4.4	3.3	-4.2	12
FEB	3.9	1.9	4.8	6.3 80	1.1 74	11.7 75	9.2	2.7	10.3	-4.9 79	-0.7	2.3	-0.4	12
MAR	6.4	1.9	6.2	9.3 78	3.6 75	14.9 77	11.7	1.9	11.6	-1.3 75	1.9	2.2	1.4	12
APR	9.4	2.3	9.2	15.0 77	5.6 75	22.1 77	17.9	2.8	17.1	0.5 73	2.7	1.6	2.2	12
MAY	13.4	1.5	13.1	15.5 79	11.6 78	28.4 83	23.0	2.8	23.0	2.5 75	5.5	1.7	6.1	12
JUN	17.1	1.6	16.6	20.7 77	14.7 80	25.9 77	24.0	1.7	24.3	6.2 73	9.1	1.9	9.3	13
JUL	21.2	1.3	21.4	23.3 72	18.2 83	31.6 73	27.5	1.9	27.0	10.4 74	13.6	2.3	13.6	13
AUG	20.9	2.0	20.8	24.3 77	17.2 75	32.5 77	27.4	3.5	26.0	11.1 76	13.4	2.3	12.6	13
SEP	16.9	1.4	17.2	18.9 76	14.1 78	28.6 73	24.0	2.7	23.2	5.1 72	10.3	2.4	10.6	13
OCT	11.0	1.4	11.5	12.6 76	8.4 75	19.8 80	16.8	1.9	16.7	-0.3 72	4.8	2.2	5.0	13
NOV	4.7	1.6	4.7	7.6 76	1.9 78	14.9 75	10.4	2.6	9.3	-5.1 77	-1.0	1.7	-0.8	13
DEC	1.7	1.8	2.1	4.0 80	-1.7 72	12.9 80	7.8	2.6	7.4	-15.0 72	-4.3	4.2	-2.8	14
YEARLY VALUES:	9.9	3.0	10.6	11.8 77	0.0 82	32.5 77	28.5	2.5	28.2	-15.0 72	-6.4	2.4	-7.4	13

Table 8—Maximum air temperature (degrees Celsius), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES							
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN YR	MINIMUM MEAN YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	4.0	2.2	4.2	7.7 81	0.9 79	12.4 81	9.0	2.0	9.0	-7.0 74	-1.3	3.0	-1.2	12
FEB	6.9	2.6	8.0	10.8 77	3.0 79	19.0 77	14.2	2.9	14.0	-1.0 74	1.3	2.0	1.5	12
MAR	10.2	2.4	9.9	14.7 78	7.0 75	24.0 78	19.8	2.9	20.5	-0.3 75	3.1	2.4	2.8	12
APR	14.0	2.5	13.7	19.6 77	9.7 75	31.9 81	27.3	3.2	27.3	2.0 73	4.0	1.3	4.0	12
MAY	18.7	2.1	17.9	21.5 83	15.3 77	40.0 83	32.6	3.4	33.0	4.0 75	7.7	1.8	8.1	12
JUN	22.8	2.2	22.2	27.7 77	19.3 80	37.1 82	33.5	2.7	33.0	8.0 73	11.3	2.4	11.0	13
JUL	28.0	1.8	28.2	30.0 84	23.4 83	40.0 79	37.0	1.7	37.0	13.0 74	16.8	3.5	16.1	13
AUG	27.7	2.7	26.9	32.7 81	23.3 75	44.4 81	36.9	4.3	35.5	12.0 79	15.6	2.7	16.0	13
SEP	23.8	3.0	23.2	29.5 74	18.7 78	40.5 81	33.8	3.1	34.0	7.0 72	12.5	3.1	12.1	13
OCT	16.1	2.7	16.4	21.0 74	11.3 75	31.5 80	26.0	3.3	25.0	1.0 72	6.0	2.6	5.9	13
NOV	7.1	2.0	6.9	11.7 76	3.4 73	19.0 75	13.7	3.1	13.6	-3.0 78	0.7	2.0	0.8	13
DEC	3.3	2.0	3.7	6.1 80	0.1 82	13.5 80	9.5	2.0	9.5	-10.0 72	-2.3	3.2	-1.5	14
YEARLY VALUES:	14.1	4.3	15.3	16.4 77	0.0 82	44.4 81	38.8	3.1	37.0	-10.0 72	-3.2	2.3	-2.5	13

Table 9—Mean nighttime air temperature (degrees Celsius) based on mean of hourly integrated average temperatures from sunset to sunrise, primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES								
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN YR	MINIMUM MEAN YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	-0.2	2.0	-0.2	2.9 83	-3.7 79	9.5 81	5.2	2.9	5.2	-12.0 80	-6.4	3.6	-7.1	12
FEB	1.6	1.5	1.6	3.7 83	-0.4 74	9.8 77	6.4	2.2	6.1	-8.6 79	-3.2	2.4	-2.2	12
MAR	2.5	1.7	2.4	4.8 83	-0.4 75	10.1 78	7.1	1.9	7.2	-4.3 75	-1.5	1.6	-1.4	12
APR	4.0	1.7	4.2	5.9 81	0.1 75	13.6 81	9.6	2.6	9.1	-3.5 75	-0.7	1.1	-0.6	12
MAY	6.8	1.1	6.9	8.3 73	5.0 75	17.0 73	13.3	2.2	12.9	-0.4 82	1.6	1.4	2.2	12
JUN	10.0	1.0	9.8	11.8 74	8.3 75	18.0 73	15.5	1.5	14.8	2.9 76	4.5	0.8	4.6	13
JUL	12.2	1.2	11.9	14.6 75	10.6 78	21.0 73	18.0	1.8	18.3	4.1 81	6.6	1.5	6.9	13
AUG	12.3	1.5	12.6	14.8 77	9.9 80	23.2 77	17.4	2.5	17.2	4.8 80	7.1	1.5	7.0	13
SEP	9.5	1.1	9.3	11.7 76	8.2 78	17.5 76	15.1	1.7	14.0	1.4 72	3.4	1.3	3.2	13
OCT	5.7	1.0	5.7	7.6 83	4.4 72	13.1 76	10.6	1.2	10.8	-3.1 72	0.2	1.8	0.6	13
NOV	2.4	1.8	2.4	4.7 83	-1.3 78	12.2 80	8.5	2.2	7.8	-9.1 78	-3.4	2.8	-3.0	13
DEC	0.3	1.8	0.4	2.5 80	-3.8 78	11.1 80	6.2	2.2	6.0	-16.0 72	-6.8	5.1	-5.0	14
YEARLY VALUES:	5.2	1.7	5.5	6.8 83	0.0 82	23.2 77	18.8	2.0	19.0	-16.0 72	-9.3	3.5	-9.1	13

Table 10—Minimum air temperature (degrees Celsius), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES								
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN YR	MINIMUM MEAN YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	-1.8	2.0	-1.7	1.0 83	-5.6 79	8.0 75	4.0	2.6	3.7	-14.8 80	-8.5	3.6	-9.4	12
FEB	-0.3	1.2	-0.5	2.0 83	-2.0 82	7.5 80	4.7	2.3	4.7	-10.0 79	-5.3	2.5	-4.0	12
MAR	0.5	1.4	0.5	2.7 83	-1.6 75	7.4 83	4.9	1.4	5.4	-6.0 76	-3.4	1.4	-3.3	12
APR	1.6	1.5	2.0	3.4 81	-1.2 75	10.5 79	7.1	2.1	7.0	-5.0 75	-2.8	1.1	-2.7	12
MAY	4.2	0.9	4.4	5.6 83	2.6 78	13.0 73	10.0	2.2	9.8	-3.0 75	-0.8	1.3	-0.9	12
JUN	7.2	0.8	7.1	8.8 82	6.1 73	14.9 82	12.7	1.3	12.1	-1.0 73	1.4	1.3	1.8	13
JUL	9.0	1.3	9.0	11.3 75	7.1 81	19.0 75	14.6	2.2	14.1	1.0 73	3.7	1.5	3.0	13
AUG	8.8	1.5	8.7	11.3 76	5.8 80	18.0 74	13.9	2.3	14.0	1.0 73	3.7	1.7	3.5	13
SEP	6.1	1.1	6.2	8.9 76	4.7 72	15.4 84	12.7	1.5	12.0	-3.0 72	0.1	1.6	0.2	13
OCT	3.0	1.4	3.0	4.8 83	0.8 74	11.0 76	8.8	1.8	9.0	-5.0 72	-2.5	1.7	-2.7	13
NOV	0.6	1.8	1.0	3.1 83	-3.3 78	11.0 76	6.9	2.4	6.0	-11.0 77	-4.9	2.9	-4.5	13
DEC	-1.1	1.8	-0.6	1.0 77	-5.2 78	9.0 77	5.0	2.3	4.5	-20.0 72	-8.7	5.4	-7.1	14
YEARLY VALUES:	3.0	1.1	3.0	4.4 83	0.0 82	19.0 75	15.4	2.0	15.3	-20.0 72	-11.3	3.3	-11.0	13

Table 11—Diurnal air temperature range (degrees Celsius), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES							
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN YR	MINIMUM MEAN YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	5.8	1.2	5.2	7.4 77	4.3 82	14.2 80	10.9	1.8	11.2	0.0 75	1.6	0.9	2.0	12
FEB	7.2	1.9	7.7	10.4 77	4.3 79	20.0 73	14.9	2.9	14.6	0.0 74	1.8	1.0	1.7	12
MAR	9.7	1.9	8.9	13.6 78	8.0 80	26.0 74	20.7	3.2	20.0	0.8 75	2.5	1.2	2.7	12
APR	12.5	2.3	11.6	17.2 77	9.0 84	29.0 77	25.5	1.9	25.4	2.0 76	3.3	1.1	3.0	12
MAY	14.5	2.0	14.5	17.2 82	11.0 77	29.2 84	26.9	2.3	27.2	2.0 72	3.8	1.0	3.9	12
JUN	15.7	1.9	15.5	19.9 77	12.2 80	28.7 79	26.0	1.9	27.0	2.2 84	4.1	1.6	3.6	13
JUL	19.0	2.7	19.5	22.3 77	13.3 83	31.0 77	26.8	2.3	26.0	4.0 78	7.1	2.2	6.4	13
AUG	18.9	2.8	19.2	24.0 81	13.8 76	34.0 77	28.1	3.3	28.0	3.0 76	6.0	3.0	5.0	13
SEP	17.6	3.1	17.0	23.3 74	12.4 78	33.0 81	27.1	2.7	27.0	1.5 82	4.7	3.8	4.0	13
OCT	13.1	3.6	12.7	20.1 74	7.1 75	31.0 74	23.8	3.2	24.0	1.0 74	2.4	1.1	2.0	13
NOV	6.6	1.6	6.6	9.4 76	3.7 73	15.0 75	12.7	2.3	13.0	0.0 73	1.4	1.0	1.0	13
DEC	4.4	1.4	4.7	6.2 76	0.2 82	14.0 72	10.2	1.7	9.7	0.0 75	0.9	0.7	1.0	14
YEARLY VALUES:	11.2	3.4	12.3	13.0 77	0.0 82	34.0 77	29.7	2.3	29.0	0.0 73	0.4	0.4	0.0	13

Table 12—Mean daytime dewpoint temperature (degrees Celsius) based on mean of hourly integrated average temperatures from sunrise to sunset, primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES							
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN YR	MINIMUM MEAN YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	0.8	2.2	0.5	4.8 81	-1.9 79	10.7 81	6.0	2.9	5.7	-14.3 80	-6.0	4.4	-5.8	12
FEB	2.2	1.9	2.2	4.9 83	-1.1 79	11.7 75	7.8	2.8	8.0	-14.7 82	-3.0	4.0	-1.9	12
MAR	3.3	1.8	2.9	6.0 83	0.8 77	10.4 84	8.1	1.4	7.9	-5.7 74	-1.8	2.4	-1.9	12
APR	3.8	1.8	3.8	6.5 81	-0.1 75	14.9 81	9.1	2.7	8.3	-4.0 75	-1.2	2.0	-1.3	12
MAY	6.8	1.6	6.8	9.4 73	4.6 77	17.0 73	12.4	2.8	11.2	-0.6 74	1.9	1.7	1.9	12
JUN	9.9	1.2	10.1	11.9 82	7.4 75	18.4 73	15.0	2.3	15.1	3.5 75	5.5	1.5	5.3	13
JUL	12.2	1.8	12.9	14.1 84	7.8 77	22.2 80	17.1	2.8	17.2	3.6 77	7.3	1.9	7.8	13
AUG	12.0	1.2	11.7	14.3 83	9.8 79	20.0 73	16.2	2.0	16.1	2.0 73	7.6	2.3	7.5	13
SEP	9.8	1.6	9.7	12.3 76	6.6 74	19.0 73	14.6	2.1	14.5	-0.3 83	3.9	2.6	4.4	13
OCT	7.0	1.5	7.3	8.9 82	3.8 74	14.2 76	11.6	1.8	11.8	-2.0 72	1.8	2.4	2.2	13
NOV	3.3	1.8	3.2	6.2 76	-0.6 78	13.2 76	8.8	2.3	8.0	-5.1 77	-2.2	1.7	-2.0	13*
DEC	0.9	1.7	1.1	3.6 80	-2.3 72	12.9 80	7.0	2.6	6.5	-18.6 83	-5.6	5.3	-4.0	14
RLY VALUES:	5.6	1.9	6.2	7.4 83	0.0 82	22.2 80	18.0	2.2	18.1	-18.6 83	-9.5	4.8	-9.0	13

n asterisk after a data years value means that averages are based on some months or years with missing data.
is with more than 5 missing days and years with more than 30 missing days have been excluded from averages.

Table 13—Maximum dewpoint temperature (degrees Celsius), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES							
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN	YR	MINIMUM MEAN	YR	OVERALL HIGH	YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW	YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	2.9	2.4	3.1	7.5	81	-0.7	79	12.4	81	8.2	2.6	8.6	-12.9	80	-3.6	4.7	-2.5	11*
FEB	4.3	2.3	4.4	7.4	81	-0.2	79	15.0	75	10.3	2.6	10.0	-5.2	82	-0.9	2.5	-1.0	11
MAR	5.7	1.9	5.6	8.0	84	2.6	77	19.3	81	11.9	3.6	11.8	-4.0	74	0.2	3.2	0.7	10
APR	6.4	1.4	6.2	8.6	81	4.5	82	19.5	81	12.6	3.1	11.6	-1.0	75	1.6	1.4	1.5	10*
MAY	8.9	1.7	9.1	11.1	83	6.0	77	19.5	83	15.1	2.6	14.0	0.0	75	4.1	1.9	4.6	9*
JUN	11.8	0.9	11.9	12.9	72	10.2	75	19.6	84	16.4	1.7	16.6	0.0	78	6.1	2.6	6.2	10*
JUL	14.7	1.3	14.9	16.3	84	12.0	79	29.9	80	21.0	4.1	19.5	0.0	77	8.7	3.2	9.1	10*
AUG	14.3	1.4	14.3	16.6	83	11.5	79	21.5	80	18.9	2.2	19.2	0.0	77	8.5	4.3	10.0	11*
SEP	12.4	1.6	12.2	14.9	75	10.4	78	19.0	72	17.7	1.4	18.0	0.0	72	6.6	3.2	6.8	11*
OCT	9.6	1.4	9.4	11.3	80	7.4	74	19.0	78	14.4	2.3	14.8	0.0	72	4.2	1.8	3.8	10
NOV	5.4	2.2	5.3	9.1	76	1.0	78	16.0	76	11.5	2.8	11.1	-5.0	78	-1.0	2.1	-1.0	11*
DEC	2.6	1.7	2.7	5.8	80	-0.1	78	13.5	80	8.8	2.1	9.1	-11.6	83	-2.9	3.2	-2.0	12*
YEARLY VALUES:																		
	7.5	2.8	8.4	9.4	83	0.0	82	29.9	80	21.3	4.1	20.2	-12.9	80	-6.6	3.5	-5.1	10*

* An asterisk after a data years value means that averages are based on some months or years with missing data.
Months with more than 5 missing days and years with more than 30 missing days have been excluded from averages.

Table 14—Mean nighttime dewpoint temperature (degrees Celsius) based on mean of hourly integrated average temperatures from sunset to sunrise, primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES							
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN	YR	MINIMUM MEAN	YR	OVERALL HIGH	YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW	YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	-0.8	2.0	-0.5	2.4	83	-4.0	79	9.5	81	4.7	3.2	4.9	-14.8	80	-6.9	3.9	-7.8	11*
FEB	0.5	1.6	-0.1	3.1	83	-1.9	79	8.6	81	5.4	2.2	5.6	-11.6	82	-4.6	3.0	-3.4	11
MAR	1.7	1.6	1.8	4.1	83	-0.9	77	8.8	84	6.5	1.9	6.9	-4.6	76	-2.7	1.4	-3.1	10
APR	3.0	1.4	2.9	4.9	81	0.5	82	13.1	81	8.5	2.6	7.4	-4.0	75	-2.0	1.2	-2.1	10*
MAY	5.2	1.2	5.5	6.9	83	3.1	77	15.1	83	10.8	2.0	10.3	-3.2	75	0.5	1.6	0.6	10
JUN	7.9	1.3	8.0	10.1	82	5.3	75	15.5	84	12.9	1.5	12.8	0.3	75	2.9	1.3	3.3	12
JUL	9.4	1.8	10.1	11.0	75	5.1	77	16.7	83	14.6	2.0	15.3	0.0	77	4.6	2.0	4.6	12
AUG	9.5	1.4	9.2	11.8	76	7.5	79	17.8	82	13.6	1.8	13.5	2.0	74	4.8	1.9	4.1	12
SEP	7.1	1.4	7.1	10.1	76	4.8	72	16.4	84	12.6	2.2	12.6	-1.1	74	1.5	1.6	1.7	12*
OCT	4.3	1.5	4.7	6.1	82	1.0	74	11.8	76	9.3	1.4	9.0	-5.1	78	-1.3	2.1	-1.0	11
NOV	1.3	2.0	1.3	3.8	76	-2.8	78	11.9	80	7.4	2.3	6.9	-9.1	78	-4.8	2.3	-4.1	11
DEC	-0.3	1.7	-0.1	1.8	81	-3.8	78	11.1	80	6.0	2.3	5.7	-29.2	83	-8.3	7.6	-5.6	12
YEARLY VALUES:																		
	3.7	1.4	3.8	5.4	83	0.0	82	17.8	82	15.7	1.7	16.0	-29.2	83	-11.3	6.7	-9.8	12*

* An asterisk after a data years value means that averages are based on some months or years with missing data.
Months with more than 5 missing days and years with more than 30 missing days have been excluded from averages.

Table 15—Minimum dewpoint temperature (degrees Celsius), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES								
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN	YR	MINIMUM MEAN	YR	OVERALL HIGH	YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW	YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	-2.3	1.9	-2.7	0.5	83	-5.9	79	8.0	75	3.6	2.9	3.0	-16.5	80	-8.3	4.0	-8.0	11*
FEB	-1.3	1.4	-1.4	1.2	83	-3.8	82	6.7	80	4.0	2.2	4.0	-19.8	82	-7.2	4.5	-5.8	11
MAR	-0.2	1.3	-0.2	1.9	83	-2.2	77	6.6	83	4.3	1.4	4.3	-6.0	74	-4.3	1.4	-4.5	10*
APR	0.9	1.3	0.9	2.5	81	-1.7	82	9.5	79	6.2	1.8	6.0	-9.1	84	-4.3	2.0	-4.0	10*
MAY	3.2	1.1	3.4	4.5	81	1.0	77	11.5	81	9.0	1.7	8.6	-5.2	84	-2.2	1.8	-1.8	9*
JUN	5.4	1.2	5.6	7.1	74	3.2	77	13.9	82	10.4	1.5	10.1	-2.0	75	0.0	1.1	0.1	10*
JUL	7.7	1.3	8.0	9.4	75	5.9	72	16.0	75	13.0	2.2	13.5	-2.0	77	2.9	1.7	3.1	10*
AUG	7.1	1.5	6.9	10.4	76	4.8	80	14.2	82	11.5	2.2	11.0	0.0	74	2.3	2.2	1.5	11*
SEP	4.6	1.5	4.5	8.2	76	2.6	72	14.7	84	10.8	2.1	11.0	-3.5	83	-1.2	1.9	-1.0	11*
OCT	2.2	1.5	2.5	4.1	75	-1.1	74	10.0	76	7.9	1.5	8.1	-5.0	74	-2.9	1.4	-2.8	10
NOV	-0.4	1.7	-0.1	1.7	76	-3.6	78	10.5	80	5.9	2.5	5.1	-7.0	78	-5.3	1.2	-5.4	11*
DEC	-1.4	1.5	-1.0	0.3	81	-4.5	83	8.0	77	4.8	2.4	4.6	-33.6	83	-9.1	8.5	-7.0	11*
YEARLY VALUES:																		
	2.0	0.9	2.0	3.1	76	0.0	82	16.0	75	13.8	1.5	14.2	-33.6	83	-14.3	8.4	-10.6	10*

* An asterisk after a data years value means that averages are based on some months or years with missing data. Months with more than 5 missing days and years with more than 30 missing days have been excluded from averages.

Table 16—Diurnal dewpoint temperature range (degrees Celsius), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES								
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN	YR	MINIMUM MEAN	YR	OVERALL HIGH	YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW	YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	5.3	1.1	4.8	7.7	81	3.9	82	12.0	75	10.2	1.4	10.6	0.0	75	1.2	0.9	1.0	11*
FEB	5.6	1.5	5.6	7.9	81	2.5	79	22.6	82	12.1	3.9	11.3	0.0	74	1.6	1.3	2.0	11
MAR	5.8	0.9	5.9	7.3	81	4.5	76	15.2	79	11.9	1.9	11.6	0.0	76	1.6	1.2	2.0	10*
APR	5.5	0.8	5.4	6.8	80	4.5	74	12.6	84	11.1	1.3	11.7	0.0	74	1.6	1.0	1.8	10*
MAY	5.7	0.9	5.6	6.9	79	4.5	74	17.7	84	11.8	2.4	11.0	0.0	74	1.3	0.9	1.0	9*
JUN	6.3	1.2	6.1	8.7	77	5.1	76	16.0	77	10.9	2.1	10.4	0.0	74	1.7	1.1	1.7	10*
JUL	7.0	1.0	6.6	8.6	80	5.7	76	20.8	80	12.2	3.5	11.1	0.0	76	2.0	1.2	2.3	10*
AUG	7.1	1.2	7.2	9.2	80	5.1	76	15.9	80	11.3	2.2	11.0	1.0	74	2.5	1.4	2.0	11*
SEP	7.8	1.7	8.0	11.3	75	5.8	77	17.0	72	12.6	2.2	12.0	1.0	72	2.4	1.3	2.0	11*
OCT	7.3	1.3	7.5	9.5	80	5.1	79	18.0	78	12.9	1.4	12.8	0.0	74	1.7	0.8	1.9	10
NOV	5.9	1.0	6.1	7.4	76	4.3	83	13.0	72	11.1	2.0	11.3	0.0	78	1.6	0.9	1.0	10*
DEC	4.2	1.7	4.4	6.4	80	0.2	82	25.9	83	11.2	5.1	9.8	0.0	74	0.7	0.7	0.6	11*
YEARLY VALUES:																		
	5.6	2.1	6.3	7.1	80	0.0	82	25.9	83	18.5	4.6	17.7	0.0	74	0.5	0.4	0.6	9*

* An asterisk after a data years value means that averages are based on some months or years with missing data. Months with more than 5 missing days and years with more than 30 missing days have been excluded from averages.

Table 17—Diurnal windrun (kilometers), primary meterological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY MEANS					MONTHLY AND YEARLY EXTREME DAILY VALUES							
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM MEAN YR	MINIMUM MEAN YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	OVERALL LOW YR	MEAN LOW	STD. DEV.	MEDIAN LOW	DATA YEARS
JAN	26.6	9.4	22.7	38.6 80	14.7 75	172.6 84	90.9	45.5	79.5	0.0 83	5.6	5.7	5.1	7*
FEB	27.5	13.9	26.4	56.2 82	14.7 75	144.4 82	78.1	36.5	68.0	0.0 81	4.3	3.8	3.7	7*
MAR	31.8	11.7	33.0	43.6 80	11.7 74	113.0 82	89.3	28.3	97.5	0.0 74	8.4	5.0	9.1	6*
APR	49.3	14.5	55.3	60.2 82	22.8 74	185.0 81	117.1	50.8	113.0	2.5 74	13.2	8.2	11.1	6*
MAY	61.7	25.7	71.5	87.7 79	22.0 75	162.9 83	105.8	45.7	114.6	5.0 83	16.7	9.5	15.2	8*
JUN	65.4	31.3	78.0	111.2 79	23.1 75	179.7 84	108.3	54.6	118.1	9.8 74	19.5	8.0	18.1	9*
JUL	73.3	34.5	88.7	105.9 80	21.1 75	186.3 80	114.0	56.9	123.0	4.0 74	38.5	25.9	39.6	7
AUG	68.1	32.5	82.1	100.8 84	19.9 75	160.2 81	105.7	53.0	116.5	6.2 75	24.8	19.2	17.2	7*
SEP	41.4	19.4	45.8	66.3 80	15.1 73	142.9 83	93.4	46.9	114.4	2.2 81	12.6	7.9	13.1	8*
OCT	23.6	13.1	20.2	47.3 80	10.0 73	153.0 80	66.1	45.5	44.9	2.3 73	6.6	4.4	6.1	7
NOV	22.3	11.2	20.9	36.6 80	10.4 73	190.1 84	102.4	75.0	87.4	0.0 73	4.8	5.3	3.8	6
DEC	19.2	13.2	16.0	41.6 80	0.6 82	213.1 83	100.9	59.5	103.9	0.0 82	3.3	3.5	2.4	8*
YEARLY VALUES:														
	38.2	22.9	47.5	60.7 80	0.2 82	213.1 83	161.4	44.2	165.3	0.0 73	1.1	2.2	0.0	6*

* An asterisk after a data years value means that averages are based on some months or years with missing data. Months with more than 5 missing days and years with more than 30 missing days have been excluded from averages.

Table 18—Total precipitation (centimeters), primary meteorological station, H. J. Andrews Experimental Forest, 5/10/72 through 12/31/84

	MONTHLY AND YEARLY PERIOD TOTALS					MONTHLY AND YEARLY EXTREME DAILY VALUES				
MONTH	MEAN	STD. DEV.	MEDIAN	MAXIMUM TOTAL YR	MINIMUM TOTAL YR	OVERALL HIGH YR	MEAN HIGH	STD. DEV.	MEDIAN HIGH	DATA YEARS
JAN	29.61	14.83	30.72	48.81 76	8.09 77	13.11 76	6.31	3.21	6.15	12
FEB	30.85	11.14	34.87	47.13 79	10.47 73	10.90 84	6.51	2.64	6.55	12
MAR	25.93	10.12	24.58	41.89 74	8.30 78	7.47 74	4.43	1.65	3.89	12
APR	15.09	5.41	13.77	23.08 84	5.91 77	4.97 82	3.07	0.97	3.09	12
MAY	10.40	5.21	9.91	20.16 84	1.99 82	4.17 79	2.45	0.91	2.26	12
JUN	7.36	5.24	6.67	18.66 84	2.11 79	4.97 81	2.32	1.50	2.17	13
JUL	1.76	1.63	1.76	6.30 83	0.00 72	3.42 83	0.97	0.89	1.05	13
AUG	4.28	3.59	3.38	9.66 78	0.13 81	4.12 83	1.48	1.11	1.51	13
SEP	7.64	5.64	6.90	17.34 73	0.00 75	4.37 81	2.06	1.39	2.17	13
OCT	16.65	10.66	15.51	34.07 84	2.44 78	8.61 75	4.31	2.39	3.75	13
NOV	35.62	17.69	32.15	69.46 73	7.01 76	9.78 75	5.62	2.13	5.25	13
DEC	42.45	17.39	44.06	74.96 81	7.35 76	9.98 81	6.75	2.21	6.74	14
YEARLY VALUES:										
	234.78	39.03	242.59	290.21 82	166.15 78	13.11 76	9.4	1.6	9.2	13

Table 19—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1972, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP. (DEGREES CELSIUS)	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
MAY	MEAN:	466.1	13.4	16.5	21.3	8.2	4.5	16.9	8.8	11.2	5.8	3.5	7.8	-99.0	8.16A
	MAX:	642.0	22.6	27.5	35.0	14.5	10.0	27.0	14.0	18.0	9.3	8.0	13.0	-99.0	2.08
	MIN:	102.0	6.5	7.3	9.0	3.5	-1.0	2.0	5.2	7.0	1.1	-2.0	3.0	-99.0	8.00B
	DAYS:	22	22	22	22	22	22	22	22	22	22	22	22	0	22
JUN	MEAN:	557.6	14.8	17.5	22.7	9.7	6.3	16.4	10.7	12.9	7.4	5.1	7.8	-99.0	2.34A
	MAX:	708.0	19.7	23.9	31.0	14.7	12.0	25.0	15.6	17.0	13.3	11.0	10.0	-99.0	0.89
	MIN:	216.0	7.4	8.5	13.0	5.1	2.0	5.0	6.9	8.0	3.7	1.0	1.0	-99.0	8.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
JUL	MEAN:	579.3	19.6	23.3	29.6	13.3	9.1	20.5	10.8	13.9	7.8	5.9	8.0	-99.0	0.00A
	MAX:	666.0	24.1	28.5	37.0	18.4	14.0	26.0	14.7	18.0	12.5	10.0	12.0	-99.0	0.00
	MIN:	318.0	11.8	13.1	15.0	8.1	3.0	6.0	3.7	9.0	3.8	1.0	4.0	-99.0	0.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
AUG	MEAN:	499.0	18.6	22.6	29.2	13.0	8.8	20.4	11.6	14.4	8.0	6.2	8.2	-99.0	2.66A
	MAX:	624.0	26.0	30.5	39.0	18.4	13.0	28.0	15.2	19.0	11.4	10.0	11.0	-99.0	2.13
	MIN:	294.0	11.9	13.5	16.0	8.6	4.0	7.0	5.3	10.0	2.8	1.0	5.0	-99.0	3.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
SEP	MEAN:	347.0	12.1	15.4	21.6	8.5	4.7	16.9	7.4	10.8	4.8	2.6	8.2	-99.0	10.83A
	MAX:	480.0	21.0	27.0	36.0	14.0	12.0	28.0	11.8	19.0	8.8	8.0	17.0	-99.0	2.31
	MIN:	90.0	5.2	5.1	7.0	1.4	-3.0	2.0	0.1	0.0	0.0	-3.0	1.0	-99.0	10.00B
	DAYS:	30	30	30	30	30	30	30	30	28	28	28	28	0	30
OCT	MEAN:	242.7	7.0	10.0	15.3	4.4	1.0	14.3	4.7	8.7	2.0	-0.2	9.1	-99.0	7.13A
	MAX:	354.0	11.7	16.4	24.0	8.1	6.0	26.0	11.9	16.0	7.1	5.0	13.0	-99.0	2.84
	MIN:	84.0	-1.5	-0.3	1.0	-3.1	-5.0	2.0	-2.0	0.0	-3.1	-4.0	2.0	-99.0	10.00B
	DAYS:	31	31	31	31	31	31	31	31	12	12	13	12	0	31
NOV	MEAN:	116.2	4.0	5.1	7.3	3.3	1.2	6.1	4.5	7.1	2.6	0.7	6.6	-99.0	16.98A
	MAX:	204.0	7.1	8.9	12.0	6.4	5.0	13.0	8.0	10.0	4.8	3.0	13.0	-99.0	2.90
	MIN:	36.0	0.4	0.5	3.0	0.4	-2.0	1.0	0.0	0.0	-0.3	-3.0	3.0	-99.0	20.00B
	DAYS:	30	30	30	30	30	30	30	29	14	14	15	14	0	30
DEC	MEAN:	70.8	-2.3	-1.7	0.2	-2.7	-4.6	4.7	-2.3	-99.0	-99.0	-99.0	-99.0	-99.0	43.78A
	MAX:	120.0	4.9	6.3	9.0	4.5	3.0	14.0	6.0	-99.0	-99.0	-99.0	-99.0	-99.0	5.00
	MIN:	36.0	-15.6	-15.0	-10.0	-16.0	-20.0	1.0	-16.0	-99.0	-99.0	-99.0	-99.0	-99.0	22.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	0	31
YEARLY VALUES:															
	MEAN:	356.0	10.8	13.5	18.3	7.2	3.8	14.4	7.0	12.0	6.1	4.0	8.0	-99.0	91.88A
	MAX:	708.0	26.0	30.5	39.0	18.4	14.0	28.0	15.6	19.0	13.3	11.0	17.0	-99.0	5.00
	MIN:	36.0	-15.6	-15.0	-10.0	-16.0	-20.0	1.0	-16.0	0.0	-3.1	-4.0	1.0	-99.0	81.00B
	DAYS:	236	236	236	236	236	236	236	235	168	168	170	168	0	236

Underlined day counts emphasize periods with missing data;
-99.0 means data are completely missing.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 20—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1973, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(----------	----------	----------	----------	----------	----------	DEGREES CELSIUS	----------	----------	----------	----------	----------)		
JAN	MEAN:	83.3	-1.5	-0.6	1.1	-2.0	-3.6	4.7	-1.0	-99.0	-99.0	-99.0	-99.0	-99.0	28.06A
	MAX:	174.0	2.6	3.8	6.0	1.9	1.0	7.0	3.8	-99.0	-99.0	-99.0	-99.0	-99.0	5.30
	MIN:	30.0	-8.7	-7.8	-4.0	-9.2	-11.0	2.0	-9.0	-99.0	-99.0	-99.0	-99.0	-99.0	22.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	0	31
FEB	MEAN:	181.5	2.9	5.2	8.3	1.0	-0.8	9.1	2.4	-99.0	-99.0	-99.0	-99.0	-99.0	10.47A
	MAX:	264.0	7.0	10.4	16.0	5.4	4.0	20.0	9.0	-99.0	-99.0	-99.0	-99.0	-99.0	2.03
	MIN:	76.0	-1.3	0.3	3.0	-2.5	-4.0	3.0	-2.0	-99.0	-99.0	-99.0	-99.0	-99.0	16.00B
	DAYS:	28	28	28	28	28	28	28	28	0	0	0	0	0	28
MAR	MEAN:	276.0	2.7	4.3	7.8	1.1	-1.1	8.9	2.4	-99.0	-99.0	-99.0	-99.0	-99.0	17.15A
	MAX:	444.0	6.0	9.9	20.0	4.8	3.0	23.0	5.8	-99.0	-99.0	-99.0	-99.0	-99.0	3.28
	MIN:	90.0	-0.1	0.1	1.0	-1.2	-4.0	3.0	-2.0	-99.0	-99.0	-99.0	-99.0	-99.0	23.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	0	31
APR	MEAN:	445.2	6.7	9.7	15.2	2.9	-0.2	15.5	3.5	-99.0	-99.0	-99.0	-99.0	-99.0	10.10A
	MAX:	588.0	12.3	16.2	25.0	6.8	5.0	25.0	8.3	-99.0	-99.0	-99.0	-99.0	-99.0	3.12
	MIN:	138.0	-0.2	0.5	2.0	-1.1	-4.0	4.0	-3.5	-99.0	-99.0	-99.0	-99.0	-99.0	11.00B
	DAYS:	30	30	30	30	30	30	30	30	0	0	0	0	0	30
MAY	MEAN:	519.9	12.7	15.3	20.9	8.3	4.9	16.0	9.4	-99.0	-99.0	-99.0	-99.0	25.9	5.89A
	MAX:	768.0	23.2	27.0	33.0	17.0	13.0	28.0	17.0	-99.0	-99.0	-99.0	-99.0	37.1	2.29
	MIN:	180.0	5.5	6.7	9.0	2.0	-1.0	5.0	2.0	-99.0	-99.0	-99.0	-99.0	14.7	9.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	10	31
JUN	MEAN:	565.7	14.3	16.7	22.0	9.9	6.1	15.9	10.5	-99.0	-99.0	-99.0	-99.0	28.9	8.70A
	MAX:	786.0	21.1	24.3	33.0	18.0	14.0	27.0	18.4	-99.0	-99.0	-99.0	-99.0	40.2	2.62
	MIN:	216.0	5.6	6.2	8.0	4.4	-1.0	5.0	5.6	-99.0	-99.0	-99.0	-99.0	13.1	8.00B
	DAYS:	30	30	30	30	30	30	30	30	0	0	0	0	28	30
JUL	MEAN:	563.0	19.2	22.4	28.8	13.6	8.8	20.0	13.8	-99.0	-99.0	-99.0	-99.0	28.5	0.03A
	MAX:	715.0	25.8	31.6	37.0	21.0	15.0	27.0	21.0	-99.0	-99.0	-99.0	-99.0	44.0	0.03
	MIN:	462.0	14.3	16.2	21.0	8.0	1.0	7.0	7.8	-99.0	-99.0	-99.0	-99.0	23.2	1.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	25	31
AUG	MEAN:	512.0	17.6	21.4	26.6	12.0	7.4	19.2	12.1	-99.0	-99.0	-99.0	-99.0	23.1	2.00A
	MAX:	625.0	26.4	31.0	34.0	20.0	14.0	25.0	20.0	-99.0	-99.0	-99.0	-99.0	30.9	1.65
	MIN:	247.0	10.8	12.0	16.0	5.5	1.0	8.0	2.0	-99.0	-99.0	-99.0	-99.0	7.7	3.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	25	31
SEP	MEAN:	328.9	14.1	18.1	23.3	9.8	6.3	17.0	11.1	-99.0	-99.0	-99.0	-99.0	15.1	17.34A
	MAX:	554.0	20.7	28.6	35.0	14.0	13.0	29.0	19.0	-99.0	-99.0	-99.0	-99.0	31.7	4.29
	MIN:	81.0	10.4	10.6	12.0	3.9	-1.0	3.0	2.0	-99.0	-99.0	-99.0	-99.0	3.1	11.00B
	DAYS:	30	30	30	30	30	30	30	30	0	0	0	0	26	30
OCT	MEAN:	214.2	7.8	10.1	14.9	5.8	2.2	12.7	7.3	-99.0	-99.0	-99.0	-99.0	10.0	18.53A
	MAX:	390.0	11.4	14.7	23.0	10.9	10.0	25.0	12.7	-99.0	-99.0	-99.0	-99.0	41.0	7.04
	MIN:	40.0	4.5	6.0	7.0	1.2	-3.0	3.0	0.0	-99.0	-99.0	-99.0	-99.0	2.3	14.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	31	31
NOV	MEAN:	50.2	1.4	2.4	3.4	0.8	-0.2	3.7	2.3	-99.0	-99.0	-99.0	-99.0	10.4	69.46A
	MAX:	112.0	5.5	7.0	9.0	5.8	5.0	9.0	7.0	-99.0	-99.0	-99.0	-99.0	37.9	6.40
	MIN:	30.0	-1.0	-1.0	-1.0	-2.4	-3.0	0.0	-1.0	-99.0	-99.0	-99.0	-99.0	0.0	29.00B
	DAYS:	30	30	30	30	30	30	30	30	0	0	0	0	30	30
DEC	MEAN:	39.4	1.8	2.7	4.2	1.2	-0.5	4.7	2.2	-99.0	-99.0	-99.0	-99.0	11.1	54.96A
	MAX:	50.0	3.8	5.1	7.0	4.0	3.0	8.0	5.0	-99.0	-99.0	-99.0	-99.0	36.3	6.05
	MIN:	30.0	-1.9	-0.9	0.0	-2.6	-5.0	2.0	-1.0	-99.0	-99.0	-99.0	-99.0	3.9	25.00B
	DAYS:	31	31	31	31	31	31	31	31	0	0	0	0	30	31
YEARLY VALUES:															
	MEAN:	315.7	8.3	10.7	14.8	5.4	2.5	12.3	6.4	-99.0	-99.0	-99.0	-99.0	18.1	242.69A
	MAX:	786.0	26.4	31.6	37.0	21.0	15.0	29.0	21.0	-99.0	-99.0	-99.0	-99.0	44.0	7.04
	MIN:	30.0	-8.7	-7.8	-4.0	-9.2	-11.0	0.0	-9.0	-99.0	-99.0	-99.0	-99.0	0.0	172.00B
	DAYS:	365	365	365	365	365	365	365	365	0	0	0	0	205	365

Underlined day counts emphasize periods with missing data;
-99.0 means data are completely missing.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 21—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1974, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(---DEGREES CELSIUS---)													
JAN	MEAN:	71.1	-1.4	-0.7	1.6	-1.9	-3.2	4.9	-0.9	1.2	-2.4	-3.7	4.8	19.3	45.71A
	MAX:	90.0	4.7	5.6	9.0	4.9	3.5	9.0	5.6	9.0	4.9	3.0	9.0	90.3	7.62
	MIN:	40.0	-8.6	-8.0	-7.0	-9.1	-10.0	1.0	-9.0	-8.0	-9.1	-10.0	1.0	0.8	21.00B
	DAYS:	31	31	31	31	31	31	31	31	29	29	29	29	29	31
FEB	MEAN:	123.7	0.2	1.1	3.4	-0.4	-1.3	4.7	0.8	3.1	-0.5	-1.4	4.5	17.5	37.15A
	MAX:	220.0	2.5	3.2	11.0	2.6	1.0	15.0	3.2	9.0	2.6	1.0	13.0	65.5	8.13
	MIN:	85.0	-1.5	-1.0	-1.0	-2.1	-4.0	0.0	-1.5	-1.0	-2.1	-4.0	0.0	2.5	19.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MAR	MEAN:	258.4	2.5	4.3	8.2	0.8	-0.6	8.8	2.1	4.4	0.3	-1.0	5.3	11.7	41.89A
	MAX:	521.0	6.2	11.0	23.0	5.0	3.0	26.0	8.8	15.0	4.9	3.0	13.0	38.5	7.47
	MIN:	85.0	-1.1	-0.7	0.0	-1.5	-4.0	1.0	-5.7	-4.0	-3.9	-6.0	1.0	0.0	20.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
APR	MEAN:	425.6	6.0	8.2	13.0	3.0	1.3	11.6	3.2	5.7	2.5	1.2	4.5	22.8	17.53A
	MAX:	665.0	11.0	16.4	26.0	8.2	7.0	26.0	7.1	11.0	6.4	5.0	12.0	41.7	3.81
	MIN:	155.0	1.9	2.2	4.0	-1.5	-4.0	3.0	-2.5	0.0	-2.0	-4.0	0.0	2.5	18.00B
	DAYS:	30	30	30	30	30	30	30	30	25	25	25	25	25	30
MAY	MEAN:	462.0	9.5	11.7	16.8	6.0	3.8	13.1	5.2	7.5	4.6	3.0	4.5	25.4	8.97A
	MAX:	635.0	17.2	19.4	29.0	14.8	13.0	29.0	11.3	14.0	12.3	11.0	12.0	43.2	1.88
	MIN:	221.0	1.6	2.6	5.0	-0.1	-1.0	4.0	-0.6	3.0	-0.1	-2.0	0.0	9.0	12.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
JUN	MEAN:	571.4	15.7	17.8	24.7	11.8	8.4	16.3	9.9	12.5	8.9	7.1	5.3	29.0	6.68A
	MAX:	730.0	21.5	25.2	37.0	17.7	14.0	28.0	15.1	17.0	13.7	12.0	12.0	43.6	4.83
	MIN:	133.0	9.2	9.7	11.0	3.7	0.0	3.0	4.7	6.0	3.0	-1.0	0.0	9.8	6.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	29	29	30	30
JUL	MEAN:	503.8	16.9	19.7	26.2	12.0	9.4	16.8	11.7	14.3	9.9	8.2	6.2	27.1	1.58A
	MAX:	699.0	23.4	27.0	35.0	17.8	17.0	25.0	17.6	19.0	15.1	14.0	10.0	43.5	0.71
	MIN:	135.0	10.0	10.4	13.0	5.1	3.0	5.0	6.6	9.0	3.6	2.0	1.0	4.0	5.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
AUG	MEAN:	498.8	18.5	22.5	29.5	12.6	9.5	20.0	12.4	14.9	9.1	7.2	7.7	27.3	0.53A
	MAX:	612.0	22.9	27.0	36.0	18.2	18.0	28.0	16.5	20.0	14.0	14.0	13.0	34.9	0.28
	MIN:	187.0	12.0	12.6	14.0	7.1	3.0	4.0	7.6	9.0	2.0	0.0	1.0	13.0	2.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SEP	MEAN:	350.1	15.0	18.1	29.5	11.6	6.2	23.3	6.6	10.7	5.4	3.2	7.5	25.7	0.36A
	MAX:	513.0	22.4	27.5	36.0	16.3	14.0	29.0	13.5	18.0	12.6	11.0	11.0	50.8	0.36
	MIN:	96.0	8.6	13.5	16.0	3.3	0.0	3.0	0.9	6.0	-1.1	-3.0	2.0	12.6	1.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
OCT	MEAN:	253.1	7.7	11.6	21.0	4.4	0.8	20.1	3.8	7.4	1.0	-1.1	8.4	20.2	4.80A
	MAX:	353.0	11.9	17.1	30.0	10.8	8.0	31.0	7.8	11.0	8.4	7.0	14.0	32.7	1.83
	MIN:	73.0	4.1	6.2	7.0	-0.8	-5.0	1.0	-1.8	2.0	-4.8	-5.0	0.0	3.2	6.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
NOV	MEAN:	151.2	3.7	4.7	7.7	3.0	1.2	6.5	3.7	6.5	1.8	0.2	6.4	13.1	25.78A
	MAX:	302.0	7.3	9.0	14.0	6.9	6.0	13.0	7.9	12.0	6.2	5.0	13.0	41.4	4.27
	MIN:	30.0	-2.5	-2.1	0.0	-2.8	-4.0	1.0	-2.1	0.0	-3.4	-5.0	1.0	0.4	16.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	29	29	30	30
DEC	MEAN:	60.3	1.4	2.3	3.3	0.9	-0.3	3.6	1.5	2.8	0.2	-1.0	3.8	14.7	49.60A
	MAX:	182.0	6.8	9.0	9.0	5.5	4.0	12.0	8.8	9.0	5.5	4.0	13.0	53.6	6.63
	MIN:	25.0	-3.8	-3.4	-2.0	-4.1	-7.0	1.0	-3.9	-2.0	-4.5	-7.0	0.0	4.6	24.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
YEARLY VALUES:															
	MEAN:	311.6	8.0	10.2	15.5	5.3	2.9	12.5	5.0	7.7	3.5	1.9	5.8	21.2	240.58A
	MAX:	730.0	23.4	27.5	37.0	18.2	18.0	31.0	17.6	20.0	15.1	14.0	14.0	90.3	8.13
	MIN:	25.0	-8.6	-8.0	-7.0	-9.1	-10.0	0.0	-9.0	-8.0	-9.1	-10.0	0.0	0.0	150.00B
	DAYS:	365	365	365	365	365	365	365	365	358	358	356	356	358	365

Underlined day counts emphasize periods with missing data.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 22—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1975, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(LANGLEYS)	DEGREES CELSIUS												
JAN	MEAN:	148.0	0.5	1.6	3.4	-0.1	-1.0	4.4	1.3	3.1	-0.5	-1.5	4.6	14.7	46.92A
	MAX:	274.0	9.2	9.1	11.0	9.3	8.0	12.0	9.1	11.0	8.9	8.0	12.0	37.7	7.87
	MIN:	25.0	-3.9	-4.4	-2.0	-4.6	-8.0	0.0	-4.8	-2.0	-5.0	-8.0	0.0	5.2	25.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	28	31
FEB	MEAN:	148.7	0.6	1.5	3.6	-0.1	-0.9	4.5	0.9	3.1	-0.9	-1.9	5.0	14.7	36.36A
	MAX:	303.0	8.7	11.7	15.0	6.2	6.0	12.0	11.7	15.0	6.0	6.0	13.0	31.8	5.69
	MIN:	75.0	-2.7	-3.1	-1.0	-3.7	-6.0	1.0	-3.5	-2.0	-4.4	-6.0	1.0	3.8	25.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	25	28
MAR	MEAN:	270.4	1.6	3.6	7.0	-0.4	-1.6	8.6	0.9	4.4	-0.7	-2.1	6.5	17.4	35.80A
	MAX:	531.0	6.0	8.0	17.0	4.3	3.0	20.0	7.9	10.0	4.2	3.0	13.0	29.6	6.04
	MIN:	75.0	-1.3	-1.3	-0.3	-4.3	-5.0	0.8	-4.0	0.0	-3.9	-5.0	2.0	7.4	24.00B
	DAYS:	31	31	31	31	31	31	31	31	19	19	19	19	19	31
APR	MEAN:	363.7	3.2	5.6	9.7	0.1	-1.2	10.8	-0.1	2.5	-1.2	-2.6	5.0	17.9	10.68A
	MAX:	591.0	7.7	12.5	20.0	4.7	4.0	22.0	3.9	6.0	3.3	3.0	10.0	27.0	3.61
	MIN:	133.0	-1.0	0.9	3.0	-3.5	-5.0	4.0	-4.0	-1.0	-4.0	-5.0	0.0	3.2	17.00B
	DAYS:	30	30	30	30	30	30	30	30	19	20	20	19	20	30
MAY	MEAN:	457.2	9.4	12.1	18.1	5.0	3.1	15.0	5.0	8.4	3.2	1.5	6.8	22.0	8.90A
	MAX:	651.0	18.8	23.6	33.0	10.9	8.0	26.0	10.4	14.0	8.9	7.0	11.0	37.3	2.24
	MIN:	183.0	1.5	2.5	4.0	-0.2	-3.0	3.0	-0.5	0.0	-3.2	-5.0	2.0	13.8	12.00B
	DAYS:	31	31	31	31	31	31	31	31	22	23	23	22	31	31
JUN	MEAN:	538.8	13.1	15.6	21.1	8.3	6.2	14.9	7.4	10.2	5.3	4.0	6.2	23.1	3.65A
	MAX:	717.0	21.5	24.8	33.0	16.1	13.0	27.0	11.6	14.0	10.9	9.0	12.0	39.3	0.79
	MIN:	213.0	6.2	6.5	8.0	3.2	0.0	3.0	3.5	5.0	0.3	-2.0	1.0	12.2	10.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
JUL	MEAN:	553.3	17.9	19.9	26.8	14.6	11.3	15.5	13.2	15.9	11.0	9.4	6.6	21.1	2.68A
	MAX:	717.0	22.2	24.7	35.0	20.0	19.0	24.0	17.3	20.0	16.6	16.0	11.0	33.8	1.12
	MIN:	219.0	10.1	11.2	13.0	7.3	4.0	6.0	7.1	9.0	6.0	3.0	1.0	8.1	9.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
AUG	MEAN:	505.1	14.5	17.2	23.3	10.5	8.2	15.2	11.7	14.4	8.5	6.8	7.6	19.9	7.67A
	MAX:	669.0	18.2	21.7	30.0	13.7	12.0	24.0	14.0	17.0	12.2	11.0	12.0	30.6	1.78
	MIN:	171.0	9.5	11.2	13.0	5.3	1.0	5.0	8.0	10.0	4.1	1.0	2.0	6.2	8.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SEP	MEAN:	474.4	13.3	17.3	27.5	8.9	4.8	22.7	10.3	14.9	6.4	3.5	11.3	19.5	0.00A
	MAX:	567.0	17.9	21.9	34.0	14.6	12.0	29.0	15.6	19.0	13.1	12.0	15.0	33.5	0.00
	MIN:	375.0	9.1	12.2	19.0	5.4	2.0	16.0	6.1	12.0	2.6	0.0	5.0	13.6	0.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
OCT	MEAN:	176.0	7.0	8.4	11.3	5.8	4.3	7.1	7.6	9.6	5.3	4.1	5.5	10.5	30.68A
	MAX:	362.0	13.6	16.8	30.0	10.6	9.0	25.0	12.4	15.0	10.4	9.0	12.0	22.2	8.61
	MIN:	62.0	2.0	2.3	3.0	1.7	0.0	2.0	2.3	3.0	0.4	-1.0	2.0	3.6	24.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
NOV	MEAN:	91.7	3.3	4.6	7.0	2.4	1.0	5.9	2.5	4.3	0.5	-0.6	5.0	9.4	40.12A
	MAX:	212.0	11.1	14.9	19.0	11.4	10.0	15.0	9.1	13.0	7.2	6.0	13.0	19.0	9.78
	MIN:	30.0	-1.5	0.1	2.0	-3.7	-5.0	1.0	-2.0	-1.0	-5.2	-6.0	1.0	3.9	24.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	24	30
DEC	MEAN:	62.3	0.5	1.2	2.9	0.0	-0.7	3.6	1.0	2.7	-0.3	-1.1	3.8	-99.0	39.14A
	MAX:	102.0	5.8	8.8	10.0	6.0	6.0	11.0	8.8	10.0	6.0	6.0	11.0	-99.0	5.72
	MIN:	30.0	-2.5	-2.2	-2.0	-3.3	-6.0	0.0	-3.4	-2.0	-4.1	-6.0	0.0	-99.0	24.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
YEARLY VALUES:															
	MEAN:	316.6	7.1	9.1	13.5	4.6	2.8	10.7	5.2	8.1	3.4	1.9	6.2	17.5	262.60A
	MAX:	717.0	22.2	24.8	35.0	20.0	19.0	29.0	17.3	20.0	16.6	16.0	15.0	39.3	9.78
	MIN:	25.0	-3.9	-4.4	-2.0	-4.6	-8.0	0.0	-4.8	-2.0	-5.2	-8.0	0.0	3.2	202.00B
	DAYS:	365	365	365	365	365	365	365	365	333	335	335	333	300	365

Underlined day counts emphasize periods with missing data;
-99.0 means data are completely missing.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 23—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1976, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(----------	----------	----------	----------	----------	DEGREES CELSIUS	----------	----------	----------	----------	----------	----------)		
JAN	MEAN:	52.5	0.3	1.4	3.8	-0.4	-1.4	5.2	1.2	3.4	-0.6	-1.4	4.8	-99.0	48.81A
	MAX:	84.0	2.5	4.3	9.0	2.3	2.0	12.0	4.3	8.0	2.3	2.0	11.0	-99.0	13.11
	MIN:	30.0	-4.1	-3.4	-1.0	-4.5	-6.0	0.0	-3.4	-1.0	-4.5	-6.0	0.0	-99.0	21.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
FEB	MEAN:	92.8	1.0	2.3	5.7	0.0	-1.4	7.0	1.0	2.8	-0.6	-1.6	4.4	-99.0	33.38A
	MAX:	216.0	4.6	7.5	13.0	3.4	2.0	14.0	5.8	8.0	2.5	2.0	11.0	-99.0	6.45
	MIN:	30.0	-4.3	-2.7	-1.0	-5.5	-8.0	1.0	-4.1	-3.0	-5.5	-8.0	0.0	-99.0	17.00B
	DAYS:	29	29	29	29	29	29	29	29	29	29	29	29	0	29
MAR	MEAN:	236.1	2.6	4.5	8.5	0.8	-0.5	8.9	1.8	3.7	0.2	-0.8	4.5	-99.0	24.62A
	MAX:	435.0	8.9	12.4	19.0	5.8	4.0	19.0	9.5	13.0	4.8	3.0	10.0	-99.0	3.76
	MIN:	55.0	-1.0	0.3	1.0	-3.8	-6.0	1.0	-4.4	-4.0	-4.6	-6.0	0.0	-99.0	20.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
APR	MEAN:	406.4	7.0	8.9	13.9	4.5	2.7	11.2	4.5	6.6	3.4	2.1	4.5	-99.0	13.35A
	MAX:	536.0	15.7	20.4	30.0	9.2	7.0	25.0	8.4	12.0	7.5	6.0	9.0	-99.0	2.31
	MIN:	258.0	0.7	1.1	3.0	-0.7	-2.0	2.0	0.5	2.0	-1.3	-3.0	2.0	-99.0	22.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
MAY	MEAN:	469.0	11.4	14.2	20.6	7.0	4.5	16.1	6.5	9.0	5.6	4.0	5.0	-99.0	6.01A
	MAX:	663.0	18.2	22.0	33.0	12.0	9.0	26.0	10.1	13.0	9.6	8.0	11.0	-99.0	1.65
	MIN:	201.0	6.0	6.9	9.0	3.7	0.0	5.0	1.9	5.0	2.3	0.0	1.0	-99.0	14.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
JUN	MEAN:	552.6	13.7	16.1	22.3	9.1	6.8	15.5	8.4	10.5	7.0	5.4	5.1	-99.0	2.84A
	MAX:	717.0	20.6	24.4	34.0	14.8	12.0	26.0	12.8	15.0	12.0	10.0	9.0	-99.0	0.99
	MIN:	315.0	7.3	8.5	12.0	2.9	0.0	6.0	3.7	5.0	1.3	0.0	1.0	-99.0	9.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
JUL	MEAN:	574.5	18.6	21.7	28.6	13.3	10.7	18.0	12.7	15.0	10.9	9.3	5.7	-99.0	2.26A
	MAX:	675.0	21.9	26.5	36.0	17.6	16.0	26.0	15.7	19.0	15.8	15.0	10.0	-99.0	1.45
	MIN:	231.0	12.3	15.0	19.0	6.9	4.0	6.0	8.5	10.0	5.6	4.0	0.0	-99.0	4.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
AUG	MEAN:	428.4	16.7	19.1	25.1	13.4	11.3	13.8	13.6	15.5	11.8	10.4	5.1	-99.0	9.02A
	MAX:	591.0	20.8	24.7	35.0	16.8	15.0	23.0	16.5	20.0	15.0	14.0	9.0	-99.0	1.52
	MIN:	165.0	10.1	11.1	14.0	8.3	6.0	3.0	9.2	11.0	7.5	6.0	1.0	-99.0	16.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
SEP	MEAN:	394.2	15.4	18.9	26.0	11.7	8.9	17.1	12.3	14.5	10.1	8.2	6.3	-99.0	2.06A
	MAX:	507.0	20.3	23.2	34.0	17.5	14.0	26.0	15.8	18.0	14.3	13.0	10.0	-99.0	1.22
	MIN:	165.0	9.8	13.2	14.0	4.5	2.0	4.0	7.1	10.0	3.9	2.0	1.0	-99.0	4.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
OCT	MEAN:	249.5	9.0	12.6	19.0	6.1	3.5	15.5	7.8	10.5	5.0	2.9	7.5	-99.0	11.16A
	MAX:	338.0	16.2	19.3	28.0	13.1	11.0	24.0	14.2	17.0	11.8	10.0	13.0	-99.0	4.29
	MIN:	56.0	5.2	6.5	8.0	0.5	-2.0	1.0	2.4	4.0	-1.4	-3.0	2.0	-99.0	8.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
NOV	MEAN:	129.6	5.7	7.6	11.7	4.5	2.3	9.4	6.2	9.1	3.8	1.7	7.4	-99.0	7.01A
	MAX:	216.0	12.2	14.9	19.0	11.3	11.0	15.0	13.2	16.0	10.9	10.0	13.0	-99.0	2.92
	MIN:	54.0	-3.0	-0.9	3.0	-4.3	-6.0	1.0	-3.8	-2.0	-5.1	-6.0	1.0	-99.0	10.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
DEC	MEAN:	95.8	0.6	1.9	4.6	-0.3	-1.6	6.2	0.1	2.6	-2.0	-3.3	5.9	-99.0	7.35A
	MAX:	126.0	4.3	5.6	9.0	4.5	4.0	11.0	3.9	7.0	3.3	2.0	10.0	-99.0	2.06
	MIN:	36.0	-2.5	-1.6	1.0	-3.1	-5.0	1.0	-4.7	-4.0	-4.8	-5.0	1.0	-99.0	10.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
YEARLY VALUES:															
	MEAN:	307.3	8.5	10.8	15.8	5.8	3.8	12.0	6.4	8.6	4.6	3.1	5.5	-99.0	167.87A
	MAX:	717.0	21.9	26.5	36.0	17.6	16.0	26.0	16.5	20.0	15.8	15.0	13.0	-99.0	13.11
	MIN:	30.0	-4.3	-3.4	-1.0	-5.5	-8.0	0.0	-4.7	-4.0	-5.5	-8.0	0.0	-99.0	155.00B
	DAYS:	366	366	366	366	366	366	366	366	366	366	366	366	0	366

Underlined day counts emphasize periods with missing data;
-99.0 means data are completely missing.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 24—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1977, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP. (DEGREES CELSIUS)	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
JAN	MEAN:	100.1	-0.5	0.8	4.6	-1.3	-2.8	7.4	-1.5	0.8	-3.2	-3.5	4.8	-99.0	8.09A
	MAX:	138.0	2.9	4.9	9.0	2.6	2.0	12.2	2.2	5.0	0.0	0.0	9.0	-99.0	2.41
	MIN:	48.0	-6.4	-4.1	-1.0	-7.8	-10.0	2.0	-5.0	-5.0	-7.8	-5.0	1.0	-99.0	9.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	28	28	0	31
FEB	MEAN:	142.1	4.1	5.5	10.8	3.1	0.4	10.4	2.1	4.5	-0.1	-2.0	6.5	-99.0	17.79A
	MAX:	240.0	10.1	10.8	19.0	9.8	7.0	19.0	6.7	8.0	5.7	4.0	11.0	-99.0	3.66
	MIN:	54.0	0.2	0.1	1.0	-0.9	-3.0	1.0	-1.7	-1.0	-3.4	-5.0	1.0	-99.0	15.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	0	28
MAR	MEAN:	211.4	3.8	5.9	8.5	1.8	0.4	8.1	0.8	2.6	-0.9	-2.2	4.8	-99.0	28.44A
	MAX:	378.0	10.5	14.9	21.0	6.1	4.0	20.0	6.2	7.0	2.9	2.0	11.0	-99.0	3.18
	MIN:	42.0	0.8	1.6	2.0	-0.5	-3.0	1.0	-3.3	-1.0	-3.4	-5.0	0.0	-99.0	21.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
APR	MEAN:	355.0	10.8	15.0	19.6	5.3	2.3	17.2	3.2	5.1	1.7	-0.4	5.5	-99.0	5.91A
	MAX:	486.0	17.6	22.1	29.0	12.0	9.0	29.0	8.4	10.0	7.4	6.0	10.0	-99.0	1.07
	MIN:	174.0	4.8	6.3	7.0	-0.6	-3.0	6.0	-3.0	-1.0	-3.9	-5.0	0.0	-99.0	12.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
MAY	MEAN:	346.6	9.7	11.7	15.3	6.6	4.3	11.0	4.6	6.0	3.1	1.0	5.0	-99.0	18.95A
	MAX:	630.0	16.9	19.0	26.0	13.3	10.0	21.0	11.1	13.0	9.1	7.0	11.0	-99.0	3.38
	MIN:	78.0	4.9	5.8	7.0	2.4	-1.0	3.0	1.7	3.0	-1.5	-4.0	0.0	-99.0	19.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
JUN	MEAN:	538.4	17.4	20.7	27.7	11.5	7.8	19.9	9.4	11.9	6.4	3.2	8.7	-99.0	2.36A
	MAX:	654.0	22.4	25.9	36.0	17.0	14.0	27.0	14.9	17.0	12.6	10.0	16.0	-99.0	1.09
	MIN:	204.0	10.0	13.2	17.0	4.7	2.0	8.0	4.4	7.0	1.6	-1.0	4.0	-99.0	4.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
JUL	MEAN:	550.7	17.9	21.7	29.5	11.3	7.2	22.3	7.8	8.4	5.1	-0.2	8.6	-99.0	0.58A
	MAX:	678.0	22.8	27.9	39.0	15.4	12.0	31.0	12.0	12.0	10.3	2.0	12.0	-99.0	0.28
	MIN:	258.0	10.7	13.8	18.0	5.2	3.0	10.0	3.6	0.0	0.0	-2.0	4.0	-99.0	4.00B
	DAYS:	31	31	31	31	31	31	31	31	14	31	14	14	0	31
AUG	MEAN:	422.5	20.4	24.3	32.1	14.8	10.6	21.5	11.7	13.3	9.5	7.7	5.6	-99.0	9.11A
	MAX:	618.0	26.7	32.5	43.5	23.2	15.0	34.0	15.1	17.0	12.9	11.0	9.0	-99.0	2.26
	MIN:	72.0	11.6	12.0	14.0	6.6	4.0	4.0	7.8	0.0	4.0	0.0	1.0	-99.0	9.00B
	DAYS:	31	31	31	31	31	31	31	31	19	31	19	19	0	31
SEP	MEAN:	283.8	12.7	15.6	20.4	9.5	7.0	13.4	9.5	11.1	7.3	5.4	5.8	-99.0	13.94A
	MAX:	486.0	19.6	22.1	32.0	16.7	15.0	27.0	14.9	17.0	14.2	12.0	10.0	-99.0	3.15
	MIN:	60.0	7.9	9.0	10.0	5.1	2.0	4.0	6.2	7.0	3.3	1.0	2.0	-99.0	14.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
OCT	MEAN:	215.6	8.4	11.5	16.5	5.7	3.0	13.6	7.3	9.4	4.1	1.7	7.7	-99.0	15.52A
	MAX:	342.0	11.5	16.3	23.0	9.1	6.0	20.0	10.7	13.0	7.2	5.0	11.0	-99.0	2.95
	MIN:	36.0	5.1	5.7	7.0	2.7	-1.0	3.0	4.1	5.0	1.3	-1.0	2.0	-99.0	12.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
NOV	MEAN:	87.7	3.1	4.3	6.9	2.3	0.0	6.9	2.8	4.6	1.4	-0.1	5.0	-99.0	50.89A
	MAX:	210.0	8.4	9.9	13.0	8.3	6.0	13.0	8.4	11.0	6.9	4.0	8.0	-99.0	7.26
	MIN:	6.0	-6.5	-5.1	-2.0	-8.4	-11.0	2.0	-5.1	-3.0	-8.4	-5.0	2.0	-99.0	22.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	29	29	0	30
DEC	MEAN:	53.1	2.6	3.6	5.1	2.0	1.0	4.1	2.4	3.4	1.2	0.2	3.3	-99.0	64.52A
	MAX:	120.0	10.3	11.7	12.0	9.5	9.0	9.0	9.6	10.0	8.0	8.0	8.0	-99.0	9.83
	MIN:	10.0	-3.1	-1.0	-1.0	-4.5	-6.0	0.0	-1.7	-1.0	-4.5	-5.0	0.0	-99.0	27.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
YEARLY VALUES:															
	MEAN:	276.2	9.2	11.8	16.4	6.1	3.4	13.0	5.0	6.4	3.0	0.7	5.8	-99.0	236.10A
	MAX:	678.0	26.7	32.5	43.5	23.2	15.0	34.0	15.1	17.0	14.2	12.0	16.0	-99.0	9.83
	MIN:	6.0	-6.5	-5.1	-2.0	-8.4	-11.0	0.0	-5.1	-5.0	-8.4	-5.0	0.0	-99.0	168.00B
	DAYS:	365	365	365	365	365	365	365	365	336	365	332	332	0	365

Underlined day counts emphasize periods with missing data;
-99.0 means data are completely missing.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 25—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1978, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(LANGLEYS)	DEGREES CELSIUS												
JAN	MEAN:	65.4	2.9	3.9	5.5	2.2	0.5	5.0	2.7	3.9	1.3	-0.3	4.2	-99.0	24.27A
	MAX:	150.0	6.4	7.7	9.0	5.6	4.0	10.0	6.0	7.0	4.3	3.0	7.0	-99.0	3.38
	MIN:	6.0	-2.3	-2.0	0.0	-2.7	-5.0	2.0	-2.9	-2.0	-3.6	-5.0	2.0	-99.0	27.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
FEB	MEAN:	125.9	3.4	4.8	8.1	2.2	-0.1	8.2	2.6	4.5	1.0	-1.1	5.6	-99.0	18.93A
	MAX:	300.0	7.5	9.1	17.0	6.2	4.0	18.0	6.3	10.0	4.8	3.0	12.0	-99.0	4.78
	MIN:	12.0	-1.7	-1.1	0.0	-2.7	-4.0	2.0	-2.6	-1.0	-3.9	-5.0	2.0	-99.0	19.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	0	28
MAR	MEAN:	238.5	6.9	9.3	14.7	4.5	1.2	13.6	4.0	6.2	2.4	-0.3	6.6	-99.0	8.30A
	MAX:	378.0	11.9	14.7	24.0	10.1	6.0	24.0	8.0	9.0	7.8	4.0	13.0	-99.0	2.34
	MIN:	60.0	1.1	3.9	6.0	-1.7	-4.0	4.0	-1.7	1.0	-3.5	-5.0	3.0	-99.0	14.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	30	30	0	31
APR	MEAN:	257.7	5.9	7.8	12.2	3.6	0.9	11.3	3.1	4.9	2.1	0.0	4.9	-99.0	18.56A
	MAX:	492.0	12.0	16.9	27.0	9.0	7.0	27.0	8.1	10.0	6.9	6.0	12.0	-99.0	2.69
	MIN:	84.0	1.9	2.3	4.0	-0.5	-3.0	3.0	-0.6	1.0	-2.2	-4.0	1.0	-99.0	23.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
MAY	MEAN:	359.5	9.3	11.6	16.7	5.4	2.6	14.2	5.3	7.2	4.2	2.3	5.0	-99.0	11.70A
	MAX:	619.0	17.9	22.7	33.0	10.3	8.0	27.0	10.3	13.0	9.3	8.0	9.0	-99.0	2.62
	MIN:	108.0	3.0	4.2	8.0	0.2	-2.0	3.0	0.0	0.0	-0.9	-4.0	1.0	-99.0	16.00B
	DAYS:	31	31	31	31	31	31	31	31	29	31	28	28	0	31
JUN	MEAN:	476.1	14.9	18.0	23.7	9.5	7.7	16.0	10.1	12.0	8.2	6.6	5.4	-99.0	5.27A
	MAX:	654.0	20.3	25.4	34.0	14.3	12.0	27.0	15.1	18.0	13.0	12.0	9.0	-99.0	2.29
	MIN:	174.0	9.1	9.3	10.0	4.6	3.0	3.0	4.7	0.0	3.6	0.0	2.0	-99.0	10.00B
	DAYS:	30	30	30	30	30	30	30	30	28	30	28	28	0	30
JUL	MEAN:	518.9	17.4	21.5	28.2	10.6	8.6	19.6	13.4	14.9	9.5	7.7	7.1	-99.0	2.16A
	MAX:	654.0	25.8	29.8	39.0	19.1	13.0	28.0	16.7	19.0	14.1	12.0	10.0	-99.0	1.50
	MIN:	120.0	11.8	12.6	14.0	4.6	3.0	4.0	8.2	0.0	4.1	0.0	2.0	-99.0	5.00B
	DAYS:	31	31	31	31	31	31	31	31	23	31	23	22	0	31
AUG	MEAN:	390.2	16.2	19.5	25.4	11.4	8.8	16.6	11.2	12.4	9.1	6.7	5.8	-99.0	9.66A
	MAX:	576.0	24.6	31.5	42.9	15.8	14.0	32.0	15.2	17.0	12.5	10.0	11.0	-99.0	2.29
	MIN:	102.0	10.3	11.3	13.0	5.5	3.0	4.0	6.6	0.0	4.2	0.0	2.0	-99.0	11.00B
	DAYS:	31	31	31	31	31	31	31	31	26	31	26	26	0	31
SEP	MEAN:	250.0	11.2	14.1	18.7	8.2	6.4	12.4	8.9	10.4	6.3	4.6	5.8	-99.0	11.29A
	MAX:	438.0	17.9	20.9	28.0	13.6	12.0	22.0	13.6	17.0	11.2	9.0	12.0	-99.0	2.62
	MIN:	72.0	6.6	7.2	9.0	3.1	1.0	3.0	4.4	5.0	1.8	-1.0	2.0	-99.0	13.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
OCT	MEAN:	242.5	8.2	12.6	19.1	4.5	1.5	17.6	7.1	11.5	2.8	1.9	9.4	-99.0	2.44A
	MAX:	348.0	13.2	16.5	25.0	10.1	7.0	24.0	9.8	19.0	7.8	5.0	18.0	-99.0	1.70
	MIN:	60.0	0.4	4.3	5.0	-2.5	-4.0	5.0	-0.1	0.0	-5.1	-1.0	4.0	-99.0	4.00B
	DAYS:	31	31	31	31	31	31	31	31	11	31	14	11	0	31
NOV	MEAN:	115.8	0.0	1.9	4.8	-1.3	-3.3	8.1	-0.6	1.0	-2.8	-3.6	5.6	-99.0	25.63A
	MAX:	192.0	9.5	10.4	14.0	8.8	4.0	15.0	7.4	9.0	5.5	3.0	12.0	-99.0	5.54
	MIN:	24.0	-6.3	-2.8	-3.0	-9.1	-10.0	0.0	-5.0	-5.0	-9.1	-7.0	0.0	-99.0	11.00B
	DAYS:	30	30	30	30	30	30	30	30	28	30	25	24	0	30
DEC	MEAN:	70.6	-2.8	-1.3	0.2	-3.8	-5.2	5.4	-1.5	-0.1	-3.8	-4.7	4.9	-99.0	27.94A
	MAX:	144.0	4.4	4.9	10.0	4.3	3.0	12.0	4.8	9.0	4.3	3.0	11.0	-99.0	7.49
	MIN:	18.0	-12.3	-8.2	-6.0	-16.0	-16.7	1.0	-8.2	-6.0	-16.0	-16.7	1.0	-99.0	18.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	25	25	0	31
YEARLY VALUES:															
	MEAN:	260.2	7.8	10.3	14.8	4.8	2.5	12.4	5.6	6.9	3.4	1.6	5.7	-99.0	166.15A
	MAX:	654.0	25.8	31.5	42.9	19.1	14.0	32.0	16.7	19.0	14.1	12.0	18.0	-99.0	7.49
	MIN:	6.0	-12.3	-8.2	-6.0	-16.0	-16.7	0.0	-8.2	-6.0	-16.0	-16.7	0.0	-99.0	171.00B
	DAYS:	365	365	365	365	365	365	365	365	326	365	318	313	0	365

Underlined day counts emphasize periods with missing data;
-99.0 means data are completely missing.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 26—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1979, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(LANGLEYS)	(DEGREES CELSIUS)												
JAN	MEAN:	88.9	-2.8	-1.4	0.9	-3.7	-5.6	6.5	-1.9	-0.7	-4.0	-5.9	5.4	-99.0	13.59A
	MAX:	162.0	2.4	4.0	7.0	1.4	1.0	12.0	3.1	5.0	0.2	0.0	10.0	-99.0	6.68
	MIN:	12.0	-8.5	-6.7	-4.0	-9.7	-10.0	2.0	-6.7	-4.0	-9.7	-10.0	1.0	-99.0	13.00B
	DAYS:	31	31	31	31	31	31	31	31	28	31	30	28	0	31
FEB	MEAN:	69.4	0.6	1.4	3.0	-0.1	-1.4	4.3	-1.1	-0.2	-1.9	-2.7	2.5	-99.0	47.13A
	MAX:	180.0	4.3	5.2	8.0	4.5	2.0	10.0	3.7	6.0	2.6	1.0	7.0	-99.0	7.70
	MIN:	18.0	-6.7	-4.9	-1.0	-8.6	-10.0	1.0	-4.9	-4.0	-8.6	-10.0	0.0	-99.0	25.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	0	28
MAR	MEAN:	234.1	5.8	8.4	13.4	3.4	0.7	12.6	3.9	6.5	2.2	-0.1	6.6	32.8	19.68A
	MAX:	385.0	9.7	13.2	21.8	8.5	5.3	23.5	7.7	12.6	7.8	4.7	15.2	72.7	5.38
	MIN:	6.0	-1.1	0.9	3.0	-2.7	-3.0	4.0	-3.0	-3.0	-3.0	-3.0	0.0	7.9	18.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	25	31
APR	MEAN:	279.3	7.9	9.6	13.8	5.6	3.3	10.5	5.9	7.8	4.6	2.4	5.5	30.3	20.13A
	MAX:	533.0	15.0	17.5	25.5	11.6	10.5	23.1	11.0	12.2	10.5	9.5	12.0	36.9	2.45
	MIN:	93.0	2.9	3.4	4.2	0.8	-1.2	2.1	2.1	2.8	-0.2	-2.0	1.5	15.8	21.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	8	30
MAY	MEAN:	457.2	12.5	15.5	21.5	7.5	4.5	17.0	7.7	10.3	6.1	3.4	6.9	87.7	11.17A
	MAX:	624.0	18.9	23.4	33.2	12.5	11.4	27.6	11.3	15.5	10.8	9.2	11.6	135.1	4.17
	MIN:	127.0	6.0	6.8	10.0	2.7	0.4	3.8	3.7	6.4	1.8	-1.6	2.0	8.7	10.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	28	31
JUN	MEAN:	515.9	15.4	18.5	24.7	9.8	6.5	18.2	9.1	11.4	7.7	5.1	6.2	111.2	2.11A
	MAX:	628.0	19.5	24.7	35.5	14.3	10.5	28.7	12.8	15.3	10.6	8.6	9.7	166.1	1.05
	MIN:	178.0	8.9	9.5	11.0	4.7	1.1	3.5	4.5	6.1	3.3	0.1	1.9	34.4	6.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
JUL	MEAN:	533.5	17.7	21.9	29.6	10.7	7.4	22.2	10.4	12.0	8.0	6.0	6.0	93.4	1.77A
	MAX:	636.0	23.6	29.1	40.0	14.3	12.3	30.0	14.1	17.0	11.9	11.1	9.0	113.9	1.06
	MIN:	283.0	12.3	14.6	18.9	6.0	3.0	11.1	7.6	0.0	4.3	0.0	2.3	67.8	2.00B
	DAYS:	31	31	31	31	31	31	31	31	26	31	26	26	4	31
AUG	MEAN:	447.5	15.6	19.4	25.8	10.2	7.3	18.5	9.8	11.5	7.5	5.6	5.9	-99.0	3.38A
	MAX:	612.0	18.5	24.0	34.0	14.5	12.0	30.0	12.6	14.0	11.8	10.0	8.0	-99.0	0.99
	MIN:	138.0	10.7	11.8	12.0	6.8	3.0	3.0	6.6	0.0	3.1	0.0	2.0	-99.0	7.00B
	DAYS:	31	31	31	31	31	31	31	31	29	31	29	29	0	31
SEP	MEAN:	368.6	13.2	17.9	24.5	8.2	5.9	18.6	9.2	11.4	6.1	3.8	7.6	-99.0	6.38A
	MAX:	480.0	17.3	22.8	33.0	13.1	12.0	26.0	11.8	15.0	10.5	9.0	12.0	-99.0	2.79
	MIN:	174.0	8.5	12.8	15.5	3.5	1.0	6.0	5.7	0.0	1.6	0.0	3.0	-99.0	4.00B
	DAYS:	30	30	30	30	30	30	30	30	23	30	23	23	0	30
OCT	MEAN:	209.8	8.8	11.9	16.5	6.1	4.5	12.0	6.1	7.5	3.8	2.5	5.1	-99.0	26.31A
	MAX:	366.0	14.6	19.6	29.0	11.4	11.0	26.0	9.2	11.0	8.0	8.0	11.0	-99.0	7.90
	MIN:	42.0	1.8	3.6	5.0	-1.4	-4.0	3.0	2.0	3.0	-2.6	-5.0	1.0	-99.0	14.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	0	31
NOV	MEAN:	130.7	1.3	3.0	6.0	0.1	-1.8	7.9	1.2	3.5	-1.2	-3.0	6.5	-99.0	24.78A
	MAX:	245.0	6.3	7.8	11.0	5.9	5.0	14.0	5.3	7.0	4.0	3.0	10.0	-99.0	4.70
	MIN:	26.0	-2.8	-1.7	-1.0	-3.7	-5.0	1.0	-2.6	-2.0	-4.6	-5.0	1.0	-99.0	14.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	0	30
DEC	MEAN:	73.5	1.5	2.6	4.4	0.9	-0.7	5.1	1.3	3.0	-0.3	-1.6	4.6	33.9	23.42A
	MAX:	132.0	6.2	7.1	8.0	6.0	4.0	9.0	5.8	7.1	5.4	3.4	9.0	59.0	6.12
	MIN:	12.0	-2.7	-2.9	-2.0	-3.5	-5.0	0.0	-4.0	-3.0	-4.4	-5.0	0.0	13.5	19.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	4	31
YEARLY VALUES:															
	MEAN:	285.4	8.2	10.8	15.4	4.9	2.6	12.9	5.2	6.9	3.3	1.2	5.7	74.4	199.85A
	MAX:	636.0	23.6	29.1	40.0	14.5	12.3	30.0	14.1	17.0	11.9	11.1	15.2	166.1	7.90
	MIN:	6.0	-8.5	-6.7	-4.0	-9.7	-10.0	0.0	-6.7	-4.0	-9.7	-10.0	0.0	7.9	153.00B
	DAYS:	365	365	365	365	365	365	365	365	348	365	350	348	99	365

Underlined day counts emphasize periods with missing data;
-99.0 means data are completely missing.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 27—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1980, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(DEGREES CELSIUS)													
JAN	MEAN:	79.0	0.6	1.9	4.6	-0.2	-2.6	7.2	-0.4	1.8	-1.7	-4.0	5.9	38.6	33.40A
	MAX:	159.0	7.6	8.8	9.3	7.4	5.9	14.2	8.0	8.6	6.7	5.2	11.2	127.4	10.10
	MIN:	15.0	-10.0	-7.4	-1.5	-12.0	-14.8	2.2	-14.3	-12.9	-14.8	-16.5	1.6	5.6	17.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
FEB	MEAN:	125.0	4.6	6.3	9.5	3.4	1.5	8.0	4.5	6.8	2.3	0.4	6.4	26.4	21.03A
	MAX:	238.0	9.3	10.4	13.6	8.5	7.5	14.3	9.5	11.2	7.7	6.7	10.5	56.7	3.75
	MIN:	22.0	0.9	2.9	3.8	-0.9	-3.1	2.1	0.0	1.8	-2.2	-4.4	2.3	6.3	20.00B
	DAYS:	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MAR	MEAN:	198.6	4.4	6.2	9.2	2.6	1.2	8.0	3.2	4.8	1.5	0.0	4.8	43.6	24.56A
	MAX:	395.0	8.0	10.7	14.9	7.0	5.7	15.4	7.3	8.9	6.0	4.8	9.1	98.1	2.90
	MIN:	56.0	0.6	1.3	2.7	-0.8	-2.5	3.4	-0.4	0.6	-2.0	-3.7	2.2	13.3	26.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
APR	MEAN:	296.1	8.5	10.9	15.6	5.6	2.2	13.4	5.5	7.9	4.2	1.1	6.8	56.9	14.11A
	MAX:	517.0	17.7	21.0	31.1	13.2	7.6	25.6	11.8	16.3	12.2	6.5	11.6	158.8	3.07
	MIN:	47.0	1.4	2.3	3.1	-0.9	-2.6	2.9	-1.1	1.3	-2.4	-3.9	2.0	12.1	17.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MAY	MEAN:	362.1	11.0	13.2	17.9	7.3	4.6	13.2	7.2	9.1	5.9	3.5	5.7	81.3	7.64A
	MAX:	598.0	16.5	20.8	29.8	12.2	8.2	27.0	10.2	12.7	9.9	7.0	10.4	145.1	1.85
	MIN:	92.0	5.9	6.8	8.3	1.4	-0.9	3.0	4.2	5.9	0.1	-1.9	2.6	32.8	16.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
JUN	MEAN:	416.9	12.8	14.7	19.3	9.3	7.1	12.2	9.4	11.2	7.9	5.8	5.4	90.5	8.78A
	MAX:	635.0	17.1	19.5	27.2	13.2	11.4	22.0	12.2	14.9	12.0	8.4	10.4	144.7	1.67
	MIN:	119.0	6.7	7.4	9.5	4.7	2.6	3.7	5.3	6.3	3.4	1.4	1.7	16.9	17.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
JUL	MEAN:	524.6	17.9	21.5	28.1	12.0	8.7	19.4	13.5	16.1	10.4	7.5	8.6	105.9	1.04A
	MAX:	605.0	23.9	28.2	37.8	16.8	13.1	26.1	22.2	29.9	16.2	12.7	20.8	186.3	0.50
	MIN:	249.0	12.4	13.8	16.1	8.6	6.2	6.4	8.9	9.5	7.2	5.2	1.4	63.6	4.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
AUG	MEAN:	465.4	15.5	19.5	26.7	9.9	5.8	20.9	11.1	14.0	8.2	4.8	9.2	89.4	0.99A
	MAX:	570.0	21.4	25.1	34.7	16.1	9.0	26.8	16.1	21.5	13.1	7.5	15.9	116.5	0.45
	MIN:	216.0	10.7	13.4	16.2	4.8	2.5	11.9	7.3	9.5	4.0	1.5	5.0	24.5	5.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SEP	MEAN:	324.1	13.5	17.4	24.5	9.3	5.4	19.0	10.9	13.7	7.7	4.2	9.5	66.3	4.65A
	MAX:	462.0	19.0	24.2	34.2	14.0	11.5	27.5	13.8	17.5	12.7	9.9	14.6	124.3	1.29
	MIN:	97.0	8.6	10.9	12.4	4.4	1.5	2.2	7.0	8.2	2.9	0.1	2.0	14.5	10.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
OCT	MEAN:	203.7	8.8	12.1	18.1	6.0	3.1	15.0	8.3	11.3	4.7	1.8	9.5	47.3	8.34A
	MAX:	327.0	14.7	19.8	31.5	9.7	8.1	25.4	12.8	16.6	9.0	7.3	14.9	153.0	2.03
	MIN:	34.0	4.1	5.1	5.9	0.6	-2.7	1.8	1.0	5.0	-1.0	-4.1	2.9	15.1	15.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
NOV	MEAN:	85.7	5.4	6.7	9.1	4.6	2.5	6.7	5.9	8.2	3.4	1.3	6.9	36.6	34.96A
	MAX:	155.0	11.9	13.0	16.5	12.2	10.7	11.9	13.0	16.0	11.9	10.5	12.7	181.8	6.50
	MIN:	15.0	0.3	1.4	3.1	-1.5	-3.2	3.0	0.2	2.2	-3.0	-4.7	2.9	14.0	17.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
DEC	MEAN:	56.1	3.0	4.0	6.1	2.5	0.1	6.0	3.6	5.8	1.8	-0.6	6.4	41.6	50.68A
	MAX:	88.0	11.8	12.9	13.5	11.1	8.2	9.7	12.9	13.5	11.1	7.9	9.8	149.4	8.97
	MIN:	14.0	-5.3	-3.7	-1.0	-6.2	-7.7	1.0	-4.5	-1.4	-7.9	-9.4	1.0	8.3	18.00B
	DAYS:	31	31	31	31	31	31	31	31	28	31	28	28	28	31
YEARLY VALUES:															
	MEAN:	262.0	8.9	11.2	15.7	6.0	3.3	12.4	6.9	9.3	4.7	2.2	7.1	60.7	210.18A
	MAX:	635.0	23.9	28.2	37.8	16.8	13.1	27.5	22.2	29.9	16.2	12.7	20.8	186.3	10.10
	MIN:	14.0	-10.0	-7.4	-1.5	-12.0	-14.8	1.0	-14.3	-12.9	-14.8	-16.5	1.0	5.6	182.00B
	DAYS:	366	366	366	366	366	366	366	366	363	366	363	363	363	366

Underlined day counts emphasize periods with missing data.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 28—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1981, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(LANGLEYS)	DEGREES CELSIUS												
JAN	MEAN:	75.4	3.6	5.0	7.7	2.6	0.8	6.9	4.8	7.5	1.9	-0.2	7.7	31.5	9.16A
	MAX:	121.0	9.8	10.7	12.4	9.5	8.0	10.5	10.7	12.4	9.5	7.9	11.6	68.5	3.17
	MIN:	31.0	0.6	2.0	4.6	-0.6	-2.7	2.8	1.4	3.8	-2.1	-4.4	3.2	12.6	16.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
FEB	MEAN:	139.7	3.9	5.4	8.8	2.8	0.4	8.4	4.6	7.4	2.2	-0.4	7.9	28.2	31.52A
	MAX:	275.0	8.8	11.1	16.5	8.6	6.7	15.0	10.9	13.5	8.6	6.0	12.0	105.1	6.66
	MIN:	28.0	-0.4	0.9	4.2	-1.9	-4.5	3.4	-1.0	1.5	-3.4	-6.0	4.1	0.0	16.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MAR	MEAN:	217.6	5.6	7.8	12.2	3.6	1.1	11.1	5.3	7.7	2.9	0.4	7.3	32.9	19.50A
	MAX:	395.0	9.7	12.1	21.9	8.6	5.6	19.6	7.9	19.3	8.3	5.2	14.1	112.7	4.04
	MIN:	72.0	1.7	4.2	4.8	-1.2	-2.9	2.3	-0.1	1.8	-2.1	-4.1	2.3	12.6	21.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
APR	MEAN:	309.1	8.6	10.7	15.2	5.9	3.4	11.8	6.5	8.6	4.9	2.5	6.1	59.4	13.43A
	MAX:	505.0	18.1	21.6	31.9	13.6	9.7	25.5	14.9	19.5	13.1	8.6	12.2	185.0	3.64
	MIN:	76.0	3.2	4.3	5.0	0.4	-1.6	3.0	2.2	3.8	-0.5	-2.4	1.7	25.0	22.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MAY	MEAN:	357.6	11.1	13.1	17.5	7.7	5.3	12.1	8.4	10.4	6.2	4.5	5.9	70.8	10.85A
	MAX:	614.0	17.8	21.5	31.7	14.4	11.9	24.9	16.9	18.5	11.8	11.5	12.4	120.2	2.19
	MIN:	102.0	5.1	5.6	7.0	2.5	-0.2	2.4	3.0	3.5	2.5	-0.2	1.0	21.4	19.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
JUN	MEAN:	423.2	14.1	16.2	21.3	10.3	7.4	13.9	11.1	13.0	9.2	6.3	6.5	79.2	16.00A
	MAX:	629.0	18.7	22.0	32.5	14.0	12.2	25.5	18.1	17.5	14.0	11.6	11.6	118.2	4.97
	MIN:	90.0	7.9	8.7	9.9	5.4	3.0	2.2	7.2	0.0	4.5	0.0	3.5	27.0	16.00B
	DAYS:	30	30	30	30	30	30	30	30	20	30	21	20	30	30
JUL	MEAN:	552.2	17.0	20.6	28.2	10.9	7.1	21.1	11.4	13.7	8.7	6.1	7.7	88.9	2.21A
	MAX:	634.0	23.1	26.1	37.5	19.2	12.0	30.0	15.1	19.0	15.5	9.5	11.0	122.4	1.12
	MIN:	164.0	8.8	11.6	13.5	4.1	2.0	7.0	6.2	8.5	3.2	1.5	3.0	39.6	3.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
AUG	MEAN:	491.5	19.2	23.5	32.7	13.2	8.7	24.0	11.6	14.0	10.0	7.0	7.0	92.7	0.13A
	MAX:	594.0	25.1	31.3	44.4	17.2	12.5	32.6	15.5	19.0	14.1	11.0	10.5	160.2	0.13
	MIN:	298.0	13.8	18.1	22.0	7.6	3.5	12.0	7.6	9.5	5.2	2.5	3.0	34.2	1.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	28	31
SEP	MEAN:	335.6	14.2	18.2	25.8	9.8	6.5	19.3	9.2	11.2	7.2	4.9	6.3	52.1	12.90A
	MAX:	449.0	20.3	26.9	40.5	13.5	10.0	33.0	12.6	14.0	10.5	8.0	12.0	131.8	4.37
	MIN:	59.0	6.6	10.2	13.0	2.9	-1.2	4.0	4.8	6.5	1.7	-1.2	3.5	2.2	12.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
OCT	MEAN:	182.5	6.6	9.2	14.0	4.6	1.6	12.5	6.1	8.5	3.4	1.0	7.6	19.8	19.76A
	MAX:	332.0	12.0	13.6	22.5	10.4	8.0	22.4	11.0	13.2	9.0	6.4	14.9	24.9	3.76
	MIN:	21.0	2.5	3.7	4.1	-0.8	-3.2	1.6	2.4	2.7	-1.4	-3.2	1.2	15.1	19.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	4	31
NOV	MEAN:	95.8	3.6	5.1	8.0	2.5	0.4	7.7	3.3	5.2	1.2	-0.5	5.7	8.0	32.16A
	MAX:	202.0	8.4	9.3	15.3	7.7	5.7	15.0	7.8	11.2	6.0	4.5	11.9	25.6	5.26
	MIN:	19.0	-3.0	-1.7	0.1	-4.2	-5.7	2.1	-3.4	-2.0	-4.2	-5.7	0.9	0.0	23.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	7	30
DEC	MEAN:	47.2	2.9	3.6	5.2	2.4	0.8	4.3	2.8	4.2	1.8	0.3	3.9	25.4	74.96A
	MAX:	123.0	7.6	7.8	10.2	7.8	5.6	9.1	7.0	9.6	7.6	4.7	7.9	103.3	9.98
	MIN:	8.0	-0.5	-0.3	0.5	-1.4	-2.0	0.8	-0.6	-0.1	-1.4	-2.0	0.9	0.7	28.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
YEARLY VALUES:															
	MEAN:	269.8	9.2	11.6	16.4	6.4	3.6	12.8	7.1	9.2	5.0	2.6	6.6	54.4	242.59A
	MAX:	634.0	25.1	31.3	44.4	19.2	12.5	33.0	18.1	19.5	15.5	11.6	14.9	185.0	9.98
	MIN:	8.0	-3.0	-1.7	0.1	-4.2	-5.7	0.8	-3.4	-2.0	-4.2	-6.0	0.9	0.0	196.00B
	DAYS:	365	365	365	365	365	365	365	365	355	365	356	355	312	365

Underlined day counts emphasize periods with missing data.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 29—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1982, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
		(----------	----------	----------	----------	----------	----------	DEGREES CELSIUS	----------	----------	----------	----------	----------)		
JAN	MEAN:	62.1	0.1	0.9	2.4	-0.3	-1.9	4.3	-0.2	1.1	-1.3	-2.8	3.9	22.7	41.18A
	MAX:	149.0	2.6	3.7	5.9	3.5	1.3	11.4	2.1	4.2	2.6	0.4	10.6	79.5	7.57
	MIN:	6.0	-8.5	-7.4	-2.5	-9.1	-12.1	0.8	-7.4	-2.5	-9.1	-12.1	0.6	0.8	23.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
FEB	MEAN:	113.3	1.7	3.1	6.1	0.6	-2.0	8.1	0.5	2.8	-0.8	-3.8	6.6	56.2	36.87A
	MAX:	219.0	8.6	11.5	14.3	6.1	5.5	15.0	9.1	10.8	5.2	4.8	22.6	144.4	9.22
	MIN:	26.0	-4.3	-2.8	2.0	-6.2	-9.7	2.9	-14.7	-5.2	-11.6	-19.8	2.3	6.0	19.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MAR	MEAN:	233.4	4.3	6.4	10.7	2.3	-0.1	10.8	2.8	5.1	0.9	-1.2	6.3	42.4	17.87A
	MAX:	385.0	9.5	11.1	21.3	7.6	5.4	23.2	7.7	9.6	5.6	3.9	11.6	113.0	3.76
	MIN:	100.0	1.8	2.6	4.1	-1.5	-3.7	3.6	-1.2	0.8	-3.3	-5.3	1.8	11.3	20.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
APR	MEAN:	340.6	5.9	8.5	13.8	2.4	-0.2	14.0	1.9	4.5	0.5	-1.7	6.2	60.2	23.04A
	MAX:	558.0	12.0	16.9	28.1	8.5	4.8	28.3	7.6	9.9	5.7	3.5	9.3	122.7	4.97
	MIN:	51.0	1.4	2.0	3.1	-0.8	-2.9	2.6	-2.3	1.1	-2.9	-5.0	2.1	20.4	20.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MAY	MEAN:	447.9	11.2	14.4	20.1	6.1	2.9	17.2	6.1	8.0	3.8	1.0	7.0	72.2	1.99A
	MAX:	650.0	18.7	23.5	33.9	11.1	6.2	28.3	10.4	12.1	8.1	4.2	11.7	109.1	0.81
	MIN:	133.0	5.0	7.5	9.5	-0.4	-2.5	4.1	0.4	0.0	-1.8	-4.2	1.6	25.9	11.00B
	DAYS:	31	31	31	31	31	31	31	31	24	31	24	24	31	31
JUN	MEAN:	429.6	15.4	17.9	24.1	11.2	8.8	15.3	11.9	15.2	10.1	9.4	5.8	65.9	9.17A
	MAX:	622.0	21.3	25.5	37.1	16.6	14.9	27.1	16.5	19.0	15.1	13.9	8.3	115.5	2.50
	MIN:	139.0	9.4	10.6	13.2	4.6	1.9	3.8	6.6	0.0	2.5	0.0	2.3	18.1	13.00B
	DAYS:	30	30	30	30	30	30	30	30	22	30	22	22	30	30
JUL	MEAN:	516.9	17.2	20.4	26.8	12.0	9.2	17.7	13.0	14.9	10.5	8.2	6.6	82.1	1.90A
	MAX:	611.0	21.7	25.4	34.2	17.3	16.7	25.1	17.8	20.3	15.0	14.3	11.5	123.0	1.08
	MIN:	185.0	12.0	13.6	17.7	6.0	4.1	8.1	7.9	9.1	4.8	3.2	2.4	46.2	6.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
AUG	MEAN:	415.5	17.4	20.8	28.1	12.7	9.1	18.9	13.2	15.3	11.1	8.1	7.2	64.4	4.05A
	MAX:	537.0	23.1	26.0	36.4	19.0	15.2	27.3	18.9	20.5	17.8	14.2	10.0	107.6	1.35
	MIN:	142.0	13.8	15.6	17.4	8.7	5.5	6.0	9.8	10.5	7.3	4.5	2.3	17.2	9.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SEP	MEAN:	292.8	13.1	16.1	21.8	9.7	6.3	15.4	10.9	13.3	8.5	5.3	8.0	40.5	10.85A
	MAX:	457.0	21.4	24.2	34.9	17.5	12.3	25.5	15.0	18.2	15.2	11.4	13.4	127.6	2.17
	MIN:	90.0	7.2	9.5	10.9	3.0	0.2	1.5	2.9	6.8	2.0	-0.7	1.2	11.0	12.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
OCT	MEAN:	167.4	8.8	10.9	14.6	6.9	4.6	10.0	8.9	11.0	6.1	3.8	7.2	18.8	29.15A
	MAX:	326.0	12.1	14.9	22.4	11.1	9.9	18.8	12.3	15.3	10.5	9.4	12.6	44.9	6.10
	MIN:	37.0	3.7	5.8	7.9	0.9	-1.6	2.4	5.1	6.3	0.0	-2.4	1.5	7.7	20.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
NOV	MEAN:	90.6	2.8	4.2	6.9	1.7	-0.4	7.2	3.2	5.4	0.9	-1.1	6.5	13.7	25.60A
	MAX:	161.0	7.8	9.1	11.8	7.8	6.0	12.7	8.4	10.2	7.1	5.6	10.6	29.7	4.03
	MIN:	30.0	-2.0	-0.4	2.4	-3.1	-4.5	3.6	-1.3	1.3	-3.9	-5.4	3.4	6.8	19.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
DEC	MEAN:	59.5	1.9	2.7	4.4	1.4	-0.4	4.9	2.1	3.7	0.8	-1.0	4.7	17.5	44.27A
	MAX:	110.0	8.0	9.2	10.4	7.5	7.2	8.8	8.2	9.1	7.0	6.5	9.2	104.6	7.95
	MIN:	10.0	-4.2	-2.7	-0.1	-5.5	-7.2	2.0	-3.0	-0.3	-6.4	-8.1	2.0	0.0	23.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
YEARLY VALUES:															
	MEAN:	265.1	8.4	10.6	15.0	5.6	3.0	12.0	6.2	8.2	4.3	1.9	6.3	46.3	245.95A
	MAX:	650.0	23.1	26.0	37.1	19.0	16.7	28.3	18.9	20.5	17.8	14.3	22.6	144.4	9.22
	MIN:	6.0	-8.5	-7.4	-2.5	-9.1	-12.1	0.8	-14.7	-5.2	-11.6	-19.8	0.6	0.0	195.00B
	DAYS:	365	365	365	365	365	365	365	365	350	365	350	350	365	365

Underlined day counts emphasize periods with missing data.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 30—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1983, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
								DEGREES CELSIUS							
JAN	MEAN:	68.6	3.5	4.5	6.4	2.9	1.0	5.3	3.9	5.6	2.4	0.5	5.2	21.5	37.32A
	MAX:	142.0	7.4	8.6	10.3	6.9	5.2	9.8	8.2	10.0	6.3	4.8	9.6	60.3	5.64
	MIN:	18.0	-0.4	0.4	2.0	-1.5	-3.6	2.5	-0.2	1.4	-1.8	-3.6	1.7	0.0	23.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
FEB	MEAN:	95.9	4.6	5.8	8.2	3.7	2.0	6.2	4.9	6.9	3.1	1.2	5.7	20.0	41.13A
	MAX:	197.0	9.8	11.0	13.0	8.7	7.2	12.2	10.4	12.3	8.2	6.7	9.8	75.2	9.10
	MIN:	12.0	-0.4	1.3	2.0	-1.6	-3.9	1.5	0.1	1.6	-2.6	-4.7	2.2	0.4	24.00B
	DAYS:	28	28	28	28	28	28	28	28	28	28	28	28	26	28
MAR	MEAN:	167.4	6.3	7.8	10.9	4.8	2.7	8.2	6.0	7.7	4.1	1.9	5.8	33.1	37.35A
	MAX:	363.0	9.4	10.9	15.7	8.5	7.4	16.4	9.9	11.0	7.9	6.6	10.0	97.0	6.95
	MIN:	33.0	4.0	4.7	6.8	1.4	-0.9	3.2	2.8	4.9	0.3	-2.0	3.1	7.0	26.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	29	31
APR	MEAN:	334.8	7.6	10.1	15.1	4.4	2.0	13.1	4.4	6.8	3.2	0.8	6.0	54.0	11.12A
	MAX:	493.0	13.3	16.2	26.7	9.9	8.2	25.2	9.4	11.4	8.4	7.2	10.0	103.3	2.60
	MIN:	85.0	2.4	3.2	5.0	-0.3	-2.2	3.8	-1.5	1.8	-1.6	-5.0	2.5	9.2	19.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MAY	MEAN:	421.4	12.7	15.4	21.5	8.2	5.6	15.9	8.9	11.1	6.9	4.4	6.7	81.4	12.60A
	MAX:	605.0	24.0	28.4	40.0	16.8	12.1	28.6	16.0	19.5	15.1	10.3	11.0	162.9	3.25
	MIN:	97.0	3.8	4.6	6.7	2.6	1.7	4.5	3.3	4.7	1.9	-1.2	1.8	5.0	13.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
JUN	MEAN:	438.4	14.0	16.2	21.5	9.9	7.2	14.2	10.6	12.4	8.3	5.9	6.6	82.5	9.15A
	MAX:	623.0	20.2	24.0	32.7	14.3	11.8	24.2	14.4	16.4	12.0	10.3	10.8	127.1	2.17
	MIN:	154.0	9.9	10.8	12.9	5.1	2.7	4.8	8.4	9.7	3.7	1.5	2.6	25.6	16.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
JUL	MEAN:	416.8	16.1	18.2	23.4	12.4	10.1	13.3	13.0	15.0	10.6	8.5	6.5	88.7	6.30A
	MAX:	612.0	23.3	26.3	36.5	18.4	16.1	23.9	19.2	27.0	16.7	14.2	15.9	164.2	3.42
	MIN:	151.0	11.3	12.2	14.4	7.8	5.8	5.3	9.1	10.2	6.1	4.3	2.5	34.9	14.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
AUG	MEAN:	399.4	17.8	20.6	26.9	13.7	10.5	16.4	14.3	16.6	11.7	8.9	7.7	82.2	6.05A
	MAX:	559.0	21.2	25.4	34.1	17.4	16.2	26.2	18.2	20.9	15.0	13.3	13.9	143.2	4.12
	MIN:	135.0	15.1	16.5	18.6	9.6	6.6	4.7	11.2	12.9	7.7	5.0	2.9	15.1	9.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SEP	MEAN:	328.4	12.7	16.3	22.6	9.0	5.6	17.0	9.7	12.2	7.0	4.0	8.2	61.2	1.87A
	MAX:	441.0	16.5	20.7	29.9	13.8	11.7	24.0	14.5	18.2	12.3	9.9	12.2	142.9	0.62
	MIN:	77.0	6.8	11.0	12.2	1.9	-1.8	7.5	-0.3	3.5	-0.6	-3.5	3.4	16.9	8.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
OCT	MEAN:	178.2	9.8	12.3	16.6	7.6	4.8	11.8	8.7	11.1	6.0	3.2	7.9	32.2	8.50A
	MAX:	303.0	14.1	16.9	24.0	11.5	10.5	21.5	11.9	14.6	10.0	8.9	12.5	91.1	2.37
	MIN:	32.0	5.7	8.5	11.6	2.4	-0.4	3.5	5.8	7.7	0.8	-1.9	2.3	7.8	11.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
NOV	MEAN:	57.7	5.3	6.2	7.5	4.7	3.1	4.4	4.7	5.9	3.3	1.7	4.3	31.6	51.09A
	MAX:	113.0	10.7	12.5	13.7	10.5	8.9	8.2	11.2	12.5	9.2	7.7	8.0	133.5	4.50
	MIN:	20.0	0.3	0.6	0.8	0.1	-0.9	1.0	-0.9	-0.6	-1.3	-2.4	1.1	2.2	29.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
DEC	MEAN:	44.3	0.3	1.2	2.7	-0.2	-2.0	4.7	-0.6	1.1	-2.1	-4.5	5.6	32.3	43.86A
	MAX:	79.0	6.4	7.2	8.8	6.0	5.1	10.3	6.0	7.6	4.7	3.9	25.9	213.1	6.85
	MIN:	8.0	-12.5	-10.9	-7.2	-15.1	-17.0	0.7	-18.6	-11.6	-29.2	-33.6	0.6	8.0	26.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
YEARLY VALUES:															
	MEAN:	246.7	9.3	11.3	15.3	6.8	4.4	10.9	7.4	9.4	5.4	3.0	6.4	52.2	266.35A
	MAX:	623.0	24.0	28.4	40.0	18.4	16.2	28.6	19.2	27.0	16.7	14.2	25.9	213.1	9.10
	MIN:	8.0	-12.5	-10.9	-7.2	-15.1	-17.0	0.7	-18.6	-11.6	-29.2	-33.6	0.6	0.0	218.00B
	DAYS:	365	365	365	365	365	365	365	365	365	365	365	365	361	365

Underlined day counts emphasize periods with missing data.
A = monthly or yearly total precipitation.
B = days with rainfall.

Table 31—Summary of data from the primary meteorological station of the H. J. Andrews Experimental Forest for 1984, monthly and yearly mean and extreme daily values and total monthly precipitation

MONTH		DAILY SOLAR RADIATION (LANGLEYS)	DAILY AIR TEMP.	DAYTIME AIR TEMP.	MAXIMUM AIR TEMP.	NIGHT AIR TEMP.	MINIMUM AIR TEMP.	RANGE AIR TEMP.	DAYTIME DEWPOINT TEMP.	MAXIMUM DEWPOINT TEMP.	NIGHT DEWPOINT TEMP.	MINIMUM DEWPOINT TEMP.	RANGE DEWPOINT TEMP.	DAILY WIND RUN (KM)	TOTAL PRECIP-ITATION (CM)
							DEGREES CELSIUS								
JAN	MEAN:	75.0	1.4	2.9	5.6	0.4	-1.8	7.4	1.6	4.1	-0.5	-2.8	6.9	38.0	18.84A
	MAX:	128.0	7.9	9.3	10.4	7.0	5.8	11.1	8.7	9.8	6.3	5.2	10.9	172.6	2.85
	MIN:	8.0	-5.2	-3.4	0.5	-6.4	-8.8	1.4	-10.3	-7.7	-8.4	-10.6	1.5	14.0	18.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
FEB	MEAN:	113.6	3.5	4.9	7.9	2.4	0.3	7.6	3.4	5.9	1.3	-1.0	6.9	29.6	38.37A
	MAX:	203.0	6.6	8.5	13.4	6.6	3.5	14.2	7.0	9.9	5.7	2.6	11.4	68.0	10.90
	MIN:	19.0	-0.1	1.5	3.2	-1.3	-3.3	2.6	0.1	2.3	-2.6	-5.8	2.5	10.8	23.00B
	DAYS:	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MAR	MEAN:	196.7	6.4	8.2	11.5	4.7	2.6	8.8	6.0	8.0	3.8	1.8	6.2	26.9	36.02A
	MAX:	393.0	9.9	12.0	17.5	9.3	6.1	18.3	10.4	13.9	8.8	5.6	11.7	76.4	4.09
	MIN:	51.0	3.2	4.9	5.5	0.3	-1.4	2.5	0.9	4.8	-1.3	-3.1	2.5	6.2	27.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
APR	MEAN:	258.4	6.3	8.0	11.4	4.2	2.4	9.0	4.2	6.1	2.8	0.5	5.5	42.7	23.08A
	MAX:	513.0	12.5	17.5	27.6	8.0	5.2	24.7	10.5	13.5	6.6	4.2	12.6	91.2	3.44
	MIN:	70.0	2.7	3.4	4.4	0.7	-1.8	3.4	-1.1	2.9	-3.3	-9.1	2.8	10.1	22.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MAY	MEAN:	371.8	10.5	12.6	17.6	6.8	4.4	13.2	7.1	9.7	5.5	2.9	6.8	52.5	20.16A
	MAX:	620.0	20.5	24.3	35.4	14.1	9.7	29.2	14.1	16.8	11.8	8.7	17.7	93.8	3.10
	MIN:	124.0	5.0	6.3	9.0	2.4	-0.2	5.3	3.3	5.1	1.1	-5.2	2.1	16.8	19.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
JUN	MEAN:	449.4	13.7	16.0	21.6	9.4	6.9	14.6	10.5	12.5	8.3	6.0	6.5	78.0	18.66A
	MAX:	631.0	20.0	22.7	31.9	16.4	13.5	23.8	17.8	19.6	15.5	12.5	10.6	179.7	4.31
	MIN:	106.0	8.3	9.5	10.8	5.4	1.2	2.2	5.5	7.9	4.2	0.1	2.0	18.5	14.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
JUL	MEAN:	563.5	18.5	22.2	30.0	12.2	9.0	20.9	14.1	16.3	10.7	7.9	8.4	99.3	0.39A
	MAX:	628.0	23.3	27.0	36.5	18.8	14.2	25.7	18.5	21.3	15.8	13.0	11.1	124.9	0.36
	MIN:	400.0	15.3	19.3	24.5	8.1	5.9	10.3	9.7	12.4	6.8	4.8	2.5	73.4	2.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
AUG	MEAN:	459.1	17.6	21.3	29.0	12.3	8.5	20.5	12.2	14.3	10.1	7.2	7.1	100.8	0.42A
	MAX:	542.0	21.4	25.5	35.5	16.3	14.7	28.1	16.5	19.3	13.9	11.5	10.5	147.1	0.32
	MIN:	180.0	14.0	15.0	17.0	8.4	4.9	5.5	9.7	11.0	6.1	3.3	1.7	63.4	2.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SEP	MEAN:	308.2	12.8	16.3	23.0	9.1	5.8	17.2	10.7	13.3	7.8	4.6	8.6	51.2	6.90A
	MAX:	462.0	19.2	21.8	32.0	17.1	15.4	26.3	17.4	18.9	16.4	14.7	11.9	104.6	1.64
	MIN:	157.0	5.7	8.9	11.6	1.7	-1.1	5.5	4.1	7.3	-0.4	-3.4	3.6	27.0	9.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
OCT	MEAN:	149.0	7.6	9.4	12.5	6.1	4.1	8.4	7.3	9.4	4.8	2.6	6.8	26.3	34.07A
	MAX:	322.0	13.4	17.1	25.4	11.3	10.0	20.3	13.7	16.9	10.0	8.4	13.0	77.8	4.65
	MIN:	43.0	2.4	4.4	5.4	1.0	-0.6	1.7	2.5	3.7	-0.6	-2.7	1.8	6.2	22.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
NOV	MEAN:	59.7	3.7	4.7	6.4	3.0	1.3	5.1	3.6	5.4	1.7	-0.2	5.6	28.2	58.56A
	MAX:	171.0	7.7	8.8	10.2	7.7	6.5	10.4	7.7	8.9	6.8	5.2	10.8	190.1	9.07
	MIN:	11.0	-0.3	0.0	1.7	-2.0	-3.8	1.5	-1.0	0.6	-4.1	-6.0	1.6	5.5	26.00B
	DAYS:	30	30	30	30	30	30	30	30	30	30	30	30	30	30
DEC	MEAN:	49.4	-0.1	0.9	2.2	-0.6	-2.0	4.2	0.3	1.6	-1.4	-2.9	4.5	10.7	25.53A
	MAX:	75.0	3.4	3.9	5.2	3.1	0.6	9.8	3.4	4.9	2.6	0.2	10.6	42.5	3.86
	MIN:	15.0	-7.4	-5.0	-2.4	-8.9	-10.4	0.5	-6.0	-3.4	-10.0	-11.4	0.6	0.8	20.00B
	DAYS:	31	31	31	31	31	31	31	31	31	31	31	31	31	31
YEARLY VALUES:															
	MEAN:	255.1	8.5	10.6	14.9	5.8	3.5	11.4	6.8	8.9	4.6	2.2	6.6	48.8	281.00A
	MAX:	631.0	23.3	27.0	36.5	18.8	15.4	29.2	18.5	21.3	16.4	14.7	17.7	190.1	10.90
	MIN:	8.0	-7.4	-5.0	-2.4	-8.9	-10.4	0.5	-10.3	-7.7	-10.0	-11.4	0.6	0.8	204.00B
	DAYS:	366	366	366	366	366	366	366	366	366	366	366	366	366	366

A = monthly or yearly total precipitation.
B = days with rainfall.

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