

Weather and Crop Summary, 2002

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The Klamath Basin of southern Klamath County, Oregon and northern Siskiyou and Modoc counties, California, lies in the rain shadow of the Cascade mountains and experiences a semi-arid climate. Average annual precipitation at Klamath Falls is about 13 inches with about 70 percent occurring between October and April. The valley floor, at approximately 4,100-ft elevation, is susceptible to frost any day of the year. The U.S. Weather Bureau established a weather station at Klamath Falls in 1884. The National Oceanic and Atmospheric Administration (NOAA) established an official weather station at Kingsley Field in 1949. The Kingsley Field site is located at 42°44' N latitude, 121°44' W longitude, and at an elevation of 4,092 ft. A weather station was established at the Klamath Experiment Station (KES) in 1984. The KES site is approximately one-fourth mile west of Kingsley Field.

The Bureau of Reclamation (BOR) recently established four additional weather stations in the region as part of an Agricultural Meteorological (AgriMet) network. These stations include sites at KES (1999), Lower Klamath Lake (LKL) (2000), Agency Lake Ranch (ALR) (2001), and Langell Valley (LV) (2001). The official identification codes for the AgriMet stations in the BOR system are KFLO, WRDO, AGKO, and LORO, respectively. The KES station is immediately adjacent to the original KES station. The LKL site is

approximately 15 miles south of Klamath Falls. The ALR station is situated on the northwestern shore of Agency Lake, about 25 miles northwest of Klamath Falls. The LV station is located near the town of Lorella, approximately 25 miles southeast of Klamath Falls. KES staff compiles monthly summaries of data from each of the AgriMet stations.

Annual precipitation recorded at Klamath Falls by U.S. Weather Bureau, NOAA, and KES stations from 1884 through 2002 is shown in Table 1. Data suggest a wide range in precipitation (6.72 inches in 1959 to more than 20 inches in 1995-1996) and several periods of extended dry or wet cycles. Extremes include 1928-1935 when average precipitation was 10.21 inches or 81 percent of the long-term mean, and 1995-1998 when average precipitation recorded at KES was 18.10 inches or 144 percent of the mean. The most recent 4-year period has averaged 10.53 inches.

Mean monthly air temperatures at Klamath Falls range from highs in the 80s to lows in the high teens (Table 2). During the period from 1984 through 2002, mean annual precipitation at the KES station has been 12.79 inches with November through March accounting for 59 percent of the total. Precipitation in 2002 was 71 percent of the 19-year mean. During the growing season from April through October, precipitation in 2002 was only 2.12 inches compared to the 19-year mean of 4.49 inches.

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Growing season air and soil temperatures and precipitation are compared for 1970 through 2002 in Table 3. A large difference in soil temperatures between 2001 and 2002 was due to very dry soil conditions at the KES station in 2001 when no irrigation was used at the site. Growing season precipitation in 2002 was less than in any year since 1974.

A more detailed summary of growing season air temperatures for 2002 compared to a 23-year period is presented in Table 4. The 2002 season experienced warmer than normal conditions in early April, mid-July, and mid-August. The daily spread between maximum and minimum temperatures during the growing season averaged 39°F in 2002, 7°F more than the 23-year average while mean temperatures were the same.

Frosts during the growing season often significantly injure cereal crops in the region. Weekly minimum temperatures at KES for 2002 and the 22-year period from 1979 through 2001 attest to the risk of frost in each month (Table 5). Only 3 weeks in July have remained frost-free in the 22-year period. In 2002, the frost-free season at KES was 47 days, from June 19 (30°F) to August 5 (28°F). Daily maximum air temperatures reached 90°F or more on 22 days between June 26 and September 13. A high of 101°F on July 13 was the first temperature above 99°F recorded at KES in many years. April 30 and May 1 accounted for 66 percent of the total rainfall recorded from April 1 through October.

The AgriMet network is primarily intended to provide crop-specific water-use estimates to assist in irrigation scheduling. These stations monitor soil temperature at 4- and 8-inch

depths, solar radiation, wind speed and direction, wind gusts, precipitation, and dew point temperature. Data collected at 15-minute intervals are stored and transmitted every 4 hours through a geostationary satellite to the BOR coordinating office in Boise, Idaho. Crop water-use data are displayed on Internet web pages at the Klamath County Extension Service and the KES homepage, or can be obtained from the BOR's regional Hydromet System at <http://www.pn.usbr.gov/agrimet>.

Observations for the AgriMet station (AGM) are based on midnight to midnight reporting. The original KES station readings are based on 7:30 a.m. observations. This leads to minor differences in daily observations between the two stations. Data for 2002 from the KES and AGM stations at KES are compared in Table 6. As in 2001, minimum air temperature averaged 3°F lower for the KES station. This is probably due to KES sensors being positioned closer to ground level and time of observation, which can result in the minimum temperature at time of observation being applied to the current day for the KES station. Minor differences were observed in monthly total precipitation. Total precipitation for the year was nearly identical for both stations. Wind speeds were very similar for both stations.

Crop water-use estimates can be based on evapotranspiration (ET) estimates or standard evaporation pan data adjusted for crop canopy stage. The ET values reported in Table 6 are for actively growing alfalfa. Values for row crops and cereals would be considerably lower. Seasonal irrigation applied to potatoes and onions in the region is typically 18 to 22 inches compared with 30 to 32 inches for alfalfa.

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Pan evaporation of 42.9 inches from May through September in 2002 was higher than in 1999 (38.9) and 2000 (38.5), but lower than in 2001 (48.5) when lack of irrigation resulted in very low relative humidity through most of the summer. ET was 90 percent of pan evaporation in 2002 compared with 84 percent in 2001 and 92 percent in 2000.

Data from the four AgriMet stations in the region illustrate some microclimate effects between areas in the basin (Table 7). Frosts are more common and severe in the Lower Klamath Lake area and at higher elevations in the Langell Valley. The ALR station near the lake records more moderate temperatures. Frosts at Fort Klamath, about 10 miles north of the ALR station, are generally more severe than in the Lower Klamath Lake area. A specific example comparing AGM sites is illustrated by temperatures observed on June 9, 2002. Minimum temperatures were 33 and 34°F at KES and ALR, respectively, and 26 and 30°F at LKL and LV, respectively. Precipitation also varies across the region. The ALR site recorded the most and LKL station the least precipitation in 2001.

Effects of growing season weather conditions on local crop production in 2002 were primarily related to frost damage in cereal crops. The Lower Klamath Lake area was most seriously affected. Early growth was damaged by hard frosts on May 22 and 23 and June 8 and 9. Frosts on August 5 through 8 resulted in low yields and very low bushel weights in some fields. Potato crops experienced more internal quality problems than normal, which was probably caused by periods of fluctuating temperatures. In early August daily high temperatures dropped from the 80s to the 60s, and then rose to the

90s within a week. Fluctuations of this magnitude commonly cause internal and/or external defects in susceptible potato varieties. Growth cracks and hollow heart incidence was high in many of the selections in KES potato variety trials. At least one of the local potato packing sheds used an x-ray machine to detect internal problems in some 2002 lots.

Dryland pasture and rangeland production was seriously limited by low precipitation. Although forest and/or range fires did not develop in or near the Klamath Basin, fires in southwestern Oregon and Lake County produced very smoky conditions on calm days from mid-July through the third week of August. Hazy conditions may have contributed to crop stress, particularly during very warm days. Low solar radiation readings were observed at AgriMet stations on several of the worst days for smoke.

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Table 1. Annual precipitation at Klamath Falls, OR, recorded by the U.S. Weather Bureau (1884-1948), National Weather Service (NOAA) (1949-2002), and Klamath Experiment Station (KES) (1984-2002).

| Precipitation | | | | | | | | |
|---------------------|-----------------|-------|-------|------|-------|------|-------|-------|
| Year | in | Year | in | Year | in | Year | in | in |
| U.S. Weather Bureau | | | | NOAA | | | KES | |
| 1884 | 17.94 | 1921 | 11.94 | 1949 | 6.86 | 1979 | 14.10 | |
| 1885 | 18.71 | 1922 | 15.19 | 1950 | 13.56 | 1980 | 11.03 | |
| 1886 | 18.06 | 1923 | 9.85 | 1951 | 10.76 | 1981 | 15.57 | |
| 1887 | 10.71 | 1924 | 11.28 | 1952 | 10.97 | 1982 | 13.90 | |
| 1888 | 13.75 | 1925 | 14.26 | 1953 | 10.76 | 1983 | 18.56 | |
| 1889 | 10.40 | 1926 | 13.23 | 1954 | 8.57 | 1984 | 12.98 | 13.32 |
| 1890 | IN ¹ | 1927 | 15.47 | 1955 | 11.31 | 1985 | 9.17 | 10.15 |
| 1891-99 | NA ² | 1928 | 11.65 | 1956 | 12.52 | 1986 | 13.49 | 13.06 |
| 1900 | NA ² | 1929 | 8.56 | 1957 | 18.38 | 1987 | 10.11 | 10.13 |
| 1901 | NA ² | 1930 | 9.44 | 1958 | 13.25 | 1988 | 10.32 | 10.15 |
| 1902 | 11.26 | 1931 | 9.50 | 1959 | 6.72 | 1989 | 12.11 | 12.08 |
| 1903 | IN ¹ | 1932 | 9.84 | 1960 | 15.86 | 1990 | 13.33 | 12.46 |
| 1904 | 15.04 | 1933 | 11.01 | 1961 | 13.21 | 1991 | 10.50 | 9.29 |
| 1905 | 8.32 | 1934 | 10.47 | 1962 | 16.92 | 1992 | 11.68 | 11.34 |
| 1906 | 14.87 | 1935 | 11.25 | 1963 | 10.41 | 1993 | 16.78 | 14.96 |
| 1907 | 16.67 | 1936 | 13.44 | 1964 | 15.45 | 1994 | 9.84 | 7.72 |
| 1908 | 10.02 | 1937 | 19.41 | 1965 | 10.12 | 1995 | 22.66 | 19.06 |
| 1909 | 17.67 | 1938 | 13.05 | 1966 | 11.50 | 1996 | 23.91 | 19.54 |
| 1910 | 14.70 | 1939 | 11.99 | 1967 | 9.21 | 1997 | 14.29 | 14.29 |
| 1911 | 9.73 | 1940 | 17.12 | 1968 | 10.18 | 1998 | 19.51 | 19.51 |
| 1912 | 19.56 | 1941 | 19.71 | 1969 | 15.38 | 1999 | 11.54 | 11.54 |
| 1913 | 16.11 | 1942 | 14.09 | 1970 | 12.61 | 2000 | 11.51 | 11.51 |
| 1914 | 11.42 | 1943 | 13.82 | 1971 | 12.68 | 2001 | 10.03 | 10.03 |
| 1915 | 11.72 | 1944 | 12.42 | 1972 | 11.72 | 2002 | 9.05 | 9.05 |
| 1916 | 10.98 | 1945 | 16.52 | 1973 | 11.03 | | | |
| 1917 | 10.22 | 1946 | 11.46 | 1974 | 8.64 | | | |
| 1918 | 9.51 | 1947 | 11.32 | 1975 | 13.21 | | | |
| 1919 | 9.40 | 1948 | 20.91 | 1976 | 8.70 | | | |
| 1920 | 12.22 | | | 1977 | 12.37 | | | |
| | | | | 1978 | 9.30 | | | |
| Means | 1884-1948 | 13.22 | | | | | | |
| | 1949-1983 | 12.51 | | | | | | |
| NOAA | 1984-1997 | 13.65 | | | | | | |
| KES | 1984-2002 | 12.59 | | | | | | |

¹IN: datum incomplete.

²NA: datum unavailable.

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Table 2. Mean monthly air temperatures and total monthly precipitation recorded at the Klamath Experiment Station, Klamath Falls, OR for 2002 and for 1984-2001.

| Month | Mean monthly temperature | | | Total precipitation |
|------------|--------------------------|-----|------|---------------------|
| | max | min | mean | |
| | °F | | | in |
| | <u>2002</u> | | | |
| January | 39 | 18 | 29 | 1.20 |
| February | 47 | 22 | 34 | 1.75 |
| March | 50 | 21 | 36 | 0.21 |
| April | 61 | 29 | 45 | 1.65 |
| May | 65 | 32 | 48 | 0.17 |
| June | 77 | 41 | 59 | 0.24 |
| July | 88 | 46 | 67 | 0.00 |
| August | 83 | 41 | 62 | 0.02 |
| September | 79 | 35 | 57 | 0.00 |
| October | 65 | 24 | 45 | 0.04 |
| November | 53 | 23 | 38 | 1.27 |
| December | 44 | 24 | 34 | 2.50 |
| Mean/Total | 63 | 30 | 46 | 9.05 |
| | <u>1984-2001</u> | | | |
| January | 40 | 20 | 30 | 1.89 |
| February | 44 | 23 | 33 | 1.15 |
| March | 52 | 27 | 39 | 1.21 |
| April | 58 | 30 | 44 | 0.94 |
| May | 66 | 36 | 51 | 1.18 |
| June | 74 | 43 | 59 | 0.76 |
| July | 83 | 47 | 65 | 0.39 |
| August | 83 | 46 | 64 | 0.50 |
| September | 77 | 39 | 58 | 0.72 |
| October | 65 | 30 | 48 | 0.74 |
| November | 48 | 24 | 36 | 1.70 |
| December | 39 | 19 | 29 | 1.61 |
| Mean/Total | 61 | 32 | 46 | 12.79 |

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Table 3. Mean air temperatures for April through September, mean 4-inch soil temperatures for May through October, and total precipitation for April through September and annually from 1970 to 2002 at Klamath Falls, OR.

| Year | Air temperature | | | 4-in soil temperature | | | Total precipitation | |
|------|-----------------|-----|------|-----------------------|-----|------|---------------------|--------|
| | Apr-Sep | | | May-Oct | | | Apr-Sep | annual |
| | max | min | mean | max | min | mean | in | |
| | °F | | | | | | | |
| 2002 | 75 | 36 | 56 | 60 | 55 | 58 | 2.08 | 9.05 |
| 2001 | 76 | 37 | 56 | 74 | 59 | 66 | 2.78 | 10.03 |
| 2000 | 72 | 39 | 56 | 70 | 56 | 63 | 4.20 | 11.51 |
| 1999 | 72 | 39 | 55 | 68 | 55 | 61 | 3.98 | 11.54 |
| 1998 | 73 | 41 | 57 | 59 | 57 | 58 | 6.95 | 19.51 |
| 1997 | 73 | 41 | 57 | 60 | 57 | 58 | 4.52 | 14.29 |
| 1996 | 72 | 39 | 56 | 61 | 59 | 60 | 5.50 | 19.54 |
| 1995 | 72 | 40 | 56 | 61 | 57 | 59 | 7.10 | 19.06 |
| 1994 | 76 | 40 | 58 | 63 | 59 | 61 | 3.42 | 7.72 |
| 1993 | 70 | 38 | 54 | 60 | 55 | 58 | 5.82 | 14.96 |
| 1992 | 77 | 42 | 60 | 66 | 58 | 62 | 3.41 | 11.34 |
| 1991 | 73 | 40 | 57 | 61 | 55 | 59 | 3.41 | 9.29 |
| 1990 | 74 | 41 | 58 | 61 | 55 | 58 | 5.66 | 12.46 |
| 1989 | 72 | 40 | 56 | 62 | 55 | 59 | 5.16 | 12.08 |
| 1988 | 75 | 41 | 58 | 64 | 56 | 60 | 3.13 | 10.15 |
| 1987 | 76 | 41 | 59 | 65 | 56 | 61 | 3.24 | 10.13 |
| 1986 | 73 | 42 | 58 | 70 | 59 | 64 | 3.87 | 13.06 |
| 1985 | 74 | 40 | 57 | 64 | 53 | 59 | 5.50 | 10.15 |
| 1984 | 71 | 41 | 56 | 70 | 57 | 64 | 4.36 | 13.32 |
| 1983 | 69 | 40 | 55 | 73 | 59 | 66 | 3.88 | 18.56 |
| 1982 | 70 | 40 | 55 | 71 | 57 | 64 | 4.18 | 13.90 |
| 1981 | 74 | 42 | 58 | 73 | 58 | 66 | 2.43 | 15.57 |
| 1980 | 71 | 41 | 56 | 74 | 59 | 67 | 2.75 | 11.03 |
| 1979 | 74 | 42 | 58 | | | | 3.77 | 14.10 |
| 1978 | 70 | 40 | 55 | 71 | 58 | 65 | 4.57 | 9.30 |
| 1977 | 73 | 43 | 58 | 71 | 58 | 65 | 4.97 | 12.37 |
| 1976 | 69 | 41 | 55 | 72 | 57 | 65 | 4.94 | 8.70 |
| 1975 | 71 | 41 | 56 | | | | 4.10 | 13.21 |
| 1974 | 74 | 42 | 58 | 70 | 56 | 63 | 1.82 | 8.64 |
| 1973 | 75 | 42 | 59 | 69 | 55 | 62 | 1.29 | 11.03 |
| 1972 | 73 | 41 | 57 | | | | 1.87 | 11.72 |
| 1971 | 70 | 40 | 55 | | | | 4.68 | 12.68 |
| 1970 | 74 | 39 | 57 | 70 | 57 | 64 | 1.25 | 12.61 |
| Mean | 73 | 40 | 57 | 67 | 57 | 62 | 3.96 | 12.20 |

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Table 4. Weekly average maximum, minimum, and mean air temperatures for the 2002 growing season and 1979-2001 at Klamath Falls, OR.

| Weekly period | 2002 | | | 1979-2001 | | | |
|---------------|----------------|-----|------|----------------|-----|------|----|
| | Weekly average | | | Weekly average | | | |
| | max | min | mean | max | min | mean | |
| | °F | | | | | | |
| April | 1-7 | 70 | 31 | 51 | 54 | 28 | 41 |
| | 8-14 | 63 | 33 | 48 | 56 | 29 | 43 |
| | 15-21 | 50 | 25 | 38 | 59 | 33 | 46 |
| | 22-28 | 63 | 28 | 46 | 59 | 32 | 46 |
| | 29-5 | 58 | 30 | 44 | 62 | 34 | 48 |
| May | 6-12 | 69 | 27 | 48 | 63 | 34 | 49 |
| | 13-19 | 71 | 31 | 51 | 66 | 36 | 51 |
| | 20-26 | 62 | 32 | 47 | 70 | 40 | 55 |
| | 27-2 | 76 | 43 | 59 | 69 | 40 | 55 |
| June | 3-9 | 71 | 34 | 52 | 70 | 41 | 55 |
| | 10-16 | 79 | 39 | 59 | 73 | 42 | 58 |
| | 17-23 | 76 | 42 | 59 | 76 | 44 | 60 |
| | 24-30 | 84 | 49 | 67 | 78 | 46 | 62 |
| July | 1-7 | 83 | 41 | 62 | 79 | 46 | 62 |
| | 8-14 | 93 | 51 | 72 | 82 | 48 | 65 |
| | 15-21 | 88 | 48 | 68 | 83 | 49 | 66 |
| | 22-28 | 87 | 44 | 66 | 85 | 50 | 68 |
| | 29-4 | 87 | 43 | 65 | 85 | 48 | 67 |
| August | 5-11 | 76 | 39 | 58 | 86 | 49 | 67 |
| | 12-18 | 93 | 44 | 68 | 83 | 46 | 65 |
| | 19-25 | 78 | 37 | 58 | 81 | 45 | 63 |
| | 26-1 | 82 | 35 | 58 | 81 | 43 | 62 |
| September | 2-8 | 77 | 33 | 55 | 80 | 43 | 61 |
| | 9-15 | 84 | 36 | 60 | 77 | 40 | 59 |
| | 16-22 | 77 | 37 | 57 | 74 | 39 | 56 |
| | 23-29 | 79 | 35 | 57 | 73 | 38 | 55 |
| | 30-6 | 63 | 27 | 45 | 73 | 35 | 54 |
| October | 7 - 13 | 72 | 26 | 49 | 68 | 33 | 51 |
| | 14 - 20 | 73 | 25 | 49 | 64 | 29 | 46 |
| | 21 - 27 | 64 | 25 | 44 | 62 | 30 | 46 |
| Mean | 75 | 36 | 56 | 72 | 40 | 56 | |

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Table 5. Weekly minimum air temperatures, frost days, and precipitation for the 2002 growing season and 1979-2001 at Klamath Falls, OR.

| Weekly period | <u>Weekly min.</u> | | <u>Frost days/week</u> | | <u>Weekly precip.</u> | | <u>Accum. precip.</u> | | |
|---------------|--------------------|---------|------------------------|---------|-----------------------|---------|-----------------------|---------|------|
| | 2002 | 1979-01 | 2002 | 1979-01 | 2002 | 1979-01 | 2002 | 1979-01 | |
| | — °F — | | — % — | | — in — | | | | |
| April | 1-7 | 22 | 11 | 57 | 76 | 0.00 | 0.15 | 0.00 | 0.15 |
| | 8-14 | 24 | 15 | 57 | 67 | 0.24 | 0.17 | 0.24 | 0.32 |
| | 15-21 | 22 | 17 | 100 | 52 | 0.14 | 0.29 | 0.38 | 0.61 |
| | 22-28 | 22 | 20 | 100 | 52 | 0.04 | 0.23 | 0.42 | 0.84 |
| | 29-5 | 30 | 19 | 28 | 38 | 1.40 | 0.26 | 1.82 | 1.10 |
| May | 6-12 | 21 | 18 | 100 | 45 | 0.00 | 0.20 | 1.82 | 1.30 |
| | 13-19 | 25 | 19 | 28 | 33 | 0.00 | 0.28 | 1.82 | 1.58 |
| | 20-26 | 24 | 24 | 71 | 17 | 0.00 | 0.21 | 1.82 | 1.79 |
| | 27-2 | 34 | 27 | 0 | 18 | 0.12 | 0.30 | 1.94 | 2.09 |
| June | 3-9 | 24 | 22 | 28 | 11 | 0.00 | 0.25 | 1.94 | 2.34 |
| | 10-16 | 34 | 25 | 0 | 8 | 0.00 | 0.15 | 1.94 | 2.49 |
| | 17-23 | 30 | 30 | 14 | 5 | 0.12 | 0.07 | 2.06 | 2.56 |
| | 24-30 | 40 | 31 | 0 | 0 | 0.00 | 0.14 | 2.06 | 2.70 |
| July | 1-7 | 38 | 31 | 0 | 2 | 0.00 | 0.07 | 2.06 | 2.77 |
| | 8-14 | 35 | 34 | 0 | 0 | 0.00 | 0.05 | 2.06 | 2.82 |
| | 15-21 | 44 | 32 | 0 | 1 | 0.00 | 0.11 | 2.06 | 2.93 |
| | 22-28 | 40 | 35 | 0 | 0 | 0.00 | 0.03 | 2.06 | 2.96 |
| | 29-4 | 40 | 33 | 0 | 0 | 0.00 | 0.07 | 2.06 | 3.03 |
| August | 5-11 | 28 | 34 | 14 | 0 | 0.02 | 0.12 | 2.08 | 3.15 |
| | 12-18 | 36 | 29 | 0 | 2 | 0.00 | 0.10 | 2.08 | 3.25 |
| | 19-25 | 30 | 30 | 14 | 3 | 0.00 | 0.15 | 2.08 | 3.40 |
| | 26-1 | 33 | 29 | 0 | 2 | 0.00 | 0.18 | 2.08 | 3.58 |
| September | 2-8 | 26 | 27 | 57 | 5 | 0.00 | 0.08 | 2.08 | 3.66 |
| | 9-15 | 30 | 24 | 28 | 11 | 0.00 | 0.16 | 2.08 | 3.82 |
| | 16-22 | 32 | 24 | 14 | 11 | 0.00 | 0.19 | 2.08 | 4.01 |
| | 23-29 | 28 | 24 | 43 | 23 | 0.00 | 0.13 | 2.08 | 4.14 |
| | 30-6 | 20 | 20 | 86 | 26 | 0.04 | 0.06 | 2.12 | 4.20 |
| October | 7-13 | 16 | 17 | 71 | 43 | 0.00 | 0.17 | 2.12 | 4.37 |
| | 14-20 | 21 | 18 | 86 | 72 | 0.00 | 0.11 | 2.12 | 4.48 |
| | 21-27 | 19 | 12 | 86 | 68 | 0.00 | 0.31 | 2.12 | 4.79 |

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Table 6. A comparison of monthly mean air temperatures and wind miles, total precipitation, and pan evaporation (EVAP) versus evapotranspiration (ET) for KES and AgriMet (AGM) weather stations at Klamath Experiment Station, OR, 2002.

| Month | Air temperature | | | | | | Precipitation | | Wind | | EVAP ET | |
|-----------|-----------------|-----|---------|-----|------|-----|---------------|------|-----------|-----|---------|--------------------|
| | Maximum | | Minimum | | Mean | | KES | AGM | KES | AGM | KES | AGM |
| | KES | AGM | KES | AGM | KES | AGM | | | | | | |
| | °F | | | | | | in | | miles/day | | in | |
| January | 39 | 38 | 18 | 20 | 29 | 29 | 1.20 | 1.34 | 87 | 87 | --- | 0.76 |
| February | 47 | 47 | 22 | 26 | 34 | 36 | 1.75 | 1.78 | 86 | 91 | --- | 1.52 |
| March | 50 | 50 | 21 | 24 | 36 | 37 | 0.21 | 0.25 | 109 | 104 | --- | 2.95 |
| April | 61 | 58 | 29 | 32 | 45 | 45 | 1.65 | 1.71 | 121 | 117 | --- | 4.51 |
| May | 65 | 65 | 32 | 36 | 48 | 51 | 0.17 | 0.05 | 115 | 112 | 7.12 | 6.65 |
| June | 77 | 75 | 41 | 45 | 59 | 60 | 0.24 | 0.24 | 105 | 104 | 9.42 | 8.56 |
| July | 88 | 86 | 46 | 51 | 67 | 69 | 0.00 | 0.00 | 79 | 81 | 10.80 | 9.77 |
| August | 83 | 80 | 41 | 45 | 62 | 63 | 0.02 | 0.01 | 80 | 81 | 8.76 | 7.84 |
| September | 79 | 76 | 35 | 40 | 57 | 58 | 0.00 | 0.00 | 75 | 78 | 6.82 | 5.66 |
| October | 65 | 63 | 24 | 29 | 45 | 46 | 0.04 | 0.00 | 74 | 77 | --- | 3.45 |
| November | 53 | 51 | 23 | 26 | 38 | 38 | 1.27 | 1.16 | 63 | 66 | --- | 1.25 |
| December | 44 | 42 | 24 | 26 | 34 | 34 | 2.50 | 2.54 | 120 | 118 | --- | 0.69 |
| Mean | 63 | 61 | 30 | 33 | 46 | 47 | | | 93 | 93 | | |
| Total | | | | | | | 9.05 | 9.08 | | | 42.92 | 38.48 ¹ |

¹ Total from May 1 through September 30.

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Table 7. A comparison of monthly mean air temperatures and total monthly precipitation at the AgriMet weather stations located at the Klamath Experiment Station (KES), Lower Klamath Lake (LKL), Agency Lake Ranch (ALR), and Langell Valley (LV), OR, 2002.

| Month | Air temperature | | | | | | | | | | | | Precipitation | | | |
|-----------|-----------------|-----|-----|----|---------|-----|-----|----|------|-----|-----|----|---------------|------|-------|------|
| | Maximum | | | | Minimum | | | | Mean | | | | KES | LKL | ALR | LV |
| | KES | LKL | ALR | LV | KES | LKL | ALR | LV | KES | LKL | ALR | LV | | | | |
| °F | | | | | | | | | | | | in | | | | |
| January | 38 | 39 | 37 | 40 | 20 | 24 | 23 | 20 | 29 | 31 | 30 | 30 | 1.34 | 1.10 | 1.39 | 0.82 |
| February | 47 | 47 | 42 | 50 | 26 | 28 | 24 | 24 | 36 | 37 | 33 | 37 | 1.78 | 1.09 | 1.15 | 0.78 |
| March | 50 | 51 | 47 | 51 | 24 | 26 | 31 | 22 | 37 | 38 | 39 | 36 | 0.25 | 0.16 | 0.60 | 0.43 |
| April | 58 | 59 | 59 | 59 | 32 | 32 | 40 | 27 | 45 | 45 | 49 | 43 | 1.71 | 1.37 | 0.41 | 1.35 |
| May | 65 | 65 | 62 | 66 | 36 | 34 | 42 | 33 | 51 | 49 | 52 | 49 | 0.05 | 0.08 | 0.43 | 0.13 |
| June | 75 | 76 | 73 | 78 | 45 | 41 | 47 | 42 | 60 | 59 | 60 | 60 | 0.24 | 0.21 | 0.38 | 0.05 |
| July | 86 | 86 | 86 | 89 | 51 | 44 | 50 | 46 | 69 | 65 | 68 | 68 | 0.00 | 0.02 | 0.02 | 0.00 |
| August | 80 | 81 | 80 | 82 | 45 | 39 | 40 | 40 | 63 | 60 | 60 | 61 | 0.01 | 0.02 | 0.01 | 0.02 |
| September | 76 | 77 | 75 | 78 | 40 | 34 | 35 | 34 | 58 | 55 | 55 | 56 | 0.00 | 0.03 | 0.30 | 0.10 |
| October | 63 | 65 | 64 | 66 | 29 | 21 | 23 | 20 | 46 | 43 | 44 | 43 | 0.00 | 0.01 | 0.02 | 0.01 |
| November | 51 | 53 | 50 | 54 | 26 | 21 | 23 | 21 | 38 | 37 | 36 | 37 | 1.16 | 0.99 | 1.80 | 0.95 |
| December | 42 | 43 | 41 | 44 | 26 | 24 | 27 | 24 | 34 | 33 | 33 | 34 | 2.54 | 2.27 | 4.63 | 2.04 |
| Mean | 61 | 62 | 60 | 63 | 33 | 31 | 34 | 29 | 47 | 46 | 47 | 46 | | | | |
| Total | | | | | | | | | | | | | 9.08 | 7.35 | 11.14 | 6.68 |