Decorah Weather - February 2024 Summary
by Richard Bernatz
Weather data available online at http://faculty.luther.edu/~bernatzr/DecWx/
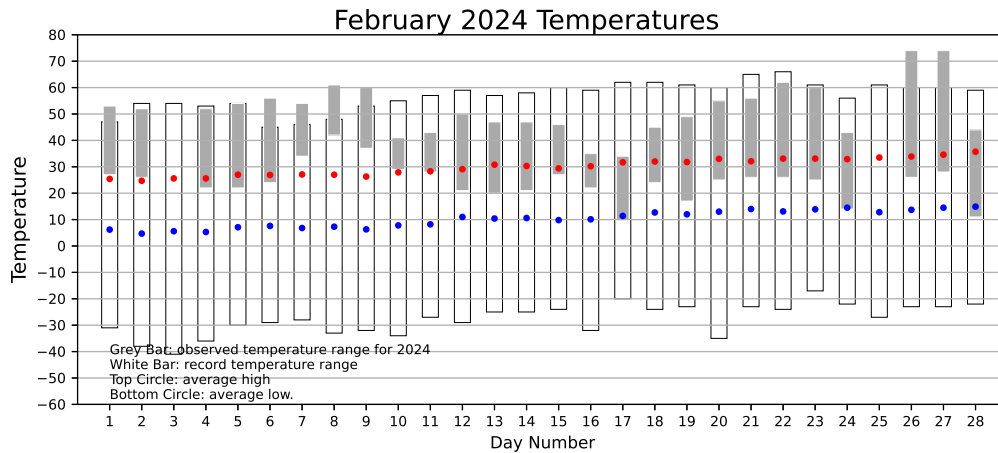
1. **FEBRUARY 2024 TEMPERATURES**

Figure 1: **Grey Bar**: Observed temperature range for 2024, **White Bar**: Record temperature range, **Red Circle:** average high, **Blue Circle:** average low.

Temperature (° F)	February 2024	Historical	Deviation
Average High	51.8	30.1	+21.7
Average Low	24.4	10.3	+14.1
Daily Average	38.1	20.2	+17.9

Table 1: February 2024 average temperatures compared to February averages.

- **FEBRUARY 2024**
  - Record Temperatures : Nine record high temperatures were set, and one tied this February. Records high temperatures (old records and year in parentheses) are 53° F on the 1st(47° F in 1989), 54° F on the 5th (ties with 1946), 56° F on the 6th (45° F in 1925), 54° F on the 7th (46° F in 1987, 1991, and 1996), 61° F on the 8th (48° F in 1954, 1999, and 2002), 60° F on the 9th (53° F in 1966), 74° F on the 26th (60° F in 2000), 74° F on the 27th (60° F in 2016). Record maximum minimums (highest over-night low) of 34° F on the 7th (33° F in 2023) and 42° F on the 8th (36° F in 1966).
  - The 74° F readings on the 26th and 27th are the warmest ever recorded for a Decorah February. The previous February maximum was 66° F recorded on the 22nd of 1930.
  - Above average maximum temperature recorded every day in February.
  - Average temperature : 38.1° F (17.9° F warmer than average)
  - Warmest temperature : 74° F on the 26th and 27th
  - Coldest temperature : 10° F on the 17th
  - Heating degree days: 699.5, 550.4 less than average
- **ALL FEBRUARIES SINCE 1894** (131 years)
  - Compared with February 2024, no Februaries were warmer and 130 Februaries were colder
  - Warmest average : 38.1° F in 2024 (the second warmest average is 33.4 in 1954)
  - Coldest average : 3.8° F in 1936
  - Warmest temperature : 74° F on the 26th and 27th of 2024
  - Coldest temperature : -41° F on the 3rd of 1996
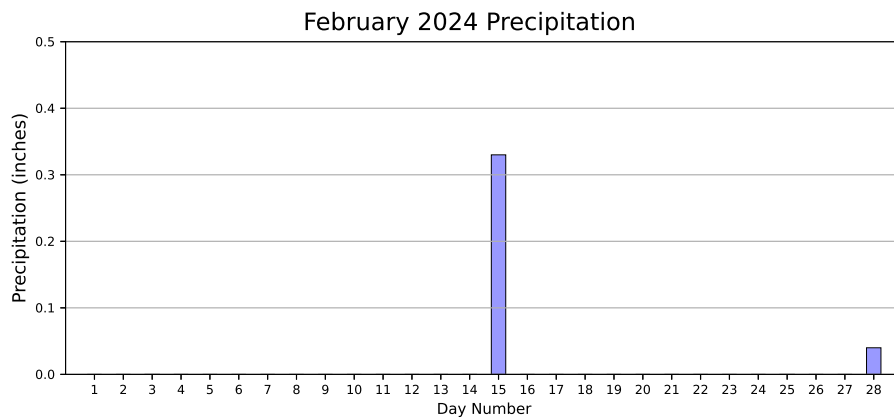
2. FEBRUARY 2024 PRECIPITATION

Figure 2: February precipitation for Decorah.

- FEBRUARY 2024
  - Total precipitation for February 2024 : 0.37 inches, 0.59 inches less than the average amount of 0.96 inches
  - Two days with measurable precipitation, the average is five days
  - Greatest 24-hour total: 0.33 inches on the 15th
  - No measurable snowfall in February 2024. The average amount is 7.6 inches in 4 days.
  - Greatest 24-hour snowfall: –
- ALL FEBRUARIES SINCE 1894 (130 years - no data for 1896)
  - Compared with February 2024, 105 Februaries were wetter, one was the same, and 23 were drier
  - Wettest February : 3.96 inches in 1915
  - Driest February : 0.00 inches in 1987
  - Snowiest February : 26.3 inches in 1962

3. TWELVE-MONTH SUMMARY

Month	Year	Ave Temp (°F)	Deviation (°F)	Rank† (#/Total)	Precip (inches)	Deviation (inches)	Rank‡ (#/Total)
March	2023	36.2	+3.4	36/131	1.89	-0.11	70/131
April	2023	50.5	+3.2	23/130	2.84	-0.26	66/130
May	2023	63.0	+4.1	17/128	4.19	-0.04	58/127
June	2023	71.1	+2.8	22/129	2.36	-2.39	109/129
July	2023	72.5	-0.1	63/129	3.32	-0.76	69/130
August	2023	74.9	+4.5	11/131	0.91	-3.14	125/131
September	2023	69.3	+7.0	1/130	5.54	+1.84	26/130
October	2023	54.3	+4.0	19/130	2.78	+0.45	46/130
November	2023	40.0	+4.7	19/131	0.18	-1.65	128/131
December	2023	36.0	+14.1	1/131	1.07	-0.14	71/131
January	2024	24.0	+7.6	14/131	1.56	+0.51	24/131
February	2024	38.1	+17.9	1/131	0.37	-0.59	107/130

Table 2: A summary of the last twelve months. †- The smaller the number (#), the warmer the month. ‡- The smaller the number (#), the wetter the month. Boxed entries are within the historical top or bottom ten.

- Eleven of the past 12 months were warmer than average.
- Nine of the past 12 months were drier than average.
- Precipitation deviations from average (in inches), last 3 months : -0.20, last 6 months : +0.43, last 9 months : -5.87, last 12 months : -6.30

4. WINTER SEGMENT : NOVEMBER 1, 2023 - FEBRUARY 28, 2024

- Severity Ranking
  - The 2023-24 Nov-Feb segment **ranks 131st** (out of 132 years) in winter severity with an index of -9.51 (A negative index means the segment is less "severe" than average.)
  - The winter Nov-Feb segment of 2001-02 is the least severe with an index of -10.09
  - The winter Nov-Feb segment of 1977-78 is the most severe with an index of +8.23
- Accept for an "about average" first snowfall on November 26th of 1.1 inches, and another 11.5 inches of snow in January, the current November-February segment would surpass the 2001-02 segment as the least "wintry." Excluding the snowfall category, all wintry measures for this year are definitely "un-wintry."
- The most remarkable unseasonable features this segment include just 12 days with a maximum temperature less than 32° F. The average by now would be 52. For just 10 days the temperature dipped below 10° F. The average number is 42. Just once has the official low temperature dropped below -9° F. The average number of days is 11.

Winter Severity Defined:

As a way of judging the "severity" of a given winter season (the winter "season" corresponds to the months of November through March), fifteen statistics are calculated:

- average high temperature,
- number of days with a maximum temperature less the 32° F ,
- number of days with a maximum temperature less than 20° F ,
- number of days with a maximum temperature less than 10° F ,
- number of days with a maximum temperature less than 0° F ,
- number of days with a maximum temperature less than -9° F ,
- average low temperature,
- number of days with a minimum temperature less than 10° F ,
- number of days with a minimum temperature less than 0° F ,
- number of days with a minimum temperature less than -9° F ,
- number of days with a minimum temperature less than -19° F ,
- number of days with a minimum temperature less than -29° F ,
- total inches of snow fall,
- number of days with significant snowfall (at least an inch of snow),
- the number of days between the first snowfall and the last snowfall.

These statistics give some measure of the length, frequency, and severity of "winter" events for the season.

Each statistic is used to determine an average (a mean), from which the standard deviation from the mean may be determined. The categorical standard deviations are used to create a weighted severity index for each segment of a season. The numerical severity indexes provide a way of ranking the corresponding segments of the different seasons. The segments are: November-December, November-January, November-February, and November-March.