



Weather and Climate



Yukon-Charley Rivers Winter 2013-2014 Weather Summary

How did the winter of 2013-2014 stack up to normal?

The winter time temperature roller coaster continues – December was cool, January was approaching hot, and February slid back to cold temperatures.

It was the 6th warmest January on record for Eagle with an average monthly temperature of 8.1 °F. 1981, 1985, 1926, 2001, and 1977 were warmer, respectively.

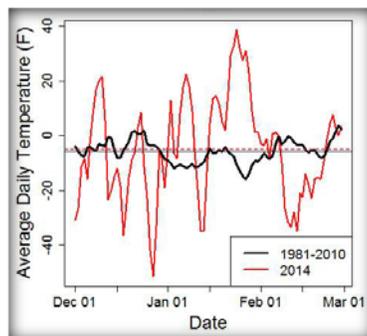
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Record high temperatures:  
January 23: 41 °F  
January 24: 42 °F  
January 25: 44 °F

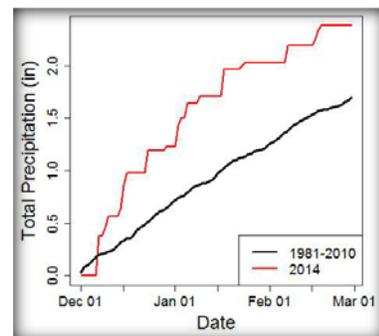
Record low temperatures:  
Dec 27: -55 °F  
Dec 28: -55 °F

In Eagle, winter started out cool with an average monthly temperature of -12.6 °F; the 30-year average temperature for December is -4.0 °F. The precipitation total for the month was 0.53 inches above the long-term average. The snowfall total of 11.0 inches was just below the average of 11.5 inches. The minimum temperature was -30 °F or colder for 11 of the 31 days of December, dropping to -55 °F towards the end of the month. The big warm up came in January. The average monthly temperature of 8.1° F was 17.7 °F warmer than the long-term average. There was a brief cold period mid-month where temperatures plummeted to -46 °F and a week later the high temperature reached 44 °F! The snowfall total was above normal for the month with a total of 11.5 inches falling, normal is 8.1 inches. Although the snowfall total was more than normal, the total precipitation for the month was just below normal. The temperatures cooled again in February with an average monthly temperature of -11.3°F, which is 7.6 °F cooler than normal. A total of 6.5 inches of snow fell during February; the long-term average is 8.1 inches. The precipitation total was 74% of normal. By the end of February the snowfall total for the season was 56.5 inches (normal is 52.2 inches) and there was 18 inches of snow on the ground.

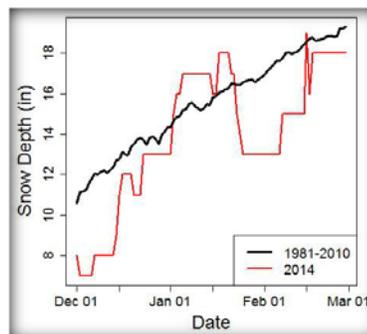
Eagle – Average Air Temperatures



Eagle – Cumulative Precipitation



Eagle – Cumulative Snow Depth



# Yukon-Charley Rivers Winter 2013-2014 Weather Summary

Eagle Weather Records:  
Climate Normal Period 1981 – 2010  
Climate Record Period 1949 – 2014

## Temperature

| Winter 2013 - 2014 | Average Monthly Temp °F | 1981-2010 Average °F | Departure from Normal °F | Monthly High °F / Date | Monthly Low °F / Date |
|--------------------|-------------------------|----------------------|--------------------------|------------------------|-----------------------|
| December           | -12.6                   | -4.0                 | <b>-8.6</b>              | 27 / Dec 10            | -55 / Dec 27 & 28     |
| January            | 8.1                     | -9.6                 | <b>+17.7</b>             | 44 / Jan 25            | -46 / Jan 12 & 13     |
| February           | -11.3                   | -3.7                 | <b>-7.6</b>              | 22 / Feb 26            | -45 / Feb 10 & 11     |

Winter Season Temperature Departure from Normal: +0.5°F

## Precipitation

| Winter 2013 - 2014 | Total Monthly Precip. in. | 1981-2010 Average in. | Departure from Normal in. | Greatest 24 -hr. total in. / Date | # Days with >=0.01 in. water |
|--------------------|---------------------------|-----------------------|---------------------------|-----------------------------------|------------------------------|
| December           | 1.23                      | 0.70                  | <b>+0.53</b>              | 0.38 / Dec 7                      | 8                            |
| January            | 0.08                      | 0.53                  | <b>-0.45</b>              | 0.26 / Jan 17                     | 3                            |
| February           | 0.35                      | 0.47                  | <b>-0.12</b>              | 0.16 / Feb 7                      | 4                            |

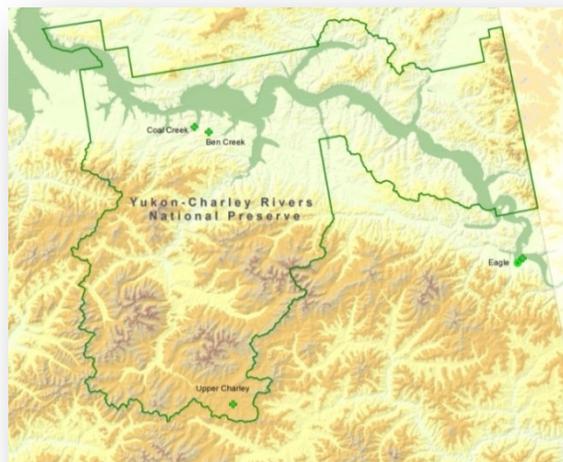
Winter Season Departure from Normal: -0.01 inches

## Snowfall

| Winter 2013 - 2014 | Total Monthly Snowfall in. | 1981-2010 Average in. | Departure from Normal in. | Greatest 24 - hr. snowfall total in. / Date | 2014 snowfall from July 1 in. | Normal Snowfall from July 1 - in. | Snow Depth End of Month In. |
|--------------------|----------------------------|-----------------------|---------------------------|---------------------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| December           | 11                         | 11.7                  | <b>-0.7</b>               | 3.0 / Dec 23                                | 38.5                          | 36                                | 13                          |
| January            | 11.5                       | 8.1                   | <b>+3.4</b>               | 3.5 / Jan 17                                | 50                            | 44.1                              | 13                          |
| February           | 6.5                        | 8.1                   | <b>-1.6</b>               | 3.0 / Feb 17                                | 56.5                          | 52.2                              | 18                          |

\*Note: NOAA 1981-2010 "normals" not available for Eagle COOP site. These tables are based on calculated daily averages for the 1981-2010 base period.

As part of the climate monitoring vital sign, additional NPS climate stations were installed in the preserve to complement the long-term record available from the National Weather Service station in Eagle. These additional sites provide critical data that help characterize the climate gradients and patterns affecting resources in Yukon-Charley Rivers National Preserve.



# Yukon-Charley Rivers Winter 2013-2014 Weather Summary

Yukon-Charley Rivers Remote Automated Weather Station (RAWS) summaries – Winter 2013-2014:

| Site       | Elev.<br>Ft. | Average Temp °F |     |       | Fall 2012       | Extremes °F |     | Snow<br>Depth<br>In. * | Peak<br>Wind<br>mph | High T –<br>Low T °F<br>** |
|------------|--------------|-----------------|-----|-------|-----------------|-------------|-----|------------------------|---------------------|----------------------------|
|            |              | Dec             | Jan | Feb   | Avg. Temp<br>°F | High        | Low |                        |                     |                            |
| Coal Creek | 870          | -15.2           | 0.6 | -13.0 | -9.2            | 41          | -56 | 22                     | 8                   | 97                         |

\* Snow depth on Feb 28<sup>th</sup>; \*\* Difference between the high and low temperature for season; \*\*\*The Ben Creek and Upper Charley RAWS have not been transmitting data this winter.

Interesting notes from RAWS stations:

- On January 12 and 13 the low temperatures at Coal Creek reached -51 °F and -53 °F degrees, respectively... and a week later on January 24 the high temperature reached 41°F.
- On December 26 and 27 the minimum daily temperatures recorded at Coal Creek were a chilly -53 °F and -56 °F, respectively.
- Once again the temperature spread between the high and low seasonal temperatures was impressive. There was a 97 °F difference between the low temperature of -56°F on December 27 and the high temperature of +41°F on January 24.
- The brief thaw in January was enough to create an impressive crust within the snow pack that was still detectable in late March.



Upper Charley Station in Winter

## Connecting Further

Check out these links:

The latest Intergovernmental Panel on Climate Change [Summary Report](#) – released March 30, 2014.

[Central Alaska Network](#) climate monitoring vital sign

Access near real-time data from [Western Regional Climate Center](#) and [MesoWest](#)

Check out the Jul-Aug-Sep weather outlook from the [NOAA Climate Prediction Center](#)

Statewide summary of weather highlights in the latest [Alaska Climate Dispatch](#) from the Alaska Center for Climate Assessment and Policy

[Map](#) of projected temperature and precipitation changes Denali National Park and Preserve.

Please Note: The summarized data are preliminary and have not undergone final quality control. Therefore, these data are subject to revision.

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