



## Weather and Climate

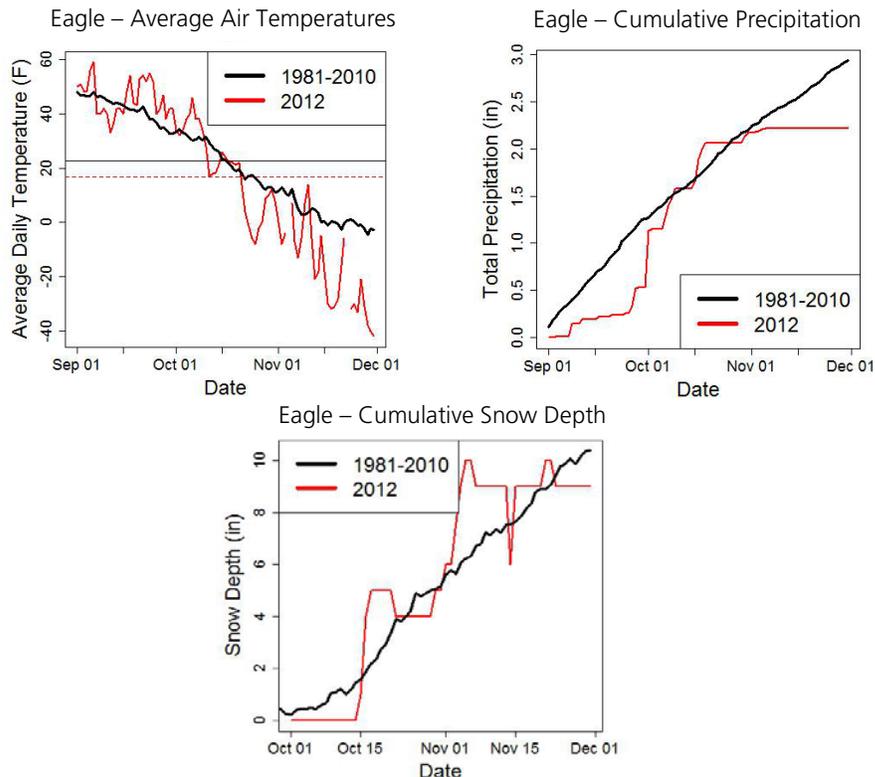


### Yukon-Charley Rivers Fall 2012 Weather Summary

#### What is Normal?

“Normals” are used to place recent climate conditions into historical context. It takes 30 years of continuous weather data at one location to calculate what makes temperatures or precipitation amounts “normal”. The latest normal period is 1981-2010. The weather station in Eagle has been in operation since 1922, and while there are data gaps in the early decades, the record for the past 60+ years has been good. This site provides a valuable long-term record for Yukon-Charley and is a good index site to use for climate comparisons.

In Eagle, fall 2012 started out much warmer and drier than normal. The average temperature for September was 4.0° F warmer than normal, one of the warmer Septembers on record and the warmest since 1998. The total precipitation for the month was only 0.53 inches, 41% of normal. The temperatures cooled in October with an average monthly temperature of 19.8 °F, 3.1° F below the 1981-2010 normal. The total precipitation for the month was 1.64 inches, normal is 1.00 inches. The total snowfall was 8.0 inches for the month, 3.1 inches shy of normal. November was particularly cold and dry. The average temperature for the month was -16.8 °F. It was the second coldest November on record behind 2006 (-17.0°F)\*. The cold weather was persistent, but no cold temperature records were broken in Eagle. The average minimum temperature for the last 15 days of November was -36.1 °F. The low temperature for the month was -46 °F on November 30<sup>th</sup>. The total snowfall was 9.5 inches for November, 79% of normal.



\* There were four missing years of data including 1965-66 and 1970-71; these were not particularly cold Novembers in Fairbanks.

# Yukon-Charley Rivers Fall 2012 Weather Summary

## Eagle Weather Records:

Climate Normal Period 1981 – 2010

Climate Record Period 1949 – 2012

### Temperature

Fall 2012	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
September	45.8	41.8	+ 4.0	73* / Sep 21	23 / Sep 11
October	19.8	22.9	- 3.1	51 / Oct 6	-21 / Oct 25
November	-16.8	2.9	- 19.7	18 / Nov 11	-46 / Nov 30

\*Record high daily temperature. Record high daily temperature of 69 °F recorded on Sept 23.

Fall Season Temperature Departure from Normal: -6.3°F

### Precipitation

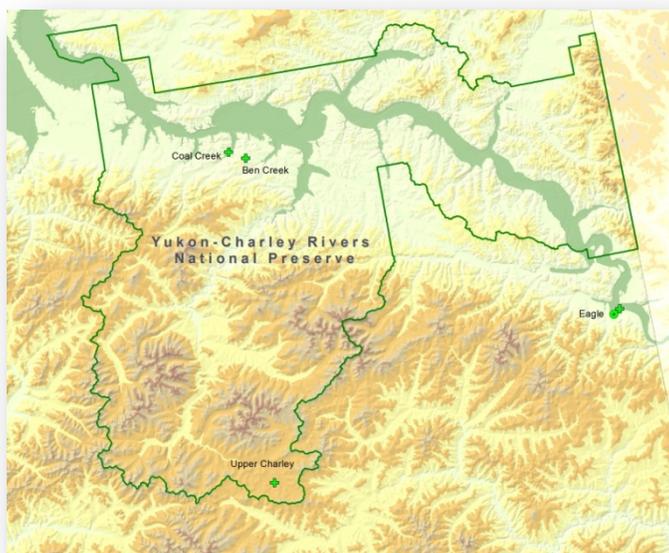
Fall 2012	Total Monthly Precip. in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 –hr. total in. / Date	# Days with >=0.01 in. rain or snow
September	0.53	1.30	- 0.77	0.18 / Sep 27	9
October	1.64	1.00	+ 0.64	0.60 / Oct 1	12
November	0.44	0.70	- 0.26	0.10 / Nov 4	7

Fall Season Departure from Normal: -0.13 inches

### Snowfall

Fall 2012	Total Monthly Snowfall in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 – hr. snowfall total in. / Date	2012 snowfall from July 1 in.	Normal Snowfall from July 1 - in.	Snow Depth End of Month in.
September	0	1.3	- 1.3	0	0	1.3	0
October	8	11.1	- 3.1	3.5 / Oct 16	8	12.4	5
November	9.5	12.1	- 2.6	2.5 / Nov 3	17.5	24.5	9

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 Fall 2012 Weather Summary

Yukon-Charley Rivers Remote Automated Weather Station (RAWS) summaries – Fall 2012:

Site	Elev. Ft.	Average Temp °F			Fall 2012	Extremes °F		Snow Depth In. *	Peak Wind mph	High T – Low T °F **
		Sep	Oct	Nov	Avg. Temp °F	High	Low			
Coal Creek	870	43.8	19.0	-20.0	14.3	77	-45	m	13	122
Ben Creek	1850	43.9	17.8	-12.3	16.5	70	-29	***	25	99
Upper Charley River	3654	39.1	17.3	-4.6	17.3	57	-22	6	28	79

\* Snow depth on Nov. 30<sup>th</sup>; \*\* Difference between the high and low temperature for the season; \*\*\* Snow not measured.

Interesting notes from RAWS stations:

- The 122 degree F difference between the high and low temperatures at Coal Creek, for the fall season, was the largest seasonal temperature spread recorded at any of the stations in and around the national parks in the northern region of the state, including all of the parks in the Arctic and Central Alaska Networks.
- The temperature inversion becomes quite apparent ~ November when the average temperature at the higher elevation site in the Upper Charley was ~ 15 degrees warmer than the river valley site at Coal Creek.
- There was ~ a 30 degree F difference in the average monthly temperature for October versus November as the available daylight (and heat) fade fast.



Climate Station near Coal Creek Camp

## Connecting Further

New paper published – [The First Decade of the New Century: A Cooling Trend for Most of Alaska](#)

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

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

Check out the 3 month weather outlook from the [NOAA Climate Prediction Center](#)

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

[Map](#) of projected temperature and precipitation changes in Yukon-Charley Rivers National Preserve.

### For more information contact:

Pam Sousanes or Ken Hill

Central Alaska Network

[pam\\_sousanes@nps.gov](mailto:pam_sousanes@nps.gov); [kenneth\\_hill@nps.gov](mailto:kenneth_hill@nps.gov)

907.455.0677

907.455.0678

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