



Weather and Climate



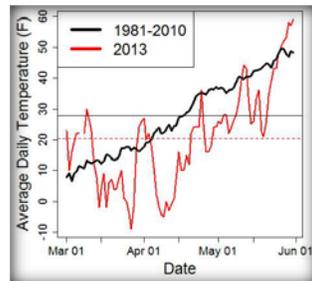
Denali Spring 2013 Weather Summary

Was Spring 2013 Normal?

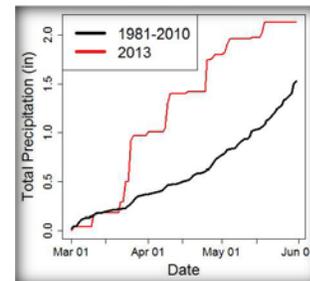
It was a cold, snowy spring -- 7.8° F degrees colder than normal and the 3rd coldest on record. April 2013 was the coldest April on record (an 88 year record!), with two new daily record lows set; while May 2013 was the 4th coldest on record. Five new record low temperatures were set between May 7th and May 18th; and 12 days later, on May 30th, a new record high of 76° F was recorded. The total snowfall for March, April, and May was 34.8 inches, 232% of normal.

March temperatures started out above normal, but by mid-month they dropped below normal and stayed there until the last two days of the month. The average monthly temperature was 2.3° F colder than normal. The total snowfall for March was 15.1 inches, 220% of normal. April 2013 was the coldest April on record with an average temperature of 13.6°F; 14.3°F colder than normal. April was also snowy with 16.1 inches falling for the month, normal is 5.9 inches. A new daily record was set on April 25th with 7.8 inches of snow. Normally in April, the snowpack starts to decrease with increasing temperatures; this year it continued to increase through April and the beginning of May. The temperatures remained cold through the first three weeks of May, and then “instasummer” hit during the last few days of the month with temperature soaring to the upper 70s. Even though the temps climbed rapidly toward the end of the month, the average monthly temperature was only 36.0° F, which is 6.8° F colder than normal. A total of 3.6 inches of snow fell during May, which brought the total snowfall for the 2012-2013 season to 79.9 inches, 3.3 inches more than normal. The snowpack “melt-out” date was May 25th, one day short of the latest melt-out date on record of May 26, 1964. This year tied with 1992 as the second latest melt-out date at park headquarters.

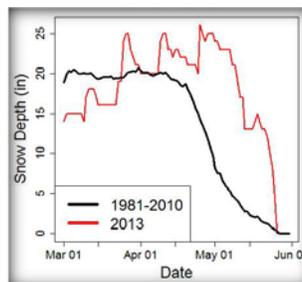
Denali Park HQ – Average Air Temperatures



Denali Park HQ – Cumulative Precipitation



Denali Park HQ – Cumulative Snow Depth



Denali Spring 2013 Weather Summary

Denali Park HQ Weather Records:
 Climate Normal Period 1981 – 2010
 Climate Record Period 1925 – 2013

Temperature

Spring 2013	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
March	11.1	13.4	-2.3	40 / Mar 9	-22 / Mar 27
April	13.6	27.9	-14.3	45 / Apr 24	-17 / Apr 11
May	36.0	42.8	-6.8	76 / May 30,31	11 / May 6,7

Spring Season Temperature Departure from Normal: -7.8°F

Precipitation

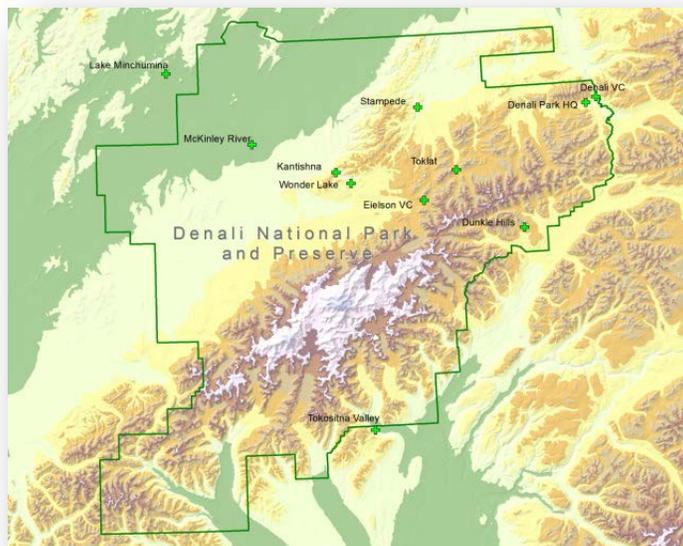
Spring 2013	Total Monthly Precip in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 –hr total in. / Date	# Days with >=0.01 in. rain or snow
March	0.97	0.39	+0.58	0.42 / Mar 25	7
April	0.82	0.40	+0.42	0.32 / Apr 25	8
May	0.33	0.87	-0.54	0.10 / May 18	7

Spring Season Departure from Normal: +0.15 inches

Snowfall

Spring 2013	Total Monthly Snowfall in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 – hr snowfall total in. / Date	Cumulative snowfall total from July 1 in.	Normal Snowfall Total from July 1 - in.
March	15.1	6.8	+8.3	5.2 / Mar 25	60.2	68.3
April	16.1	5.9	+10.2	7.8 / Apr 25	76.3	74.3
May	3.6	2.3	+1.3	1 / May 3, 18	79.9	76.6

There are additional NPS climate stations in Denali that complement the long-term record available from the National Weather Service station at Park headquarters. These additional sites provide critical data on a park-wide scale that help characterize the climate gradients and patterns affecting resources in Denali National Park and Preserve.



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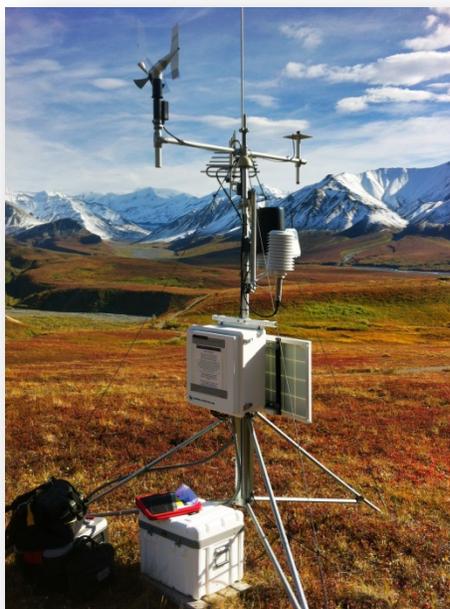
Denali Remote Automated Weather Station (RAWS) summaries – Spring 2013:

Site	Elev. Ft.	Average Temp °F			Spring Avg Temp °F	Extremes °F		Peak Wind mph	High T – Low T °F *
		Mar	Apr	May	High	Low			
Denali VC	1650	12.6	16.7	39.8	23.0	83	-31	31	114
Toklat	2920	12.7	10.4	33.4	18.8	68	-28	40	96
Eielson VC	3653	15.3	13.9	34.1	21.1	67	-19	43	86
Wonder Lake	2050	12.4	16.0	39.3	22.6	79	-22	46	101
Stampede	1800	9.8	15.4	38.7	21.3	75	-29	18	104
Kantishna	1550	10.2	16.0	40.7	22.3	78	-26	**	104
McKinley River	863	7.3	19.0	43.3	23.2	84	-30	m	114
Dunkle Hills	2651	12.0	14.2	32.3	19.5	65	-23	29	88
Tokositna Valley	850	19.3	23.6	40.4	27.8	57	-11	**	68

* Difference between the high and low temperature for the season; **Snow /wind not measured.

Interesting notes from RAWS stations:

- The highest temperature for the season, 84°F, was recorded at McKinley River on May 29. The lowest temperature for the season, -31°F, was recorded at the Denali Visitor Center site on March 27.
- There was a 20.5°F difference in the average monthly temperature (for all stations combined) between April and May.
- Once again, the temperature spread between the low and the high temperature for the season is much greater at low elevation sites in the interior climate zone north of the Alaska Range, than at sites at higher elevations (affected by temperature inversions) and sites south of the range (moderated by ocean temperatures to the south).



Climate station near Eielson Visitor Center

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

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 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.

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