



Western Arctic Parklands Fall 2012 Weather Summary

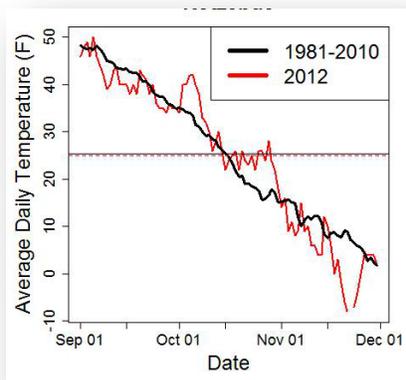
What is Normal?

“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 temperature or precipitation amounts “normal”. The latest normal period is 1981-2010.

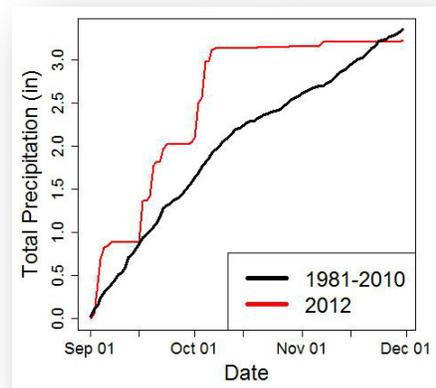
The weather station in Kotzebue has been in operation since 1897, and while the records in the early days were spotty, the record for the past 60+ years is solid. Kotzebue is a good index site to use for climate comparisons in the Arctic parks.

In Kotzebue, fall 2012 started out cool and wet. The average temperature for September was 1.5° F cooler than normal and there were 13 days during the month with measurable precipitation. The temperatures warmed in October with an average temperature of 28.7° F, 4.4° F above the 1981-2010 normal. There were 9 days with measurable precipitation, mostly in the form of rain making it a slightly wetter October than normal. The warm temperatures meant that very little snowfall accumulated. The normal average snowfall total for October is 6.1 inches; 0.7 inches of snow fell in October 2012. November was particularly cold and dry. It was almost 6 degrees colder than normal and there were only 2 days of measurable precipitation. By November 30th, the average snowfall total should be around 15 inches for the season; by November 30th 2012 only 1.5 inches had fallen for the season.

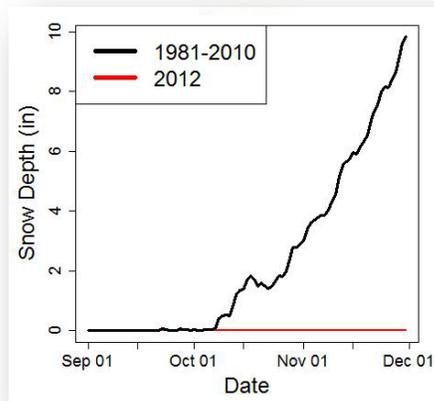
Kotzebue – Average Air Temperatures



Kotzebue – Cumulative Precipitation



Kotzebue – Cumulative Snow Depth



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Kotzebue Weather Records:
 Climate Normal Period 1981 – 2010
 Climate Record Period 1897 – 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	40.8	42.3	-1.5	55 / 2-Sep	30 / 29-Sep
October	28.7	24.3	+4.4	45 / 4-Oct	14 / 31-Oct
November	4.4	9.1	-5.7	20 / 1-Nov	-12 / 22-Nov

Fall Season Temperature Departure from Normal: -0.6°F

Precipitation

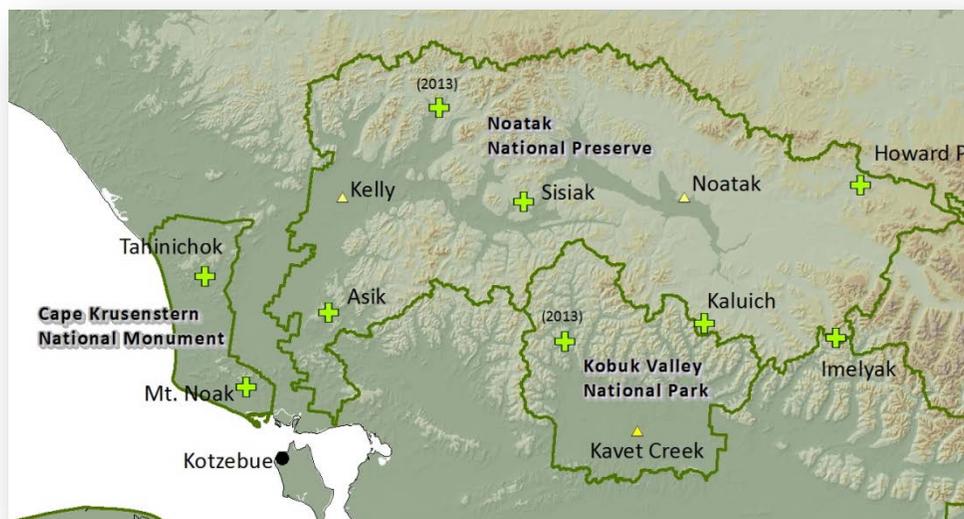
Fall 2012	Total Monthly Precip in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24-hr total in. / Date	# Days with ≥ 0.01 in. Rain or snow
September	2.04	1.58	+0.46	0.48 / 16-Sep	13
October	1.12	1.01	+0.11	0.42 / 4-Oct	9
November	0.05	0.77	-0.72	0.04 / 7-Nov	2

Fall Season Precipitation Departure from Normal: -0.15 inches

Snowfall

Fall 2012	Total Monthly Snowfall in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24-hr snowfall total in. / Date	Cumulative since 1-July in.	Normal Snowfall from July 1 in.
September	0	0.8	-0.8	T / 30-Sep	0	0.7
October	0.7	6.1	-5.4	0.3 / 1-Oct	0.7	5.7
November	0.8	10.5	-9.7	0.6 / 7-Nov	1.5	14.6

We now have additional NPS climate stations in Cape Krusenstern, Noatak, and Kobuk Valley that complement existing National Weather Service stations at Kotzebue and along the Kobuk River to the south. The new NPS stations will provide critical data on high elevation sites in the Arctic and will help characterize the climate gradients and patterns affecting resources in the Western Arctic parklands.



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Arctic Network RAWS weather summaries - Fall 2012:

Park	Site	Avg Temp °F			Fall 2012 Avg Temp °F	Extremes °F		Snow Depth in.*	Peak Wind mph	Elev. ft.	High T - Low T °F **
		Sep	Oct	Nov		High	Low				
CAKR	Mt. Noak	36.3	25.1	10.7	24.0	44	-6	1	36	809	50
	Tahinichok	35.1	23.7	10.5	23.1	45	2	1	42	966	43
NOAT	Asik	33.8	23.7	12.6	23.4	44	3	2	44	1329	41
	Kelly	38.4	26	1.8	22.1	60	-14	3	29	382	74
	Sisiak	32	21	6	19.7	49	-6	1	35	1823	55
	Noatak	35.3	22.8	-9	16.4	53	-26	***	44	985	85
	Kaluich	29	19	4	17.0	44	-12	9	52	2486	79
	Imelyak	29	17.8	7.4	18.1	43	-13	m	55	3569	56
KOVA	Kavet Creek	40.7	26.2	-3.5	21.1	62	-23	***	38	235	56

* Snow depth on November 30th; ** Difference between the high and low temperature for the season; ***snow not measured at this site

Interesting notes from RAWS stations:

- At the lower elevation sites the difference between the low temperature and the high temperature for the fall season averaged ~79 deg F.
- The highest temperature, 62°F, was recorded at Kavet Creek in Kobuk Valley and the low temperature, -26° F, was recorded near Makpik Creek at the Noatak RAWS in the Upper Noatak Valley.
- The temperature inversions become apparent ~ November when the higher elevation sites average ~ 9.4 degrees F warmer than the valley sites.



Imelyak climate station in Noatak

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](#)

[ARCN Weather and Climate Resource Brief](#)

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

[Maps](#) of projected temperature and precipitation changes for the WEAR parks.

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