Alaska Snow Survey Report

USDA NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service

May 1, 2021

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NRCS Natural Resources Conservation Service

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Cover Photo: NRCS Hydrologist Tony DeMarco prepares to measure the Upper Spencer Bench Snow Course. It was measured with 100” of snow depth with 49.4” of water content.

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General Overview

SnowPack

April started with increases to snowpacks all across the state and most locations had peak snowpack greater than normal. However, sunny days brought an early start to meltout. On May 1st, snowpack was above normal in Southeast Alaska, much of the Tanana, Kuskokwim, the lower Yukon and on the Kenai Peninsula. The upper Yukon Basin also retains much above normal snowpack. Other parts of Alaska, portions of southcentral and the northern Interior, had near normal conditions while accelerated melt put portions of the Susitna and Koyukuk Basins below normal.

In the Yukon territory the snowpack in the Yukon River headwaters remain substantial. The 10 sites above Whitehorse average 200% of normal. Several sites in the Yukon and northern British Columbia are still reporting record highs including Whitehorse Airport (57-year history) and Log Cabin (64 years). Many other locations are reading their second, third, or fourth highest May first measurements.

Southeast Alaska snowpack, likewise, is much above normal. Snowpack measurements range from 140 to 210% of normal. Moore Creek Bridge Snow Course set a new 26-year May 1st record with 70 inches of snow depth and 31.6 inches of water content. Several higher elevation sites in Southeast get measured once a year in mid-April. These sites produced some impressive snowpacks this year. Mount Ripinsky, above Haines, had 192" of snow while down in the southern panhandle, the Tyee Pass Snow Course had 240" of snow depth. Lake Grace Pass snow course, 25 miles northeast of Ketchikan, had 215" of snow depth.

Further west along the coast, snowpack in eastern Prince William Sound is near normal, before increasing to above normal in the western Sound and on the Kenai Peninsula. On the Kenai, all long-term snow measurement sites had considerably more snow than last year at this time, while most of the new higher elevation sites had less snow than last year.

Advanced melting has caused much of the Cook Inlet area to drop to near or even below normal snowpack. This trend goes north into the Susitna Valley as well. The upper Susitna and eastern Talkeetna Mountains now have below normal snowpack. The little Susitna basin, however, retains above normal stature. Further east, the Copper Valley ranges from below to much above normal.

		Basin Index	
		Current	Last Year
Alaska Statewide Snowpack	**# of Sites**	**Percent of Median**	**Percent of Median**
Upper Yukon Basin	31	163	137
Central Yukon Basin	4	80	156
Tanana Basin	20	146	221
Koyukuk Basin	2	80	133
Kuskokwim Basin	0	—	—
Copper Basin	10	128	129
Matanuska-Susitna Basin	14	100	153
Northern Cook Inlet	7	94	55
Kenai Peninsula	19	128	23
Western Gulf of Alaska	5	124	49
Southeast Alaska	6	175	130

General Overview

SnowPack—continued

Much of the Tanana basin still has above normal snowpack, but many lower areas have already melted out. The middle Tanana, near Delta Junction is reporting below normal snowpack, while the lower basin, Fairbanks and the upper basin, above Tok are reporting above normal snowpacks.

In the west, the Kuskokwim and the lower Yukon both have above normal snowpacks while to the north, the Koyukuk is mottled with near normal and below normal snowpack. The Central Yukon likewise is variable, but most of the above normal snowpack is on the southern part and the north part, including the Yukon Flats is below normal.

Snow measurement sites on the Northslope, along the Dalton Highway, indicate below normal snowpack.

Precipitation

April started with a big storm system which dropped copious precipitation on much of Alaska. In fact, this was the only major precipitation event for most of Alaska in April. Most areas experienced a dearth of rain or snow for the rest of the month. Whether a basin had above or below amounts of monthly precipitation largely depends on how hard this early April storm hit it. Southeast, however, was hit in April by several moderate storm systems.

At the end of the month, Southwest Alaska, the southern half of the Interior, and the northern portion of Southeast Alaska had above average monthly precipitation totals. Southcentral Alaska and the Arctic had below average April precipitation. The Copper Valley, south Southcentral and the northern Interior had near average April showers.

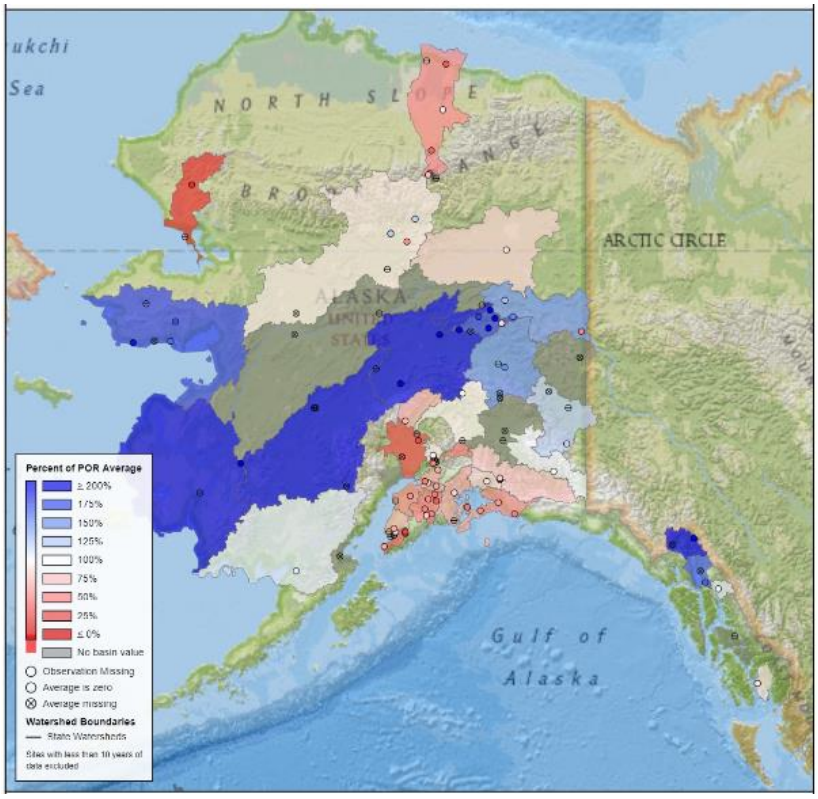
Temperature

It was the coldest of Aprils, it was the warmest of Aprils, it was a season of freezing, it was a season of rapid melting (apologies to Charles Dickens). April started out with a cold snap that set new record colds. Then, by mid-month, like a phoenix out of frozen ashes, temperatures rose to new heights and set new record highs. In the end, monthly average temperatures seem blasé compared to the journey to get to them. Juneau, Cordova, Homer, Anchorage, Gulkana, and Bettles were all within a degree Fahrenheit of monthly normal. Bethel, Nome and Utqiaġvik were 3, 4 and 7°F above normal for the month, while Fairbanks was 3°F below normal for the month.

Alaska Statewide Precipitation Maps

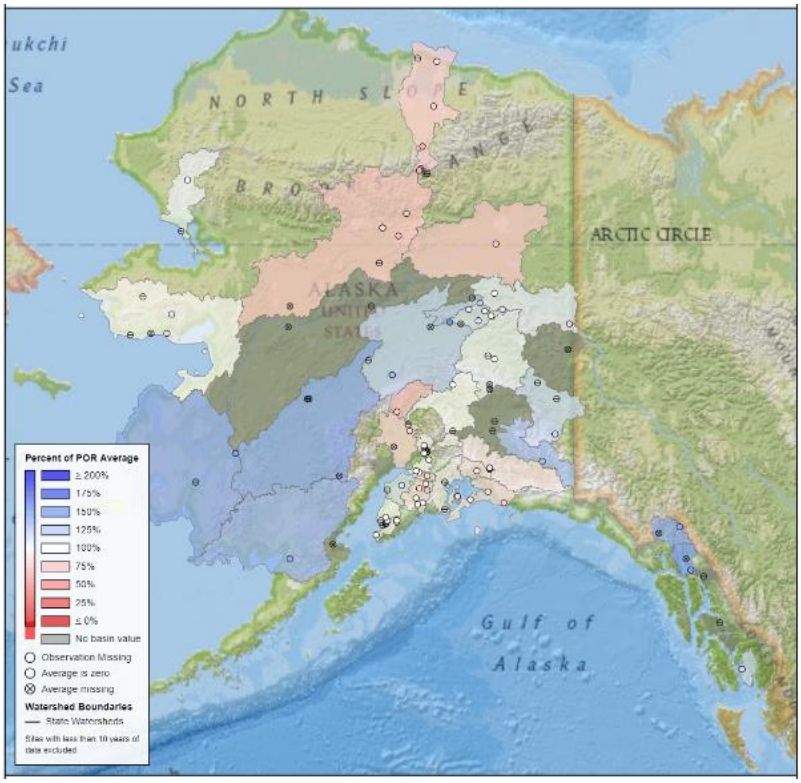
Monthly Precipitation for April, 2021

(% of Period of Record Average)



Water Year-to-date Precipitation (Oct. 1-April 30th, 2021)

(% of Period of Record Average)



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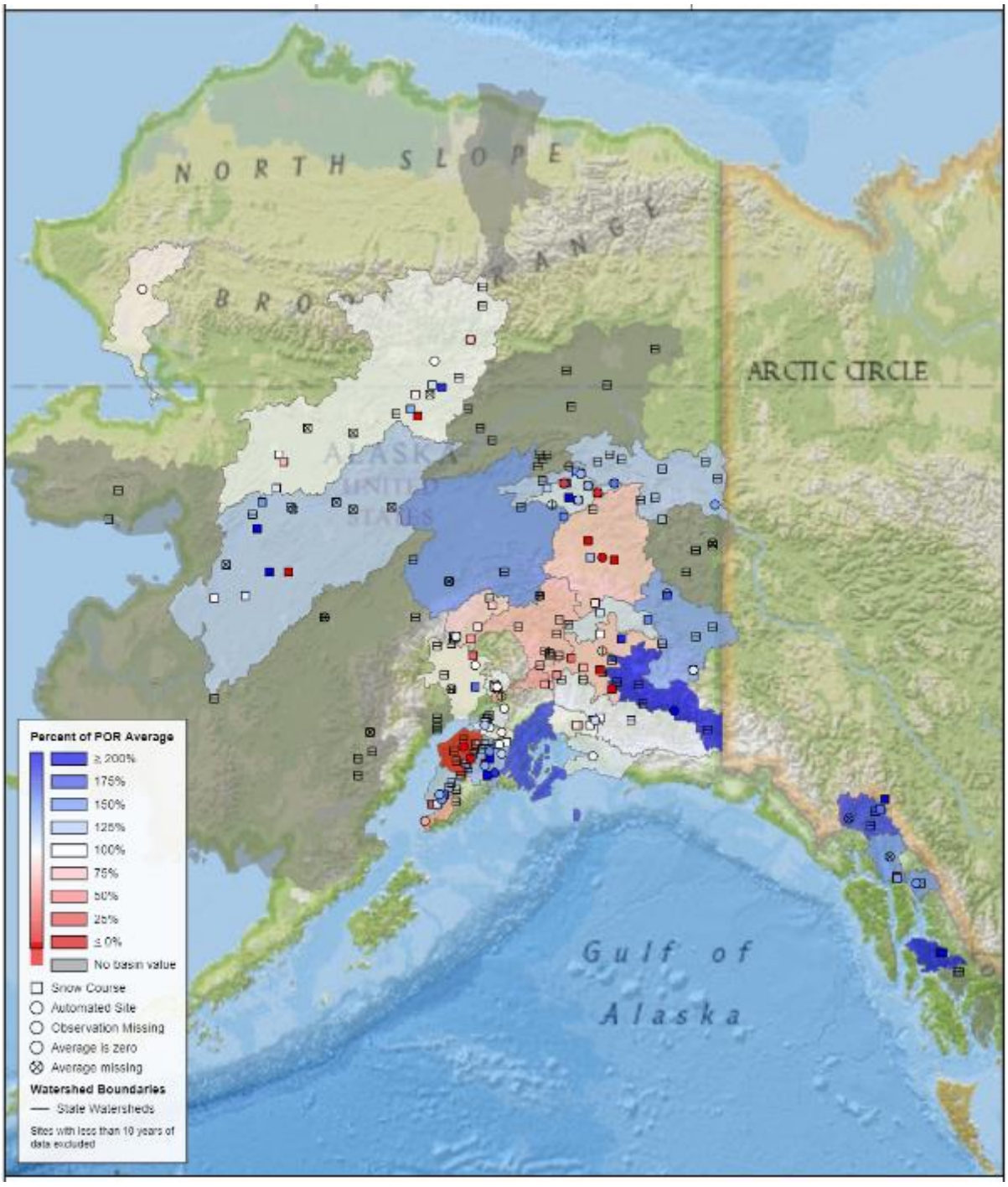
N

0 50 100 200 300 400 500 Miles

Created 2-03-2021

Alaska Statewide Snowpack Map

Based on May 1st, 2021 Snow Water Equivalent



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Streamflow Forecasts

FORECAST POINT*	Percent of Ave. Flow	Period
Yukon River at Eagle	113	May - July
Porcupine River nr Int'l Boundary……	92	May - July
Yukon River near Stevens Village	113	May - July
Tanana River at Fairbanks	102	May - July
Tanana River at Nenana	103	May - July
Little Chena River near Fairbanks	121	May - July
Chena River near Two Rivers	118	May - July
Salcha near Salchaket	118	May - July
Kuskokwim River at Crooked Creek	122	May - July
Sagvanirktok River near Pump Station 3	76	May - July
Kuparuk River near Deadhorse	74	May - July
Gulkana River at Sourdough	106	May - July
Little Susitna River near Palmer	103	May - July
Talkeetna River near Talkeetna	95	May - July
Ship Creek near Anchorage	102	May - July
Kenai River at Cooper Landing	104	May - July
Bradley Lake Inflow	92	May - July
Taiya River nr Skagway	123	May - July

Snowmelt Runoff Index (SRI): for streams which no longer have stream gauging

FORECAST POINT	INDEX
Koyukuk River at Hughes……..	-1.5
MF Koyukuk R near Wiseman ……..	-0.5
Slate Creek at Coldfoot……..	0.0
Beaver Creek above Victoria Creek……..	—
Birch Creek below South Fork……..	0.0
Caribou Creek at Chatanika……..	—
Susitna River near Gold Creek……..	-2.0
Chulitna River near Talkeetna……..	-2.5
Deshka River at mouth near Willow……..	—
Montana Creek at Parks Highway……..	-2.0
Willow Creek near Willow……..	0.5
Skwentna River at Skwentna……..	—
Chuitna River near Tyonek……..	—
Campbell Creek near Spenard……..	—
Indian Creek at Indian……..	-2.0
Bird Creek at Bird Creek ……..	-2.0
Glacier Creek nr Girdwood ……..	-0.5
Six Mile Creek near Hope……..	2.0
Resurrection Creek near Hope……..	1.5
Grouse Ck at Grouse Lake Outlet nr Seward ……..	2.0
Anchor River near Anchor Point ……..	-0.5
Deep Creek near Ninilchik……..	0.0
Ninilchik River near Ninilchik……..	0.0
Fritz Creek near Homer……..	0.0
Skagway River at Skagway……..	3.0
Municipal Watershed C nr Petersburg ……..	2.5
Gold Creek near Juneau……..	2.0

Index	Key:
-2 to -3	much below average snowmelt runoff
-1 to -2	below average snowmelt runoff
-1 to +1	average snowmelt runoff
+1 to +2	above average snowmelt runoff
+2 to +3	much above average snowmelt runoff

HOW FORECASTS ARE MADE

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

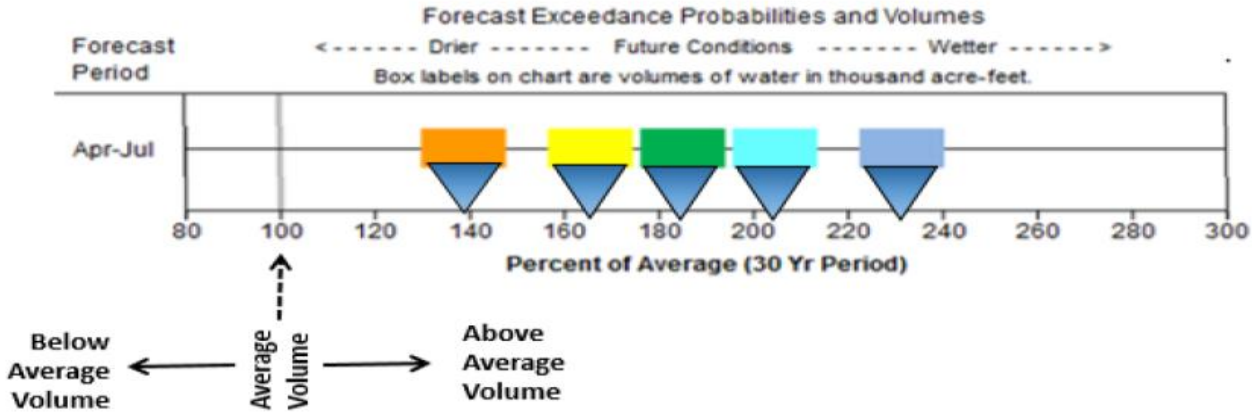
The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

How to Interpret the Streamflow Forecast Graphic:

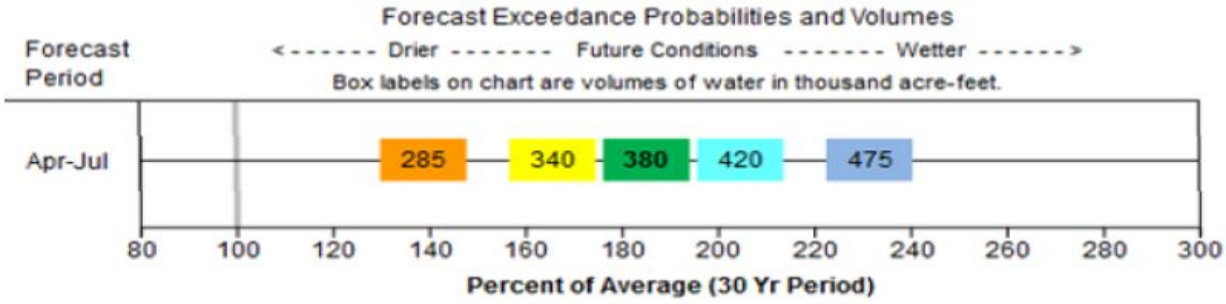
This graphic provides a visual alternative to the forecast tables the NRCS has presented for years. It gives both the volume and percent of average of each of the five forecast exceedances.

The five colored boxes represent each forecast's five exceedances.

The center of each forecast exceedance box corresponds to that exceedance's percent of average on the horizontal axis. In this case the green 50% exceedance forecast box is centered over 185% of average streamflow. If drier future conditions occur the orange box (90% exceedance) is 139% of average. If wetter future conditions occur the darker blue box (10% exceedance) is 232% of average. In some cases when exceedance volumes are similar, the width of the colored boxes gets squeezed. Still use the center of the box to determine its percent of average. The width of the box is irrelevant. Boxes to the right of the gray 100% of average line represent above average volumes. Conversely,



any boxes to the left of the gray 100% line represent below average volumes. In this case all forecast exceedances are for above average April-July volumes. Averages are based on the 1981-2010 period. The number inside or above each colored box represents the volume of that exceedance forecast in thousand acre-feet (KAF). In this case the green 50% exceedance forecast volume is 380 KAF which is centered above 185% of average. Volumes decrease with drier future conditions (left of green

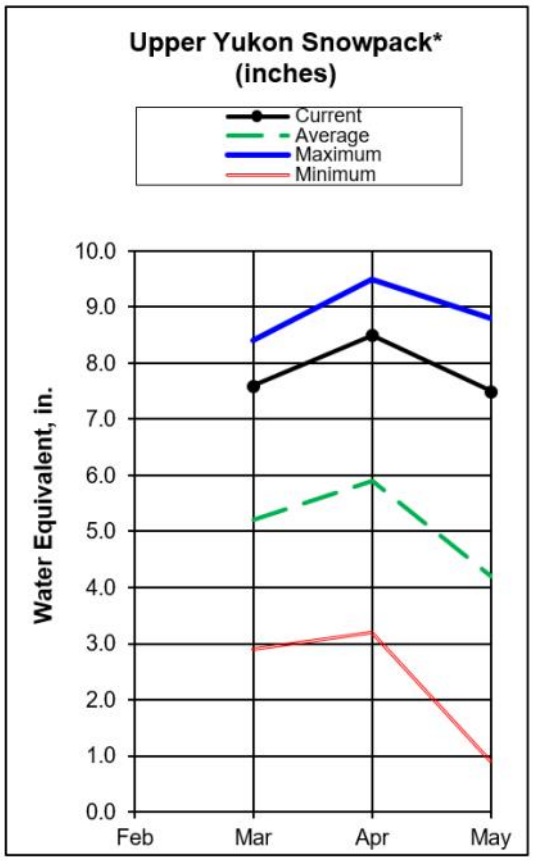


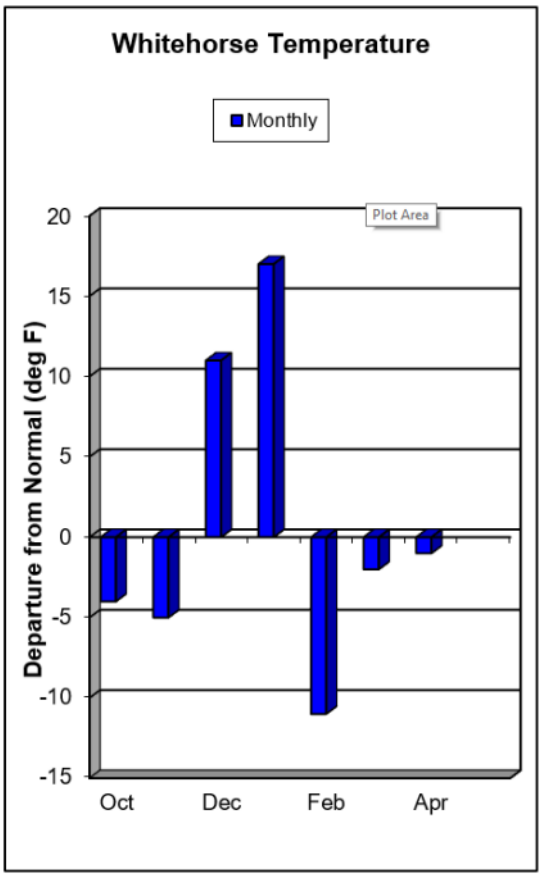
box) and increase with wetter conditions (right of green box).

Forecast graphics for other basins are available at: https://www.wcc.nrcs.usda.gov/wsf/Fcst_Chart/

This is an new product. Please submit likes, dislikes and questions to Daniel.Fisher2@usda.gov

Upper Yukon Basin





Snowpack

While Snowpack in the Upper Yukon has started to melt out and many sites have lost more snow than normal in April. Even so, snowpack in the area remains much above average. The 31 stations in this area report a combined 163% of median, more than last year's 137%.

Several sites are still reporting record highs including Whitehorse Airport (57 years), Summit (24 years), Mt. McIntyre (46 years), Montana Mountain (45 years), and Log Cabin (64 years). Many other locations are reading their second, third, or fourth highest May first measurements.

The snowpack in the headwaters of the Yukon is substantial with the 10 sites above Whitehorse averaging 200% of normal. Snowpack lessens somewhat going north. The Stewart-Pelly basins are 144% of normal, similar to last year. The White River basin is 182% of normal and area around Dawson is 128% of average, both down from last year.

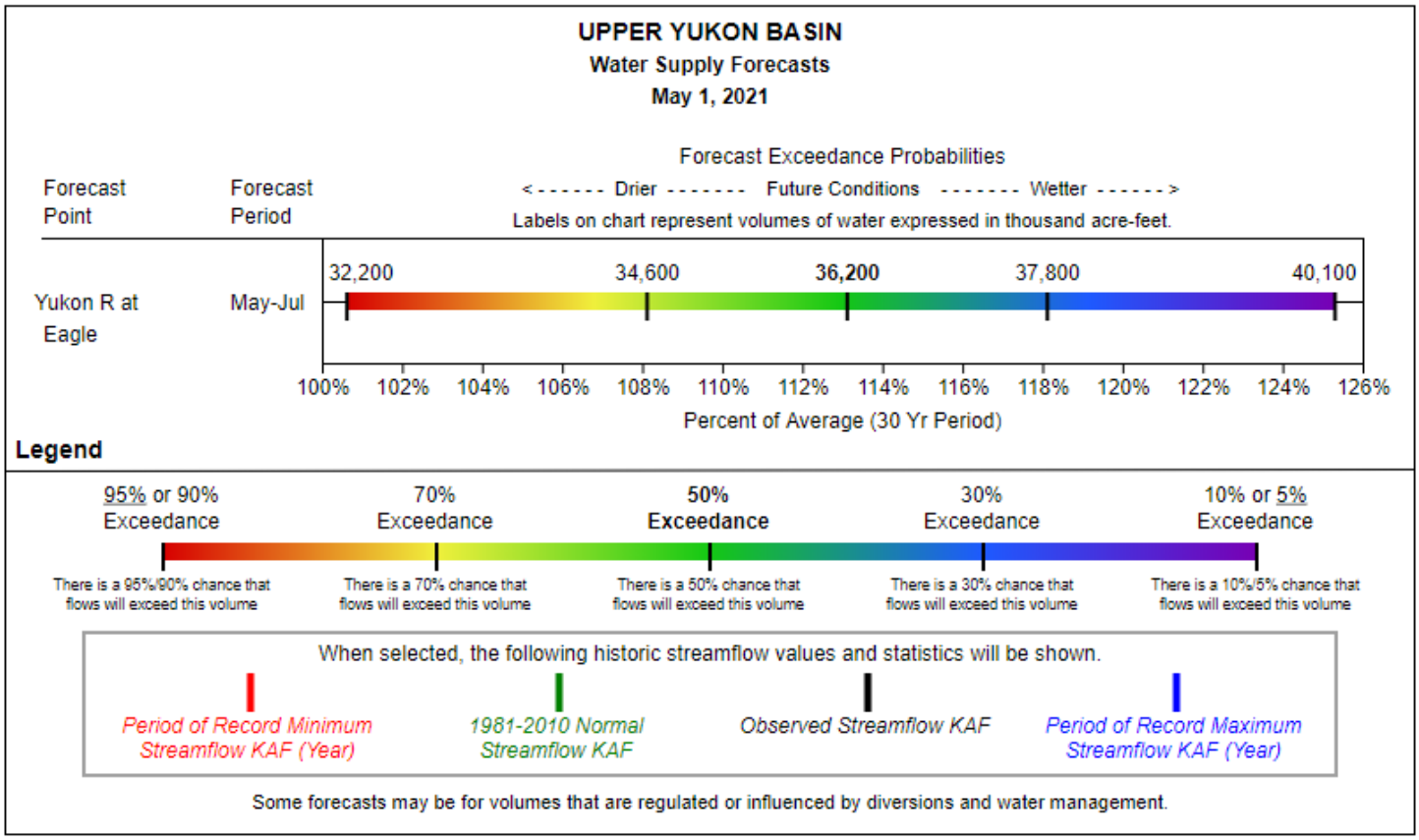
Upper Yukon Basin

Snowpack Data

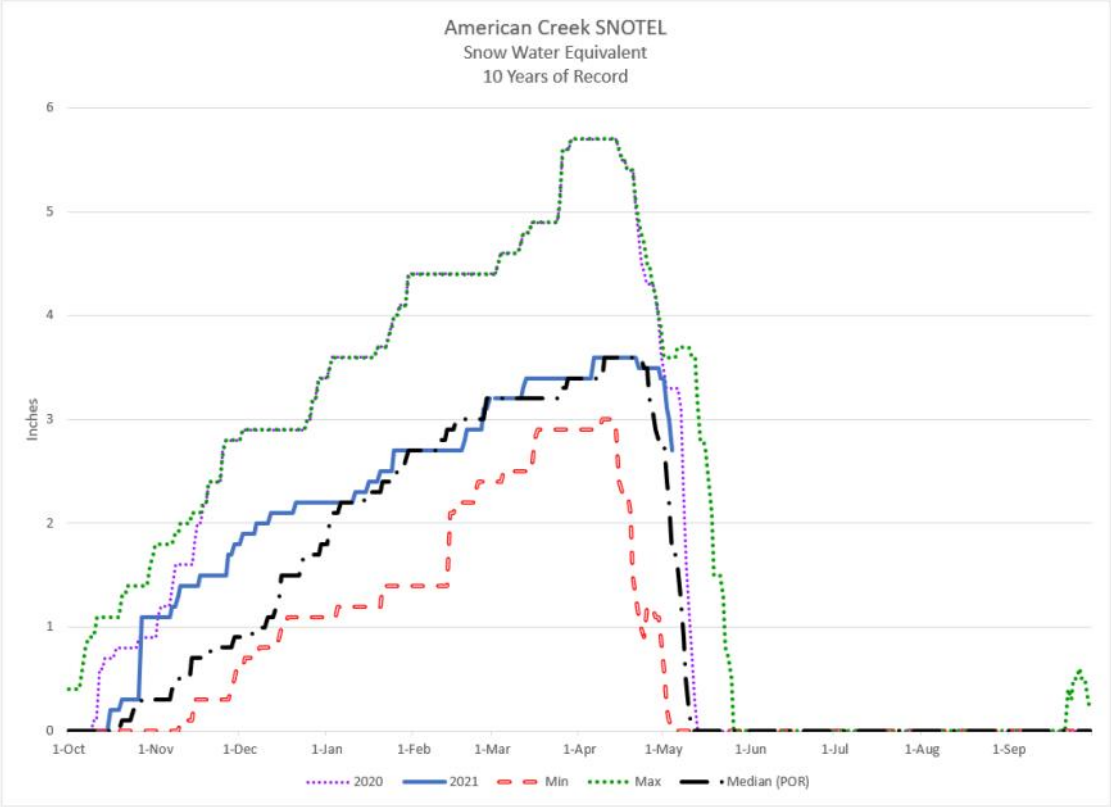
Site Name	Elev.	Snow Depth (in)			Water Content (in)		
		Current	Last Year	1981-2010 Normal	Current	Last Year	1981-2010 Normal
Beaver Creek	2150	0	0	4	0.0	0.0	0.8
Blackstone River	1020	19	19	---	3.7	4.9	---
Burns Lake	3650	36	34	27	11.1	12.0	8.4
Burwash Airstrip	2660	0	0	0	0.0	0.0	0.0
Calumet	4300	35	39	33	7.9	9.0	7.3
Canyon Mine	1160	13	6	---	3.5	1.5	---
Casino Creek	3495	24	24	20	6.0	6.9	4.3
Chair Mountain	3500	0	---	---	0.0	---	---
Eagle Plains	2330	15	32	18	3.7	8.2	5.1
Eagle River	1115	18	22	17	3.7	6.3	4.0
Edwards Lake	2720	33	22	22	8.7	6.8	6.0
Finlayson Airstrip	3240	20	15	8	6.5	4.6	2.2
Francis River	730	25	12	---	5.8	3.5	---
Fuller Lake	3695	37	29	27	9.7	9.0	8.1
Grizzly Creek	3200	22	28	22	5.1	7.6	5.4
Hoole River	3400	32	22	14	9.4	6.5	3.4
Hyland	855	31	25	---	9.7	9.2	---
Jordan Lake	3050	26	22	13	7.2	6.3	3.5
King Solomon Dome	3540	20	28	18	6.8	9.5	4.9
Macintosh	3805	12	14	6	3.5	3.5	1.1
Mayo Airport	1770	8	14	0	2.1	4.1	0.0
Meadow Creek	4050	50	43	39	13.6	13.6	11.1
Midnight Dome	2805	28	33	20	7.9	10.1	5.2
Montana Mtn.	3350	29	13	17	8.6	3.6	4.9
Morley Lake	2700	23	8	11	8.8	2.2	3.3
Mt. Berdoe	3395	22	15	10	5.4	4.1	2.0
Mt. Mcintyre B	3600	33	22	20	8.9	6.5	5.4
Mt. Nansen	3350	0	6	0	0.0	2.1	0.0
Ogilvie River	550	20	19	---	3.9*	4.5	---
Old Crow	980	15	22	19	3.3*	6.2	4.0
Pelly Farm	1550	9	6	0	2.5	2.2	0.0
Pine Lake Airstrip	995	37	31	---	11.8	10.8	---
Plata Airstrip	2725	33	23	19	9.8	7.7	5.9
Rackla Lake	3410	32	32	30	7.9	10.2	8.2
Riffs Ridge	2130	17	25	17	3.6	7.1	4.7
Rose Creek Faro	1080	19	10	---	5.3	2.7	---
Russell Lake	3480	39	39	30	11.4	10.2	8.6
Satasha Lake	3630	---	9	2	---	2.4	0.6
Summit	985	44	---	21	16.6	---	6.4
Tagish	3540	27	13	16	7.0	3.7	4.6
Twin Creeks	2950	28	21	20	8.1	6.6	6.1
Watson Lake Airport	685	15	3	---	3.8	0.6	---
Whitehorse Airport	2300	15	2	0	5.8	0.6	0.0
Williams Creek	3000	17	10	6	3.7	2.6	1.9
Withers Lake	3200	33	34	28	9.7	11.5	8.7

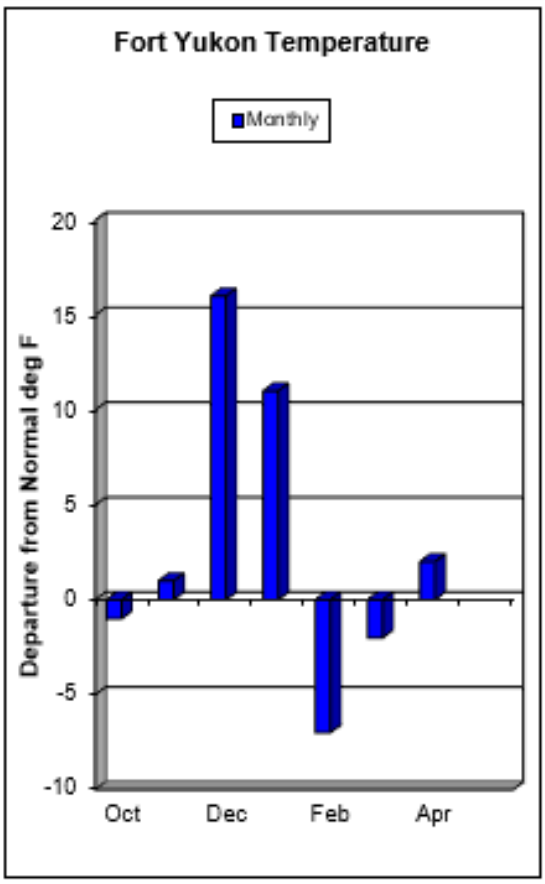
**Estimate*

Streamflow Forecasts



Central Yukon Basin





Snowpack

The Central Yukon Basin continued to receive below normal precipitation during April. Snowpack along the Mertie Mountains and White Mountains remain above normal while the snowpack in the upper Porcupine basin is below normal.

Central Yukon Basin

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
American Creek	1050	10	13	---	3.1	3.3	---
Atigun Pass	4800	44	47	---	---	---	---
Eagle Summit	3650	11	12	---	---	---	---
Fort Yukon	430	0	2	---	---	---	---
Jack Wade Jct	3585	18	30	---	3.4	6.5	---
Old Crow	980	15	22	19	3.3*	6.2	4.0

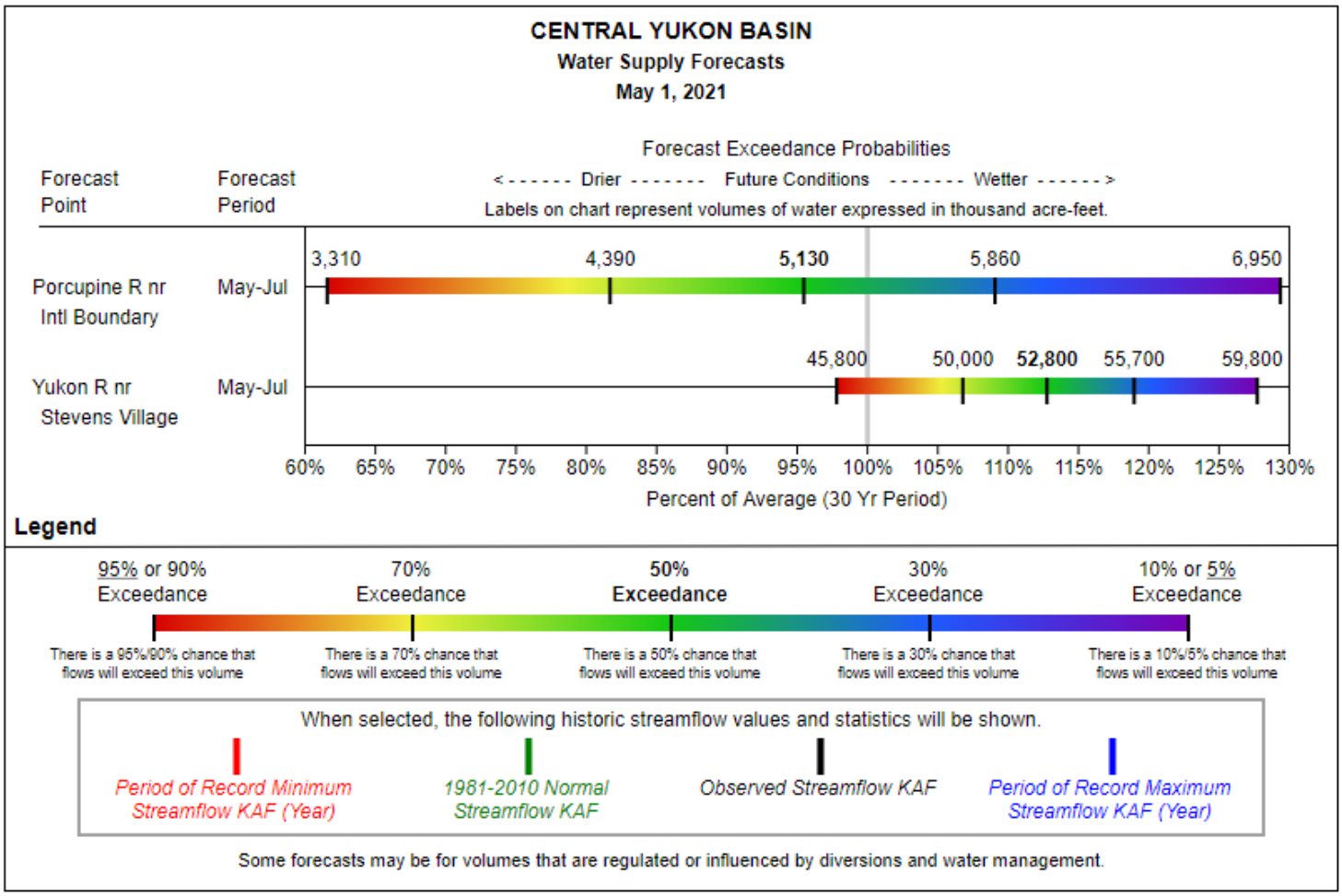
**Estimate*

Precipitation

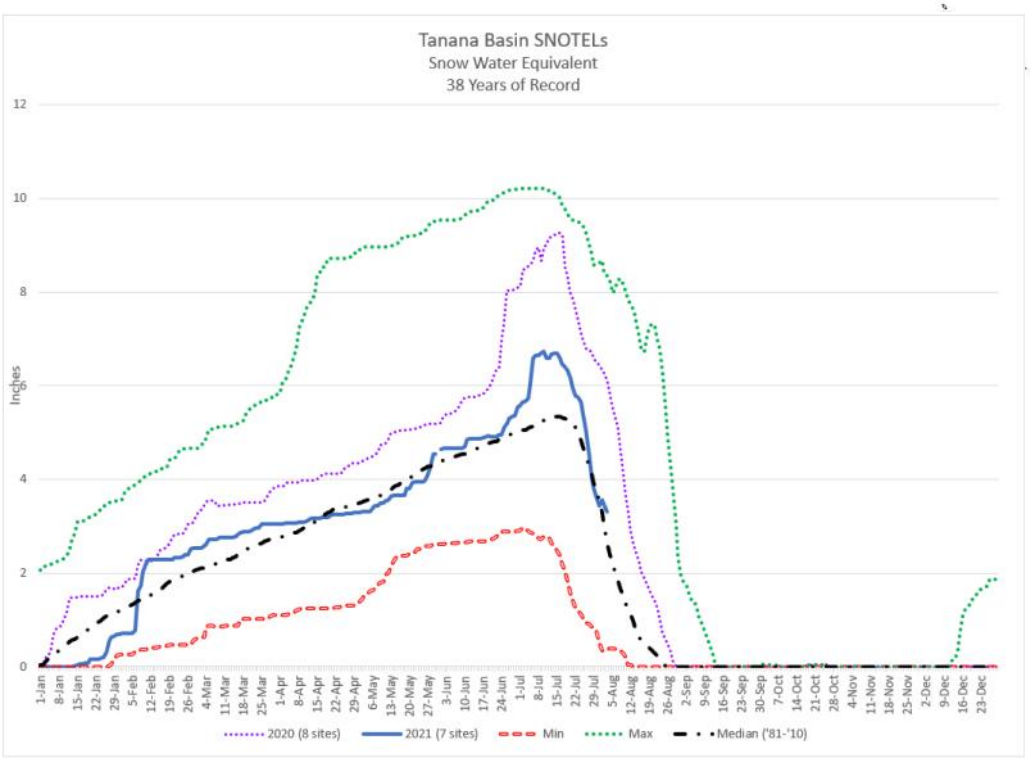
Inches Accumulated since October 1st (as of May 1, 2021)

Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
American Creek	1050	3.5	6.7	---	---
Atigun Pass	4800	4.8	7.7	6.7	72%
Chandalar Shelf	3300	3.7	8.0	5.2	71%
Eagle Summit	3650	6.0	9.4	5.9	102%
Fort Yukon	430	3.0	4.8	3.9	77%
Jack Wade Jct	3585	5.0	8.5	---	---
Upper Nome Creek	2520	---	15.4	6.5	---

Streamflow Forecasts



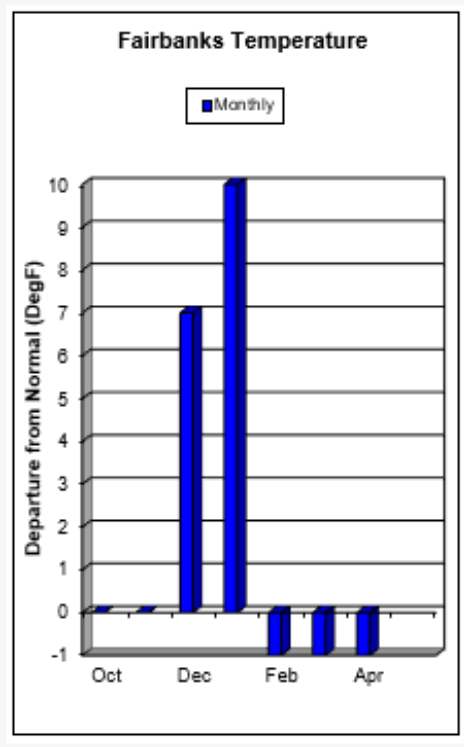
Tanana Basin



Snowpack

The Tanana experienced above normal peak snowpack and then a quick onset of melt out. So, while much of the basin still has above normal snowpack, many lower areas have already melted out. The middle Tanana, near Delta Junction is reporting below normal snowpack, while the lower basin, Fairbanks and the upper basin, above Tok are reporting above normal snowpacks.

The Chena Basin is reporting an average of 148% of normal snowpack, less than the 224% last year.



Tanana Basin

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Normal	Current	Last Year	1981-2010 Normal
Bonanza Creek	1150	19	---	0	5.0*	---	0.0
Caribou Creek	1250	4	---	0	0.5	---	0.0
Caribou Snow Pillow	900	8	---	0	2.0	---	0.0
Chisana	3320	8	0	---	2.6	0.0	2.8
Cleary Summit	2230	26	---	19	7.7	---	4.9
Colorado Creek	700	16	---	4	4.6	---	1.0
Faith Creek	1750	16	---	7	4.2	---	2.0
Fielding Lake	3000	37	---	34	9.6	---	10.2
Fielding Lake	3000	24	49	---	7.2	16.1	---
Fort Greely	1500	5	---	0	1.2	---	0.0
French Creek	1800	22	---	13	7.0	---	3.6
Gerstle River	1200	0	---	2	0.0	---	0.6
Granite Crk	1240	0	9	---	0.0	3.0	0.0
Mentasta Pass	2430	21	---	14	7.0	---	3.9
Monument Creek	1850	13	21	---	3.8	7.2	2.1
Mt. Ryan	2800	22	35	---	6.6	10.5	4.7
Munson Ridge	3100	37	54	---	11.1	14.9	7.9
Shaw Creek Flats	980	0	---	0	0.0	---	0.0
Teuchet Creek	1640	1	7	---	0.2	4.2	1.3
Tok Junction	1650	7	---	0	1.6	---	0.0

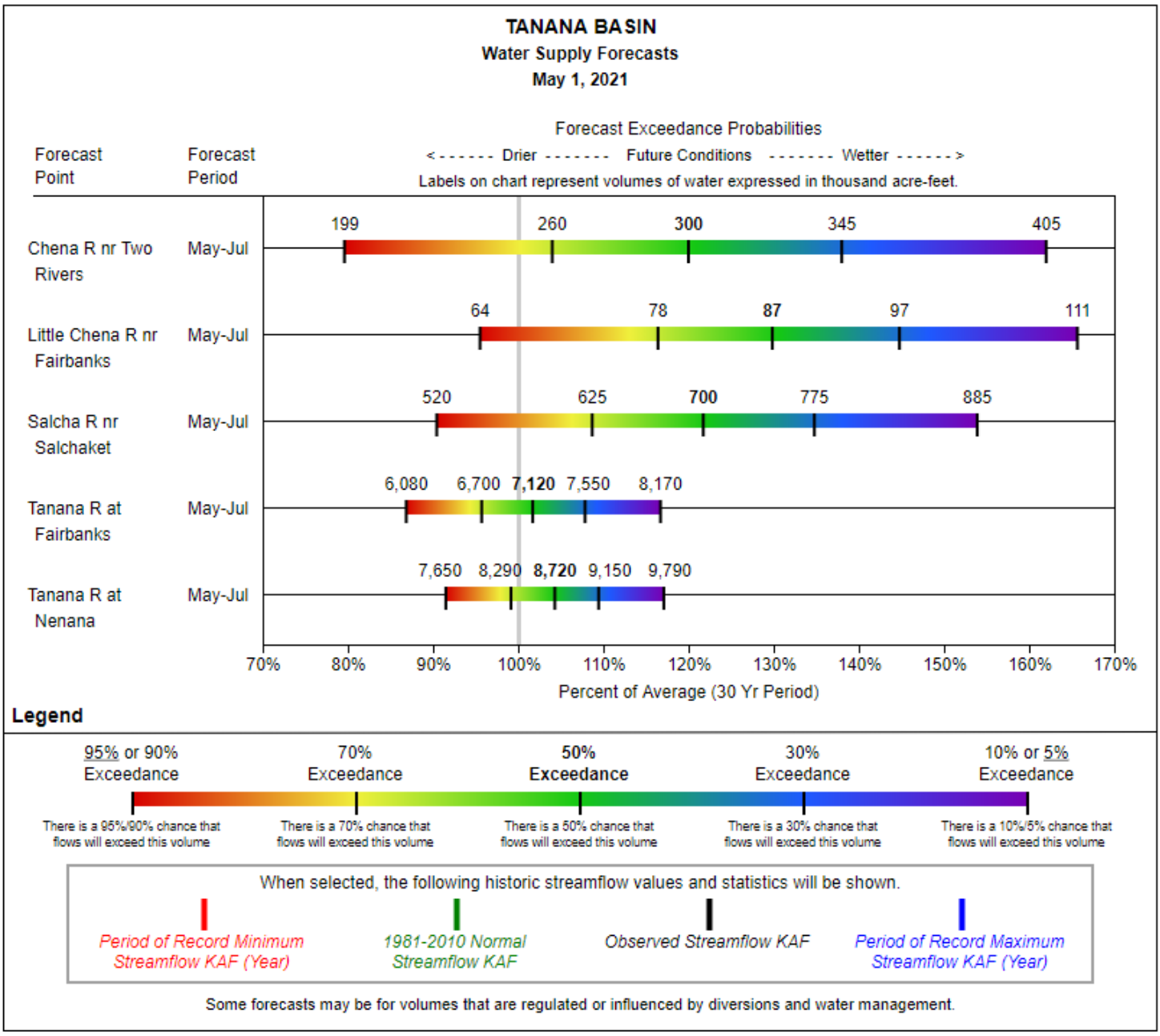
**Estimate*

Precipitation

Inches Accumulated since October 1st (as of May 1, 2021)

Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Chena Lakes	500	6.8	---	---	---
Chisana	3320	4.7	5.0	---	---
Fielding Lake	3000	9.1	17.8	---	---
Granite Crk	1240	4.6	8.6	4.4	105%
Kantishna	1550	8.6	11.2	5.0	172%
Little Chena Ridge	2000	6.9	11.8	6.2	111%
Mt. Ryan	2800	8.0	12.8	6.3	127%
Munson Ridge	3100	10.2	16.1	8.6	119%
Nenana	415	5.8	8.5	---	---
Teuchet Creek	1640	5.1	8.4	5.0	102%
Upper Chena	2850	8.9	14.6	7.9	113%

Streamflow Forecasts



Legend

95% or 90% Exceedance — There is a 95%/90% chance that flows will exceed this volume

70% Exceedance — There is a 70% chance that flows will exceed this volume

50% Exceedance — There is a 50% chance that flows will exceed this volume

30% Exceedance — There is a 30% chance that flows will exceed this volume

10% or 5% Exceedance — There is a 10%/5% chance that flows will exceed this volume

When selected, the following historic streamflow values and statistics will be shown.

Period of Record Minimum Streamflow KAF (Year)

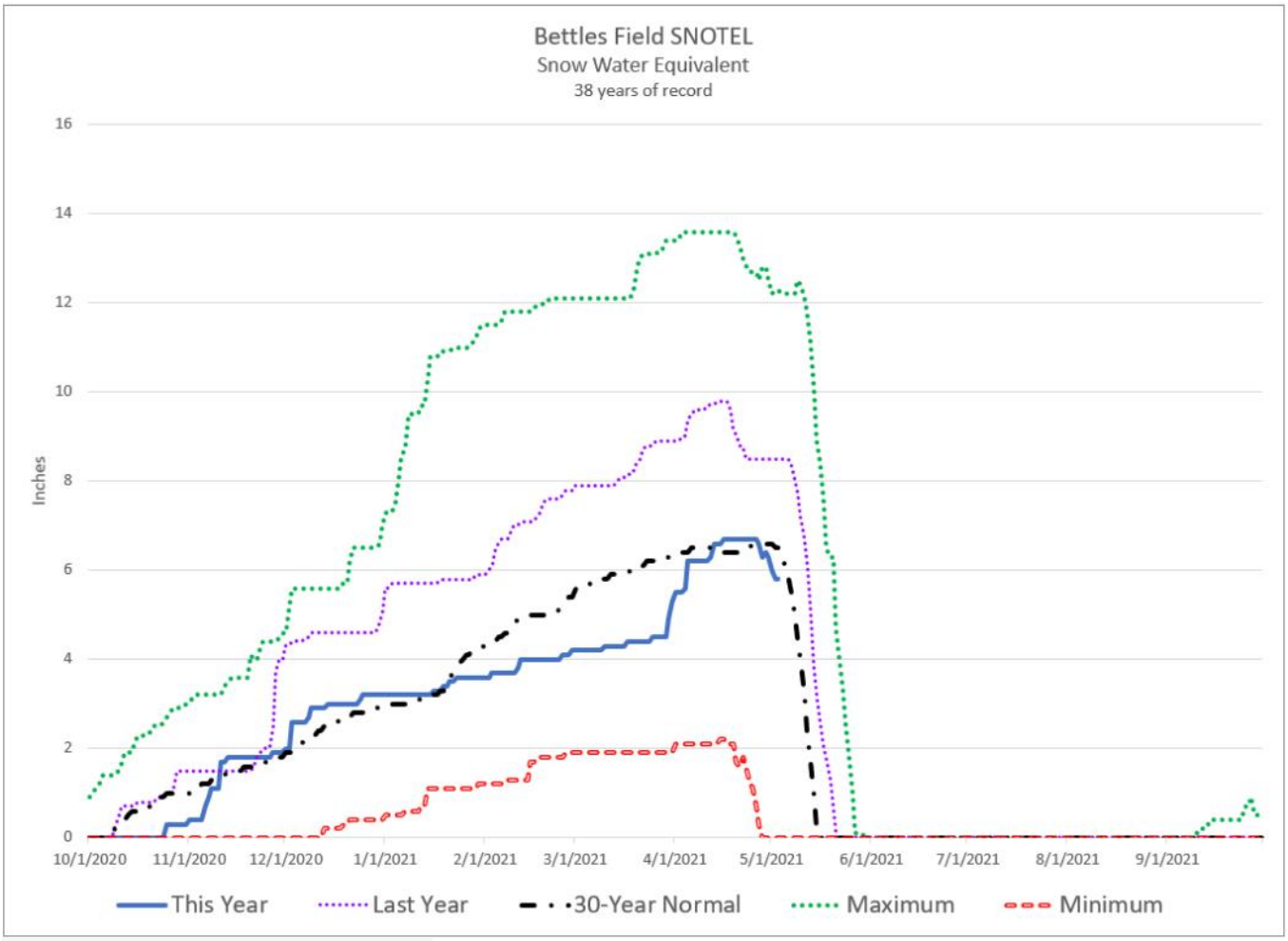
1981-2010 Normal Streamflow KAF

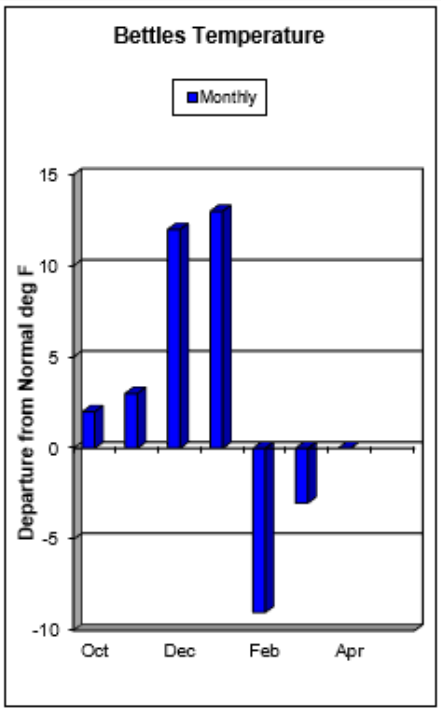
Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Western Interior Basins





Snowpack

Koyukuk

April brought above average precipitation to the upper Koyukuk and both Bettles and Coldfoot made snowpack gains during April. However, the basin as a whole, still has below normal snowpack, with some dispersed stations reporting above average packs.

Kuskokwim

The Kuskokwim had a wetter than average April. Snowpack is above normal, but melt out hit quickly. Telaquana Lake Snow Course, which began in 1992, set a new May 1st record, while the Telaquana Lake SNOTEL, just 100 feet away, was completely melted out by May 1st. Aniak SCAN had its latest meltout since 2013.

Lower Yukon

Snowpack in the lower Yukon remains above average. Sites here index to 124% of normal. The Galena AK SNOTEL has begun melting out and looks like it will be snow free by April 12th, similar to the last two years.

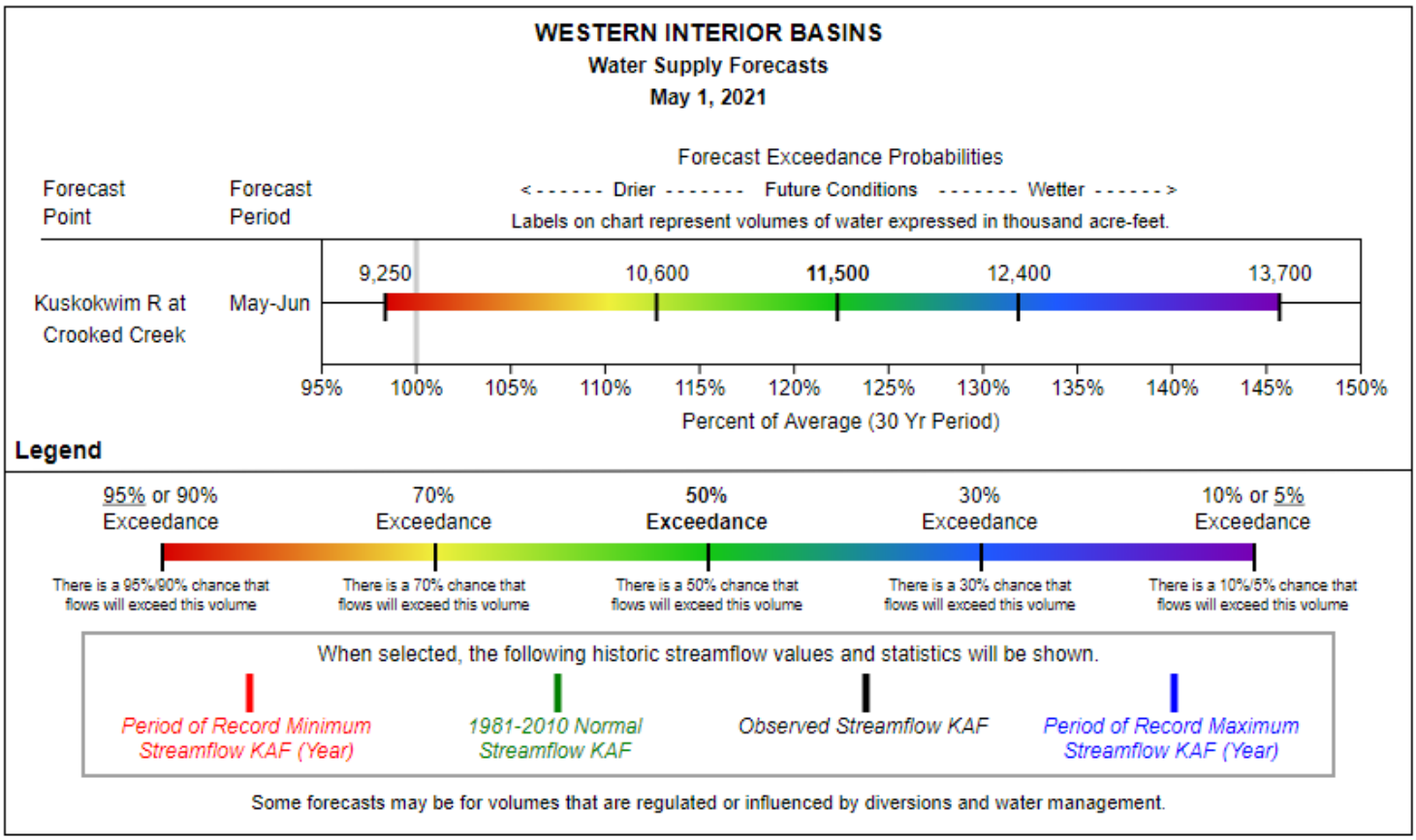
Western Interior Basins

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
Koyukuk							
Bettles Field	640	22	28	---	6.0	8.5	6.6
Cloverleaf	170	9	12	---	2.4*	4.3	---
Coldfoot	1040	17	29	---	4.2	8.4	6.1
Colville Bend	170	17	19	---	4.6*	6.3	---
East Chalatna	430	4	---	---	1.0	---	---
Gobblers Knob	2030	2	9	---	---	---	---
Huggins Creek	290	17	24	---	4.7*	7.9	---
Jr Slough	160	18	12	---	4.9*	4.0	---
Kaldoyeit	750	27	---	10	6.9*	---	2.8
Kanuti Chalatna	670	12	---	16	3.1*	---	3.8
Kanuti Kilolitna	550	0	---	9	0.0	---	2.8
Minnkokut	580	26	---	26	7.1*	---	6.6
Nolitna	560	21	---	14	5.5*	---	---
Treat Island	190	9	21	---	2.5*	6.3	---
Kuskokwim							
Aniak	80	7	0	---	---	---	---
McGrath	340	---	21	---	7.6	12.6	---
Telaquana Lake	1550	19	---	---	5.7	---	---
Telaquana Lake SNOTEL	1275	0	0	---	0.0	0.0	---
Lower Yukon							---
Bullfrog	100	15	24	---	4.4	7.9	---
Deer Creek	195	17	27	---	4.7*	9.2	---
Hozatka Lake	206	10	6	---	---	---	---
Little Mud River	855	6	24	---	1.6*	8.0	---
Lower Nowitna River	205	12	---	---	3.3*	---	---
Middle Innoko	150	18	23	0	5.0*	7.9	0.0
Pike Trap Lake	130	6	0	---	1.6*	0.0	---
Squirrel Creek	150	27	21	---	7.8*	7.1	---
Upper Innoko	180	0	---	0	0.0	---	0.0
Wapoo Hills	220	30	6	0	9.1*	1.8	0.0
Yankee Slough	100	21	24	24	5.9*	8.4	7.5

**Estimate*

Streamflow Forecasts

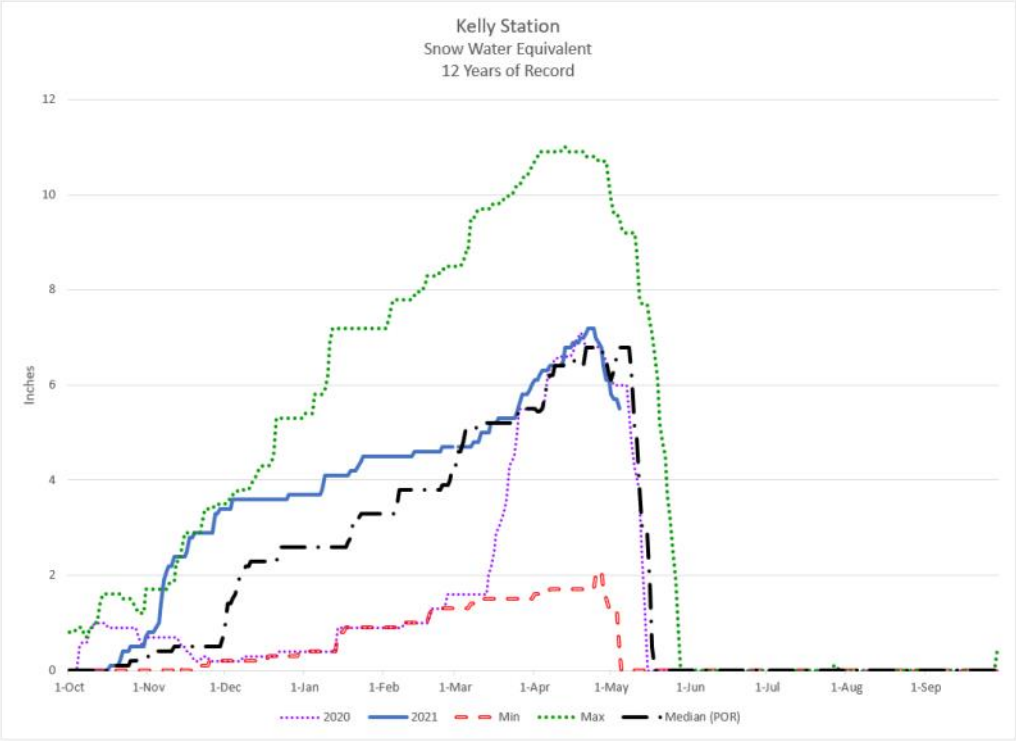


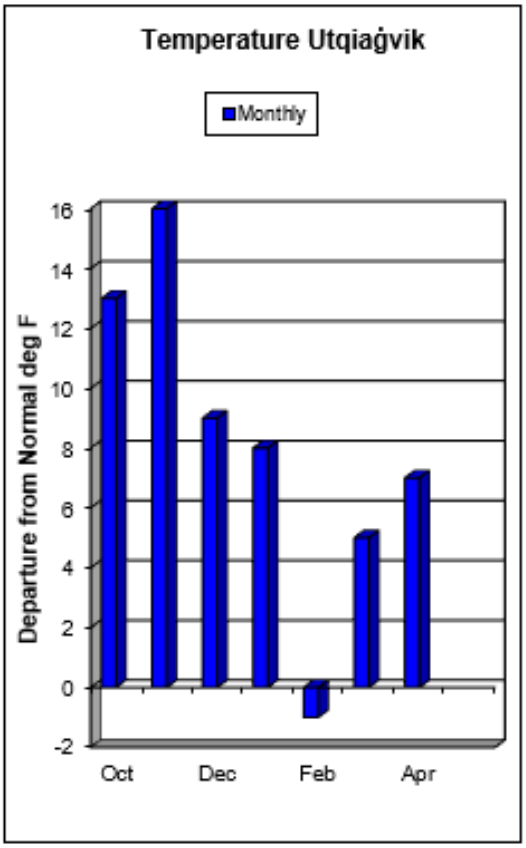
Precipitation

Inches Accumulated since October 1st (as of May 1, 2021)

Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Koyukuk					
Bettles Field	640	6.4	12.0	7.6	84%
Coldfoot	1040	5.4	11.6	7.3	74%
Galena AK	410	6.2	9.9	---	---
Gobblers Knob	2030	5.3	13.0	7.6	70%
Hozatka Lake	206	6.4	9.3	---	---
Kuskokwim					
Aniak	80	13.3	14.3	---	---
McGrath	340	9.9	17.9	---	---
Telaquana Lake	1275	11.3	14.0	---	---

Arctic and Kotzebue Sound





Snowpack

Arctic

The stations along the Dalton Highway reported below average precipitation during April. Reported snow depths are slightly below average.

Kotzebue

Kelly Station SNOTEL had peak snowpack right above average, but has been experiencing faster than average melt out. Precipitation in the region was variable during April, but generally was near average.

Arctic and Kotzebue Sound

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
Atigun Pass	4800	44	47	---	---	---	---
Imnaviat Creek	3050	23	33	---	---	---	---
Kelly Station	310	20	19	---	5.7	6.0*	---
Prudhoe Bay	30	9	15	---	---	---	---
Sagwon	1000	23	17	---	---	---	---

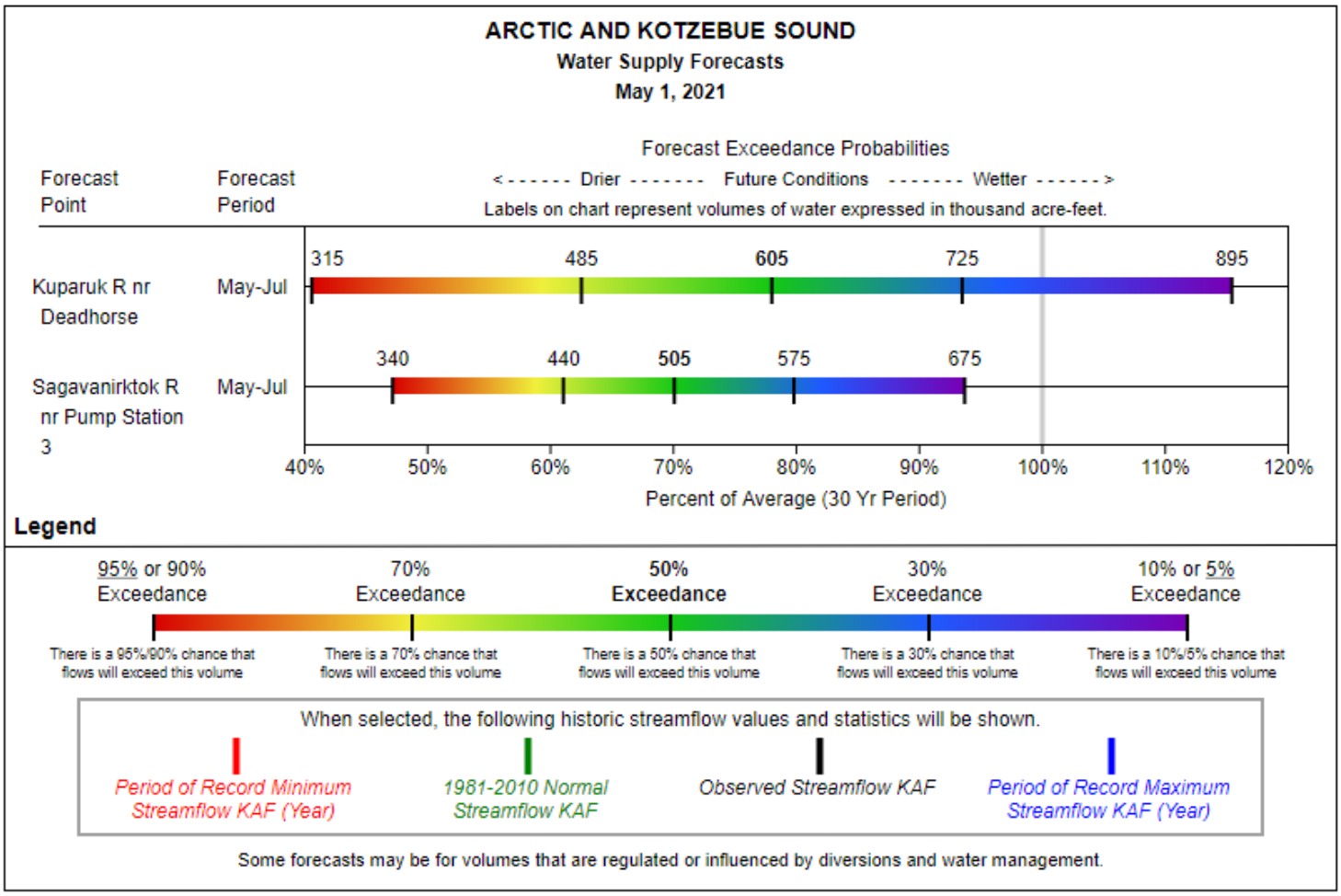
**Estimate*

Precipitation

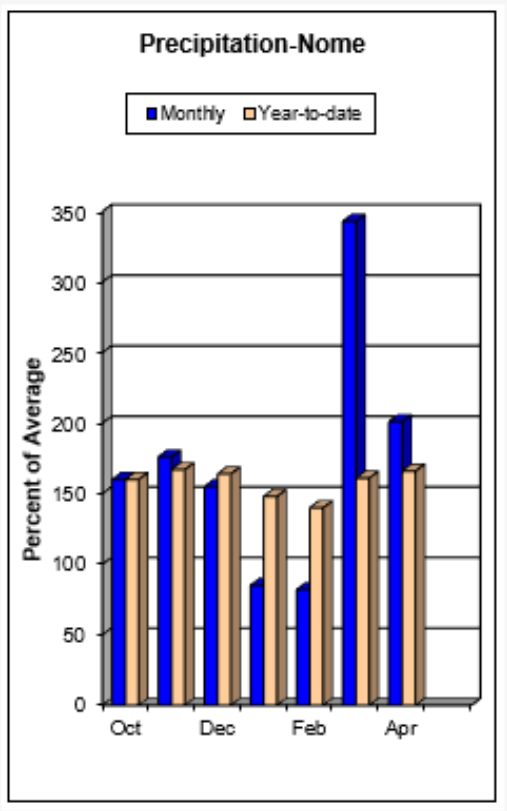
Inches Accumulated since October 1st (as of May 1, 2021)

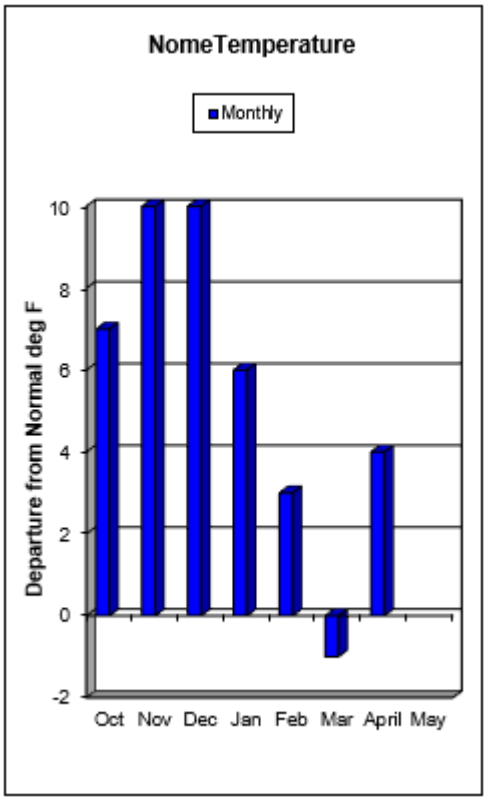
Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Arctic					
Atigun Camp	3400	2.1	3.8	3.0	70%
Atigun Pass	4800	4.8	7.7	6.7	72%
Imnaviat Creek	3050	2.4	3.6	3.3	73%
Prudhoe Bay	30	3.3	3.6	4.1	80%
Sagwon	1000	2.9	3.3	3.4	85%
Kotzebue Sound					
Port Red Dog	50	3.1	---	4.2	74%
Red Dog Mine	950	5.8	---	5.3	109%
Kelly Station	310	7.4	9.6	---	---

Streamflow Forecasts



Norton Sound/Y-K Delta/Bristol Bay





Snowpack

The Seward Peninsula had above average precipitation during April. Reported snow depths are above average.

Precipitation

Inches Accumulated since October 1st (as of May 1, 2021)

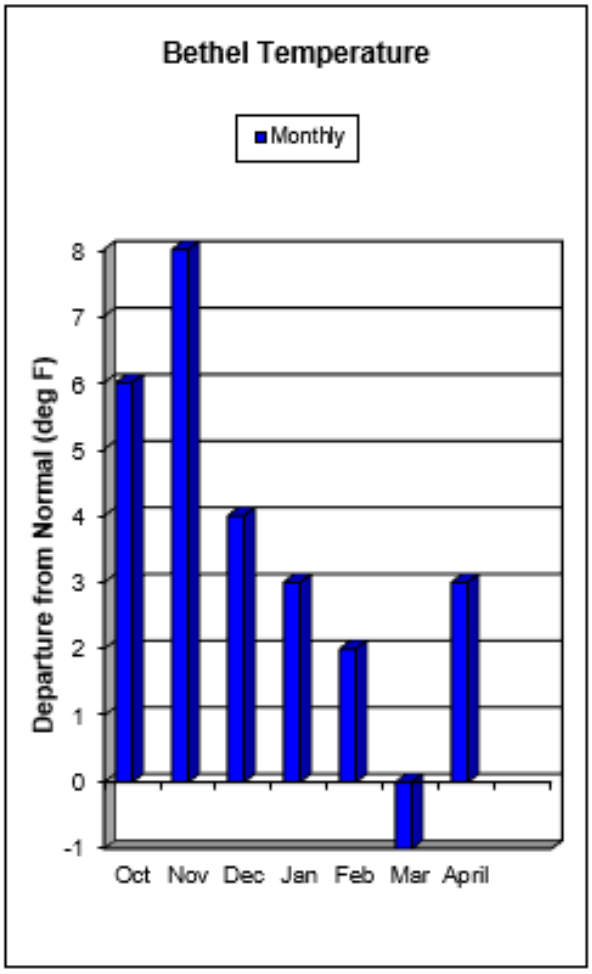
Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Norton Sound					
Pargon Creek	100	7.6	8.5	6.7	113%
Rocky Point	250	4.8	7.6	5.8	83%

Norton Sound/Bristol Bay

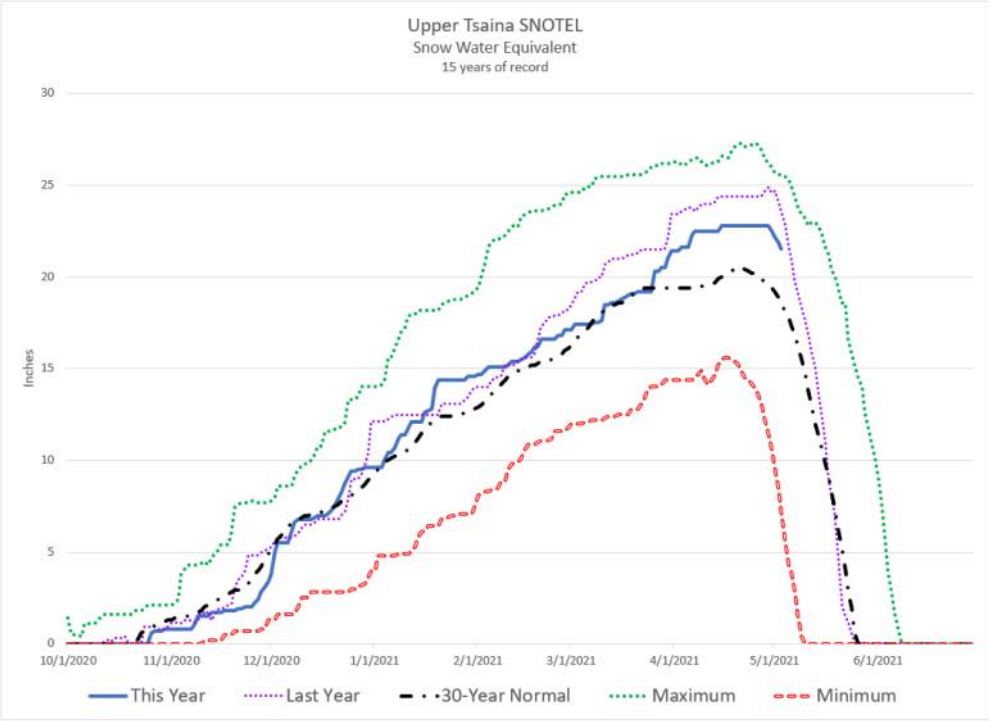
Snowpack Data

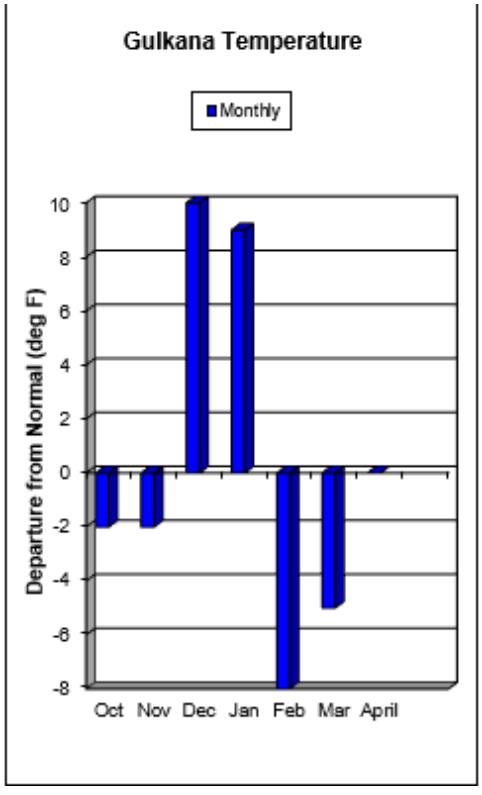
Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
Norton Sound							
Johnsons Camp	25	24	14	---	---	---	---
Pargon Creek	100	11	---	---	---	---	---
Rocky Point	250	29	---	---	---	---	---

**Estimate*



Copper Basin





Snowpack

Snowpack in the Copper ranges from below to above normal. Peak snowpack was a week later than average, but melt out had been quick. Most sites which are typically melted out by May 1st are melted out. But other sites range from having half of average to twice average, the stature of the site has more to do with melt out rates than peak snowpack. May Creek SNOTEL which recorded its second highest May 1st reading is quickly melting out and is only a week behind average.

Copper Basin

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
Chistochina	1950	8	0	0	2.0	0.0	0.0
Fielding Lake	3000	37	54	34	9.6	16.0	10.2
Fielding Lake SNOTEL	3000	24	49	---	7.2	16.1	---
Gulkana River	1830	0	0	---	0.0	0.0	---
Haggard Creek	2540	17	16	14	4.6	5.8	4.3
Kenny Lake School	1300	0	0	0	0.0	0.0	0.0
Little Nelchina	2650	4	8	12	1.7	2.4	3.7
May Creek	1610	12	0	---	4.7	0.0	2.0
Mentasta Pass	2430	21	21	14	7.0	6.8	3.9
Paxson	2650	28	31	22	7.2	10.2	6.4
Tazlina	1250	0	0	0	0.0	0.0	0.0
Tolsona Creek	2000	4	4	0	1.1	1.2	0.0
Tsaina River	1650	35	---	42	14.1	---	14.0
Upper Tsaina River	1750	54	59	---	22.2	24.7	19.2
Worthington Glacier	2100	63	---	63	25.5	---	24.6

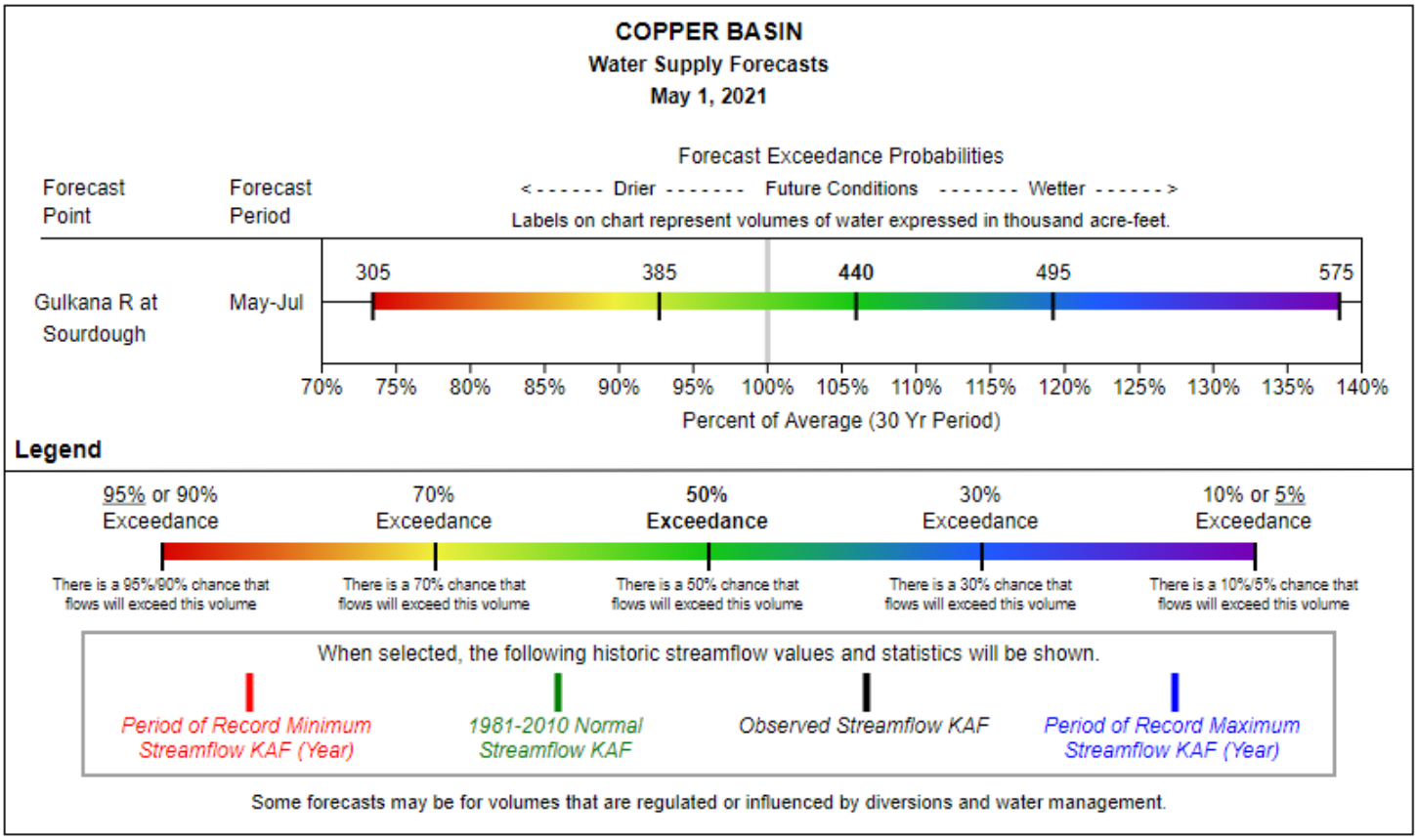
**Estimate*

Precipitation

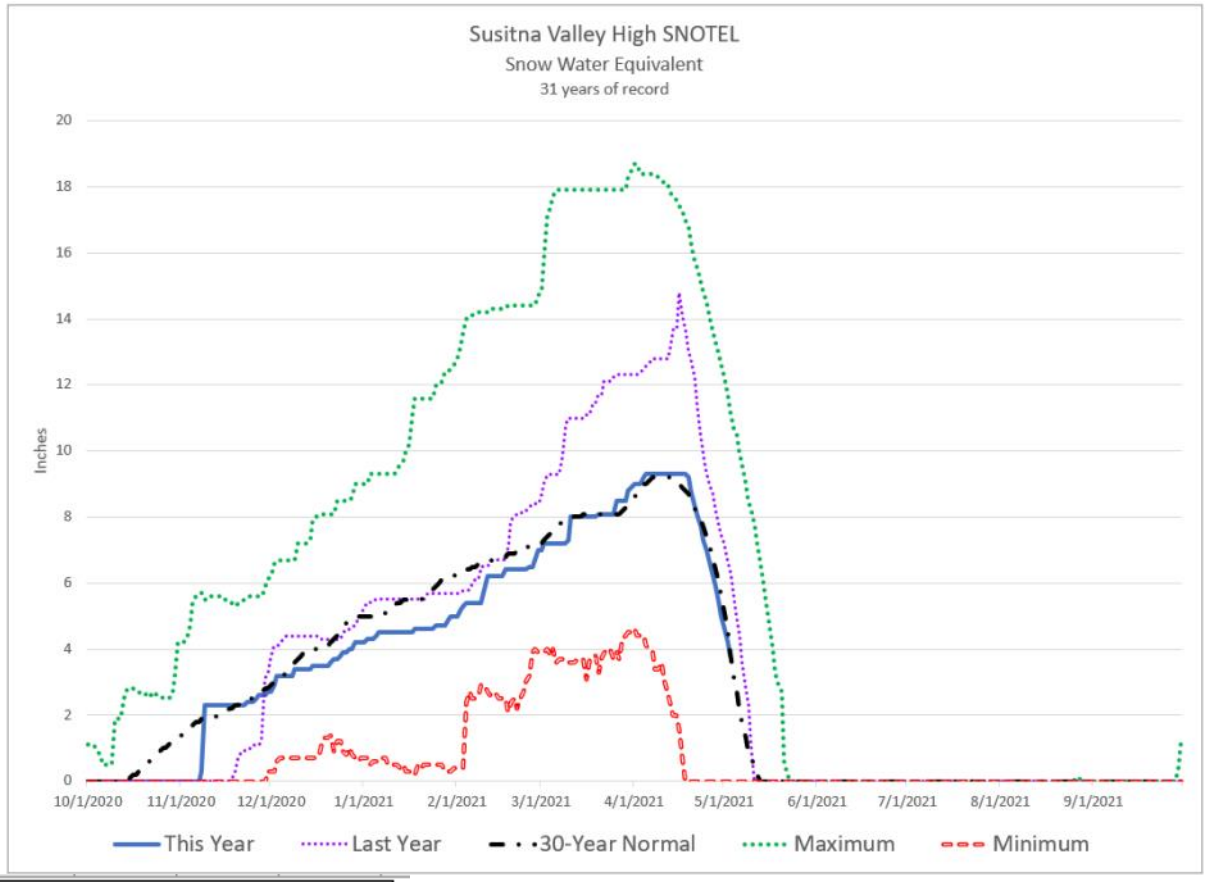
Inches Accumulated since October 1st (as of May 1, 2021)

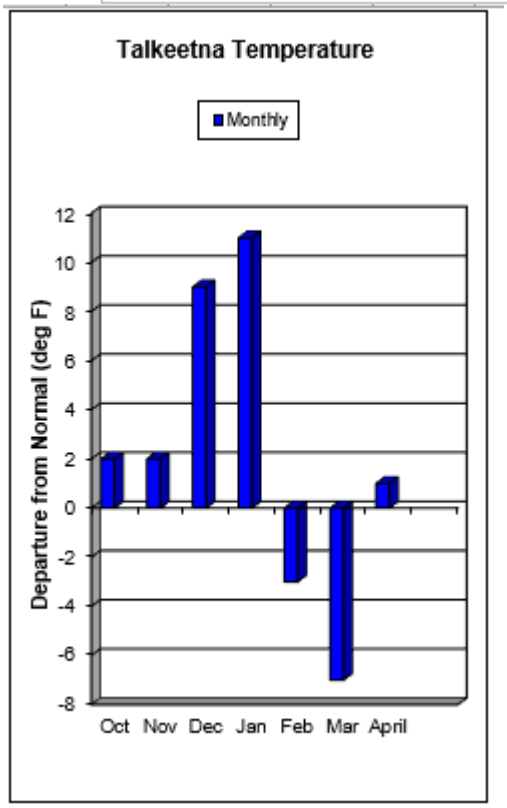
Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Gulkana River	1830	7.7	6.8	---	---
May Creek	1610	8.8	7.4	6.5	135%
Upper Chena	2850	8.9	14.6	7.9	113%

Streamflow Forecasts



Matanuska—Susitna Basin





Snowpack

The Susitna Basin received below average April precipitation. In many locations snowpack peaked above normal and started melting out a week early. As a result, snowpack in most of the basin is below normal. The exception is the Little Susitna Drainage, which indexes to 110% of normal. Similarly, Willow Airstrip Snow Course, which has had above normal snow the whole winter, continues to have above normal snowpack.

Precipitation

Matanuska—Susitna Basin

Inches Accumulated since October 1st (as of May 1, 2021)

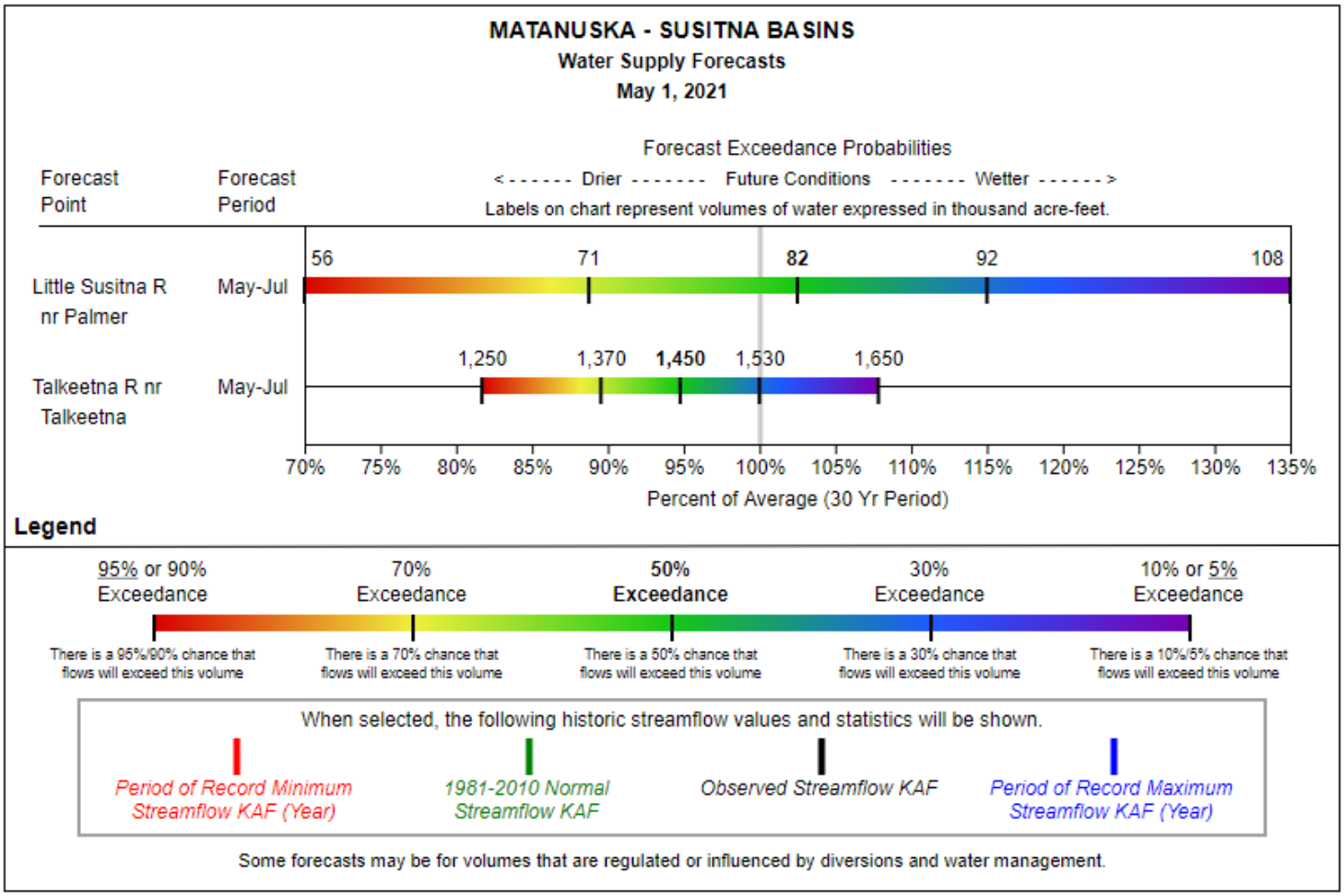
Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Alexander Lake	160	14.2	21.5	---	---
Frostbite Bottom	2700	18.7	27.6	---	---
Independence Mine	3550	18.8	30.9	18.0	104%
Monahan Flat	2710	8.3	13.7	8.6	97%
Spring Creek	580	8.0	10.5	---	---
Susitna Valley High	375	11.5	22.8	13.4	86%
Tokositna Valley	850	16.8	35.3	21.4	79%

Snowpack Data

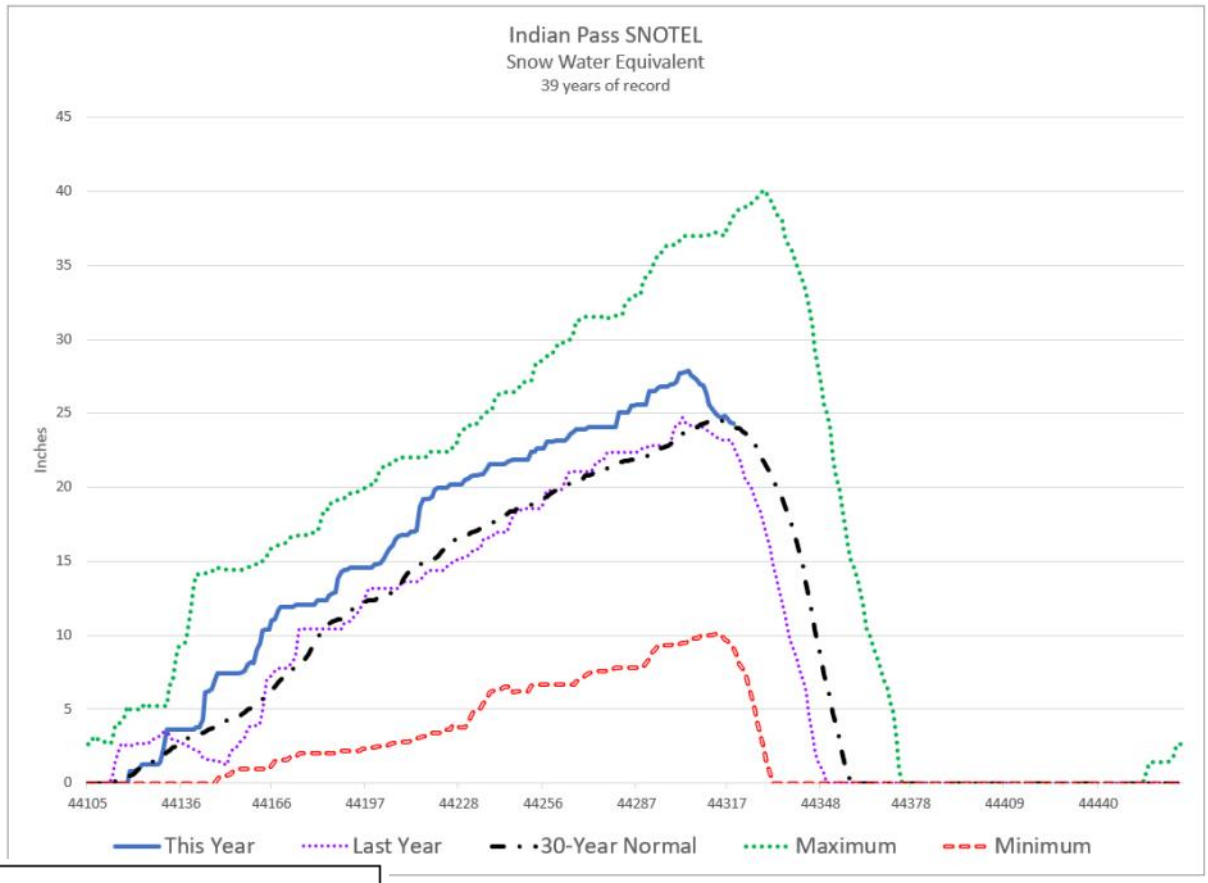
		Snow Depth			Water Content		
Site Name	Elev.	Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
Alexander Lake	160	0	12	---	0.0	4.4	---
Archangel Road	2200	42	40	35	15.8*	15.6	11.7
Birthday Pass	4020	72	117	---	28.7	49.3	---
Blueberry Hill	1200	32	51	40	12.5	16.9	14.1
Denali View	700	16	33	27	5.9	12.5	9.1
E. Fork Chulitna	1770	32	52	42	11.3	16.8	12.4
Fishhook Basin	3300	51	83	55	19.0	33.5	19.5
Frostbite Bottom	2700	40	51	---	15.6	21.4	---
Independence Mine	3550	58	94	61	22.0	40.8	21.8
Independence Mine SNOTEL	3550	38	76	---	15.8	27.7	14.6
Lake Louise	2400	4	6	11	1.1	2.0	2.9
Little Susitna	1700	31	28	21	11.5	9.5	8.2
Monahan Flat	2710	22	30	---	6.7	9.7	---
Sheep Mountain	2900	7	6	11	2.0	1.7	3.1
Susitna Valley High	375	14	20	---	4.6	7.2	5.1
Talkeetna	350	5	19	12	1.8	6.7	4.0
Tokositna Valley	850	35	55	---	13.3	19.9	11.8
Willow Airstrip	200	17	18	10	5.2	6.0	3.3

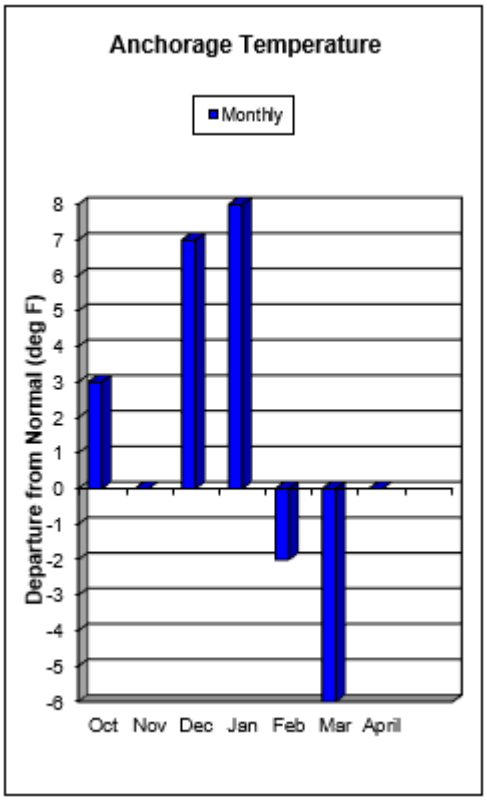
**Estimate*

Streamflow Forecasts



Northern Cook Inlet





Snowpack

The Northern Cook Inlet Region generally received below normal April precipitation. Snowpack water content peaked above average and started melting out early. The snowpack on May 1st was near normal, ranging from 68% to 121% of median.

Northern Cook Inlet

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
Anchorage Hillside	2080	24	12	---	8.7	3.6	10.8
Indian Pass	2350	55	53	---	24.7	23.2	24.3
Kincaid Park	250	0	0	0	0.0	0.0	0.0
Moraine	2100	11	3	---	4.4	0.8	6.5
Mt. Alyeska	1540	73	31	---	31.0	12.2	35.2
Portage Valley	50	22	18	14	8.2	7.7	6.2
South Campbell Creek	1200	12	0	10	4.1	0.0	3.4

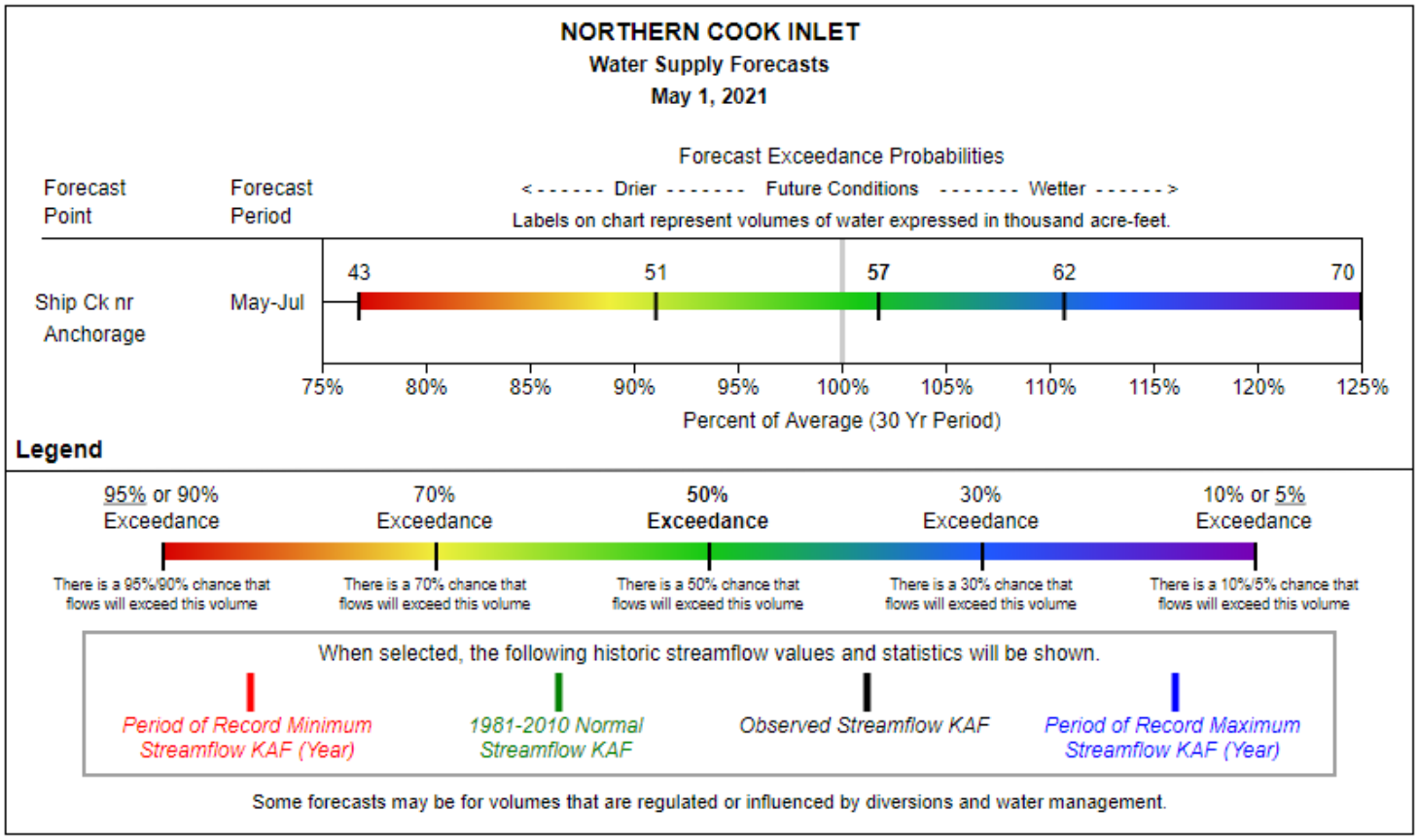
**Estimate*

Precipitation

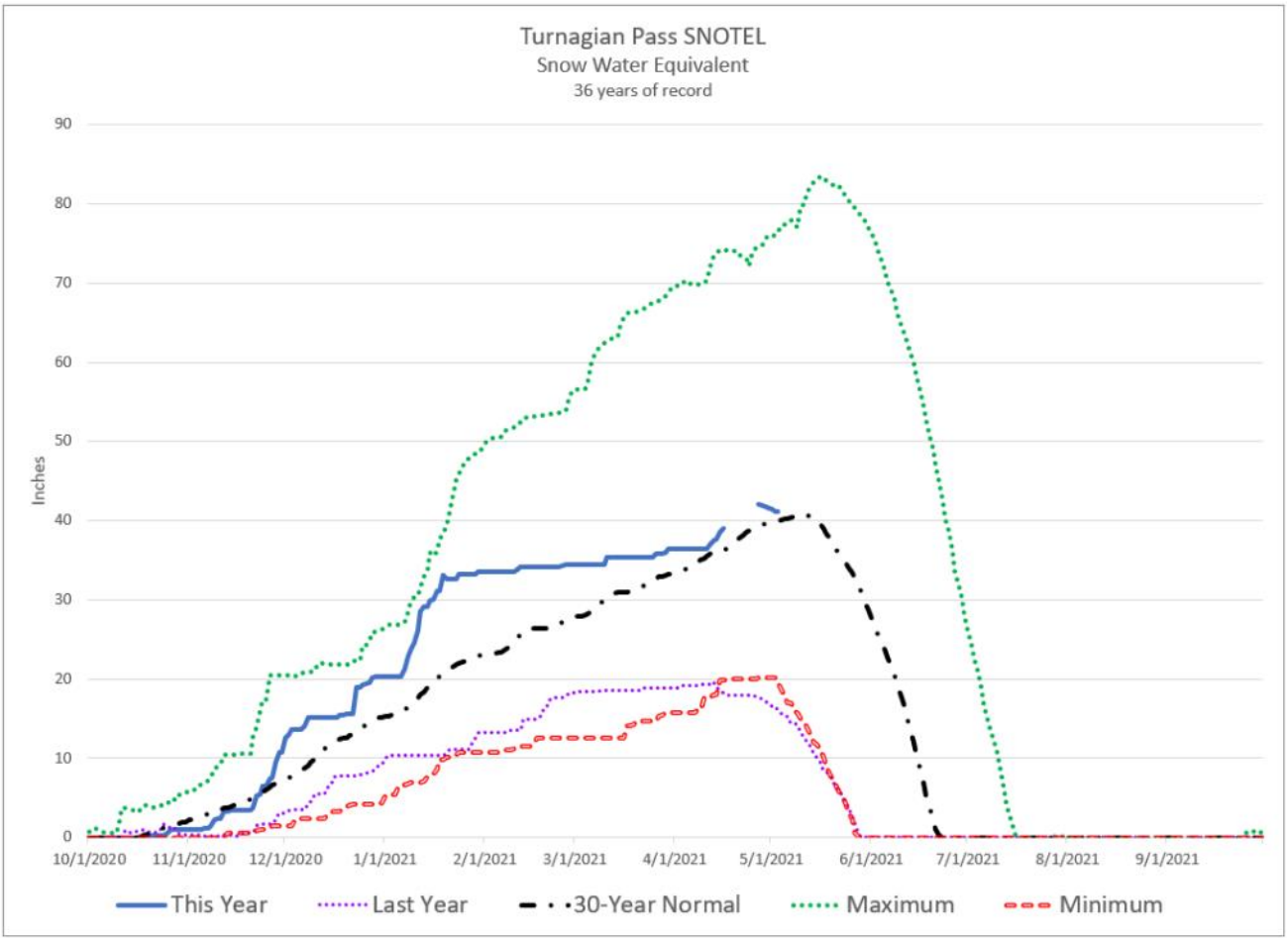
Inches Accumulated since October 1st (as of May 1, 2021)

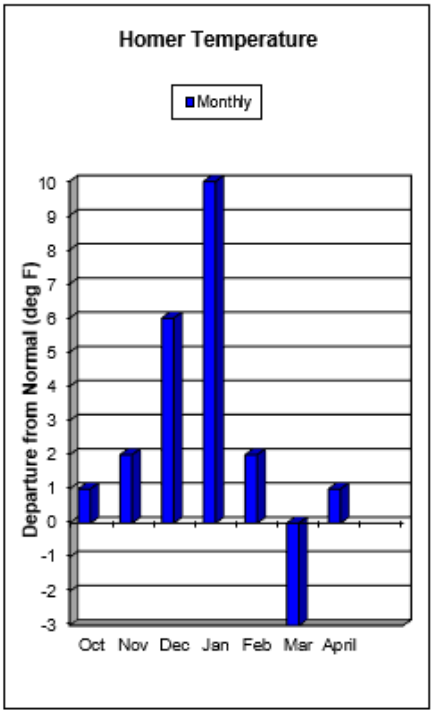
Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Anchorage Hillside	2080	15.2	19.4	15.5	98%
Indian Pass	2350	29.5	38.8	28.4	104%
Moraine	2100	11.1	12.2	12.7	87%
Mt. Alyeska	1540	42.3	42.2	52.9	80%
Spring Creek	580	8.0	10.5	---	---

Streamflow Forecasts



Kenai Peninsula





Snowpack

April was a dry month on the Kenai Peninsula. Snowpacks reached an above normal peak water content and then started melting out a week ahead of schedule. Measured snowpack remained above normal on May 1st. The 19 measured sites indexed to 128% of normal, compared to 23% of normal last year. All these lower sites had considerably more snow than last year; however, the new higher elevation sites had less snow than last year.

Kenai Peninsula

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Median	Current	Last Year	1981-2010 Median
Anchor River Divide	1653	34	13	---	14.1	3.9	10.0
Bertha Creek	950	58	21	50	22.3	7.6	17.7
Bridge Creek	1300	30	0	32	11.5	0.0	10.6
Cooper Lake	1200	39	9	---	16.0	2.3	12.0
Demonstration Forest	780	4	0	13	1.5	0.0	4.6
Eagle Lake	1400	35	0	24	14.6	0.0	9.0
Exit Glacier	400	48	4	26	19.7	1.2	10.8
Exit Glacier SNOTEL	400	44	0	---	16.4	0.0	11.0
Grandview	1100	82	27	---	37.3	10.0	34.6
Grouse Creek Divide	700	50	2	---	22.8	0.1	16.0
Jean Lake	620	0	0	0	0.0	0.0	0.0
Kenai Moose Pens	300	2	0	---	0.0	0.0	0.0
Kenai Summit	1390	38	11	30	16.2	3.5	11.3
Lark Valley	3350	67	59	---	31.0	26.3	---
Lower Kachemak Creek	1915	49	0	---	---	---	---
Mcneil Canyon	1320	24	1	---	9.6	0.8	8.0
Middle Fork Bradley	2300	64	0	---	---	---	---
Moose Pass	700	26	0	0	7.6	0.0	0.0
Mt. Alyeska	1540	73	31	---	31.0	12.2	35.2
Nellie Juan Tarn	3130	---	100	---	---	50.9	---
Port Graham	300	15	0	---	2.6	0.0	4.0
Portage Valley	50	22	18	14	8.2	7.7	6.2
Primrose	2130	93	54	---	45.3	23.4	---
Snug Harbor Road	500	0	0	0	0.0	0.0	0.0
Spencer Bench	2430	100	109	---	49.4	49.6	---
Summit Creek	1400	25	5	---	10.2	2.0	6.7
Tincan	3400	100	109	---	45.2	44.6	---
Turnagain Pass	1880	87	39	---	41.4	16.6	39.8
Upper Mill Creek	3750	100	90	---	49.4	40.6	---

**Estimate*

Kenai Peninsula

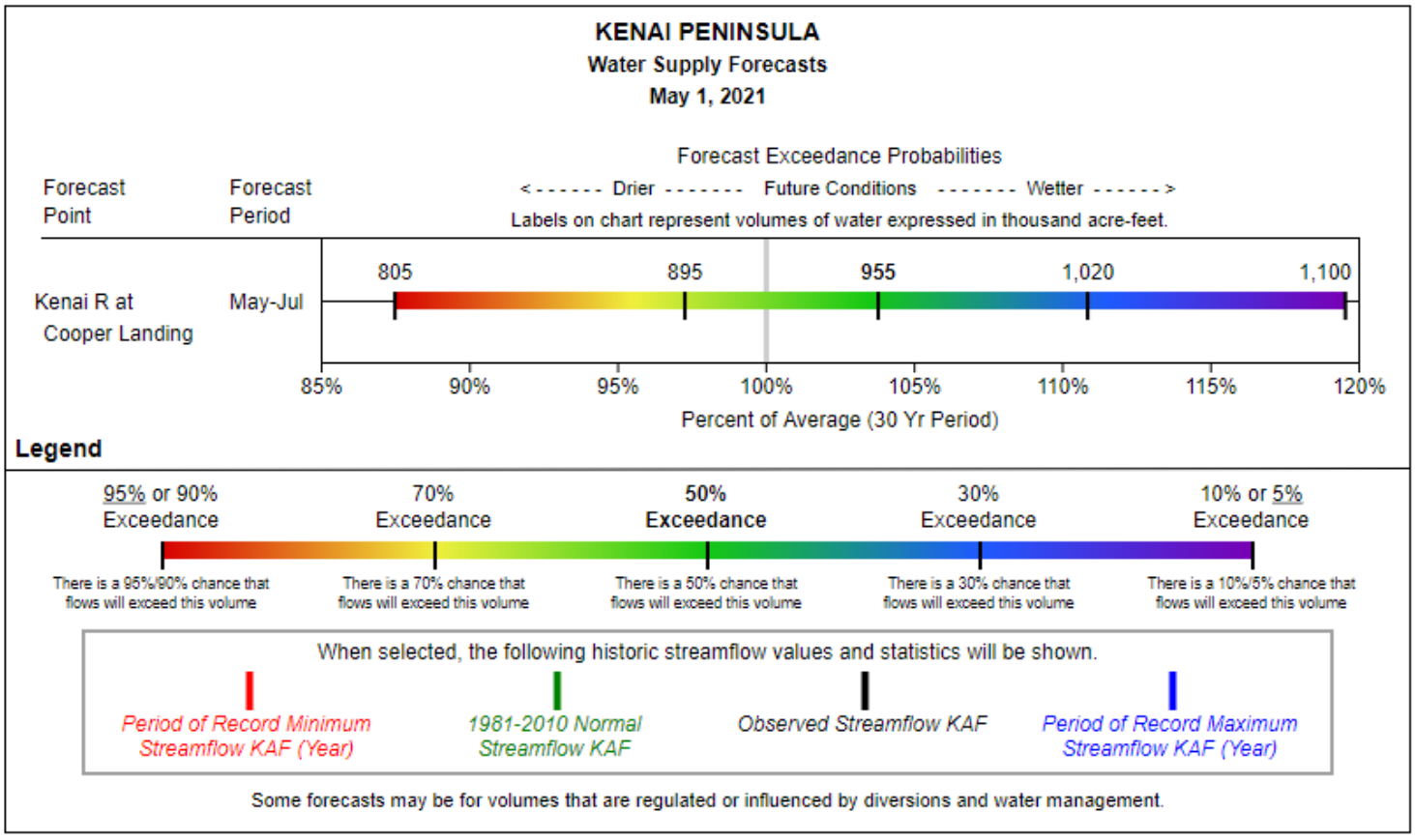
Precipitation

Inches Accumulated since October 1st (as of May 1, 2021)

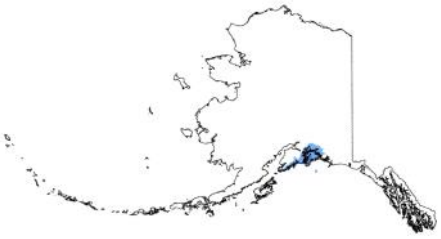
Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Anchor River Divide	1653	19.0	26.6	18.5	103%
Cooper Lake	1200	25.8	28.4	27.1	95%
Exit Glacier	400	55.7	50.9	---	---
Grandview	1100	35.5	38.5	46.9	76%
Grouse Creek Divide	700	42.7	35.4	41.9	102%
Kenai Moose Pens	300	10.0	12.4	8.9	112%
Lower Kachemak Creek	1915	39.3	---	---	---
Mcneil Canyon	1320	18.3	20.0	17.9	102%
Middle Fork Bradley	2300	36.1	43.2	35.6	101%
Nuka Glacier	1250	53.7	---	60.8	88%
Port Graham	300	51.6	54.2	52.8	98%
Summit Creek	1400	15.1	19.5	17.1	88%
Turnagain Pass	1880	42.5	33.1	47.2	90%

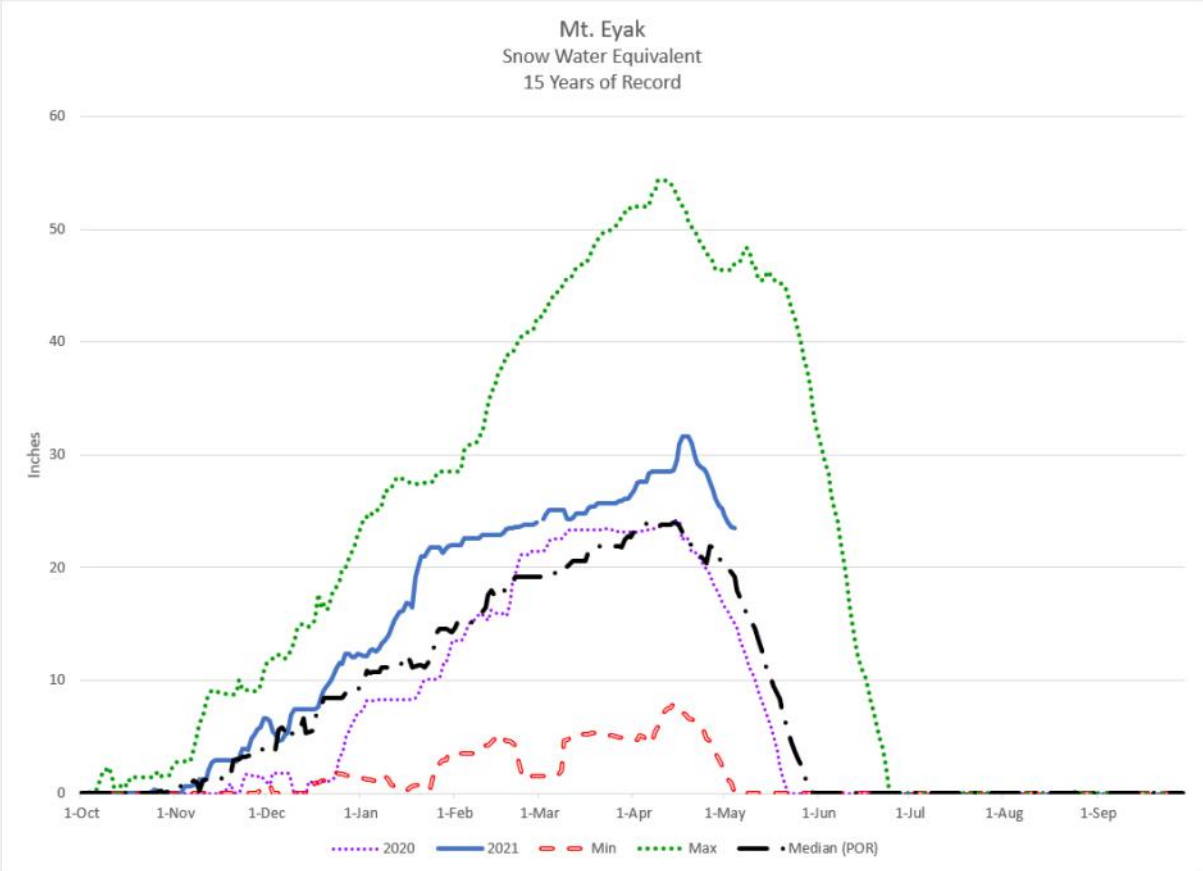
Streamflow Forecasts

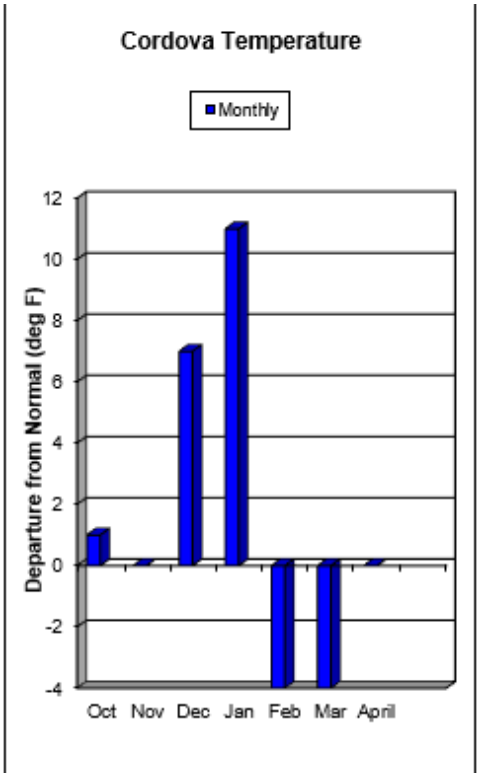
Forecast Point	Forecast Period	% of Average	Maximum(%)	Minimum(%)	50% Exceedance (KAF)	30yr Average (KAF)
Bradley Lake Inflow	Apr-Jul	92	109	75	175	191



Western Gulf – Prince William Sound







Snowpack

For a third month in a row, Prince William Sound received below average monthly precipitation. Snowpack in the eastern Sound is near to slightly below normal, while snow in western Sound is above normal. Mt. Eyak SNOTEL peak snowpack was slightly less than normal and melt out is a week ahead of average.

Western Gulf — Prince William Sound

Snowpack Data

Site Name	Elev.	Snow Depth			Water Content		
		Current	Last Year	1981-2010 Normal	Current	Last Year	1981-2010 Normal
Exit Glacier	400	48	4	26	19.7	1.2	10.8
Exit Glacier SNOTEL	400	44	0	---	16.4	0.0	11.0
Grouse Creek Divide	700	50	2	---	22.8	0.1	16.0
Lowe River	600	29	---	32	10.7	---	11.8
Mt. Eyak	1405	65	40	---	24.0	16.0	28.1
Nicks Valley	4280	97	130	---	---	---	---
Sugarloaf Mountain	550	62	---	61	21.8	---	23.9
Tsaina River	1650	35	---	42	14.1	---	14.0
Upper Tsaina River	1750	54	59	---	22.2	24.7	19.2
Valdez	50	25	---	28	8.7	---	10.4
Worthington Glacier	2100	63	---	63	25.5	---	24.6

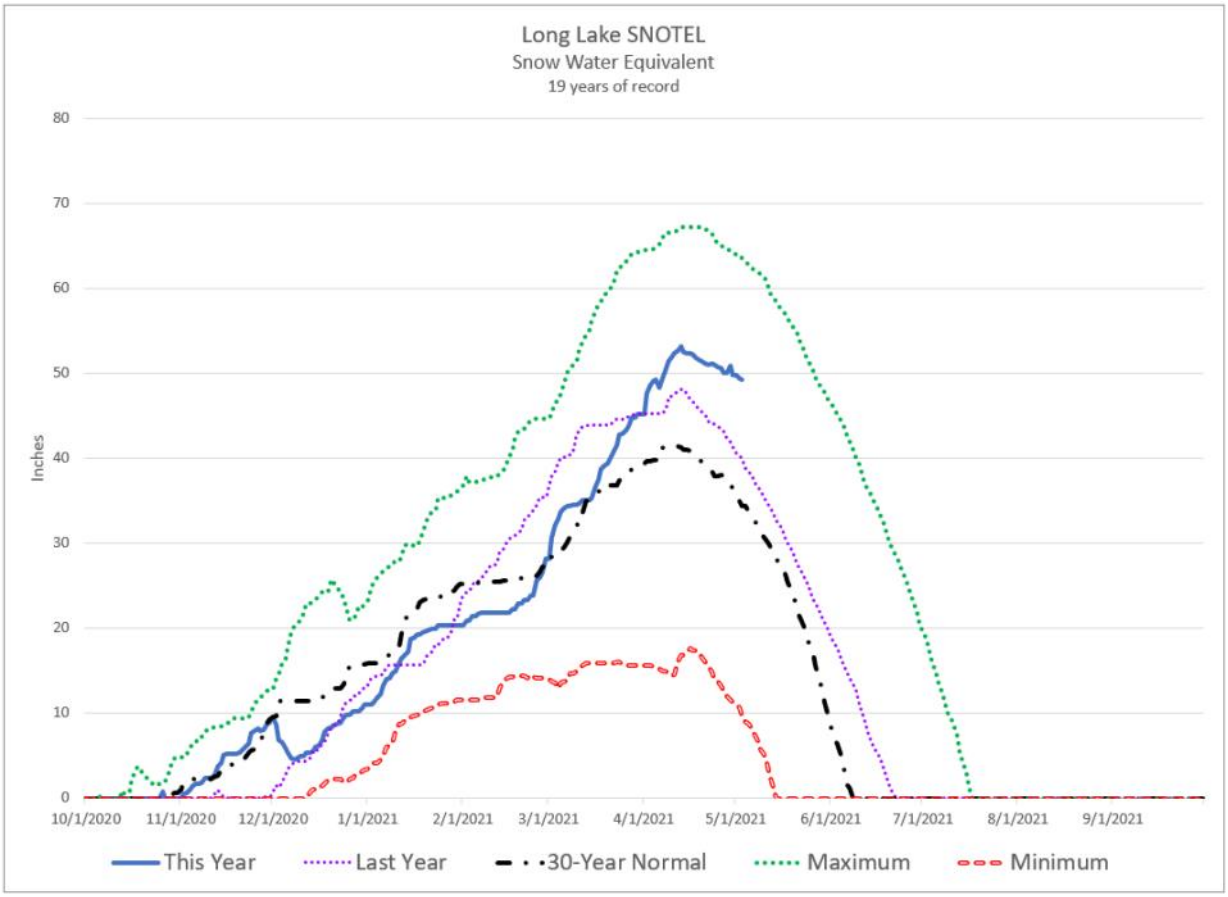
**Estimate*

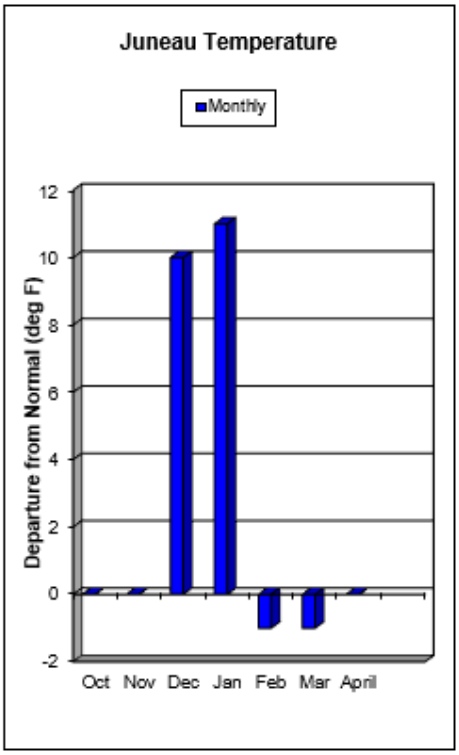
Precipitation

Inches Accumulated since October 1st (as of May 1, 2021)

Site Name	Elev.	This Year	Last Year	1981-2010 Normal	% of Normal
Esther Island	50	87.6	83.0	89.0	98%
Exit Glacier	400	55.7	50.9	---	---
Grouse Creek Divide	700	42.7	35.4	41.9	102%
Mt. Eyak	1405	67.2	82.4	---	---
Nuchek	50	82.0	89.6	---	---
Port San Juan	50	---	77.5	85.4	---
Strawberry Reef	30	39.9	46.0	---	---
Sugarloaf Mtn	550	41.6	53.4	44.4	94%
Tatitlek	50	42.2	54.0	44.1	96%

Southeast





Snowpack

Southeast Alaska received from near to above normal precipitation during April. Like last month, monthly precipitation totals ranged from near average at Ketchikan to twice normal further up in the panhandle. Snowpack in Southeast is much above normal with measured site ranging from 139% to over 205% of normal. Moore Creek Bridge continues to have record snowpack. With 31.6" of water content, it has over 4" more water content than 2004, the previous record. Towards the southern part of the panhandle, Tyee Pass near the Tyee Lake Hydro-project had an amazing 20' of snow depth, measured with 88.8" of water content.

Southeast

Snowpack Data

		Snow Depth			Water Content		
Site Name	**Elev.**	**Current**	**Last Year**	**1981-2010 Median**	**Current**	**Last Year**	**1981-2010 Median**
Cropley Lake	1650	103	---	70	44.5	---	29.6
Eagle Crest	1200	77	---	34	25.9	---	12.2
Fish Creek	500	0	---	0	0.0	---	0.0
Heen Latinee	2065	59	46	---	24.2	20.5	---
Lake Grace Pass†	1900	215	---	---	88.2	---	---
Long Lake	850	115	96	---	92.8	40.7	35.8
Mint Creek Ridge†	1900	160	---	---	92.8	---	---
Moore Creek Bridge	2250	70	---	51	31.6	---	20.7
Mount Ripinky Δ	2540	194	---	---	93.0	---	---
Mount Tyee†	2790	188	---	---	76.1	---	---
Petersburg Reservoir	550	24	---	0	9.1	---	0.0
Petersburg Ridge, S.	1650	107	---	52	45.9	---	22.4
Speel River	280	76	---	50	32.3*	---	22.0
Tyee Pass†	2820	240	---	---	88.8	---	---
Upper Swan Lake†	1700	98	---	---	38.8	---	---

**Estimate*

†Course measured 4/14/2021

Δ Course measured 4/16/2021

Precipitation Data

Inches Accumulated since October 1st (as of May 1, 2021)

Site Name	**Elev.**	**This Year**	**Last Year**	**1981-2010 Normal**	**% of Normal**
Heen Latinee	2065	53.0	52.9	---	---
Long Lake	850	119.4	122.2	104.6	114%
Moore Creek Bridge	2250	41.0	33.6	29.6	139%

Streamflow Forecast

Forecast Point	**Forecast Period**	**% of Average**	**Maximum(%)**	**Minimum(%)**	**50% Exceedance (KAF)**	**30yr Average (KAF)**
Taiya River near Skagway	Apr-Jul	123	142	103	565	459

For further information contact:

NRCS Alaska web site: **www.nrcs.usda.gov/wps/portal/nrcs/main/ak/snow/**
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