

# Alaska Snow Survey Report



**April 1, 2016**

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Cover photo: Rain Runnels on the snow tell the story of heavy March rains in western Cook Inlet.

# Table of Contents

|                                                       |        |
|-------------------------------------------------------|--------|
| State General Overview.....                           | 5,6    |
| Streamflow Forecasts.....                             | 7      |
| How Forecasts are Made.....                           | 8      |
| Basin Conditions and Data                             |        |
| Upper Yukon Basin.....                                | 9,10   |
| Central Yukon Basin.....                              | 11, 12 |
| Tanana Basin.....                                     | 13, 14 |
| Western Interior Basins.....                          | 15, 16 |
| Arctic and Kotzebue Basin.....                        | 17, 18 |
| Norton Sound, Southwest, and Bristol Bay.....         | 19, 20 |
| Copper Basin.....                                     | 21, 22 |
| Matanuska - Susitna Basins.....                       | 23, 24 |
| Northern Cook Inlet.....                              | 25, 26 |
| Kenai Peninsula.....                                  | 27, 28 |
| Western Gulf.....                                     | 29, 30 |
| Southeast.....                                        | 31, 32 |
| State Snowpack Map.....                               | 33     |
| Telephone Numbers and other contact information ..... | 34     |



# General Overview

## **Snow Pack**

The snowpack across Alaska is variable. Continued above normal temperatures hastened meltout in many locations while other areas had stable or increasing snowpack.

Regions which gained snowpack include the Arctic, the Koyukuk basin, the Central and Lower Yukon Basin, Northwest Alaska and the upper Matanuska Valley. Areas which lost snow were the Tanana basin, Bristol Bay, Southeast Alaska, and low lying areas in Southcentral and the Copper Valley.

In Southeast Alaska, the snowline continues to rise and sites at elevation continue to melt. Long Lake SNOTEL at 850' of elevation is 60% of normal, but had peak snowpack around March 18<sup>th</sup>, 4 weeks before normal. Of the 39 years Cropley Lake snow course has been measured, it only had lower April snowpack once during that time – last year.

Warm temperatures in the Copper Valley and Tanana Basin have contributed to substantial melting of valley snowpacks and have primed higher snowpacks for an early meltout. Tok Junction snow course had 7 inches of snow and 1.6 inches of water content, which is the lowest it has had in April since 1970. Kenny Lake School snow course set a new 36 year record low with 4" of snow and 1.5" of water content which is 42% of normal.

The Central Yukon basin, however, mainly saw increased snowpack during March. American Creek SNOTEL, near Eagle, gained 0.5" of water content, though decreased 2 inches of snow depth.

Low lying snowpacks in southcentral and southwest Alaska experienced further declines during March. Sites at elevation saw peak snowpacks 3-4 weeks ahead of schedule.

The Susitna Valley saw significant precipitation events which brought rain all the way up to the Alaska Range. This increased the water content of many mountain snowpacks, but primed them for an early melt out. The western side of the upper valley had some of the most above normal snowpacks in the state. East Fork Chulitna snow course, near Broad Pass, was 134% of normal. Independence Mine snow course gained 26 inches of snow and 5.5 inches of water content during the month and is 140% of normal.

The Kenai Peninsula saw significant melting of lower snowpacks during the month and gains at higher elevations. The snowpack at Turnagain Pass SNOTEL gained 9 inches of water content but loss 20 inches of depth during the month. It is still 174% of normal and is the wettest the snowpack has been since 2001.

## **Precipitation**

March precipitation was mainly moderate across the state. Most areas received near normal or marginally below normal precipitation during the month. Drier than normal areas were the Tanana Valley, the Koyukuk and Southeast Alaska. Parts of the Tanana Valley received about half the normal March precipitation.

Parts of Prince William Sound received above normal precipitation as did the Susitna Valley. The four sites in the Susitna Valley averaged 256% of normal precipitation with precipitation coming in a series of storms throughout the month. Su Valley High SNOTEL gained 3.4 inches of precipitation during then month, 243% of normal.

# General Overview Continued

## Temperature

It's a theme this year: continued much-above-normal temperatures persisted into March, though more subdued than previous months.

All regions were closer to normal this month than last and Nome was a mere 3°F above normal this month. Most locations were 6-9°F above normal for March. Fort Yukon was 11°F above normal for March, making it the 5<sup>th</sup> consecutive month it has been above normal by double digits.

All these warmer temperatures have really set the stage for an early melt out – if the snow hasn't melted out already.

# Streamflow Forecasts

| FORECAST POINT*                        | Percent of Ave. Flow | Period       |
|----------------------------------------|----------------------|--------------|
| Yukon River at Eagle                   | 99                   | April - July |
| Porcupine River nr Int'l Boundary..... | 96                   | April - July |
| Yukon River near Stevens Village       | 100                  | April - July |
| Tanana River at Fairbanks              | 80                   | April - July |
| Tanana River at Nenana                 | 79                   | April - July |
| Little Chena River near Fairbanks      | 88                   | April - July |
| Chena River near Two Rivers            | 94                   | April - July |
| Salcha near Salchaket                  | 75                   | April - July |
| Sagvanirktok River near Pump Station 3 | 96                   | April - July |
| Kuparuk River near Deadhorse           | 89                   | April - July |
| Kuskokwim River at Crooked Creek       | 101                  | April - June |
| Gulkana River at Sourdough             | 86                   | April - July |
| Little Susitna River near Palmer       | 109                  | April - July |
| Talkeetna River near Talkeetna         | 97                   | April - July |
| Ship Creek near Anchorage              | 91                   | April - July |
| Kenai River at Cooper Landing          | 114                  | April - July |
| Gold Creek near Juneau                 | 62                   | April - July |

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

| FORECAST POINT                                  | INDEX | Index    | Key:                                |
|-------------------------------------------------|-------|----------|-------------------------------------|
| Koyukuk River at Hughes.....                    | -1.1  |          |                                     |
| MF Koyukuk R near Wiseman .....                 | -0.2  |          |                                     |
| Slate Creek at Coldfoot.....                    | -0.5  |          |                                     |
| Beaver Creek above Victoria Creek.....          | -0.9  |          |                                     |
| Birch Creek below South Fork.....               | -1.9  |          |                                     |
| Caribou Creek at Chatanika.....                 | -1.0  |          |                                     |
| Susitna River near Gold Creek.....              | -1.3  | -2 to -3 | much below average snow-melt runoff |
| Chulitna River near Talkeetna.....              | -1.3  |          |                                     |
| Deshka River at mouth near Willow.....          | -2.0  |          |                                     |
| Montana Creek at Parks Highway.....             | -2.0  |          |                                     |
| Willow Creek near Willow.....                   | -0.2  | -1 to -2 | below average snowmelt runoff       |
| Skwentna River at Skwentna.....                 | -1.0  |          |                                     |
| Chuitna River near Tyonek.....                  | -1.0  |          |                                     |
| Campbell Creek near Spenard.....                | -2.6  |          |                                     |
| Indian Creek at Indian.....                     | -2.4  | -1 to +1 | average snow-melt runoff            |
| Bird Creek at Bird Creek .....                  | -2.4  |          |                                     |
| Glacier Creek nr Girdwood .....                 | -2.6  |          |                                     |
| Six Mile Creek near Hope.....                   | +1.2  |          |                                     |
| Resurrection Creek near Hope.....               | +0.5  | +1 to +2 | above average snowmelt runoff       |
| Grouse Ck at Grouse Lake Outlet nr Seward ..... | -1.5  |          |                                     |
| Anchor River near Anchor Point .....            | -2.3  |          |                                     |
| Deep Creek near Ninilchik.....                  | -1.6  |          |                                     |
| Ninilchik River near Ninilchik.....             | -1.7  | +2 to +3 | much above average snow-melt runoff |
| Fritz Creek near Homer.....                     | -2.2  |          |                                     |
| Skagway River at Skagway.....                   | +0.8  |          |                                     |
| Municipal Watershed C nr Petersburg .....       | -2.5  |          |                                     |

## HOW FORECASTS ARE MADE

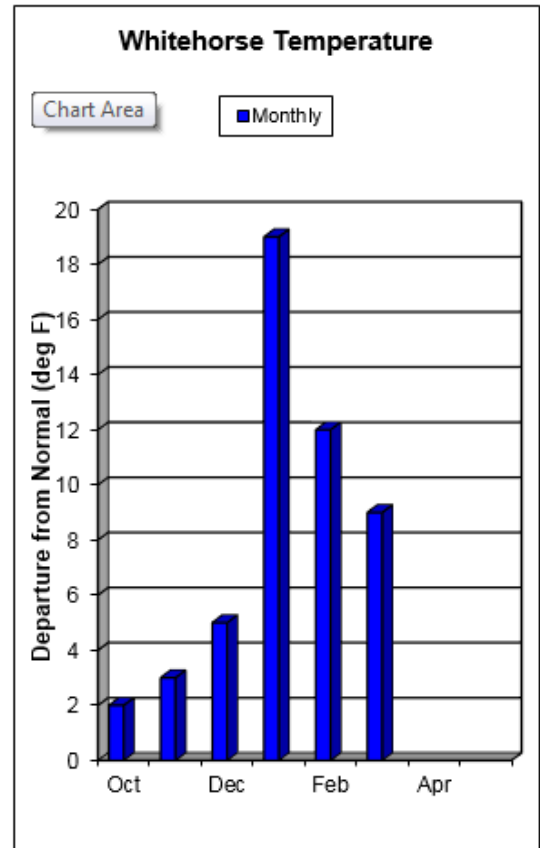
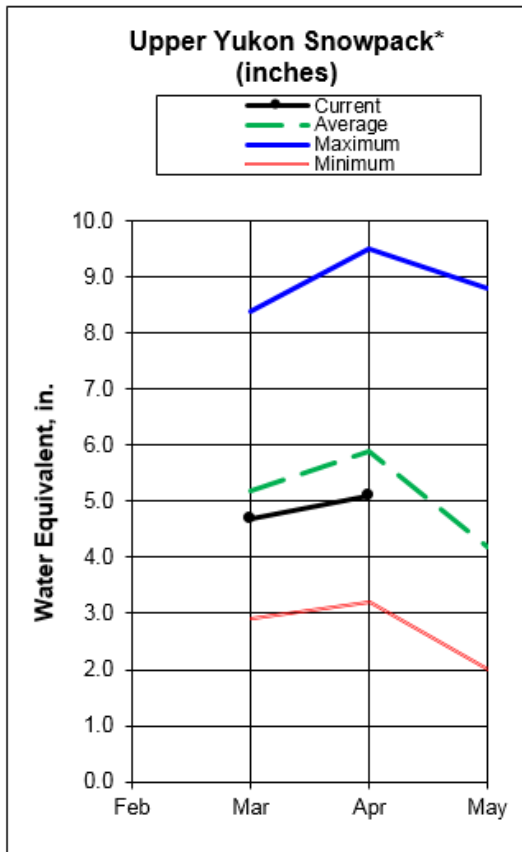
Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual 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.



# Upper Yukon Basin



## Snow pack

The Upper Yukon Basin snowpack is mostly below normal with a few areas near or above normal. Due to above normal March temperatures, several areas with low snowpack have already started to melt out.

The area surrounding Dawson City is normal to above normal. The three sites here averaged 110% of normal, ranging from 95% of normal at King Solomon Dome snow course to 140% of normal at Midnight Dome snow course.

To the south of Dawson, the White River drainage dropped from 91% of normal last month to 76% of normal this month. Burwash Airstrip Snow Course melted out. It's the first time it's been without snow this month since 1981.

The snowpack near Whitehorse remains low, dropping from 80% of normal last month to 77% of normal this month ranging from 44% of normal at Atlin to 95% of normal at Log Cabin snow course.

To the east, the Stewart and Pelly drainage snowpacks dropped from 102% of normal last month to 88% of normal this month with some sites gaining snow and others losing.

# Upper Yukon Basin

## Snowpack Data

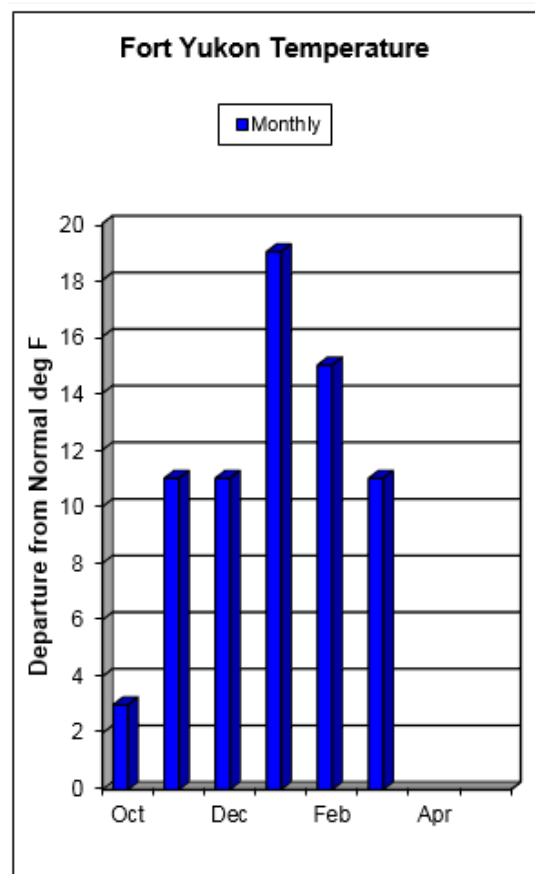
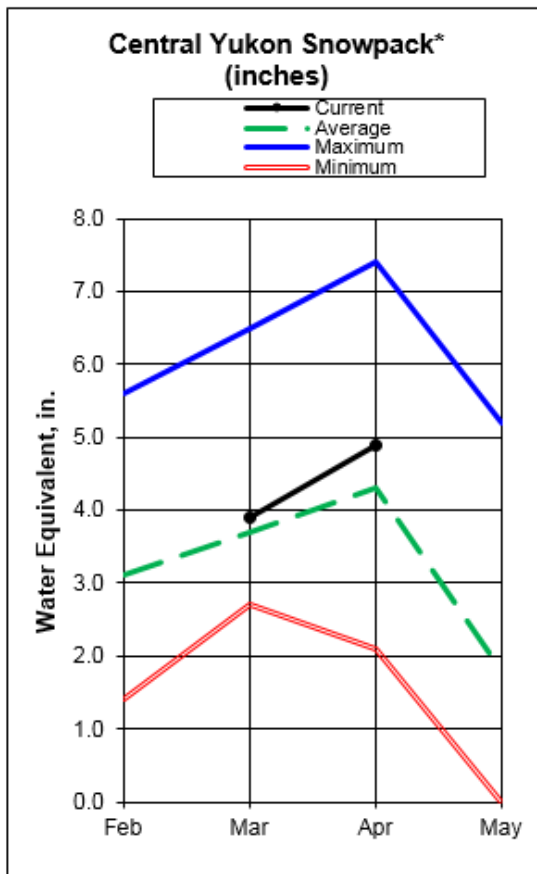
|                     |       |                  | This Year |            | Last Year |            | 1981-2010 Normal |                  |
|---------------------|-------|------------------|-----------|------------|-----------|------------|------------------|------------------|
|                     |       |                  | This Year | This Year  | Last Year | Last Year  | 1981-2010 Normal | 1981-2010 Normal |
| Site Name           | Elev. | Date             | Snow      | Water Con- | Snow      | Water Con- | Snow             | Water Con-       |
| Arrowhead Lake      | 3675  | <i>No Survey</i> | ---       | ---        | ---       | ---        | 34               | 7.4              |
| Atlin               | 2395  | 3/31/2016        | 9         | 2.2*       | 12        | 2.9        | 20               | 5.0              |
| Beaver Creek        | 2150  | 3/31/2016        | 12        | 3.0*       | 17        | 2.9        | 17               | 3.2              |
| Blackstone River    | 1020  | 3/31/2016        | 18        | 4.5        | 25        | 4.8        | ---              | ---              |
| Burns Lake          | 3650  | 3/31/2016        | 33        | 8.2        | 40        | 9.4        | 39               | 8.9              |
| Burwash Airstrip    | 2660  | 3/31/2016        | 0         | 0.0        | 7         | 1.2        | 10               | 1.8              |
| Calumet             | 4300  | 3/29/2016        | 34        | 8.5*       | 37        | 9.1        | 36               | 7.5              |
| Canyon Mine         | 1160  | 3/30/2016        | 10        | 2.0        | 15        | 2.6        | ---              | ---              |
| Casino Creek        | 3495  | 3/29/2016        | 20        | 5.1*       | 22        | 4.2        | 26               | 5.0              |
| Chair Mountain      | 3500  | <i>No Survey</i> | ---       | ---        | 21        | 3.9        | 20               | 3.5              |
| Duke River          | 4300  | <i>No Survey</i> | ---       | ---        | ---       | ---        | 22               | 3.8              |
| Eagle Plains        | 2330  | 3/31/2016        | 34        | 6.2        | 38        | 8.8        | 31               | 6.6              |
| Eagle River         | 1115  | 3/31/2016        | 26        | 4.4        | 32        | 7.1        | 26               | 5.2              |
| Edwards Lake        | 2720  | 3/31/2016        | 23        | 5.9        | 32        | 6.1        | 30               | 6.4              |
| Finlayson Airstrip  | 3240  | 3/30/2016        | 13        | 3.3*       | 22        | 4.7        | 20               | 4.2              |
| Francis River       | 730   | 3/30/2016        | 21        | 4.5        | 22        | 4.4        | ---              | ---              |
| Fuller Lake         | 3695  | 3/31/2016        | 27        | 6.6        | 35        | 7.5        | 33               | 7.7              |
| Grizzly Creek       | 3200  | 3/31/2016        | 27        | 6.6        | 38        | 9.2        | 31               | 6.8              |
| Hoole River         | 3400  | 3/30/2016        | 16        | 3.5        | 30        | 6.5        | 26               | 5.2              |
| Hyland              | 855   | 3/30/2016        | 23        | 5.4        | 29        | 6.2        | ---              | ---              |
| Jordan Lake         | 3050  | 3/30/2016        | 21        | 5.0        | 24        | 5.1        | 25               | 5.2              |
| King Solomon Dome   | 3540  | 3/30/2016        | 30        | 6.0*       | 32        | 7.4        | 30               | 6.3              |
| Log Cabin (B.C.)    | 2900  | 3/30/2016        | 38        | 14.9       | 46        | 13.4       | 50               | 15.7             |
| Macintosh           | 3805  | 3/29/2016        | 14        | 2.4        | 13        | 2.4        | 22               | 4.0              |
| Mayo Airport        | 1770  | 3/29/2016        | 11        | 2.8        | 18        | 4.1        | 18               | 4.2              |
| Meadow Creek        | 4050  | 3/30/2016        | 33        | 9.1        | 43        | 12.4       | 45               | 10.9             |
| Midnight Dome       | 2805  | 3/29/2016        | 33        | 8.1        | 32        | 7.1        | 28               | 5.8              |
| Montana Mtn.        | 3350  | 3/31/2016        | 15        | 3.2        | 24        | 6.1        | 26               | 5.9              |
| Morley Lake         | 2700  | 3/30/2016        | 17        | 4.9        | 18        | 3.6        | 26               | 5.8              |
| Mt. Berdoe          | 3395  | 3/30/2016        | 14        | 3.4*       | 19        | 3.6        | 24               | 4.2              |
| Mt. McIntyre B      | 3600  | 3/29/2016        | 17        | 3.3        | 27        | 6.3        | 28               | 6.2              |
| Mt. Nansen          | 3350  | 3/29/2016        | 12        | 2.8*       | 14        | 2.4        | 18               | 3.2              |
| Ogilvie River       | 550   | 3/31/2016        | 26        | 4.9*       | 26        | 5.5        | ---              | ---              |
| Old Crow            | 980   | 3/30/2016        | 31        | 5.7        | 35        | 7.5        | 24               | 4.4              |
| Pelly Farm          | 1550  | <i>No Survey</i> | ---       | ---        | 13        | 3.5        | 16               | 3.0              |
| Pine Lake Airstrip  | 995   | 3/31/2016        | 25        | 7.7        | 32        | 8.9        | ---              | ---              |
| Plata Airstrip      | 2725  | 3/31/2016        | 25        | 5.8        | 36        | 8.3        | 33               | 7.6              |
| Rackla Lake         | 3410  | 3/31/2016        | 31        | 6.9        | 37        | 6.7        | 37               | 7.8              |
| Riffs Ridge         | 2130  | 3/31/2016        | 31        | 6.6*       | 36        | 8.4        | 29               | 5.7              |
| Russell Lake        | 3480  | 3/31/2016        | 33        | 8.3        | 41        | 9.4        | 37               | 8.9              |
| Satasha Lake        | 3630  | 3/29/2016        | 13        | 2.5        | 15        | 2.6        | 20               | 3.8              |
| Summit              | 985   | 4/1/2016         | 23        | 5.8        | 28        | 7.1        | 35               | 9.9              |
| Tagish              | 3540  | 3/31/2016        | 17        | 3.6        | 26        | 6.5        | 26               | 6.0              |
| Twin Creeks         | 2950  | 3/31/2016        | 27        | 6.7        | 32        | 7.2        | 33               | 7.3              |
| Watson Lake Airport | 685   | 3/29/2016        | 20        | 4.2*       | 22        | 4.7        | ---              | ---              |
| Whitehorse Airport  | 2300  | 3/29/2016        | 12        | 2.6        | 17        | 3.3        | 20               | 4.0              |
| Williams Creek      | 3000  | 3/29/2016        | 17        | 3.2        | 18        | 3.7        | 20               | 3.8              |
| Withers Lake        | 3200  | 3/31/2016        | 30        | 7.4        | 42        | 9.6        | 39               | 8.8              |

*\*Estimate*

## Streamflow Forecasts

| Forecast Point       | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|----------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Yukon River At Eagle | Apr- Jul        | 99           | 116        | 83         | 33000                | 33300              |

# Central Yukon Basin



## Snow pack

The Central Yukon Basin snowpack remains near normal across much of the basin. The 18 measured sites averaged 104% of normal snowpack, ranging from 78% of normal at Stack Pup snow course on the Steese Highway with 130% of normal at Old Crow snow course, in the Yukon. March brought above normal temperatures and slightly above normal precipitation. Most sites gained between 0.3 and 1" of snow water content during the month with a few areas losing snow.

The 6 measured sites in the White Mountains average 108% of normal. Upper Nome Creek SNOTEL measured just 1.1" of precipitation during the month.

In the Fortymile region, the five sites measured an average 102% of normal snowpack, down from 129% of normal last month. A few sites in this area saw melting during the month. The Chicken Airstrip snow course was measured with 17" of snow depth and 3.5" of water content, down from 15" of snow with 3.0" of water content last month. The new Jack Wade Junction SNOTEL, near the junction of the Taylor and the Top-of-the-World Highways, has 34 inches of snow and 7.6 inches of water content, a gain of 1" and 0.6" of water content over the month.

The Porcupine basin snow courses, in the Yukon Territories, averaged 105% of normal, the same as last month. The Fort Yukon SNOTEL site 0.6" of precipitation during the month, 0.1" above normal. The snow course in Fort Yukon was measured with 26" of snow and 4.6" of water content, 128% of normal and a gain of 1" of water content since last month.

# Central Yukon Basin

## Snowpack Data

| Site Name          | Elev. | Date             | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|--------------------|-------|------------------|------------|---------------|------------|---------------|------------------|---------------|
|                    |       |                  | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| American Creek     | 1050  | 4/1/2016         | 15         | 3.9           | 21         | 4.2           | ---              | ---           |
| Atigun Pass        | 4800  | 4/1/2016         | 53         | ---           | 38         | ---           | ---              | ---           |
| Borealis           | 1330  | 3/31/2016        | 27         | 5.7*          | 23         | 5.0           | 25               | 4.8           |
| Boundary           | 3500  | 3/30/2016        | 30         | 6.5           | 22         | 4.6           | 26               | 5.3           |
| Cathedral Creek    | 1800  | 3/31/2016        | 21         | 5.7*          | 22         | 6.6           | ---              | ---           |
| Chicken Airstrip   | 1650  | 3/30/2016        | 15         | 3.0           | 12         | 2.4           | 16               | 3.2           |
| Circle City        | 600   | <i>No Survey</i> | ---        | ---           | ---        | ---           | 25               | 4.3           |
| Circle Hot Springs | 860   | 3/30/2016        | 20         | 3.6           | 22         | 4.4           | 24               | 4.1           |
| Coal Creek         | 1000  | 3/31/2016        | 16         | 2.7           | 23         | 5.0           | ---              | ---           |
| Copper Creek       | 2000  | 3/31/2016        | 10         | 2.4*          | 35         | 8.7           | ---              | ---           |
| Crescent Creek     | 2600  | 3/31/2016        | 17         | 4.6*          | 15         | 3.8           | ---              | ---           |
| Eagle Summit       | 3650  | 4/1/2016         | 27         | ---           | 16         | ---           | ---              | ---           |
| Fort Yukon         | 430   | 4/1/2016         | 20         | ---           | 15         | ---           | ---              | ---           |
| Fort Yukon         | 430   | 3/31/2016        | 26         | 4.6           | 19         | 3.2           | 20               | 3.6           |
| Fossil             | 1400  | 3/31/2016        | 26         | 5.2           | 23         | 5.3           | 24               | 4.8           |
| Galena             | 128   | 4/7/2016         | 24         | 5.0           | New course |               |                  |               |
| Graphite Lake      | 600   | <i>No Survey</i> | ---        | ---           | 18         | 3.5           | ---              | ---           |
| Hess Creek         | 1000  | 3/29/2016        | 24         | 5.0           | 24         | 5.2           | 26               | 5.0           |
| Jack Wade Jct      | 3585  | 4/1/2016         | 34         | 7.6           | ---        | ---           | ---              | ---           |
| Lost Chicken Hill  | 2150  | 3/30/2016        | 20         | 4.0           | 14         | 2.5           | 18               | 4.0           |
| Lower Beaver Creek | 400   | <i>No Survey</i> | ---        | ---           | 25         | 4.9           | ---              | ---           |
| Mission Creek      | 900   | 4/1/2016         | 6          | 2.0*          | ---        | ---           | 18               | 3.8           |
| Mt. Fairplay       | 3100  | 3/29/2016        | 21         | 4.0           | 17         | 4.0           | 21               | 4.6           |
| Old Crow           | 980   | 3/30/2016        | 31         | 5.7           | 35         | 7.5           | 24               | 4.4           |
| Ptarmigan Creek    | 2270  | 3/30/2016        | 23         | 4.4           | 22         | 4.2           | 24               | 4.4           |
| Seven Mile         | 600   | 3/29/2016        | 27         | 5.2*          | 23         | 4.9           | 26               | 4.9           |
| Stack Pup Creek    | 1620  | 3/30/2016        | 20         | 3.1           | 23         | 4.3           | 25               | 4.0           |
| Step Mountain      | 2850  | <i>No Survey</i> | ---        | ---           | 28         | 6.8           | ---              | ---           |
| Thirty Mile        | 1350  | 3/29/2016        | 29         | 6.5           | 26         | 6.3           | 34               | 7.6           |
| Three Fingers      | 3350  | 3/31/2016        | 34         | 7.1*          | 32         | 7.6           | ---              | ---           |
| Upper Nome Creek   | 2520  | 4/1/2016         | 28         | 6.7*          | 29         | ---           | ---              | ---           |
| Vunzik Lake        | 500   | <i>No Survey</i> | ---        | ---           | 18         | 3.4           | ---              | ---           |
| Windy Gap          | 1900  | 3/28/2016        | 28         | 6.5           | 28         | 7.3           | 26               | 5.7           |
| Wolf               | 1200  | 3/28/2016        | 22         | 5.3*          | 20         | 4.6           | 23               | 4.2           |

\*Estimate

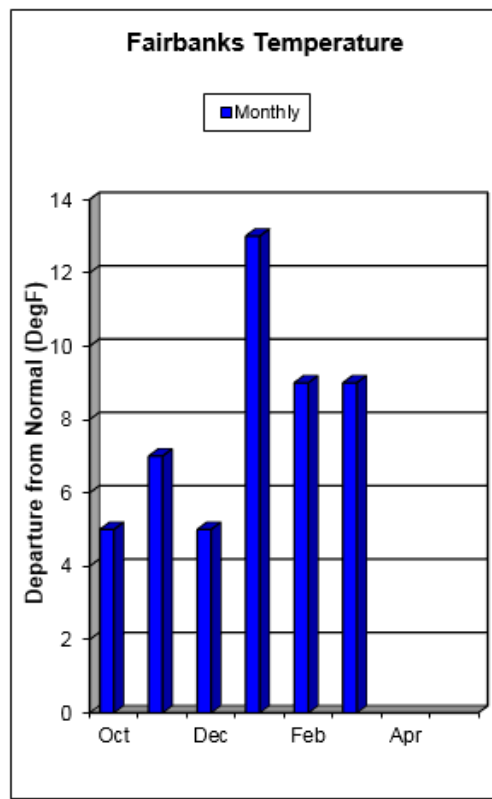
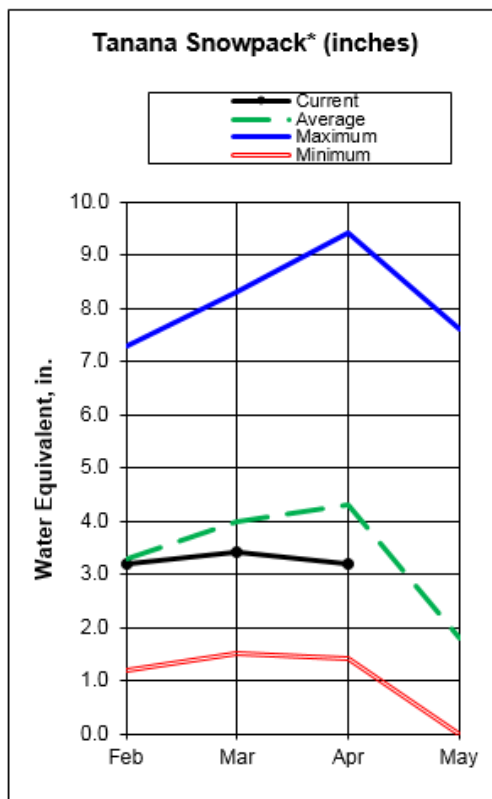
## Streamflow Forecasts

| Forecast Point                     | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|------------------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Porcupine River near Intl Boundary | Apr- Jul        | 96           | 139        | 66         | 5400                 | 5640               |
| Yukon River near Stevens Village   | Apr- Jul        | 100          | 112        | 87         | 47900                | 48100              |

## Precipitation

| Site Name        | Elev. | Inches Accumulated since October 1st |           |                  |             |
|------------------|-------|--------------------------------------|-----------|------------------|-------------|
|                  |       | This Year                            | Last Year | 1981-2010 Normal | % of Normal |
| American Creek   | 1050  | 3.5                                  | 4.2       | ---              | ---         |
| Atigun Pass      | 4800  | 4.4                                  | 4.3       | 5.6              | 79%         |
| Chandalar Camp   | 3300  | 3.9                                  | 5.2       | 4.5              | 87%         |
| Eagle Summit     | 3650  | 5.7                                  | 5.4       | 5.3              | 108%        |
| Fort Yukon       | 430   | 3.4                                  | 2.9       | 3.6              | 94%         |
| Jack Wade Jct    | 3585  | 6.2                                  | ---       | ---              | ---         |
| Upper Nome Creek | 2520  | 5.2                                  | 6.1       | 5.2              | 100%        |

# Tanana Basin



## Snow pack

A drier than normal March, coupled with warmer than normal temperatures, did little to invigorate the snowpack in the Tanana Basin. The 27 sites in the basin average 88% of normal snowpack, ranging from 41% of normal at the Shaw Creek Flats snow course to 153% of normal at the Rock Creek Ridge snow course above the Denali Park headquarters.

Warm temperatures helped ripen the snowpack and started melting out several of the valley floor sites, from Tok to Fairbanks. Shaw Creek Flats and Tok Junction snow courses both lost 0.6" of water content during a month in which they usually gain 0.5". This is the least snow Tok has had in April since 1970. Colorado Creek snow course, on the banks for the Chena River, lost 1.2" of water content during March, the most water content it's lost during March in its 51 year record.

The upper valley above Tok averaged 67% of normal, down from 79% of normal last month. The snow courses near Delta Junction averaged 79% of normal, down from 84% last month. The Tok SCAN site received 0.2" of precipitation over the month.

Like last month, the snowpack has more vigor in the lower basin, though precipitation was only near half normal. The seven measured sites in the Chena Valley average 102% of normal, ranging from 72% of normal at Colorado Creek to 122% of normal at Mt. Ryan SNOTEL.

The basin below Fairbanks shows similar trends, with robust snowpacks in the mountains and waning snowpacks in the valley floors. Fairbanks FO SNOTEL site gained 0.1" during the month, but has started to melt out and is only 85% of normal snow water content. Rock Creek Ridge SNOTEL above the Denali National Park headquarters, in contrast, has 26" of snow and 6.1" of water content, 153% of normal. However, even these higher snowpacks are starting to become ripe for melt out.

# Tanana Basin

## Snowpack Data

| Site Name           | Elev. | Date             | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|---------------------|-------|------------------|------------|---------------|------------|---------------|------------------|---------------|
|                     |       |                  | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Bonanza Creek       | 1150  | 3/31/2016        | 20         | 5.5           | 18         | 4.5           | 21               | 4.0           |
| Caribou Creek       | 1250  | 3/30/2016        | 8          | 2.5           | 13         | 3.1           | 20               | 3.8           |
| Caribou Snow Pillow | 900   | 3/30/2016        | 13         | 4.0           | 17         | 4.0           | 20               | 3.9           |
| Chisana             | 3320  | 4/1/2016         | 10         | 3.0           | 13         | 2.7           | ---              | 4.6           |
| Cleary Summit       | 2230  | 3/30/2016        | 30         | 6.3           | 31         | 6.6           | 28               | 5.2           |
| Colorado Creek      | 700   | 4/1/2016         | 11         | 2.6           | 22         | 4.8           | 20               | 3.6           |
| Fairbanks F.O.      | 450   | 4/1/2016         | 10         | 2.8           | 16         | 3.2           | ---              | 3.3           |
| Faith Creek         | 1750  | 3/30/2016        | 20         | 3.9           | 26         | 5.3           | 26               | 4.8           |
| Fielding Lake       | 3000  | 3/30/2016        | 40         | 10.3          | 37         | 9.2           | 40               | 9.9           |
| Fort Greely         | 1500  | 3/30/2016        | 9          | 2.1           | 16         | 3.7           | 17               | 3.2           |
| French Creek        | 1800  | 3/31/2016        | 20         | 4.9           | 25         | 5.8           | 24               | 5.2           |
| Gerstle River       | 1200  | 3/30/2016        | 6          | 1.4           | 16         | 2.9           | 17               | 3.1           |
| Gold King           | 1700  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 19               | 3.6           |
| Granite Crk         | 1240  | 4/1/2016         | 8          | 2.8           | 18         | 4.4           | ---              | 3.8           |
| Jatahmund Lake      | 2180  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 18               | 3.0           |
| Kantishna           | 1550  | 4/1/2016         | 24         | 4.6*          | 22         | 4.3           | 26               | 5.1           |
| Lake Minchumina     | 730   | <i>No Survey</i> | ---        | ---           | 16         | 2.8           | 20               | 3.8           |
| Lost Creek          | 3030  | 4/1/2016         | 13         | 2.6           | 12         | 2.9           | 18               | 3.7           |
| Mentasta Pass       | 2430  | 3/31/2016        | 21         | 4.9           | 18         | 4.0           | 27               | 6.2           |
| Monument Creek      | 1850  | 4/1/2016         | 15         | 4.7           | 25         | 6.2           | ---              | 4.6           |
| Mt. Ryan            | 2800  | 4/1/2016         | 22         | 6.2           | 29         | 6.0           | ---              | 5.1           |
| Munson Ridge        | 3100  | 4/1/2016         | 33         | 7.4           | 36         | 8.9           | ---              | 6.8           |
| Paradise Hill       | 2200  | 4/1/2016         | 6          | 1.5           | 10         | 1.9           | 17               | 3.6           |
| Ptarmigan Airstrip  | 2400  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 16               | 3.6           |
| Rock Creek Bottom   | 2250  | 3/29/2016        | 22         | 4.9           | ---        | ---           | 18               | 3.9           |
| Rock Creek Ridge    | 2600  | 3/29/2016        | 26         | 6.1           | ---        | ---           | 19               | 4.0           |
| Shaw Creek Flats    | 980   | 3/31/2016        | 5          | 1.2           | 12         | 2.2           | 14               | 2.9           |
| Teuchet Creek       | 1640  | 4/1/2016         | 10         | 3.7           | 18         | 4.9           | ---              | 3.8           |
| Tok Junction        | 1650  | 3/31/2016        | 7          | 1.6           | 17         | 3.0           | 20               | 3.5           |
| Upper Wood River    | 2990  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 22               | 4.8           |

\*Estimate

## Streamflow Forecasts

| Forecast Point                    | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|-----------------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Salcha River near Salchaket       | Apr- Jul        | 75           | 108        | 48         | 470                  | 625                |
| Tanana River at Fairbanks         | Apr- Jul        | 80           | 93         | 68         | 6000                 | 7460               |
| Chena River near Two Rivers       | Apr- Jul        | 94           | 137        | 51         | 255                  | 270                |
| Little Chena River near Fairbanks | Apr- Jul        | 88           | 124        | 53         | 69                   | 78                 |
| Tanana River at Nenana            | Apr- Jul        | 79           | 92         | 66         | 7090                 | 9000               |

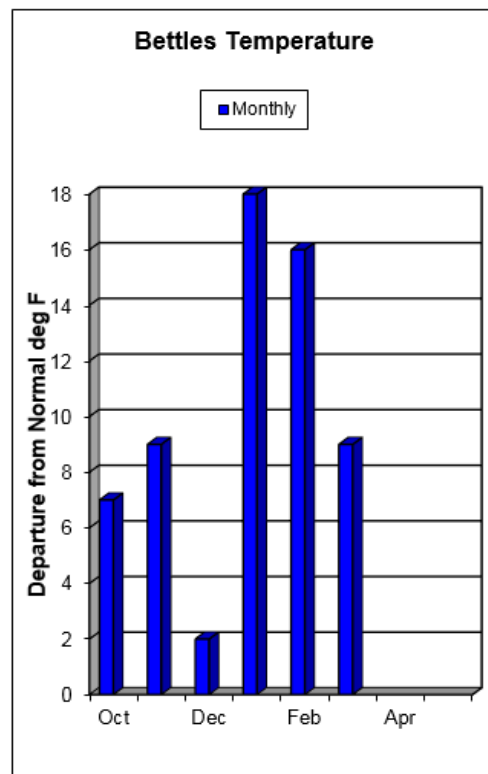
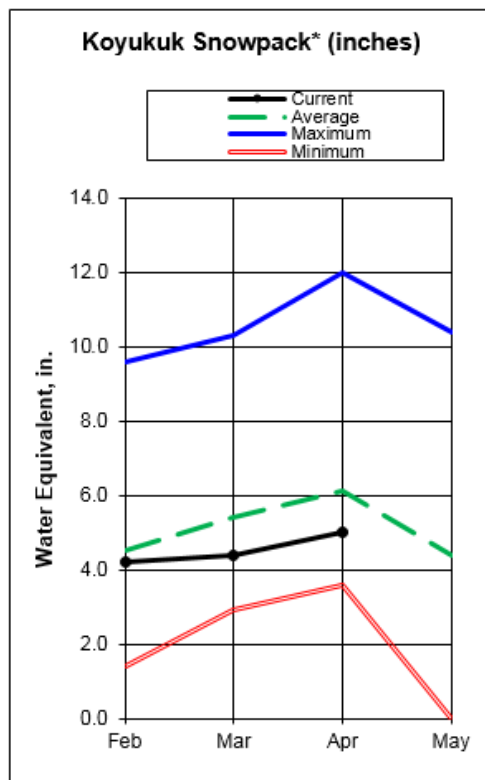
## Precipitation

Inches Accumulated since October 1st

| Site Name          | Elev. | This Year | Last Year | 1981-2010 Normal | % of Normal |
|--------------------|-------|-----------|-----------|------------------|-------------|
| Chisana            | 3320  | 3.2       | 2.7       | ---              | ---         |
| Fairbanks F.O.     | 450   | 3.9       | 3.3       | 4.5              | 87%         |
| Granite Crk        | 1240  | 2.1       | 4.2       | 4.1              | 51%         |
| Kantishna          | 1550  | 5.0       | 4.3       | 4.6              | 109%        |
| Little Chena Ridge | 2000  | 3.8       | 4.1       | 5.4              | 70%         |
| Nenana             | 415   | 3.0       | 3.2       | ---              | ---         |
| Tok                | 1630  | 2.4       | 3.3       | ---              | ---         |
| Upper Chena        | 2850  | 5.4       | 6.9       | 6.7              | 81%         |



## Western Interior Basins



### Snow pack

#### Koyukuk

The Koyukuk basin received below normal precipitation during March and had above normal temperatures. Yet, most sites made gains during the month. Portions of the basin are near normal, while other portions are below normal. Lake Todatenten snow course was measured with 29" of snow and 5.9" of water content, 109% of normal. Coldfoot SNOTEL gained 3" of snowdepth and 0.5" of water content during the month and is 92% of normal.

#### Kuskokwim

The measured snowpack in the headwater regions of the Kuskokwim has dropped to below normal. It is likely, however that higher elevation sites are closer to, and may even be above, normal. Telaquana Lake SNOTEL lost 4" of snow depth and 1.4" water content over March. Downriver, the Aniak SCAN site gained 2" of snow over the month for a total of 13" and received 0.9" of precipitation over the month.

#### Lower Yukon

The lower Yukon area received minor precipitation during March. The Innoko Camp SCAN measured 0.2" of precipitation for the month. It gained 2" of snow over the month for a total of 20" of snowdepth. The snowpack in this region either made slight gains or losses during the month. The Tozikaket snow course had 20" of snow and 4.0" of water content, 95% of normal. Further downriver, the Galena snow course had 24" of snow and 5.0" of water content.

# Western Interior Basins

## Snowpack Data

| Site Name             | Elev. | Date      | This Year  |                    | Last Year  |                    | 1981-2010 Normal |                    |
|-----------------------|-------|-----------|------------|--------------------|------------|--------------------|------------------|--------------------|
|                       |       |           | Snow Depth | Water Con-<br>tent | Snow Depth | Water Con-<br>tent | Snow Depth       | Water Con-<br>tent |
| Koyukuk               |       |           |            |                    |            |                    |                  |                    |
| Bettles Field         | 640   | 4/1/2016  | 31         | 5.3                | 22         | 4.9                | ---              | 6.4                |
| Bonanza Forks         | 1200  | 3/29/2016 | 15         | 3.1*               | 18         | 4.4                | 26               | 5.2                |
| Cloverleaf            | 170   | 4/1/2016  | 26         | 5.4*               | 25         | 5.1                | ---              | ---                |
| Coldfoot              | 1040  | 4/1/2016  | 29         | 5.9                | 24         | 5.5                | ---              | 6.4                |
| Colville Bend         | 170   | 4/1/2016  | 26         | 5.3*               | 30         | 6.5                | ---              | ---                |
| Disaster Creek        | 1550  | 3/30/2016 | 22         | 4.2*               | 22         | 5.0                | 22               | 4.0                |
| Gobblers Knob         | 2030  | 4/1/2016  | 0          | 0.0                | 0          | 0.0                | ---              | ---                |
| Hozatka Lake          | 206   | 4/1/2016  | 27         | 5.1*               | ---        | ---                | ---              | ---                |
| Huggins Creek         | 290   | 4/1/2016  | 24         | 4.7*               | 31         | 6.9                | ---              | ---                |
| Jr Slough             | 160   | 4/1/2016  | 26         | 5.1*               | 25         | 5.4                | ---              | ---                |
| Kaldoyeit             | 750   | No Survey | ---        | ---                | 34         | 7.1                | 21               | 4.2                |
| Kanuti Chalatna       | 670   | No Survey | ---        | ---                | 22         | 5.3                | 26               | 5.3                |
| Kanuti Kilolitna      | 550   | No Survey | ---        | ---                | 9          | 2.3                | 22               | 4.0                |
| Kanuti Lake           | 524   | 4/1/2016  | 21         | 3.7*               | ---        | ---                | ---              | ---                |
| Lake Todatonten       | 550   | 4/1/2016  | 29         | 5.9*               | 18         | 4.0                | 29               | 5.4                |
| Minnkokut             | 580   | No Survey | ---        | ---                | 24         | 5.6                | 34               | 6.6                |
| Nolitna               | 560   | No Survey | ---        | ---                | 12         | 2.9                | 25               | 5.3                |
| Table Mountain        | 2200  | 3/30/2016 | 24         | 4.7                | 24         | 5.2                | 23               | 4.0                |
| Taiholman             | 540   | No Survey | ---        | ---                | ---        | ---                | 4                | 1.0                |
| Treat Island          | 190   | 4/1/2016  | 17         | 3.5*               | 30         | 6.0                | ---              | ---                |
| Kuskokwim             |       |           |            |                    |            |                    |                  |                    |
| Aniak                 | 80    | 4/1/2016  | 13         | 3.6*               | 2          | ---                | ---              | ---                |
| Canyon Lake           | 550   | 4/1/2016  | 7          | ---                | 0          | ---                | ---              | ---                |
| Mcgrath               | 340   | 4/1/2016  | 28         | 6.3*               | 7          | 2.1                | 27               | 5.6                |
| Purkeypile Mine       | 2025  | 3/31/2016 | 20         | 4.4                | 19         | 3.9                | 26               | 5.4                |
| Telaquana Lake        | 1550  | No Survey | ---        | ---                | 0          | 0.0                | 20               | 4.6                |
| Telaquana Lake SNOTEL | 1275  | 4/1/2016  | 13         | 4.2                | 0          | 0.0                | ---              | ---                |
| Lower Yukon           |       |           |            |                    |            |                    |                  |                    |
| Bullfrog              | 100   | 4/4/2016  | 27         | 5.6*               | New Marker |                    | ---              | ---                |
| Deer Creek            | 195   | 4/3/2016  | 33         | 6.9*               | 24         | 5.4                | ---              | ---                |
| Grouch Creek          | 220   | No Survey | ---        | ---                | ---        | ---                | 34               | 7.6                |
| Holikachuk            | 100   | No Survey | ---        | ---                | ---        | ---                | 37               | 8.2                |
| Horsefly Creek        | 180   | No Survey | ---        | ---                | ---        | ---                | 28               | 6.5                |
| Innoko Camp           | 83    | 4/1/2016  | 20         | 5.3*               | ---        | ---                | ---              | ---                |
| Innoko Inn            | 200   | No Survey | ---        | ---                | ---        | ---                | 24               | 4.4                |
| Little Mud River      | 855   | 4/3/2016  | 21         | 4.6*               | 15         | 3.6                | ---              | ---                |
| Lower Nowitna River   | 205   | 4/3/2016  | 24         | 4.9*               | 24         | 5.2                | ---              | ---                |
| Menotl Creek          | 380   | No Survey | ---        | ---                | ---        | ---                | 40               | 9.0                |
| Middle Innoko         | 150   | 4/1/2016  | 25         | 5.3*               | ---        | ---                | 34               | 7.7                |
| Ninemile Island       | 140   | 4/1/2016  | 28         | 5.5*               | 25         | 5.3                | ---              | ---                |
| Pike Trap Lake        | 130   | No Survey | ---        | ---                | 6          | 1.5                | ---              | ---                |
| Squirrel Creek        | 150   | 4/1/2016  | 36         | 7.8*               | 29         | 6.2                | ---              | ---                |
| Tozikaket             | 600   | 4/1/2016  | 20         | 4.0*               | 17         | 3.8                | 23               | 4.2                |
| Upper Innoko          | 180   | 4/1/2016  | 16         | 4.3*               | ---        | ---                | 32               | 7.4                |
| Wapoo Hills           | 220   | 4/1/2016  | 34         | 8.5*               | 31         | 6.6                | 36               | 7.7                |
| Yankee Slough         | 100   | 4/1/2016  | 32         | 6.9*               | 29         | 6.7                | 41               | 9.4                |
| Yetna River           | 120   | No Survey | ---        | ---                | ---        | ---                | 31               | 7.0                |

\*Estimate

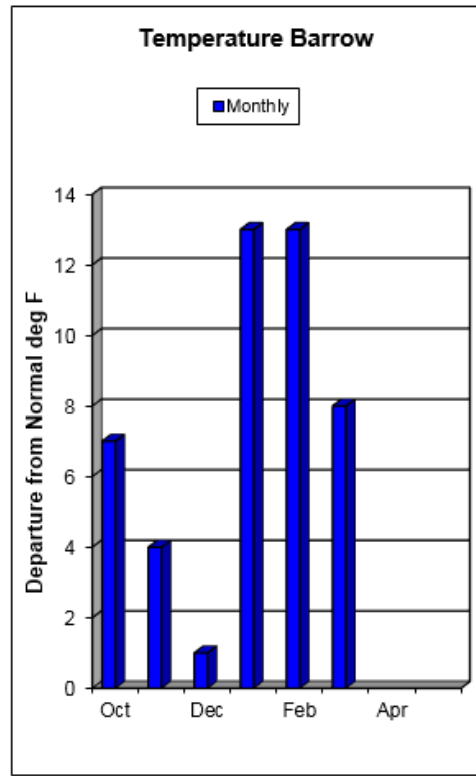
## Streamflow Forecasts

| Forecast Point                   | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|----------------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Kuskokwim River at Crooked Creek | Apr- Jul        | 101          | 126        | 76         | 10600                | 10500              |

## Precipitation

| Inches Accumulated since October 1st |       |           |           |                  |             |
|--------------------------------------|-------|-----------|-----------|------------------|-------------|
| Site Name                            | Elev. | This Year | Last Year | 1981-2010 Normal | % of Normal |
| Koyukuk                              |       |           |           |                  |             |
| Bettles Field                        | 640   | 5.9       | 3.7       | 6.7              | 88%         |
| Coldfoot                             | 1040  | 5.1       | 4.2       | 6.3              | 81%         |
| Gobblers Knob                        | 2030  | 4.7       | 4.9       | 6.8              | 69%         |
| Hozatka Lake                         | 206   | 3.6       | 5.6       | ---              | ---         |
| Kuskokwim                            |       |           |           |                  |             |
| Aniak                                | 80    | 7.6       | 5.8       | ---              | ---         |
| Telaquana Lake                       | 1275  | 8.3       | 3.0       | ---              | ---         |
| Lower Yukon                          |       |           |           |                  |             |
| Innoko Camp                          | 83    | 7.2       | 4.7       | ---              | ---         |

## Arctic and Kotzebue Sound



### Snow pack

#### Arctic

The Arctic had near normal precipitation during March. The Umiat snow course was measured earlier than normal this year, but appears to have slightly below normal snowpack.

#### Kotzebue

The Koztebue Sound area received very little precipitation during March. Kelly Station SNOTEL, on the Noatak River, received no new snow during the month and the Kotzebue weather station gained 3 inches of snow and 0.2" of precipitation.

# Arctic and Kotzebue Sound

## Snowpack Data

| Site Name      | Elev. | Date      | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|----------------|-------|-----------|------------|---------------|------------|---------------|------------------|---------------|
|                |       |           | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Atigun Pass    | 4800  | 4/1/2016  | 53         | ---           | 38         | ---           | ---              | ---           |
| Imnaviat Creek | 3050  | 4/1/2016  | 21         | ---           | 34         | ---           | ---              | ---           |
| Kelly Station  | 310   | 4/1/2016  | 20         | 2.9*          | 27         | 5.9           | ---              | ---           |
| Prudhoe Bay    | 30    | 4/1/2016  | 6          | ---           | 20         | ---           | ---              | ---           |
| Sagwon         | 1000  | 4/1/2016  | 20         | ---           | 17         | ---           | ---              | ---           |
| Umiat          | 267   | 3/14/2016 | 16         | 2.9           | ---        | ---           | ---              | ---           |

\*Estimate

## Streamflow Forecasts

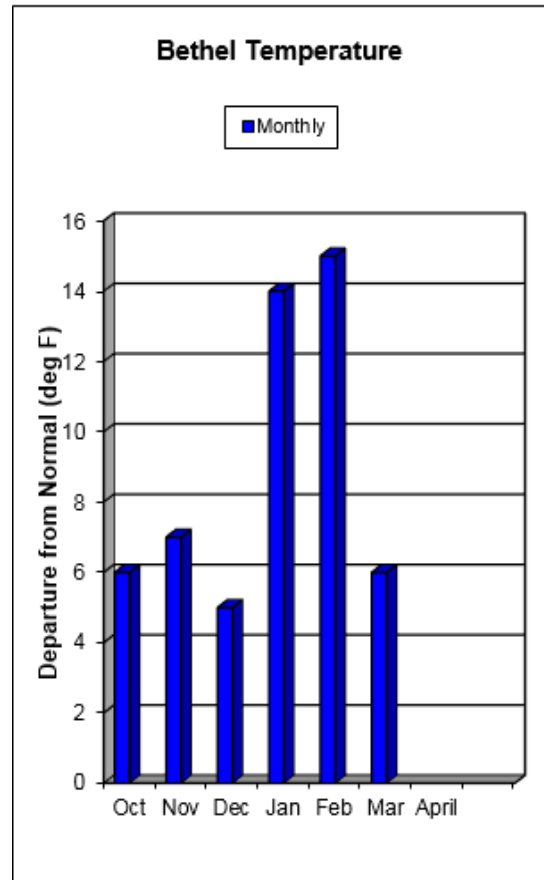
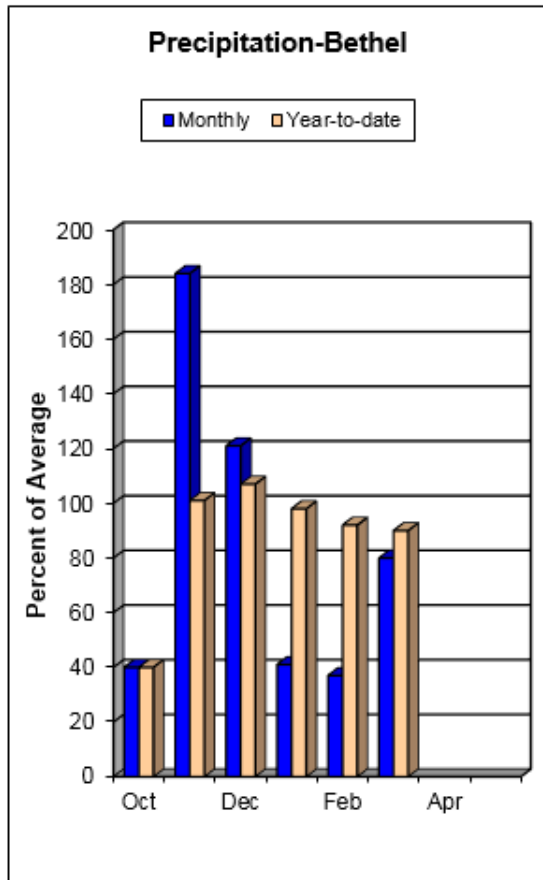
| Forecast Point                          | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|-----------------------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Kuparuk River near Deadhorse            | Apr-Jul         | 89           | 121        | 58         | 710                  | 796                |
|                                         | May-Jul         | 82           | 116        | 57         | 650                  | 795                |
| Sagavanirktok River near Pump Station 3 | Apr-Jul         | 96           | 115        | 77         | 660                  | 684                |
|                                         | May-Jul         | 92           | 135        | 62         | 630                  | 683                |

## Precipitation

Inches Accumulated since October 1st

| Site Name             | Elev. | This Year | Last Year | 1981-2010 Normal | % of Normal |
|-----------------------|-------|-----------|-----------|------------------|-------------|
| <b>Arctic</b>         |       |           |           |                  |             |
| Atigun Camp           | 3400  | 2.3       | 2.7       | 2.5              | 92%         |
| Atigun Pass           | 4800  | 4.4       | 4.3       | 5.6              | 79%         |
| Imnaviat Creek        | 3050  | 1.7       | 3.7       | 2.9              | 59%         |
| Prudhoe Bay           | 30    | 1.2       | 2.7       | 3.5              | 34%         |
| Sagwon                | 1000  | 2.4       | 2.9       | 3.0              | 80%         |
| <b>Kotzebue Sound</b> |       |           |           |                  |             |
| Port Red Dog          | 50    | No Survey | No Survey | 3.5              | ---         |
| Red Dog Mine          | 950   | No Survey | No Survey | 4.3              | ---         |
| Kelly Station         | 310   | 3.6       | 5.2       |                  |             |

## Norton Sound/Y-K Delta/Bristol Bay



### Snow pack

#### Norton Sound

For the second month in a row, the Norton Sound area received less than half of its normal precipitation, a mere pittance of 0.1" in several locations. Still the snowpack in the area made slight gains. Rocky Point gained an additional 1" of snow depth for a total of 24". The new Unalakleet SCAN site, located outside of town at 310 feet of elevation, had a skiff of snow and did catch 0.3" of precipitation for the month.

#### Yukon Kuskokwim Delta

Snowpack made gains in the Y-K Delta during March. The Kanaryagak Camp SCAN site, located south-east of Chevak, gained 4" of snow for a total of 17" of snow depth.

#### Bristol Bay

Snow continues to be low in the Bristol Bay basin. Many low lying areas continue to be snow free with several areas melting out to join them. This area received healthy precipitation during the month, but it doesn't seem to have contributed to the snowpack in most areas. Weary Lake SCAN, 20 miles northwest of Dillingham, gained 4.2" of precipitation during March, but was melted out by the end of the month.

# Norton Sound/Y-K Delta/Bristol Bay

## Snowpack Data

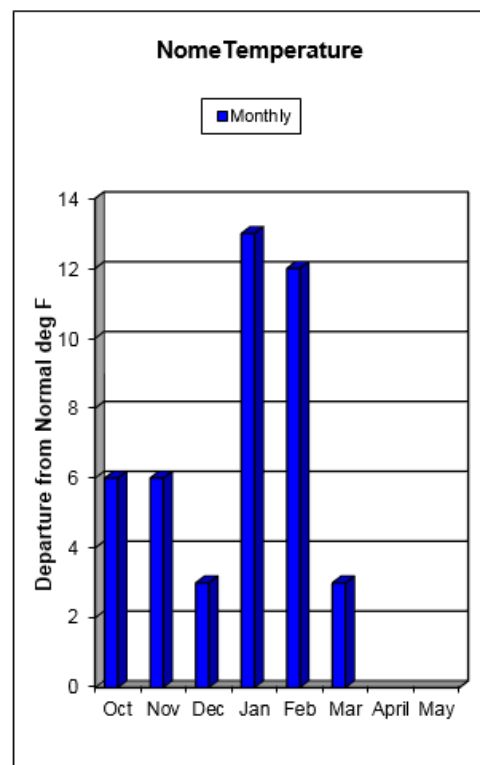
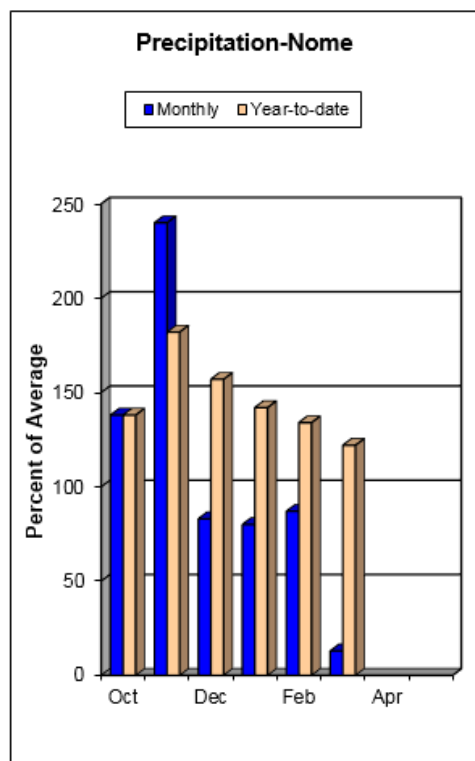
| <u>Snowpack Data</u>         |       |           | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|------------------------------|-------|-----------|------------|---------------|------------|---------------|------------------|---------------|
| Site Name                    | Elev. | Date      | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| <b>Bristol Bay</b>           |       |           |            |               |            |               |                  |               |
| Brooks Camp                  | 150   | No Survey | ---        | ---           | 0          | 0.0           | ---              | ---           |
| Canyon Lake                  | 550   | 4/1/2016  | 7          | ---           | 0          | ---           | ---              | ---           |
| Fishtrap Lake                | 1800  | No Survey | ---        | ---           | ---        | ---           | 37               | 9.5           |
| Lower Mulchatna              | 320   | 4/1/2016  | 1          |               | 1          | ---           | ---              | ---           |
| Naknek River                 | 100   | 4/1/2016  | 0          | 0.0           | 0          | ---           | ---              | ---           |
| Port Alsworth                | 270   | 4/1/2016  | 0          | 0.0           | 0          | 0.0           | 10               | 3.3           |
| Three Forks                  | 1300  | No Survey | ---        | ---           | 1          | 0.1           | ---              | ---           |
| Upper Twin Lakes             | 2000  | No Survey | ---        | ---           | ---        | ---           | 25               | 6.8           |
| Weary Lake                   | 100   | 4/1/2016  | 0          | 0.0           | 1          | ---           | ---              | ---           |
| <b>Norton Sound</b>          |       |           |            |               |            |               |                  |               |
| Checkers Creek               | 326   | 4/1/2016  | 10         | 1.8*          | 7          | ---           | ---              | ---           |
| Johnsons Camp                | 25    | 4/1/2016  | 9          | ---           | ---        | ---           | ---              | ---           |
| Pargon Creek                 | 100   | 4/1/2016  | 14         | 3.4*          | 12         | ---           | ---              | ---           |
| Rocky Point                  | 250   | 4/1/2016  | 24         | 5.0*          | 16         | ---           | ---              | ---           |
| Unalakleet                   | 290   | 4/1/2016  | 1          | 0.2*          | ---        | ---           | ---              | ---           |
| <b>Yukon-Kuskokwim Delta</b> |       |           |            |               |            |               |                  |               |
| Kanaryagak Camp              | 13    | 4/1/2016  | 17         | ---           | 7          | ---           | ---              | ---           |

\*Estimate

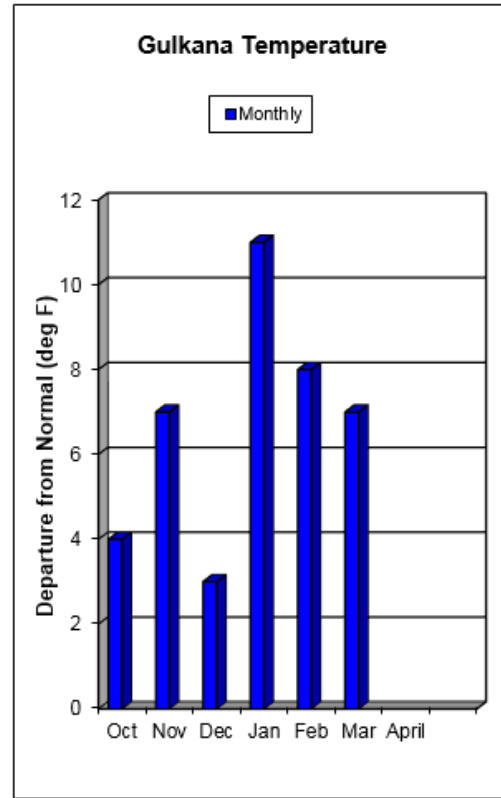
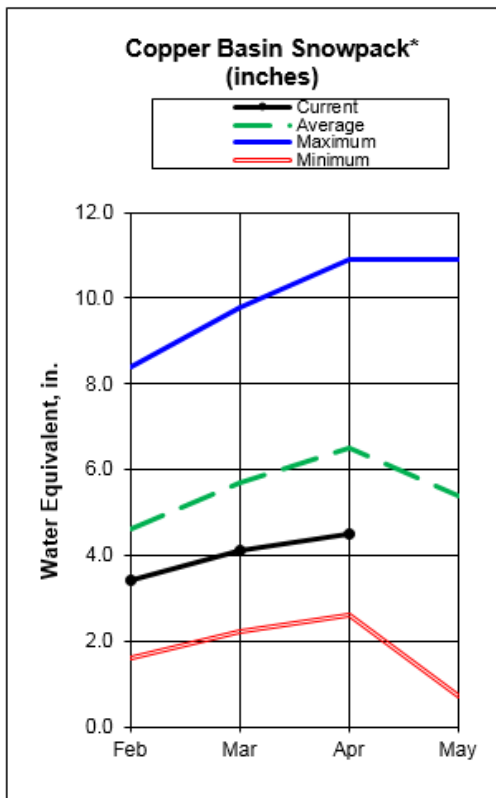
## Precipitation

Inches Accumulated since October 1st

| Site Name                      | Elev. | This Year | Last Year | 1981-2010 Normal | % of Normal |
|--------------------------------|-------|-----------|-----------|------------------|-------------|
| <b>Bristol Bay</b>             |       |           |           |                  |             |
| Lower Mulchatna                | 320   | 10.9      | 6.9       | ---              | ---         |
| Naknek River                   | 100   | 12.1      | 6.4       | ---              | ---         |
| Weary Lake                     | 100   | 36.0      | 34.0      | ---              | ---         |
| <b>Norton Sound</b>            |       |           |           |                  |             |
| Checkers Creek                 | 326   | 2.5       | 1.8       | ---              | ---         |
| Pargon Creek                   | 100   | 7.2       | ---       | 5.9              | 122%        |
| Rocky Point                    | 250   | 5.7       | 3.5       | 5.4              | 106%        |
| Unalakleet                     | 290   | 2.9       | ---       | ---              | ---         |
| <b>Yukon - Kuskokwim Delta</b> |       |           |           |                  |             |
| Kanaryagak Camp                | 13    | 4.0       | 3.2       | ---              | ---         |



# Copper Basin



## Snow pack

Precipitation in the Copper Valley was generally below normal for March and temperatures were above normal. Many shallower snowpacks on the valley floor started melting out. Snowpack across the basin was below normal except for in the Chugach Mountains near Thompson Pass.

The most anemic area of the basin is the Wrangell Mountains. The four sites measured here averaged just 38% of normal. Chokosna snow course had melted out, the first for an April 1 reading in its 23 year record.

The basin floor snowpack was well below normal, with its seven sites averaging 57% of normal. On the western side of the basin, Little Nelchina snow course had 13" of snow and 2.9" of water content, 53% of normal and a new 28 year record low. Kenny Lake School snow course set a new 36 year record low with 4" of snow and 1.5" of water content which is 42% of normal.

The snowpack is better near the Alaska Range. The four sites in this area average 84% of normal and each gained water content during the month.

The Chugach Range is the only portion of the basin with normal snowpack. The five measured sites averaged 99% of normal. Worthington Glacier snow course has 76" of snow and 28.0" of water content, 114% of normal.



# Copper Basin

## Snowpack Data

| Site Name           | Elev. | Date      | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|---------------------|-------|-----------|------------|---------------|------------|---------------|------------------|---------------|
|                     |       |           | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Chistochina         | 1950  | 3/31/2016 | 10         | 2.4           | 17         | 3.7           | 20               | 3.5           |
| Chokosna            | 1550  | 3/30/2016 | 0          | 0.0           | 16         | 5.2           | 15               | 3.8           |
| Copper Center       | 1264  | 3/29/2016 | 14         | 3.5           | 21         | 5.2           | ---              | ---           |
| Dadina Lake         | 2160  | 4/3/2016  | 18         | 3.5           | 26         | 5.5           | 28               | 6.3           |
| Fielding Lake       | 3000  | 3/30/2016 | 40         | 10.3          | 37         | 9.2           | 40               | 9.9           |
| Haggard Creek       | 2540  | 3/31/2016 | 18         | 3.6*          | 26         | 5.5           | 28               | 5.5           |
| Kenny Lake School   | 1300  | 3/31/2016 | 4          | 1.5           | 16         | 4.2           | 16               | 3.6           |
| Little Nelchina     | 2650  | 3/31/2016 | 13         | 2.9           | 17         | 3.8           | 26               | 5.2           |
| Long Glacier        | 4820  | No Survey | ---        | ---           | 33         | 10.9          | ---              | ---           |
| Lost Creek          | 3030  | 4/1/2016  | 13         | 2.6           | 12         | 2.9           | 18               | 3.7           |
| May Creek           | 1610  | 4/1/2016  | 9          | 2.9           | 17         | 4.6           | ---              | 5.5           |
| Mentasta Pass       | 2430  | 3/31/2016 | 21         | 4.9           | 18         | 4.0           | 27               | 6.2           |
| Monsoon Lake        | 3100  | 4/3/2016  | 21         | 4.5*          | 22         | 5.5           | 30               | 6.4           |
| Notch               | 2643  | 3/31/2016 | 6          | 1.5*          | 3          | 0.8           | ---              | ---           |
| Paxson              | 2650  | 3/31/2016 | 24         | 5.0           | 31         | 7.0           | 31               | 6.9           |
| Sanford River       | 2280  | 4/3/2016  | 9          | 1.7           | 25         | 5.6           | 28               | 6.0           |
| St. Anne Lake       | 1990  | 4/3/2016  | 19         | 3.8*          | 24         | 5.0           | 23               | 4.8           |
| Tazlina             | 1250  | 3/31/2016 | 0          | 0.0           | 16         | 5.2           | 14               | 3.8           |
| Tebay Lake          | 1930  | 3/31/2016 | 67         | 20.2*         | 50         | 13.4          | ---              | ---           |
| Tolsona Creek       | 2000  | 3/31/2016 | 13         | 3.1           | 22         | 4.6           | 22               | 4.2           |
| Tsaina River        | 1650  | 3/31/2016 | 56         | 18.0          | 41         | 12.3          | 56               | 17.0          |
| Twin Lakes          | 2400  | 4/3/2016  | 10         | 1.9           | 16         | 4.3           | 26               | 6.4           |
| Upper Tsaina River  | 1750  | 4/1/2016  | 61         | 19.7          | 51         | 15.5          | ---              | 19.4          |
| Worthington Glacier | 2100  | 3/31/2016 | 76         | 28.0          | 56         | 17.8          | 75               | 24.6          |

\*Estimate

## Streamflow Forecasts

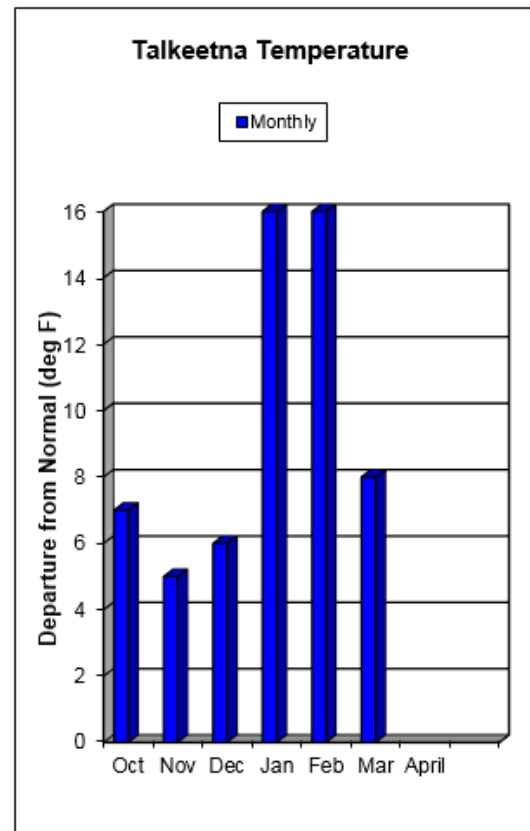
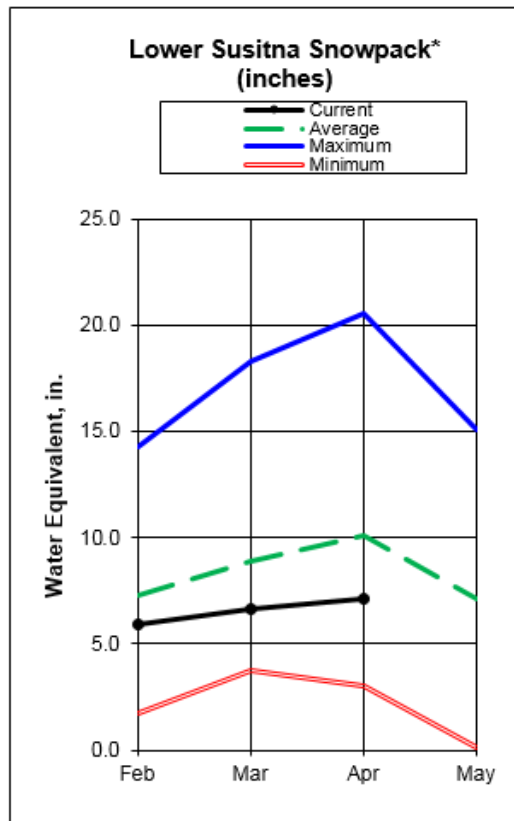
| Forecast Point             | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|----------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Gulkana River at Sourdough | Apr-Jul         | 86           | 122        | 52         | 380                  | 440                |

## Precipitation

Inches Accumulated since October 1st

| Site Name          | Elev. | This Year | Last Year | 1981-2010 Normal | % of Normal |
|--------------------|-------|-----------|-----------|------------------|-------------|
| May Creek          | 1610  | 7.1       | 5.3       | 6.1              | 116%        |
| Upper Tsaina River | 1750  | 25.8      | 21.6      | 27.0             | 96%         |

## Matanuska—Susitna Basin



### Snow pack

Like last month, the snowpack across the Matanuska and Susitna Basins varies from below to above normal. The basins received much above normal precipitation and above normal temperatures for the month. As a result, high snowpacks made gains and low snowpacks got wet.

The lower Susitna Basin snow courses dropped to an average of 77% of normal this month from 79% last month. The Willow Airstrip snow course with 16" of snow, lost two inches of snowdepth during the month, but gained an additional 0.3" of water content. Its 4.3" of water content make it 67% of normal. Su Valley High SNOTEL gained 3.4" of precipitation during the month, 243% of normal.

Like the last two months, the Upper Susitna Basin snowpack is above normal on the western side of the Talkeetnas and below normal on the eastern side of the Talkeetnas. Lake Louise was 65% of normal while East Fork of the Chulitna is 134% of normal. The Peters Hills were closer to normal and the 5 sites measured here were 101% of normal.

In the Matanuska Basin, the snowpack in the southern Talkeetna Mountains remains above normal. Independence Mine Snow Course gained 255% of normal precipitation during March. Independence Mine snow course jumped from 62 inches of snow with 22.3 inches of water content last month to 88 inches of snow and 27.8 inches of water content this month, 140% of normal.

# Matanuska—Susitna Basin

## Snowpack Data

| Site Name                | Elev. | Date             | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|--------------------------|-------|------------------|------------|---------------|------------|---------------|------------------|---------------|
|                          |       |                  | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Alexander Lake           | 160   | 3/31/2016        | 34         | 10.9          | 17         | 5.6           | 42               | 12.0          |
| Alexander Lake SNOTEL    | 160   | 4/1/2016         | 26         | 8.9           | 12         | 3.3           | ---              | ---           |
| Archangel Road           | 2200  | 4/1/2016         | 44         | 14.4          | 33         | 9.0           | 44               | 12.2          |
| Blueberry Hill           | 1200  | 3/31/2016        | 53         | 17.0          | 36         | 11.2          | 48               | 13.5          |
| Chelatna Lake            | 1450  | 3/31/2016        | 23         | 7.1*          | ---        | ---           | 45               | 11.0          |
| Clearwater Lake          | 2650  | 4/3/2016         | 16         | 3.3*          | 23         | 4.7           | 25               | 5.4           |
| Curtis Lake              | 2850  | 4/3/2016         | 13         | 2.6*          | 17         | 3.6           | 25               | 4.6           |
| Denali View              | 700   | 3/31/2016        | 32         | 9.8           | 25         | 7.0           | 40               | 12.1          |
| Dunkle Hills             | 2700  | 3/31/2016        | 61         | 17.6*         | ---        | ---           | ---              | ---           |
| Dutch Hills              | 3100  | 3/31/2016        | 93         | 26.2*         | ---        | ---           | 75               | 24.8          |
| E. Fork Chulitna         | 1770  | 3/31/2016        | 57         | 16.2          | 41         | 10.8          | 47               | 12.1          |
| Fishhook Basin           | 3300  | 4/1/2016         | 76         | 23.5          | 44         | 13.2          | 55               | 17.8          |
| Fog Lakes                | 2120  | 4/3/2016         | 21         | 4.4*          | 23         | 4.9           | 24               | 5.2           |
| Halfway Slough           | 350   | 3/31/2016        | 11         | 3.3           | 0          | 0.0           | ---              | ---           |
| Horsepasture Pass        | 4300  | 4/3/2016         | 27         | 4.9*          | 18         | 3.1           | 30               | 6.9           |
| Independence Mine        | 3550  | 4/1/2016         | 88         | 27.8          | 49         | 14.9          | 64               | 19.8          |
| Independence Mine SNOTEL | 3550  | 4/1/2016         | 70         | 17.6          | 35         | 10.5          | ---              | 11.3          |
| Lake Louise              | 2400  | 3/31/2016        | 15         | 2.9           | 22         | 4.0           | 22               | 4.6           |
| Little Susitna           | 1700  | 4/1/2016         | 33         | 10.5          | 26         | 7.2           | 39               | 10.1          |
| Monahan Flat             | 2710  | 3/30/2016        | 38         | 8.9           | 24         | 4.8           | 34               | 7.4           |
| Monahan Flat             | 2710  | 4/1/2016         | 36         | ---           | 24         | ---           | ---              | ---           |
| Nugget Bench             | 2010  | 3/31/2016        | 37         | 12.1*         | ---        | ---           | 50               | 14.6          |
| Ramsdyke Creek           | 2220  | 3/31/2016        | 71         | 22.0*         | ---        | ---           | 64               | 20.0          |
| Sheep Mountain           | 2900  | 3/31/2016        | 16         | 4.1           | 17         | 3.8           | 26               | 5.6           |
| Skwentna                 | 160   | 3/31/2016        | 27         | 7.7           | 19         | 5.6           | 45               | 11.9          |
| Square Lake              | 2950  | 4/3/2016         | 18         | 3.8*          | 16         | 3.7           | 21               | 4.0           |
| Susitna Valley High      | 375   | 4/1/2016         | 16         | 6.7           | 10         | 4.6           | ---              | 8.6           |
| Talkeetna                | 350   | 3/31/2016        | 17         | 5.2           | 10         | 3.2           | 26               | 6.4           |
| Tokositna Valley         | 850   | 3/31/2016        | 45         | 14.0*         | ---        | ---           | 58               | 16.8          |
| Tokositna Valley SNOTEL  | 850   | 4/1/2016         | 47         | 14.9          | 35         | 10.6          | ---              | 12.4          |
| Tyone River              | 2400  | 4/3/2016         | 17         | 3.4*          | 15         | 4.0           | 21               | 5.0           |
| Upper Oshetna River      | 3150  | 4/3/2016         | 24         | 5.3*          | 11         | 2.8           | 20               | 4.6           |
| Upper Sanona Creek       | 3100  | 4/3/2016         | 16         | 3.5*          | 16         | 3.6           | 28               | 5.6           |
| Ward Lake                | 2700  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 30               | 5.3           |
| Willow Airstrip          | 200   | 3/31/2016        | 16         | 4.6           | 11         | 3.7           | 28               | 6.9           |

\*Estimate

## Streamflow Forecasts

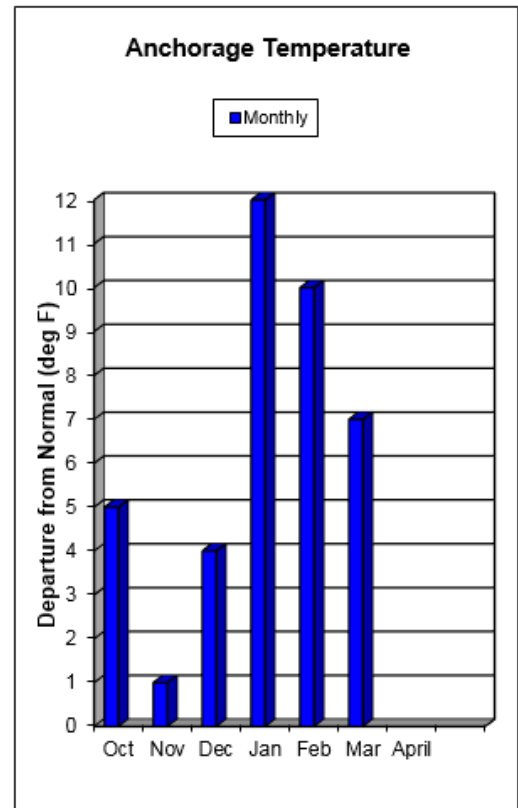
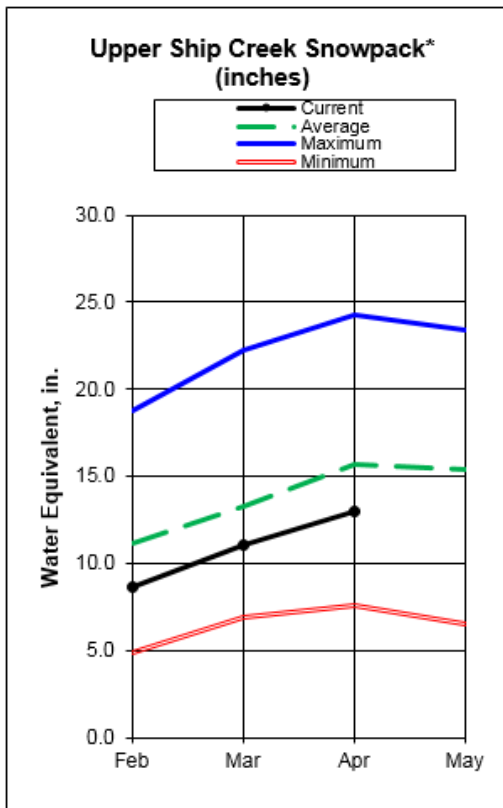
| Forecast Point                   | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|----------------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Little Susitna River near Palmer | Apr-Jul         | 109          | 134        | 83         | 89                   | 82                 |
| Talkeetna River near Talkeetna   | Apr-Jul         | 97           | 113        | 81         | 1520                 | 1570               |

## Precipitation

Inches Accumulated since October 1st

| Site Name           | Elev. | This Year | Last Year | 1981-2010 Normal | % of Normal |
|---------------------|-------|-----------|-----------|------------------|-------------|
| Alexander Lake      | 160   | 17.4      | 9.9       | ---              | ---         |
| Independence Mine   | 3550  | 21.6      | 12.1      | 15.3             | 141%        |
| Monahan Flat        | 2710  | 6.5       | 4.5       | 8.1              | 80%         |
| Susitna Valley High | 375   | 13.2      | 9.2       | 11.9             | 111%        |
| Tokositna Valley    | 850   | 22.4      | 13.7      | 19.0             | 118%        |

# Northern Cook Inlet



## Snow pack

So if you're a winter enthusiast, the snowpack is tragic. But, not as wretched as last year. March brought near normal precipitation for the area and above normal temperatures.

Low lying snow courses lost snow pack over the month- if they had it to lose in the first place. South Fork of Campbell snow course at 1200' of elevation melted out and Kinkaid and Arctic Valley snow courses #1 and #2 remained barren.

Higher sites, however, made gains. Indian Pass SNOTEL site bumped up from 88% of normal snow-pack last month to normal snowpack this month with 59" of snow and 22.9" of water content, but looks like it peaked on March 30<sup>th</sup> which would be a full month early if it holds. Moraine SNOTEL, above Eklutna Reservoir, started losing water on March 27<sup>th</sup> with a peak snowpack of 34" and 6.3" of water content on March 19<sup>th</sup>.

# Northern Cook Inlet

## Snowpack Data

| Site Name            | Elev. | Date      | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|----------------------|-------|-----------|------------|---------------|------------|---------------|------------------|---------------|
|                      |       |           | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Anchorage Hillside   | 2080  | 4/1/2016  | 19         | 5.8           | 7          | 2.0           | ---              | 10.2          |
| Arctic Ski Bowl      | 3000  | 4/1/2016  | 19         | 7.3           | 20         | 5.3           | 40               | 12.8          |
| Arctic Valley #1     | 500   | 4/1/2016  | 0          | 0.0           | 0          | 0.0           | 14               | 3.6           |
| Arctic Valley #2     | 1000  | 4/1/2016  | 0          | 0.0           | 0          | 0.0           | 18               | 4.8           |
| Arctic Valley #3     | 1450  | 4/1/2016  | 12         | 3.6           | 7          | 1.3           | 28               | 7.2           |
| Arctic Valley #4     | 2030  | 4/1/2016  | 14         | 3.8           | 9          | 2.4           | 28               | 7.2           |
| Chuitna Plateau      | 1540  | 3/31/2016 | 70         | 27.3*         | 33         | 12.9          | 76               | 27.9          |
| Congahbuna Lake      | 550   | 3/31/2016 | 17         | 6.2*          | 13         | 4.5           | 38               | 10.6          |
| Granite Point        | 250   | 3/31/2016 | 0          | 0.0           | 0          | 0.0           | 16               | 5.0           |
| Indian Pass          | 2350  | 4/1/2016  | 59         | 22.1          | 50         | 12.6          | ---              | 22.0          |
| Kincaid Park         | 250   | 4/1/2016  | 0          | 0.0           | 0          | 0.0           | 16               | 4.4           |
| Lone Ridge           | 1675  | 3/31/2016 | 75         | 31.5*         | 51         | 13.1          | 79               | 32.3          |
| Moraine              | 2100  | 4/1/2016  | 23         | 5.9           | 0          | 0.0           | ---              | 9.0           |
| Mt. Alyeska          | 1540  | 4/1/2016  | 62         | 21.7          | 16         | 4.4           | ---              | 32.5          |
| Portage Valley       | 50    | 3/30/2016 | 0          | 0.0           | 0          | 0.0           | 40               | 14.6          |
| South Campbell Creek | 1200  | 4/1/2016  | 0          | 0.0           | 0          | 0.0           | 28               | 6.9           |

\*Estimate

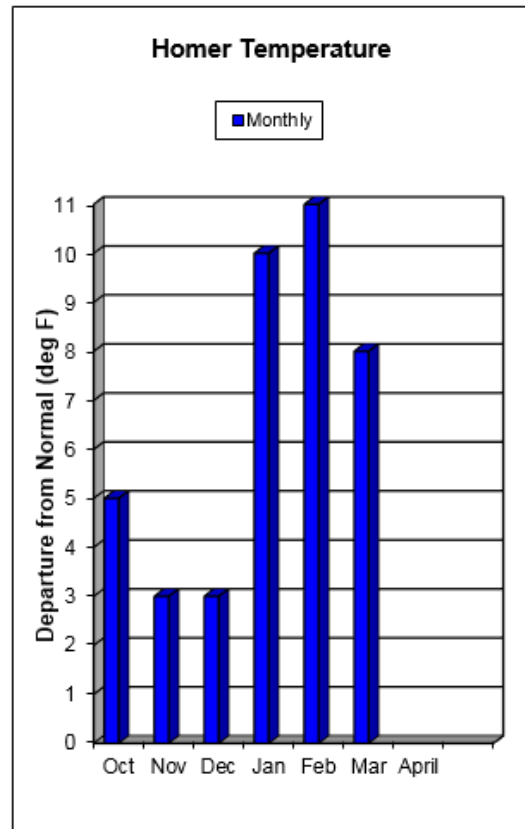
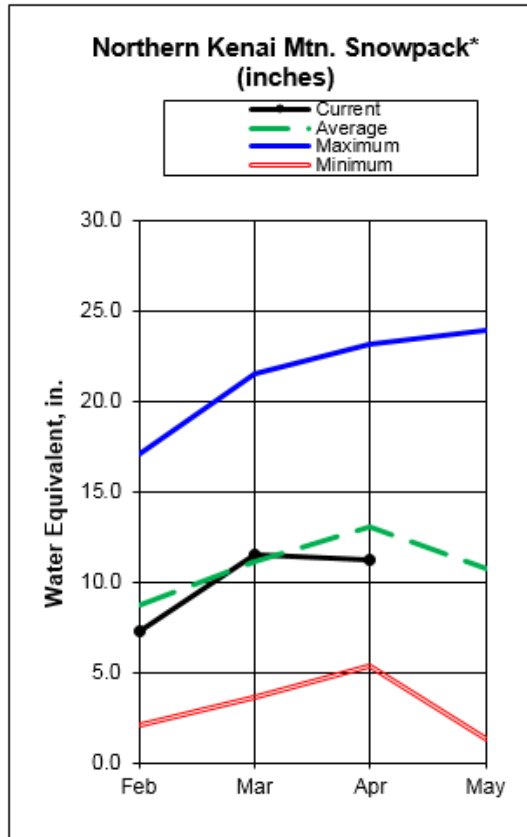
## Streamflow Forecasts

| Forecast Point            | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|---------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Ship Creek near Anchorage | Apr-Jul         | 91           | 112        | 71         | 53                   | 58                 |

## Precipitation

| Site Name          | Elev. | This Year | Inches Accumulated since October 1st |                  |  | % of Normal |
|--------------------|-------|-----------|--------------------------------------|------------------|--|-------------|
|                    |       |           | Last Year                            | 1981-2010 Normal |  |             |
| Anchorage Hillside | 2080  | 10.8      | 7.4                                  | 13.7             |  | 79%         |
| Indian Pass        | 2350  | 25.3      | 18.1                                 | 25.4             |  | 100%        |
| Moraine            | 2100  | 10.5      | 6.1                                  | 11.7             |  | 90%         |
| Mt. Alyeska        | 1540  | 54.6      | 34.9                                 | 46.3             |  | 118%        |

# Kenai Peninsula



## Snow pack

The Kenai Peninsula experienced near normal amounts of precipitation during March and above normal temperatures. Almost all snow monitoring sites below 1400 feet of elevation lost water content during March.

The 20 snow monitoring sites on the Kenai average 98% of normal snowpack. But they range from no snow at 6 sites up to 174% of normal at Turnagain Pass SNOTEL. Turnagain Pass SNOTEL now has 121" of snow and 57.5" of water content 24" less snow depth, but 9" more water content than last month. In the last 33 years, its snowpack is second only to the massive snow year of 2001.

Many of the SNOTEL sites appear to have reached their peak snowpack and started to melt out already, 2-4 weeks early. Grandview SNOTEL appears to have reached peak snowpack on March 21, more than a month ahead of normal.

# Kenai Peninsula

## Snowpack Data

| Site Name            | Elev. | Date      | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|----------------------|-------|-----------|------------|---------------|------------|---------------|------------------|---------------|
|                      |       |           | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Anchor River Divide  | 1653  | 4/1/2016  | 42         | 15.8          | 15         | 5.3           | ---              | 11.9          |
| Bertha Creek         | 950   | 3/30/2016 | 44         | 15.6          | 7          | 1.8           | 53               | 16.6          |
| Bridge Creek         | 1300  | 3/31/2016 | 25         | 8.4           | 0          | 0.0           | 40               | 12.0          |
| Cooper Lake          | 1200  | 4/1/2016  | 40         | 16.4          | 6          | 2.5           | ---              | 14.0          |
| Demonstration Forest | 780   | 3/31/2016 | 0          | 0.0           | 0          | 0.0           | 28               | 7.8           |
| Eagle Lake           | 1400  | 3/31/2016 | 40         | 13.6          | 0          | 0.0           | 42               | 11.9          |
| Exit Glacier         | 400   | 3/31/2016 | 30         | 11.3          | ---        | ---           | 51               | 18.2          |
| Exit Glacier SNOTEL  | 400   | 4/1/2016  | 28         | 9.2           | 4          | 1.6           | ---              | 18.4          |
| Grandview            | 1100  | 4/1/2016  | 75         | 34.8          | 16         | 3.7           | ---              | 32.0          |
| Grouse Creek Divide  | 700   | 4/1/2016  | 42         | 17.6          | 5          | 1.2           | ---              | 17.7          |
| Jean Lake            | 620   | 3/30/2016 | 0          | 0.0           | 0          | 0.0           | 15               | 3.3           |
| Kachemak Creek       | 1660  | 4/1/2016  | 64         | 29.0*         | 8          | 2.0           | ---              | ---           |
| Kenai Moose Pens     | 300   | 4/1/2016  | 2          | 1.0           | 0          | 0.0           | ---              | 5.0           |
| Kenai Summit         | 1390  | 3/30/2016 | 53         | 18.1          | 10         | 3.1           | 48               | 14.8          |
| Lower Kachemak Creek | 1915  | 4/1/2016  | 12         | ---           | ---        | ---           | ---              | ---           |
| Mcneil Canyon        | 1320  | 4/1/2016  | 20         | 8.4           | 1          | 0.1           | ---              | 10.6          |
| Middle Fork Bradley  | 2300  | 4/1/2016  | 81         | ---           | 12         | ---           | ---              | ---           |
| Moose Pass           | 700   | 3/30/2016 | 0          | 0.0           | 0          | 0.0           | 22               | 6.6           |
| Mt. Alyeska          | 1540  | 3/29/2016 | 74         | 26.0          | 16         | 4.4           | ---              | 32.5          |
| Nuka Glacier         | 1250  | 4/1/2016  | 63         | 27.7          | 14         | 4.3           | 88               | 34.6          |
| Pass Creek           | 1200  | 3/29/2016 | 30         | 8.5           | 1          | 0.4           | 33               | 9.0           |
| Port Graham          | 300   | 4/1/2016  | 0          | 0.0           | 0          | 0.0           | ---              | 8.7           |
| Portage Valley       | 50    | 3/30/2016 | 0          | 0.0           | 0          | 0.0           | 40               | 14.6          |
| Resurrection Pass    | 2250  | 3/29/2016 | 43         | 14.0          | 19         | 5.5           | 38               | 10.4          |
| Snug Harbor Road     | 500   | 3/30/2016 | 0          | 0.0           | 0          | 0.0           | 16               | 4.5           |
| Summit Creek         | 1400  | 4/1/2016  | 38         | 11.1          | 10         | 4.9           | ---              | 11.1          |
| Turnagain Pass       | 1880  | 4/1/2016  | 121        | 57.5          | 59         | 15.7          | ---              | 33.4          |

\*Estimate

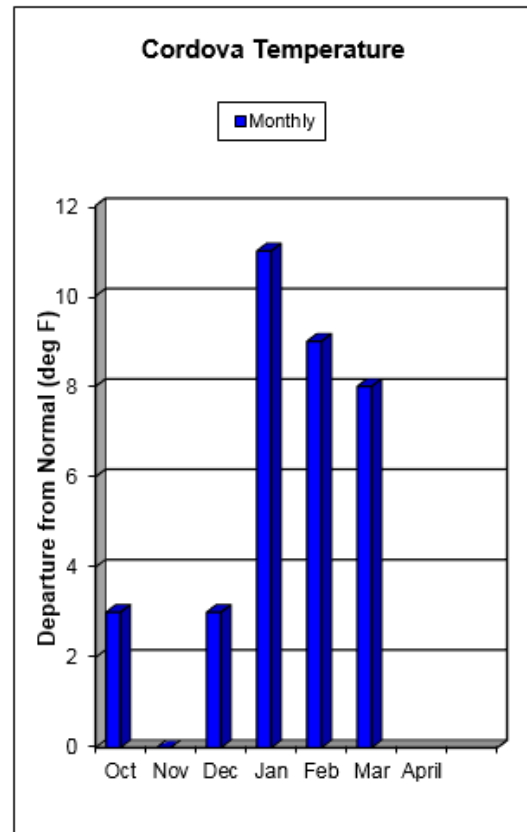
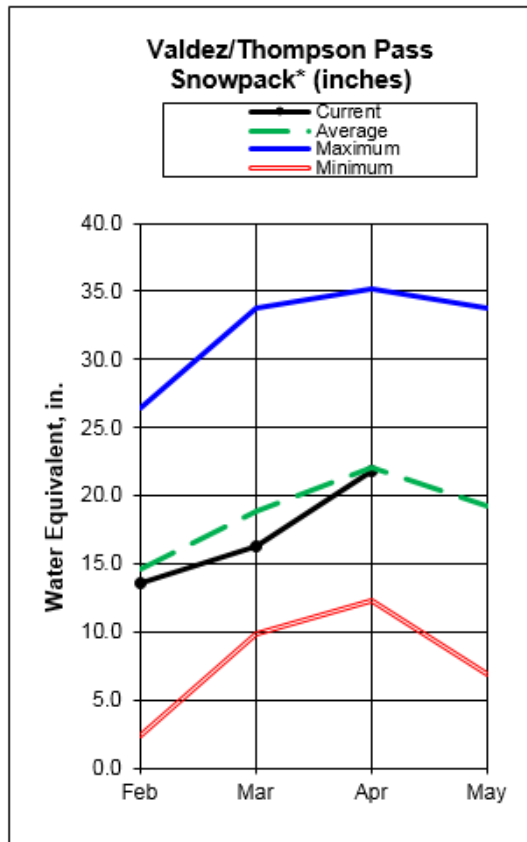
## Streamflow Forecasts

| Forecast Point                | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|-------------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Kenai River at Cooper Landing | Apr-Jul         | 114          | 126        | 100        | 1090                 | 960                |

## Precipitation

| Site Name           | Elev. | Inches Accumulated since October 1st |           |                  |             |
|---------------------|-------|--------------------------------------|-----------|------------------|-------------|
|                     |       | This Year                            | Last Year | 1981-2010 Normal | % of Normal |
| Anchor River Divide | 1653  | 23.2                                 | 12.4      | 16.9             | 137%        |
| Cooper Lake         | 1200  | 29.2                                 | 17.8      | 25.2             | 116%        |
| Grandview           | 1100  | 61.3                                 | 41.3      | 40.3             | 152%        |
| Grouse Creek Divide | 700   | 60.6                                 | 33.8      | 37.5             | 162%        |
| Kachemak Creek      | 1660  | 64.8                                 | 50.4      | 37.7             | 172%        |
| Kenai Moose Pens    | 300   | 7.8                                  | 2.8       | 8.2              | 95%         |
| Mcneil Canyon       | 1320  | 21.1                                 | 10.2      | 16.6             | 127%        |
| Middle Fork Bradley | 2300  | 44.1                                 | 33.3      | 32.5             | 136%        |
| Nuka Glacier        | 1250  | 71.3                                 | 63.0      | 54.3             | 131%        |
| Port Graham         | 300   | 58.4                                 | 41.2      | 48.4             | 121%        |
| Summit Creek        | 1400  | 21.3                                 | 11.5      | 15.8             | 135%        |
| Turnagain Pass      | 1880  | 60.4                                 | 32.7      | 40.5             | 149%        |

# Western Gulf



## Snow pack

The snowpack in the Western Gulf of Alaska region continues to be variable from below normal to above normal snowpack. Prince William Sound experienced variable, but generally slightly above normal, precipitation during the month and above normal temperatures.

Measured snowpack in Prince William Sound ranges from 42% of normal at Mt. Eyak, above Cordova, to 114% of normal at Worthington Glacier snow course near Thompson Pass. Higher elevation sites gained water content during the month while low elevation sites experience both losses and gains.

Snow courses near Valdez experienced gains during the month. Valdez snow course, itself, gained 5 inches of depth and 4.5 inches of water content for a total of 50 inches of depth and 16.0 inches of water content, 102% of normal.



# Western Gulf

## Snowpack Data

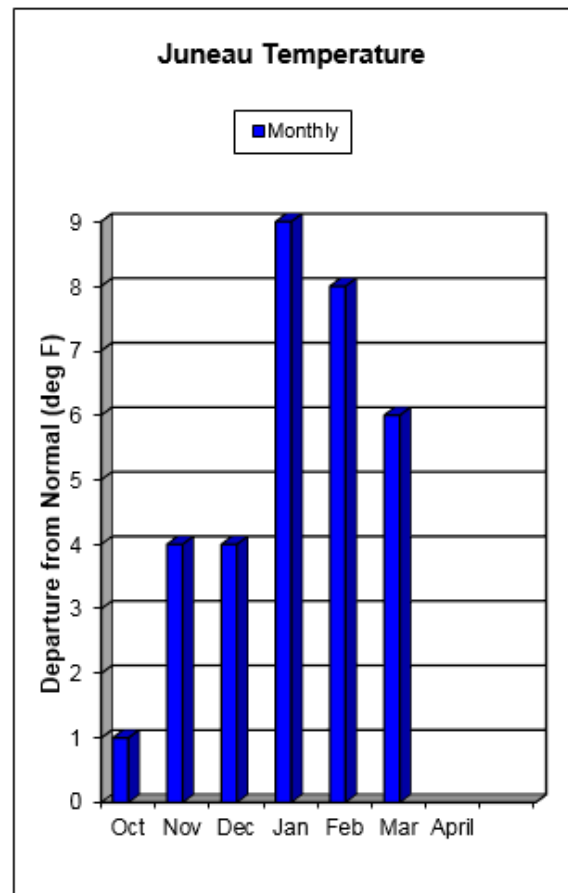
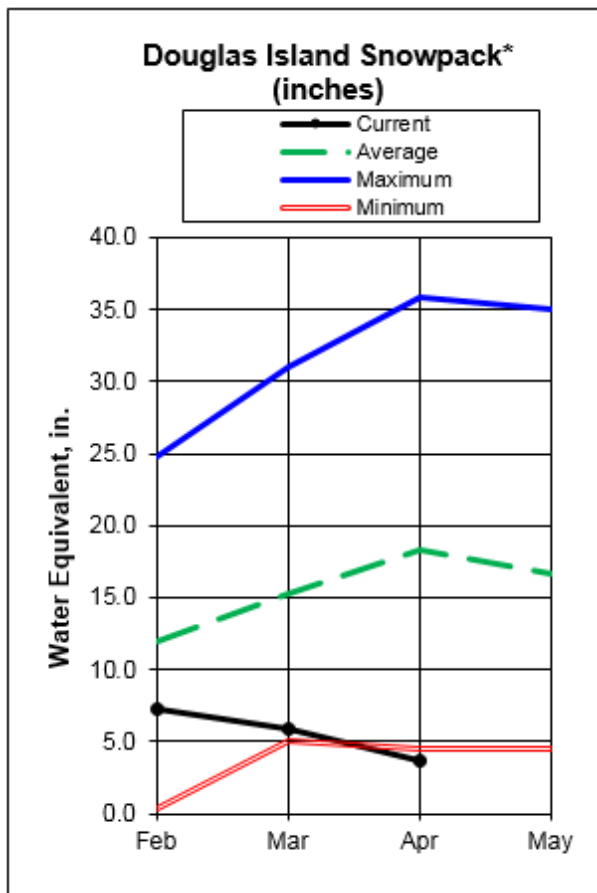
| Site Name           | Elev. | Date      | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|---------------------|-------|-----------|------------|---------------|------------|---------------|------------------|---------------|
|                     |       |           | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Exit Glacier        | 400   | 3/31/2016 | 30         | 11.3          | ---        | ---           | 51               | 18.2          |
| Exit Glacier SNOTEL | 400   | 4/1/2016  | 28         | 9.2           | 4          | 1.6           | ---              | 18.4          |
| Grouse Creek Divide | 700   | 4/1/2016  | 42         | 17.6          | 5          | 1.2           | ---              | 17.7          |
| Kachemak Creek      | 1660  | 4/1/2016  | 64         | 29.0*         | 8          | 2.0           | ---              | ---           |
| Lowe River          | 600   | 3/30/2016 | 44         | 15.2          | 37         | 11.4          | 50               | 17.0          |
| Mt. Eyak            | 1405  | 4/1/2016  | 38         | 12.2          | 10         | 4.7           | ---              | 28.4          |
| Nuka Glacier        | 1250  | 4/1/2016  | 63         | 27.7*         | 14         | 4.3           | 88               | 34.6          |
| Sugarloaf Mountain  | 550   | No Survey | ---        | ---           | 44         | 15.5          | 78               | 27.4          |
| Tsaina River        | 1650  | 3/31/2016 | 56         | 18.0          | 41         | 12.3          | 56               | 17.0          |
| Upper Tsaina River  | 1750  | 4/1/2016  | 61         | 19.7          | 51         | 15.5          | ---              | 19.4          |
| Valdez              | 50    | 3/30/2016 | 45         | 16.0          | 29         | 10.1          | 51               | 15.7          |
| Worthington Glacier | 2100  | 3/31/2016 | 76         | 28.0          | 56         | 17.8          | 75               | 24.6          |

\*Estimate

## Precipitation

| Site Name           | Elev. | Inches Accumulated since October 1st |           |                  |             |
|---------------------|-------|--------------------------------------|-----------|------------------|-------------|
|                     |       | This Year                            | Last Year | 1981-2010 Normal | % of Normal |
| Esther Island       | 50    | 125.6                                | 88.6      | 80.5             | 156%        |
| Grouse Creek Divide | 700   | 60.6                                 | 33.8      | 37.5             | 162%        |
| Mt. Eyak            | 1405  | 80.5                                 | 67.8      | ---              | ---         |
| Nuchek              | 50    | 109.2                                | 78.5      | ---              | ---         |
| Nuka Glacier        | 1250  | 71.3                                 | 63.0      | 54.3             | 131%        |
| Port San Juan       | 50    | 100.1                                | 79.3      | 75.7             | 132%        |
| Seal Island         | 20    | 53.6                                 | 40.1      | ---              | ---         |
| Strawberry Reef     | 30    | 63.3                                 | 47.4      | ---              | ---         |
| Sugarloaf Mtn       | 550   | 49.3                                 | 33.6      | 40.5             | 122%        |
| Tatitlek            | 50    | 52.6                                 | 41.5      | 40.0             | 132%        |

## Southeast



### Snow pack

The snowpack in Southeast Alaska keeps becoming more bleak. In most places the snowpack diminished during March. Precipitation has been below normal for the month and temperatures above normal.

Like last month, low elevation zones continue to be snow free or have minimal snow. Even higher elevations continue to melt out. Cropley Lake snow course, at 1650' of elevation on Douglas Island across from Juneau, shrunk a second month in a row, declining from 37" of snow and 15.8" of water content last month to 27" of snow with 11" of water content this month. This is the second lowest snow this site has recorded in 39 years, second only to last year. Also at 1650' of elevation, Petersburg Ridge snow course dropped a second month in a row, from 23" of snow with 8.8" of water content last month to 15" of snow and 6.6" of water content this month, its third lowest record in 39 years.

Long Lake SNOTEL at 850' of elevation and more inland, retains 60 inches of snow depth and 23.5 inches of water content, 60% of normal. Peak snowpack appears to have happened on March 18, a full month ahead of its average peak.

Similarly, the snowpack at the Heèn Latinee SNOTEL seems to have peaked on March 20<sup>th</sup> with 15.0 inches of water content. The site, installed in collaboration with University of Alaska Southeast and the U.S. Forest Service, is 25 miles north of Juneau and at 2070 feet of elevation.

# Southeast

## Snowpack Data

| Site Name            | Elev. | Date             | This Year  |               | Last Year  |               | 1981-2010 Normal |               |
|----------------------|-------|------------------|------------|---------------|------------|---------------|------------------|---------------|
|                      |       |                  | Snow Depth | Water Content | Snow Depth | Water Content | Snow Depth       | Water Content |
| Cropley Lake         | 1650  | 3/31/2016        | 27         | 11.0          | 14         | 4.8           | 83               | 30.4          |
| Eagle Crest          | 1200  | 3/31/2016        | 0          | 0.0           | 1          | 0.2           | 50               | 18.6          |
| Fish Creek           | 500   | 3/31/2016        | 0          | 0.0           | 0          | 0.0           | 11               | 2.7           |
| Heen Latinee         | 2065  | 4/1/2016         | 37         | 12.6          | ---        | ---           | ---              | ---           |
| Institute Creek      | 1350  | 4/1/2016         | 0*         | 0.0*          | 0          | 0.0           | ---              | ---           |
| Lake Grace Pass      | 1900  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 96               | 41.3          |
| Long Lake            | 850   | 4/1/2016         | 60         | 23.5          | 40         | 15.6          | ---              | 39.4          |
| Lost Lake            | 425   | <i>No Survey</i> | ---        | ---           | ---        | ---           | 33               | 13.6          |
| Mint Creek Ridge     | 1900  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 106              | 40.7          |
| Moore Creek Bridge   | 2250  | 3/31/2016        | 42         | 16.2          | 48         | 15.2          | 65               | 21.3          |
| Petersburg Reservoir | 550   | 4/1/2016         | 0.0        | 0.0           | 0          | 0.0           | 1                | 0.2           |
| Petersburg Ridge, S. | 1650  | 4/1/2016         | 15         | 6.6           | 1          | 0.2           | 74               | 27.4          |
| Rainbow Falls        | 500   | 4/1/2016         | 0*         | 0.0*          | 0          | 0.0           | ---              | ---           |
| Speel River          | 280   | 4/1/2016         | 23*        | 8.1*          | 1          | 0.3           | 66               | 26.5          |
| Upper Swan Lake      | 1700  | <i>No Survey</i> | ---        | ---           | ---        | ---           | 38               | 9.8           |
| West Creek           | 475   | 3/31/2016        | 14         | 4.4           | 0          | 0.0           | ---              | ---           |

\*Estimate

## Streamflow Forecasts

| Forecast Point         | Forecast Period | % of Average | Maximum(%) | Minimum(%) | 50% Exceedance (KAF) | 30yr Average (KAF) |
|------------------------|-----------------|--------------|------------|------------|----------------------|--------------------|
| Gold Creek near Juneau | Apr-Jul         | 62           | 85         | 39         | 21                   | 34                 |

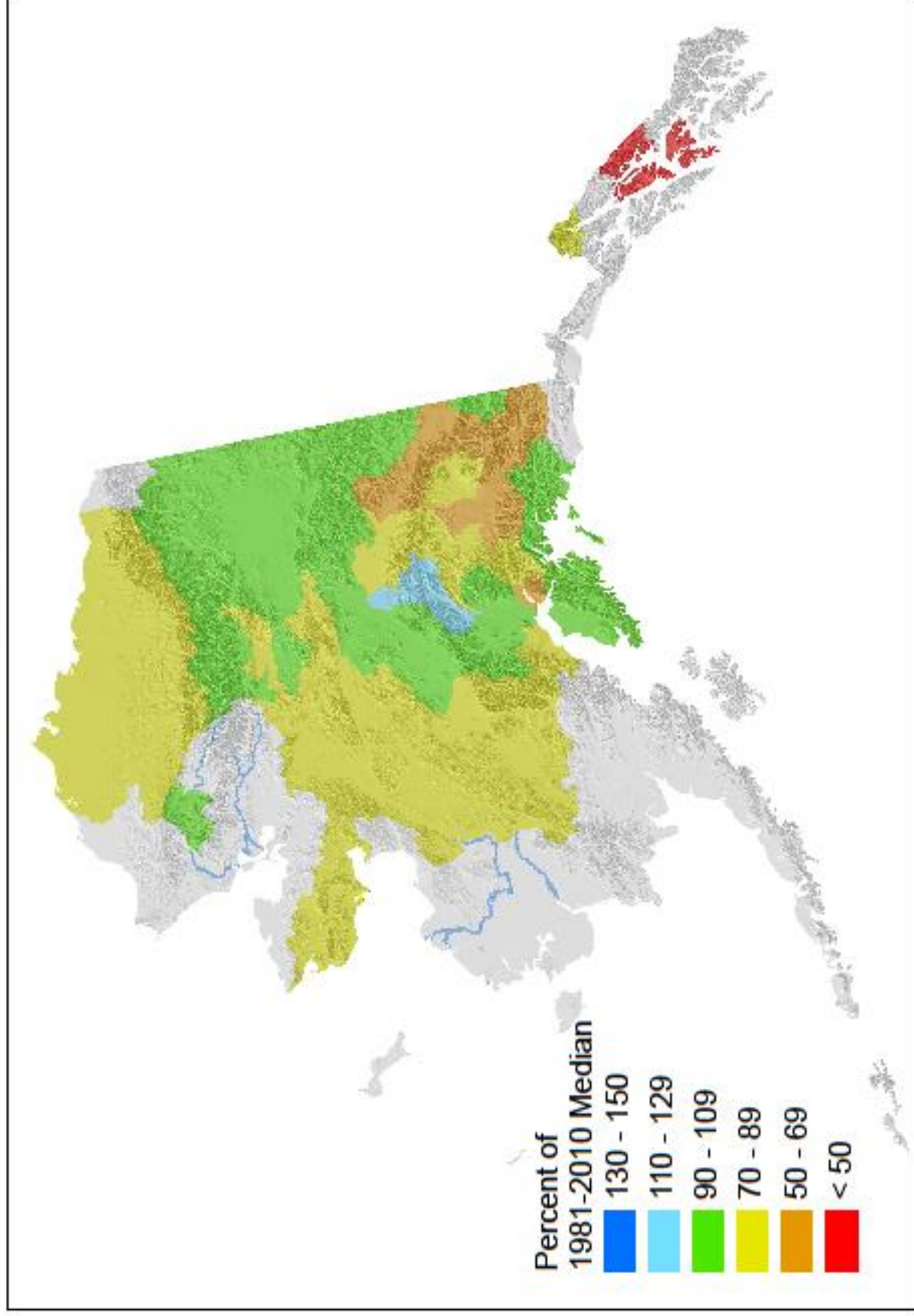
## Precipitation Data

Inches Accumulated since October 1st

| Site Name          | Elev. | This Year | Last Year | 1981-2010 Normal | % of Normal |
|--------------------|-------|-----------|-----------|------------------|-------------|
| Long Lake          | 850   | 96.2      | 102.2     | 97.7             | 98%         |
| Heen Latinee       | 2065  | 36.0      | ---       | ---              | ---         |
| Moore Creek Bridge | 2250  | 28.5      | 29.5      | 27.4             | 104%        |

# Alaska Snowpack as of April 1, 2016

Based on Snow Water Content



**For further information contact:**

NRCS Alaska web site: [www.nrcs.usda.gov/wps/portal/nrcs/main/ak/snow/](http://www.nrcs.usda.gov/wps/portal/nrcs/main/ak/snow/)

NRCS Water and Climate Center web site: <http://www.wcc.nrcs.usda.gov/>

Alaska Meteor Burst Communication System (AMBCS) web site: [www.ambcs.org](http://www.ambcs.org)

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