# Alaska Snow Survey Report



March 1, 2024

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Cover Photo: Snowmachines are used to transport Snow Surveyors along the Taylor Highway near Mount Fairplay.

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### Updated 1991-2020 Snow Survey and Water Supply Normals

Every 10 years, The NRCS's Snow Survey and Water supply Forecasting Program (SSWSF) produces new 30-year central tendency statistics. These are often call the site Normals. The new 1991-2020 Normals have been developed and are being used in this publication. A detailed discussion can be found on the National Water and Climate Center's website <u>here</u>. The main take away is that "100% of Normal" this winter is not likely to be the same as it was last decade. A side-by-side comparison of the new and old Alaska snowpack Normals for February can be found <u>here</u>.

#### SnowPack

In a monitoring area as large as Alaska, variability is part of the game. And the snowpack on March 1, 2024, shows some variability. There are places with exceptional snowpack, like Thompson Pass. And there are places with a pathetic snowpack, like Kelly Station in Northwest Alaska. Most of the monitoring area is between those two places, and most of the snowpack is reporting above Normal on March 1, 2024.

The biggest climate story from February 2024 in Alaska is going to be the temperature shift. The temperatures at the beginning of the month will almost surely be the coldest of the year and the most noteworthy cold snaps in several years. Kanuti Lake SCAN, a perennial contender for the coldest station in the network, bottomed out with a low temperature of -62 degrees Fahrenheit. The cold snap broke and two weeks later that same station was above freezing. Stations from north of Fairbanks to Southeast Alaska reported temperatures that exceeded 50 degrees during the middle of February. Melt was measured at several snow courses and automated stations during this period, occurring approximately 6 weeks ahead of schedule.

Snowfall in February favored Southwest Alaska and parts of Southcentral Alaska. In Southwest Alaska the Lower Kuskokwim received ample precipitation and snowfall. February precipitation at the Bethel Airport was more than four times Normal and the snow depth sensor here is reporting way above Normal for the date. These storms were producers for the Lower Yukon as well and considerably above Normal monthly increases were measured at the Aerial Markers in this region. Greater than Normal monthly snowfall was also measured at the stations around Valdez, Seward, portions of the Kenai Peninsula and the Susitna. Much of interior received below normal snowfall for the month.

For most of Alaska, March through May is the climatological dry season. As Alaska heads into its dry season snowpacks throughout the state are generally robust. In the Interior, portions of the Copper and Upper Susitna are reporting historic March 1 snowpack. The stations around Anchorage and Valdez are reporting snowpack way above Normal, in some cases historic. So is that of the Lower Yukon. On the other end, Northwest Alaska, the Upper Yukon and the lower elevations of Southeast Alaska are reporting below Normal snowpack on March 1.

# General Overview, Continued

### **SnowPack Continued**

|                           |            | Basi              | n Index           |
|---------------------------|------------|-------------------|-------------------|
|                           |            | Current           | Last Year         |
| Alaska Statewide Snowpack | # of Sites | Percent of Median | Percent of Median |
| Upper Yukon Basin         | 32         | 94                | 113               |
| Central Yukon Basin       | 12         | 134               | 129               |
| Tanana Basin              | 18         | 109               | 143               |
| Koyukuk Basin             | 7          | 134               | 134               |
| Kuskokwim Basin           | 1          | 73                | 153               |
| Copper Basin              | 22         | 149               | 137               |
| Matanuska-Susitna Basin   | 24         | 124               | 127               |
| Northern Cook Inlet       | 13         | 138               | 125               |
| Kenai Peninsula           | 21         | 122               | 97                |
| Western Gulf of Alaska    | 8          | 148               | 103               |
| Southeast Alaska          | 11         | 99                | 121               |

### Precipitation

Precipitation trends in February mirror snowfall trends with above Normal Precipitation being reported in Southwest Alaska, the Gulf of Alaska side of the Kenai Peninsula, as well as Valdez and Cordova. Below Normal monthly Precipitation was reported in Southeast Alaska, as well as in the Interior around Fairbanks. With soaring temperatures in the middle of the month some rain was reported.

## Alaska Statewide Precipitation Maps

Monthly Precipitation for February 2024

(% of Period of Record Average)



Water Year-to-date Precipitation (Oct. 1, 2023-Feb 29, 2024) (% of Period of Record Average)



# Alaska Statewide Snowpack Map

Based on March 1st, 2024 Snow Water Equivalent





# **Streamflow Forecasts**

| FORECAST POINT <sup>*</sup>            | Percent of | Period       |
|--|------------|--------------|
|  | Ave. Flow  |              |
| Yukon River at Eagle                   | 101        | April - July |
| Porcupine River nr Int'l Boundary      | 110        | April - July |
| Yukon River near Stevens Village       | 106        | April - July |
| Tanana River at Fairbanks              | 105        | April - July |
| Tanana River at Nenana                 | 105        | April - July |
| Little Chena River near Fairbanks      | 99         | April - July |
| Chena River near Two Rivers            | 102        | April - July |
| Salcha near Salchaket                  | 101        | April - July |
| Kuskokwim River at Crooked Creek       | 102        | April - July |
| Sagvanirktok River near Pump Station 3 | 115        | April - July |
| Kuparuk River near Deadhorse           | 129        | April - July |
| Gulkana River at Sourdough             | 148        | April - July |
| Little Susitna River near Palmer       | 113        | April - July |
| Talkeetna River near Talkeetna         | 105        | April - July |
| Ship Creek near Anchorage              | 120        | April - July |
| Kenai River at Cooper Landing          | 104        | April - July |
| Bradley Lake Inflow                    | _          | April - July |
| Taiya River nr Skagway                 | 114        | April - July |

#### HOW FORECASTS ARE MADE

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

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

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

### How to Interpret the Streamflow Forecast Graphic:

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



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

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



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



centered above 185% of average. Volumes decrease with drier future conditions (left of green box) and increase with wetter conditions (right of green box).

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

### **Upper Yukon Basin**

### **Upper Yukon Snowpack**





#### Snowpack

Snowpack in the Upper Yukon is below Normal on March 1, 2024. Most snow courses in the Upper Yukon are reporting moderately below normal conditions for the first time since 2019. However, headwater snowpack near Atlin is above normal, as-is the snowpack along the Alaska boarder on the White River and near Dawson. Some measurement sites are well below Normal. Twin Creeks was measured with the least SWE in its forty-six year history. Edwards Lake was measured with the least SWE in its thirty-five year history. The basin index as a whole is reporting 92% of Normal for the date.

## Upper Yukon Basin

### Snowpack Data

|                     |       | Snow Depth<br>(in) |           | Water Content (in) |           |                          |
|---------------------|-------|--------------------|-----------|--------------------|-----------|--------------------------|
| Site Name           | Elev. | Current            | Last Year | Current            | Last Year | 1991-2020<br>% of Normal |
| Atlin Lake          | 2395  | 20                 | 15        | 4.6                | 3         | 124%                     |
| Beaver Creek        | 2150  | 19                 | 29        | 3.3                | 5.4       | 122%                     |
| Blackstone River    | 1020  | 26                 | 29        | 4.6                | 5         |                          |
| Burns Lake          | 3650  | 34                 | 39        | 6.5                | 8.7       | 86%                      |
| Burwash Airstrip    | 2660  | 10                 | 14        | 1.5                | 1.9       | 88%                      |
| Calumet             | 4300  | 28                 | 36        | 5                  | 5.9       | 78%                      |
| Casino Creek        | 3495  | 23                 | 33        | 3.6                | 6.1       | 84%                      |
| Chair Mountain      | 3500  | 21                 | 29        | 3.9                | 5.2       | 122%                     |
| Chisana SNOTEL      | 3320  | 15                 | 26        | 3.2*               | 5.8       | 100%                     |
| Edwards Lake        | 2720  | 23                 | 29        | 3.1                | 5.1       | 58%                      |
| Finlayson Airstrip  | 3240  | 20                 | 26        | 2.7                | 4.8       | 71%                      |
| Francis River       | 730   | 28                 | 32        | 4.6                | 6.1       |                          |
| Fuller Lake         | 3695  | 33                 | 30        | 6.4                | 5.7       | 94%                      |
| Grizzly Creek       | 3200  | 38                 | 35        | 8.3                | 7.8       | 141%                     |
| Hoole River         | 3400  | 26                 | 30        | 4.6                | 5.7       | 96%                      |
| Hyland              | 855   | 32                 | 33        | 7.4                | 6.6       |                          |
| Jordan Lake         | 3050  | 22                 | 30        | 3.5                | 5.9       | 76%                      |
| King Solomon Dome   | 3540  | 30                 | 36        | 6.1                | 8         | 98%                      |
| Log Cabin B.C.      | 2900  | 56                 | 45        | 15.4               | 12.9      | 108%                     |
| Macintosh           | 3805  | 16                 | 27        | 2.5                | 4.6       | 74%                      |
| Mayo Airport        | 1770  | 14                 | 26        | 2.5                | 4.4       | 69%                      |
| Meadow Creek        | 4050  | 36                 | 41        | 8.7                | 9.3       | 82%                      |
| Midnight Dome       | 2805  | 32                 | 35        | 6.9                | 7.9       | 123%                     |
| Montana Mtn.        | 3350  | 26                 | 25        | 5.2                | 5.3       | 96%                      |
| Morley Lake         | 2700  | 30                 | 23        | 6.7                | 4.6       | 137%                     |
| Mt. Berdoe          | 3395  | 21                 |           | 3                  |           | 73%                      |
| Mt. Mcintyre B      | 3600  | 24                 | 29        | 4.9                | 5.2       | 91%                      |
| Mt. Nansen          | 3350  | 15                 | 23        | 2.2                | 3.8       | 81%                      |
| Ogilvie River       | 550   | 29                 | 28        | 5.4                | 5.4       |                          |
| Pelly Farm          | 1550  | 14                 | 23        | 2.6                | 4.8       | 90%                      |
| Pine Lake Airstrip  | 995   | 32                 | 33        | 7.9                | 6.3       |                          |
| Plata Airstrip      | 2725  | 28                 | 30        | 4.8                | 6.4       | 79%                      |
| Rackla Lake         | 3410  | 35                 | 35        | 6.6                | 7.2       | 106%                     |
| Rose Creek Faro     | 1080  | 23                 | 26        | 3.4                | 4.8       | 89%                      |
| Russell Lake        | 3480  | 31                 | 36        | 5.2                | 7.5       | 70%                      |
| Satasha Lake        | 3630  | 15                 |           | 2.4                |           | 77%                      |
| Summit              | 985   | 41                 | 37        | 11.8               | 7.6       | 159%                     |
| Tagish              | 3540  | 26                 | 28        | 5.2                | 5.9       | 100%                     |
| Twin Creeks         | 2950  | 27                 |           | 4.2                |           | 69%                      |
| Watson Lake Airport | 685   | 26                 | 24        | 4.4                | 3.9       |                          |
| Whitehorse Airport  | 2300  | 14                 | 22        | 2.8                | 4.6       | 74%                      |
| Withers Lake        | 3200  | 35                 | 32        | 6.5                | 6.9       | 88%                      |
| *Estimate           |       |                    |           |                    |           |                          |

### **Upper Yukon Basin**

#### **Temperature Chart**

Source: NOAA ACIS



### **Streamflow Forecasts**

#### CENTRAL YUKON Water Supply Forecasts

March 1, 2024



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

### **Central Yukon Basin**



### **Snowpack Map**



### **Central Yukon Basin**

### **Temperature Chart**



### **Streamflow Forecasts**

#### CENTRAL YUKON Water Supply Forecasts March 1, 2024



### **Central Yukon Basin**

### Snowpack

The snowpack in the Central Yukon is above Normal on March 1, 2024. The most exceptional snowpack is in the upper reaches of the Porcupine, where the Canadian measurements are at or near historic maximum for the date. The Old Crow Snow Course was measured as the highest value in its thirty-five year record. The Forty Mile snow courses are also reporting much above Normal SWE for the date. The 6.8 inches of SWE measured at Boundary is the third highest in fifty-one years of observation. Downstream, the snowpack trends closer to Normal

### **Snowpack Data**

|                         |       | Snow    | Depth (in) | Water Content (in) |           |                          |  |
|-------------------------|-------|---------|------------|--------------------|-----------|--------------------------|--|
| Site Name               | Elev. | Current | Last Year  | Current            | Last Year | 1991-2020<br>% of Normal |  |
| American Creek SNOTEL   | 1050  | 24      | 24         | 5                  | 4.7       |                          |  |
| Atigun Pass SNOTEL      | 4800  | 31      | 37         |                    |           |                          |  |
| Boundary                | 3500  | 32      | 32         | 6.8                | 6.7       | 148%                     |  |
| Chicken Airstrip        | 1650  | 22      | 23         | 3.9                | 4.2       | 139%                     |  |
| Circle Hot Springs      | 860   | 18      | 21         | 2.5                | 3.4       | 71%                      |  |
| Eagle Plains            | 2330  | 38      | 34         | 8.6                | 7         | 154%                     |  |
| Eagle River             | 1115  | 36      | 28         | 7                  | 5         | 175%                     |  |
| Eagle Summit SNOTEL     | 3650  | 17      | 15         |                    |           |                          |  |
| Fort Yukon              | 430   | 25      |            | 4                  |           | 133%                     |  |
| Hess Creek              | 1000  | 25      |            | 4.9                |           | 104%                     |  |
| Lost Chicken Hill       | 2150  | 24      | 24         | 4.4                | 4.2       | 129%                     |  |
| Mt. Fairplay            | 3100  | 26      | 31         | 5.2                | 6.6       | 130%                     |  |
| Mt. Ryan SNOTEL         | 2800  | 23      |            | 5                  | 6.5       | 96%                      |  |
| Old Crow                | 980   | 33      | 32         | 7.8                | 5.4       | 173%                     |  |
| Ptarmigan Creek         | 2270  | 24      | 28         | 3.9                | 4.6       | 100%                     |  |
| Riffs Ridge             | 2130  | 39      | 36         | 8.8                | 7.8       | 169%                     |  |
| Seven Mile              | 600   | 27      |            | 4.2                |           | 91%                      |  |
| Stack Pup Creek         | 1620  | 20      | 22         | 3.1                | 3.2       | 91%                      |  |
| Thirty Mile             | 1350  | 33      |            | 7.2                |           | 107%                     |  |
| Upper Chena SNOTEL      | 2850  | 30      | 36         |                    | 7.8       |                          |  |
| Upper Nome Creek SNOTEL | 2520  | 24      | 31         | 4.8                | 5.2       |                          |  |

### **Precipitation Data**

| Precipitation Data | Inches Accumulated since October 1st |           |           |                     |             |
|--------------------|--------------------------------------|-----------|-----------|---------------------|-------------|
| Site Name          | Elev.                                | This Year | Last Year | 1991-2020<br>Normal | % of Normal |
| American Creek     | 1050                                 | 5.2       | 4.9       |                     |             |
| Atigun Pass        | 4800                                 | 6.1       | 4.9       | 4.8                 | 127%        |
| Eagle Summit       | 3650                                 | 4.2       | 5         | 4.4                 | 95%         |
| Fort Yukon         | 430                                  | 2.4       | 3.5       | 3.1                 | 77%         |
| Mt. Ryan           | 2800                                 | 4.6       | 6         | 4.4                 | 105%        |
| Upper Chena        | 2850                                 | 6.2       | 6.4       | 5.3                 | 117%        |
| Upper Nome Creek   | 2520                                 | 5.4       | 7.3       | 5.4                 | 100%        |



### **Snowpack Map**



### Tanana Basin

### **Temperature Chart**

Source: NOAA ACIS



### **Streamflow Forecasts**

#### TANANA Water Supply Forecasts March 1, 2024



### Tanana Basin

### Snowpack

Snowpack in the Tanana Basin is near Normal. Around Tok and Delta Junction stations are above Normal. The measurements in the Chena watershed are mixed with some above and some below Normal for the date. February gains mirror total water year snowfall trends with the stations near Tok and Delta Junction receiving more snow fall than the ones in the Chena basin. Temperatures were the big story this month. Nenana reached a high of 51 degrees Fahrenheit on February 14<sup>th</sup>. As a result Bonanza Creek was measured with less snow on March 1 than on February 1. Still the Basin Index is above Normal.

| Snowpack Data             |       | Snow D  | epth (in) | Water Content (in) |           |                          |
|---------------------------|-------|---------|-----------|--------------------|-----------|--------------------------|
| Site Name                 | Elev. | Current | Last Year | Current            | Last Year | 1991-2020<br>% of Normal |
| Bonanza Creek             | 1150  | 21      | 32        | 4.4                | 6.5       | 96%                      |
| Caribou Creek             | 1250  | 20      | 27        | 4                  | 5.4       | 95%                      |
| Caribou Snow Pillow       | 900   | 23      | 33        | 4.5                | 6         | 118%                     |
| Chena Lakes SNOTEL        | 500   | 14      | 25        | 3.2                | 5.2       |                          |
| Chisana SNOTEL            | 3320  | 15      | 26        | 3.2*               | 5.8       | 100%                     |
| Cleary Summit             | 2230  | 27      | 38        | 5.1                | 7.2       | 98%                      |
| Colorado Creek            | 700   | 24      | 35        | 4.3                | 5.4       | 116%                     |
| Creamers Field SNOTEL     | 440   | 17      | 21        | 3.6*               | 4.7       |                          |
| Faith Creek               | 1750  | 24      | 31        | 4                  | 5.4       | 95%                      |
| Fielding Lake SNOTEL      | 3000  | 35      | 39        | 9.5*               | 9.5       |                          |
| Fielding Lake             | 3000  | 45      | 45        | 11.2               | 10.2      | 130%                     |
| Fort Greely               | 1500  | 22      | 27        | 3.8                | 5.3       | 131%                     |
| French Creek              | 1800  | 25      | 37        | 5                  | 7.6       | 109%                     |
| Gerstle River             | 1200  | 23      | 22        | 3.8                | 4.2       | 136%                     |
| Granite Crk SNOTEL        | 1240  | 23      | 22        | 4.3                | 4.9       | 134%                     |
| Kantishna SNOTEL          | 1550  | 30      | 34        | 5.9*               | 6.6       |                          |
| Little Chena Ridge SNOTEL | 2000  | 15      | 25        | 2.2*               | 5.5       | 50%                      |
| Look Eyrie SNOTEL         | 5040  | 109     | 142       |                    |           |                          |
| Lost Creek                | 3030  | 15      |           | 2.7                |           | 93%                      |
| Mentasta Pass             | 2430  | 27      |           | 5.8                |           | 116%                     |
| Monahan Flat SNOTEL       | 2710  | 33      | 31        | 6.9                | 5.7       |                          |
| Mt. Ryan SNOTEL           | 2800  | 23      |           | 5                  | 6.5       | 96%                      |
| Munson Ridge SNOTEL       | 3100  | 30      | 40        | 6.6*               | 8.4       | 96%                      |
| Nenana SNOTEL             | 415   | 19      | 28        |                    |           |                          |
| Paradise Hill SNOTEL      | 2010  | 15      | 21        | 2.8*               | 4.2       |                          |
| Shaw Creek Flats          | 980   | 18      | 22        | 3                  | 3.7       | 115%                     |
| Teuchet Creek SNOTEL      | 1640  |         | 24        | 4.8*               | 5.2       | 141%                     |
| Tok SNOTEL                | 1630  | 17      | 26        | 3.6                | 5.3       |                          |
| Tok Junction              | 1650  | 24      | 30        | 4                  | 6         | 129%                     |
| Upper Chena SNOTEL        | 2850  | 30      | 36        |                    | 7.8       |                          |
| Upper Nome Creek SNOTEL   | 2520  | 24      | 31        | 4.8                | 5.2       |                          |

\*Estimate

### **Precipitation Data**

| Precipitation Data | Inches Accumulated since October 1st |           |           |                     |             |
|--------------------|--------------------------------------|-----------|-----------|---------------------|-------------|
| Site Name          | Elev.                                | This Year | Last Year | 1991-2020<br>Normal | % of Normal |
| Chena Lakes        | 500                                  | 3.3       |           |                     |             |
| Chisana            | 3320                                 | 3.2       | 5.8       | 3.2                 | 100%        |
| Creamers Field     | 440                                  | 3.8       | 4.1       |                     |             |
| Fielding Lake      | 3000                                 | 9.3       | 11.5      |                     |             |
| Granite Crk        | 1240                                 | 5         | 4.8       | 3.4                 | 147%        |
| Kantishna          | 1550                                 | 5.1       | 7.2       | 5                   | 102%        |
| Little Chena Ridge | 2000                                 | 4.7       | 5.9       | 4.4                 | 107%        |
| Monahan Flat       | 2710                                 | 7.9       | 8.3       | 6.9                 | 114%        |
| Mt. Ryan           | 2800                                 | 4.6       | 6         | 4.4                 | 105%        |
| Munson Ridge       | 3100                                 | 5.8       | 7.6       | 6.4                 | 91%         |
| Nenana             | 415                                  | 3.8       | 5.8       |                     |             |
| Paradise Hill      | 2010                                 | 3.1       | 5         |                     |             |
| Teuchet Creek      | 1640                                 | 4.1       | 5.1       | 3.8                 | 108%        |
| Tok                | 1630                                 | 3.7       | 5.7       |                     |             |
| Upper Chena        | 2850                                 | 6.2       | 6.4       | 5.3                 | 117%        |
| Upper Nome Creek   | 2520                                 | 5.4       | 7.3       | 5.4                 | 100%        |

### Western Interior Basins



#### Snowpack

#### <u>Koyukuk</u>

The Koyukuk basin has near Normal snowpack on March 1, 2024. In the upper reaches of the basin the snow courses in the Brooks Range along the Dalton Highway are reporting below Normal snowpack. As one travels downstream measurements increase, both in absolute value and in comparison, to Normal. At the confluence with the Yukon Aerial Markers are approaching period-of-record maximum.

#### <u>Kuskokwim</u>

Data points in the Kuskokwim are a mixed bag regarding snowpack on March 1, 2024. Snowpack was likely above Normal on February 1, and in the places where it was preserved it continues to be above Normal. Telaquana Lake SNOTEL reached a high of 50 degrees Fahrenheit in the middle of February. The Snow Course was measured with



less snow in March then it was in February and is now below Normal. At McGrath, temps were more moderate snowpack remains above Normal. Lower in the basin, Aniak and Bethel both reported February precipitation that was much above Normal and snow depths indicate above Normal snowpack.

#### Lower Yukon

Snowpack in the Lower Yukon is above Normal on March 1, 2024. JR Slough and Nine Mile Island Aerial Markers were read as period-of-record maximum values. Deer Creek and Pike Trap Lake were read as their second highest. All of the measurements in this region are reporting higher than Normal snowpack for the date.

### Western Interior Basins



### **Temperature Data**



### **Streamflow Forecasts**

#### WESTERN INTERIOR Water Supply Forecasts

March 1, 2024



### Western Interior Basins

| Snowpack Data         |       | Snow Depth (in) |           | Water Content (in) |           |                          |
|-----------------------|-------|-----------------|-----------|--------------------|-----------|--------------------------|
| Site Name             | Elev. | Current         | Last Year | Current            | Last Year | 1991-2020<br>% of Normal |
| Koyukuk               |       |                 |           |                    |           |                          |
| Bettles Field SNOTEL  | 640   | 30              | 32        | 7.2*               | 6.9       | 126%                     |
| Bonanza Forks         | 1200  | 30              |           | 6.2                |           | 122%                     |
| Cloverleaf            | 170   | 31              | 44        | 7.2*               | 8.7       | 150%                     |
| Coldfoot SNOTEL       | 1040  | 24              | 28        | 4.6                | 5         | 79%                      |
| Coldfoot              | 1040  | 27              |           | 4.6                |           |                          |
| Colville Bend         | 170   | 33              | 42        | 7.3*               | 8.7       | 138%                     |
| Disaster Creek        | 1550  | 22              |           | 3                  |           | 81%                      |
| East Chalatna         | 430   | 18              |           | 3.8*               |           |                          |
| Gobblers Knob SNOTEL  | 2030  | 0               | 1         |                    |           |                          |
| Huggins Creek         | 290   | 36              | 38        | 8.3*               | 7.5       | 138%                     |
| Jr Slough             | 160   | 39              | 38        | 8.2*               | 7.7       | 164%                     |
| Kaldoyeit             | 750   | 36              |           | 7.5*               |           | 179%                     |
| Kanuti Chalatna       | 670   | 31              |           | 6.2*               |           | 115%                     |
| Kanuti Kilolitna      | 550   | 24              |           | 4.8*               |           | 104%                     |
| Minnkokut             | 580   | 37              |           | 7.5*               |           | 121%                     |
| Nolitna               | 560   | 38              |           | 7.9*               |           | 146%                     |
| Table Mountain        | 2200  | 20              |           | 3.3                |           | 83%                      |
| Thirty Mile           | 1350  | 33              |           | 7.2                |           | 107%                     |
| Treat Island          | 190   | 29              | 30        | 7.4*               | 5.9       | 151%                     |
| Kuskokwim             |       |                 |           |                    |           |                          |
| Aniak SNOTEL          | 80    | 23              |           |                    |           |                          |
| McGrath SNOTEL        | 340   | 32              | 45        | 6.8*               | 9.7       |                          |
| Telaguana Lake        | 1550  | 16              | 32        | 2.9                | 6.1       | 73%                      |
| Telaguana Lake SNOTEL | 1275  | 14              | 29        | 4.3*               | 6.4       |                          |
|                       |       |                 | -         |                    |           |                          |
| Bullfrog              | 100   | 54              | 44        | 11 6*              | 9         |                          |
| Deer Creek            | 195   | 49              | 40        | 10.7*              | 7.9       | 184%                     |
| Galena AK SNOTEI      | 410   | 24              | 28        | 5.9*               | 5.8       |                          |
| Hozatka Lake SNOTEL   | 206   | 21              | 29        |                    |           |                          |
| Little Mud River      | 855   | 25              | 28        | 4.8*               | 5.4       | 112%                     |
| I ower Nowitna River  | 205   | 33              | 33        | 7.1*               | 6.7       | 169%                     |
| Middle Innoko         | 150   | 45              | 41        | 9.5*               | 8.7       | 140%                     |
| Ninemile Island       | 140   | 60              | 39        | 12.3*              | 7.9       | 205%                     |
| Pike Trap I ake       | 130   | 24              | 21        | 6.1*               | 4         | 203%                     |
| Squirrel Creek        | 150   | 49              | 44        | 10.2*              | 8.9       | 152%                     |
| Upper Innoko          | 180   | 31              | 39        | 6.7*               | 8.1       | 93%                      |
| Wapoo Hills           | 220   | 54              | 43        | 9.0*               | 8.3       | 122%                     |
| Yankee Slough         | 100   | 55              | 52        | 11.8*              | 11.3      | 142%                     |

\*Estimate

| Precinitation Data |       | Inches Accumulated since October 1st |           |                     |             |  |
|--------------------|-------|--------------------------------------|-----------|---------------------|-------------|--|
| _ Site Name        | Elev. | This Year                            | Last Year | 1991-2020<br>Normal | % of Normal |  |
| Koyukuk            |       | _                                    |           |                     |             |  |
| Bettles Field      | 640   | 5.7                                  | 6.9       | 6.2                 | 92%         |  |
| Coldfoot           | 1040  | 4.6                                  | 6.4       | 4.8                 | 96%         |  |
| Gobblers Knob      | 2030  | 6.2                                  | 6.3       | 5.5                 | 113%        |  |
| Kuskokwim          |       |                                      |           |                     |             |  |
| Aniak              | 80    | 8.9                                  | 11.9      | 4.7                 | 189%        |  |
| McGrath            | 340   | 6.8                                  | 10.8      |                     |             |  |
| Telaquana Lake     | 1275  | 5.6                                  | 7.7       |                     |             |  |
| Lower Yukon        |       |                                      |           |                     |             |  |
| Galena AK          | 410   | 5.6                                  | 6.6       |                     |             |  |
| Hozatka Lake       | 206   | 4.6                                  | 6.6       |                     |             |  |

### Arctic and Kotzebue Sound



### Snowpack

#### <u>Arctic</u>

On March 1, 2024, the stations along the Dalton Highway are reporting above Normal precipitation for the water year. Sagwon SNOTEL has received 3.5 inches of precipitation since October 1, and is 140% of average. The Utqiaġvik Airport, which averages 1.38" over its period of record for the date, has received 3.84" of precipitation since October 1, making it the wettest year in ninety-one years of observation. Since most precipitation since October 1 should be snowfall it's likely the Arctic has above average snowpack. The snow depth sensors at the stations along the Dalton Highway support this, although snow is notoriously difficult to measure in this environment.

#### <u>Kotzebue</u>

The Kotzebue region has few points that provide snow and precipitation data. Kelly Station SNOTEL is one of the few measurements in the state that is reporting below Normal snowpack on March 1, 2024. The 2.3 inches of SWE the station is reporting is approximately half of Normal snowpack for the date. Dahl Creek was installed last year and is reporting less snowpack than it was at this date in 2023, but it's close and at the time it was believed that that was a deep snowpack for the region. The airport in Kotzebue has collected well above average precipitation for the year, although nearly half of this was recorded in October and might be rain. All we can say for certain about the snowpack around Kotzebue is that the snowpack at Kelly Station is below Normal on March 1, 2024.

### Arctic and Kotzebue Sound

### Snowpack Data

| •                     |       |                 |           |                    |           |                          |
|-----------------------|-------|-----------------|-----------|--------------------|-----------|--------------------------|
|                       |       | Snow Depth (in) |           | Water Content (in) |           |                          |
| Site Name             | Elev. | Current         | Last Year | Current            | Last Year | 1991-2020<br>% of Normal |
| Arctic                |       |                 |           |                    |           |                          |
| Atigun Pass SNOTEL    | 4800  | 31              | 37        |                    |           |                          |
| Dahl Creek SNOTEL     | 260   | 32              | 43        | 7.3*               | 9         |                          |
| Imnaviat Creek SNOTEL | 3050  | 28              | 18        |                    |           |                          |
| Prudhoe Bay SNOTEL    | 30    | 18              | 11        |                    |           |                          |
| Sagwon SNOTEL         | 1000  | 16              | 12        |                    |           |                          |
| Kotzebue Sound        |       |                 |           |                    |           |                          |
| Kelly Station SNOTEL  | 310   | 18              | 37        | 2.3*               | 7.6       | 50%                      |
| *Estimate             |       |                 |           |                    |           |                          |

### **Precipitation Data**

|                |       | Inches Accumulated since October 1st |           |                     |             |
|----------------|-------|--------------------------------------|-----------|---------------------|-------------|
| Site Name      | Elev. | This Year                            | Last Year | 1991-2020<br>Normal | % of Normal |
| Arctic         |       |                                      |           |                     |             |
| Atigun Pass    | 4800  | 6.1                                  | 4.9       | 4.8                 | 127%        |
| Dahl Creek     | 260   | 7                                    | 10        |                     |             |
| Imnaviat Creek | 3050  | 3.3                                  | 3.1       | 2.4                 | 138%        |
| Prudhoe Bay    | 30    | 2.8                                  | 2.6       | 2.3                 | 122%        |
| Sagwon         | 1000  | 3.5                                  | 2.8       | 2.5                 | 140%        |
| Kotzebue Sound |       |                                      |           |                     |             |
| Kelly Station  | 310   | 4.7                                  | 8.6       | 5.1                 | 92%         |

### Arctic and Kotzebue Sound

### **Temperature Data**

Source: NOAA ACIS



### **Streamflow Forecasts**





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



### Snowpack

Precipitation sites on the Seward Peninsula are a mixed bag. The Nome airport is reading well above its period-of-record average for the date. Pargon Creek is near Normal. And Rocky Point is reading below.



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

| Precipitation Data | Inches Accumulated since October 1st |           |           |                     |             |
|--------------------|--------------------------------------|-----------|-----------|---------------------|-------------|
| Site Name          | Elev.                                | This Year | Last Year | 1991-2020<br>Normal | % of Normal |
| Aniak              | 80                                   | 8.9       | 11.9      | 4.7                 | 189%        |
| Johnsons Camp      | 25                                   | 2.9       | 1.5       |                     |             |
| Pargon Creek       | 100                                  | 5.5       | 6.2       | 5.3                 | 104%        |
| Rocky Point        | 250                                  | 3.1       | 4.2       | 5.1                 | 61%         |

### **Snowpack Data**

|                      |       | Snow Depth (in) |           |         | Water Content (in) |                          |  |
|----------------------|-------|-----------------|-----------|---------|--------------------|--------------------------|--|
| Site Name            | Elev. | Current         | Last Year | Current | Last Year          | 1991-2020<br>% of Normal |  |
| Aniak SNOTEL         | 80    | 23              |           |         |                    |                          |  |
| Johnsons Camp SNOTEL | 25    | 15              |           |         |                    |                          |  |
| Pargon Creek SNOTEL  | 100   | 14              | 14        |         |                    |                          |  |
| Rocky Point SNOTEL   | 250   | 30              | 30        |         |                    |                          |  |

### **Temperature Data**

Source: NOAA ACIS





### Snowpack Map



### **Copper Basin**

### **Temperature Chart**

Source: NOAA ACIS



### **Streamflow Forecasts**

### COPPER RIVER

Water Supply Forecasts

March 1, 2024



### **Copper Basin**

#### Snowpack

On March 1, 2024, the Copper River Basin remains the crown jewel of the Alaska Snow Survey network. Every measurement in this basin is reading above Normal and includes several period-of-record maximums. Many of these records are the same as last month, including Upper Tsaina and May Creek SNOTELS and the Sanford River Aerial Marker. The mid-February heat wave was felt in the lower elevations of this basin and Kenny Lake School which was a record last month, was measured with less SWE on March 1 than it was on February 1. However, its measurement remains above Normal. Towards Thompson Pass, the Tsaina River Snow Course, which wasn't able to get measured last month, is reporting the second highest SWE in fifty-two years of observation. The Copper River Snowpack on March 1 is remarkable.

| Snowpack Data             |       | Snow Depth (in) |           | Water Content (in) |           |           |
|---------------------------|-------|-----------------|-----------|--------------------|-----------|-----------|
| Site Name                 | Elev. | Current         | Last Year | Current            | Last Year | 1991-2020 |
| Chistochina               | 1950  | 22              | 33        | 3.8                | 7.3       | 119%      |
| Copper Center             | 1264  | 30              |           | 6.5                |           |           |
| Curtis Lake               | 2850  | 35              | 41        | 7.1*               | 8.6       | 178%      |
| Dadina Lake               | 2160  | 33              | 35        | 7.9                | 6.8       | 146%      |
| Fielding Lake             | 3000  | 45              | 45        | 11.2               | 10.2      | 130%      |
| Fielding Lake SNOTEL      | 3000  | 35              | 39        | 9.5*               | 9.5       |           |
| Gulkana River SNOTEL      | 1830  | 27              | 36        |                    | 8.5       |           |
| Haggard Creek             | 2540  | 36              | 46        | 8                  | 10.5      | 154%      |
| Horsepasture Pass         | 4300  | 33              | 32        | 6.3*               | 8.1       | 113%      |
| Horsepasture Pass SNOTEL  | 4300  | 32              | 34        |                    |           |           |
| Kenny Lake School         | 1300  | 23              | 27        | 4.7                | 5.7       | 147%      |
| Lake Louise               | 2400  | 27              | 38        | 5.4                | 8.4       | 135%      |
| Little Nelchina           | 2650  | 29              | 37        | 6.3                | 6.8       | 147%      |
| Look Eyrie SNOTEL         | 5040  | 109             | 142       |                    |           |           |
| Lost Creek                | 3030  | 15              |           | 2.7                |           | 93%       |
| Lowe River                | 600   | 69              | 48        | 22.9               | 13.7      | 157%      |
| May Creek SNOTEL          | 1610  | 29              | 35        | 7.4*               | 7.3       | 168%      |
| Mentasta Pass             | 2430  | 27              |           | 5.8                |           | 116%      |
| Monsoon Lake              | 3100  | 30              | 38        | 6.2                | 7.8       | 113%      |
| Mt. Eyak SNOTEL           | 1405  |                 | 73        | 23.7*              | 24.9      | 123%      |
| Nicks Valley SNOTEL       | 4280  | 136             | 82        |                    |           |           |
| Paxson                    | 2650  | 37              | 47        | 8.1                | 10.6      | 140%      |
| Sanford River             | 2280  | 39              | 38        | 9.7*               | 8.2       | 187%      |
| St. Anne Lake             | 1990  | 32              | 33        | 6.6                | 7.4       | 150%      |
| Tazlina                   | 1250  | 28              | 29        | 6.1                | 6.7       | 174%      |
| Tolsona Creek             | 2000  | 30              | 35        | 6.8                | 7.2       | 170%      |
| Tsaina River              | 1650  | 77              | 55        | 23.2               | 16.1      | 172%      |
| Twin Lakes                | 2400  | 33              | 36        | 7.2*               | 7.7       | 144%      |
| Upper Tsaina River SNOTEL | 1750  | 97              | 58        | 29.5               | 16.8      | 178%      |
| Worthington Glacier       | 2100  | 94              | 69        | 31.4               | 21.7      | 145%      |

\*Estimate

| Precipitation Data |       | Inches Accumulated since October 1st |           |                     |             |  |  |  |
|--------------------|-------|--------------------------------------|-----------|---------------------|-------------|--|--|--|
| Site Name          | Elev. | This Year                            | Last Year | 1991-2020<br>Normal | % of Normal |  |  |  |
| Fielding Lake      | 3000  | 9.3                                  | 11.5      |                     |             |  |  |  |
| Gulkana River      | 1830  | 7.1                                  | 9         |                     |             |  |  |  |
| May Creek          | 1610  | 9.8                                  | 10.9      | 5.8                 | 169%        |  |  |  |
| Mt. Eyak           | 1405  | 75.9                                 | 70.2      | 63.6                | 119%        |  |  |  |
| Upper Tsaina River | 1750  | 30                                   | 23.9      | 23.5                | 128%        |  |  |  |

Matanuska—Susitna Basin



### **Snowpack Map**



### Snowpack

Snowpack in the Matanuska and Susitna basins is above Normal on March 1, 2024. In the upper reaches of the Susitna, on the eastern side of the Talkeetna Mountains, record snowpack is being reported at several Aerial Markers. The 6.5 inches of SWE estimated at the Square Lake Aerial Marker is a fifty-eight-year record. Closer to the coast the snowpack is less exceptional compared to Normal, even if absolute values far exceed the upper reaches. Fishhook Basin was measured with nearly triple the SWE as Square Lake, however its 18.2 inches is 119% Normal and in the top third in its sixty-one years of observation. Sheep Mountain, the sole measurement in the Matanuska basin, is above Normal for the date.

Mountain snow course, was measured at 167% normal and the sixth highest in sixty-six years of observation.

### Matanuska—Susitna Basin



#### **Temperature Data**

Source: NOAA ACIS



### **Streamflow Forecasts**

#### MATANUSKA-SUSITNA BASINS Water Supply Forecasts March 1, 2024



### Matanuska—Susitna Basin

### Snowpack Data

| ononpack Data              | 1     | Snow D  | anth (in) | Water Content (in) |                    |             |
|----------------------------|-------|---------|-----------|--------------------|--------------------|-------------|
|                            |       | Show De | epth (in) |                    | water Content (in) | 1001-2020   |
| Site Name                  | Elev. | Current | Last Year | Current            | Last Year          | % of Normal |
| Alexander Lake             | 160   | 46      | 43        | 11.4               | 11.5               | 121%        |
| Alexander Lake SNOTEL      | 160   | 39      | 42        | 9.3                | 8.5                |             |
| Archangel Road             | 2200  | 47      | 53        | 13.2               | 14.9               | 122%        |
| Birthday Pass              | 4020  | 100     | 82        | 32                 | 25.6               |             |
| Blueberry Hill             | 1200  | 50      | 52        | 13.2               | 11.6               | 114%        |
| Curtis Lake                | 2850  | 35      | 41        | 7.1*               | 8.6                | 178%        |
| Denali View                | 700   | 41      | 42        | 10.2               | 9                  | 111%        |
| E. Fork Chulitna           | 1770  | 49      | 44        | 12.9               | 9.8                | 118%        |
| Fishhook Basin             | 3300  | 59      | 66        | 18.2               | 19.6               | 119%        |
| Fog Lakes                  | 2120  | 23      | 32        | 4.1*               | 6                  | 91%         |
| Frostbite Bottom SNOTEL    | 2700  | 51      | 53        | 15.3               | 15.1               |             |
| Horsepasture Pass          | 4300  | 33      | 32        | 6.3*               | 8.1                | 113%        |
| Horsepasture Pass SNOTEL   | 4300  | 32      | 34        |                    |                    |             |
| Independence Mine          | 3550  | 68      | 69        | 20.9               | 20.9               | 110%        |
| Independence Mine SNOTEL   | 3550  | 56      | 69        | 18.5               | 21.2               |             |
| Lake Louise                | 2400  | 27      | 38        | 5.4                | 8.4                | 135%        |
| Little Susitna             | 1700  | 45      | 50        | 12                 | 13.2               | 130%        |
| Monahan Flat SNOTEL        | 2710  | 33      | 31        | 6.9                | 5.7                |             |
| Monsoon Lake               | 3100  | 30      | 38        | 6.2                | 7.8                | 113%        |
| Moraine SNOTEL             | 2100  | 35      | 27        | 8.8                | 6                  | 157%        |
| Sheep Mountain             | 2900  | 30      | 37        | 7                  | 8                  | 146%        |
| Skwentna                   | 160   | 51      | 39        | 13.3               | 9.4                | 143%        |
| Spring Creek SNOTEL        | 580   | 0*      | 7         |                    |                    |             |
| Square Lake                | 2950  | 31      | 33        | 6.5*               | 6.2                | 171%        |
| Susitna Valley High SNOTEL | 375   | 30      | 42        | 8.8*               | 10.2               | 126%        |
| Talkeetna                  | 350   | 31      | 36        | 7.4                | 8.4                | 123%        |
| Tokositna Valley SNOTEL    | 850   |         | 51        | 13.0*              | 12.2               | 106%        |
| Tyone River                | 2400  | 30      | 31        | 6.6*               | 6                  | 150%        |
| Upper Oshetna River        | 3150  | 29      | 33        | 5.8*               | 6.1                | 145%        |
| Upper Sanona Creek         | 3100  | 32      | 30        | 5.6*               | 5.4                | 117%        |
| Willow Airstrip            | 200   | 32      | 44        | 7.3                | 9.7                | 128%        |

\*Estimate

### **Precipitation Data**

| Precipitation Data  |       |           | Inches Accumu | ated since Octobe   | er 1st      |
|---------------------|-------|-----------|---------------|---------------------|-------------|
| Site Name           | Elev. | This Year | Last Year     | 1991-2020<br>Normal | % of Normal |
| Alexander Lake      | 160   | 13.7      | 14.5          |                     |             |
| Frostbite Bottom    | 2700  | 17.1      | 16.7          |                     |             |
| Independence Mine   | 3550  | 18        | 18.9          | 15                  | 120%        |
| Monahan Flat        | 2710  | 7.9       | 8.3           | 6.9                 | 114%        |
| Moraine             | 2100  | 12.3      | 8.6           | 9.3                 | 132%        |
| Spring Creek        | 580   | 8.7       | 8.4           |                     |             |
| Susitna Valley High | 375   | 11.1      | 13.8          | 10.1                | 110%        |
| Tokositna Valley    | 850   | 16.2      | 20            | 18.1                | 90%         |

### Northern Cook Inlet



### **Snowpack Map**



### Northern Cook Inlet

### **Temperature Data**

#### Source: NOAA ACIS



### **Streamflow Forecasts**

#### NORTHERN COOK INLET Water Supply Forecasts March 1, 2024



### **Precipitation Data**

|                    | Inches Accumulated since October 1st |           |           |                     |             |  |  |  |
|--------------------|--------------------------------------|-----------|-----------|---------------------|-------------|--|--|--|
| Site Name          | Elev.                                | This Year | Last Year | 1991-2020<br>Normal | % of Normal |  |  |  |
| Anchorage Hillside | 2080                                 | 17        | 13.4      | 12.1                | 141%        |  |  |  |
| Frostbite Bottom   | 2700                                 | 17.1      | 16.7      |                     |             |  |  |  |
| Indian Pass        | 2350                                 | 27.6      | 25.2      | 21.6                | 128%        |  |  |  |
| Moraine            | 2100                                 | 12.3      | 8.6       | 9.3                 | 132%        |  |  |  |
| Mt. Alyeska        | 1540                                 | 35.9      | 29        | 37.6                | 95%         |  |  |  |
| Spring Creek       | 580                                  | 8.7       | 8.4       |                     |             |  |  |  |

### Northern Cook Inlet

#### Snowpack

Despite the middle of the month being exceptionally warm and windy, with a few automated stations reporting melt, the North Cook Inlet snowpack continues to boast near record snowpack on March 1, 2024. The snowpack in this region is most exceptional in the lower elevations around Anchorage. There are five snow courses that go up the Arctic Valley Road and have been measured on March 1 for roughly sixty years. The 8.2 inches of SWE measured at 500 feet ASL at Arctic Valley #1 is an all-time record. The 13 inches of SWE measured at 3000 feet ASL at Arctic Ski Bowl is above Normal but nowhere near the record 25 inches of SWE measured in 2012. Similarly, the Kincaid Snow Course was measured with exceptional snowpack, as was South Campbell Creek. Indian Pass and Mt. Alyeska have above Normal snowpack.

#### **Snowpack Data**

|                           |       | Snow D  | epth (in) |         | Water Content (in) | Content (in)             |  |
|---------------------------|-------|---------|-----------|---------|--------------------|--------------------------|--|
| Site Name                 | Elev. | Current | Last Year | Current | Last Year          | 1991-2020<br>% of Normal |  |
| Anchorage Hillside SNOTEL | 2080  | 45      | 41        | 12.5*   | 10.6               | 164%                     |  |
| Arctic Ski Bowl           | 3000  | 37      | 50        | 13      | 18.8               | 137%                     |  |
| Arctic Valley 1           | 500   | 26      | 28        | 8.2     | 7.4                | 210%                     |  |
| Arctic Valley 2           | 1000  | 31      | 34        | 9.3     | 8.8                | 207%                     |  |
| Arctic Valley 3           | 1450  | 35      | 37        | 10.5    | 10.3               | 159%                     |  |
| Arctic Valley 4           | 2030  | 33      | 35        | 9.5     | 9.6                | 148%                     |  |
| Frostbite Bottom SNOTEL   | 2700  | 51      | 53        | 15.3    | 15.1               |                          |  |
| Indian Pass SNOTEL        | 2350  | 68      | 67        | 20.8*   | 20.2               | 122%                     |  |
| Kincaid Park              | 250   | 27      | 30        | 7.4     | 7.7                | 195%                     |  |
| Little Susitna            | 1700  | 45      | 50        | 12      | 13.2               | 130%                     |  |
| Lone Ridge                | 1675  | 85      | 70        | 26.4*   | 20.7               | 111%                     |  |
| Mcneil River SGS SNOTEL   | 140   | 16      |           |         |                    |                          |  |
| Moraine SNOTEL            | 2100  | 35      | 27        | 8.8     | 6                  | 157%                     |  |
| Mt. Alyeska SNOTEL        | 1540  | 78      | 56        | 27.7*   | 16.6               | 116%                     |  |
| Portage Valley            | 50    | 28      | 27        | 9.6     | 6.1                | 86%                      |  |
| South Campbell Creek      | 1200  | 37      | 36        | 9.5     | 8.5                | 176%                     |  |
| South Fork Eagle River    | 2165  | 47      | 48        | 10.2    | 11.8               |                          |  |
| Spring Creek SNOTEL       | 580   | 0*      | 7         |         |                    |                          |  |

\*Estimate



**Snowpack Map** 



### Kenai Peninsula

### **Temperature Chart**

Source: NOAA ACIS



### **Streamflow Forecasts**



**KENAI PENINSULA** 

### Kenai Peninsula

### Snowpack

- -

Snowpack on the Kenai Peninsula is mostly above Normal on March 1, 2024. Snow measurements are most exceptionally above Normal in the central Kenai and are bookended by two below normal measurements on either side of the Peninsula. The Portage snow course felt the brunt of the mid Febreuary melt down, lost SWE over the month, and is now reporting slightly below Normal snowpack for the date. Near Homer measurements also likely took a loss mid-month. The measurements ultimately made increases over the whole month, and other than the Bridge Creek Snow Course, are reporting near Normal snowpack for the date. After the melt down a storm track that favored the central Kenai took aim and contributed to March 1 measurements that are well above Normal at Moose Pass, Cooper Lake, Snug Harbor and Kenai Summit.

| Snowpack Data               |       |         | Danth (in) | Water Content (in) |                    |                          |  |
|-----------------------------|-------|---------|------------|--------------------|--------------------|--------------------------|--|
|                             |       | Snowl   | Jepth (In) |                    | water Content (In) | 1001 0000                |  |
| Site Name                   | Elev. | Current | Last Year  | Current            | Last Year          | 1991-2020<br>% of Normal |  |
| Anchor River Divide SNOTEL  | 1653  | 44      | 41         | 12.3*              | 10                 | 126%                     |  |
| Bertha Creek                | 950   | 50      | 40         | 15.4               | 12                 | 111%                     |  |
| Bridge Creek                | 1300  | 32      | 31         | 8.2                | 7.2                | 86%                      |  |
| Cooper Lake SNOTEL          | 1200  | 55      | 45         | 18.3*              | 11.1               | 148%                     |  |
| Demonstration Forest        | 780   | 29      | 30         | 6.6                | 6.8                | 105%                     |  |
| Eagle Lake                  | 1400  | 41      | 32         | 10.8               | 7.8                | 108%                     |  |
| Exit Glacier                | 400   | 57      | 55         | 18.8               | 15                 | 146%                     |  |
| Exit Glacier SNOTEL         | 400   | 60      | 56         | 17.4*              | 15.1               |                          |  |
| Grandview SNOTEL            | 1100  | 72*     | 67         | 24.6*              | 19.4               | 102%                     |  |
| Grouse Creek Divide SNOTEL  | 700   | 66      | 46         | 18.0*              | 13.3               | 136%                     |  |
| Indian Pass SNOTEL          | 2350  | 68      | 67         | 20.8*              | 20.2               | 122%                     |  |
| Jean Lake                   | 620   | 23      | 23         | 5.8                | 5.5                | 187%                     |  |
| Kenai Moose Pens SNOTEL     | 300   | 22      | 28         | 6.1*               | 6.8                | 153%                     |  |
| Kenai Summit                | 1390  | 53      | 46         | 15.3               | 13.8               | 125%                     |  |
| Lower Kachemak Creek SNOTEL | 1915  | 50      | 46         |                    |                    |                          |  |
| Mcneil Canyon SNOTEL        | 1320  | 32      | 33         | 10.2*              | 8.6                | 117%                     |  |
| Middle Fork Bradley SNOTEL  | 2300  | 47      | 26         |                    |                    |                          |  |
| Moose Pass                  | 700   | 41      | 36         | 11.4               | 9.7                | 211%                     |  |
| Mt. Alyeska SNOTEL          | 1540  | 78      | 56         | 27.7*              | 16.6               | 116%                     |  |
| Nuka Glacier SNOTEL         | 1250  | 67      | 67         |                    |                    |                          |  |
| Port Graham SNOTEL          | 300   | 17*     |            | 6.2*               | 10.9               | 107%                     |  |
| Portage Valley              | 50    | 28      | 27         | 9.6                | 6.1                | 86%                      |  |
| Snug Harbor Road            | 500   | 26      | 22         | 7.8                | 5.1                | 186%                     |  |
| Summit Creek SNOTEL         | 1400  | 46      | 41         | 12.5*              | 9                  | 136%                     |  |
| Turnagain Pass SNOTEL       | 1880  | 89      | 68         | 27.9*              | 19.2               | 116%                     |  |

\*Estimate

### **Precipitation Data**

| Precipitation Data   |       |           | Inches Accumul | ated since Octobe   | ctober 1st  |  |
|----------------------|-------|-----------|----------------|---------------------|-------------|--|
| Site Name            | Elev. | This Year | Last Year      | 1991-2020<br>Normal | % of Normal |  |
| Anchor River Divide  | 1653  | 13.7      | 12.1           | 16.4                | 84%         |  |
| Cooper Lake          | 1200  | 23.4      | 17.2           | 22.4                | 104%        |  |
| Exit Glacier         | 400   | 39.8      | 29.4           |                     |             |  |
| Grandview            | 1100  | 30.7      | 28.4           | 35.7                | 86%         |  |
| Grouse Creek Divide  | 700   | 25        | 23.3           | 32.8                | 76%         |  |
| Indian Pass          | 2350  | 27.6      | 25.2           | 21.6                | 128%        |  |
| Kenai Moose Pens     | 300   | 8.4       | 8.4            | 7.4                 | 114%        |  |
| Lower Kachemak Creek | 1915  | 23        | 20.4           |                     |             |  |
| Mcneil Canyon        | 1320  | 12.9      | 10.1           | 15.2                | 85%         |  |
| Middle Fork Bradley  | 2300  | 25.2      | 19.6           | 27.3                | 92%         |  |
| Mt. Alyeska          | 1540  | 35.9      | 29             | 37.6                | 95%         |  |
| Nuka Glacier         | 1250  | 29        | 27.8           | 44.8                | 65%         |  |
| Port Graham          | 300   | 37.1      | 31.6           | 42.4                | 88%         |  |
| Summit Creek         | 1400  | 16.2      | 13             | 15                  | 108%        |  |
| Turnagain Pass       | 1880  | 28.6      | 24.4           | 31.6                | 91%         |  |



### **Temperature Chart**

Source: NOAA ACIS



### Western Gulf – Prince William Sound

### Snowpack

Snowpack in the Western Gulf is above Normal on March 1, 2024. The snowpack around Valdez, a place known for massive snowfall, is massive this year. The Valdez and Lowe River snow courses have been measured for over fifty years and are both boasting well above Normal snowpack. The nearly 23 inches of SWE measured at Lowe River is the fourth highest in fifty-two years of observation. Temperatures at the stations near Seward and Cordova soared in the middle of February. Mt. Eyak was roasting with a high of 54 degrees Fahrenheit on Valentine's Day. Grouse Creek Divide and Mt. Eyak both reported decreases in snowpack during this hot snap, even though total SWE increased over the month. These increases were not as exceptional as the measurements around Valdez, but all stations made gains and the snowpack of the Western Gulf is above Normal.

### **Snowpack Map**



### Western Gulf — Prince William Sound

### Snowpack Data

| Snowpack Data              | I.    |            |              |         |                    |                          |  |
|----------------------------|-------|------------|--------------|---------|--------------------|--------------------------|--|
| -                          |       | Snow Depth | n (in)       |         | Water Content (in) | in)                      |  |
| Site Name                  | Elev. | Current    | Last<br>Year | Current | Last Year          | 1991-2020<br>% of Normal |  |
| Cooper Lake SNOTEL         | 1200  | 55         | 45           | 18.3*   | 11.1               | 148%                     |  |
| Esther Island SNOTEL       | 50    | 39         | 51           |         |                    |                          |  |
| Exit Glacier               | 400   | 57         | 55           | 18.8    | 15                 | 146%                     |  |
| Exit Glacier SNOTEL        | 400   | 60         | 56           | 17.4*   | 15.1               |                          |  |
| Grouse Creek Divide SNOTEL | 700   | 66         | 46           | 18.0*   | 13.3               | 136%                     |  |
| Lowe River                 | 600   | 69         | 48           | 22.9    | 13.7               | 157%                     |  |
| Mt. Eyak SNOTEL            | 1405  |            | 73           | 23.7*   | 24.9               | 123%                     |  |
| Nicks Valley SNOTEL        | 4280  | 136        | 82           |         |                    |                          |  |
| Nuka Glacier SNOTEL        | 1250  | 67         | 67           |         |                    |                          |  |
| Sugarloaf Mtn SNOTEL       | 550   | 85         | 62           |         |                    |                          |  |
| Tsaina River               | 1650  | 77         | 55           | 23.2    | 16.1               | 172%                     |  |
| Upper Tsaina River SNOTEL  | 1750  | 97         | 58           | 29.5    | 16.8               | 178%                     |  |
| Valdez                     | 50    | 64         | 44           | 20.4    | 11.5               | 155%                     |  |
| Worthington Glacier        | 2100  | 94         | 69           | 31.4    | 21.7               | 145%                     |  |

\*Estimate

### **Precipitation Data**

| •                   |       |                                      |           |                     |             |  |
|---------------------|-------|--------------------------------------|-----------|---------------------|-------------|--|
|                     |       | Inches Accumulated since October 1st |           |                     |             |  |
| Site Name           | Elev. | This Year                            | Last Year | 1991-2020<br>Normal | % of Normal |  |
| Cooper Lake         | 1200  | 23.4                                 | 17.2      | 22.4                | 104%        |  |
| Esther Island       | 50    | 73.6                                 | 65.2      | 76.4                | 96%         |  |
| Exit Glacier        | 400   | 39.8                                 | 29.4      |                     |             |  |
| Grouse Creek Divide | 700   | 25                                   | 23.3      | 32.8                | 76%         |  |
| Mt. Eyak            | 1405  | 75.9                                 | 70.2      | 63.6                | 119%        |  |
| Nuka Glacier        | 1250  | 29                                   | 27.8      | 44.8                | 65%         |  |
| Sugarloaf Mtn       | 550   | 44.8                                 | 39.4      | 36.6                | 122%        |  |
| Upper Tsaina River  | 1750  | 30                                   | 23.9      | 23.5                | 128%        |  |

### Southeast





### **Snowpack Map**



### Southeast

### **Temperature Data**

#### Source: NOAA ACIS



### **Streamflow Forecasts**





### Southeast

#### Snowpack

The snowpack in Southeast Alaska is trending similar to last month with below Normal snowpack at lower elevations, and Normal to above Normal at higher elevations. Coming off the heels of the snowiest January on record in Juneau, February snowfall was less exceptional. On the northern panhandle, January precipitation was paltry and snow measurements were similar to what they were measured at last month. Headed south, above Normal monthly gains were made, however these gains were not enough to counter the deficit at lower elevations and the snow measurements taken below 1000 feet elevation are all below Normal. Water year-to-date precipitation and Long Lake and Moore Creek Bridge is still the highest on record despite below average February precipitation.

### **Snowpack Data**

| Showpack Bata             |       | Snow Depth (in) |           | Water Content (in) |           |                          |  |
|---------------------------|-------|-----------------|-----------|--------------------|-----------|--------------------------|--|
| Site Name                 | Elev. | Current         | Last Year | Current            | Last Year | 1991-2020<br>% of Normal |  |
| Cropley Lake              | 1650  | 63              | 100       | 20.2               | 28.7      | 88%                      |  |
| Eagle Crest               | 1200  | 50              | 77        | 13.2               | 19.4      | 101%                     |  |
| Fish Creek                | 500   | 8               | 23        | 2.3                | 6.1       | 74%                      |  |
| Flower Mountain SNOTEL    | 2510  | 76              | 57        | 28.3*              | 18.5      |                          |  |
| Heen Latinee SNOTEL       | 2065  | 56              | 66        |                    | 19.6      |                          |  |
| Hoonah SNOTEL             | 1550  | 77              |           | 24                 |           |                          |  |
| Log Cabin B.C.            | 2900  | 56              | 45        | 15.4               | 12.9      | 108%                     |  |
| Long Lake SNOTEL          | 850   |                 | 112       | 31.8               | 36.2      | 116%                     |  |
| Moore Creek Bridge SNOTEL | 2250  | 69              | 57        |                    |           |                          |  |
| Moore Creek Bridge        | 2250  | 54              | 58        | 20.2*              | 17.3      | 120%                     |  |
| Mount Ripinsky SNOTEL     | 2500  | 107             |           |                    |           |                          |  |
| Petersburg Reservoir      | 550   | 19              | 39        | 4.6                | 9.3       | 96%                      |  |
| Petersburg Ridge, S.      | 1650  | 52              | 96        | 12.9               | 28.5      | 71%                      |  |
| Speel River               | 280   | 70              | 83        | 23.2               | 26.8      | 87%                      |  |
| Summit                    | 985   | 41              | 37        | 11.8               | 7.6       | 159%                     |  |
| West Creek                | 475   | 25              | 29        | 6.8                | 6.9       | 67%                      |  |

\*Estimate

### **Precipitation Data**

|                    |       | Inches Accumulated since October 1st |           |                     |             |  |
|--------------------|-------|--------------------------------------|-----------|---------------------|-------------|--|
| Site Name          | Elev. | This Year                            | Last Year | 1991-2020<br>Normal | % of Normal |  |
| Hoonah             | 1550  | 43.5                                 |           |                     |             |  |
| Long Lake          | 850   | 114.8                                | 100.2     | 85.3                | 135%        |  |
| Moore Creek Bridge | 2250  | 31.9                                 | 26.3      | 23.8                | 134%        |  |

#### For further information contact:

NRCS Alaska web site: https://www.https://www.nrcs.usda.gov/alaska/snow-survey NRCS Water and Climate Center web site: https://www.https://www.nrcs.usda.gov/programsinitiatives/sswsf-snow-survey-and-water-supply-forecasting-program/national-water-and

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