



Spring Breakup Summary for Alaska

Valid May 25, 2024

[Alaska-Pacific River Forecast Center](#)

Next Product Issuance: May 31, 2024

www.weather.gov/aprfc

EXPERIMENTAL PRODUCT

Spring Breakup and Flood Potential Summary

Current Conditions as of May 25:

- The Yukon River breakup front had pushed through Emmonak and Alakanuk in the south channel, and past Kotlik to the north.
 - Last week, an ice jam upstream of Hill Island caused minor flooding in Pilot Station; this jam released on May 20.
 - Another ice jam near Emmonak caused minor flooding for Emmonak and Alakanuk from May 23-25; this jam released on May 25.
- On May 24, Fort Yukon water levels began to rise due to snowmelt runoff from the Porcupine River. Minor flooding continues and will persist for the next several days.
- North Slope rivers have started flowing water.
- Kobuk and Noatak rivers have broken up at all communities but stranded ice remains in the lower reaches.
- Buckland - local breakup occurred last week. Intact ice remains in place upstream. No ice jam flooding is expected.

Forecast Conditions

- Yukon - Some shorefast ice persists near the mouth, but any flood threat for Kotlik and Nunam Iqua remains low. Expect likely thermal breakup for the very final stretch of the Lower Yukon in the next few days. Snowmelt flooding will remain the focus over the next week or two in Fort Yukon, due well above normal SWE in the Porcupine/Coleen basin and forecasted above normal temperatures.

The 2024 spring breakup has behaved generally more as a **thermal*** breakup across much of Alaska. In the Eastern Interior late April temperatures were warm, helping to deplete low elevation snowpack and degrade river ice across the middle and upper Tanana River as well as portions of the Upper Yukon River. Across the western part of the state, including the middle/lower Yukon River, breakup has been slow because temperatures are still gradually easing out of winter.

*The two generalized types of river ice breakup are dynamic (or mechanical) and thermal. A dynamic breakup is characterized by cold early spring air temperatures followed by rapid warming, and can be compounded by above average headwater snowpack and river ice

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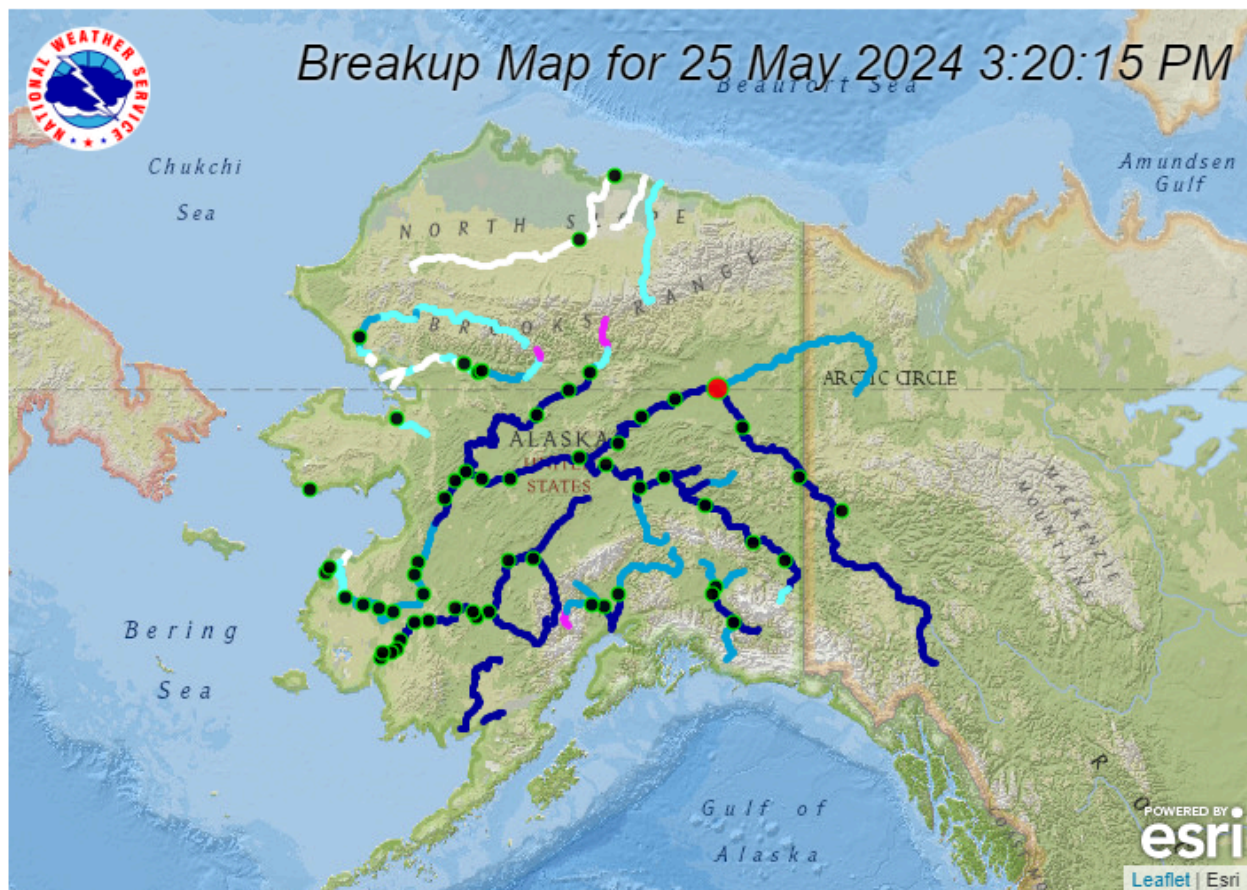


thicknesses, and generally moves the breakup ice front downstream in a somewhat linear fashion. Ice jam flooding occurs more often during a dynamic breakup. A thermal breakup occurs from gradually warming air temperatures, where the ice simply rots in place. Thermal breakups does not mean no flooding, ice jams do occur but they are commonly less severe.

Spring Breakup Village Flood Potential along major rivers in Alaska

Spring breakup village flood potential considers the climate summary, snowpack, ice thickness and condition, historical likelihood of flooding and flood severity, and community knowledge. Village flood potential is reassessed continually as outlooks change and breakup season progresses.

[Link to the current Village Flood Potential and Snowmelt Runoff Maps](#)



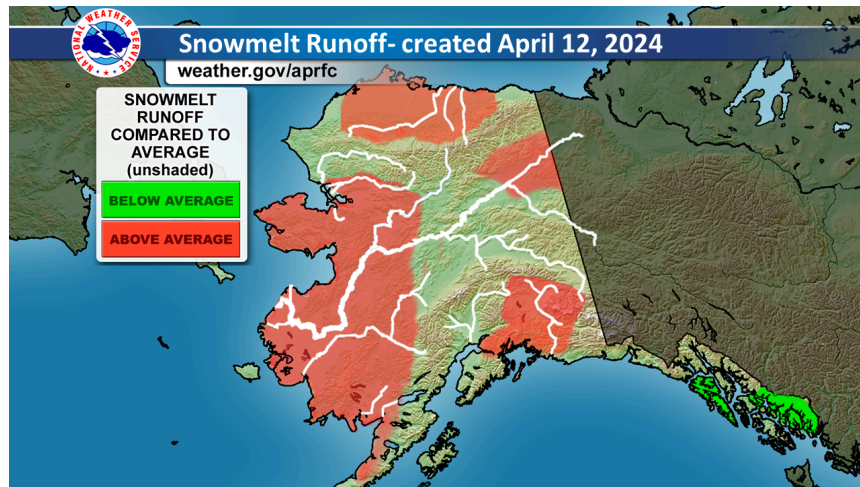
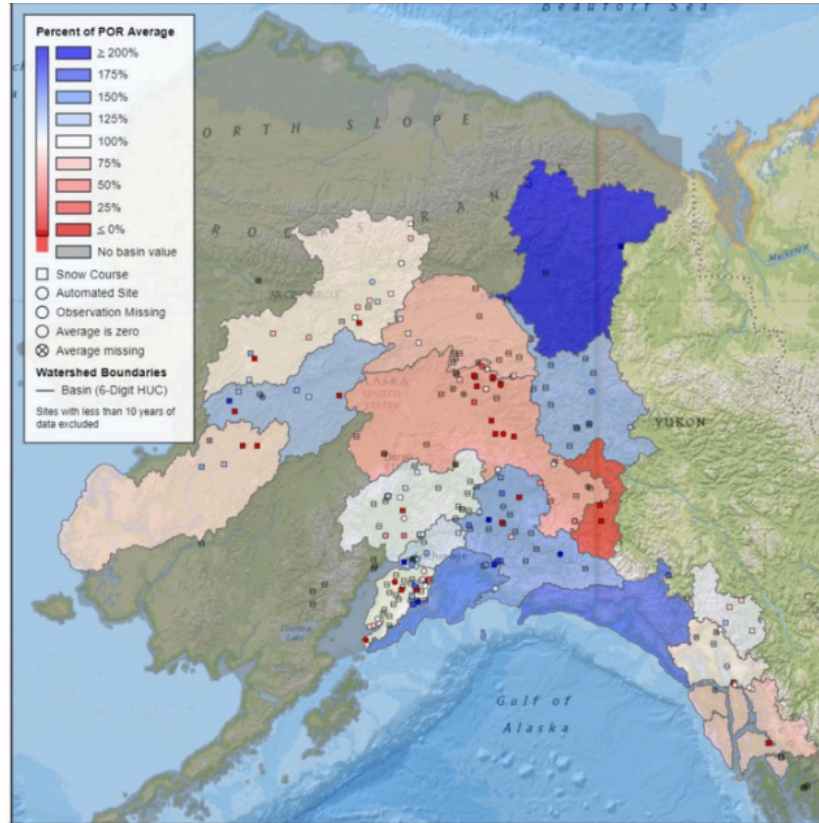
[Link to current breakup map](#)

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NRCS May 1 SWE Percent of Average



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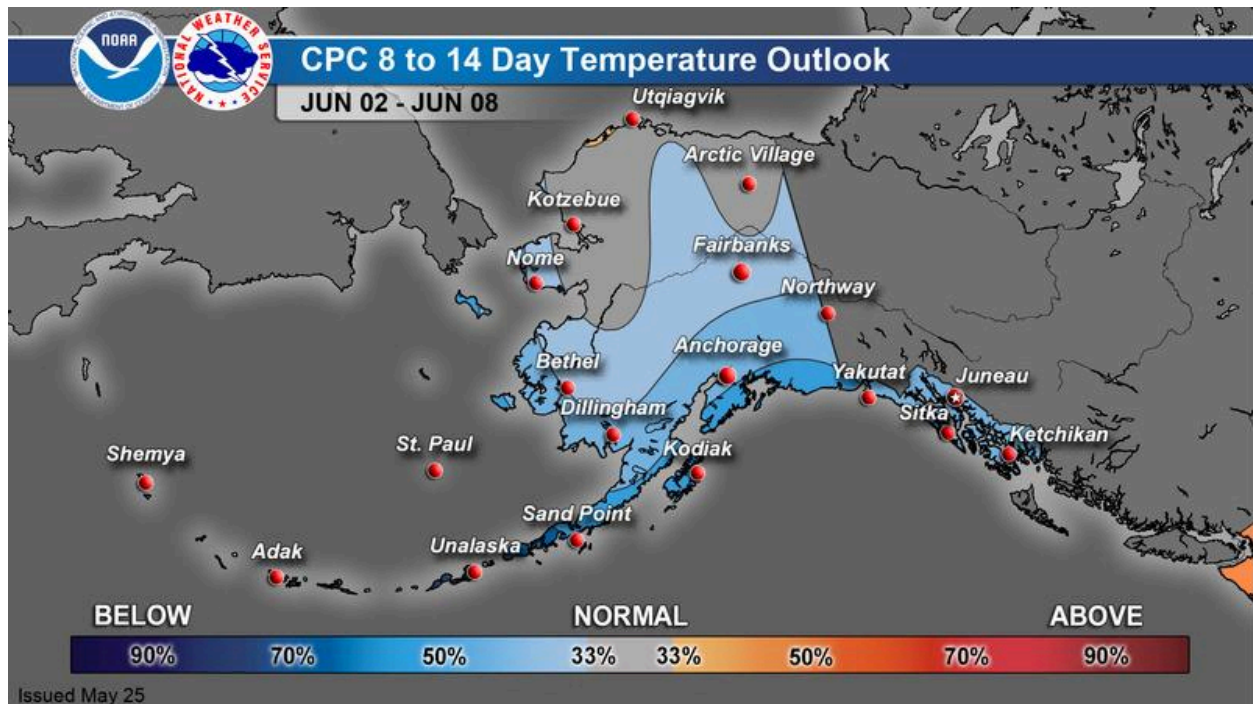
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Climate Outlook

The most important factor determining the severity of ice jam breakup remains weather immediately prior to and during breakup. Dynamic breakups, with the high potential for ice jam flooding typically require an abrupt warm up in temperature.

In the near term, temperatures in the lower Yukon continue below normal with highs in the low 40Fs to 50Fs farther inland, and lows near 30F. For the Arctic, conditions continue to be below normal with highs in the 30Fs and lows in the mid 20Fs. These are good indicators of continuing a thermal breakup.

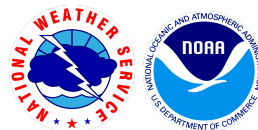


The Climate Prediction Center temperature outlook for the beginning of June indicates an increased chance of cooler than normal temperatures for southwest Alaska and normal temperatures for the northwest and north slope. Cooler temperatures in late May and early June could lead to further delaying breakup north of the Brooks Range.

Flood Potential

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The likelihood of flooding from snowmelt and/or ice jams is initially calculated based on the flood frequency for the current 2000 to 2021 historical record and adjusted to reflect current conditions.

The following tables give an estimation of snowmelt runoff volume, flood potential, and forecast breakup date range for various locations across the state.

Median breakup dates are for the period 1980 through 2023 and are calculated for locations with at least 5 years of data.

Forecast breakup timing is expressed as a range based on snowmelt runoff volume and flood potential. Locations where breakup has already occurred are identified with two asterisks (“**”) following a single date; for example, Kuskokwim River at Nikolai breakup occurred on April 16, 2024 (4/16**).

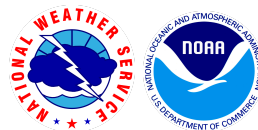
Tanana/Fairbanks

River-Reach	Location	Snowmelt Runoff Volume	Flood Potential	Median* Breakup Date	Years of Record	Forecast Breakup Date Range
Chena River		Average				
	Chena Lakes		Low			
	Fairbanks		Low	4/26	31	4/25**
Tanana River		Average				
	Northway		Low	4/26	31	4/24**
	Salcha		Low	4/26	3	4/24**
	Fairbanks		Low	4/26	31	4/24**
	Nenana		Low	4/30	44	4/27**
	Manley HS		Low	5/3	32	5/1**

Yukon

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River-Reach	Location	Snowmelt Runoff Volume	Flood Potential	Median* Breakup Date	Years of Record	Forecast Breakup Date Range
Yukon River (Upper)		Average				
	Dawson, YT		Low	5/5	44	5/1**
	Eagle		Low-Moderate	5/4	44	5/3**
	Circle		Moderate	5/9	40	5/12**
	Fort Yukon		Moderate-High	5/11	40	5/12**
	Beaver		Low	5/10	27	5/12**
	Stevens Village		Moderate	5/11	25	5/12**
	Rampart		Low-Moderate	5/11	27	5/11**
		Average				
	Tanana		Low-Moderate	5/8	39	5/8**
	Ruby		Low	5/9	38	5/13**
	Galena		Moderate	5/11	43	5/11**
	Koyukuk		Moderate	5/9	17	5/12**
	Nulato		Low	5/12	26	5/13**
	Kaltag		Low-Moderate	5/12	38	5/14**
	Anvik		Low-Moderate	5/14	35	5/14**
Yukon River (Lower)		Above				
	Holy Cross		Low-Moderate	5/14	37	5/9**
	Russian Mission		Low-Moderate	5/15	37	5/13**
	Marshall		Low-Moderate	5/15	32	5/11**
	Pilot Station		Low-Moderate	5/13	27	5/16**
	Mountain Village		Low	5/14	37	5/19**
	Alakanuk/Emmonak		Moderate	5/20	38	5/24**
Koyukuk River		Above				
	Bettles		Low	5/10	42	5/11**

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	Allakaket		Low-Moderate	5/11	37	5/9**
	Hughes		Low-Moderate	5/11	37	5/11**

Kuskokwim

River-Reach	Location	Snowmelt Runoff Volume	Flood Potential	Median* Breakup Date	Years of Record	Forecast Breakup Date Range
Kuskokwim River		Average				
	Nikolai		Low	4/23	38	4/16**
	McGrath		Low	5/5	44	5/1**
	Stony River		Low	5/2	36	5/2**
	Sleetmute		Low	5/1	35	5/2**
	Red Devil		Low	5/4	38	5/1**
	Crooked Creek		Low	5/4	38	5/1**
	Aniak		Low	5/6	41	5/2**
	Kalskag		Moderate	5/5	35	5/3**
	Tuluksak		Low-Moderate	5/7	32	5/5**
	Akiak		Low-Moderate	5/8	38	5/5**
	Kwethluk		Moderate	5/5	12	5/7**
	Bethel		Moderate	5/9	44	5/8**
	Napakiak		Moderate	5/9	29	5/10**

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Southeast/Southcentral

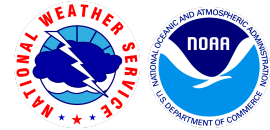
River-Reach	Location	Snowmelt Runoff Volume	Flood Potential	Median* Breakup Date	Years of Record	Forecast Breakup Date Range
Southeast		Average	Low			
Kenai River		Average	Low			4/1**
Anchor River		Average	Low	4/17	16	4/17**
Matanuska River		Average	Low			
Susitna River		Average				
	Gold Creek		Low	5/2	9	4/30**
	Sunshine		Low	5/2	35	5/1**
Talkeetna		Average				
	Talkeetna		Low	4/28	5	4/26**
Yentna River		Average				
	Lake Creek		Low	5/2	32	4/28**
Skwentna		Average				
	Skwentna		Low	4/30	29	4/24**
Copper River		Above				
	Gakona		Low	4/30	35	5/2**
	Gulkana		Low-Moderate	5/1	34	5/2**

North Slope/Northwest

River-Reach	Location	Snowmelt Runoff Volume	Flood Potential	Median* Breakup Date	Years of Record	Forecast Breakup Date Range
Seward Peninsula		Above				

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	Buckland		Moderate	5/18	34	5/17**
Kobuk River		Above				
	Kobuk		Low-Moderate	5/14	40	5/17**
	Shungnak		Low	5/16	32	5/17**
	Ambler		Low	5/16	38	5/18**
	Kiana		Low	5/18	13	5/21**
Noatak River		Above				
	Noatak		Low	5/19	26	5/18**
Brooks Range		Above				
	Colville at Umiat		Low-Moderate	5/24	21	5/21-5/27
	Colville at Colville Village		Low-Moderate	6/3	22	5/31-6/6
Sagavanirktok River		Above				
	Dalton Highway		Low-Moderate			5/24-5/30

The next Spring Breakup Summary will be published May 31, 2024.

This product is experimental. For more information and to submit comments, please contact:

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