



# ASO + M3 Works Modeling Report

Uinta Headwaters, UT

Model date: May 15, 2026



Historical data and reports can be found at:  
[data.airbornesnowobservatories.com](https://data.airbornesnowobservatories.com)

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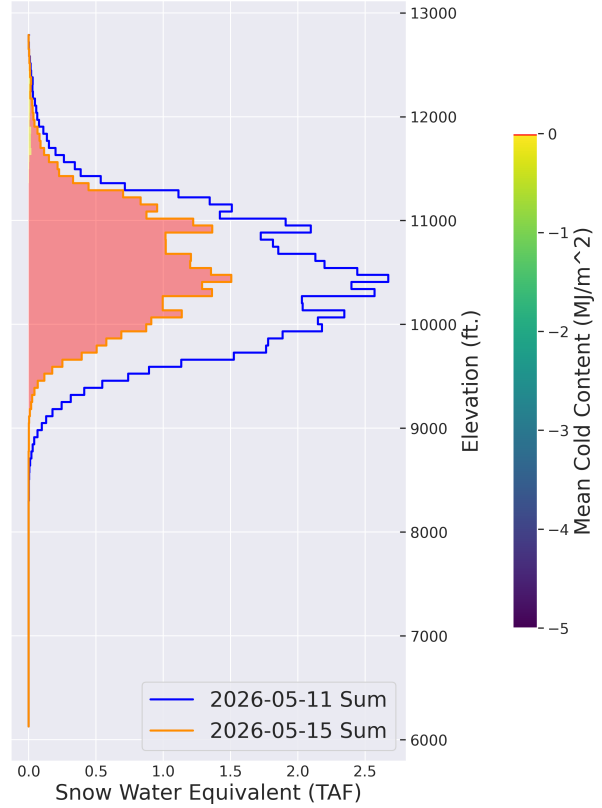
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# UINTA HEADWATERS, UT MAY 15, 2026 MODELING REPORT

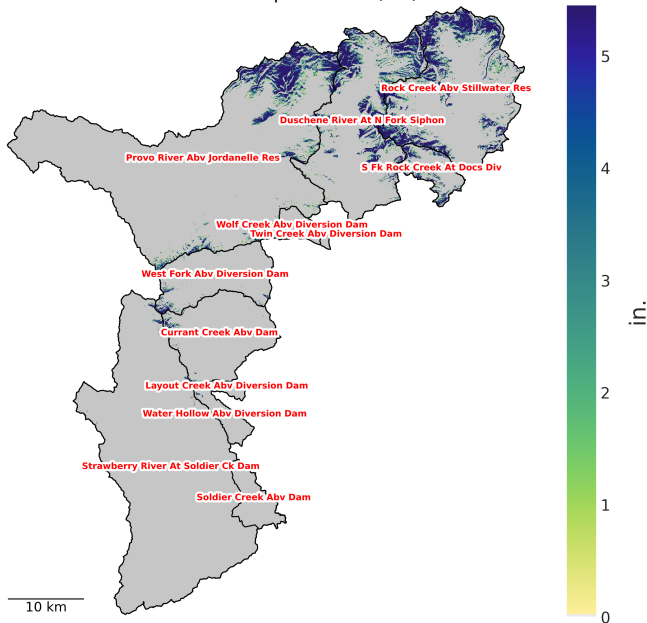
**Current model date:** May 15, 2026  
**Model Total Snow Water Equivalent:** 26.6 TAF  
**Model Mean Snow Water Equivalent:** 0.7 in.  
**Model Mean Cold Content:** -0.0 MJ/m<sup>2</sup>

**Model reporting period:** May 11 - May 15, 2026  
**Change in Total Snow Water Equivalent:** -28.4 TAF  
**Change in Mean Snow Water Equivalent:** -0.7 in.  
**Accumulated Total Surface Water Input:** 33.6 TAF  
**Accumulated Total Precipitation:** 1.8 TAF  
**Change in Mean Cold Content:** -0.0 MJ/m<sup>2</sup>

Total Snow Water Equivalent (TAF) by Elevation



Snow Water Equivalent (in.)



DESCRIPTION	TOTAL	CURRENT CREEK ABV DAM	DUSCHENE RIVER AT N FORK SIPHON	LAYOUT CREEK ABV DIVERSION DAM	PROVO RIVER ABV JORDANELLE RES	ROCK CREEK ABV STILLWATER RES	S FK ROCK CREEK AT DOCS DIV	SOLDIER CREEK ABV DAM	STRAWBERRY RIVER AT SOLDIER CK DAM
Mean SWE in.	0.7	0.1	1.6	0.0	0.6	1.9	1.7	0.0	0.0
Total SWE TAF	26.6	0.2	7.4	0.0	7.1	10.0	1.3	0.0	0.1

TWIN CREEK ABV DIVERSION DAM	WATER HOLLOW ABV DIVERSION DAM	WEST FORK ABV DIVERSION DAM	WOLF CREEK ABV DIVERSION DAM
0.0	0.1	0.2	0.2
0.0	0.0	0.4	0.1

The model has been updated with ASO survey data, a brief summary of the changes to the model are provided:  
 March 11 - March 12 update summary: removed 3.7 TAF of Snow Water Equivalent  
 April 18 - April 19 update summary: removed 21.4 TAF of Snow Water Equivalent  
 May 11 update summary: added 18.8 TAF of Snow Water Equivalent

# UINTA HEADWATERS, UT MAY 15, 2026 MODELING REPORT

## State of the Snowpack

### Interpretation Notes

Elevation bands are in increments of 1000 ft, e.g., 4000 is 4000 - 5000 ft.

Mean SWE is calculated over the total basin area. Mean cold content is calculated over the snow covered area to reflect the ripeness of the existing snowpack.

Surface Water Input (SWI) includes liquid water leaving the bottom of the snowpack and rain on bare ground.

Forcing data is created with the Spatial Modeling for Resources Framework (SMRF) using the High Resolution Rapid Refresh (HRRR) output fields as inputs.

### Model Results

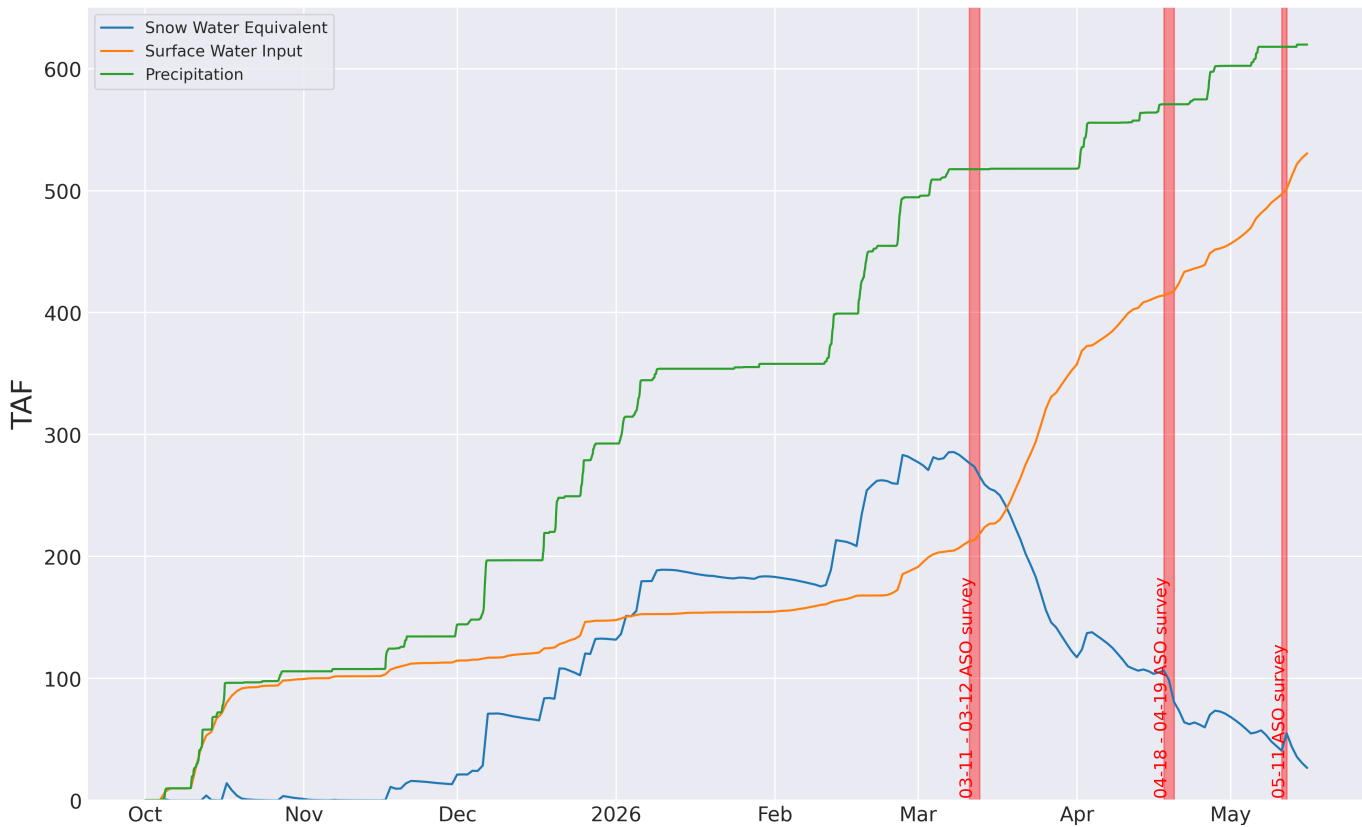


Fig.3 Water Year timeseries. Vertical lines indicate ASO survey dates.

Change in Snow Water Equivalent (in.)

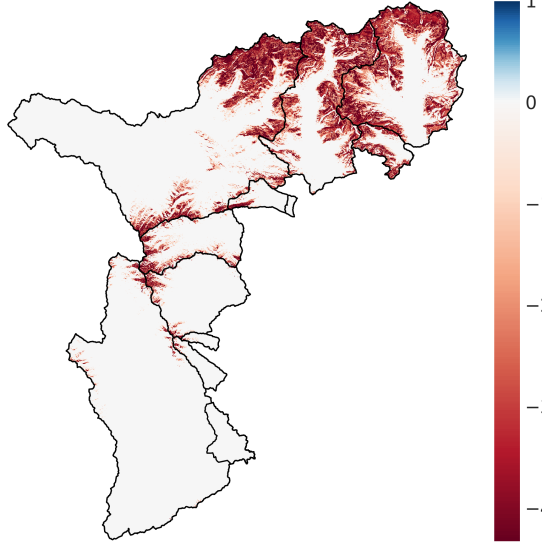
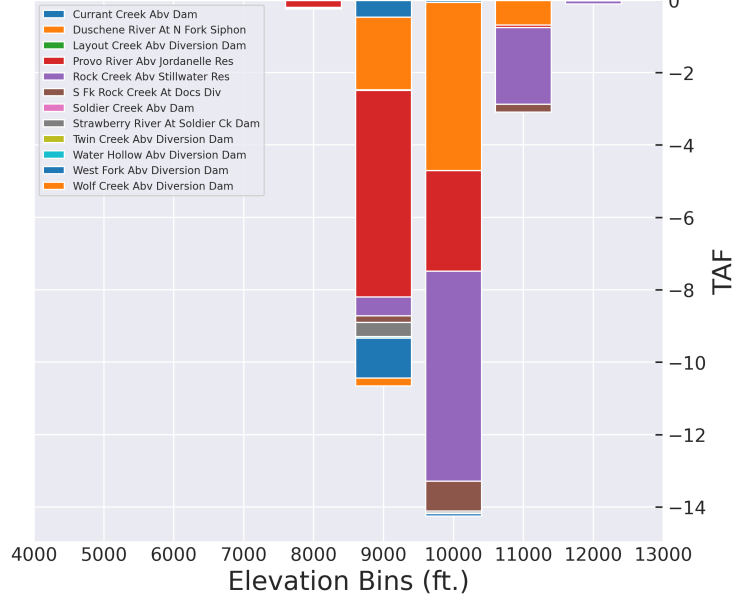


Fig.4 Change in Snow Water Equivalent from 2026-05-11 to 2026-05-15

Change in Total Snow Water Equivalent (TAF) per Elevation Band



Snow Water Equivalent (in.)

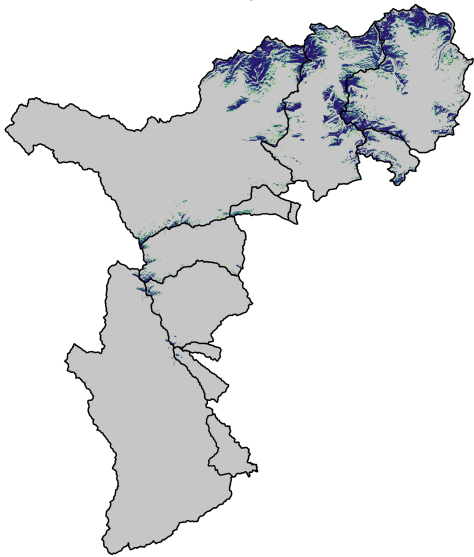
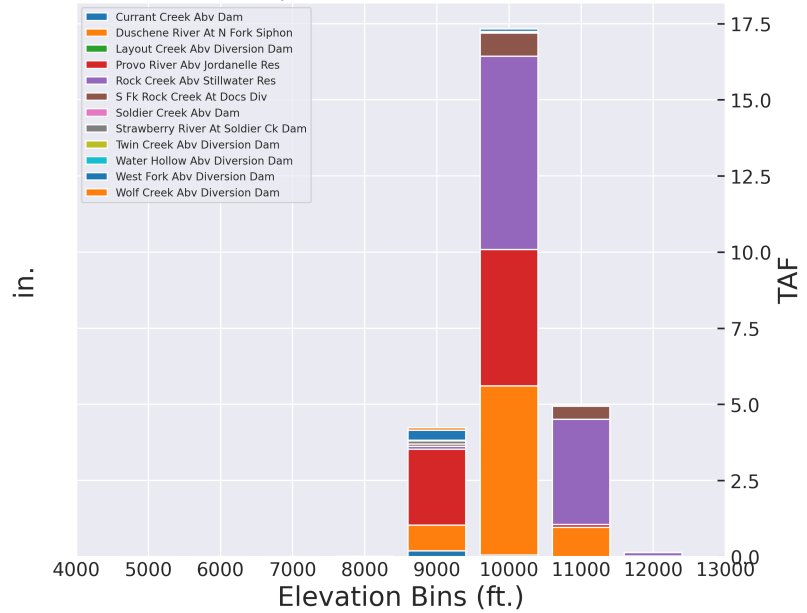


Fig.5 Snow Water Equivalent as of 2026-05-15

Total Snow Water Equivalent (TAF) per Elevation Band



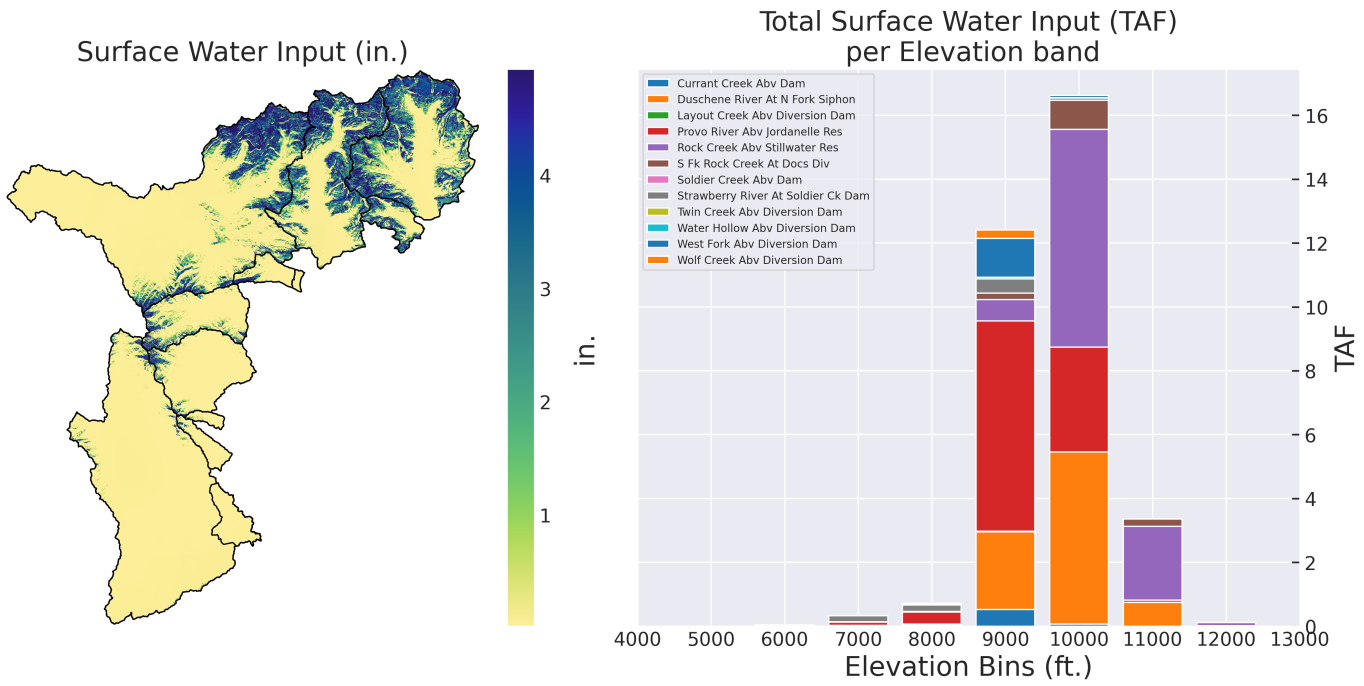


Fig.6 Accumulated Surface Water Input from 2026-05-11 to 2026-05-15

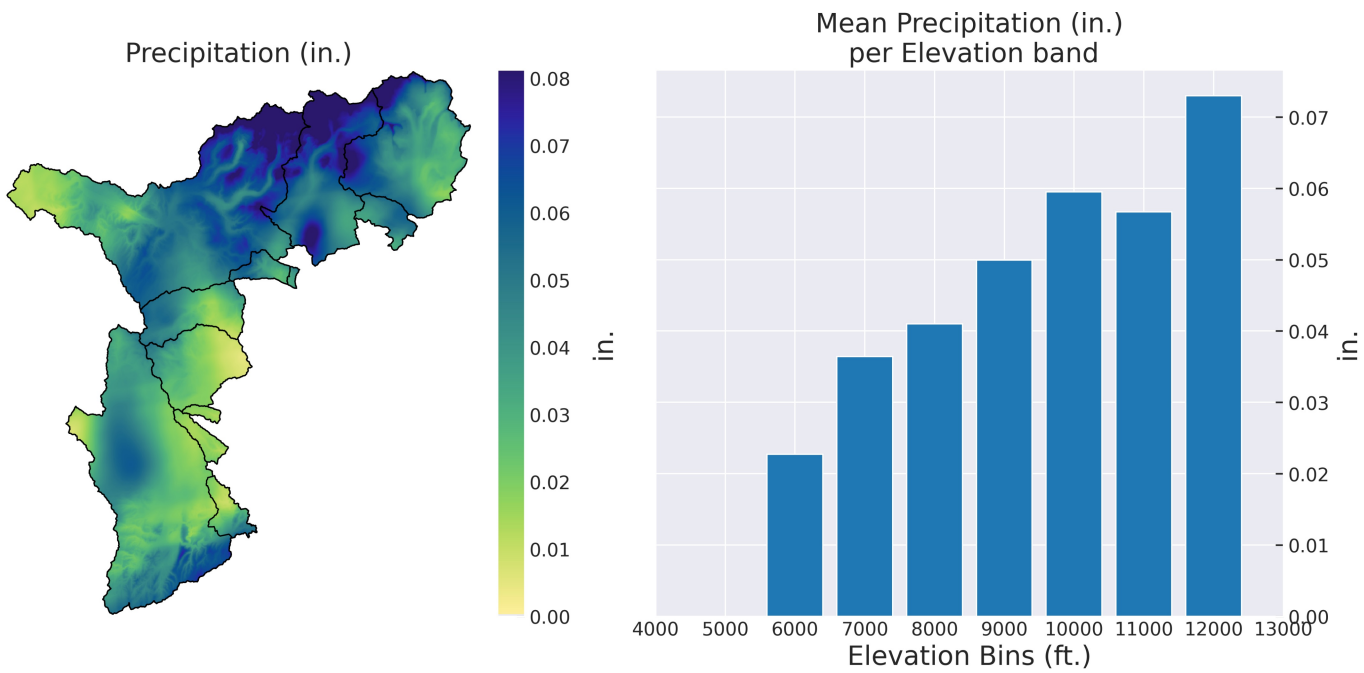


Fig.7 Accumulated Precipitation from 2026-05-11 to 2026-05-15. Precipitation fields are locally interpolated using SMRF with underlying data from HRRR.

# UINTA HEADWATERS, UT MAY 15, 2026 MODELING REPORT

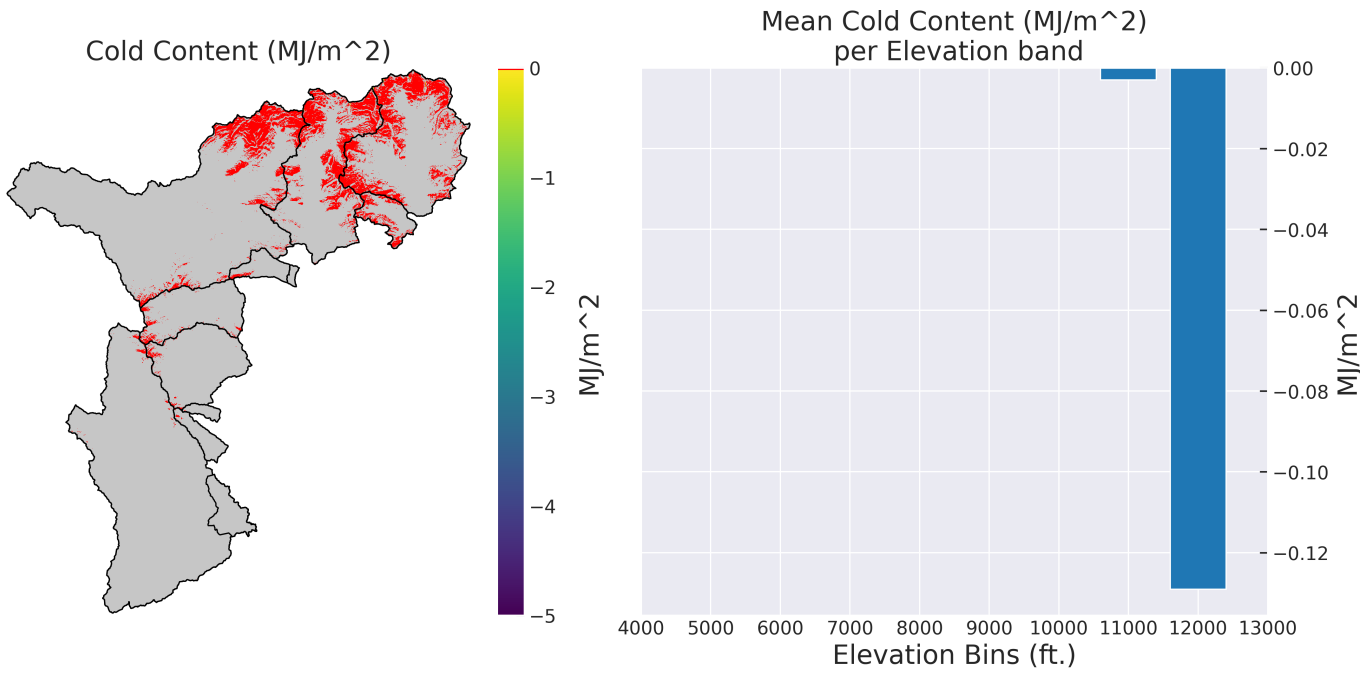


Fig.8 Cold Content as of 2026-05-15

Very little cold content remains in the Uinta basin. The remaining un-ripe snow exists only above 11224 ft., and represents approximately 0.66% of the basin SWE.

# UINTA HEADWATERS, UT MAY 15, 2026 MODELING REPORT

Model to station comparisons are a comparison of 50 meter cells to a point within the basin. Some differences are expected when comparing modeled and measured snowpack behavior at these different spatial scales. ASO 3m snow depth measurements at each station are indicated by the red '+' symbols. Absence of these symbols indicates that the station location or data quality are suspect, and they were not used in the ASO survey validation and report.

## Station compare Snow Depth (in.)

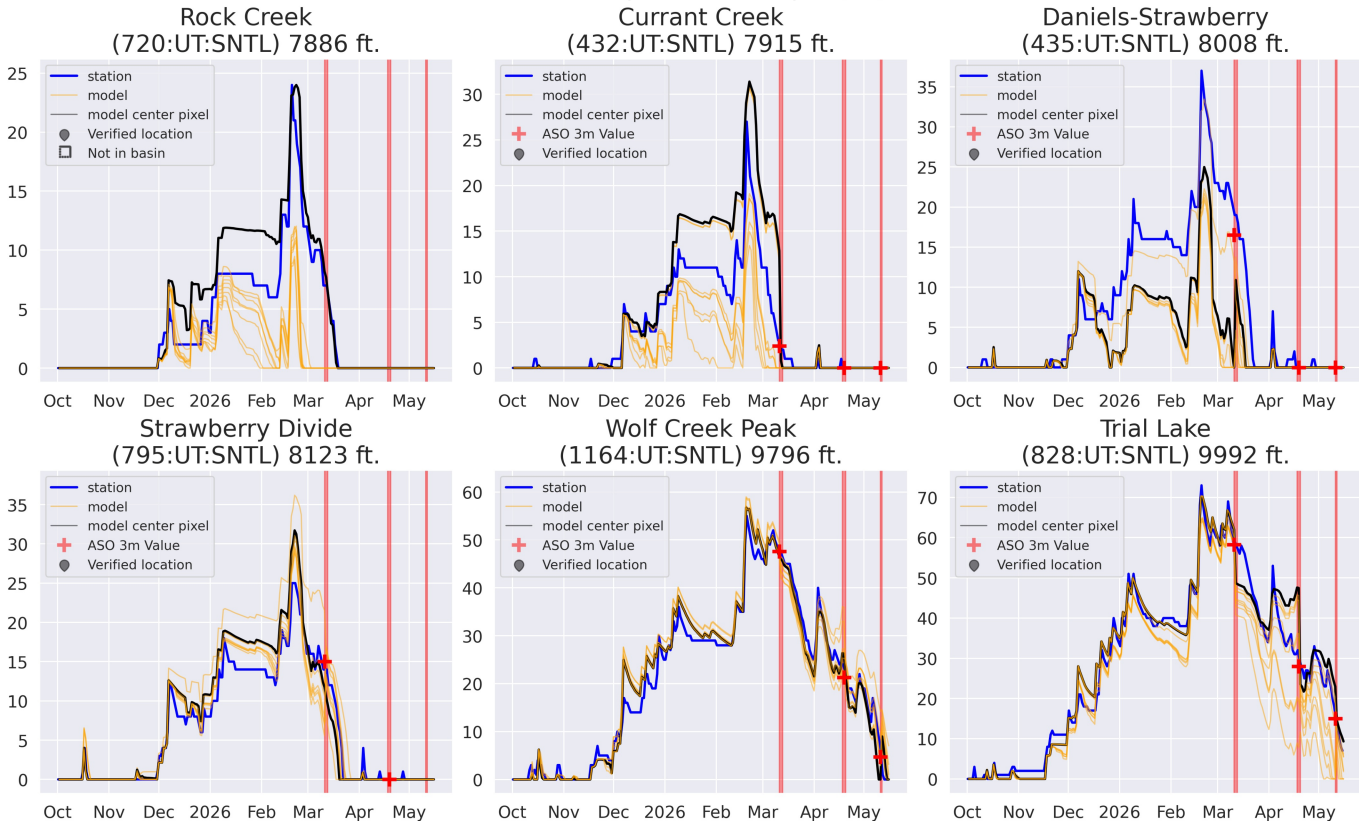


Fig.9 Comparison of modeled and measured Snow Depth [in.]. Comparisons of model pixels to measured station data are performed with the 9 nearest model pixels to give a more spatially complete view of model behavior.

# UINTA HEADWATERS, UT MAY 15, 2026 MODELING REPORT

## Model Description

Modeled data is generated using the M3 Works model framework BOREAS, which is the next generation of the Automated Water Supply Model (AWSM). Underlying forcing data is sourced from the High Resolution Rapid Refresh model (HRRR). BOREAS simulates the snowpack state using the physically based, distributed energy and mass balance snow model, iSnoBal.

This report is brought to you by the team at M3 Works: Mark Robertson, Micah Johnson, Micah Sandusky, Christina Aragon, Andrew Slaughter, and Ben Roberts-Pierel.

For more information on Airborne Snow Observatories, Inc. visit [airbornesnowobservatories.com](http://airbornesnowobservatories.com).

More information about M3 Works can be found at [m3works.io](http://m3works.io).

## Additional Details

Total Snow Water Equivalent values (TAF) on 2026-05-15

ELEVATION RANGE	TOTAL	CURRANT CREEK ABV DAM	DUSCHENE RIVER AT N FORK SIPHON	LAYOUT CREEK ABV DIVERSION DAM	PROVO RIVER ABV JORDANELLE RES	ROCK CREEK ABV STILLWATER RES	S FK ROCK CREEK AT DOCS DIV	SOLDIER CREEK ABV DAM	STRAWBERRY RIVER AT SOLDIER CK DAM
8000 - 8999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9000 - 9999	4.2	0.2	0.8	0.0	2.5	0.1	0.1	0.0	0.1
10000 - 10999	17.3	0.1	5.6	0.0	4.5	6.3	0.8	0.0	0.0
11000 - 11999	4.9	0.0	1.0	0.0	0.1	3.5	0.4	0.0	0.0
12000 - 12999	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Total Snow Water Equivalent values (TAF) on 2026-05-15 cont.

ELEVATION RANGE	TWIN CREEK ABV DIVERSION DAM	WATER HOLLOW ABV DIVERSION DAM	WEST FORK ABV DIVERSION DAM	WOLF CREEK ABV DIVERSION DAM
8000 - 8999	0.0	0.0	0.0	0.0
9000 - 9999	0.0	0.0	0.3	0.1
10000 - 10999	0.0	0.0	0.1	0.0
11000 - 11999	0.0	0.0	0.0	0.0
12000 - 12999	0.0	0.0	0.0	0.0

Accumulated Total Surface Water Input values (TAF) from 2026-05-11 to 2026-05-15

ELEVATION RANGE	TOTAL	CURRANT CREEK ABV DAM	DUSCHENE RIVER AT N FORK SIPHON	LAYOUT CREEK ABV DIVERSION DAM	PROVO RIVER ABV JORDANELLE RES	ROCK CREEK ABV STILLWATER RES	S FK ROCK CREEK AT DOCS DIV	SOLDIER CREEK ABV DAM	STRAWBERRY RIVER AT SOLDIER CK DAM
6000 - 6999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7000 - 7999	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
8000 - 8999	0.7	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.2
9000 - 9999	12.4	0.5	2.4	0.0	6.6	0.7	0.2	0.0	0.4
10000 - 10999	16.6	0.1	5.4	0.0	3.3	6.8	0.9	0.0	0.1
11000 - 11999	3.4	0.0	0.7	0.0	0.1	2.3	0.2	0.0	0.0
12000 - 12999	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

# UINTA HEADWATERS, UT MAY 15, 2026 MODELING REPORT

Accumulated Total Surface Water Input values (TAF) from 2026-05-11 to 2026-05-15 cont.

ELEVATION RANGE	TWIN CREEK ABV DIVERSION DAM	WATER HOLLOW ABV DIVERSION DAM	WEST FORK ABV DIVERSION DAM	WOLF CREEK ABV DIVERSION DAM
6000 - 6999	0.0	0.0	0.0	0.0
7000 - 7999	0.0	0.0	0.0	0.0
8000 - 8999	0.0	0.0	0.0	0.0
9000 - 9999	0.0	0.1	1.2	0.3
10000 - 10999	0.0	0.0	0.1	0.0
11000 - 11999	0.0	0.0	0.0	0.0
12000 - 12999	0.0	0.0	0.0	0.0

Change in Total Snow Water Equivalent values (TAF) from 2026-05-11 to 2026-05-15

ELEVATION RANGE	TOTAL	CURRENT CREEK ABV DAM	DUSCHENE RIVER AT N FORK SIPHON	LAYOUT CREEK ABV DIVERSION DAM	PROVO RIVER ABV JORDANELLE RES	ROCK CREEK ABV STILLWATER RES	S FK ROCK CREEK AT DOCS DIV	SOLDIER CREEK ABV DAM	STRAWBERRY RIVER AT SOLDIER CK DAM
8000 - 8999	-0.2	-0.0	-0.0	-0.0	-0.2	-0.0	-0.0	0.0	-0.0
9000 - 9999	-10.7	-0.5	-2.0	-0.0	-5.7	-0.5	-0.2	0.0	-0.4
10000 - 10999	-14.3	-0.1	-4.6	-0.0	-2.8	-5.8	-0.8	0.0	-0.1
11000 - 11999	-3.1	0.0	-0.7	0.0	-0.1	-2.1	-0.2	0.0	0.0
12000 - 12999	-0.1	0.0	-0.0	0.0	0.0	-0.1	0.0	0.0	0.0

Change in Total Snow Water Equivalent values (TAF) from 2026-05-11 to 2026-05-15 cont.

ELEVATION RANGE	TWIN CREEK ABV DIVERSION DAM	WATER HOLLOW ABV DIVERSION DAM	WEST FORK ABV DIVERSION DAM	WOLF CREEK ABV DIVERSION DAM
8000 - 8999	0.0	-0.0	-0.0	-0.0
9000 - 9999	0.0	-0.0	-1.1	-0.2
10000 - 10999	0.0	-0.0	-0.1	0.0
11000 - 11999	0.0	0.0	0.0	0.0
12000 - 12999	0.0	0.0	0.0	0.0