



ASO Hydrologic Forecast Report

Uinta Mountains: Strawberry/Duchesne

Forecast Date: Apr. 25, 2026



Airborne Snow Observatories, Inc. is a public benefit corporation with a mission to provide high-quality, timely, and accurate snow measurement, modeling, and runoff forecasts to empower the world's water managers to make the best possible use of our planet's precious water.

Historical data and reports can be found at:
data.airbornesnowobservatories.com

UINTA MOUNTAINS: STRAWBERRY/DUCHESNE BASIN

COPYRIGHT INFORMATION:

© 2026 Airborne Snow Observatories, Inc.

This report is copyrighted by Airborne Snow Observatories, Inc. for the limited, private, non-commercial use of our customers. Any other use of this report or any underlying data contained within the report without our consent is prohibited. Unless expressly granted, all rights are reserved.

By accessing, reviewing, or otherwise using this report or any data contained within it, you acknowledge and agree to be bound by the licensing terms under which you have been provided this report, including all obligations and restrictions contained therein.

UINTA MOUNTAINS: STRAWBERRY/DUCHESNE BASIN

Overview:

This report summarizes WRF-Hydro hydrologic analysis and forecast results for the Uinta Mountains: Strawberry/Duchesne River Basin for forecasts generated on Apr. 25, 2026. This report also contains results of the impacts from the recent ASO survey conducted on April. 18-19, 2026. Hydrologic variables reported on in this report include snowpack, snowmelt, seasonal river flow/reservoir inflow, and soil moisture.

IMPORTANT: All modeled runoff and reservoir inflow forecasts are “natural” flow values with no accounting for reservoir storage/release, diversions, transfers or managed return flows. As such, these forecast numbers should be compared against analogous naturalized flow measurements or estimates.

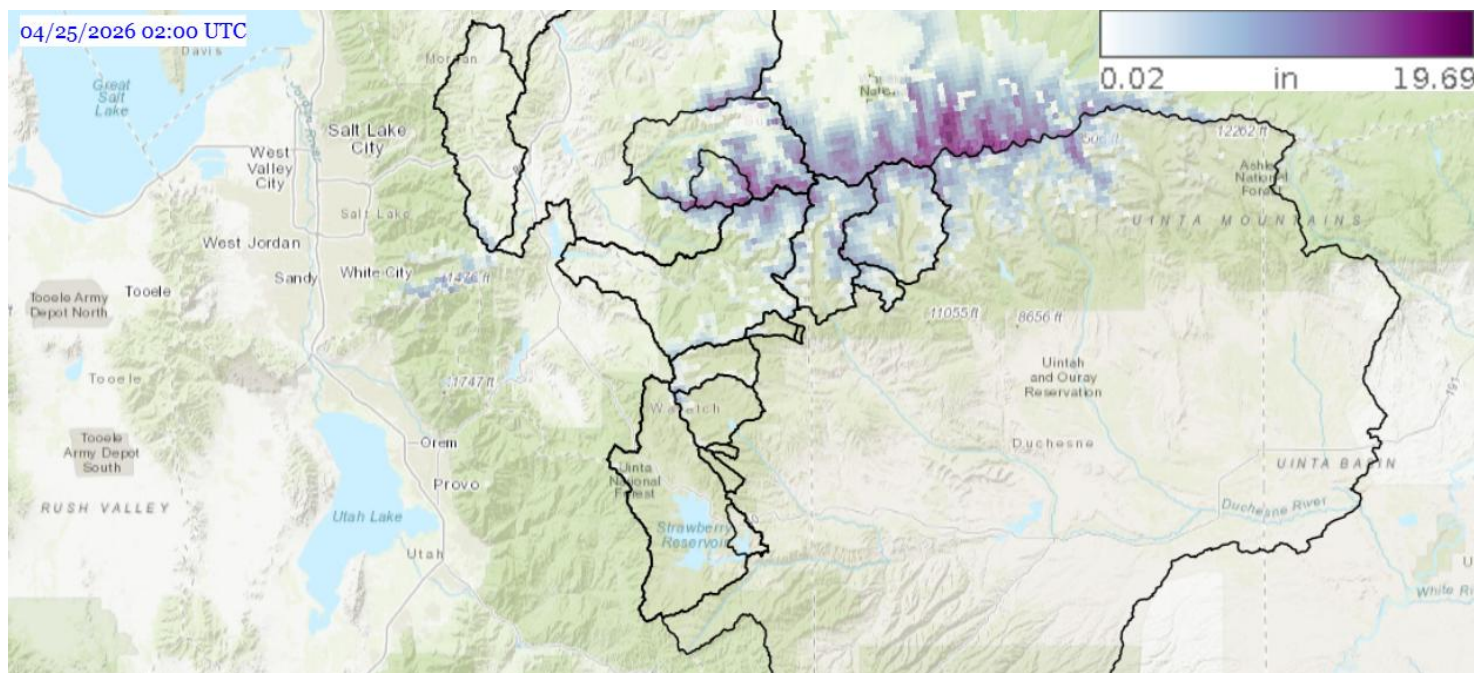


Figure 1. WRF-Hydro/ASO-assimilated 1km gridded Snow Water Equivalent (SWE - inches). Valid: Apr. 25, 2026

Snowpack Status: Impact of ASO Airborne Surveys

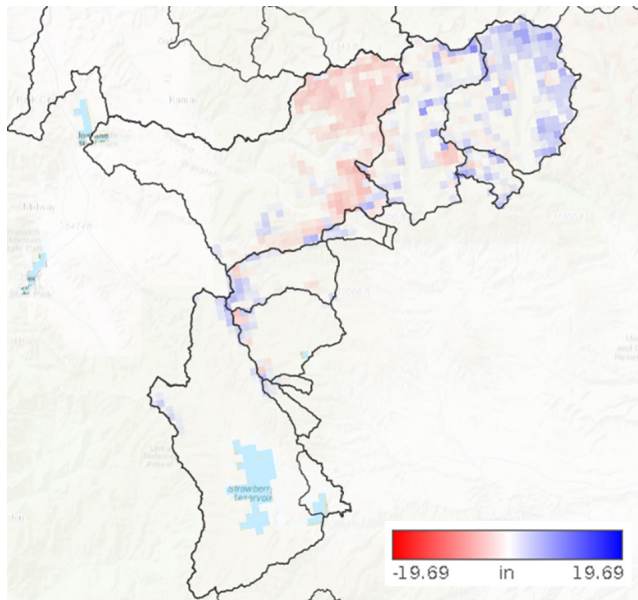


Figure 2. Spatial map of SWE difference between WRF-Hydro ASO-assimilated values (inches) before and after survey assimilation. Blue(red) values indicate increases(decreases). Valid: Apr. 25, 2026

Table 1. Valid: Apr. 25, 2026

Basin	Estimated SWE volume (kac-ft)
SNODAS	98.373
ASO-assimilated	57.963

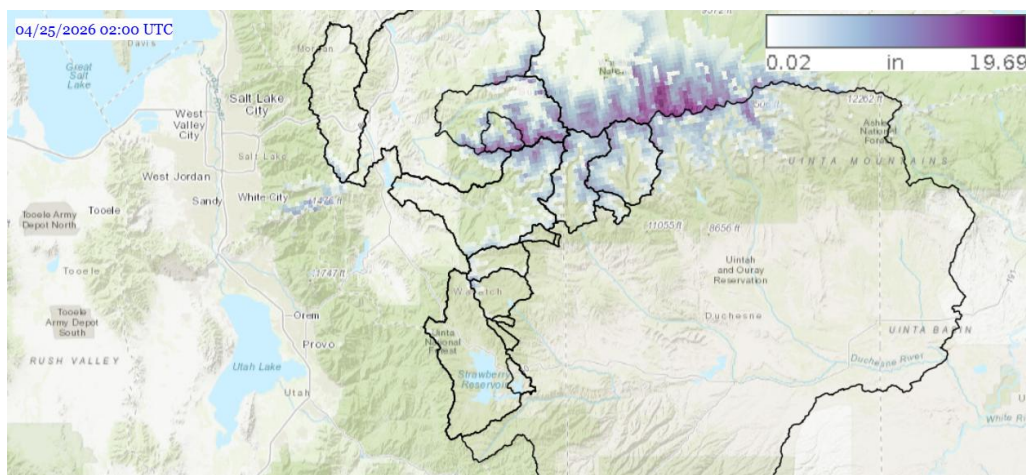


Figure 3. ASO-assimilated WRF-Hydro SWE. (inches) Valid: Apr. 25, 2026

Impact of ASO Survey Assimilation:

Figure 2 shows a subtle mix of increases and decreases in SWE due to the ASO survey assimilation. Increases in snowpack due to assimilation were found in the Strawberry, Rock Creek and N. Fork Duchesne subbasins while the Provo River basin saw a net decrease in SWE. Differences between modeled and surveyed SWE values were attributed to largely to errors in modeled snow ablation rates which varied widely across the surveyed region. Model input energy forcings were adjusted during the assimilation period since the prior survey to achieve closure between the modeled and surveyed SWE values.

Snowpack Status: Snowpack Volume

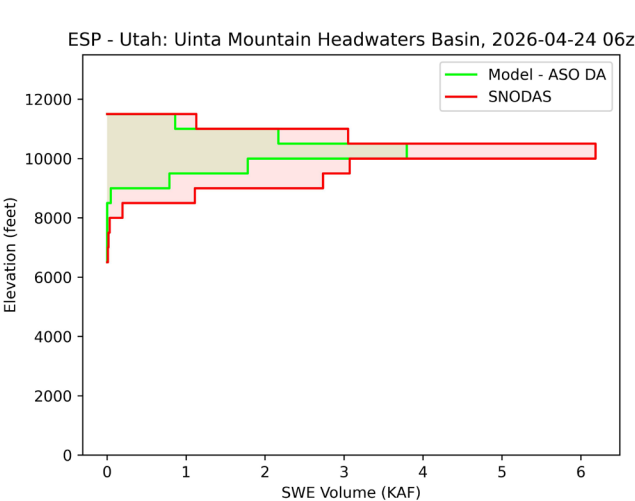


Figure 4. Elevation distribution of SWE between WRF-Hydro ASO-assimilated model and SNODAS (kac-ft). Valid: Apr. 24, 2026

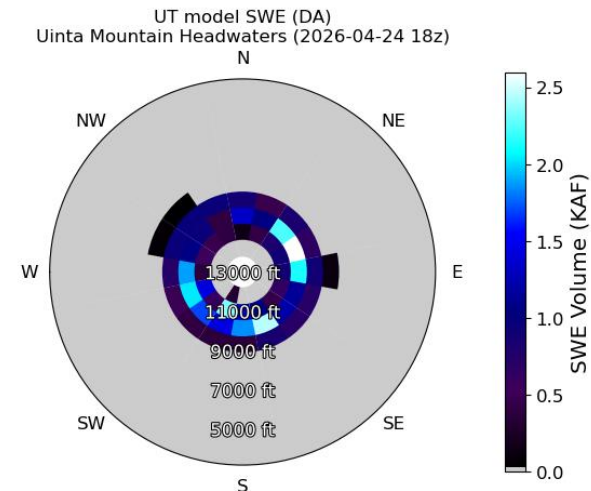


Figure 5. Terrain aspect-elevation distribution of snowpack (kac-ft) Valid: Apr. 24, 2026

Summary of Snowpack Conditions:

The figures on this page show various distributions of snowpack within the basin. The elevation distribution of SWE in Fig. 4 shows that the ASO-assimilated WRF-Hydro model has continued to estimate significantly less snowpack than operational SNODAS estimate product across most elevation bands. Figure 5 shows that the ASO-assimialted snowpack in the basin is generally evenly distributed on most aspects. The seasonal trend of basin-integrated snowpack shown in Fig. 6 shows the marked decline in SWE during March and a much slower rate of decline since early April due to more typical, active sprintime weather.

Table 2. Valid: Apr. 25, 2026

Strawberry Reservoir - SWE

Basin	Estimated SWE volume (kac-ft)
SNODAS	2.020
ASO-assimilated	0.110

Provo R. above Jordanelle Res. - SWE

Basin	Estimated SWE volume (kac-ft)
SNODAS	24.234
ASO-assimilated	18.270

Rock Cr. above Stillwater - SWE

Basin	Estimated SWE volume (kac-ft)
SNODAS	36.684
ASO-assimilated	18.690

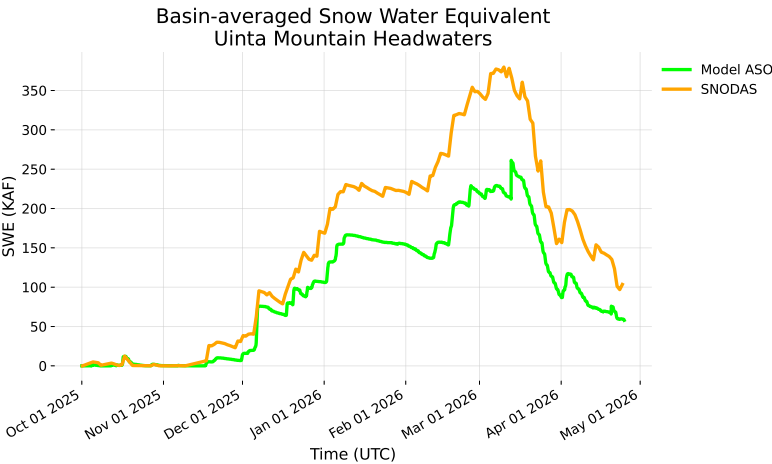


Figure 6. Basin-avg SWE from WRF-Hydro ASO-assimilated model and SNODAS (kac-ft). Valid: Apr. 25, 2026

Snowpack Forecast:

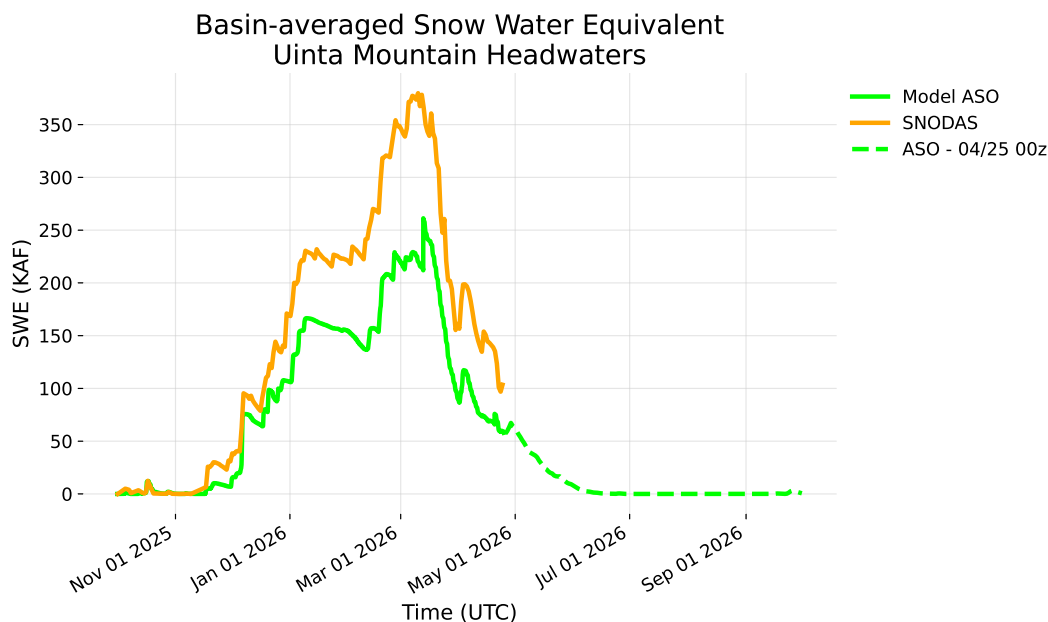


Figure 7. WRF-Hydro model analyzed and ensemble mean forecasted SWE. Valid: Apr. 25, 2026

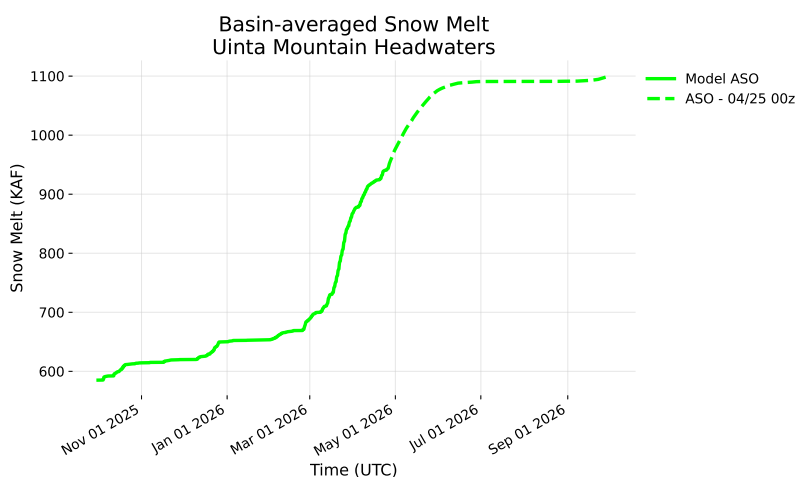


Figure 8. WRF-Hydro model forecasted basin-integrated ensemble mean accumulated snow-melt (inches) from the ASO-assimilated model instance. Valid: Apr. 25, 2026

Summary of Snowpack Forecasts

The snowpack forecasts for the ASO-assimilated model (dashed green line) show a fairly typical melt out pattern, though earlier than normal, extending forward from model initialization. (Fig. 7) The forecasted SWE and snowmelt (Fig. 8) suggest that the snowpack will largely be melted out by late May/early June under current forecasted conditions which include a return to more typical springtime weather. Currently, around 52 TAF of SWE remains to be melted in the combined Duschesne/Provo system. Future precipitation may add additional inputs to that expected amount of snowmelt though any appreciable new snowpack accumulations are not currently expected.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
Strawberry Reservoir Inflow						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		22.3	22.9	24.7	28.4	31.0

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		23.42	23.67	24.05	25.05	25.57

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		23.2	24.0	24.7	26.0	27.2

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Water Hollow abv Diversion Dam</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		0.55	0.57	0.60	0.70	0.81

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		0.55	0.56	0.57	0.59	0.62

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		0.60	0.61	0.61	0.63	0.65

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from model analysis. No naturalized streamflow estimate available in real-time.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
Layout Cr abv Diversion Dam						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		0.25	0.26	0.28	0.33	0.39

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		0.29	0.30	0.30	0.31	0.33

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		0.26	0.27	0.27	0.28	0.29

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from model analysis. No naturalized streamflow estimate available in real-time.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
Currant Creek abv Dam						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		2.18	2.82	3.82	5.47	7.32

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		2.41	2.68	3.27	4.20	5.34

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		2.35	2.56	2.89	3.66	4.61

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>West Fork abv Diversion Dam</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		4.66	5.32	6.44	8.92	10.55

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		6.30	6.51	6.88	7.78	8.60

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		5.65	5.91	6.18	7.21	7.88

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Wolf Cr. abv Diversion Dam</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		0.80	0.89	1.10	1.38	1.55

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		1.07	1.15	1.19	1.31	1.37

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		0.98	1.03	1.10	1.22	1.28

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from model analysis. No naturalized streamflow estimate available in real-time.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Twin Cr. abv Diversion Dam</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		0.13	0.16	0.20	0.24	0.28

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		0.15	0.16	0.18	0.20	0.23

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		0.16	0.17	0.19	0.21	0.23

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from model analysis. No naturalized streamflow estimate available in real-time.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Hades Cr.</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		2.48	3.17	4.67	6.28	7.18

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		3.25	3.52	4.35	5.26	5.94

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		3.43	3.60	4.01	4.71	5.08

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from model analysis. No naturalized streamflow estimate available in real-time.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>S. Fork Rock Cr. abv Diversion</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		4.77	5.43	7.72	10.46	11.46

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		6.75	7.04	7.74	8.46	9.12

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		5.95	6.15	6.83	7.61	8.17

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Rock Cr. abv Stillwater Diversion</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		25.1	29.8	47.5	68.2	76.9

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		37.34	39.40	44.44	49.26	54.75

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		35.7	37.6	41.8	47.9	52.4

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Lake Fork abv Moon Lake</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		21.4	26.5	37.9	53.9	61.6

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		32.39	34.72	39.38	43.83	47.30

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		37.1	39.2	42.8	46.8	50.0

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Yellowstone R abv Altonah</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		20.5	25.7	30.6	38.1	43.6

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		26.78	28.17	30.55	31.93	33.58

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		27.6	28.5	30.6	32.4	34.2

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Duchesne River at Knight Diversion</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		72.5	81.1	112.9	148.5	167.0

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		90.80	95.07	104.47	115.82	125.31

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		89.1	91.7	101.4	111.6	121.0

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
Provo River at Woodland						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		41.7	48.4	66.2	86.6	104.1

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		50.85	54.46	64.53	77.06	87.31

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		52.5	54.9	58.5	63.0	67.6

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included. Flow from April 1 through forecast initialization comes from USGS gauge at this site.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
Provo River at Hailstone						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		46.2	53.0	70.9	91.9	109.3

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		56.5	60.1	70.3	83.0	93.1

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		56.3	58.7	62.3	67.0	71.6

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included in the forecast. Flow from April 1 through forecast initialization comes from the CBRFC.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast						
<i>Provo River - Jordanelle Inflow</i>						
Forecast Date		Q90	Q75	Q50	Q25	Q10
12-Mar-26		48.6	55.2	73.5	94.2	111.9

Forecast Date		Q90	Q75	Q50	Q25	Q10
6-Apr-26		57.36	61.00	71.07	83.55	93.84

Forecast Date		Q90	Q75	Q50	Q25	Q10
25-Apr-26		58.7	61.1	64.6	69.4	73.9

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for human diversions, impoundments or transfers have been included in the forecast. Flow from April 1 through forecast initialization comes from the CBRFC.

Soil Saturation Status:

Summary of Soil Moisture Conditions:

Basin averaged soil moisture conditions have largely leveled off over the past couple of weeks as additional moisture inputs appear to be balanced by some drying. (Fig. 10) Low elevation areas appear to remain particularly dry throughout the model domain (Figs. 9 and 11) while middle and upper-middle elevation areas exhibit comparatively higher soil saturation values. This pattern is more typical of mid-to-late spring in most years.

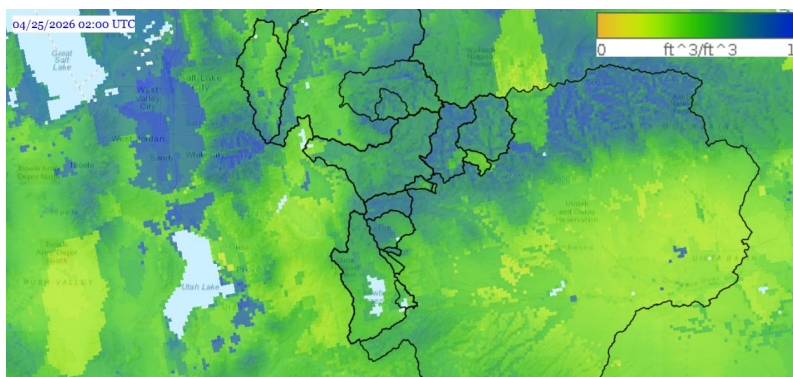


Figure 9. WRF-Hydro analyzed, vertically-integrated soil saturation. (%-saturation). Valid: Apr. 25, 2026

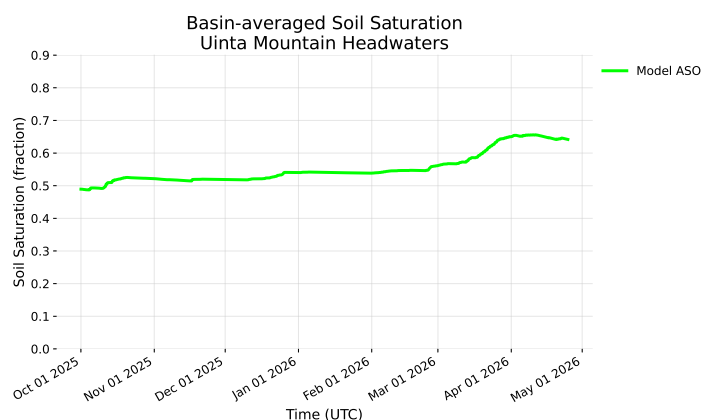


Figure 10. WRF-Hydro modeled soil saturation (% of saturation) from the ASO-assimilated model analyses. Valid: Apr. 25, 2026

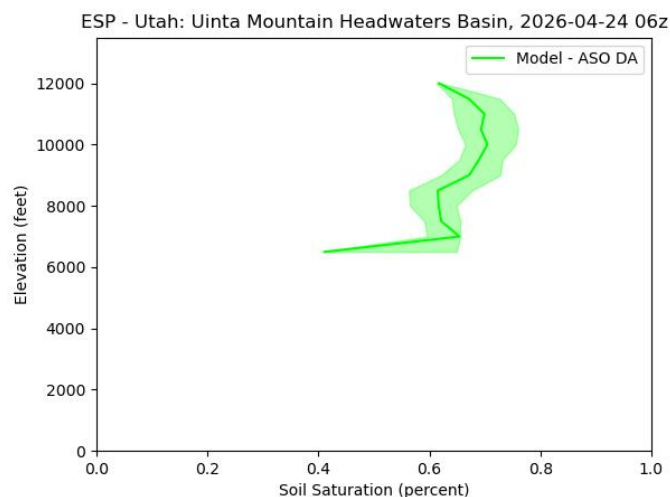


Figure 11. Elevation-band averaged soil saturation (% of saturation) modeled by the ASO WRF-Hydro system. Valid: Apr. 24, 2026

UINTA MOUNTAINS: STRAWBERRY/DUCHESNE BASIN

Supplemental flow/inflow forecast information: