ASO Hydrologic Forecast Report

Uinta Mountains: Strawberry/Duchesne

Forecast Date: Apr. 6, 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.

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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. 6, 2026. This report contains the latest model analysis and forecast results for the ASO-assimilated and OpenLoop configurations of WRF-Hydro. Hydrologic variables reported on in this report include snowpack, snowmelt, snow albedo, 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.

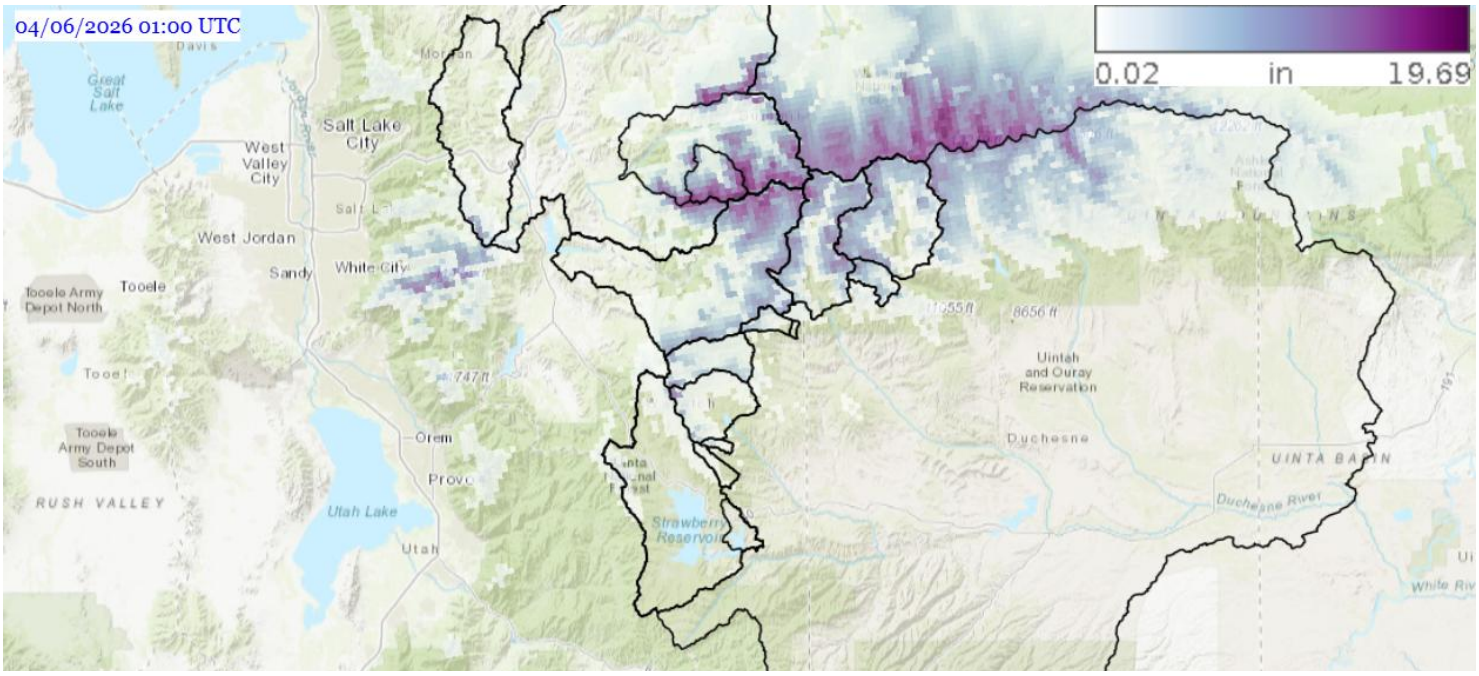

Figure 1. WRF-Hydro/ASO-assimilated 1km gridded Snow Water Equivalent (SWE - inches). Valid: Apr. 6, 2026

Snowpack Status: Impact of ASO Airborne Surveys

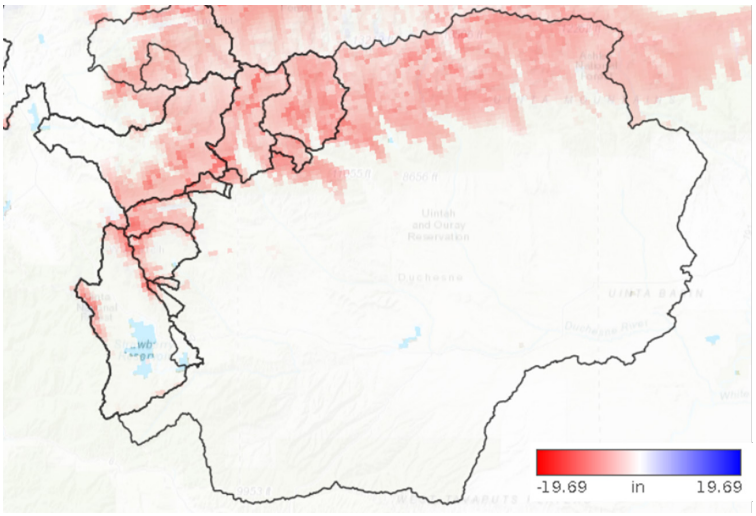

Figure 2. Spatial map of SWE difference between WRF-Hydro ASO-assimilated values and OpenLoop values (inches). Blue values indicate where the survey was greater than the Open-Loop model Valid: Apr. 6, 2026

Table 1. Valid: Apr. 6, 2026

Basin	Estimated SWE volume (kac-ft)
SNODAS	192.034
ASO-assimilated	105.530

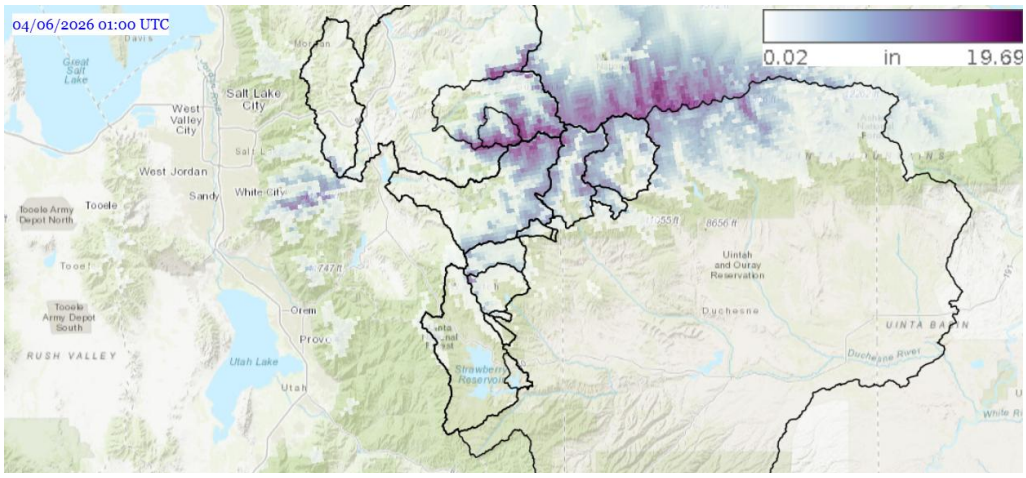

Figure 3. ASO-assimilated WRF-Hydro SWE. (inches) Valid: Apr. 6, 2026

Impact of ASO Survey Assimilation:

Figure 2 shows broad and deep decreases in SWE across all major snow covered area regions of the Uinta Mtn. basin occuring since the prior March 18 forecast run. Snowpack in the full Uinta Mtn-Provo basin study domain was at 105 TAF on Apr. 6. Examination of Fig. 3 shows appreciable snowpack in the high elevations of the Uinta Mtns, in the Provo basin and exending down to around the Currant Cr. sub-basin. Comparatively less snow remains in the Strawberry Reservoir tributary subbasin.

Snowpack Status: Snowpack Volume

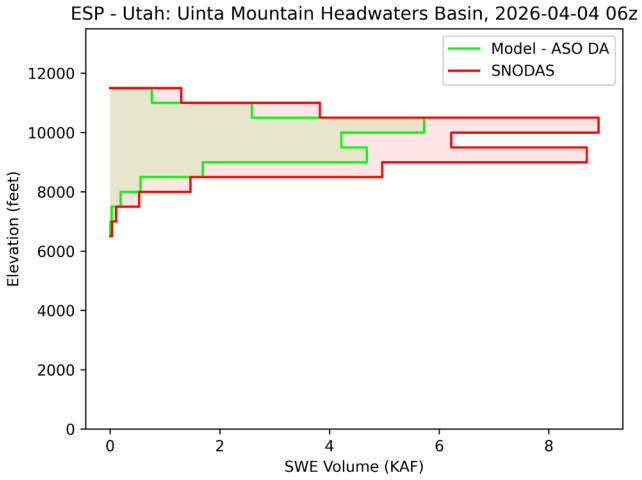

Figure 4. Elevation distribution of SWE between WRF-Hydro ASO-assimilated model and SNODAS (kac-ft). Valid: Apr. 6, 2026

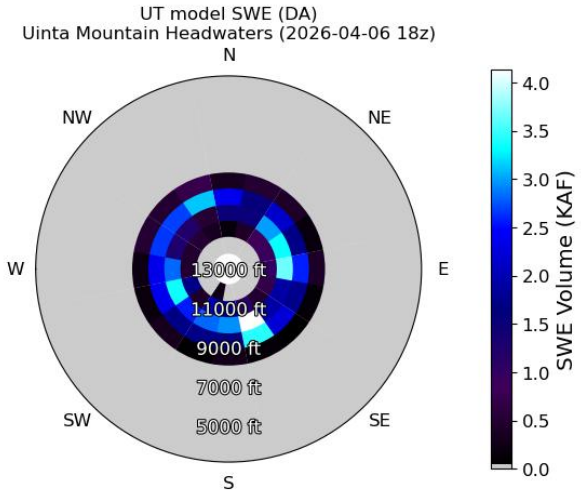

Figure 5. Terrain aspect-elevation distribution of snowpack (kac-ft) Valid: Apr. 6, 2026

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 the small uptick in SWE values due to the early April precipitation event.

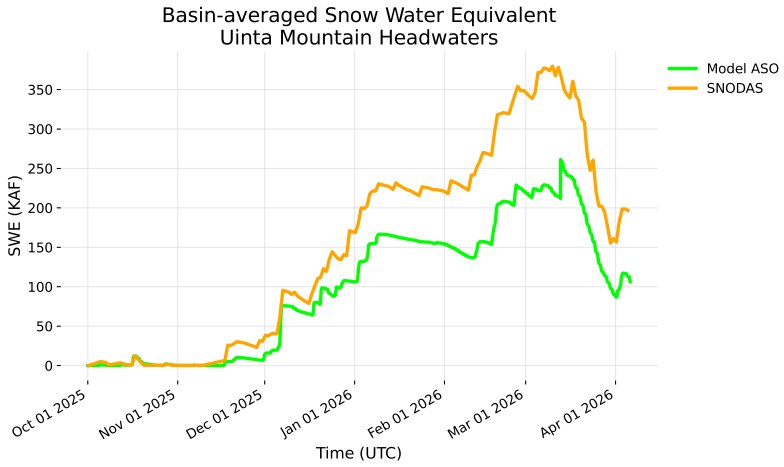

Figure 6. Basin-avg SWE from WRF-Hydro ASO-assimilated model and SNODAS (kac-ft). Valid: Apr. 6, 2026

Table 2. Valid: Apr. 6, 2026

Strawberry Reservoir - SWE

Basin	Estimated SWE volume (kac-ft)
SNODAS	9.315
ASO-assimilated	0.838

Provo R. above Jordanelle Res. - SWE

Basin	Estimated SWE Volume (kac-ft)
SNODAS	57.7
ASO-assimilated	44.2

Rock Cr. above Stillwater - SWE

Basin	Estimated SWE volume (kac-ft)
SNODAS	52.090
ASO-assimilated	22.761

Snowpack Forecast:

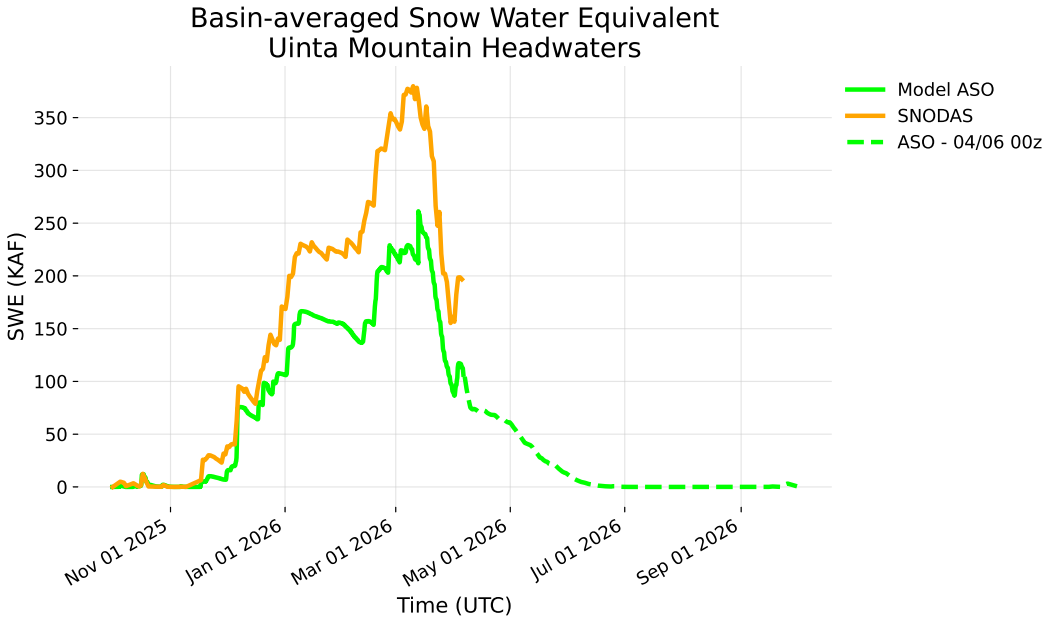

Figure 7. WRF-Hydro model analyzed and ensemble mean forecasted SWE. Valid: Apr. 6, 2026

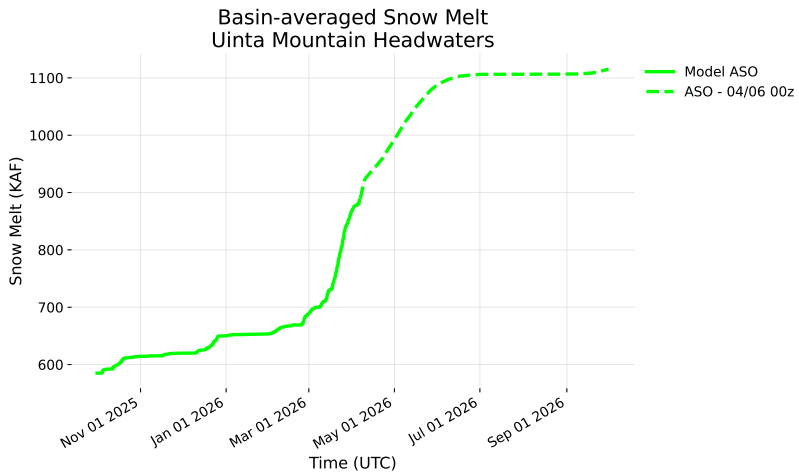

Figure 8. WRF-Hydro model forecasted basin-integrated ensemble mean accumulated snow-melt (inches) from the ASO-assimilated model instance. Valid: Apr. 6, 2026

Summary of Snowpack Forecasts

The snowpack forecasts for the ASO-assimilated model (dashed green line) shows there is a strong likelihood for continued ablation of snowpack in the coming days. A more typical climatological pattern of seasonal snowpack decay follows until snowpack disappearance in late May. These results are heavily influenced by the ensemble of climate conditions over the past 25 years that are used to drive most of the forecast period of the model. Given the anomalous climate pattern exhibited this year and its associated warm conditions, we do expect potentially more accelerated melting to occur than what is depicted in the latest model run.

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

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					
Water Hollow abv Diversion Dam					
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

Summary of Flow Forecasts

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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

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

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

West Fork abv Diversion Dam

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

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.

Runoff & Reservoir Inflow Forecast:

ASO-Assimilated April-July Runoff Forecast

Wolf Cr. abv Diversion Dam

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

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						
Twin Cr. abv Diversion Dam						
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

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						
Hades Cr.						
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

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

S. Fork Rock Cr. abv Diversion

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

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					
Rock Cr. abv Stillwater Diversion					
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

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

Lake Fork abv Moon Lake

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

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

Yellowstone R abv Altonah

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

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					
Duchesne River at Knight Diversion					
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

Summary of Flow Forecasts

This flow forecast represents the April-July natural accumulated runoff for this site. No accounting for future 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					
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

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

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 - Jordanelle Inflow					
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

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 Bureau of Reclamation estimated reservoir inflow at this site.

Soil Saturation Status:

Summary of Soil Moisture Conditions:

Basin averaged soil moisture conditions have continued to increase over the past few weeks due to continued snowmelt as well as due to some recent precipitation inputs. (Fig. 10) While early for this time of year, mid-to-late spring-like conditions exhibit decreasing soil moisture at lower elevation areas (Figs. 9 and 11) and upper-middle elevation areas show peak soil saturation values and the very highest elevation areas are not yet significantly increasing.

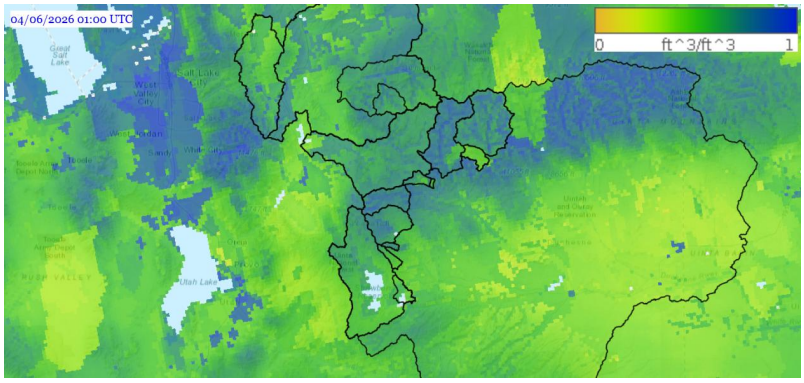

Figure 9. WRF-Hydro analyzed, vertically-integrated soil saturation. (%-saturation). Valid: Apr. 6, 2026

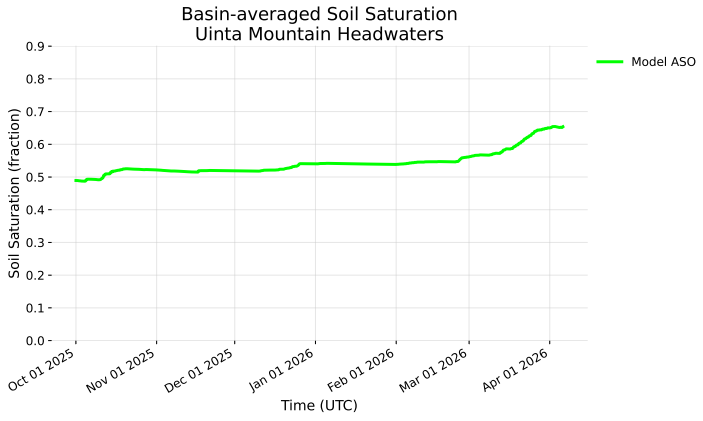

Figure 10. WRF-Hydro modeled soil saturation (% of saturation) from the ASO-assimilated model analyses. Valid: Apr. 6, 2026

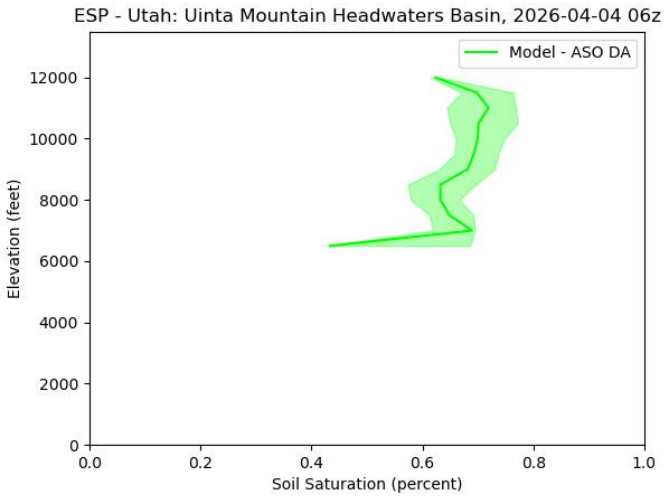

Figure 11. Elevation-band averaged soil saturation (% of saturation) modeled by the ASO WRF-Hydro system. Valid: Apr. 6, 2026

Supplemental flow/inflow forecast information: