



DRAFT SUBJECT TO CHANGE
Lakes Basin Snowpack Summary
Water Year 2019
April 2 to April 3

USDA Agricultural Research Service, Boise, Idaho
NASA Jet Propulsion Lab, Pasadena, California

Summary

The total amount of water stored in the snowpack as of April 3 is estimated to be **26.7 TAF**, which represents a change of **0.3 TAF** of snow storage during the reporting period.

Basin	Current			Report Period		Water Year		
	SWE [TAF]	SWE [% total]	SWE [in]	SWI [TAF]	Δ SWE [TAF]	SWI [TAF]	Precip [in]	Rain [% precip]
Lakes	26.7	100	46.8	0.0	0.3	0.0	0.7	~0

Table 1: Snow storage and surface water inputs.

In cooperation with



Results

SWE [in], 2019-4-3

	Lakes
Elevation	
8000	42.4
9000	48.6
10000	49.6
11000	18.9
mean	46.8

Table 2: SWE depth.

SWE [TAF], 2019-4-3

	Lakes
Elevation	
8000	3.1
9000	13.6
10000	9.5
11000	0.5
total	26.7

Table 3: SWE volume.

SWI [TAF] by elevation, 2019-4-2 to 2019-4-3

	Lakes
8000	0.0
9000	0.0
10000	0.0
11000	0.0
total	0.0

Table 4: SWI volume.

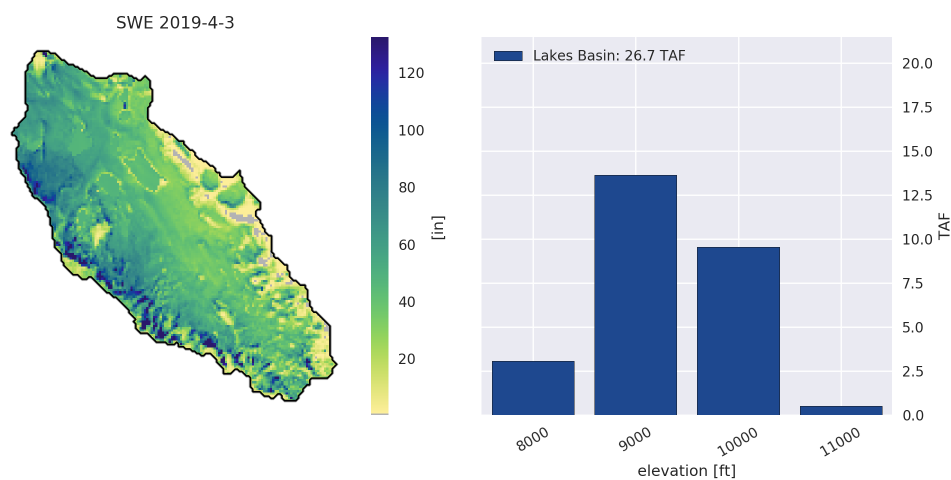


Figure 1: Current SWE as a depth (left), and volume by elevation band (right).

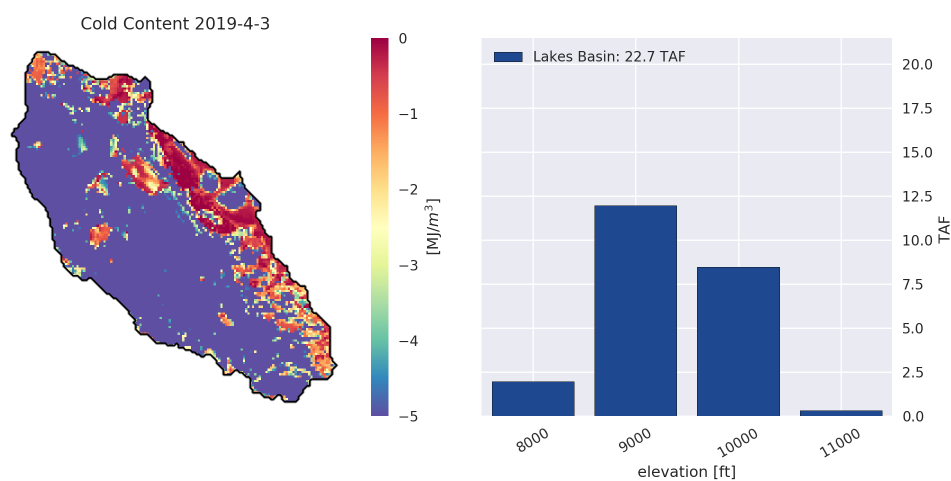


Figure 2: Snowpack cold content (left), and volume of snow that is unavailable for melt, based on the cold content, by elevation band (right). Snow that requires enough additional energy inputs to reach $0^{\circ}C$ that it is unavailable for melt appears as blue in the left panel. Storage volume in the right panel indicates the amount of unavailable snow, on the same y-axis limit as the total storage.

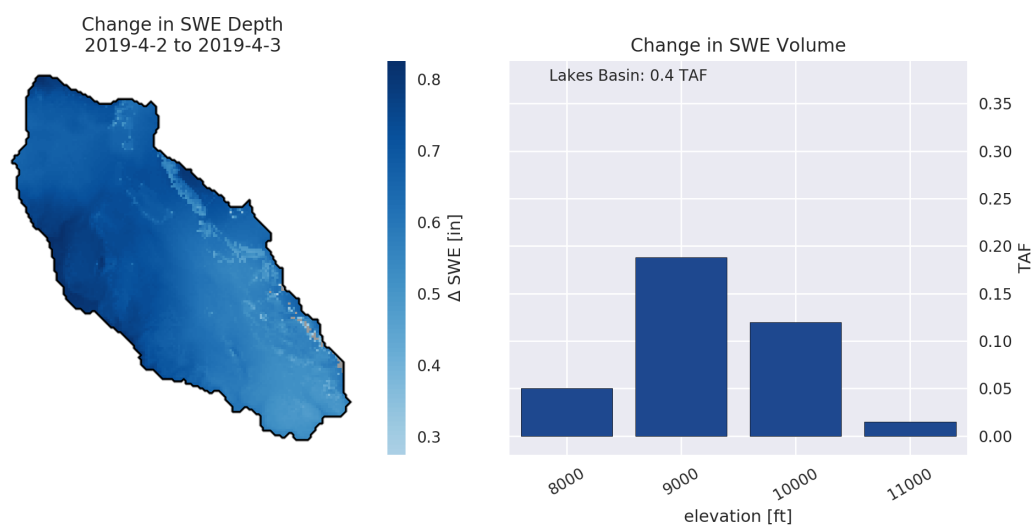


Figure 3: Change in SWE during the reporting period, as a depth (left) and as a function of elevation band (right). Changes include effects of including depth updates if those occurred during the report period.

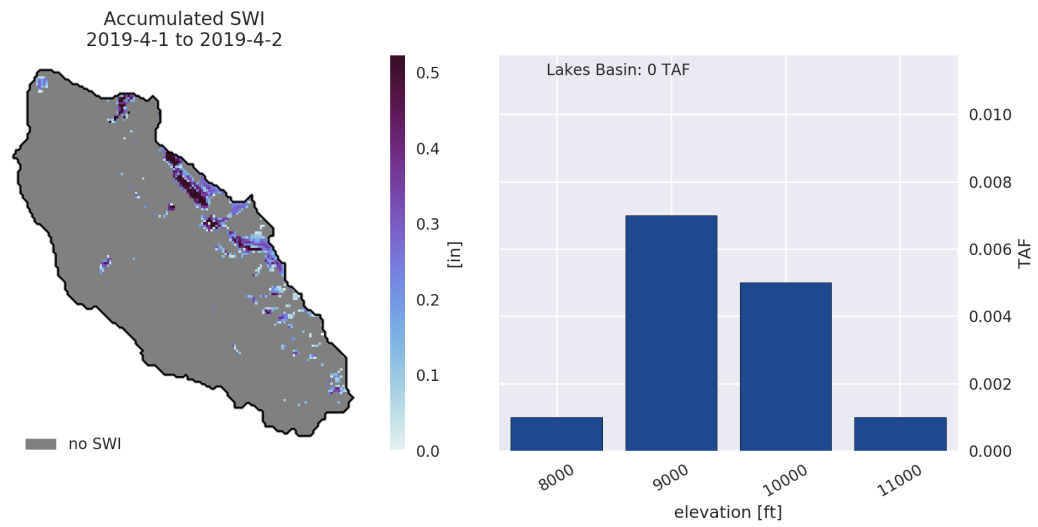


Figure 4: Current Surface Water Inputs (SWI) for the reporting period, as a depth (left) and as a function of elevation band (right).

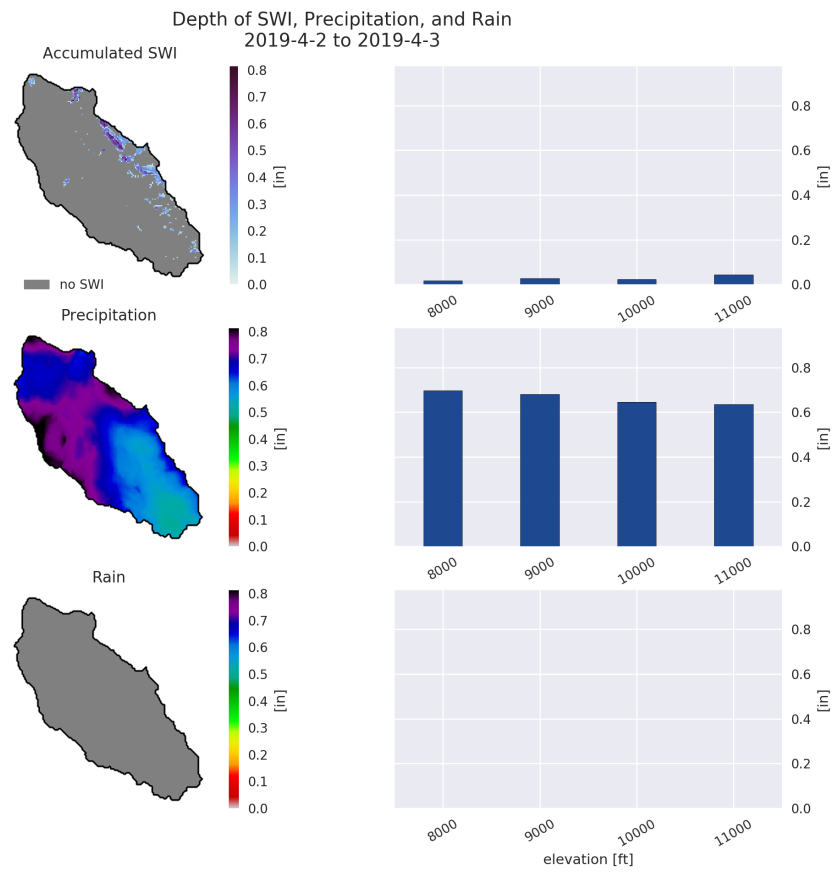


Figure 5: SWI, total precipitation, and rain for the reporting period, as a depth (left), and by elevation band (right).

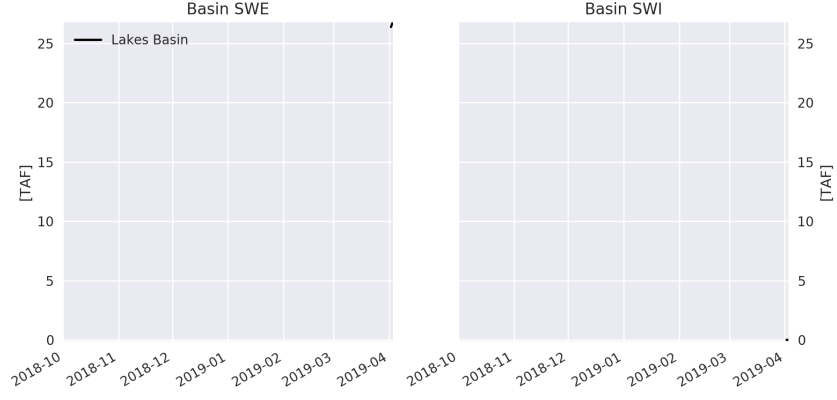


Figure 6: Water year total SWE (left), SWI (right) volumes. The timing of the ASO depth updates are shown as the dotted black line.

Glossary

SWE: Snow Water Equivalent

Δ SWE: change in SWE during the reporting period

SWI: Surface Water Inputs, total of all water inputs to the basin (combination of snowmelt that exits the base of the snowpack and rain on bare ground)

Rain: approximate percent of precipitation that fell as rain

Cold Content: energy required to bring the snowpack to 0°C

STATEMENT OF INTENT: This report is created as a product of a research agreement between the USDA-ARS Northwest Watershed Research Center and the NRCS National Water and Climate Center. This report is intended to demonstrate the capabilities of real time physically-based snow modeling and the tools being developed within the scope of that research agreement. USDA-ARS provides the data to the best of its knowledge and shall not be liable for any consequences of any kind, including, but not limited to, lost revenues and profits, that arise from using the products provided.

Contact:

Mark Robertson, mark.robertson@ars.usda.gov, (208) 422-0729

Scott Havens, scott.havens@ars.usda.gov, (208) 422-0739