DRAFT SUBJECT TO CHANGE

Tuolumne River Basin Snowpack Summary
ASO Updates

Water Year 2016

April 16 to April 17

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NASA Jet Propulsion Lab, Pasadena, California

Summary

The total amount of water stored in the snowpack as of April 17 is estimated to be **525.0 TAF**, which represents a change of **12.4 TAF** of snow storage during the reporting period.

	Current			Report Period		Water Year		
Basin	SWE [TAF]	SWE [% total]	SWE [in]	SWI [TAF]	ΔSWE [TAF]	SWI [TAF]	Precip [in]	Rain [% precip]
Tuolumne	525.0	100	21.7	0.7	12.4	0.7	-	-

Table 1: Snow storage and surface water inputs.

Results

SWE [in], 2016-4-17

Elevation	Tuolumne
3000	0.0
4000	0.0
5000	0.1
6000	0.8
7000	9.1
8000	21.7
9000	28.0
10000	31.7
11000	25.4
12000	15.4
13000	3.0
mean	21.7

Table 2: Mean depth of SWE by elevation band.

SWE [TAF], 2016-4-17

Elevation	Tuolumne
3000	0.0
4000	0.0
5000	0.1
6000	1.2
7000	23.1
8000	112.1
9000	213.2
10000	141.0
11000	32.1
12000	2.2
13000	0.0
mean	525.0

Table 5: Volume of SWE by elevation band.
Table 3: Volume of SWE by elevation band.

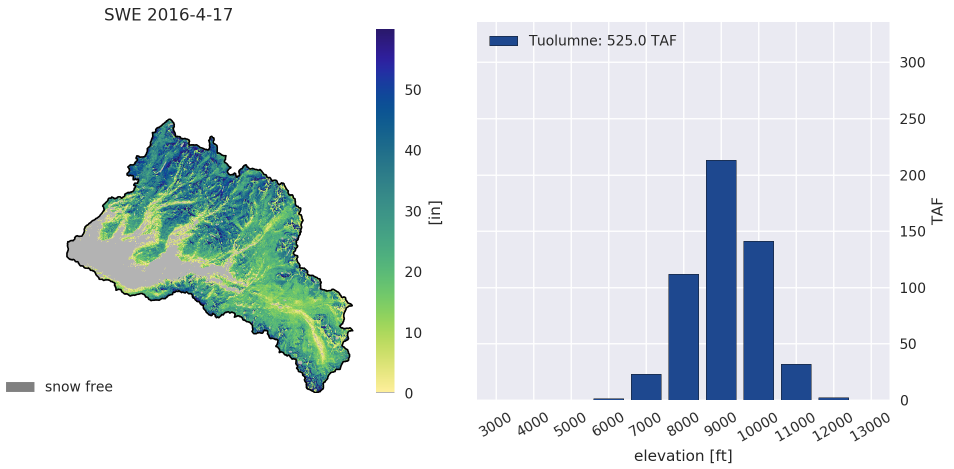

Figure 1: Current SWE as a depth (left), and volume by elevation band (right).

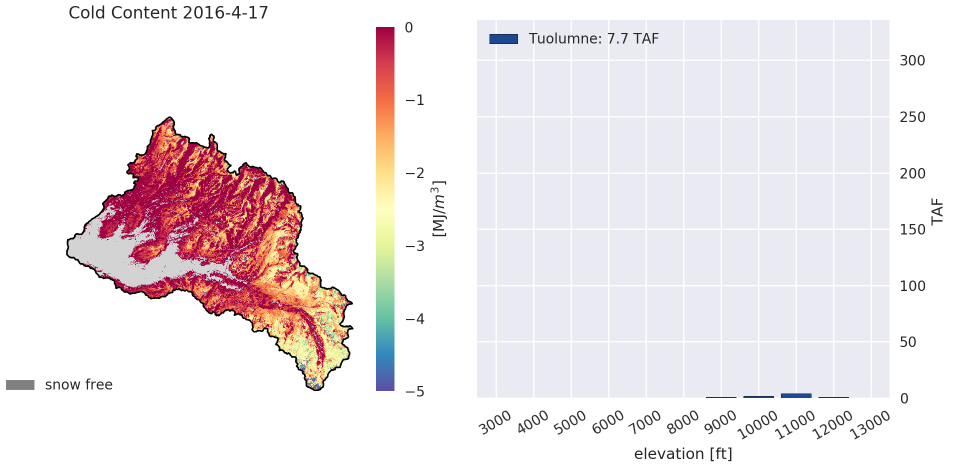

Figure 2: Snowpack cold content (left), and volume of snow that is unavailable for melt, based on the cold content, by elevation band (right). Snow that requires enough additional energy inputs to reach 0°C that it is unavailable for melt appears as blue in the left panel. Storage volume in the right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

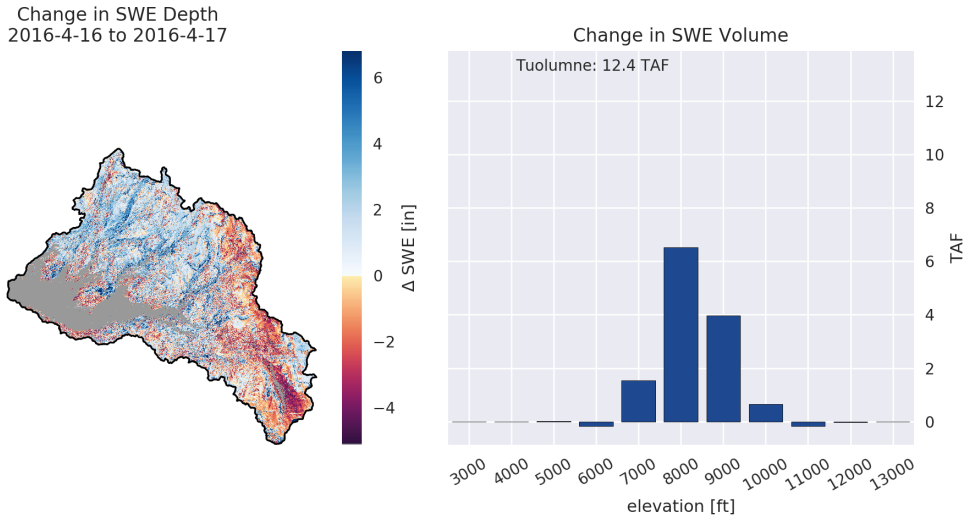

Figure 3: Change in SWE during the reporting period, as a depth (left) and as a function of elevation band (right). Changes include effects of including depth updates if those occurred during the report period.

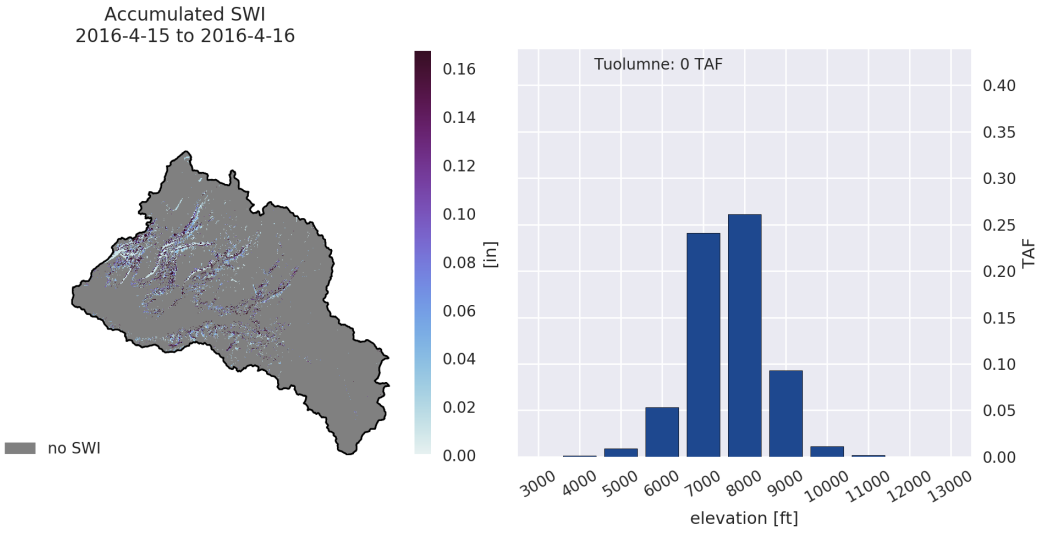

Figure 4: Current Surface Water Inputs (SWI) for the reporting period, as a depth (left) and as a function of elevation band (right).

Snow Depth Update

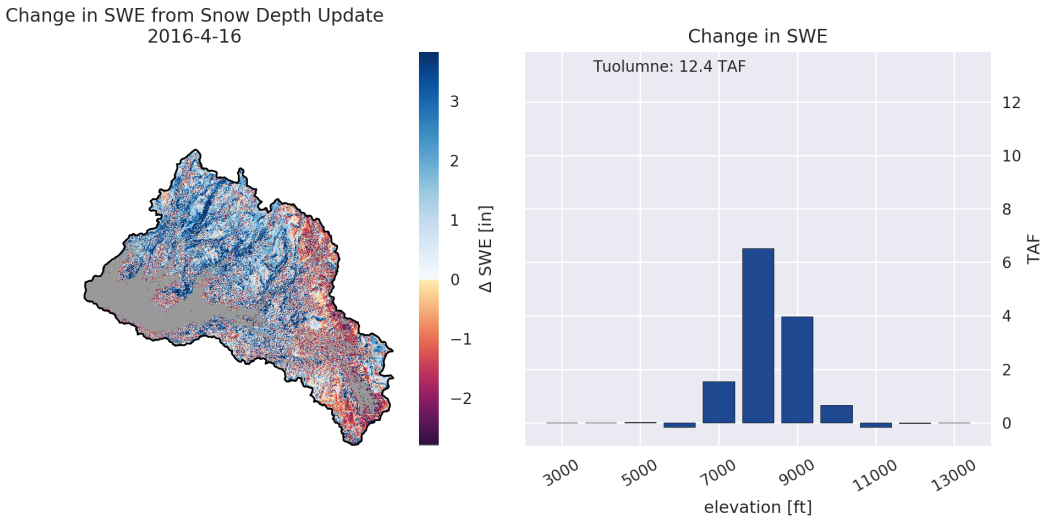

Figure 5: Change in SWE as a result of the snow depth update, as a depth (left) and as a function of elevation band (right).

Change in SWE [TAF] by elevation, from 20160416 update

	Tuolumne
3000	0.0
4000	0.0
5000	0.0
6000	-0.2
7000	1.6
8000	6.5
9000	4.0
10000	0.7
11000	-0.2
12000	-0.0
13000	-0.0

Glossary

SWE: Snow Water Equivalent

ΔSWE: 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.

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