

Boise River Basin Snowpack Estimates

from Physically Based Modeling

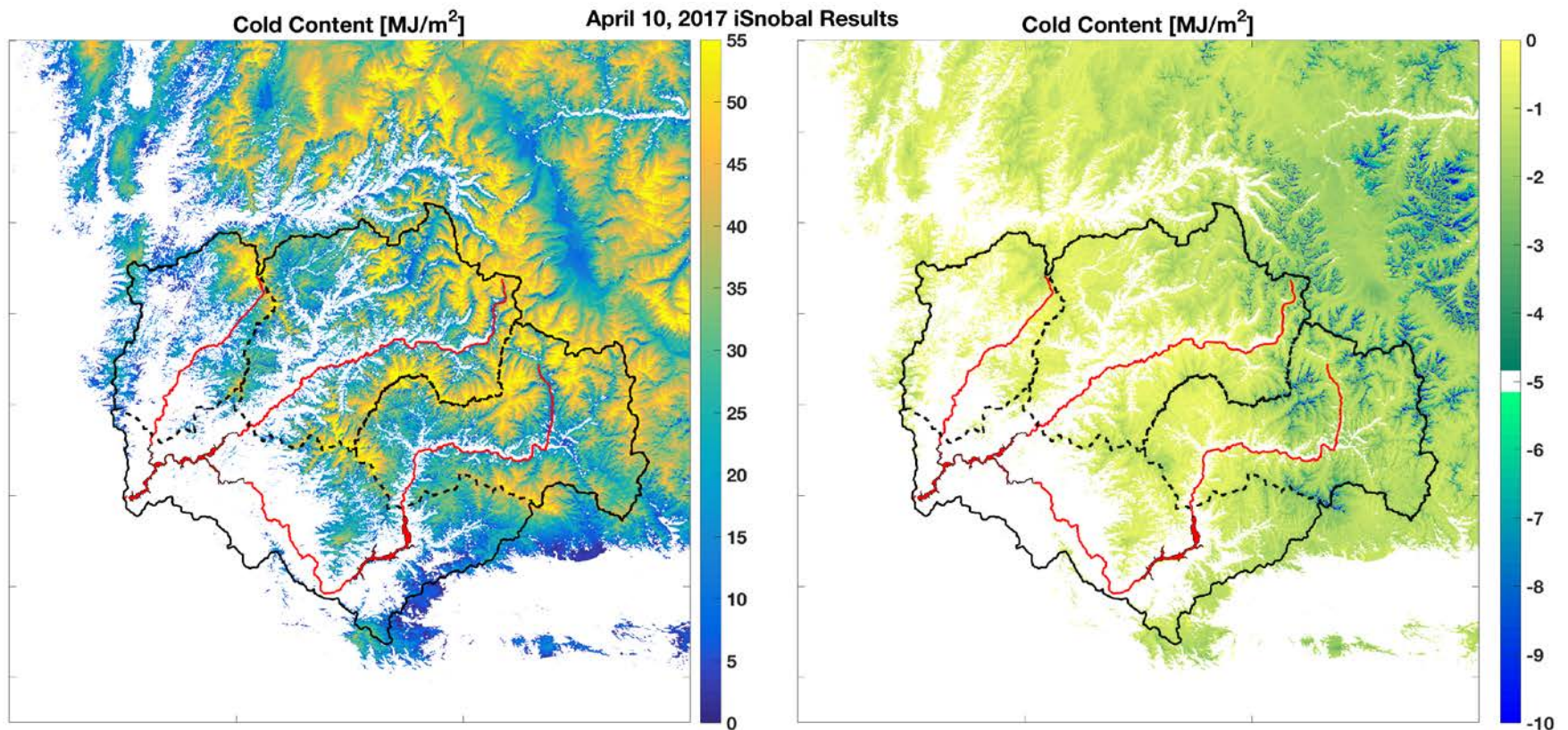
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Northwest Watershed Research Center
Agricultural Research Service

April 10, 2017 Report

April 10, 6:00 UTC (0:00 MST)

Snow Water Equivalent and Cold Content

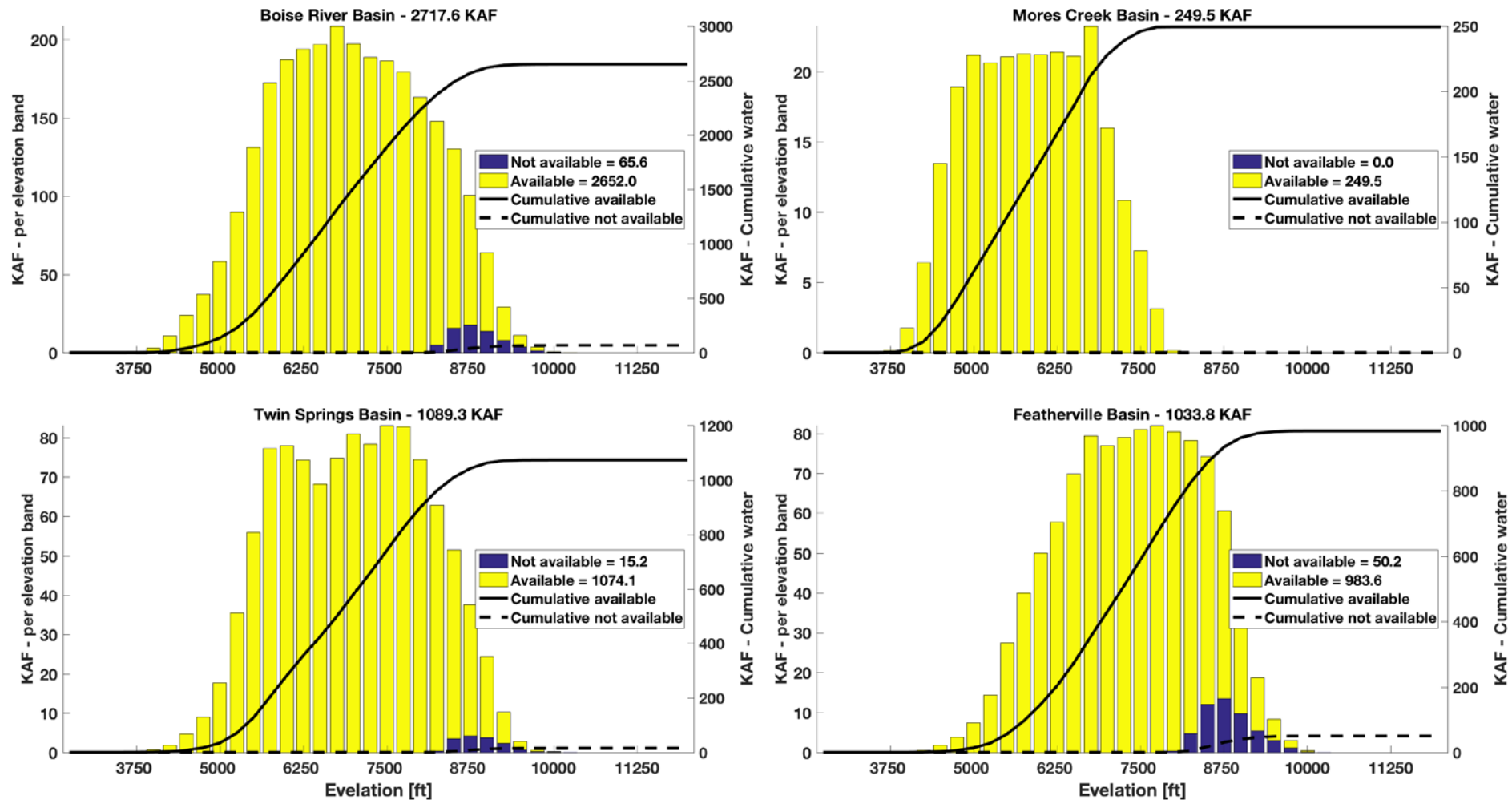
- **2718** KAF stored as snow
 - 250 KAF in Mores Creek
 - 1089 KAF in Twin Springs
 - 1034 KAF in Featherville
- As of midnight, most of the basin is “close to or melting



April 10, 6:00 UTC (0:00 MST)

Snow Storage vs. Elevation

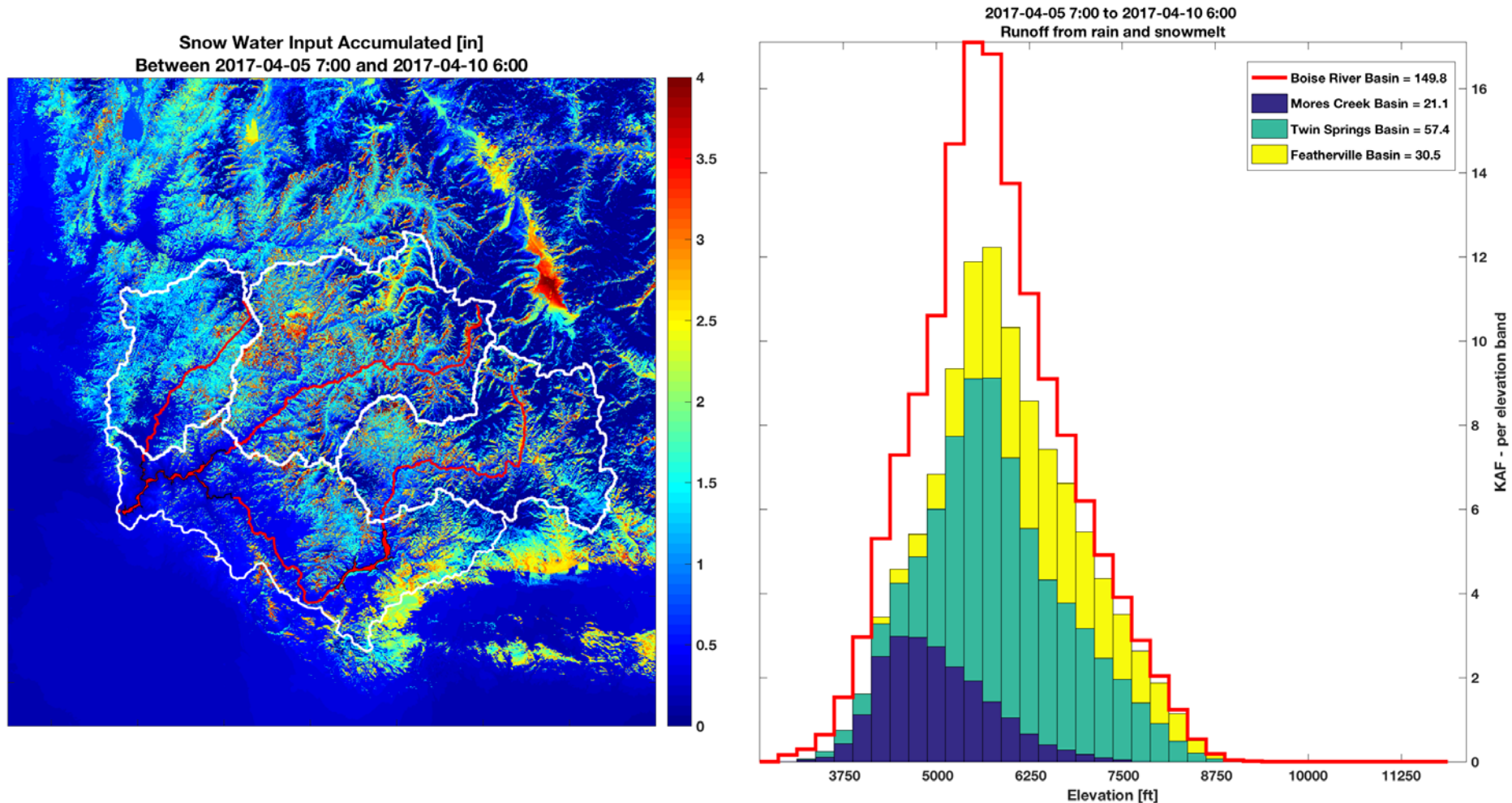
April 10, 2017, Potential Melt
Cold Content > -5 MJ/m², [units = KAF]



April 10, 6:00 UTC (0:00 MST)

Water inputs vs. Elevation

Accumulated over time (between reports)

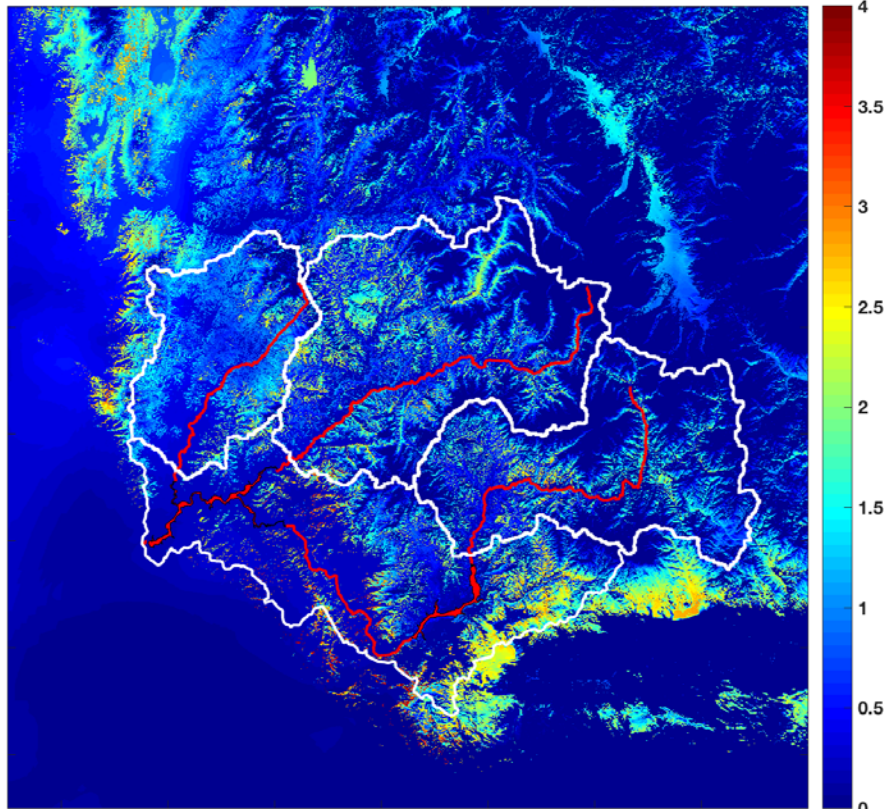


April 13, 6:00 UTC (0:00 MST)

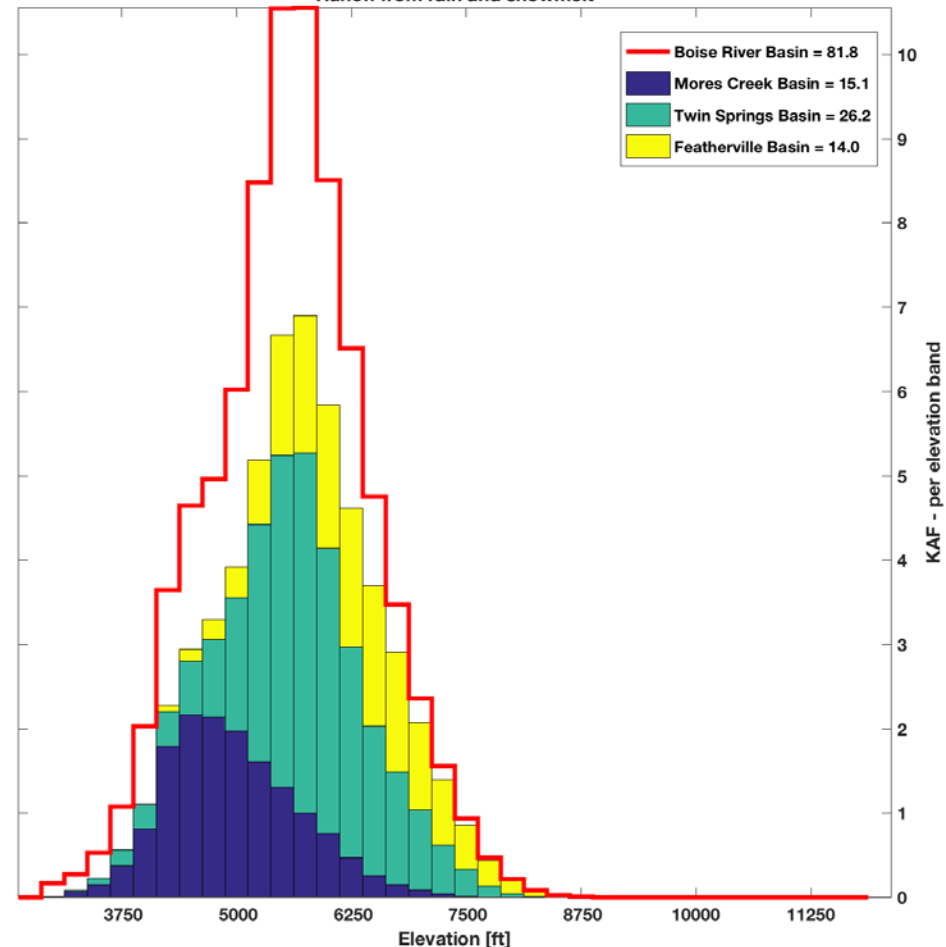
Forecast Water inputs vs. Elevation

Accumulated over time (between reports)

Snow Water Input Accumulated [in]
Between 2017-04-10 7:00 and 2017-04-13 6:00



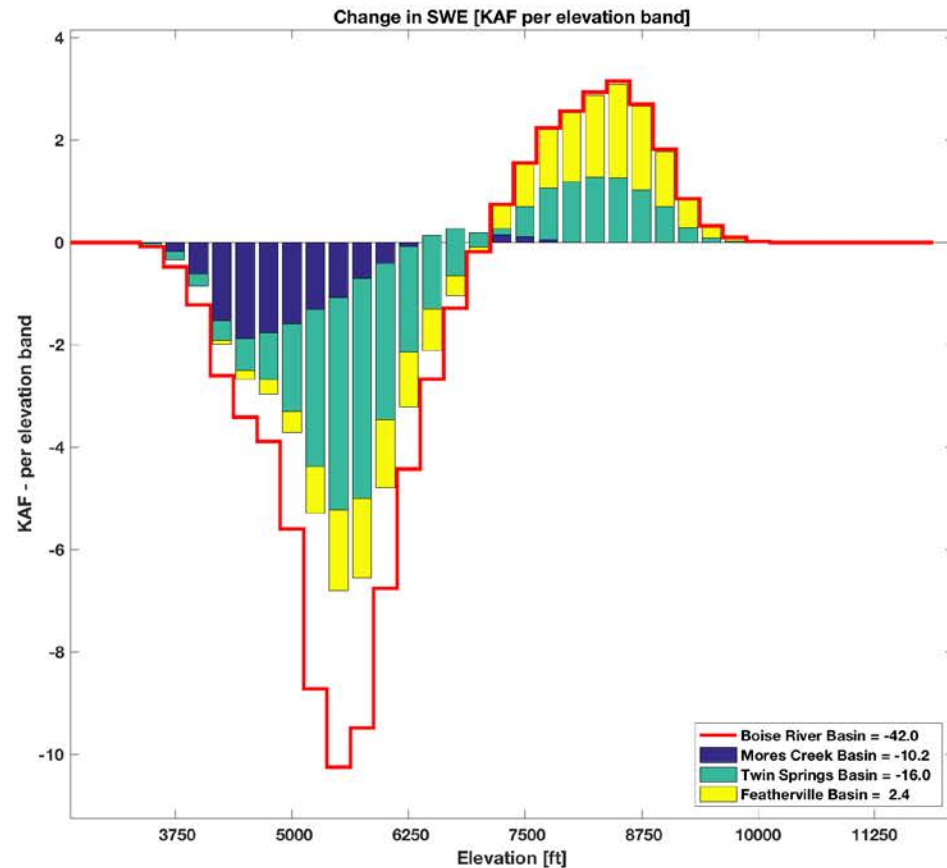
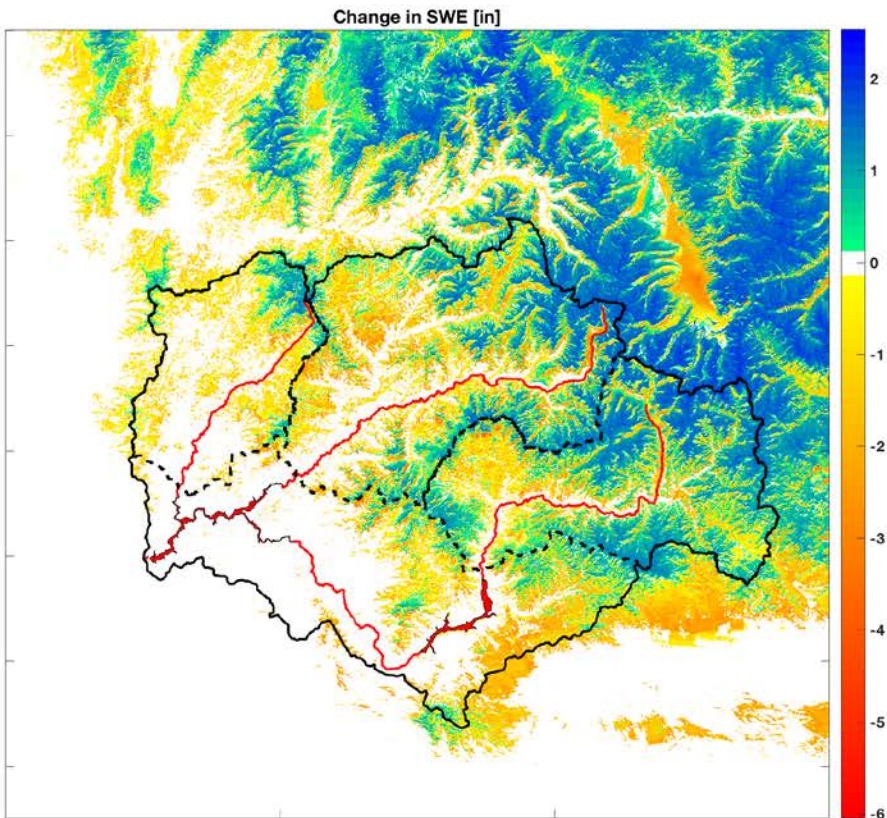
2017-04-10 7:00 to 2017-04-13 6:00
Runoff from rain and snowmelt



April 10, 6:00 UTC (0:00 MST)

SWE Changes vs. Elevation

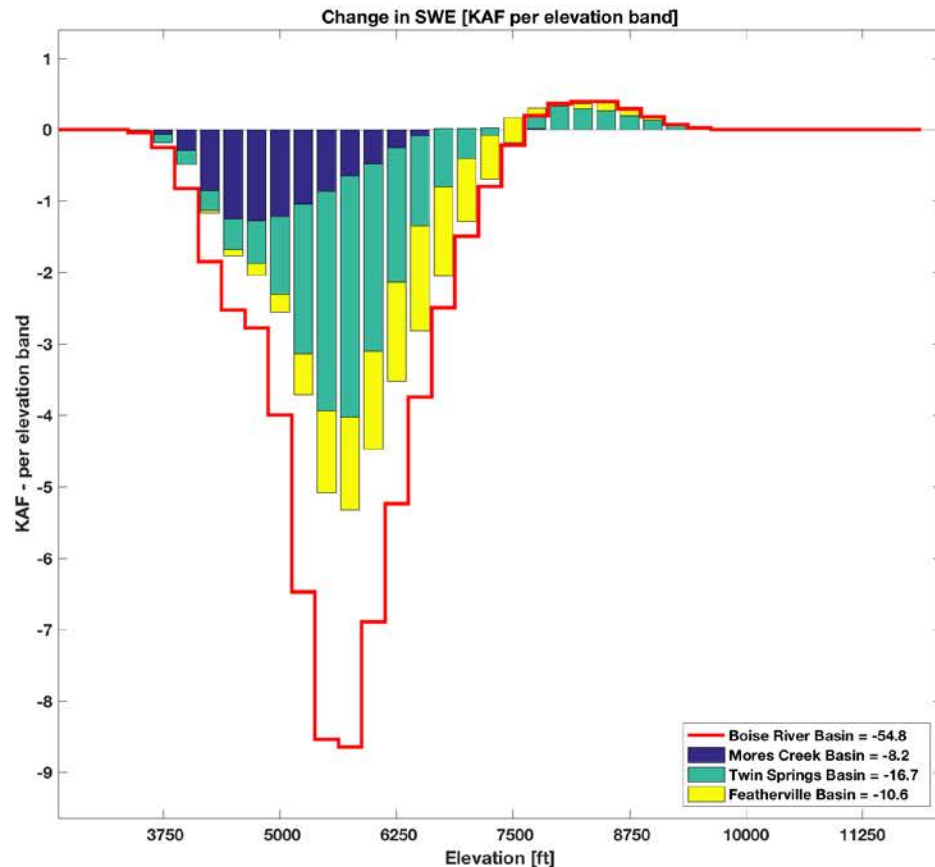
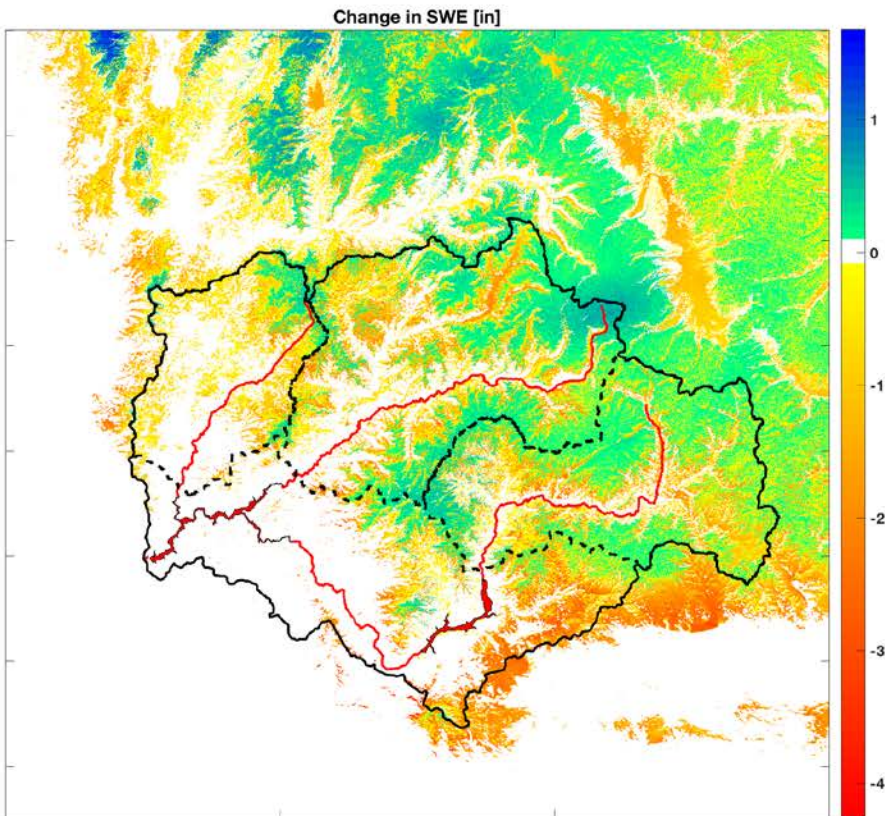
Difference over time (between reports)



April 13, 6:00 UTC (0:00 MST)

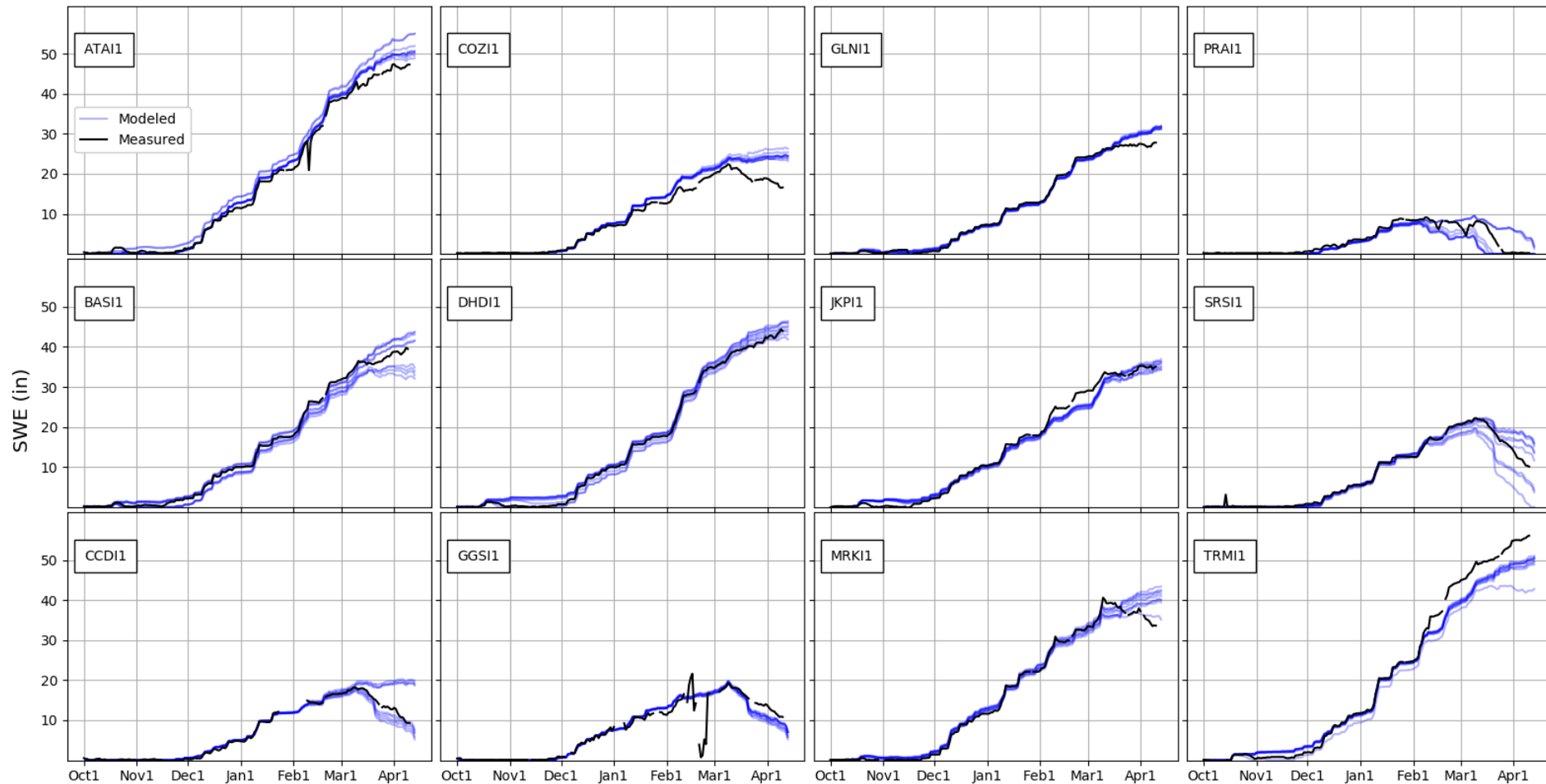
Forecast SWE Changes vs. Elevation

Difference over time (between reports)



Model Evaluation at SNOTEL Locations

SWE Validation at SNOTEL locations



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- Physically based snow model
- Weekly snowpack updates
- Resolution
 - 100 m spatial
 - 1 hour time
- Forcing data
 - Meteorological stations
 - Air temperature, precip, wind, solar

