

# Snowpack Update: Physically Based Snowpack Model

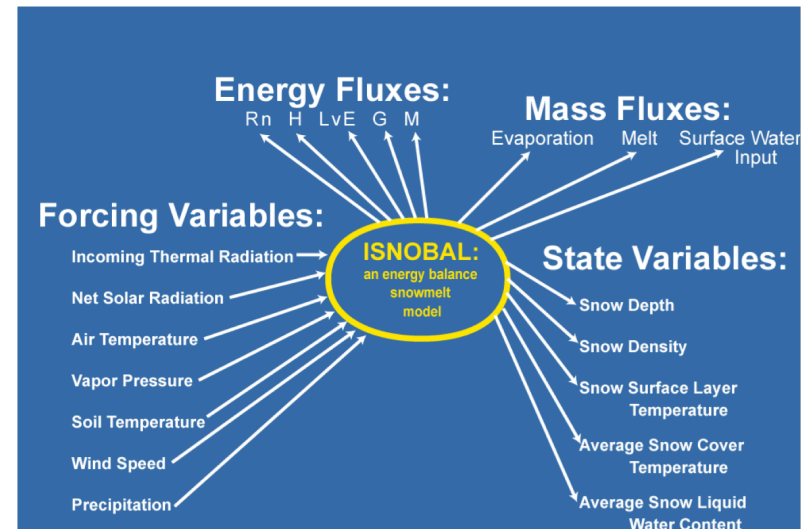
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April 10, 2015

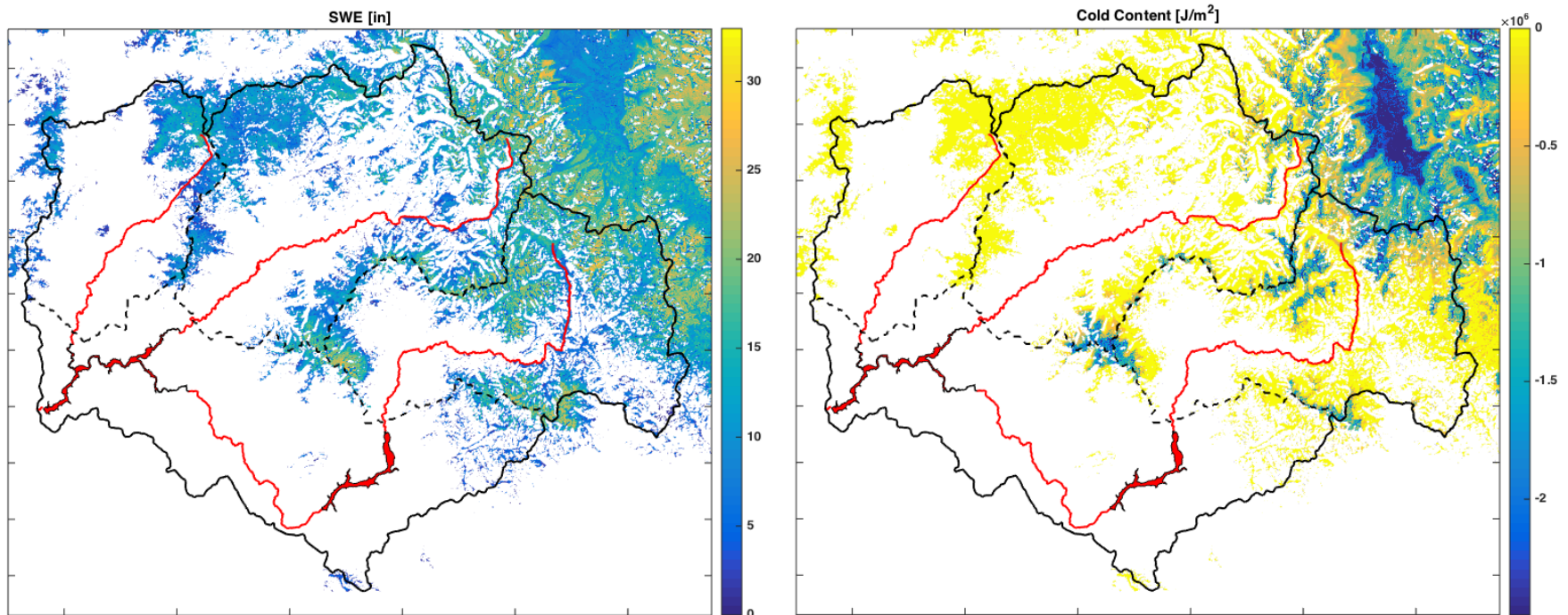
# Isnobar

- Physically based snow model
  - **NO CALIBRATION!**
- Weekly snowpack updates
- Resolution
  - 100 m spatial
  - 1 hour time
- Forcing data
  - Meteorological stations
  - Air temperature, precip, wind, solar



# Current Results: SWE Distribution

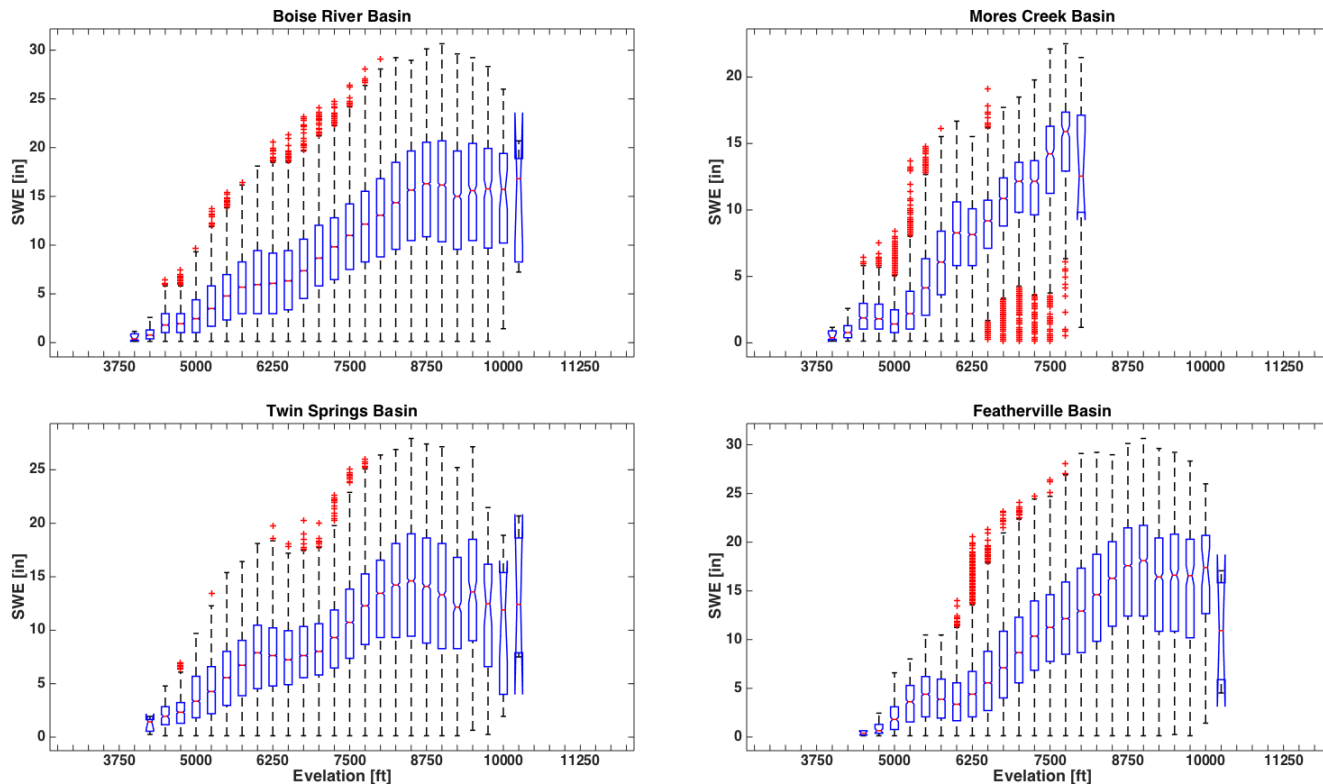
April 9, 2015 iSnoPal Results



- Snow mainly in upper elevations
- Low to mid elevation snowpack is ripe and ready to melt

# Current Results: SWE vs. Elevation

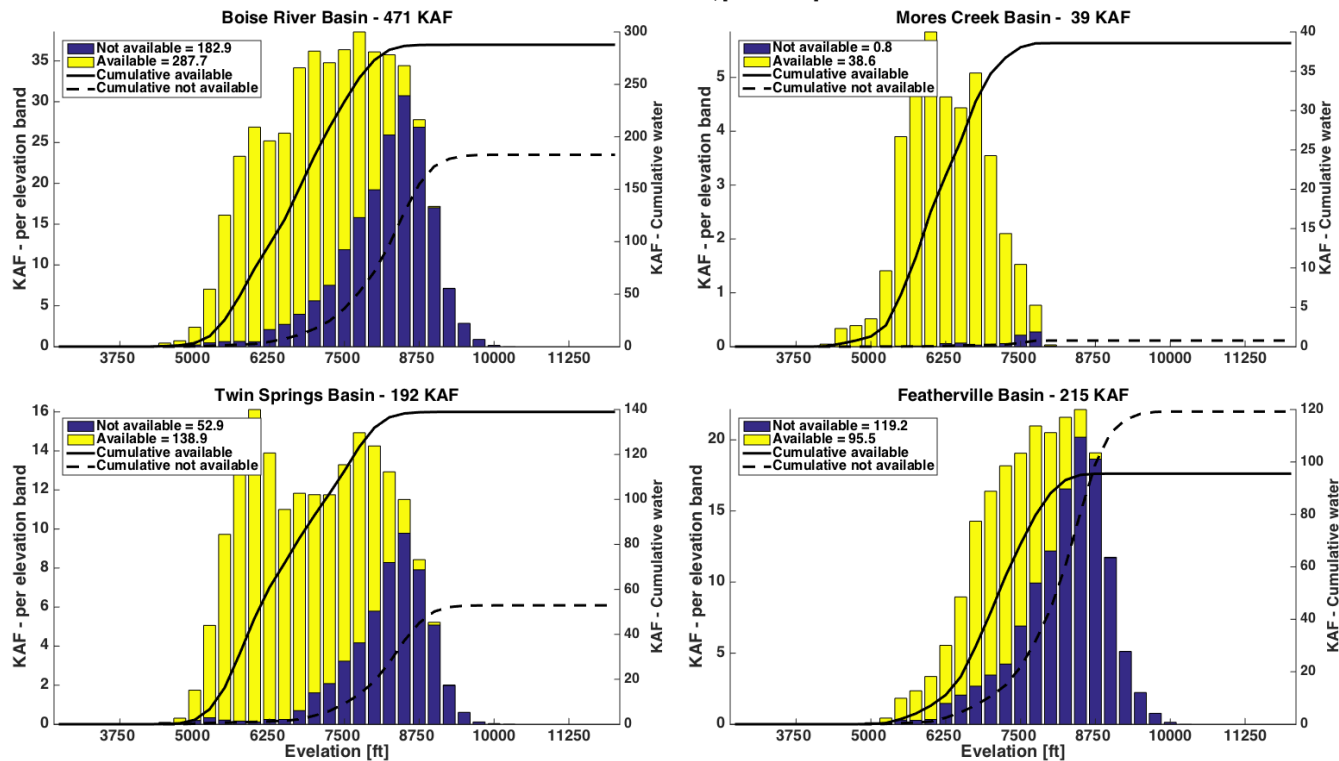
April 9, 2015, SWE Distribution



- Large range in Snow Water Equivalent (SWE) for each elevation

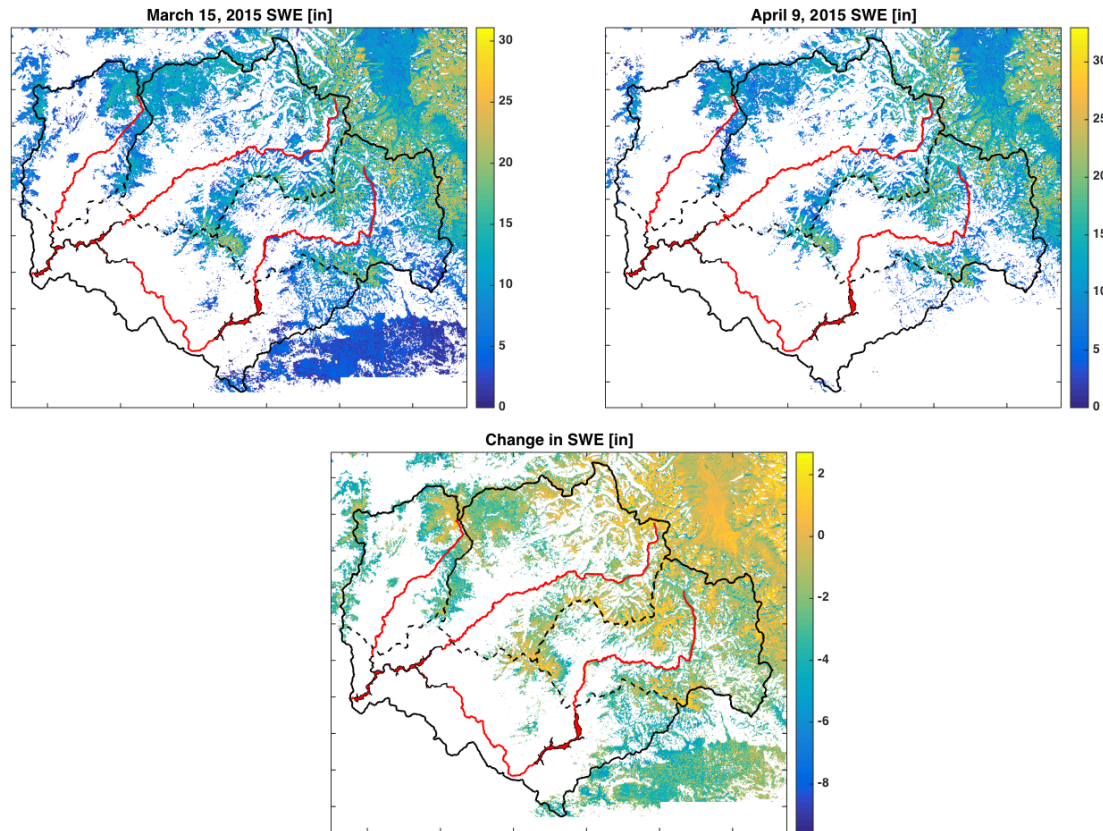
# Current Results: Potential Melt Volume vs Elevation

April 9, 2015, Potential Melt  
Cold Content > -100 J/m<sup>2</sup>, [units = KAF]



- Mores Creek Basin is almost fully ripe and has a high potential for melt
- Still a good portion of colder snow at higher elevations

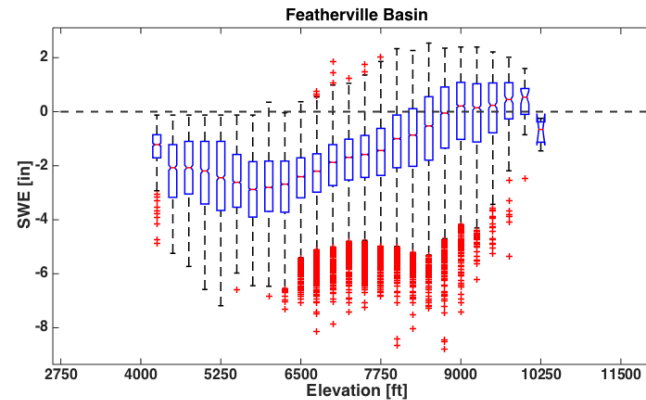
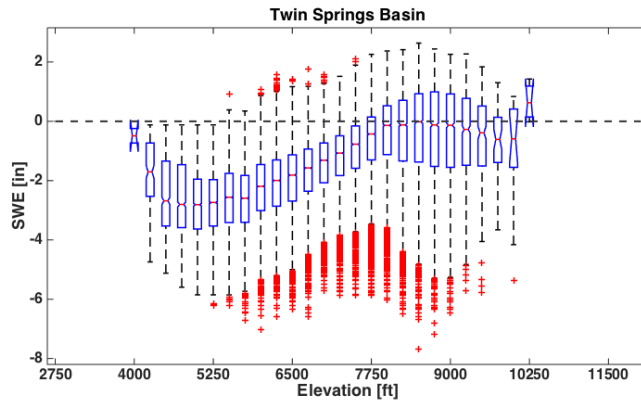
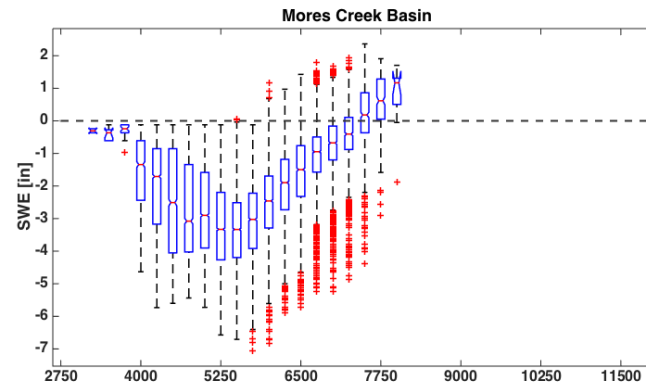
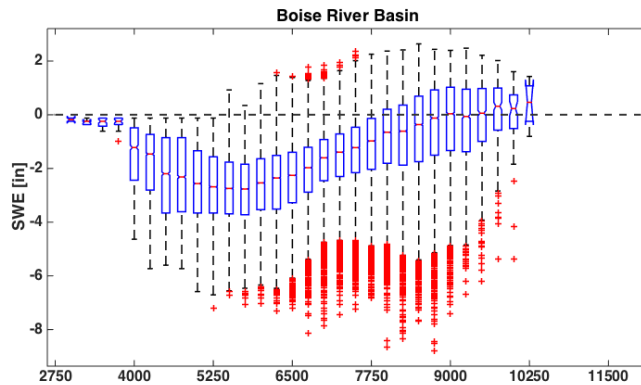
# Changes: SWE Distribution



- Higher elevations gained
- Lower elevations rapidly melting

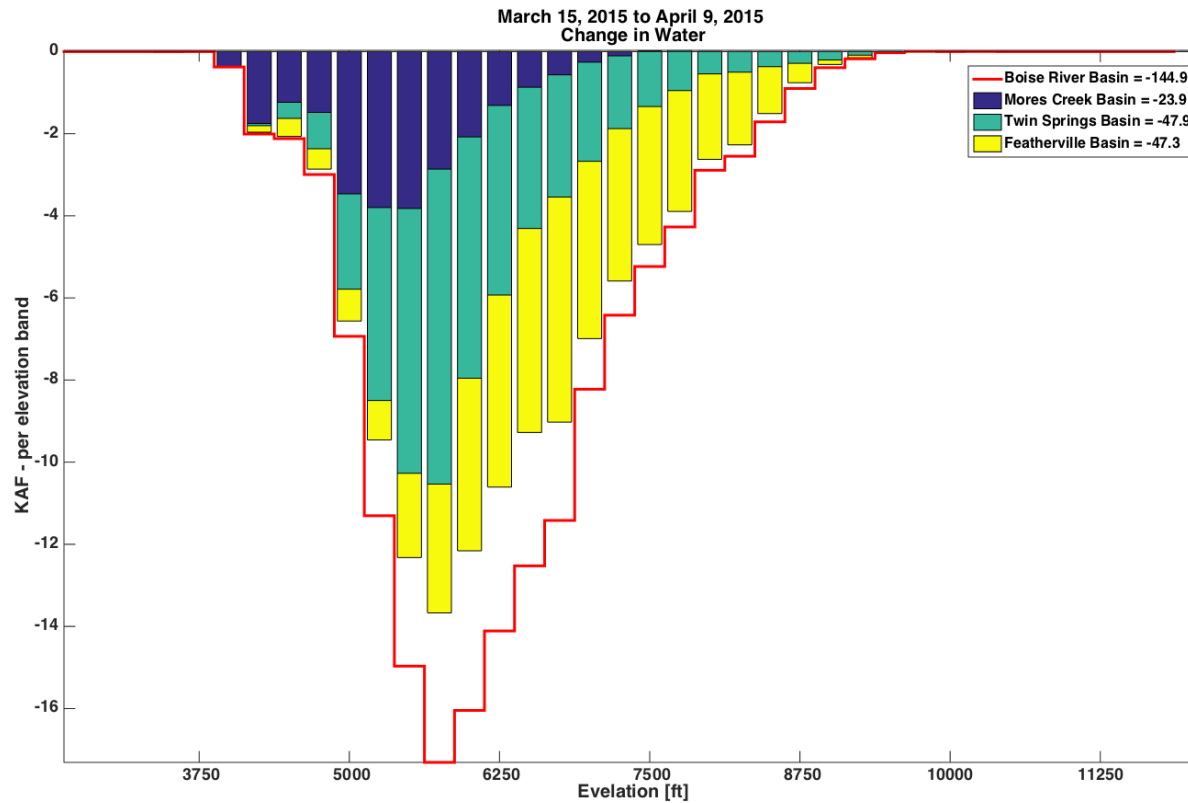
# Changes: SWE vs. Elevation

March 15, 2015 to April 9, 2015  
Change in SWE



- Some higher elevations gained
- Lower elevations rapidly melting

# Changes: Water Volume



- Mid elevations lost the most since March 15
- Twin Springs lost most



# Summary

- High resolution snowpack model
  - Look at water distribution and melt
  - Not sensitive to extreme years
- Lower to mid elevations:
  - Lots of melt - ~150 KAF for BRB
- Upper elevations
  - Gained some water
  - Less potential to melt
- Since last week
  - Slight increase in SWE
  - No significant melt