Snowpack Modeling and Streamflow Forecast

Idaho Water Supply Meeting
March 12, 2024

March 10 Model Summary

- 1737 KAF
- Mean SWE: 12.1 in
- YTD runoff ratio: 33%
- Estimated end of year runoff ratio: ~45%

March 10 Model Summary

- +150 KAF in March
- Relatively cold snow above 6,000ft

March 10 Model Validation

March 10 Model Validation

Site Index v. Volume

- Model performance is excellent - we like to see 50m model values slightly below the pillows
- Note the difference between **site index** and **volume**

March 10 Model State

Model

Mar 10: **100%** of median

SNOTEL

Mar 10: **101%** of median

Streamflow Forecast From Similar Years

Use runoff ratio from similar years to create streamflow forecast

Streamflow Forecast From Similar Years

Select similar years with similar SWE on March 10:

1984, 1989, 1993, 1996, 1998, 2000

1984 and **1998** were ‘median’ years in early March, and followed big snow years

Streamflow Forecast From Similar Years

Using similar years: 1984, 1989, 1993, 1996, 1998, 2000

A-J: 1484 KAF (+200 from Feb 13)

A-S: 1601 KAF (+220 from Feb 13)

Streamflow Forecast From Similar Years

Using similar years: 1984, 1989, 1993, 1996, 1998, 2000

70th A-J: **1216 KAF**

70th A-S: **1319 KAF**

Questions?

kehan.yang@m3works.io
mark.robertson@m3works.io
micah.johnson@m3works.io
micah.sandusky@m3works.io

www.m3works.io