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Output from hydrologic model is reservoir inflow volumes that reflect decadal temperature predictions.



Caveat 1: Hydrology needs to be sensitive to temperature



Caveat 2: We are NOT using precipitation predictions, so with delta or resample *historical precipitation doesn't change*









But annual reservoir volume is variable!



But annual reservoir volume is variable!



Especially when we are comparing different sample sizes

But annual reservoir volume is variable!



Especially when we are comparing different sample sizes

And when we aren't accounting for precipitation variability

Hydrograph of weekly average inflows shows climatological snowmelt...



Week

Hydrograph of weekly average inflows shows climatological snowmelt... and delta and resample show sensitivity to temperature...



Week

Hydrograph of weekly average inflows shows climatological snowmelt... and delta and resample show sensitivity to temperature...



Week

Hydrograph of weekly average inflows shows climatological snowmelt... and delta and resample show sensitivity to temperature... But 2015 has a "miracle May" with high precipitation which skews variability.



Week

Conclusions

 Decadal predictions are still experimental, but framework provides water managers with systematic alternatives to using climatology.



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 - Many potential users will use decadal predictions with impact models – but outputs will only reflect underlying skill (trend vs. variability)



Conclusions

- Decadal predictions are still experimental, but these approaches give water managers systematic alternatives to using climatology.
 - Many potential users will require pairing decadal prediction information with impact models – but outputs will only reflect underlying skill (trend vs. variability)

Thank you! towler@ucar.edu