



California Perspective on Drought Prediction

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Drought Prediction – major information gap for drought preparedness at operational timescales

- Could we have an unusually wet late spring?
- This winter has been very dry through December, are dry conditions likely to persist the rest of the winter?
- Will next year be dry? How long will dry conditions persist?
- What is the likelihood of multiple dry years?
- Does this wet year mean a return to wetter conditions, or is it an outlier in a sequence of dry years?



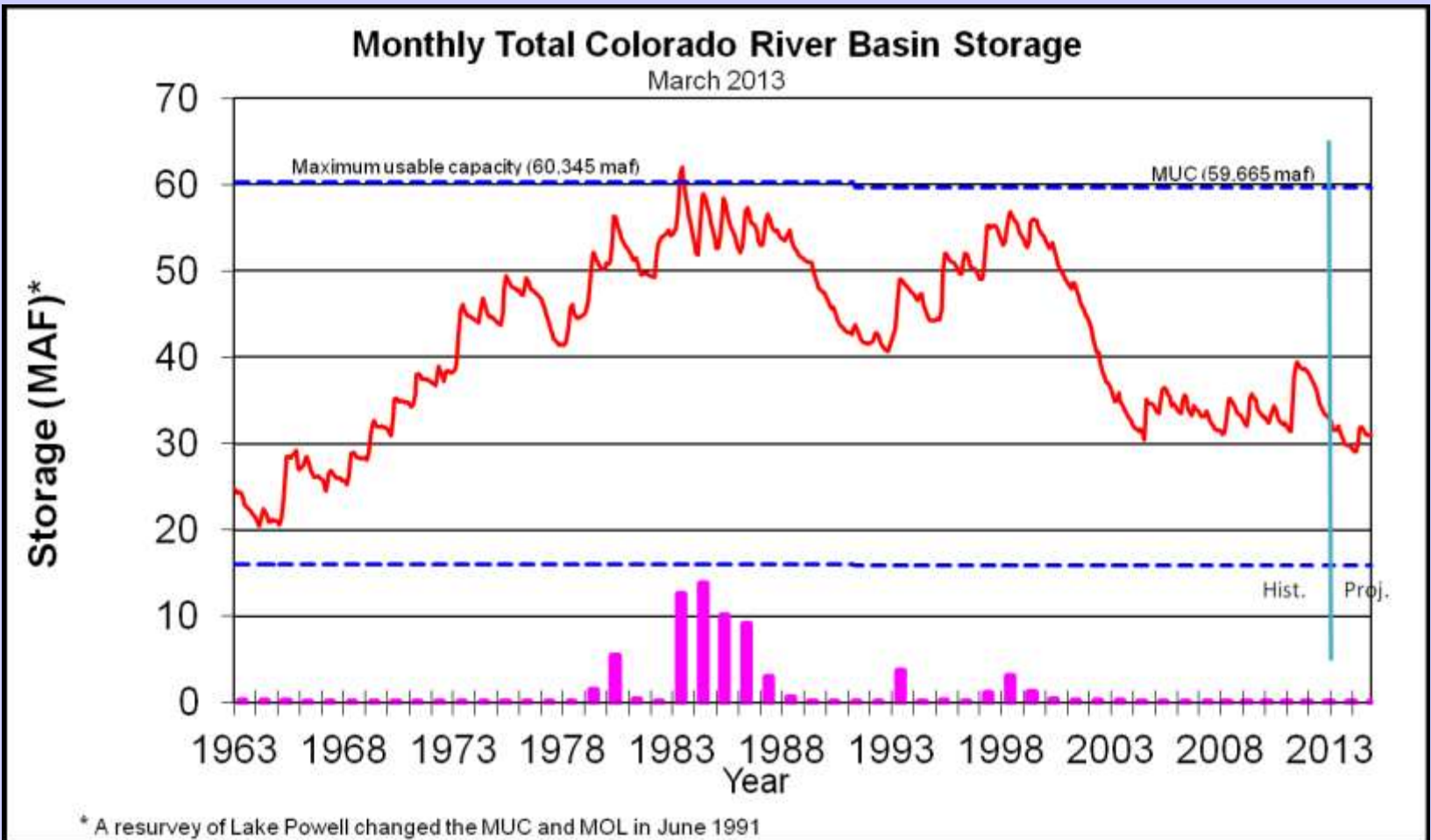
Will the rest of this winter be dry? (intra-seasonal prediction)

- How much water should we allocate to State Water Project contractors?
- Will there be an early start to the wildfire season?
- Will we be receiving many water transfer requests?
- How should we plan reservoir and aqueduct water and power operations?

Will next year be dry? (annual prediction)

- Do we need to reprogram funds for drought response activities, or seek new funding?
- Should we plan to operate a drought water bank?
- Should we develop enhanced conservation or drought outreach programs?
- Do we need to start monitoring subsidence due to groundwater extraction?

Is this an isolated dry year, or part of a trend, or a change in state of the system?



Relevance at water user level

- Especially important for agricultural water users; need for adequate lead time for planting decisions
- Lead time needed for planning response actions such as water transfers
- Importance of reliable predictive capability increases with length of drought

What is CDWR doing about prediction?

- Distant past: funded tree-ring reconstructions of Colorado, Sacramento, San Joaquin, and Klamath streamflow, for characterization of past droughts
- Weather timescale: partnering with NOAA in HMT project for monitoring/forecasting extreme precip (the converse of drought)
- Intraseasonal to interannual: sponsor winter outlook workshops (**however, predictive capability is limited**)
- Distant future: assessed climate change impacts on water supplies and project delivery capability

What's next?

- Analog years (formalize)
- Work with NIDIS, other research programs

