

Colorado's Climate – What changes have we seen?

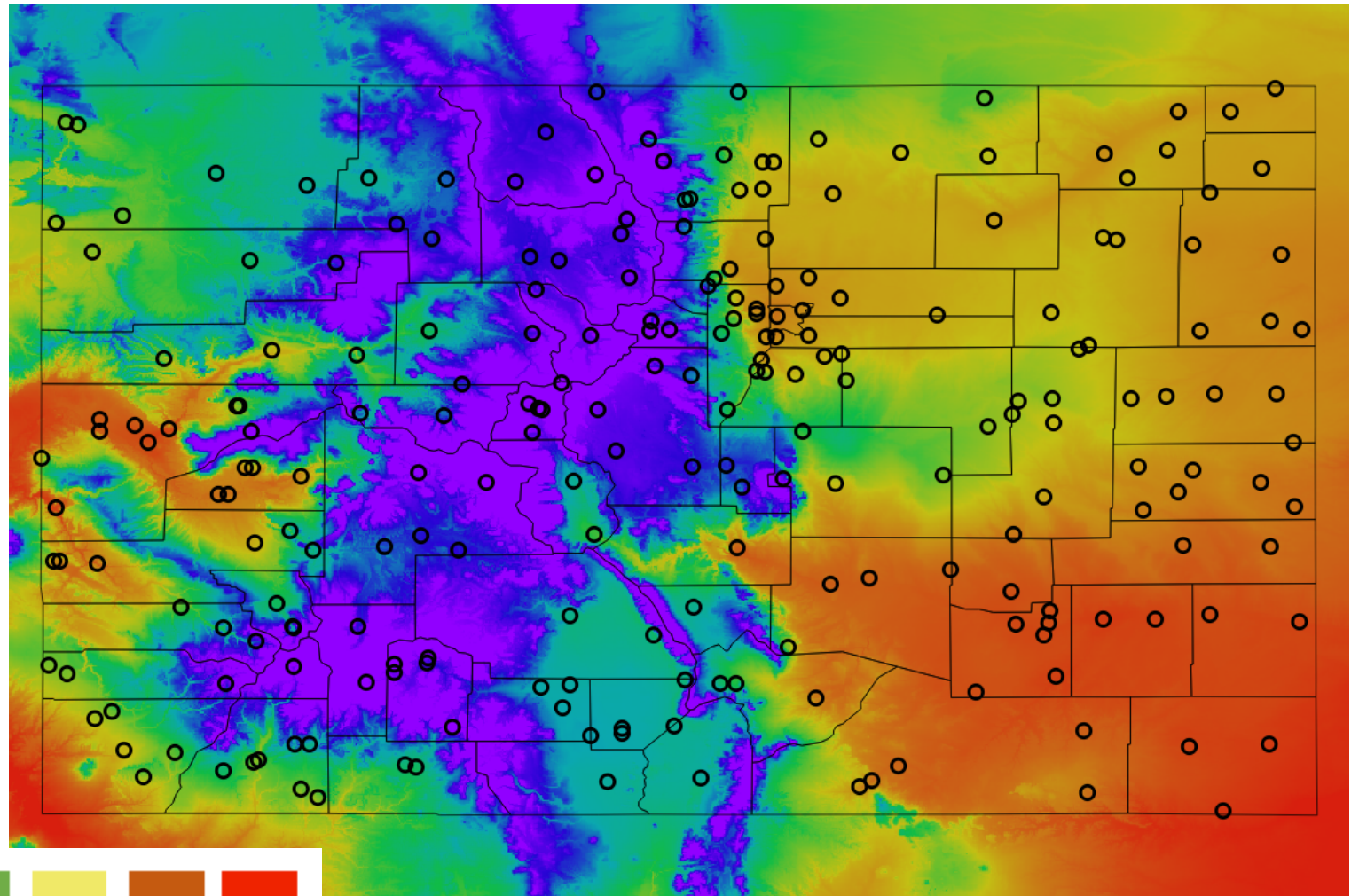
Dr. Becky Bolinger

Assistant State Climatologist

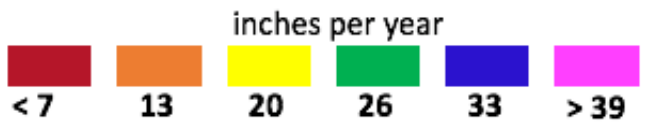
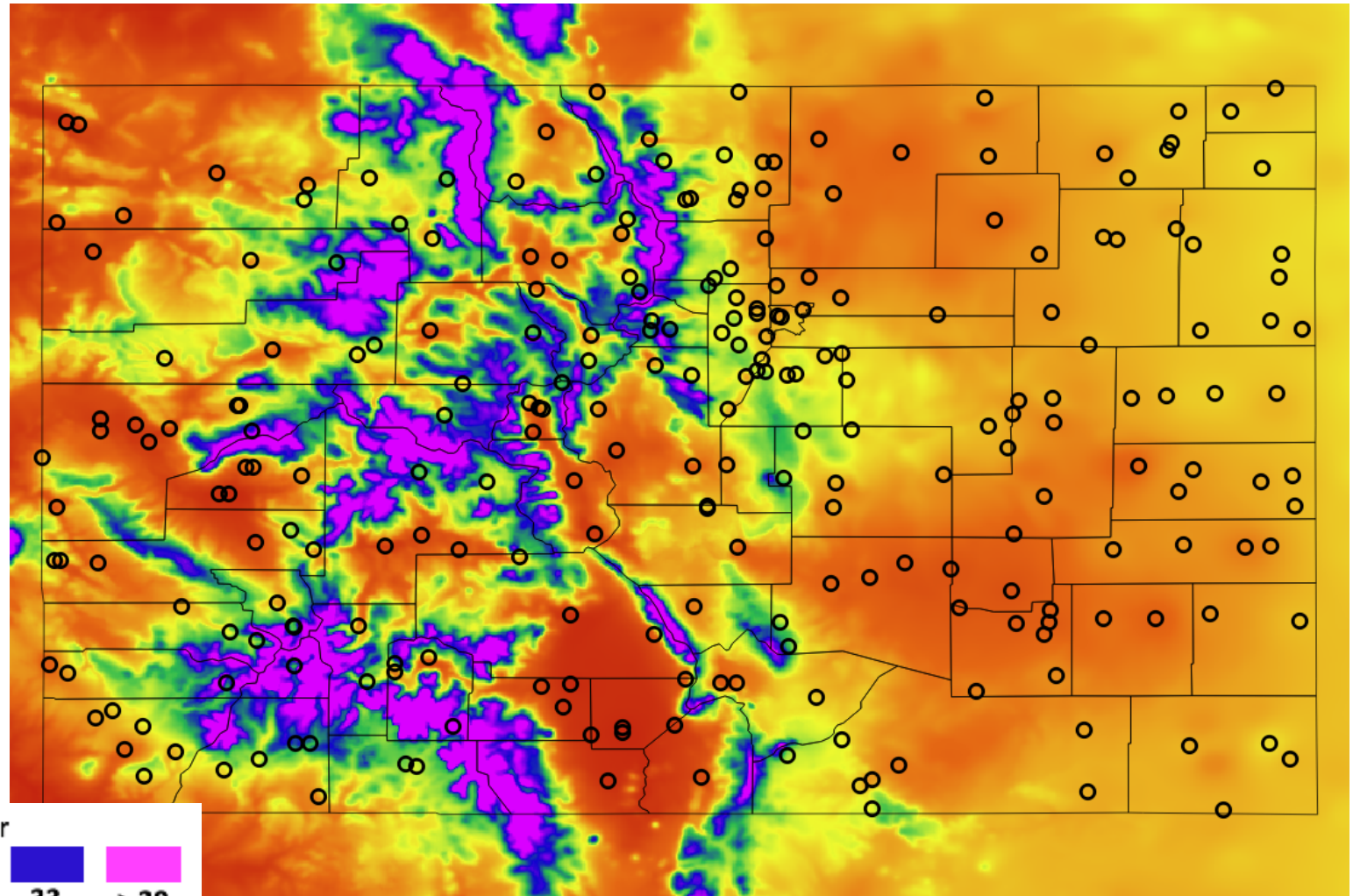


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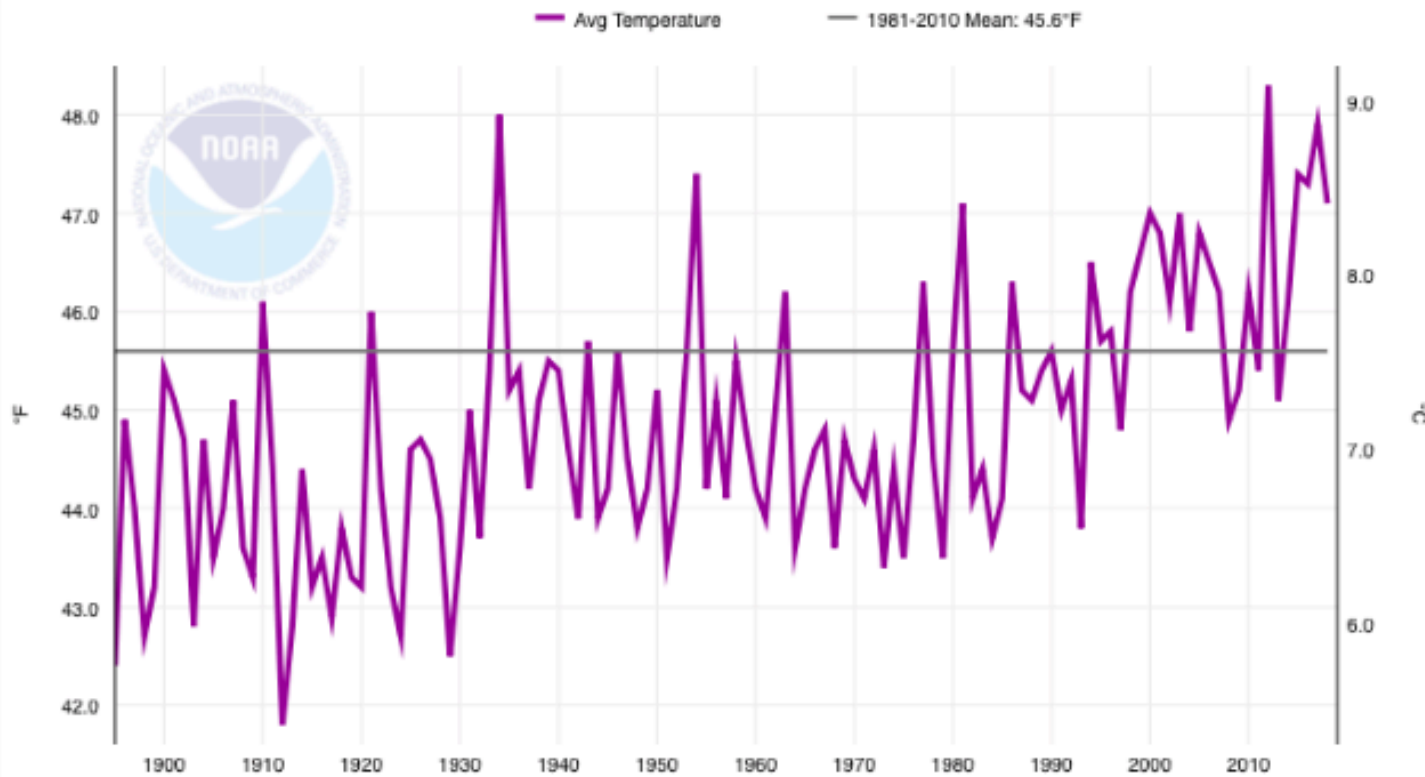
Colorado's Annual Average Temperature



Colorado's Annual Average Precipitation



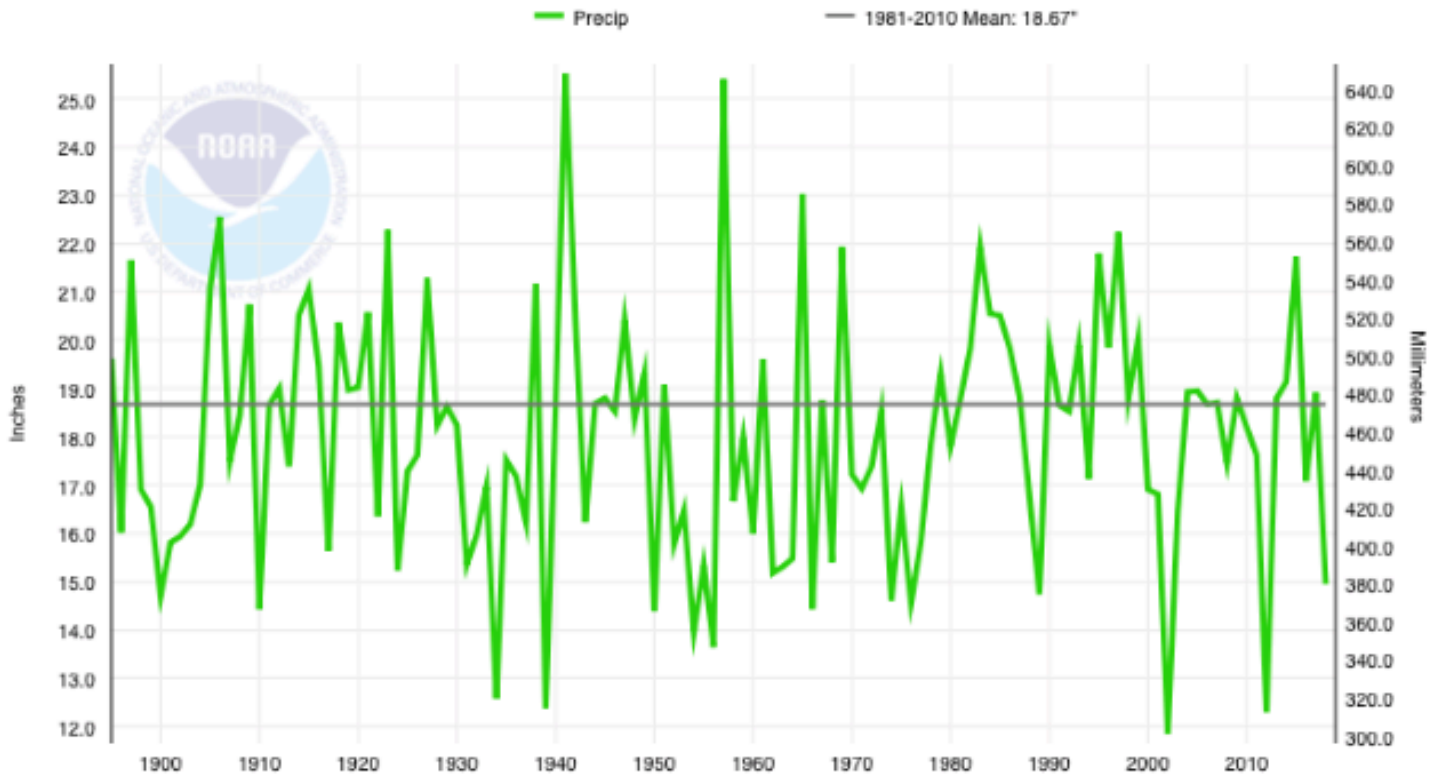
Colorado, Average Temperature, January-December



Temperature has changed quite a bit over the past 125 years



Colorado, Precipitation, January-December



With precipitation, variability is the name of the game!

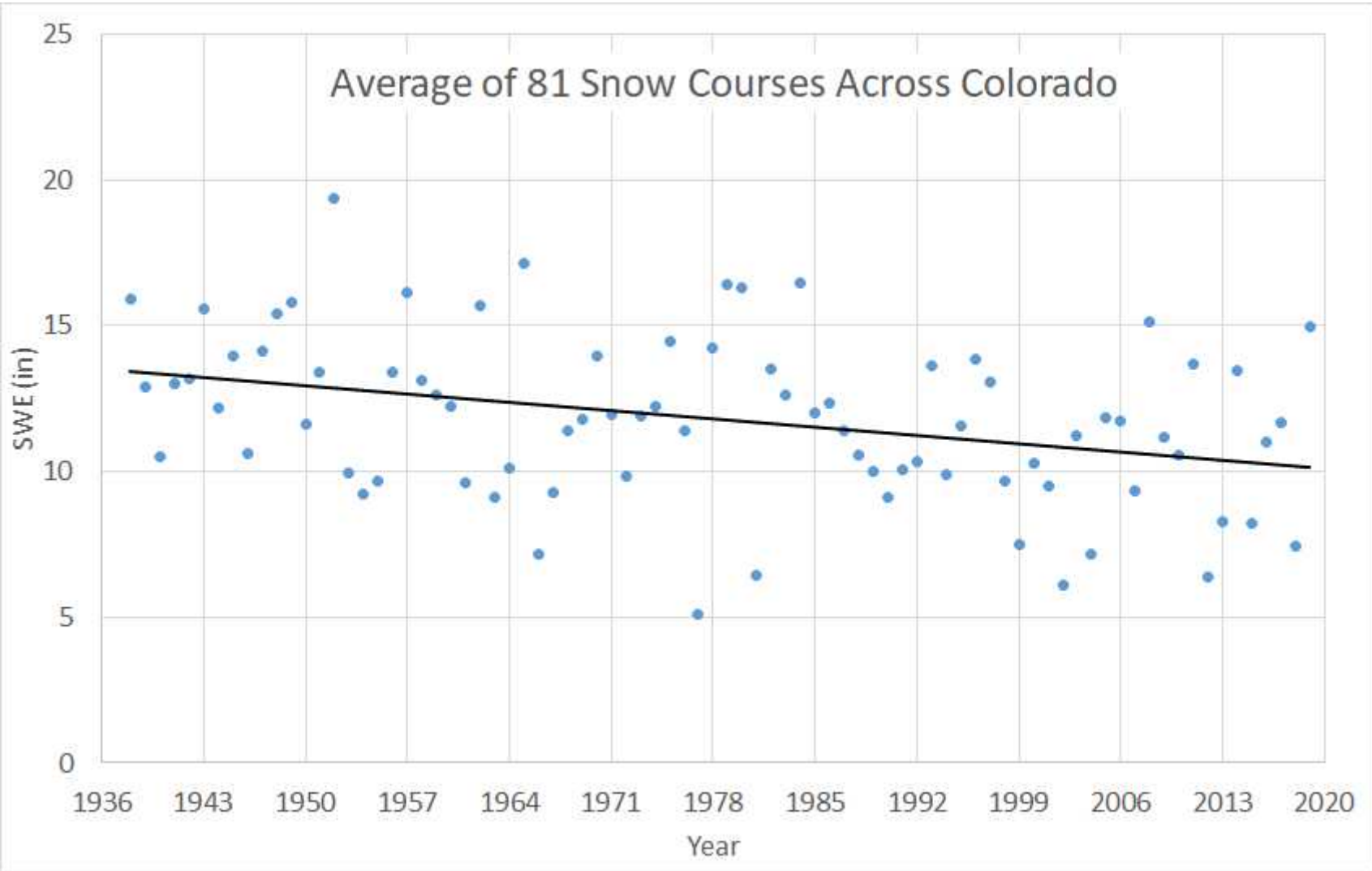


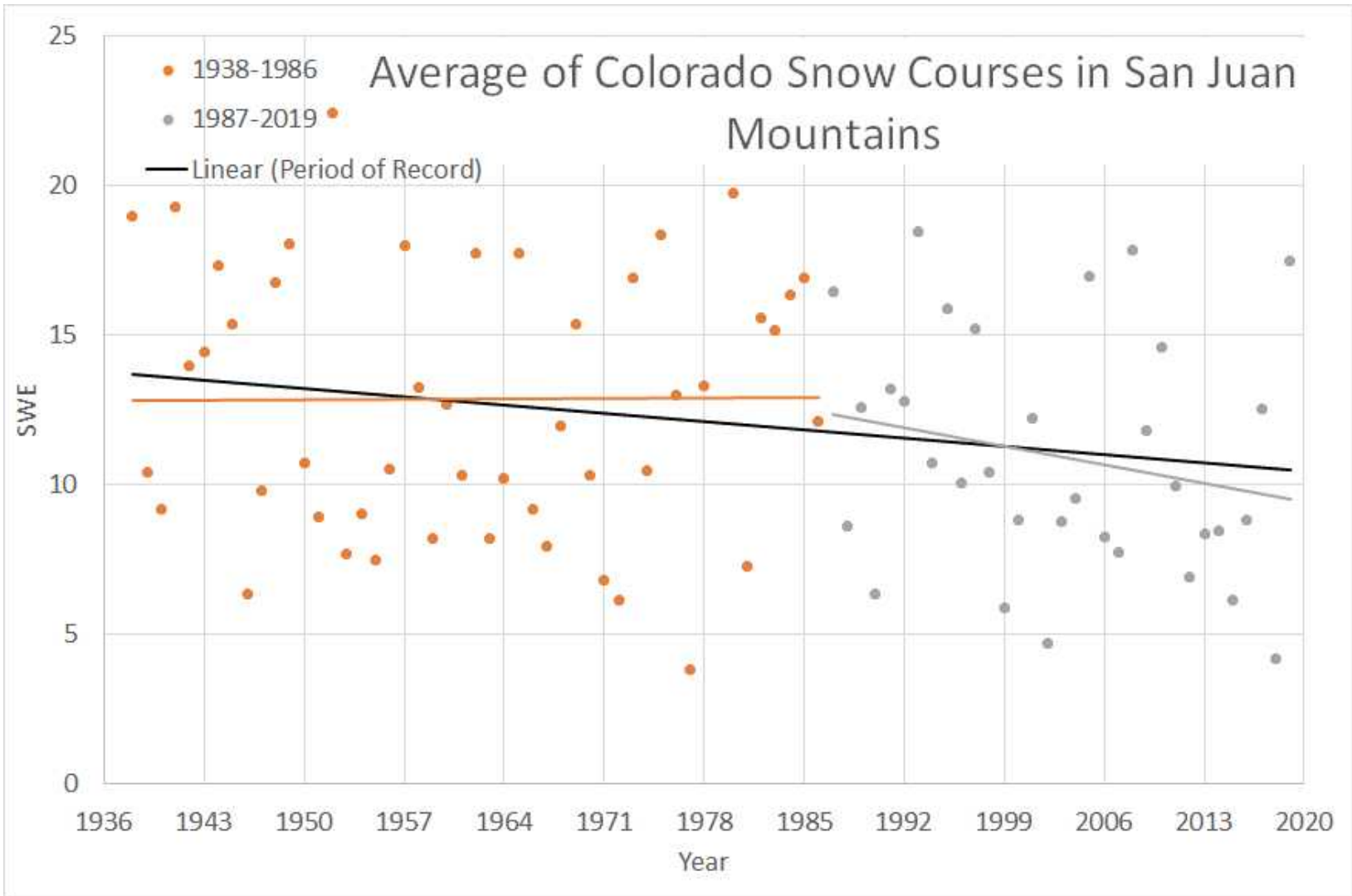


Temperature is
changing, precipitation
is variable.

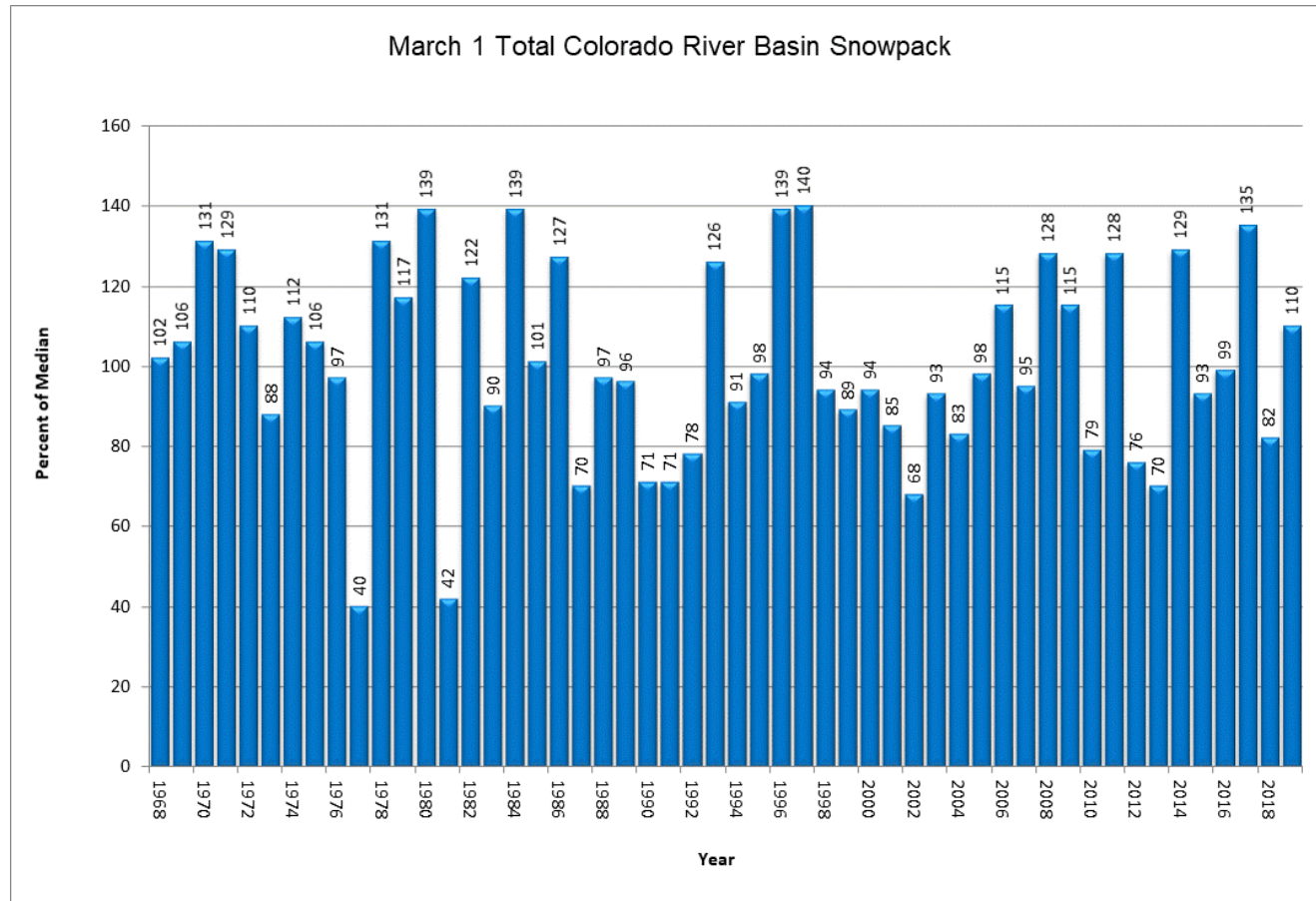
Why does it matter?



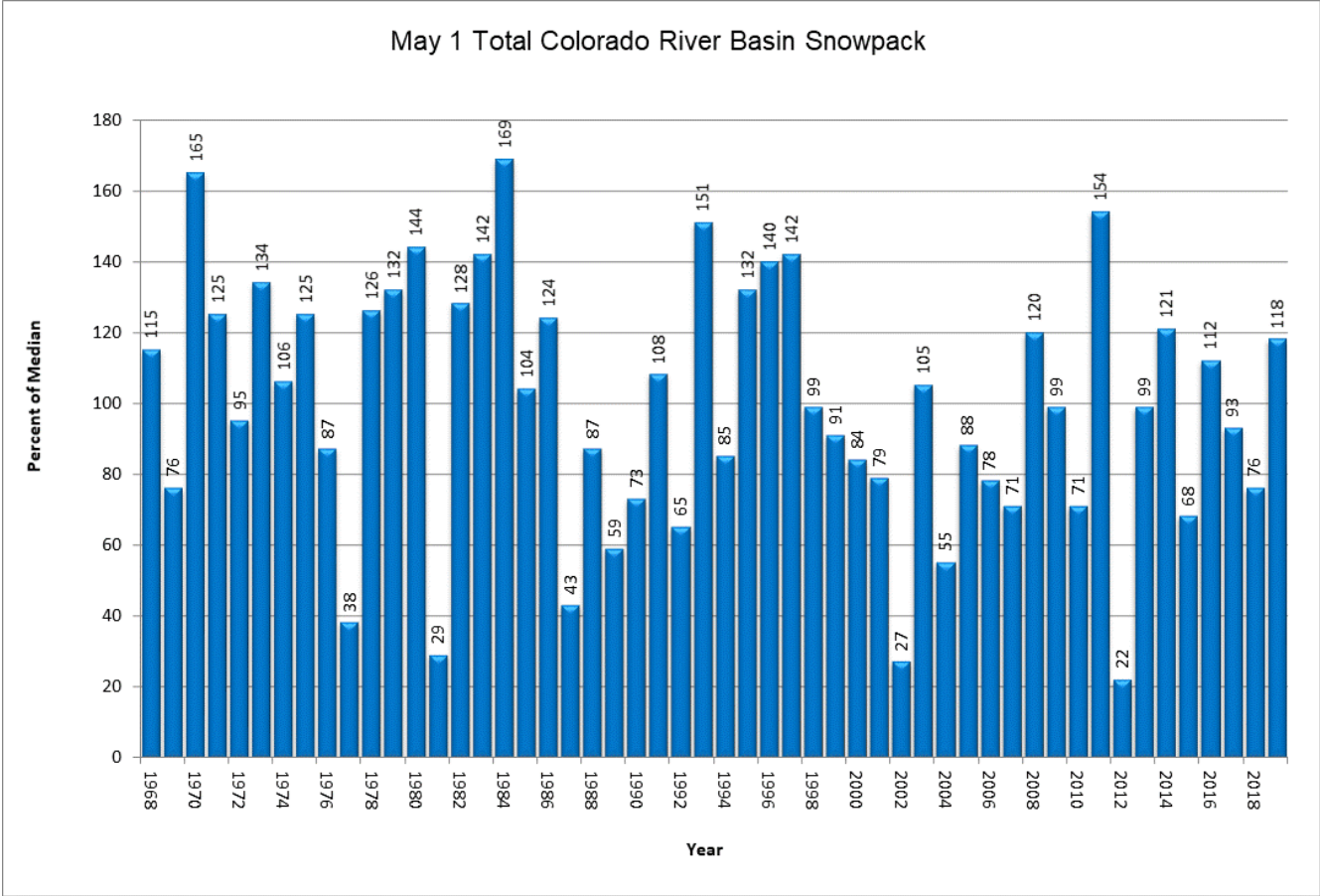




We still get snow in the middle of winter!



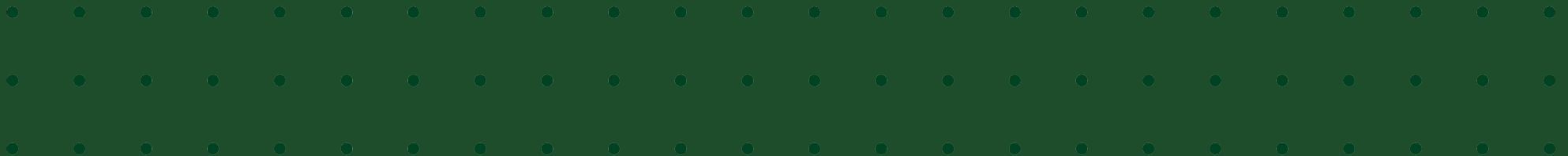
But the fringe seasons...





“... a wet October increases
the likelihood of a wet season.”

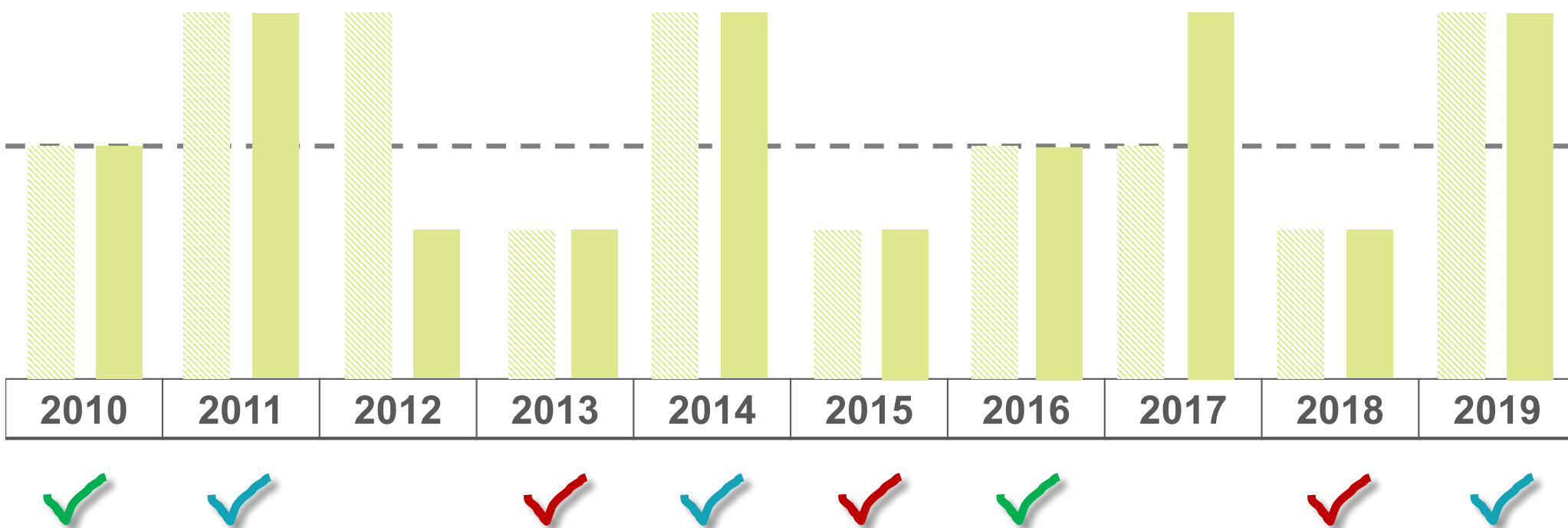
Bolinger et al. 2014, Journal of Climate

“Attribution and Characteristics of Wet and Dry Seasons in the Upper Colorado River Basin”



 Oct-Nov snowpack
 Total season snowpack

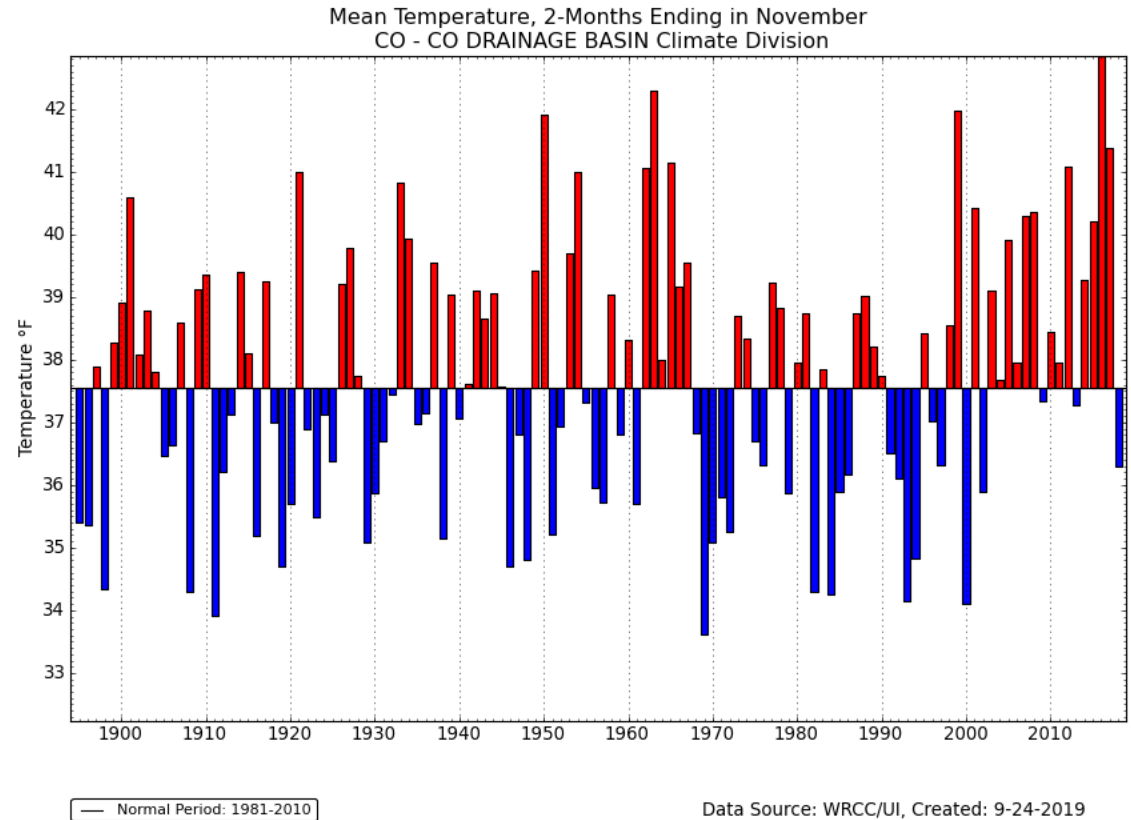
good season
 ----- near normal
 bad season



What would October-
November snow be
vulnerable to?



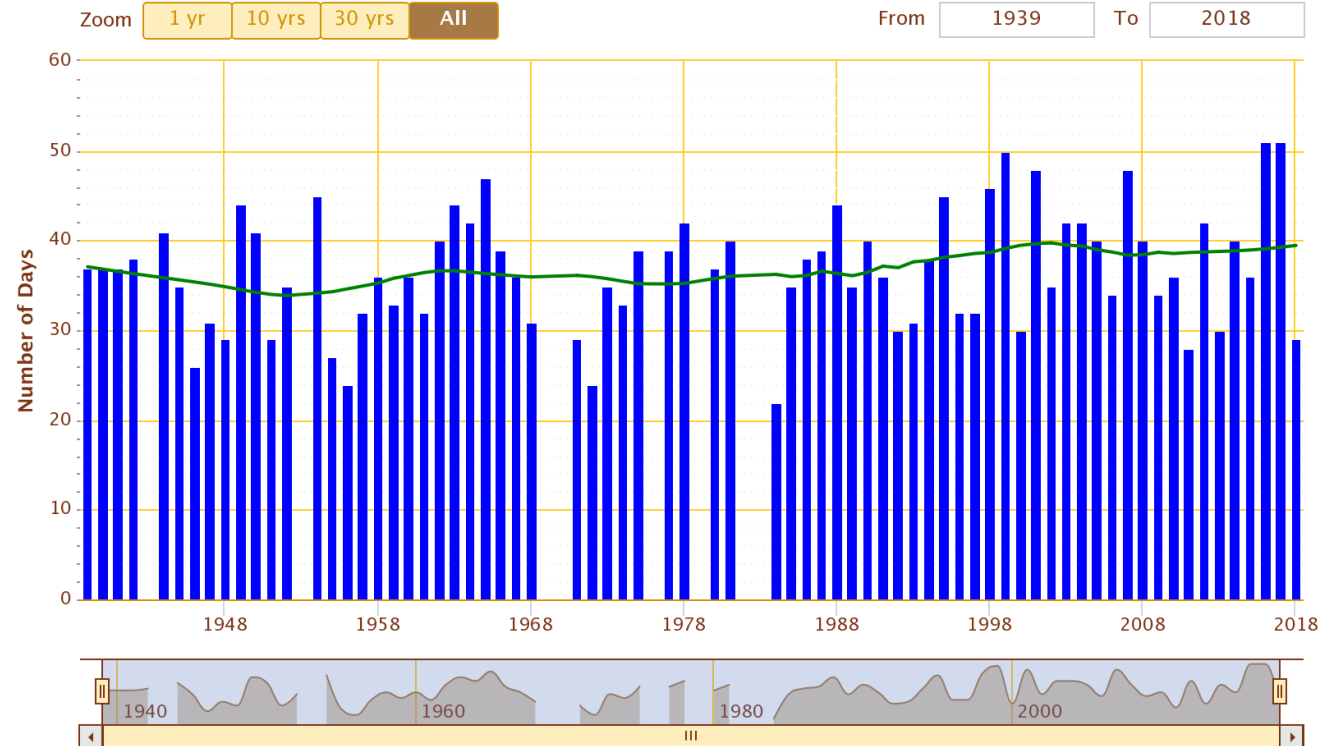
temperatures
have been
above average
15 of the last
20 years.



And the number of above freezing days is increasing

Number of Days Avg Temperature ≥ 32 Oct 1 to Nov 30 - GRAND LAKE 1 NW, CO

Use navigation tools above and below chart to change displayed range





Public perception is everything –

temperatures are warm, snowpack is low = people might not go skiing

this has a huge trickle-down effect



Key Takeaways

- ✓ Temperatures are warming
- ✓ There is a lot of variability in precipitation and snow
- ✓ Winter is cold and it will snow!
- ✓ October-November can be a good early indicator
- ✓ A shortening cold season could be an increasing challenge

Becky.Bolinger@colostate.edu
@ClimateBecky

climate.colostate.edu

Thank you



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