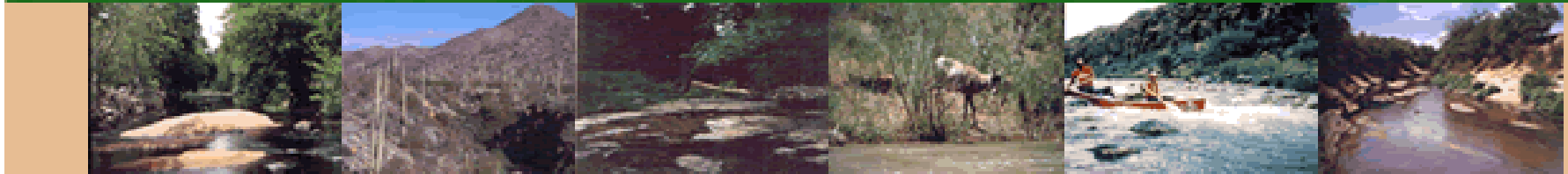




Arizona Riparian Council





Riparian definition recognizes “xero-riparian” systems.

Riparian includes vegetation, habitats, or ecosystems that are associated with bodies of water (streams or lakes) or are dependent on the existence of perennial **or ephemeral surface or subsurface water drainage.**

Groundwater Withdrawal

American Rivers Most Endangered Rivers

10 Verde River: As a critical source of drinking water for Phoenix and other communities, and a haven for boating, fishing and birdwatching, **the Verde is a jewel in the desert, but could find itself drastically diminished if plans move forward to increase pumping of water out of the aquifer that feeds the river**, pitting one community's water supply against another. The Corps of Engineers, the U.S. Fish and Wildlife Service, and local governments must closely review the impacts on the Verde of any pumping from the Big Chino aquifer, especially the project recently proposed by the City of Prescott and the Town of Prescott Valley.

The Perils of Groundwater Pumping by Robert Glennon of UA in "Issues in Science and Technology" (a National Academy of Sciences Publication)

In Arizona, groundwater pumping has dried up or degraded 90 percent of the state's once perennial desert streams, rivers, and riparian habitats..... It is possible that the San Pedro River will suffer the same fate as the Santa Cruz.

CLIMATE CHANGE

Mean Projected Changes for Southwest

Winter

2030

2060

2090

Temperature (C)

3 +/- 0.5

4 +/- 0.5

6 +/- 1.0

Precipitation (mm/day)

1.2 +/- 0.3

1.4 +/- 0.3

4.7 +/- 0.3

Summer

Temperature (C)

1.7 +/- 0.2

4 +/- 1.2

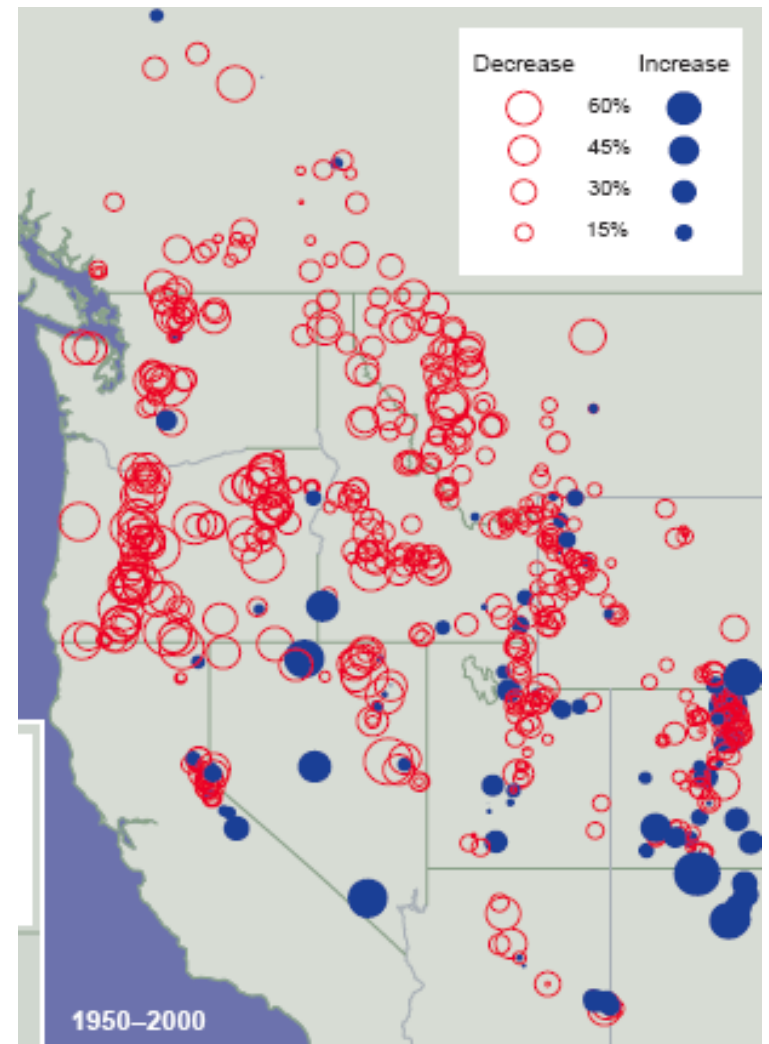
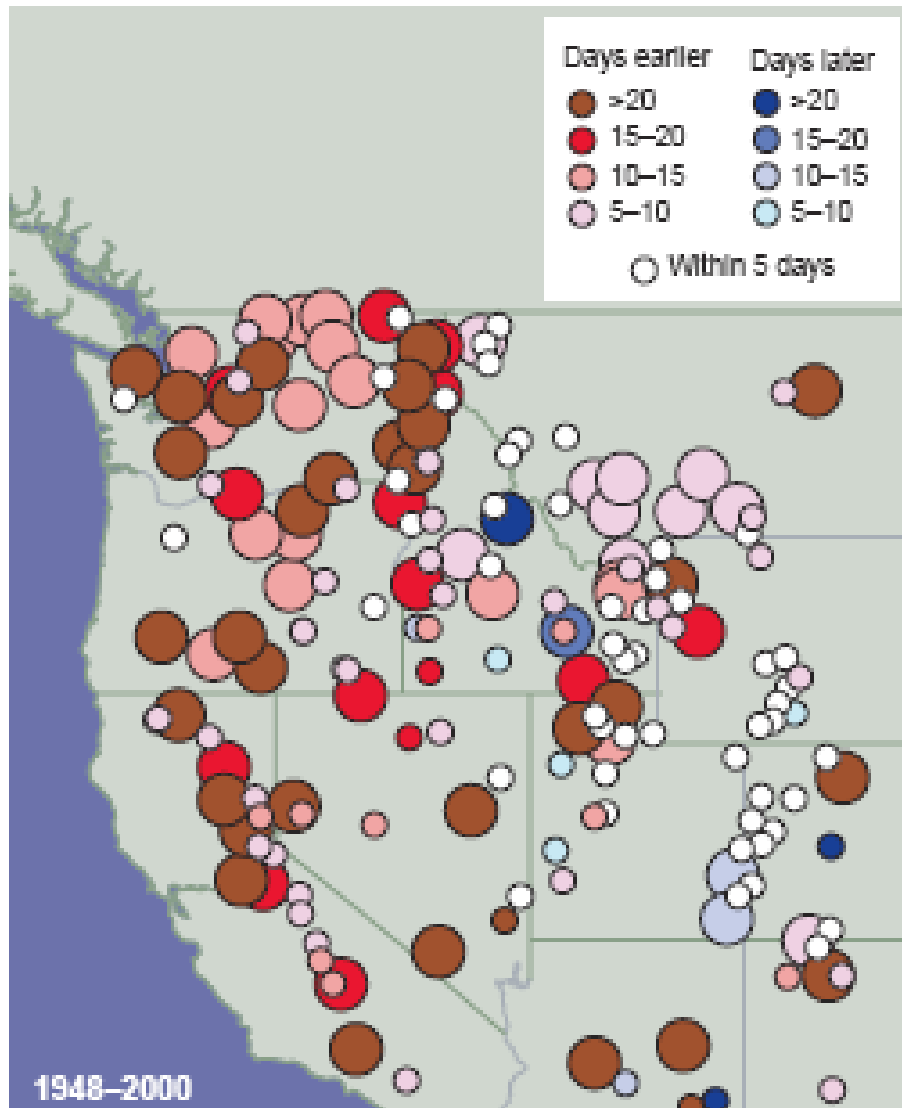
4 +/- 1.0

Precipitation (mm/day)

1.5 +/- 1.5

-0.2 +/- 0.1

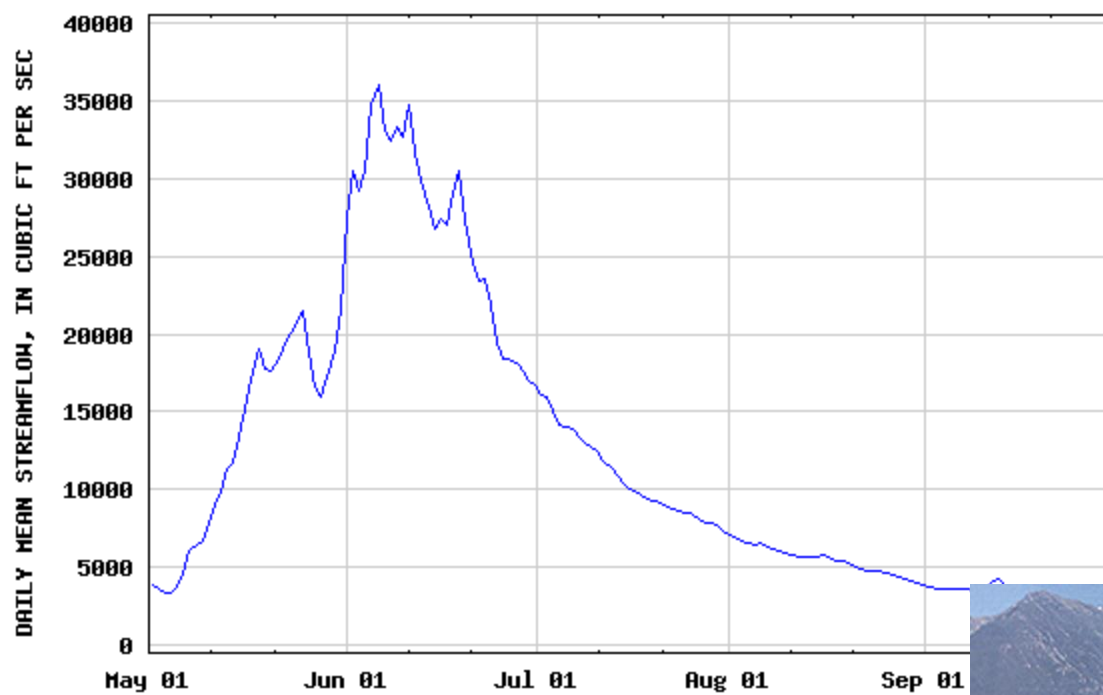
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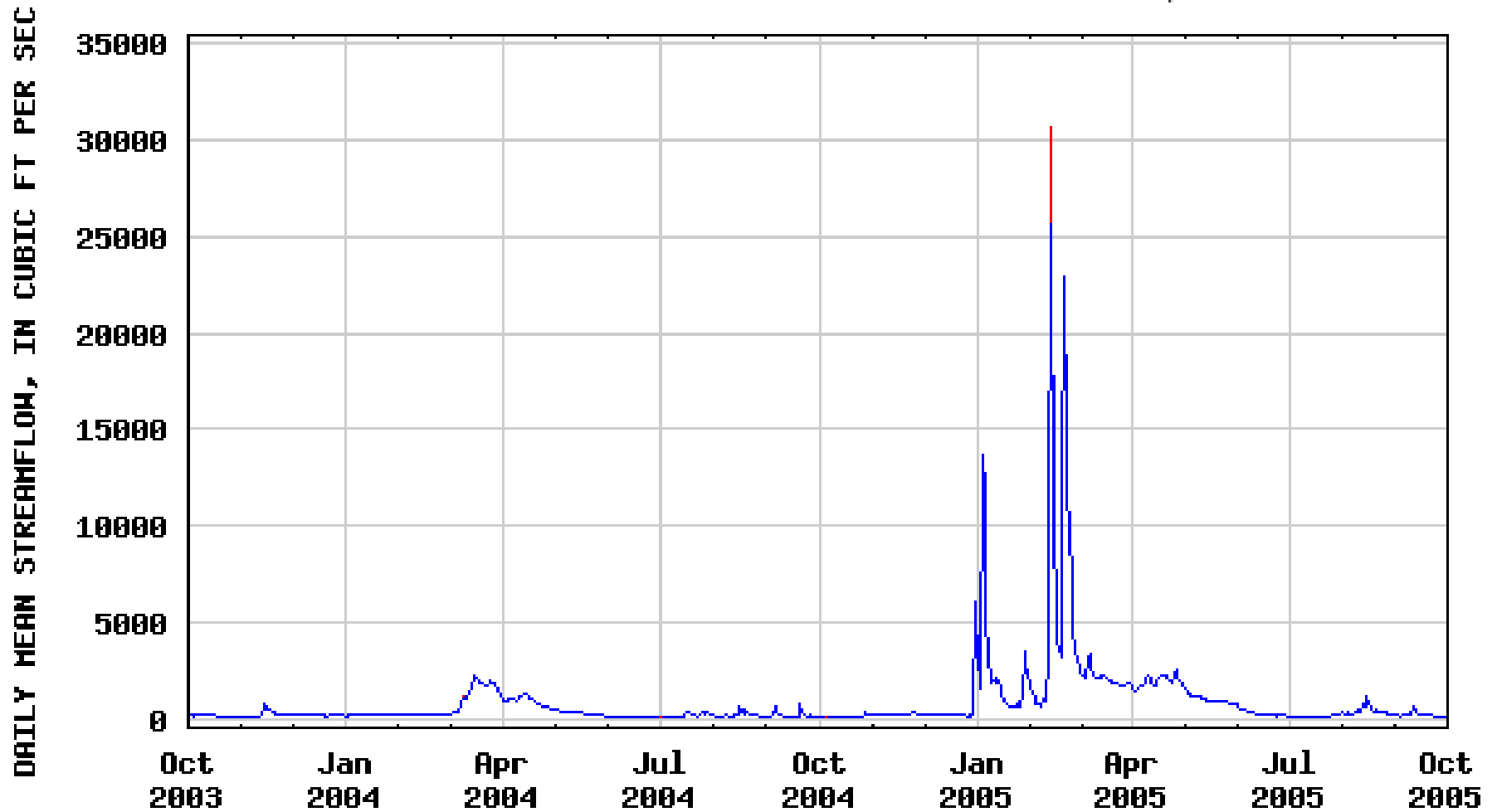
In retreat. A modest temperature rise since the 1950s has reduced spring snowpacks throughout the West (*top*) and shifted the peak snowmelt earlier in the year (*left*).



USGS 06192500 Yellowstone River near Livingston MT

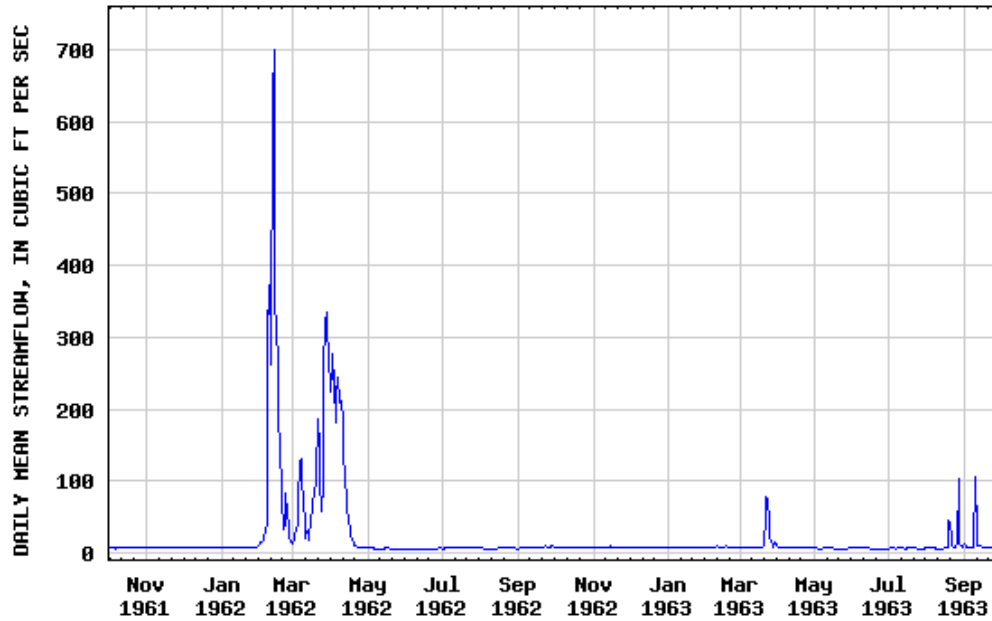


USGS 09498500 SALT RIVER NEAR ROOSEVELT, AZ



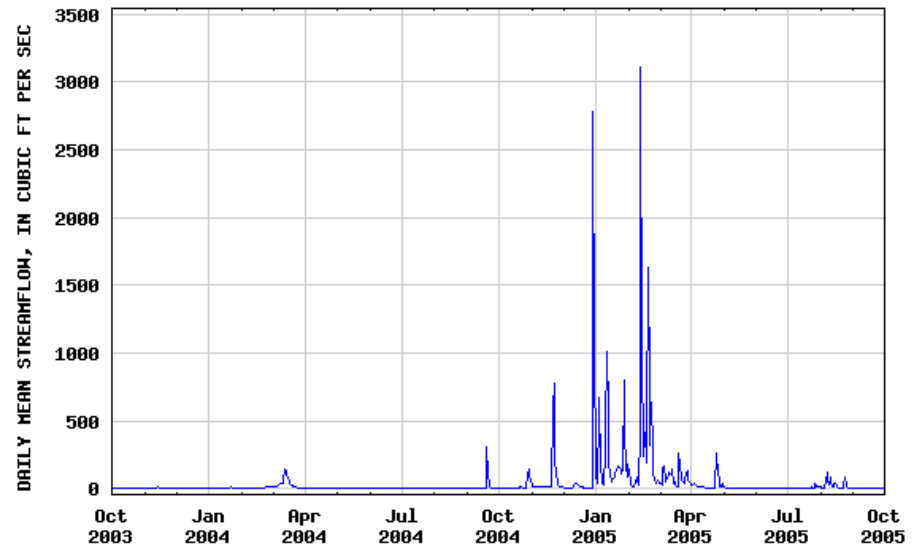
----- EXPLANATION -----
— DAILY MEAN STREAMFLOW — ESTIMATED STREAMFLOW

USGS 09505200 WET BEAVER CREEK NEAR RIMROCK, AZ



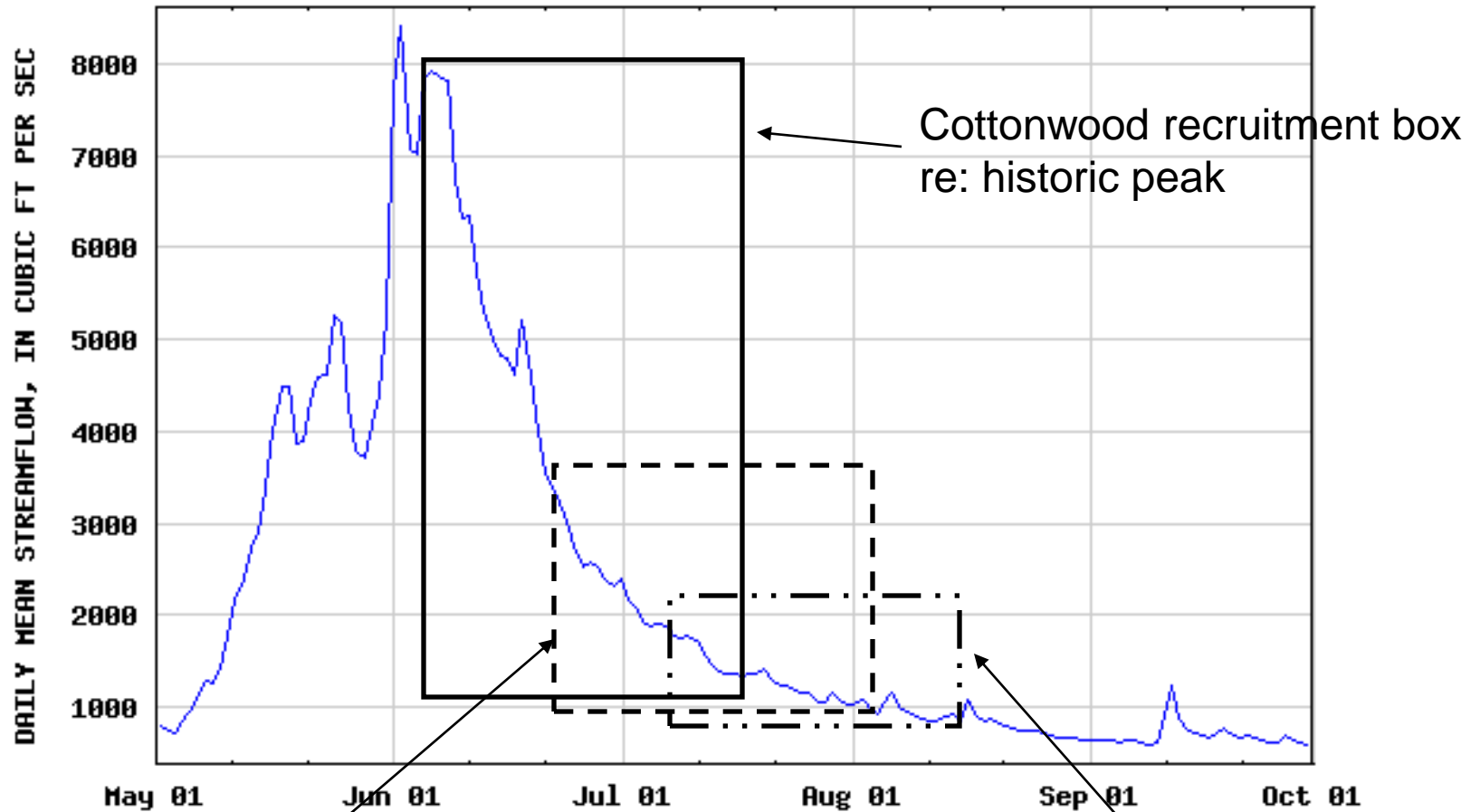
1961-1963

USGS 09505200 WET BEAVER CREEK NEAR RIMROCK, AZ



2003-2005

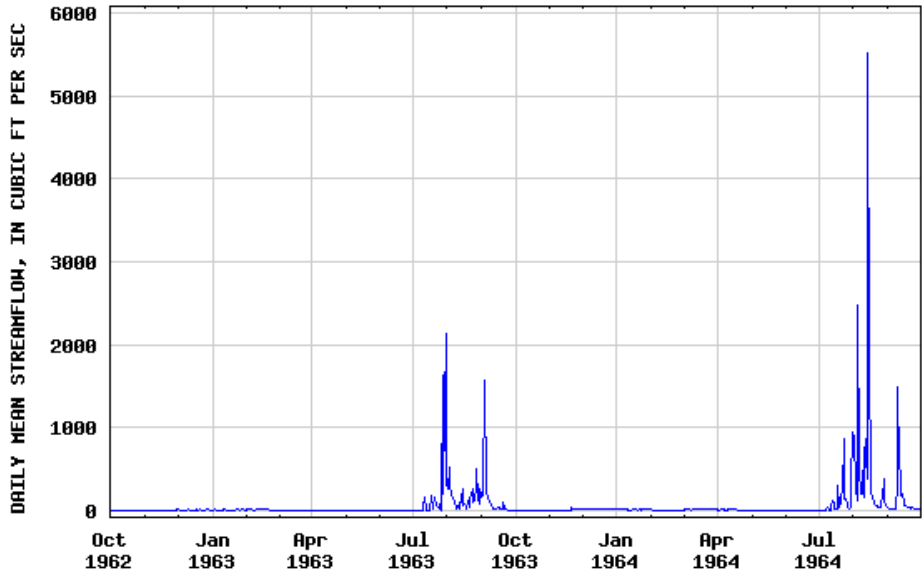
USGS 06043500 Gallatin River near Gallatin Gateway MT



Recruitment box re: 20 day earlier peak

Recruitment box re: 40 day earlier peak

USGS 09471000 SAN PEDRO RIVER AT CHARLESTON, AZ.

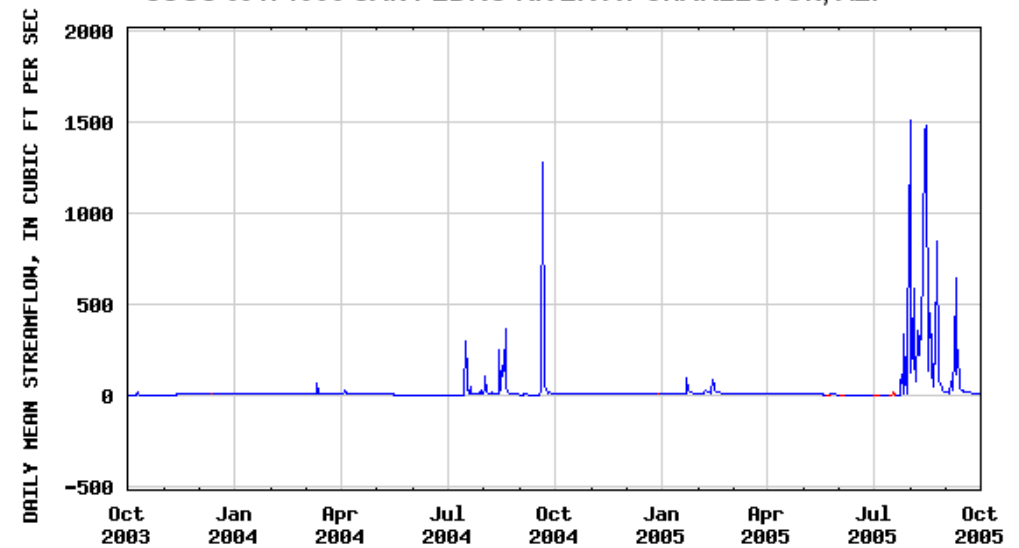


1962-1964



USGS 09471000 SAN PEDRO RIVER AT CHARLESTON, AZ.

2003-2005



----- EXPLANATION -----
 ——— DAILY MEAN STREAMFLOW ——— ESTIMATED STREAMFLOW