

Application of Tree Ring Research Results

Salt River Project



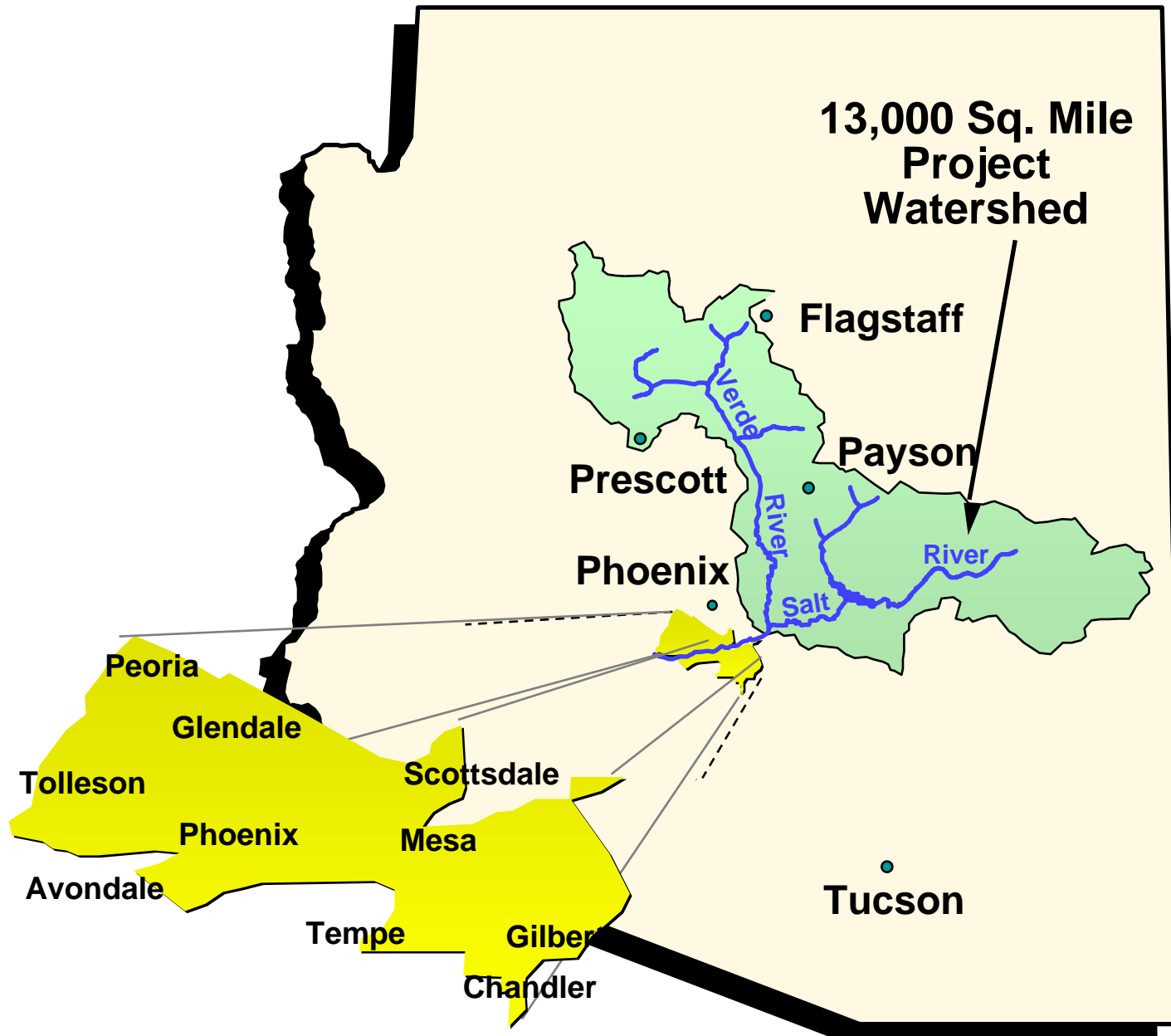
Technical Workshop on Tree-Ring Based Streamflow Reconstructions

Tucson, AZ

November 1, 2006

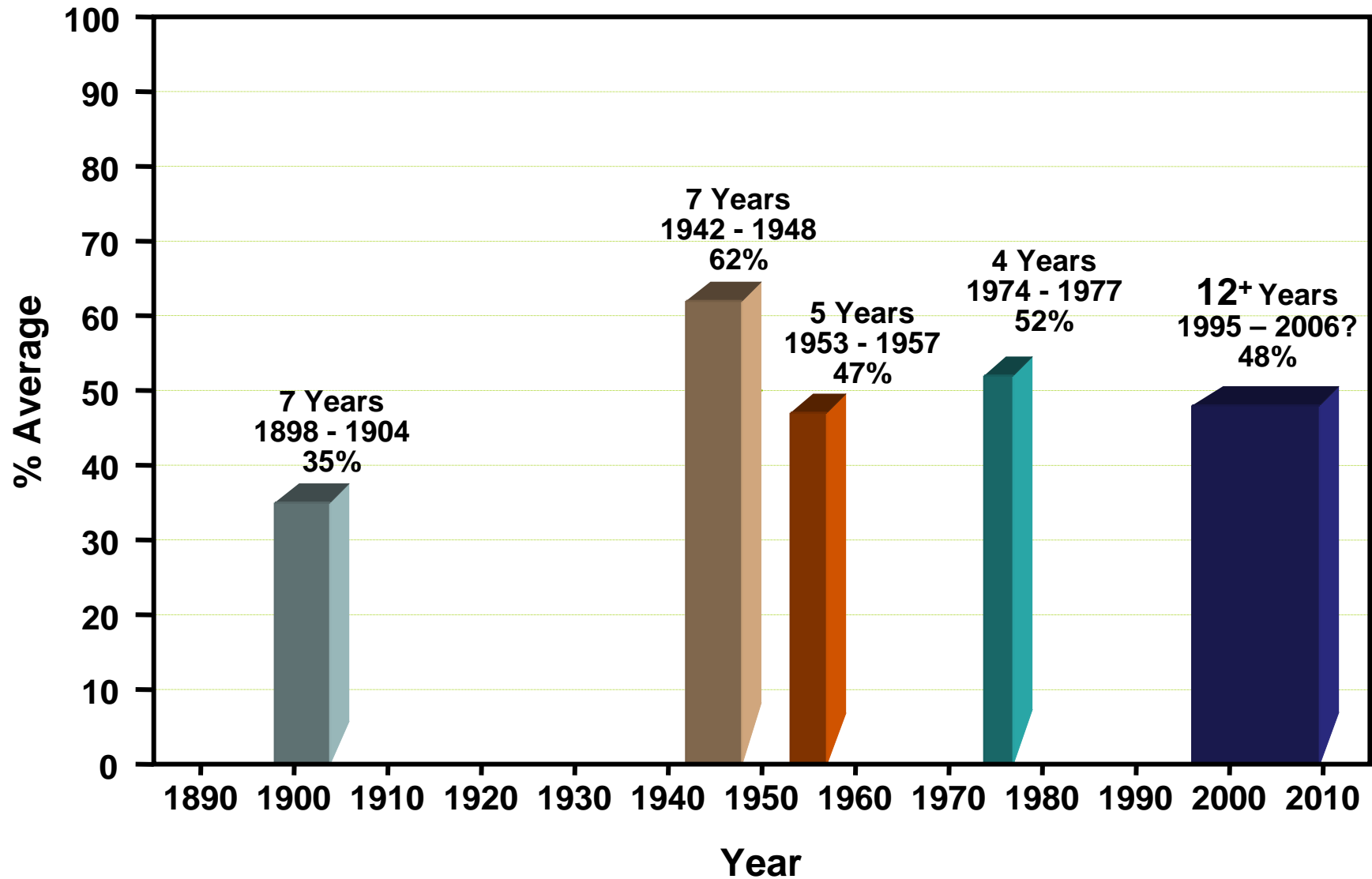
Charles Ester
Manager, SRP Water Resources

SRP Water Service Area

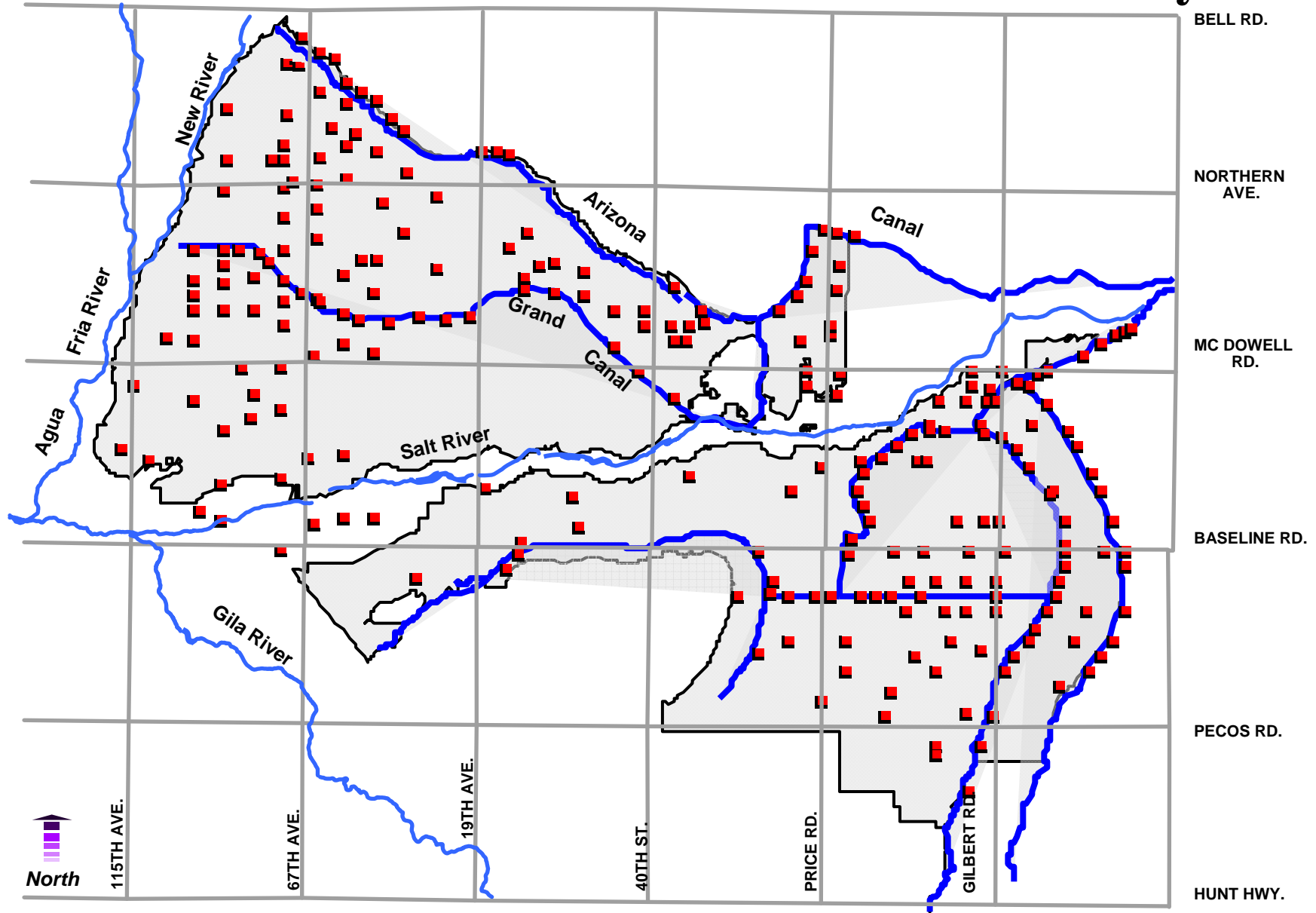


Salt River Project Historic Drought Periods

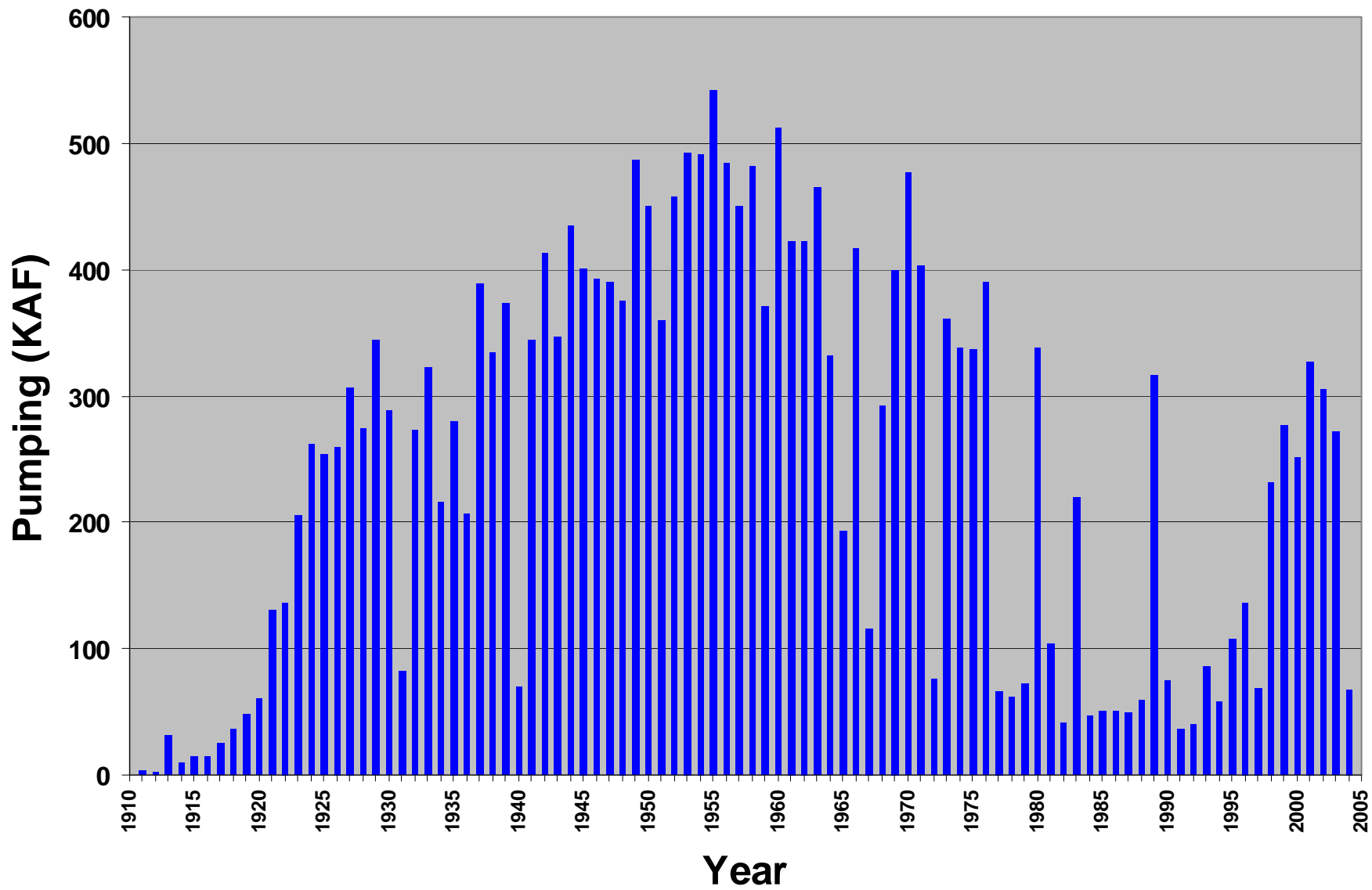
(Average Runoff 1889–2003 = 1,212,890 AF)



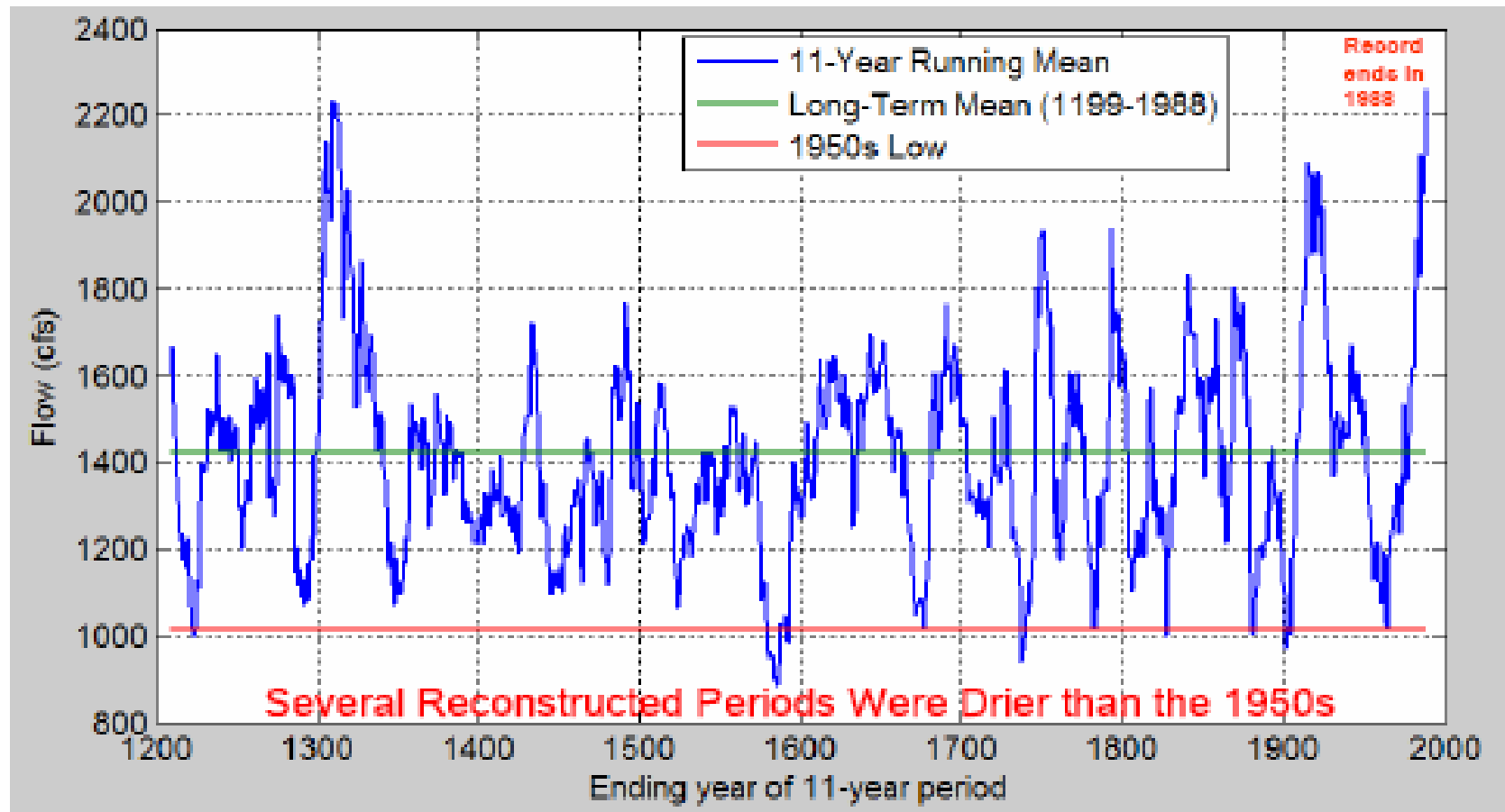
Well Locations Within SRP Service Territory



SRP Annual Pumping

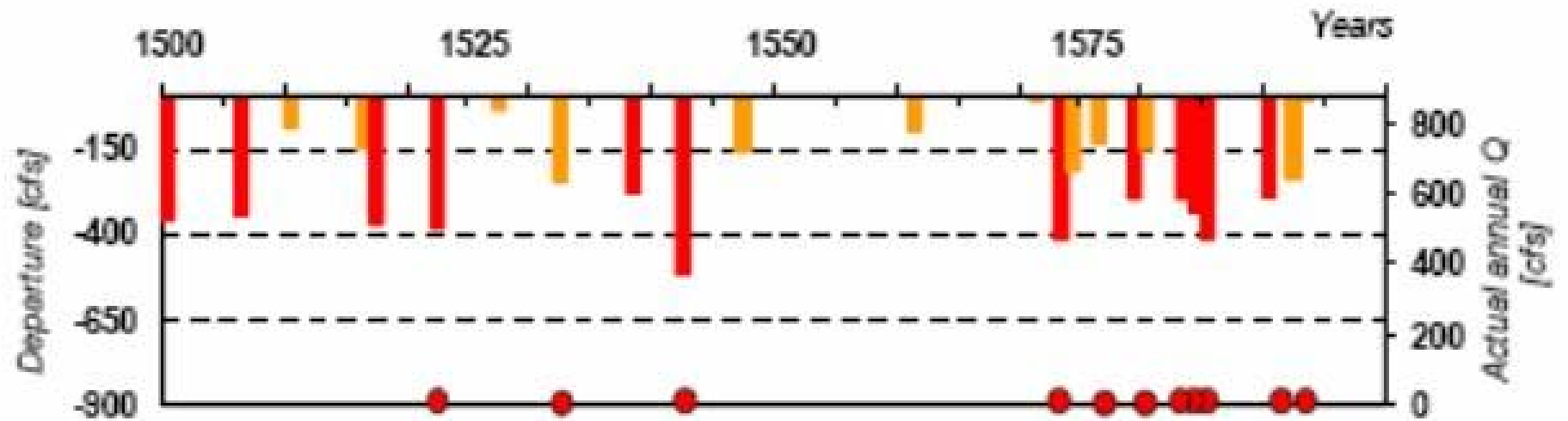


Severity of Current Drought in Context of Reconstructed Record: Figure 23b Salt + Verde + Tonto Reconstruction

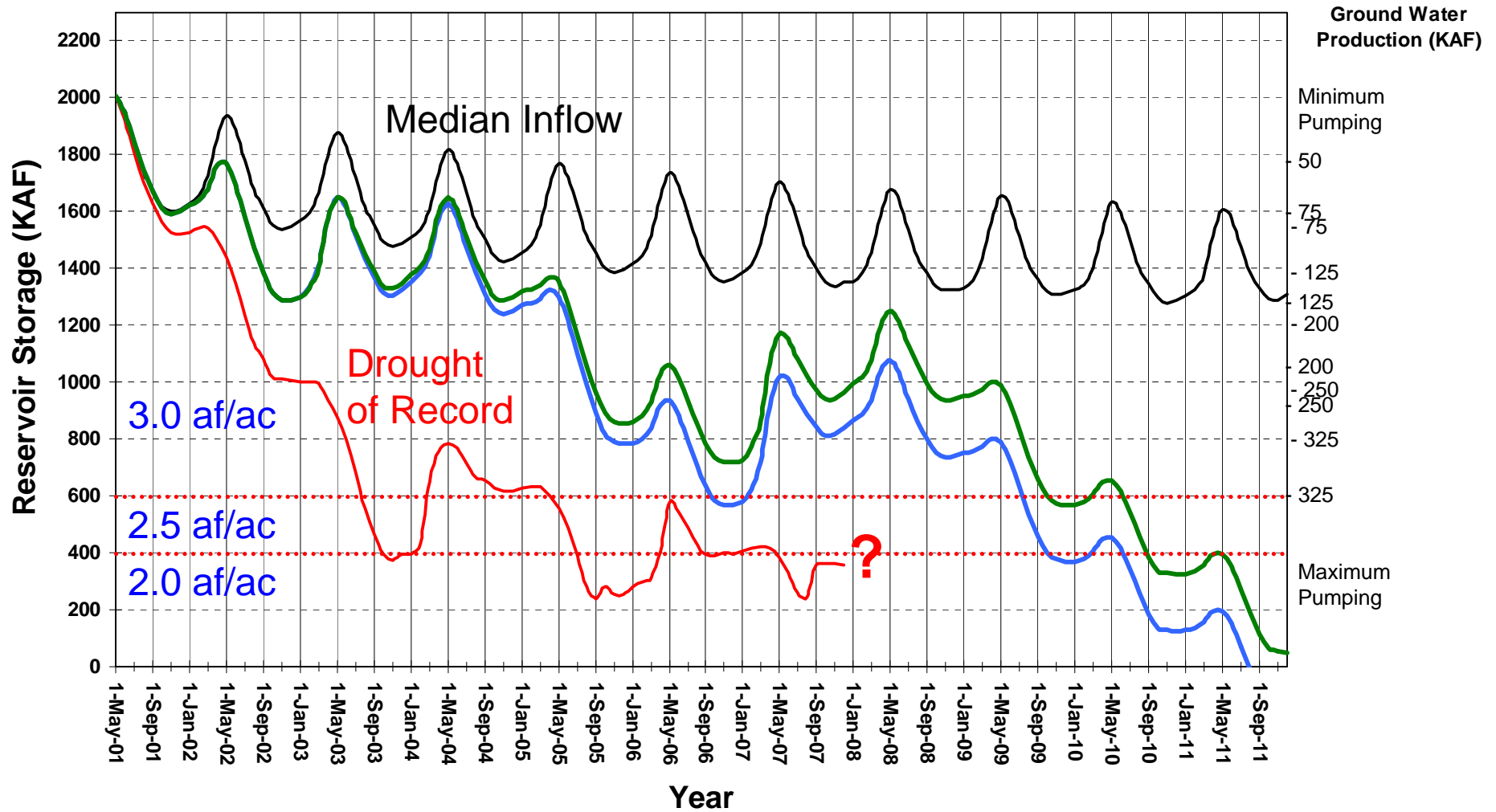


- Current drought was about as severe as 1950s in terms of flows averaged over 11 years
- 8 other droughts were as severe, according the tree-ring record
- Late 1500s megadrought was much more severe

The 11-year period was 1575 - 1585.



SRP Storage, Pumping & Water Allotment Planning

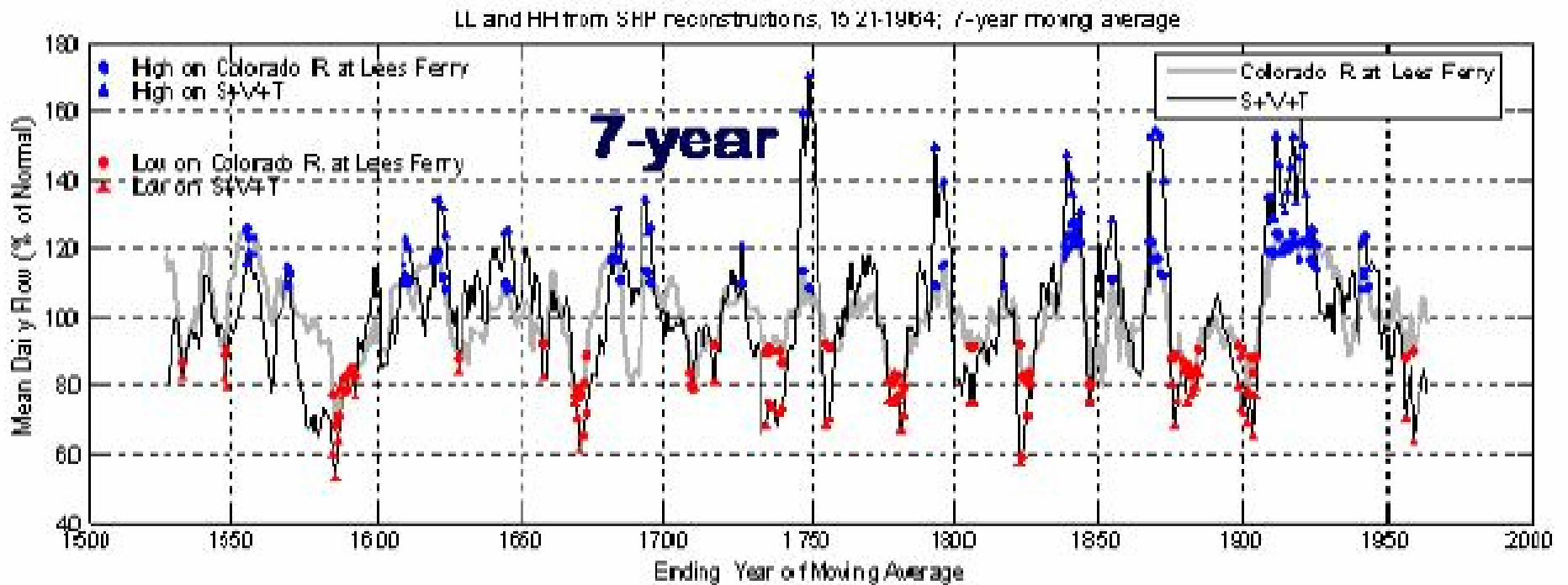


11-year Tree-ring Drought with new planning scenario

11-yr Tree-ring Drought with previous planning scenario

End

Running-Mean Streamflow & LL / HH Thresholds



The 11-year period was 1575 - 1585.