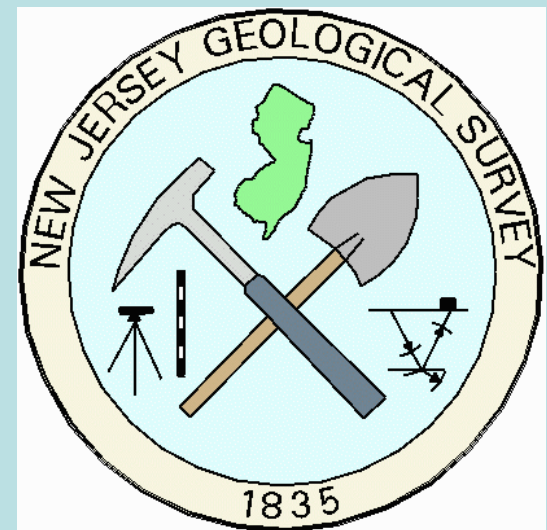
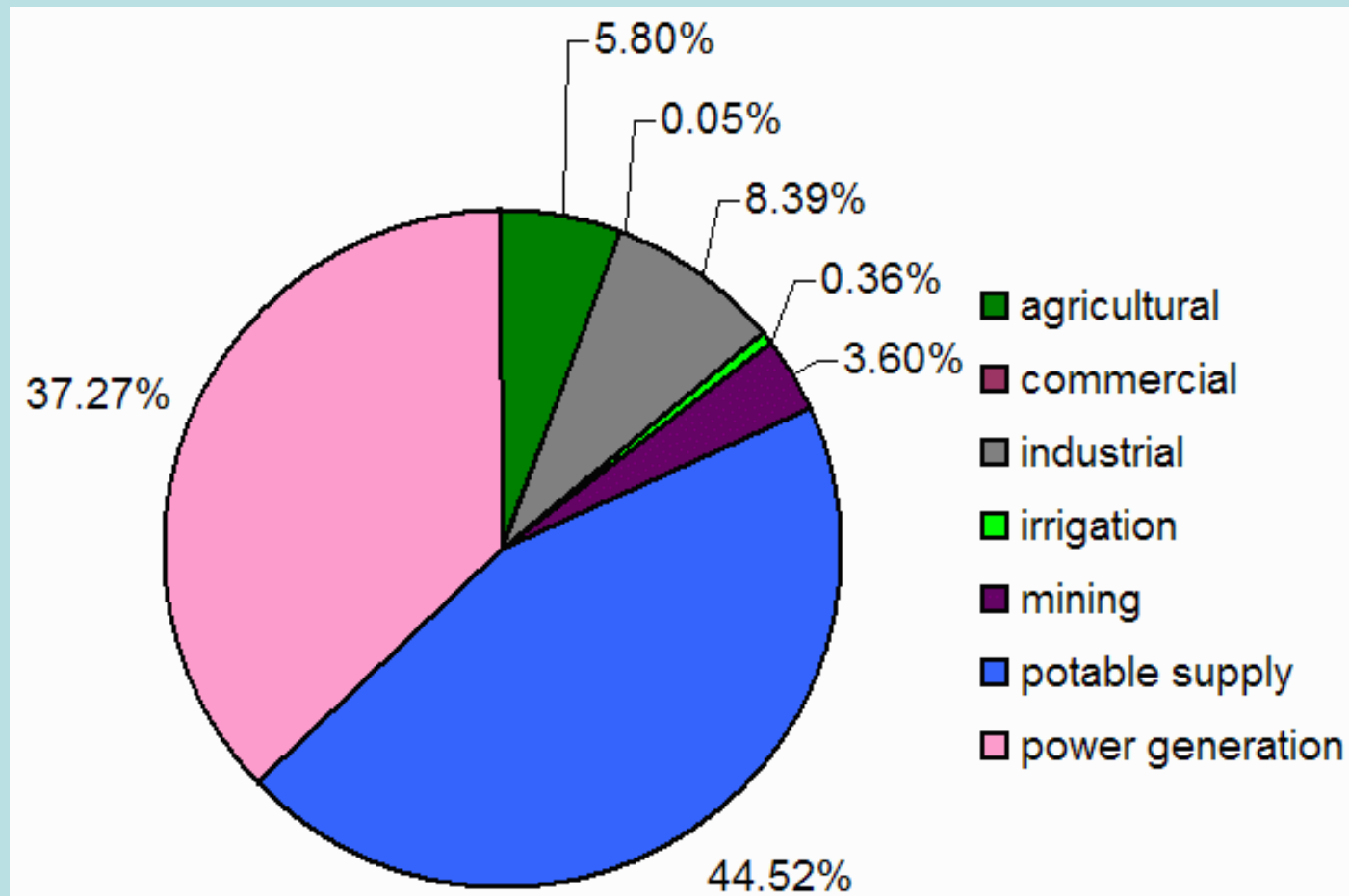


Water Supply Planning In the Face of Climate Change



Average NJ Water Use, 1990's (944 billion gallons/year)

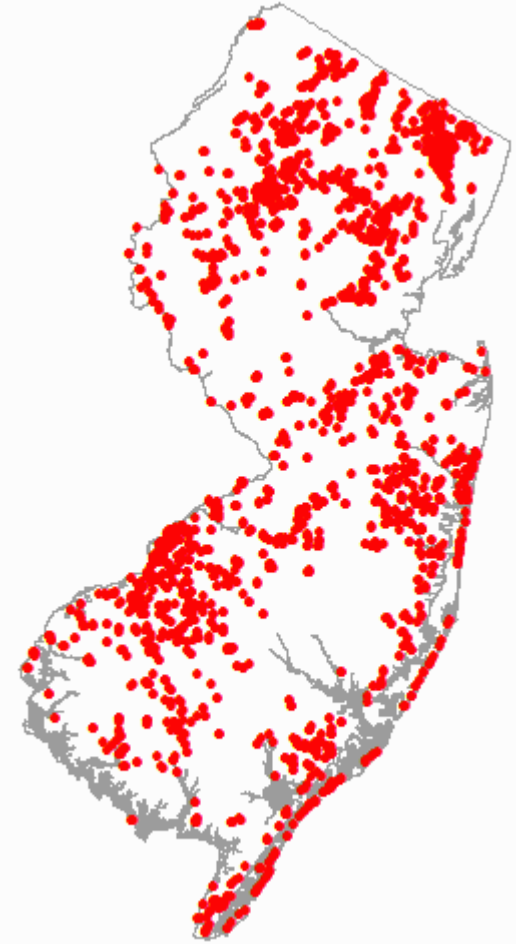
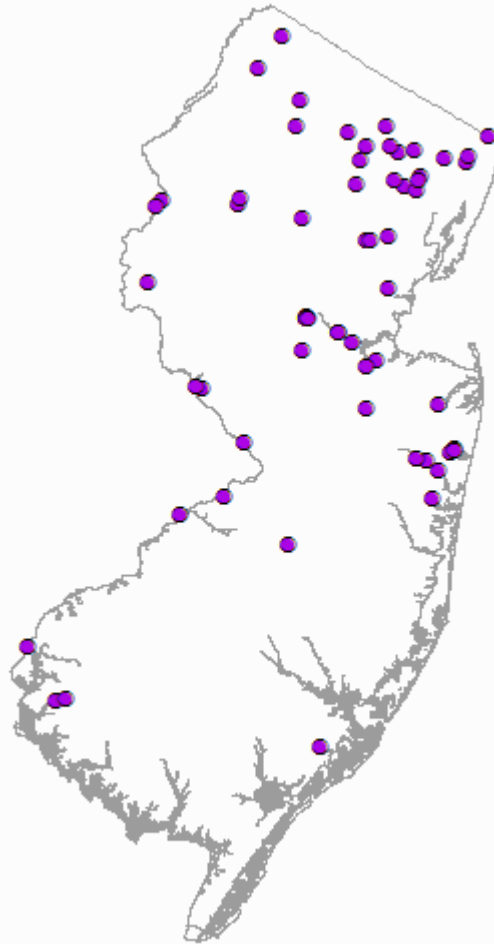
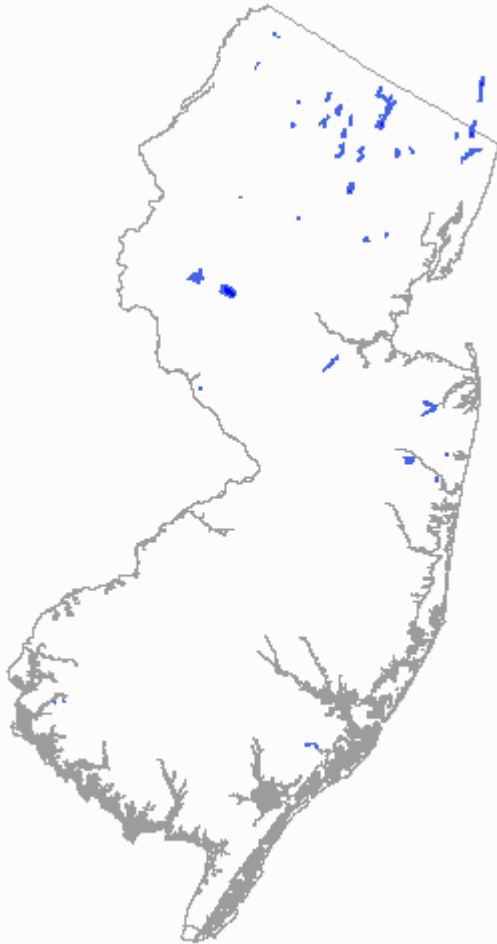


Public Water Supplies

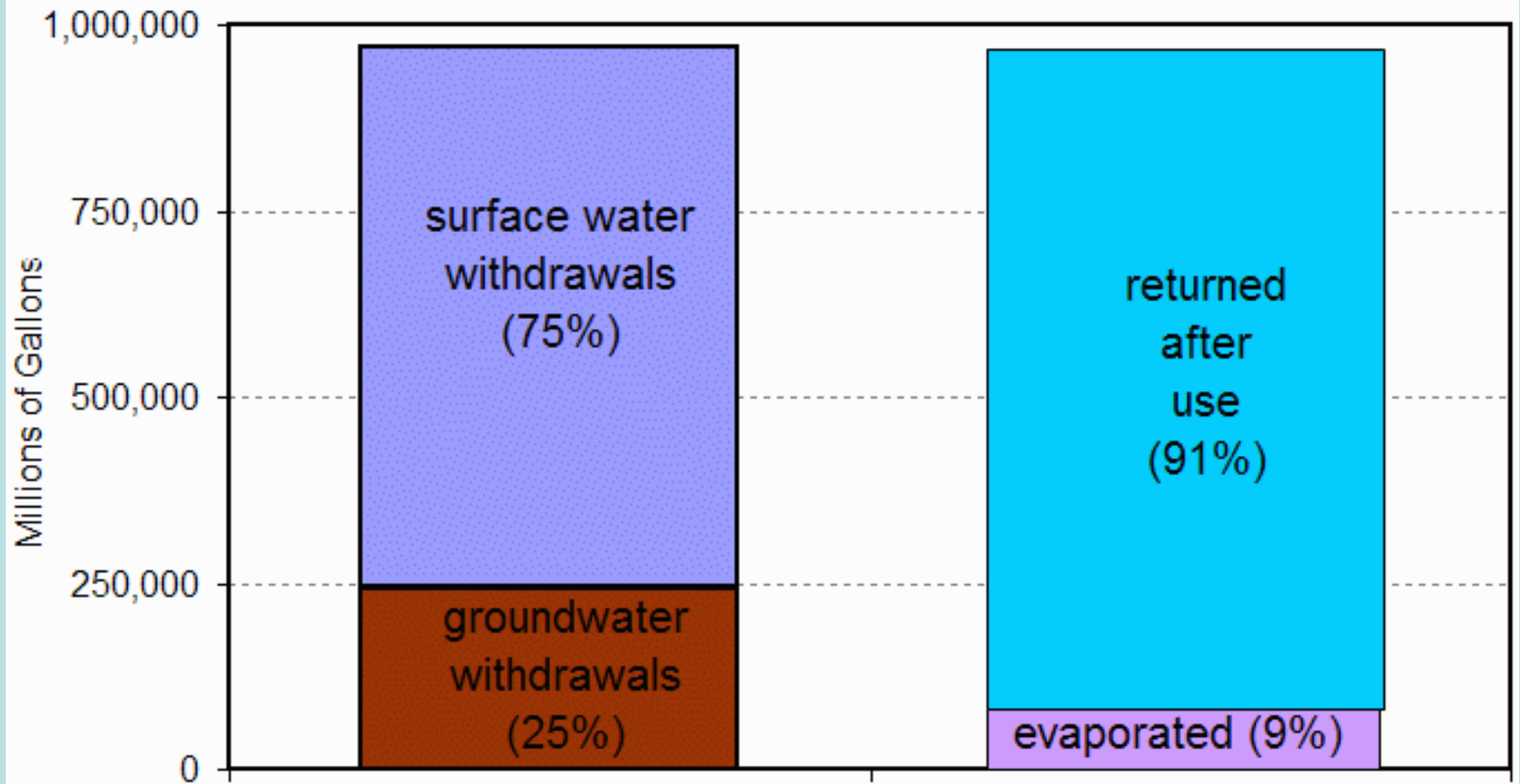
reservoirs

intakes

wells



Water Use in NJ - Sources & Destination



3 Components



Water source



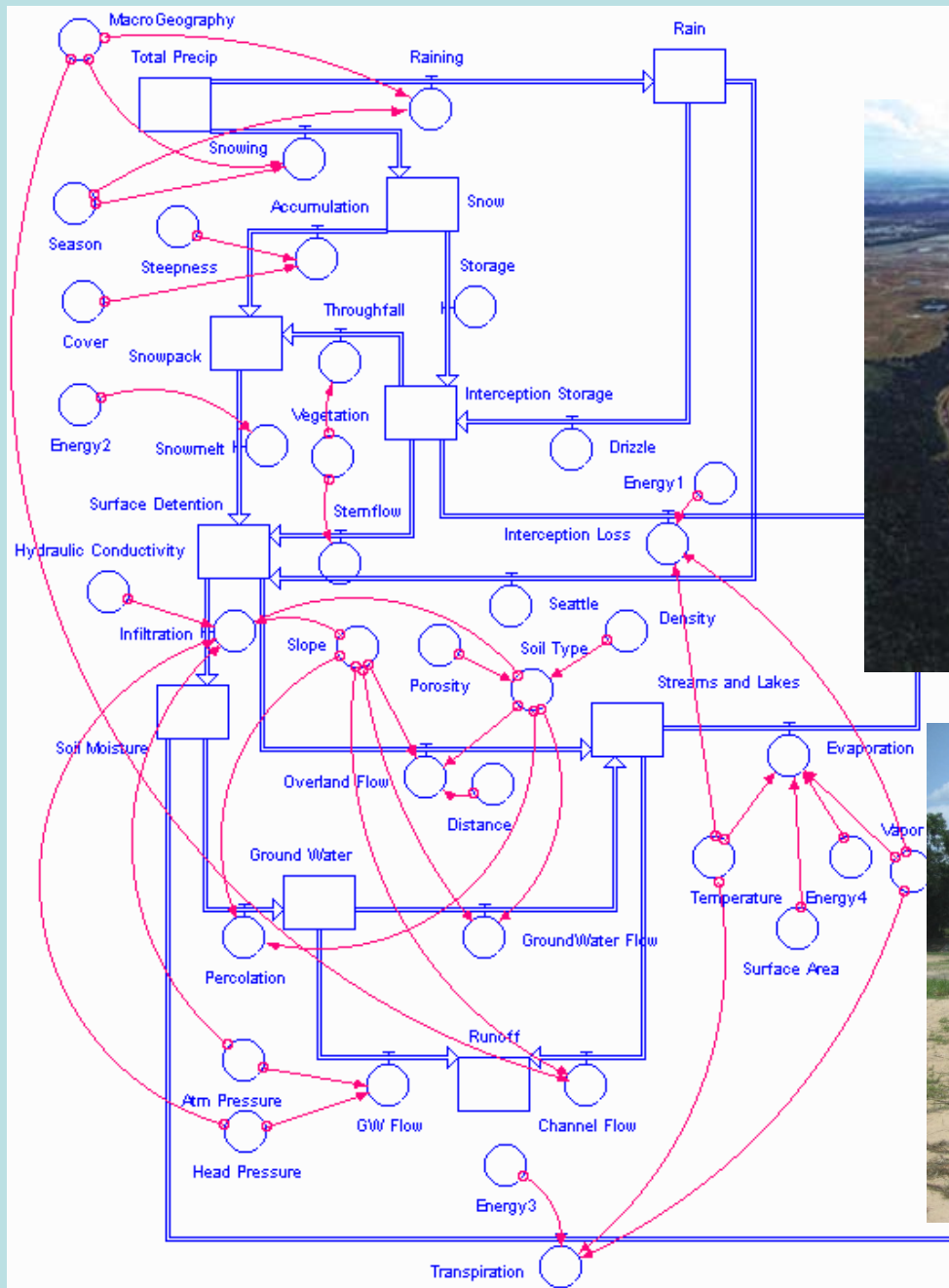
Water collection,
treatment &
distribution



Water demand

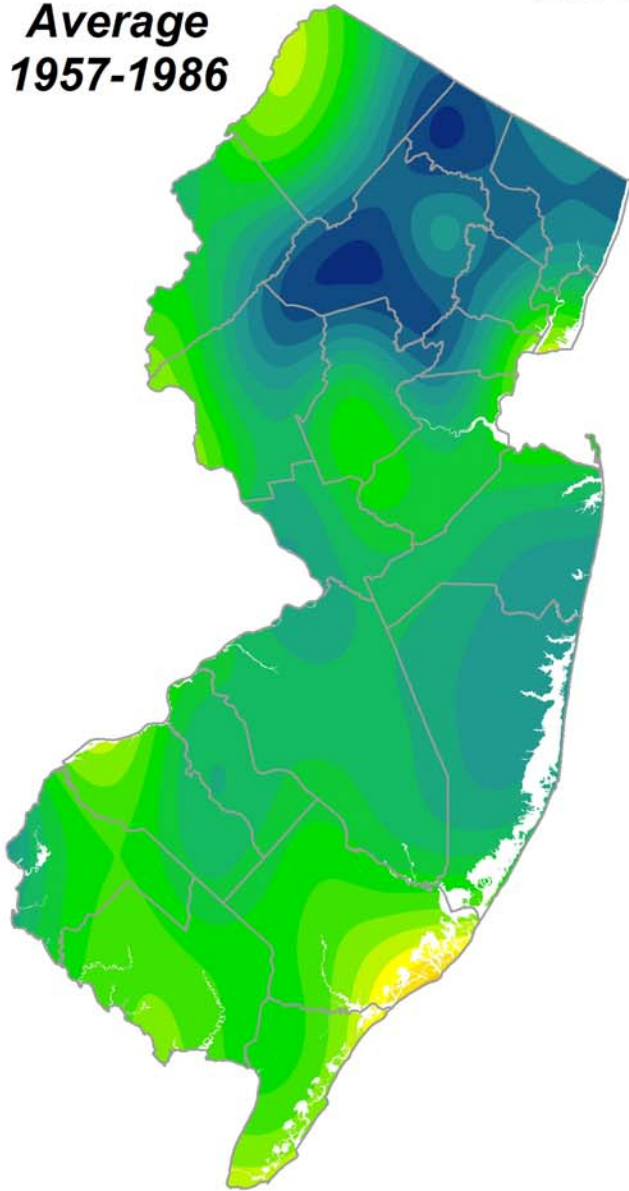


(COURTESY BRICKARTIST.COM)

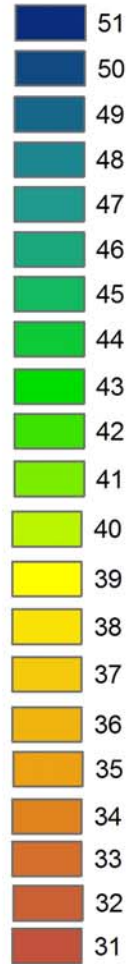


NJ Annual Precipitation

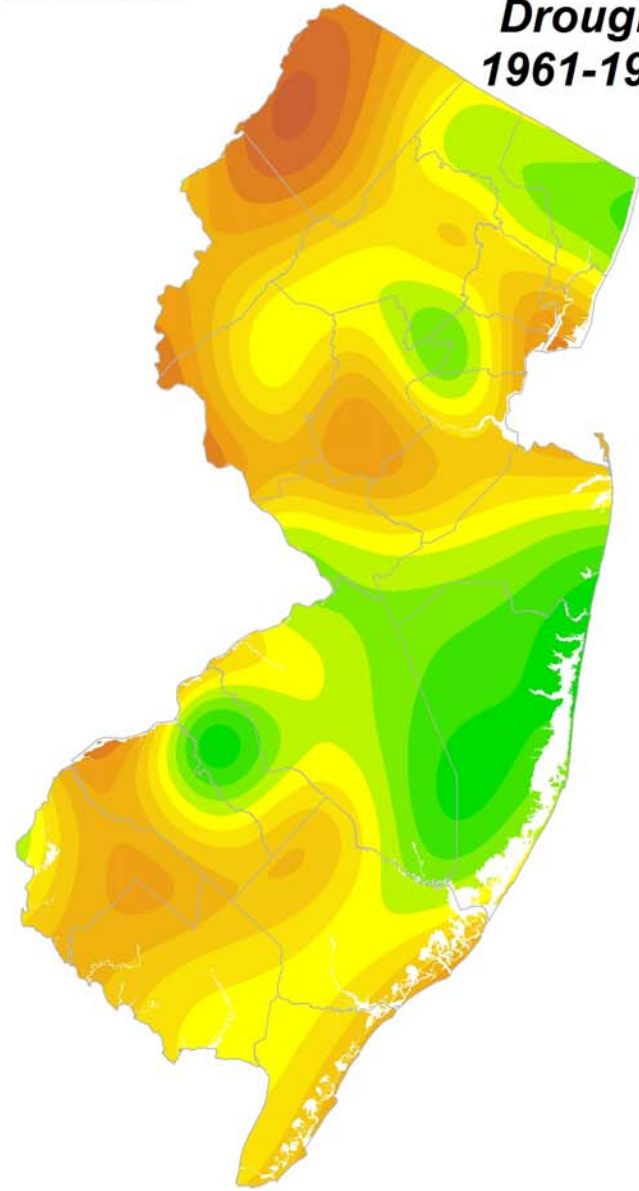
*Average
1957-1986*



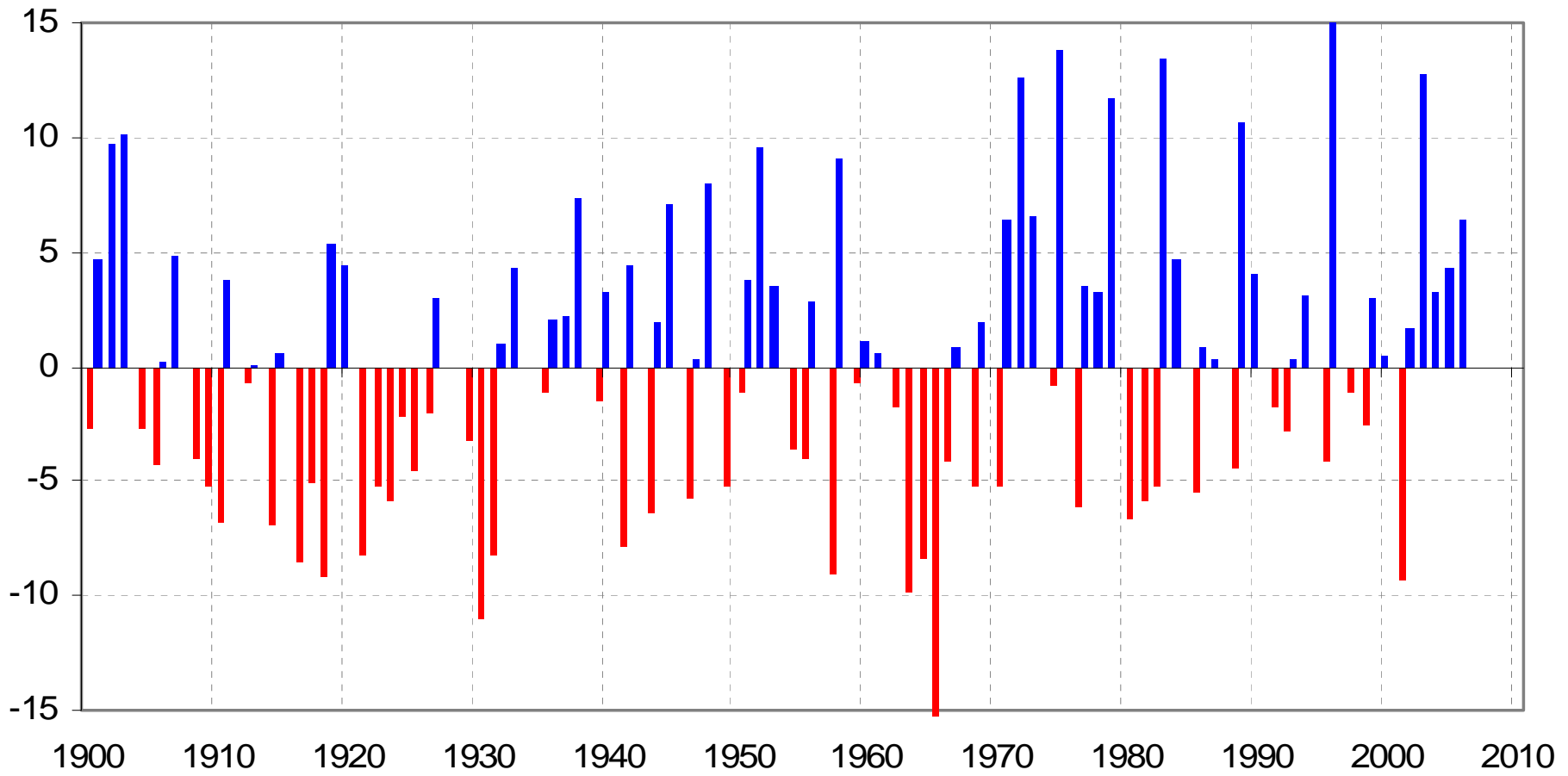
inches/year



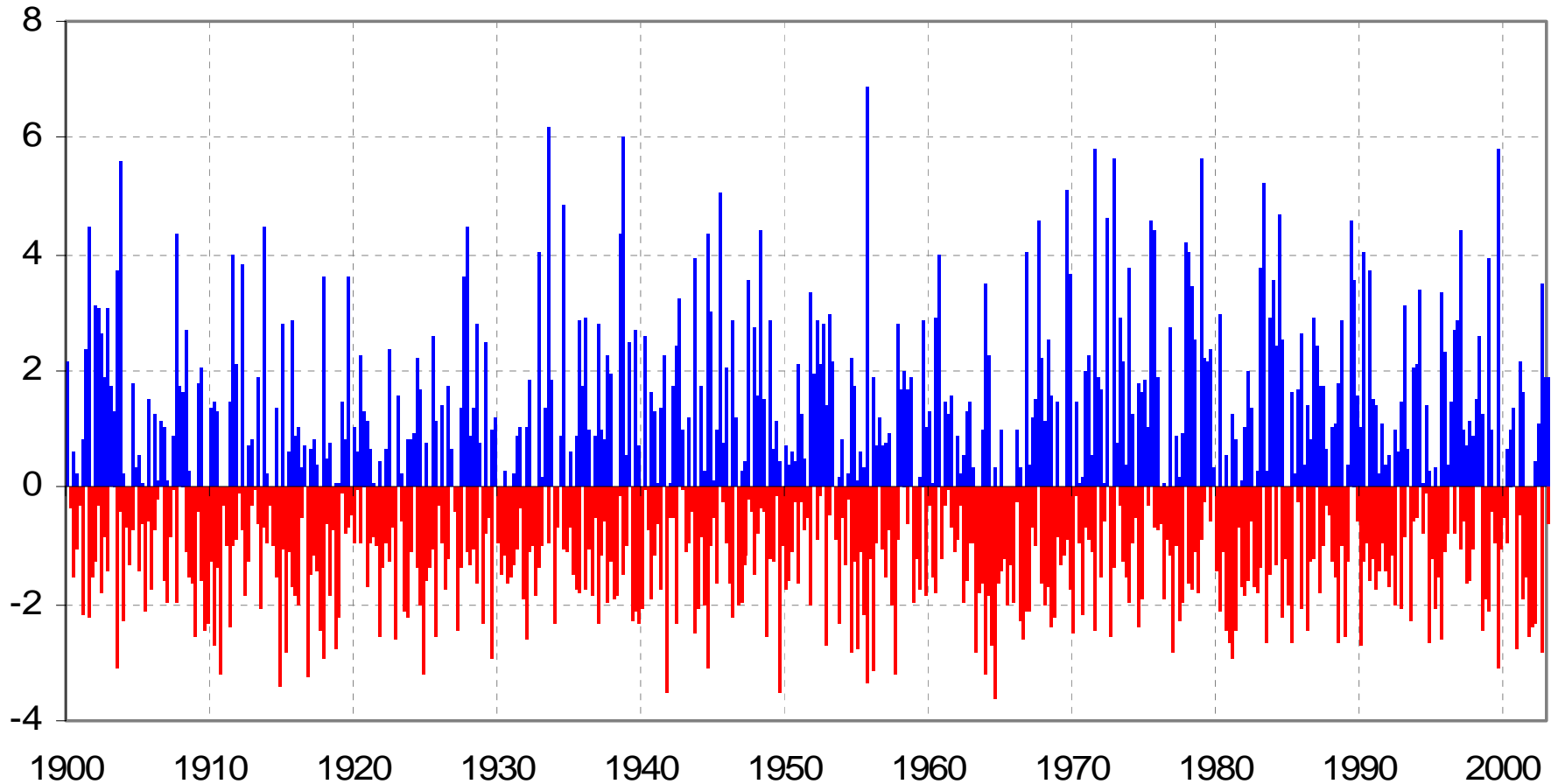
*Drought
1961-1966*



New Jersey Annual Precipitation Deviation from Normal



New Jersey Monthly Precipitation Deviation from Normal



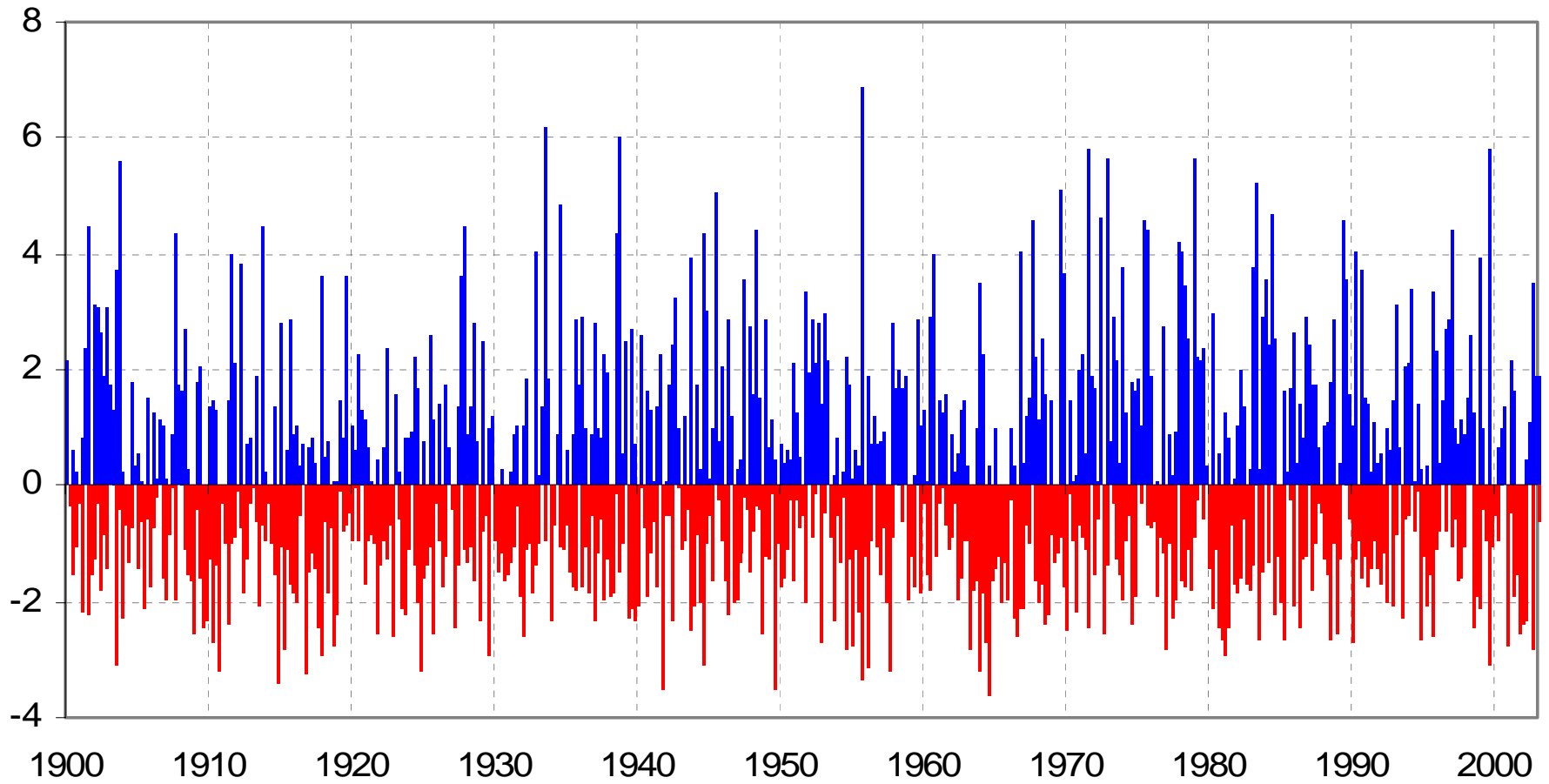
Can the system meet the increased water demand during the most stressful conditions?

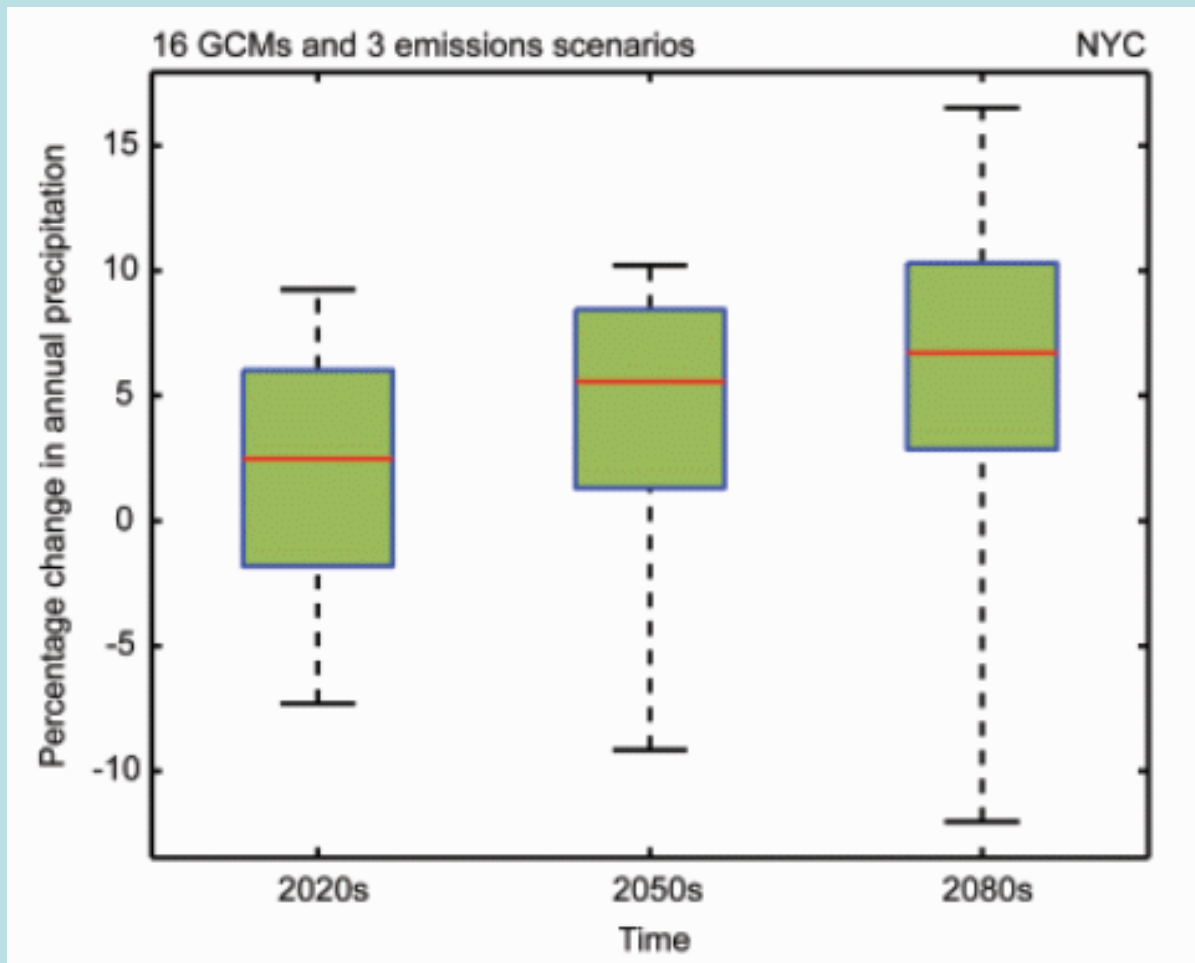


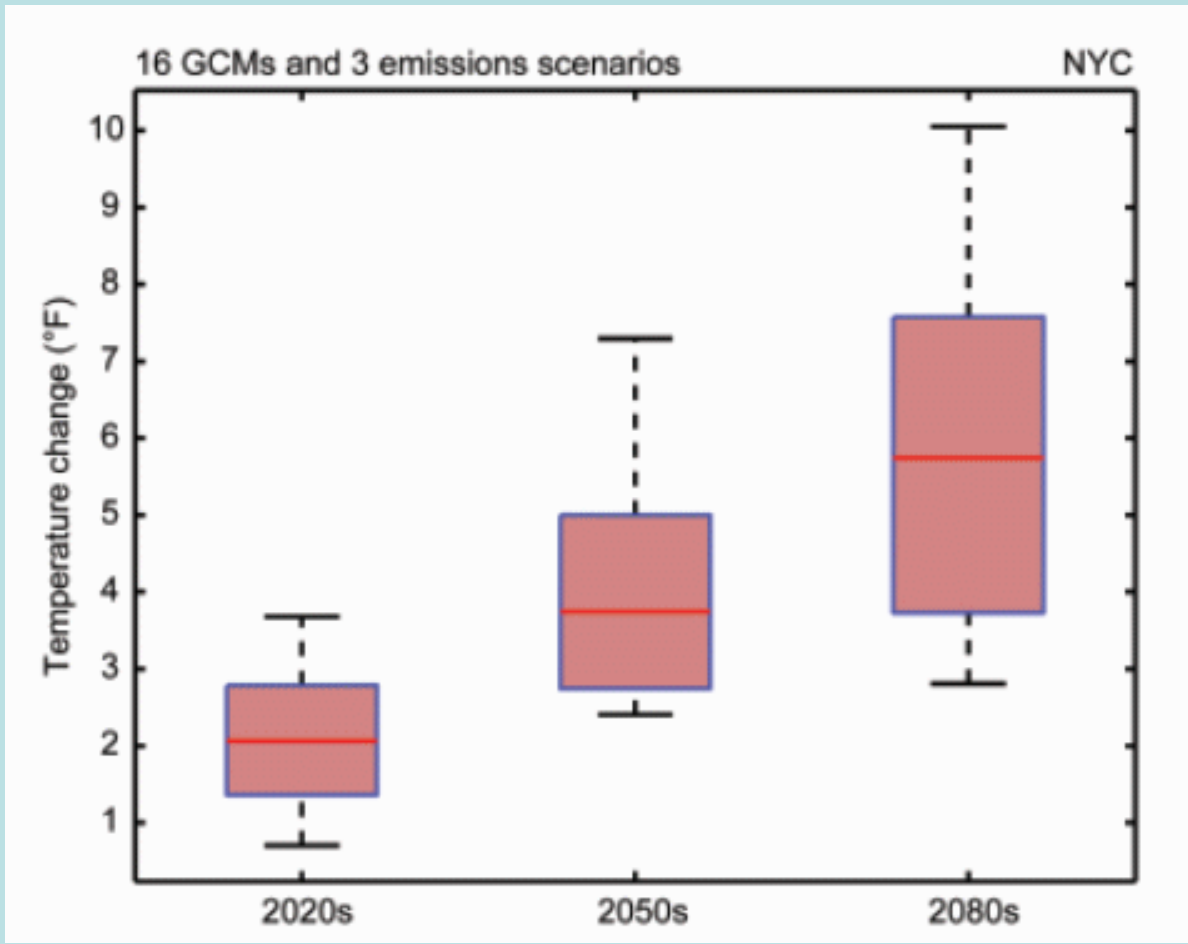


The past did not predict the future.

New Jersey Monthly Precipitation Deviation from Normal

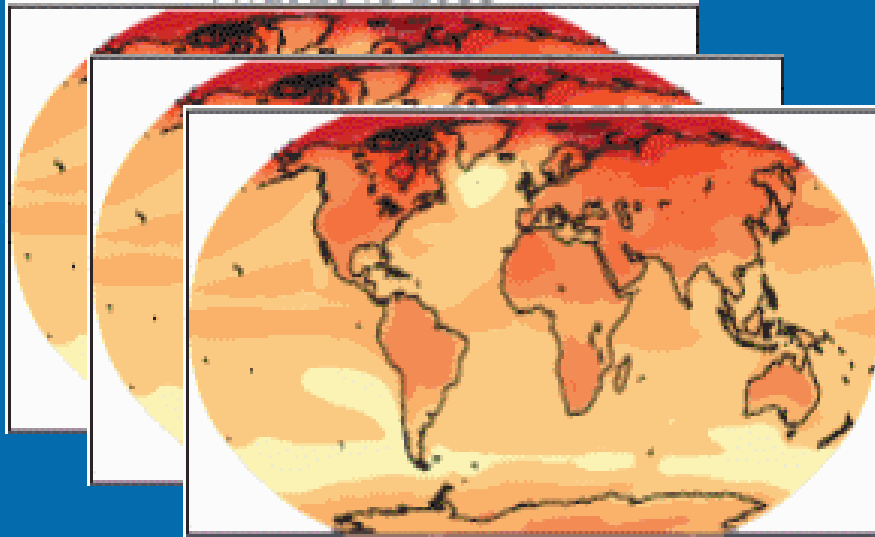




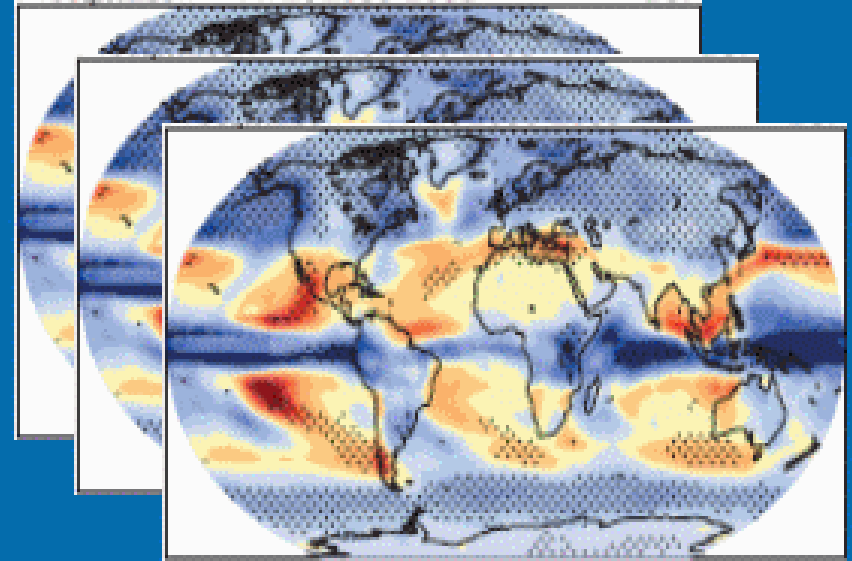


California's Approach

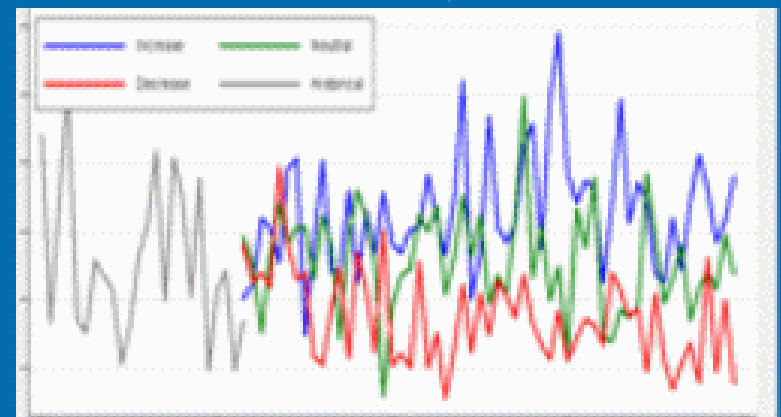
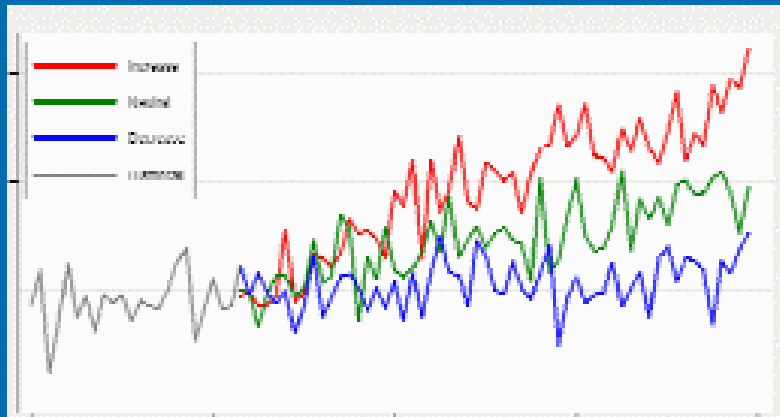
Future Temperature Projections



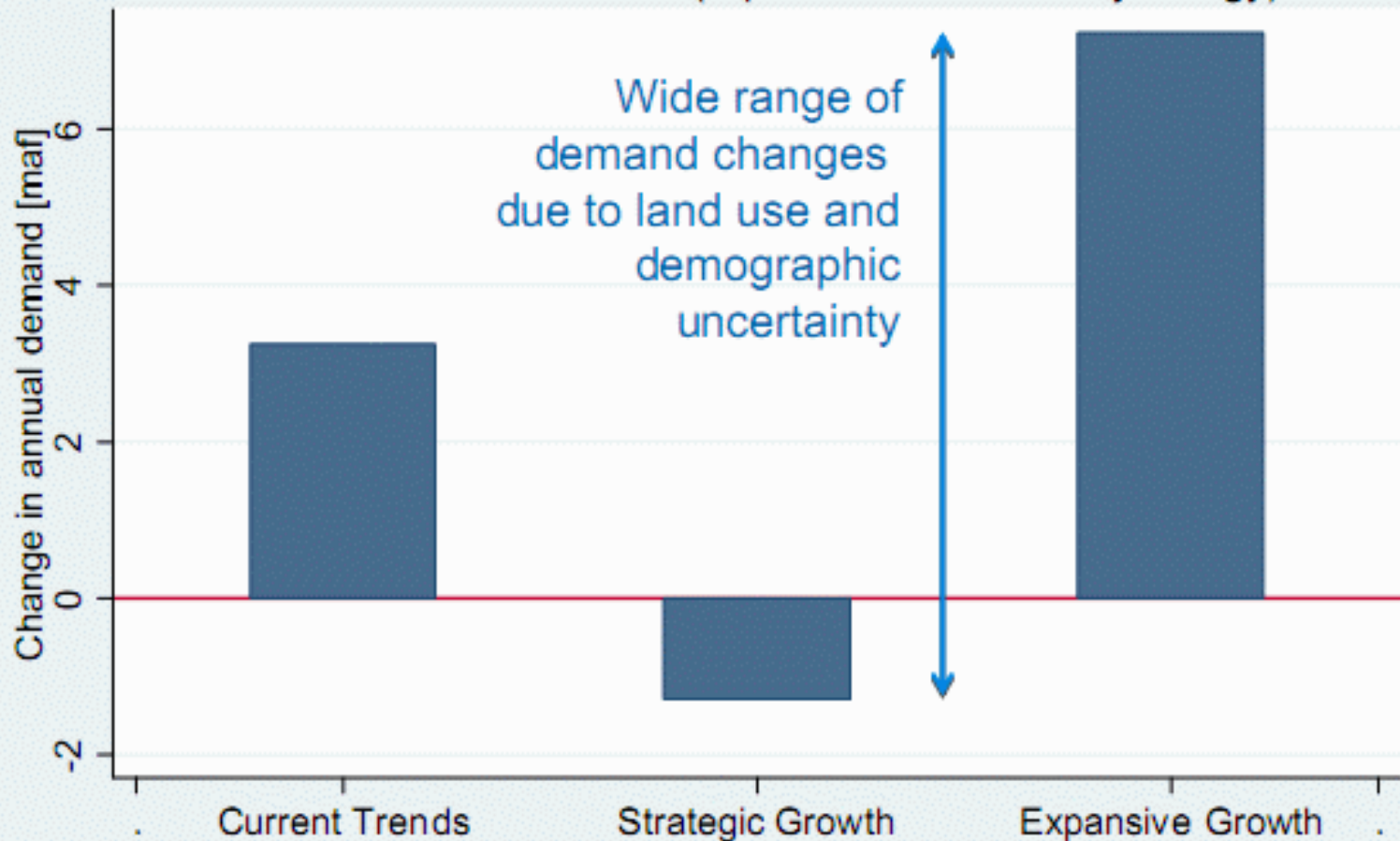
Future Precipitation Projections



Local time series of monthly weather



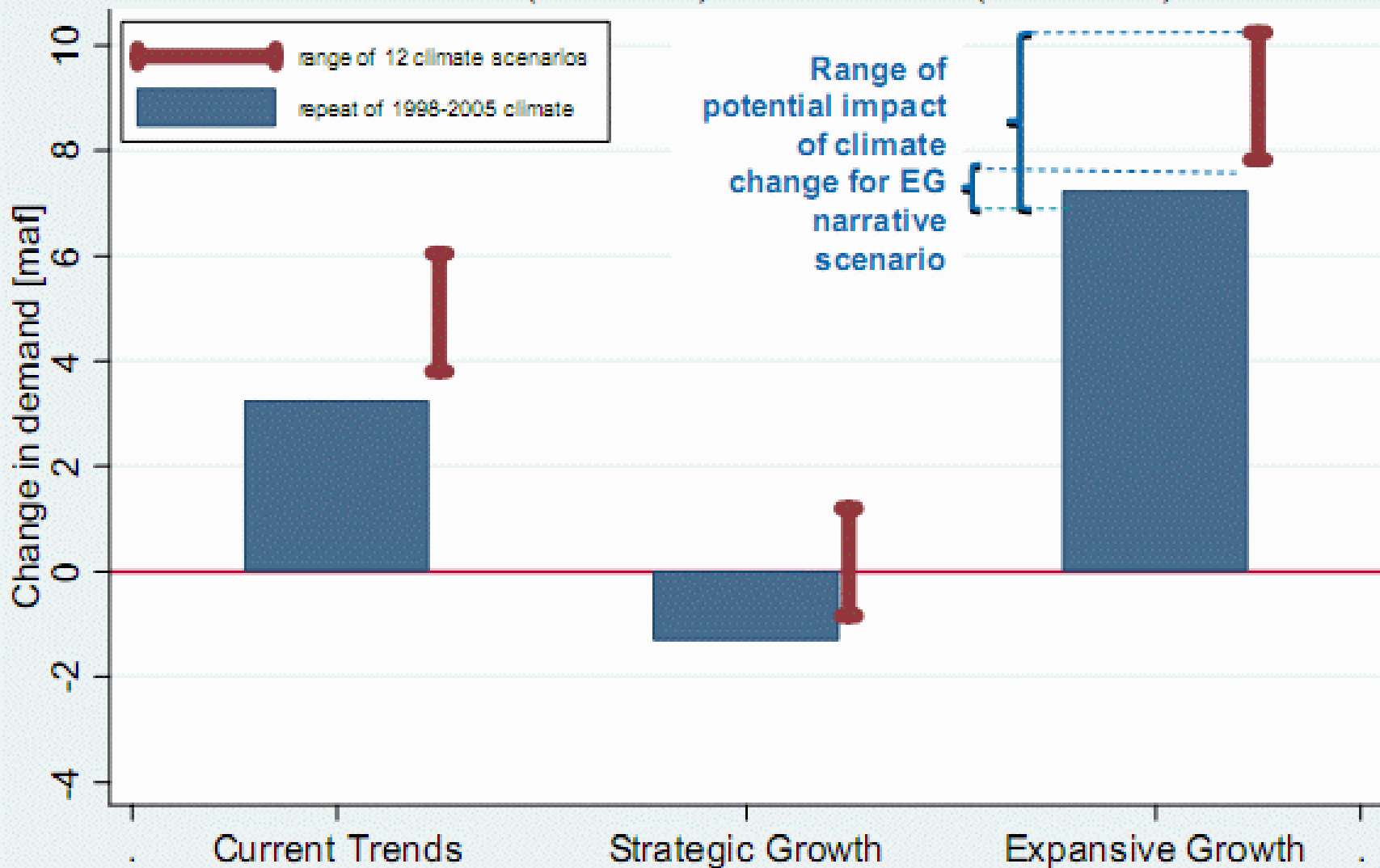
Change in Total Statewide Demand 1998-2005 to 2043-2050 (repeat of 1995-2005 hydrology)



1 million acre feet ~ 1/3 trillion gallons

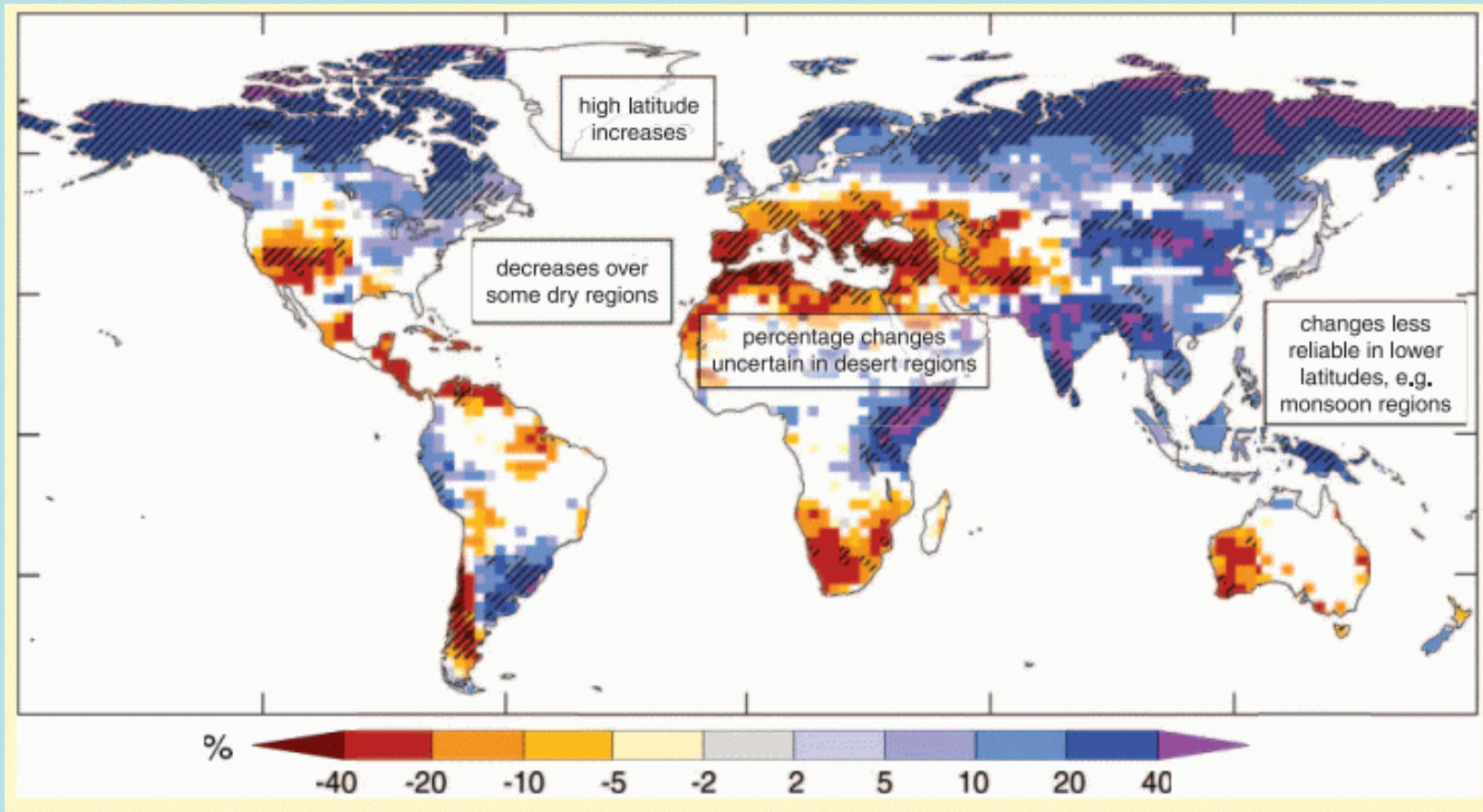
Change in Total Statewide Demand

1998-2005 (historical) to 2043-2050 (simulated)

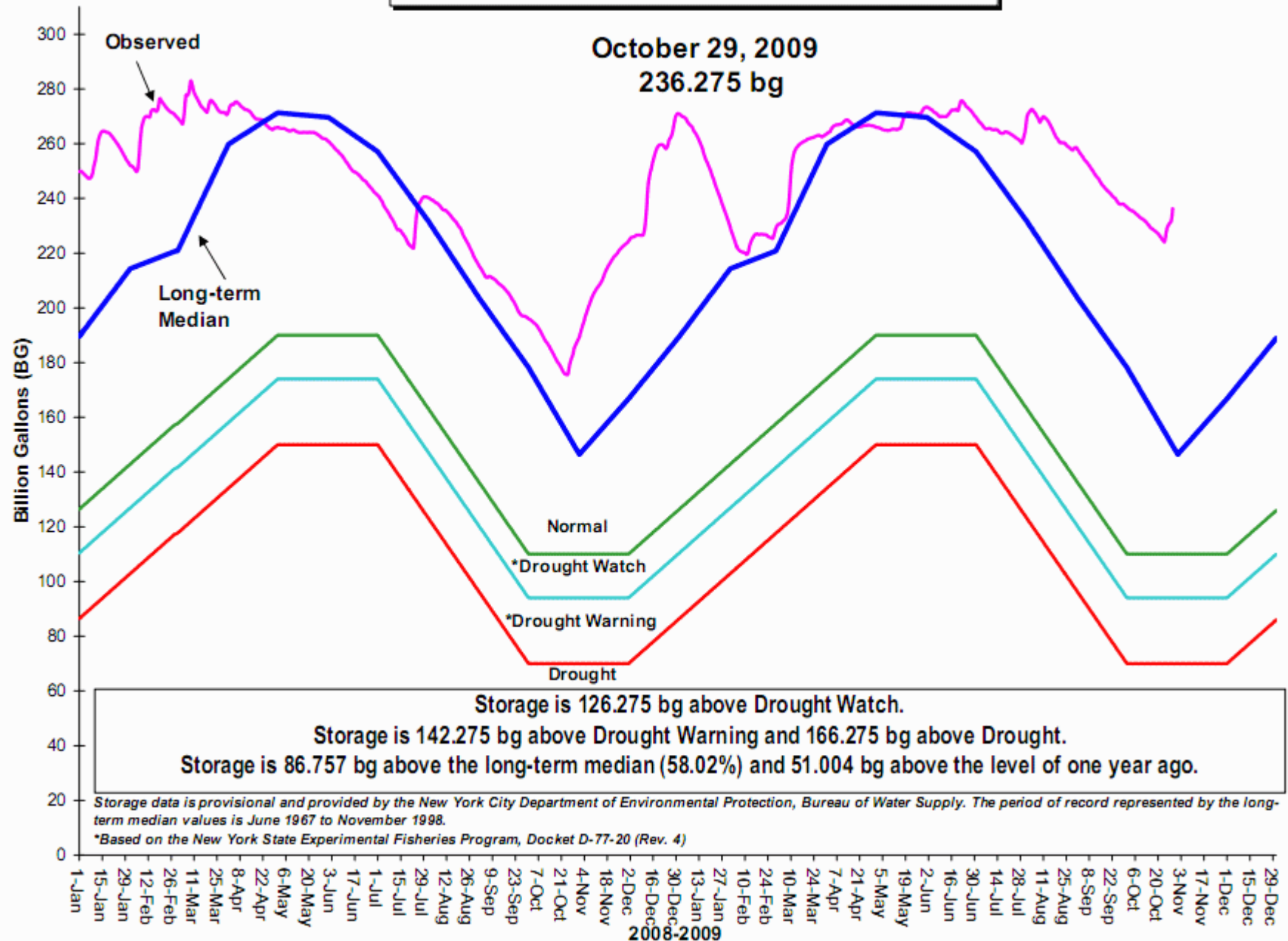




Runoff changes by 2100 (medium emissions)



New York City Delaware River Basin Storage



2008-2009