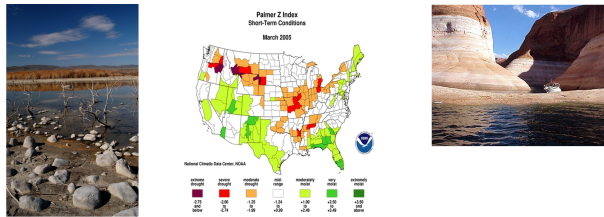


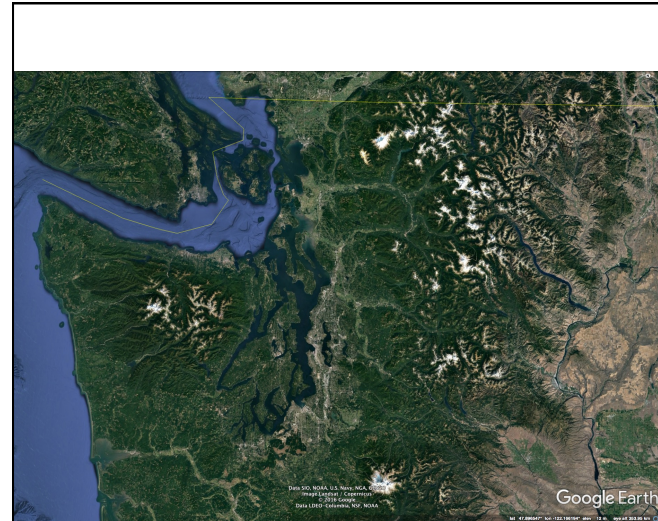
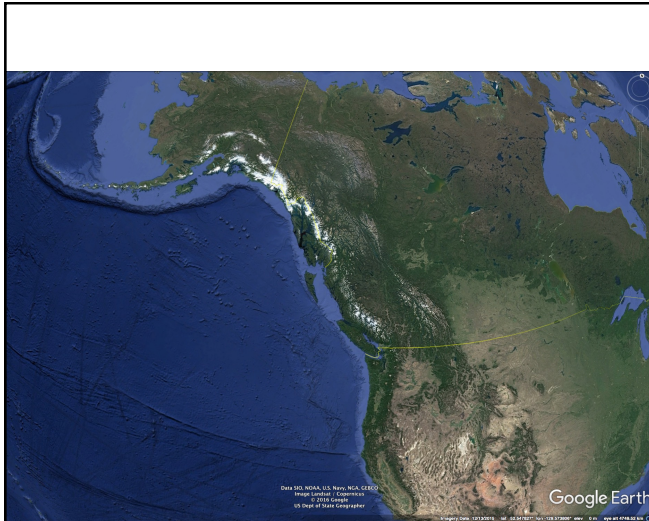
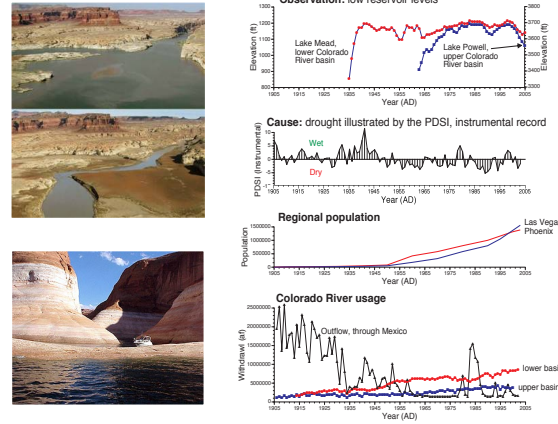
Drought in the Western US

National Climatic Data Center, April 10, 2006

"Washington Governor Christine Gregoire declared a statewide drought emergency, based on extremely low snow pack in the mountains and record-low flows that were seen in many rivers across the state"



Drought and Water Use in the West



Cumulative Balance
 Positive net balances measured at several of the index glaciers in 2010 resulted in a very minor increase in cumulative balance. However, the previous seven consecutive years of negative net mass balance for all four glaciers has driven cumulative balances deeply into negative territory (Figure 4). Since 1993, the cumulative balance for the four monitored glaciers has decreased between -11.11 m w.e. (Silver) and -8.25 m w.e. (Sandalee).

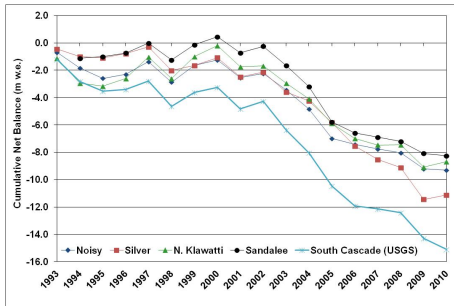


Figure 4. Adjusted cumulative balance for each glacier by water year includes South Cascade (USGS).

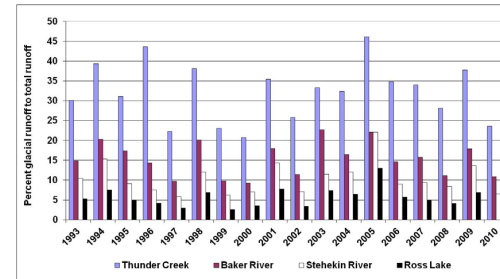
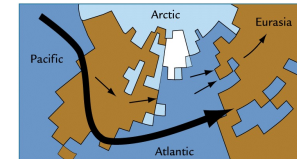
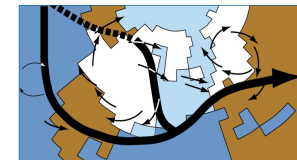


Figure 5. Total summer glacier meltwater contributions for the four watersheds containing a glacier monitored by North Cascades National Park.



A Modern winters



B Glacial winters

Sea ice
 Ice sheets
 Surface winds
 Jet stream

