

Climate Change Effects on the National Fire Danger Rating System (NFDRS)

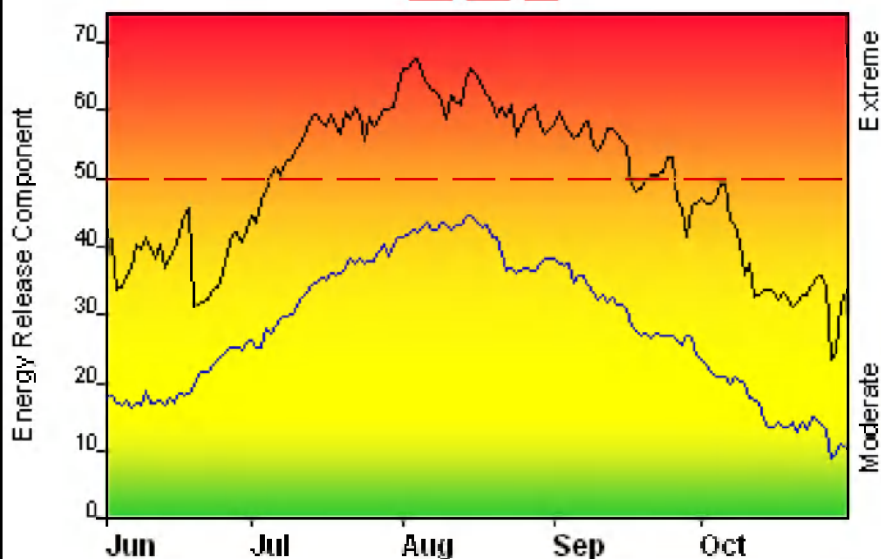


Photo: USFS

Missoula Fire Sciences Laboratory
Matt DeLaney

FIRE DANGER -- Clearwater/Nez Perce NF Upland

Maximum, Average, and 90th Percentile, based on 20 years data



Fire Danger Area:

- Clearwater/Nez Perce NF
- 102/103
- Powell/Moose Cr/Red River
- * Meets NWCG Wx Station Standards



Fire Danger Interpretation:



- EXTREME** -- Use extreme caution
- (Caution)** -- Watch for change
- Moderate** -- Lower Potential, but always be aware

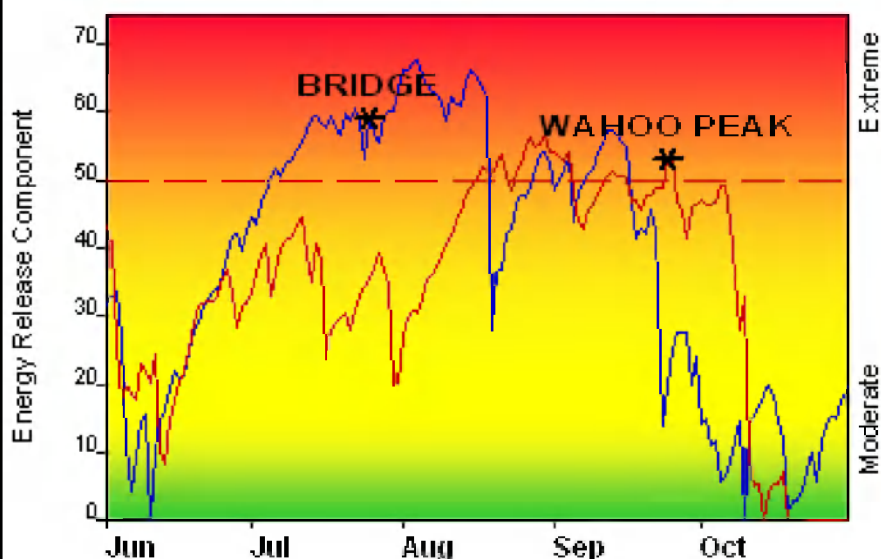
Maximum -- Highest Energy Release Component by day for 1989 - 2008

Average -- shows peak fire season over 20 years (3035 observations)

90th Percentile -- Only 10% of the 3035 days from 1989 - 2008 had an Energy Release Component above 50

Local Thresholds - Watch out: Combinations of any of these factors can greatly increase fire behavior:
20' Wind Speed over 20 mph, RH less than 20%, Temperature over 90

Years to Remember: 2007 2001



Remember what Fire Danger tells you:

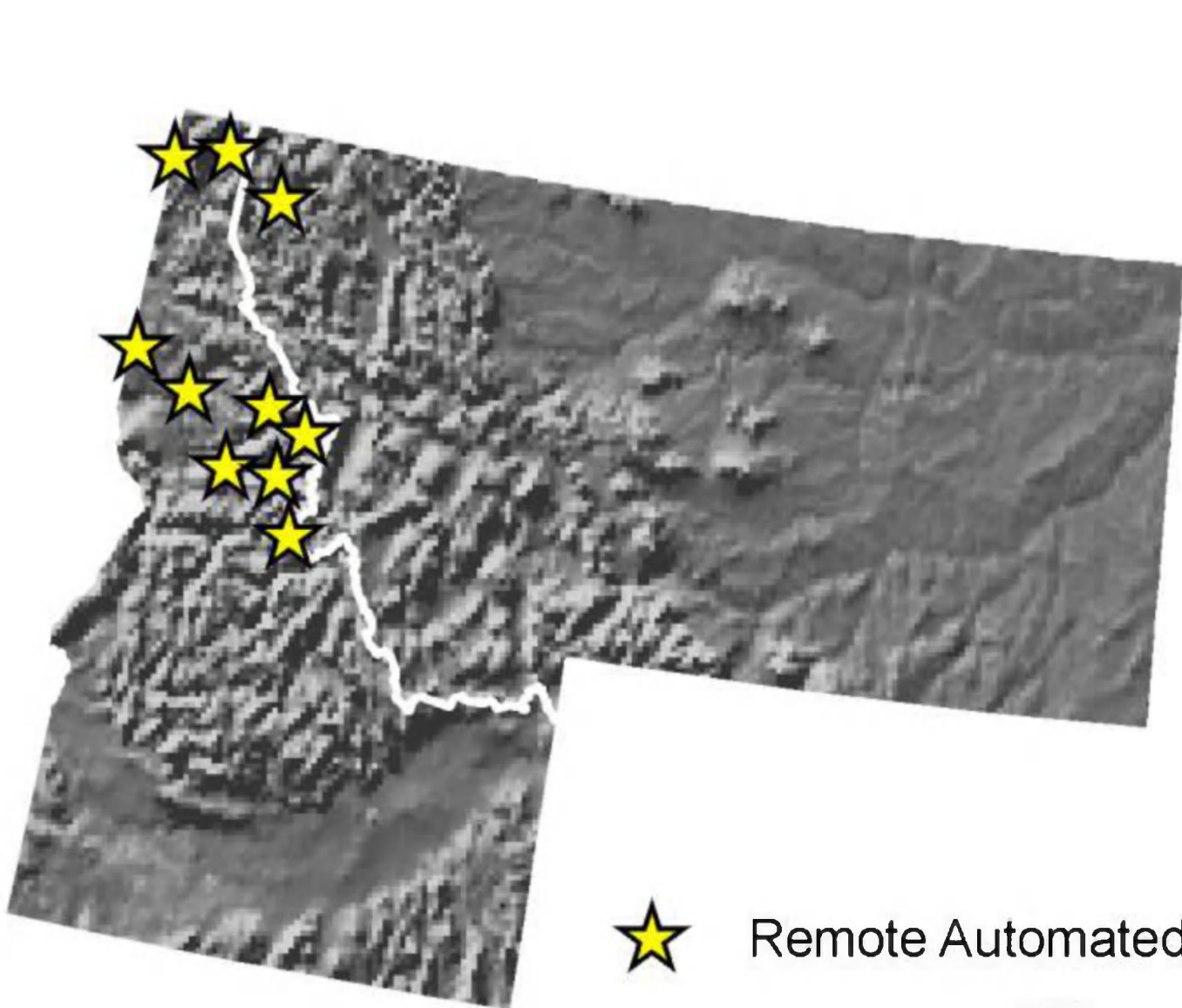
- ✓ Energy Release Component gives seasonal trends calculated from 2 pm temperature, humidity, daily temperature & rh ranges, and precip duration.
- ✓ Wind is NOT part of ERC calculation.
- ✓ Watch local conditions and variations across the landscape -- Fuel, Weather, Topography.
- ✓ Listen to weather forecasts -- especially WIND.

Past Experience:

Slope and wind can affect spread rates significantly. Combined influences of weather, slope, aspect and fuels conditions are critical to fire behavior. Beware of profuse spotting potential of sub-alpine fir. Both the Bridge and Wahoo Peak Fires were on days of temperatures over 90 degrees and relative humidity below 20%.



Priest Lake RAWS – Photo: USFS



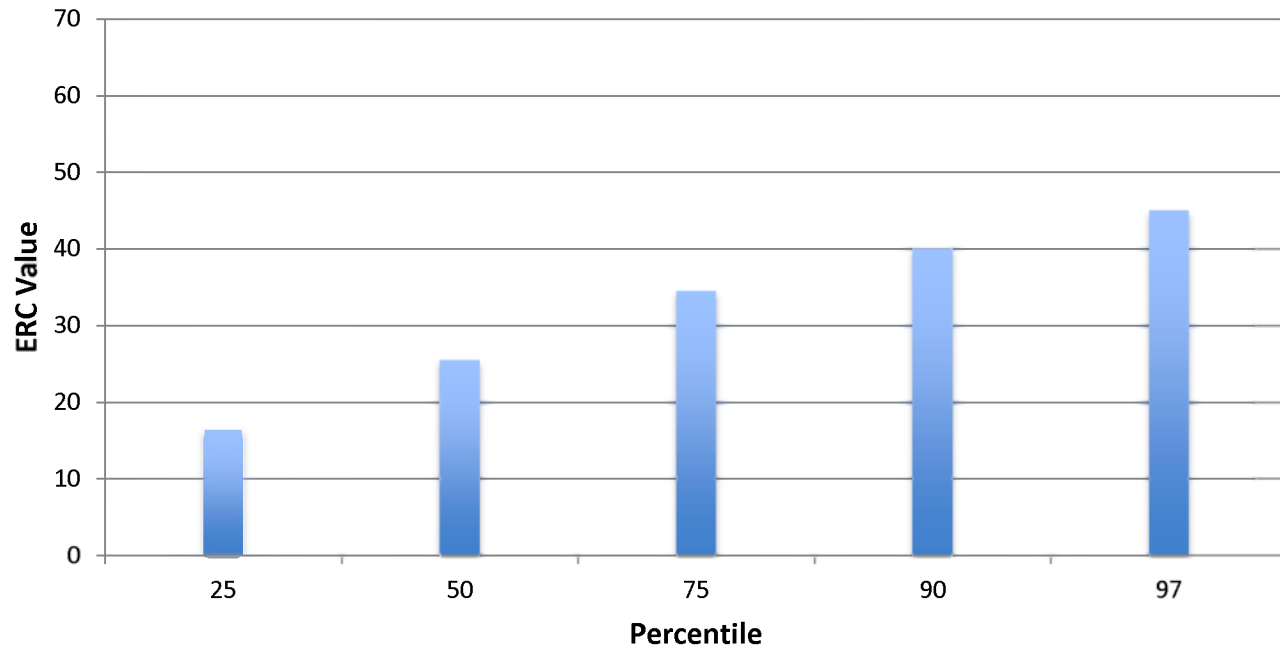
Remote Automated Weather Stations

Miles

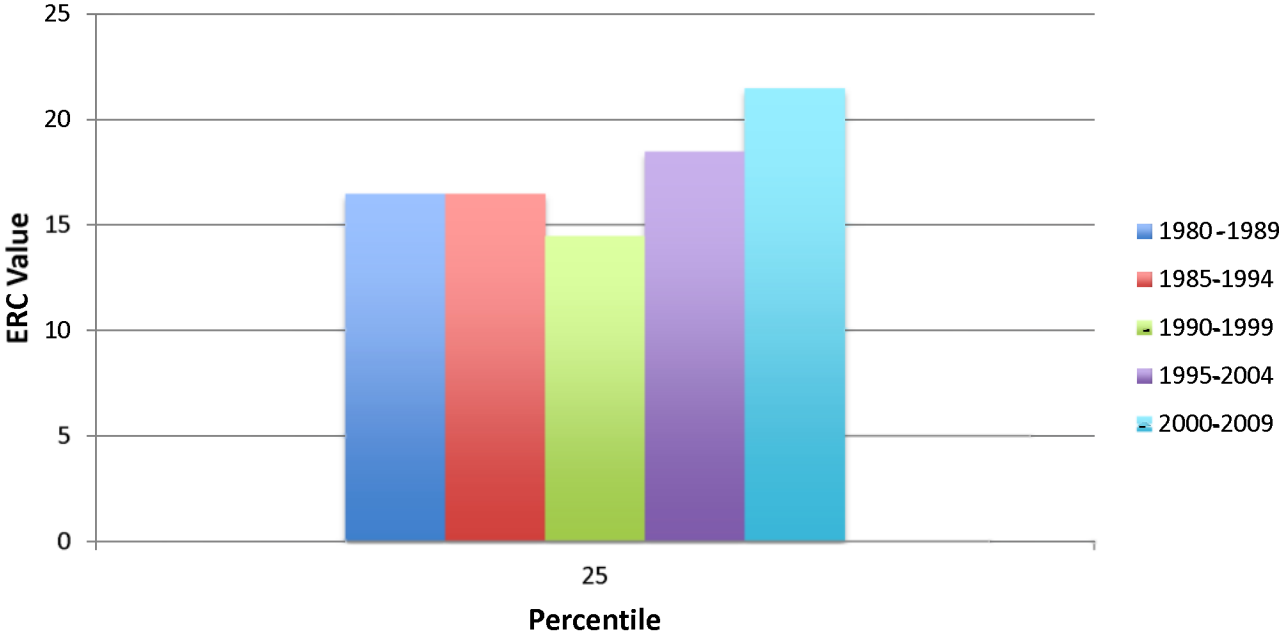


Map: Faith Ann Heinsch, Missoula Fire Lab

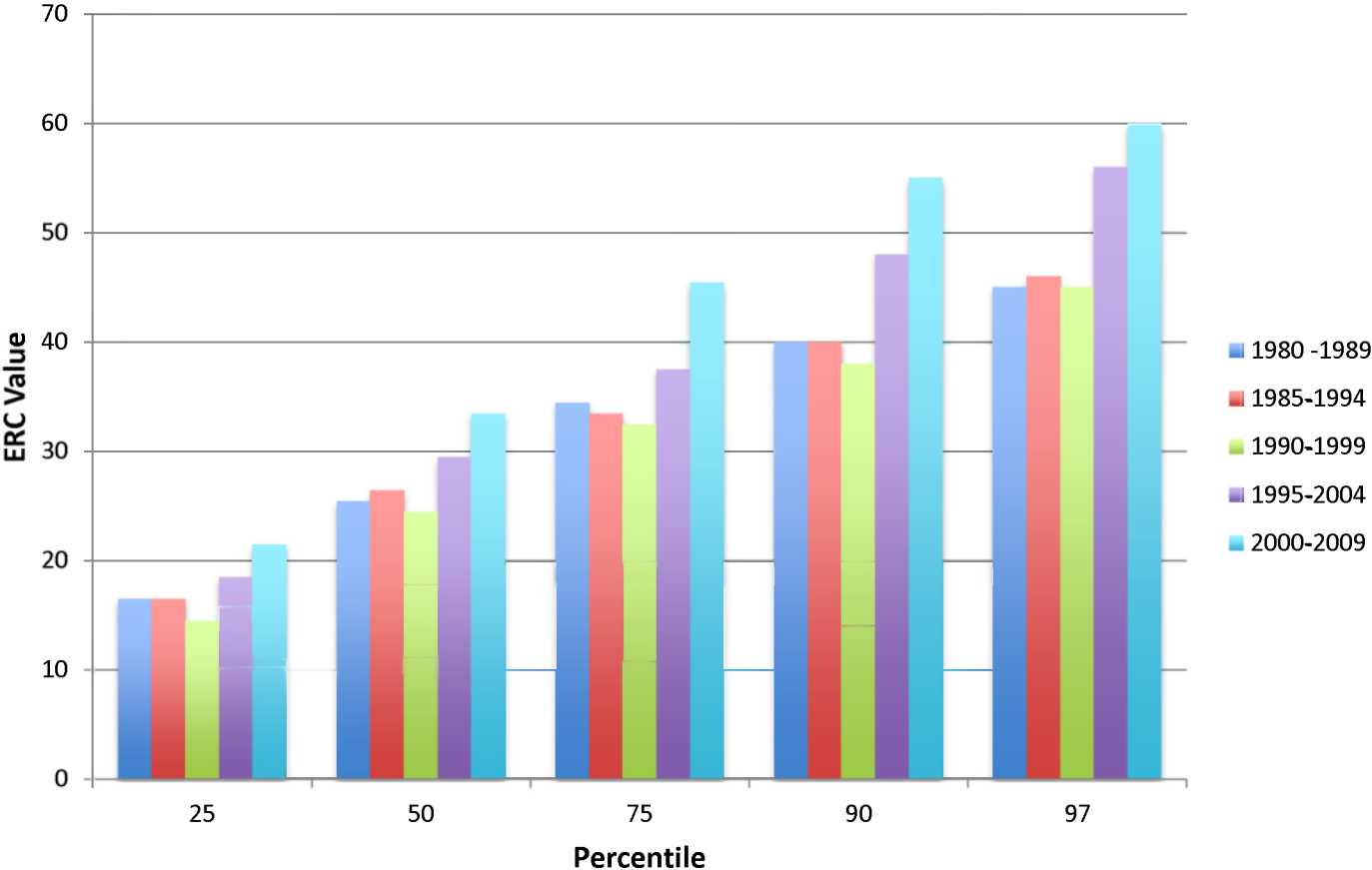
Powell: 1980 - 1989



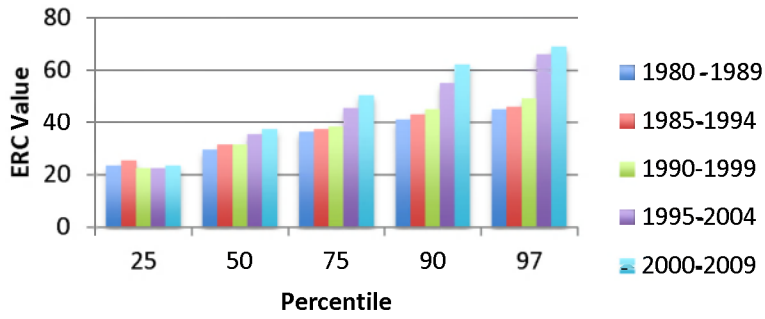
Powell 25th Percentile



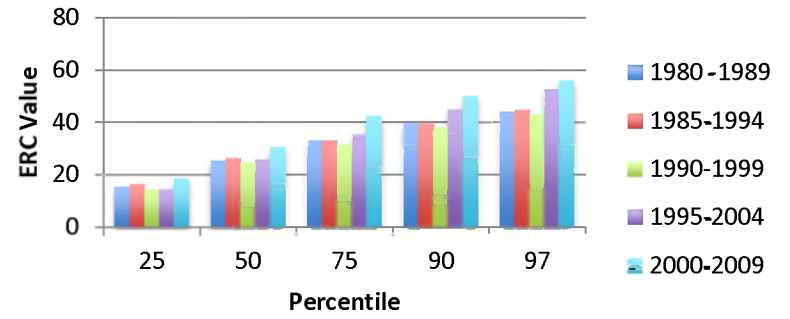
Powell ERC Values 1980-2009



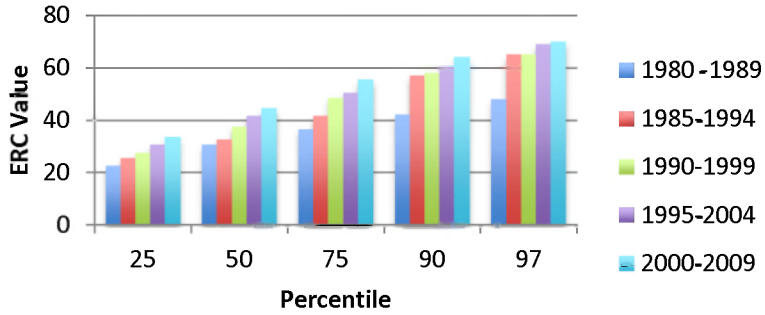
Bonnars



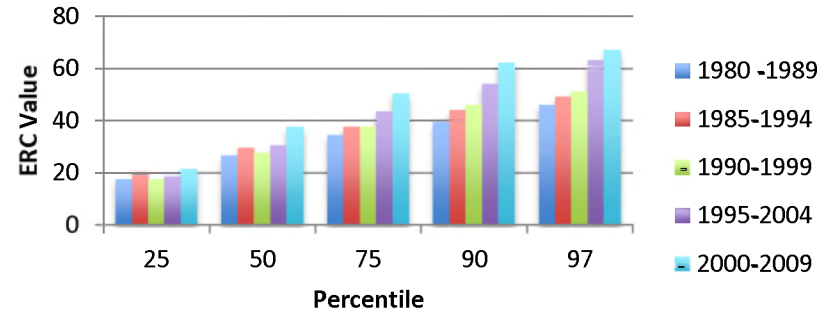
Kelly



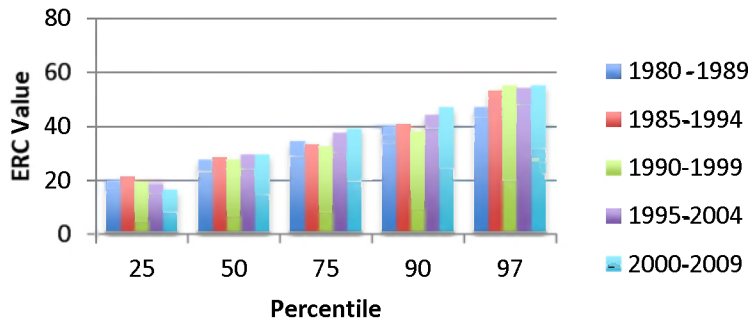
Potlatch



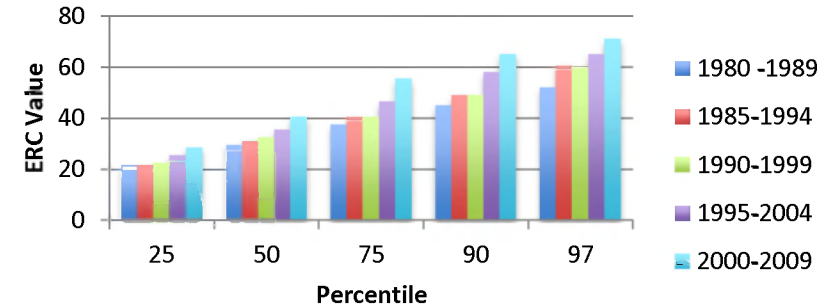
Moose Creek



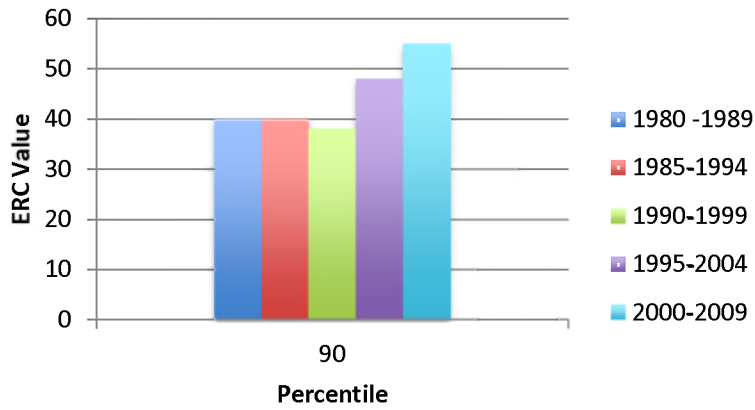
Priest Lake



Libby

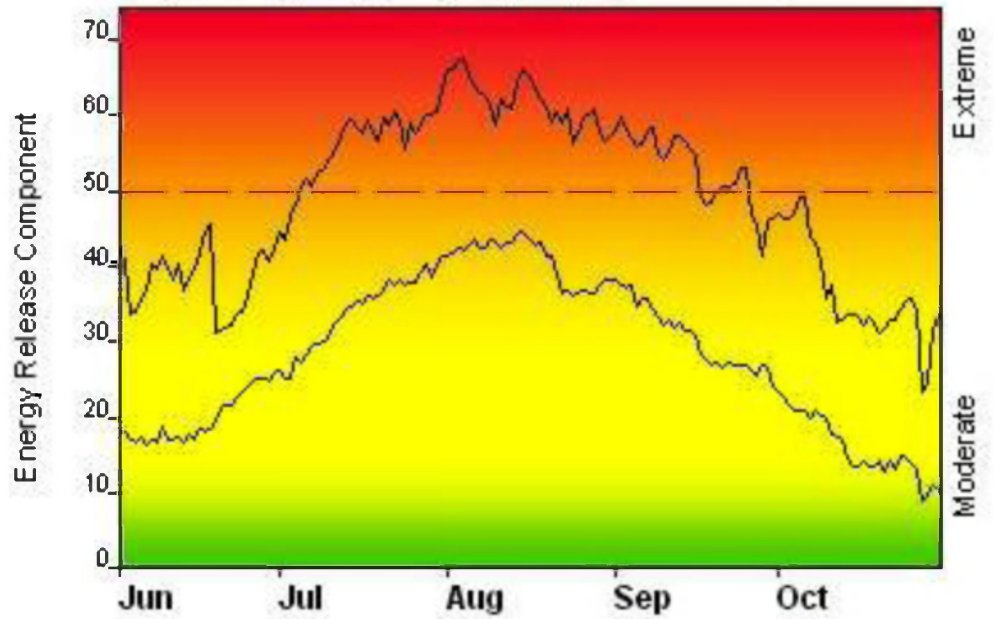


Powell 90th Percentile

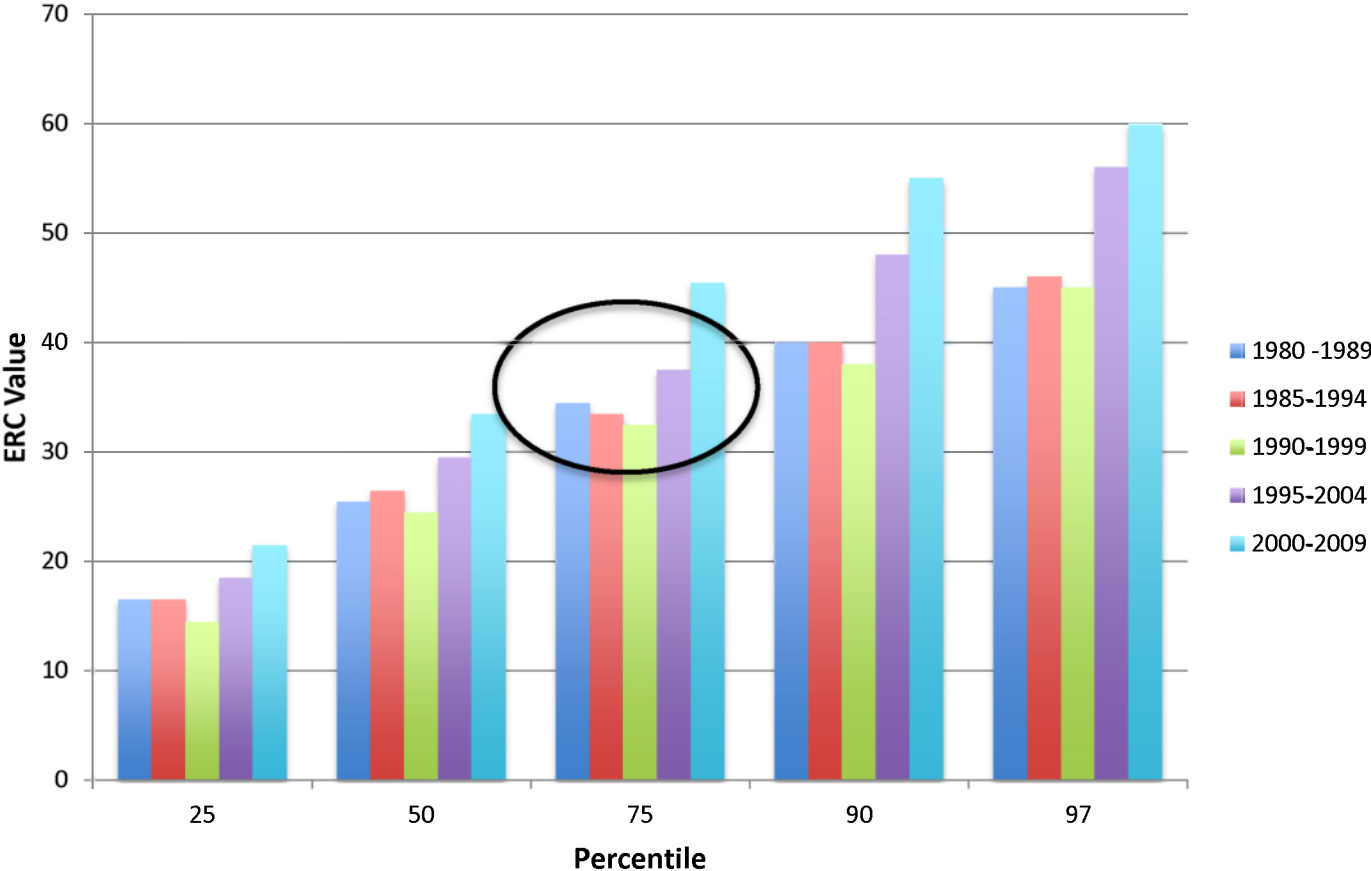


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Questions?