



Salmon and climate in the western United States: recent highlights

Tim Beechie
NOAA Fisheries, Seattle

- Salmon abundance
- Climate variation
- Policy updates



Salmon abundance

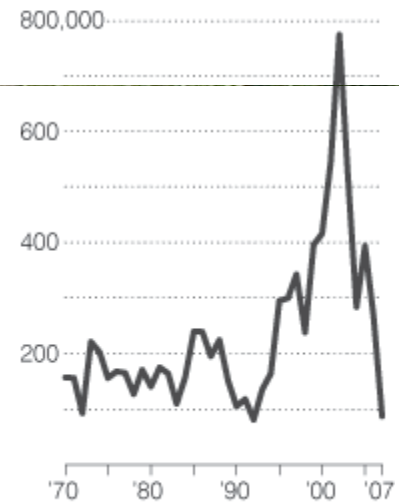
The New York Times

Chinook salmon vanish without a trace - 2008

Shrinking Salmon Stock

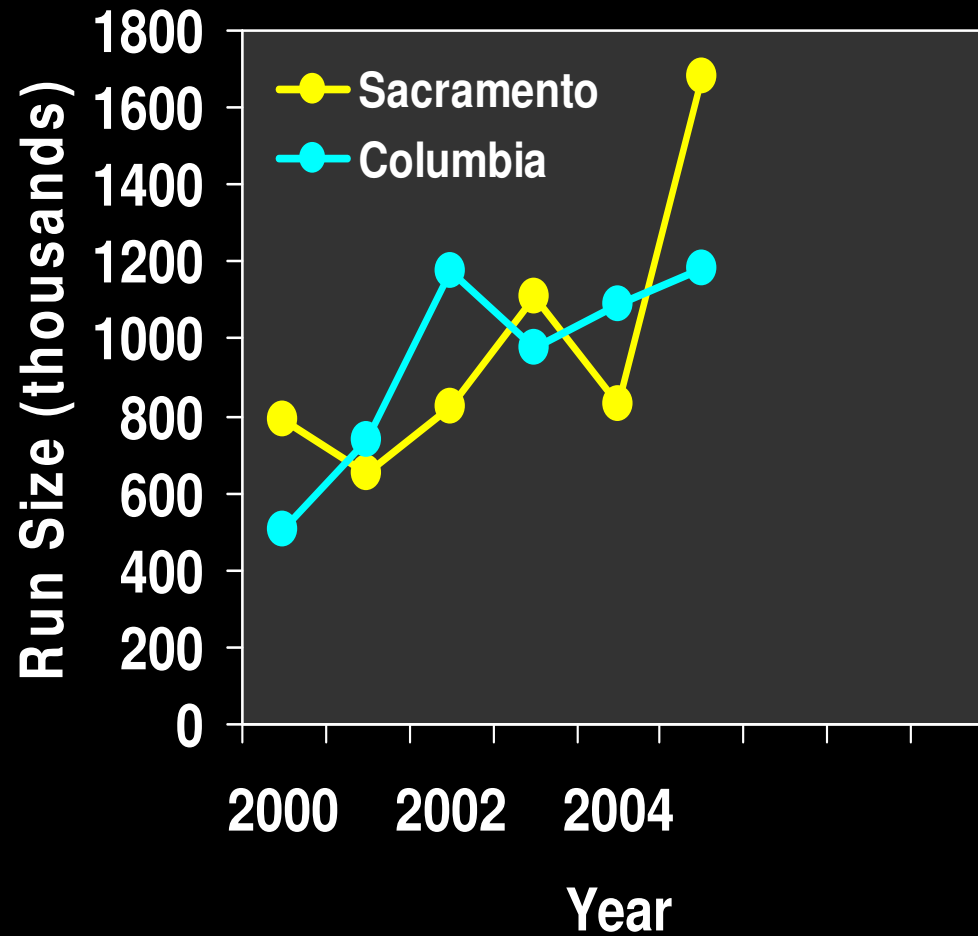
A low stock of the fall Chinook salmon in the Sacramento River has prompted federal officials to consider closing the Pacific salmon fishery this year.

SPAWNING OF FALL CHINOOK
IN THE SACRAMENTO RIVER BASIN



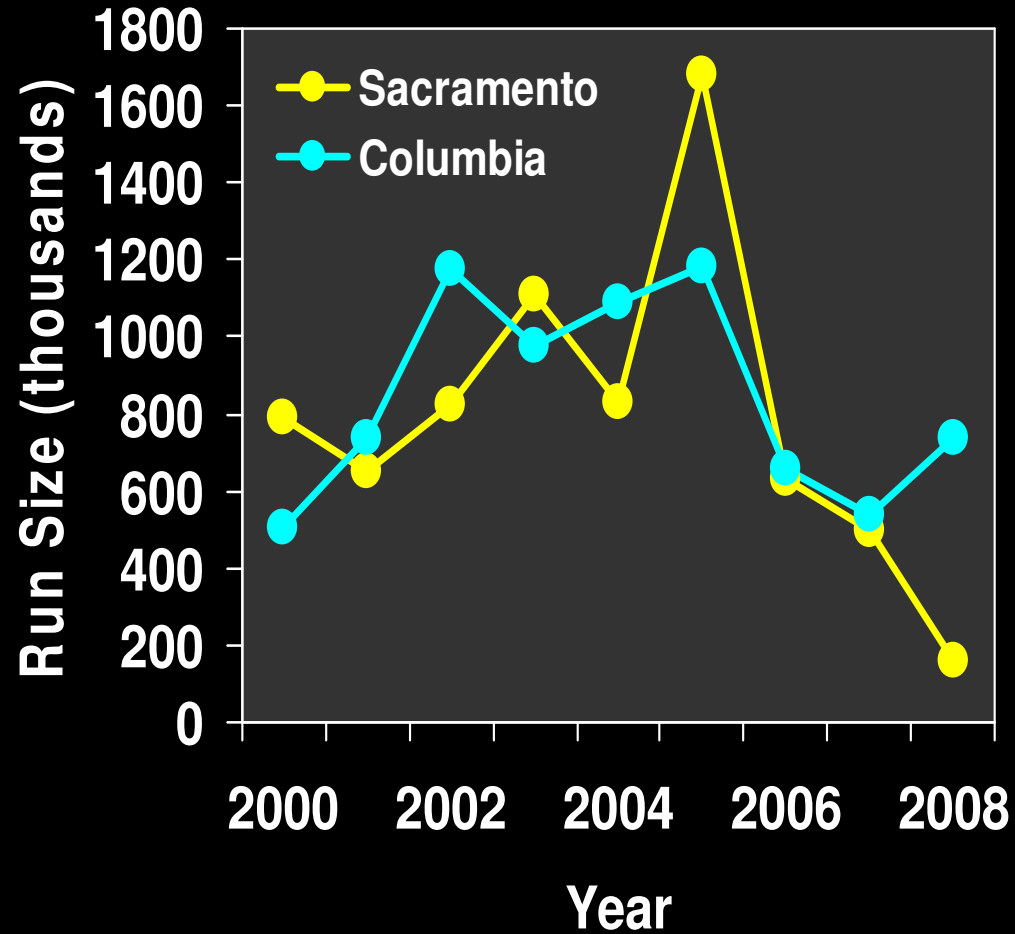
Source: Pacific Fishery
Management Council THE NEW YORK TIMES

Chinook salmon runs



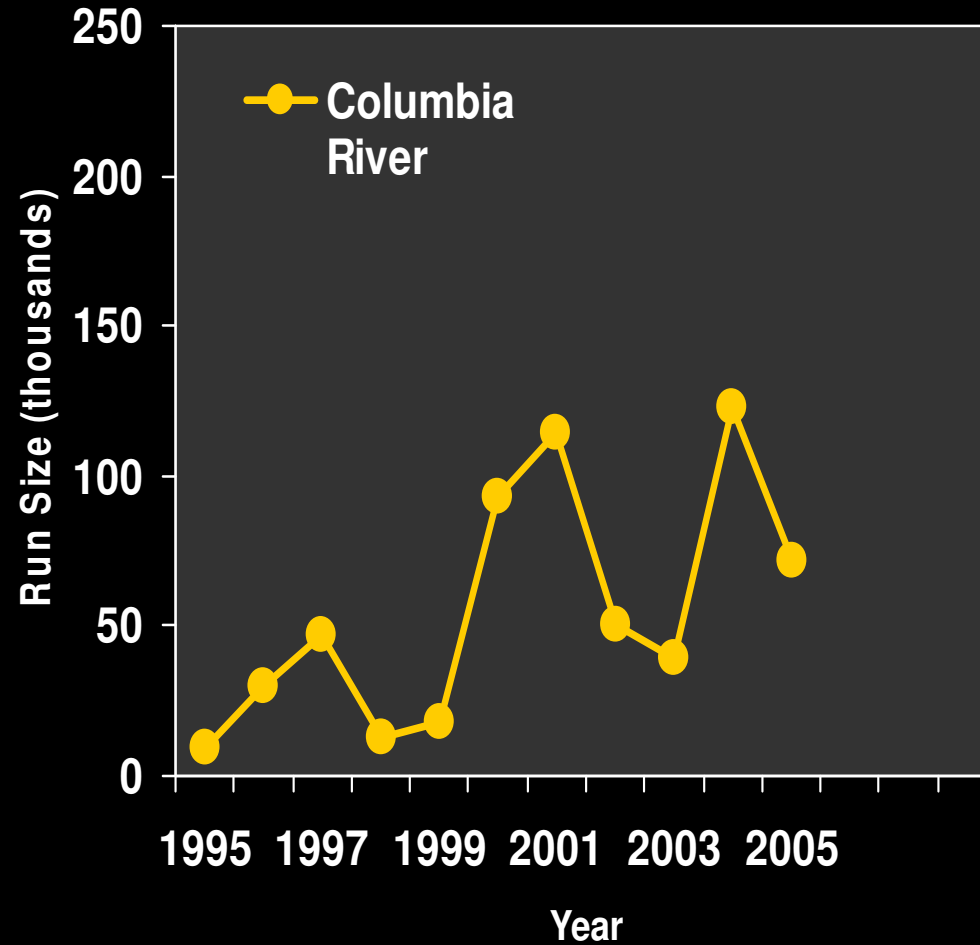
Source: Pacific Fishery Management Council

Chinook salmon runs



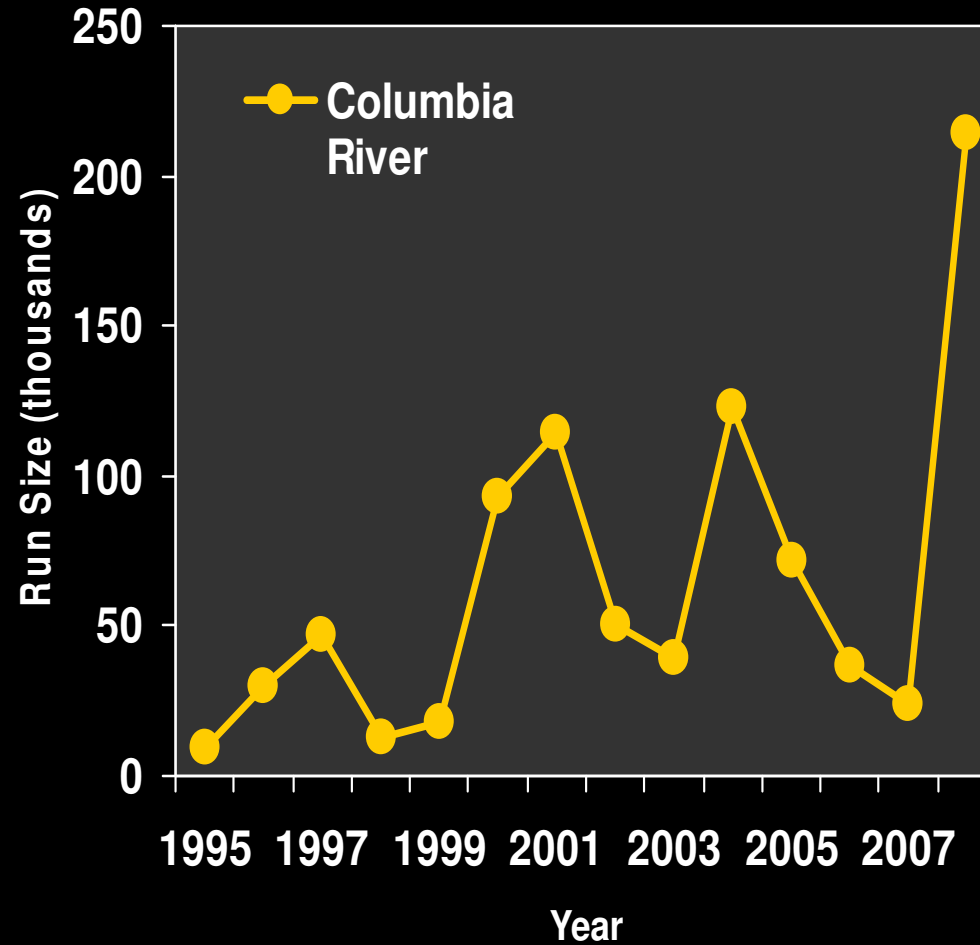
Source: Pacific Fishery Management Council

Sockeye salmon runs



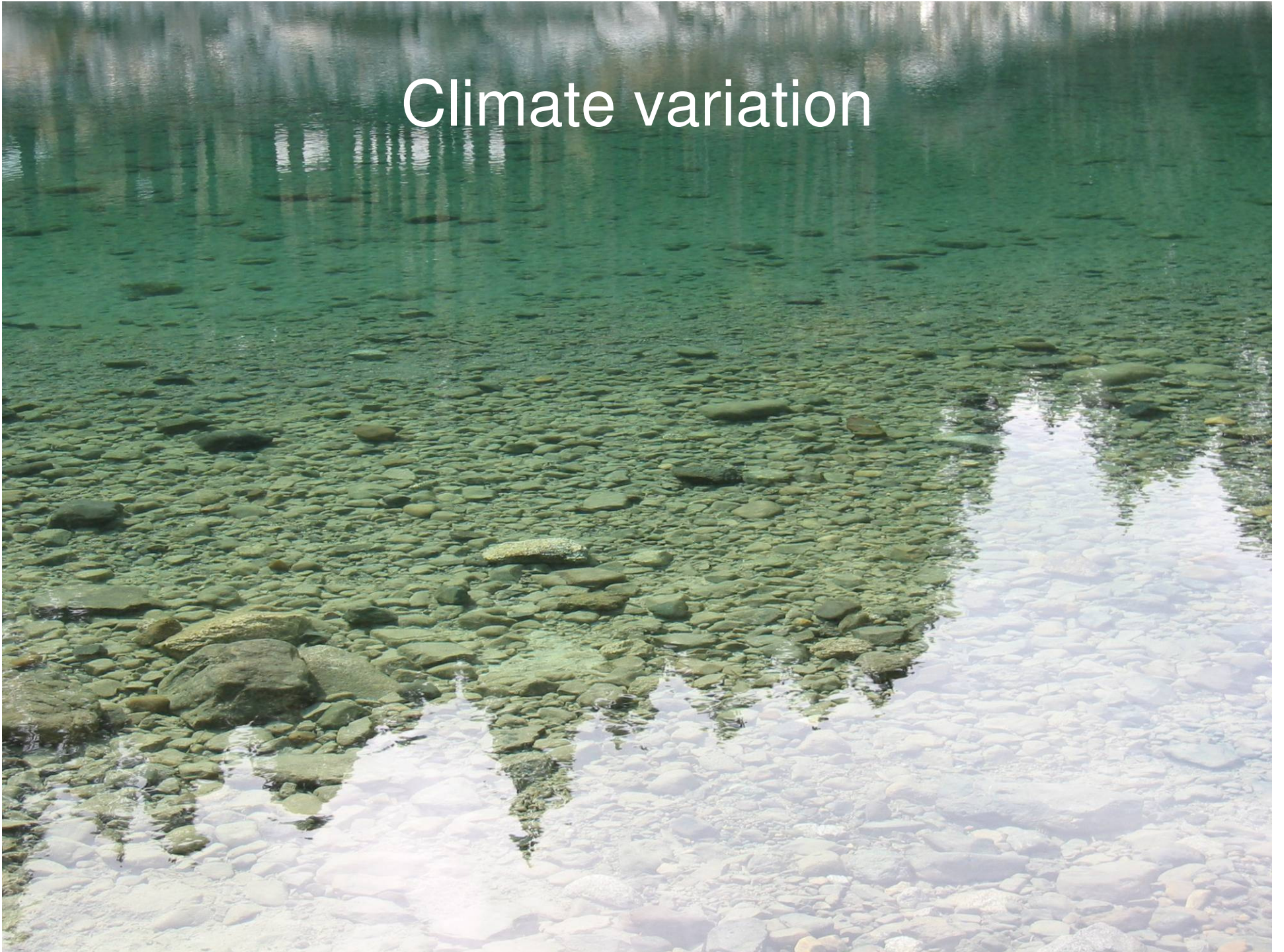
Source: Fish Passage Center

Sockeye salmon runs

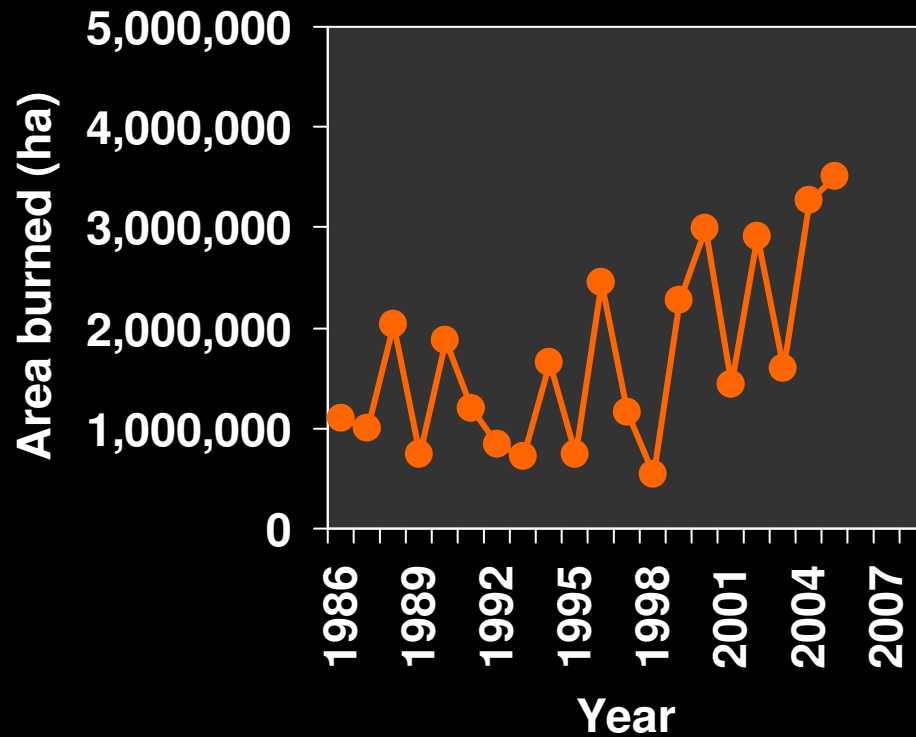


Source: Fish Passage Center

Climate variation

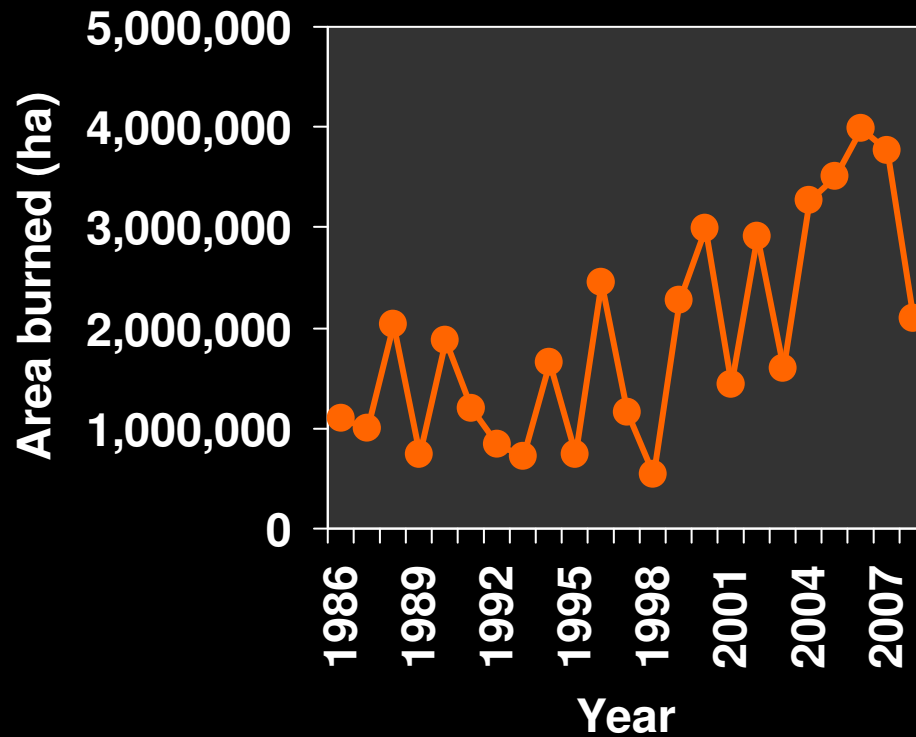


Increasing area burned



Source: National Interagency Fire Center

Increasing area burned



Source: National Interagency Fire Center



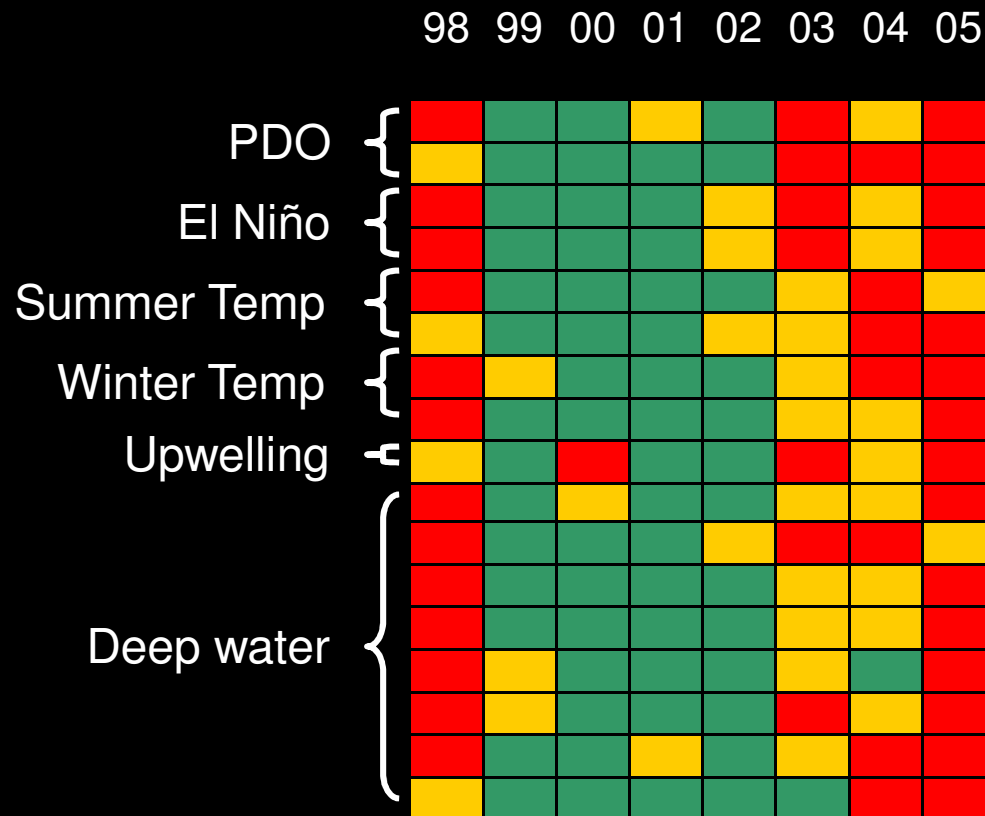
Pointer 43°59'42.38" N 110°22'27.17" W elev 7318 ft Streaming

© 2009 Tele A

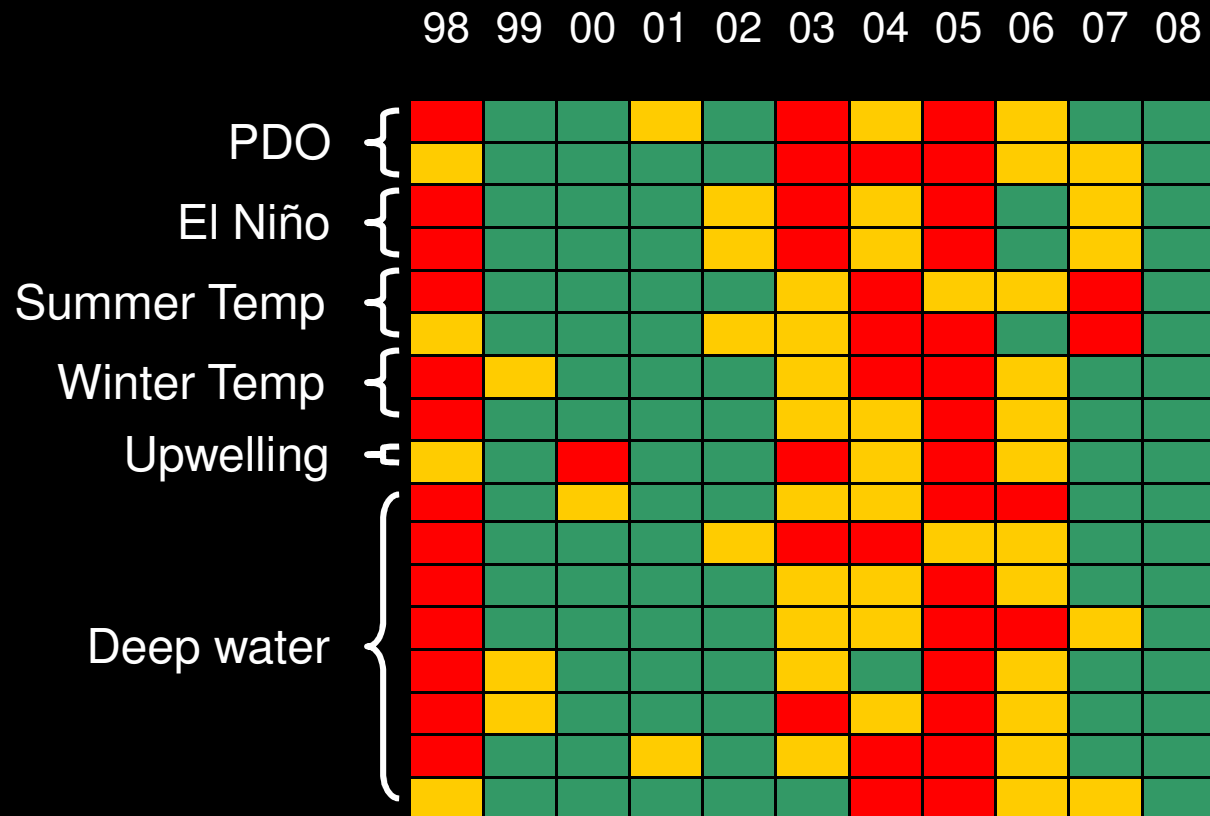
Ocean Conditions



Ocean Conditions



Ocean Conditions



Policy updates



Native tribes and Columbia River dams

- Native American tribes agree not to pursue legal action against dams for 10 years
- Bonneville power administration agrees to spend US\$900 million on salmon habitat restoration





Hatchery fish policy

- Previous decision: include hatchery fish in salmon population analyses
- Set aside by the courts

Summary

- Past land and water management constrains salmon resilience
- Competing needs for water force political compromises in salmon management
- Focus on strategies to increase salmon resilience to climate change