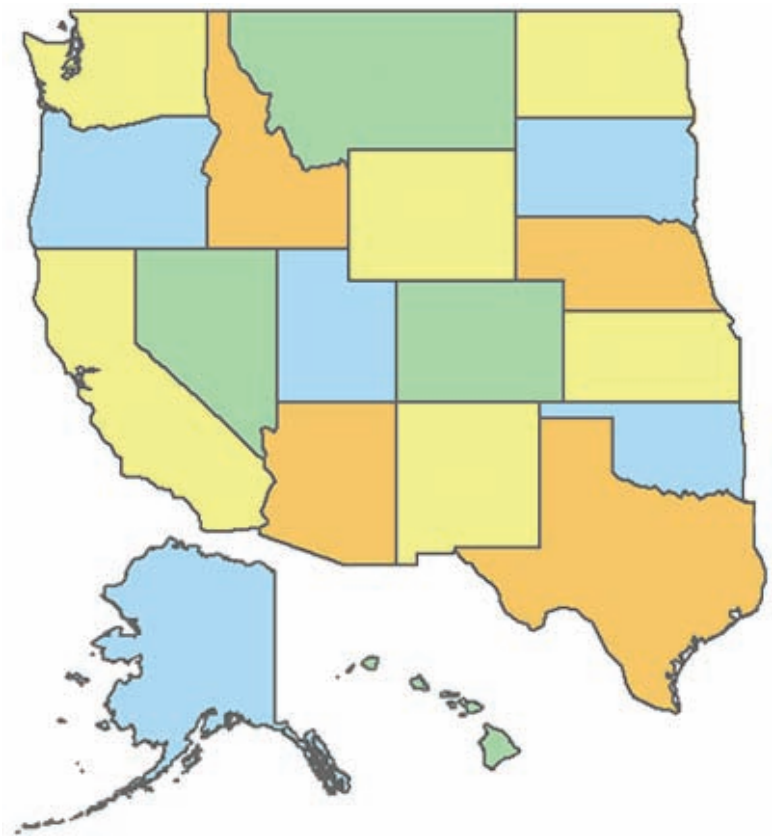
WESTERN GOVERNORS' ASSOCIATION

Water Needs and Strategies for a Sustainable Future

Oklahoma Governor's Water Conference

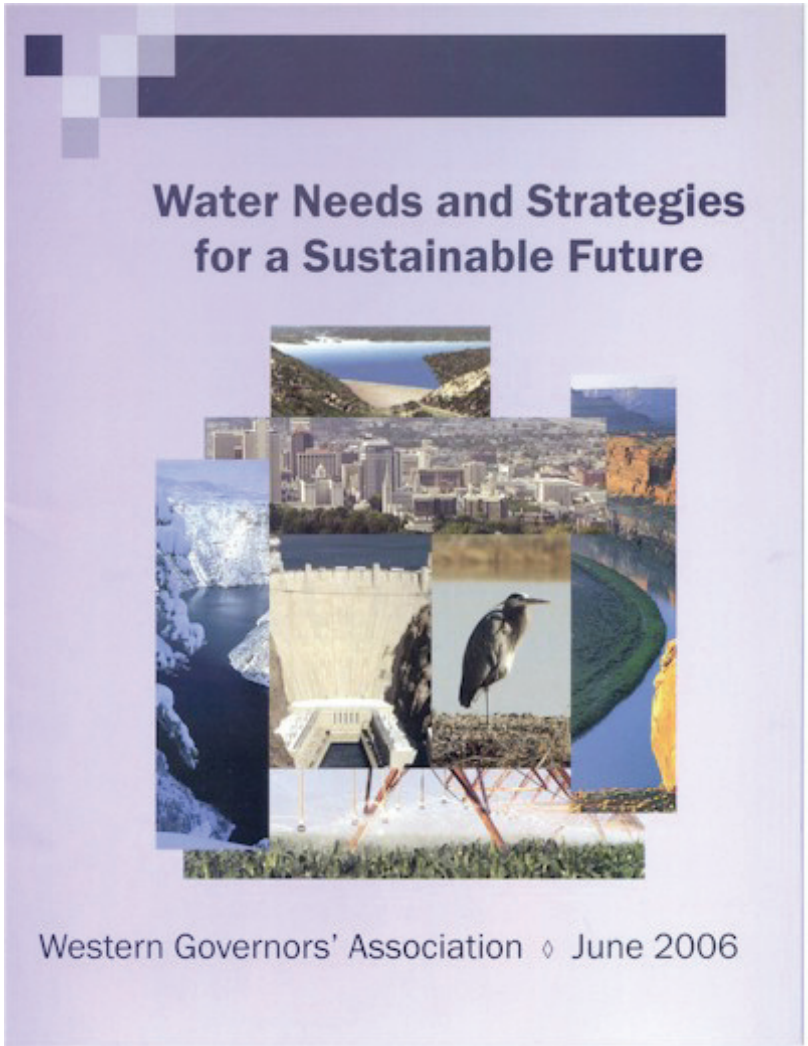
Shaun McGrath
Western Governors' Association
November 14, 2006

Western Governors' Association



- WGA represents the Governors of 19 States and 3 U.S. Flag Pacific Islands
- We address important policy and governance issues in the West, advance the role of the Western states in the federal system, and strengthen the social and economic fabric of the region
- We develop and carry out programs in the areas of natural resources, the environment, human services, economic development, international relations and state governance.

Water Needs and Strategies for a Sustainable Future

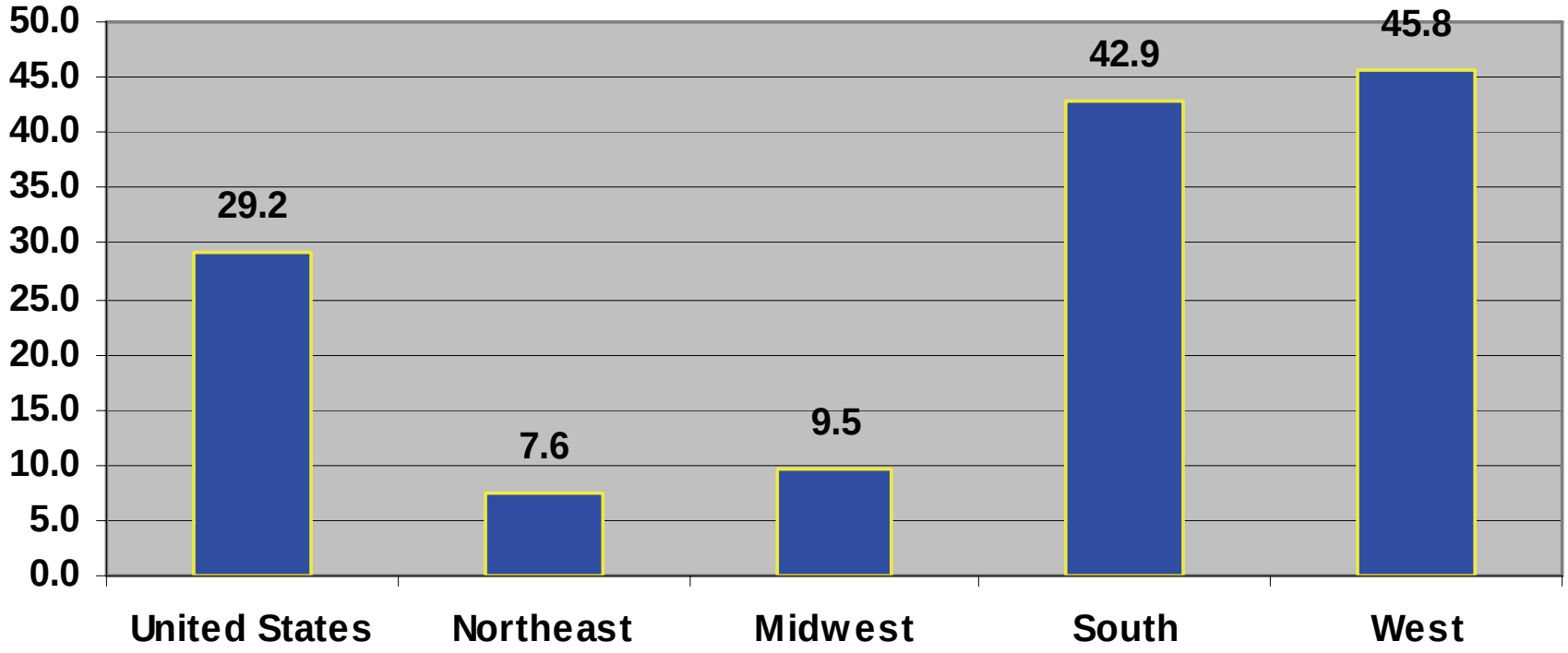


- Adopted by WGA Governors June 2006

Water Needs and Strategies for a Sustainable Future

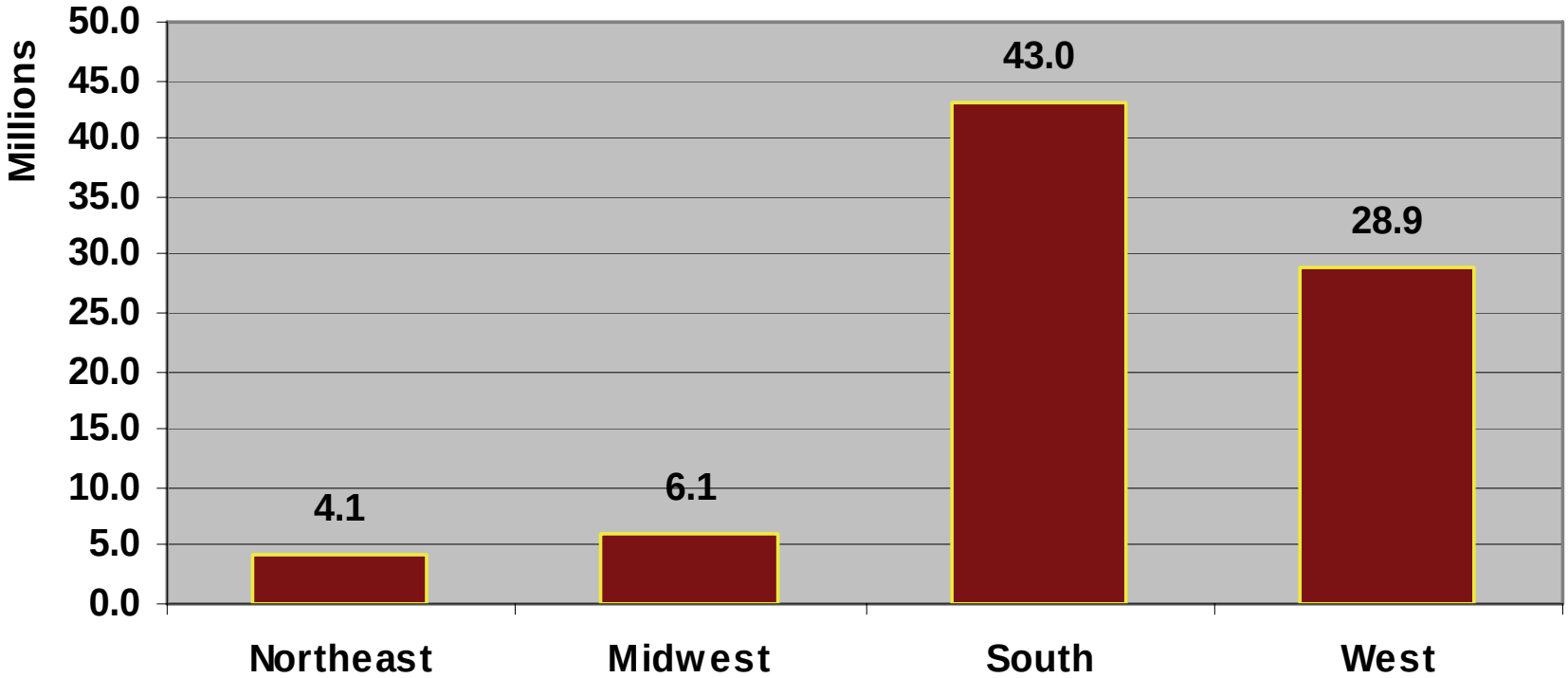
1. Water Policy and Growth
2. State Needs and Strategies to Meet Future Demands
3. Water Infrastructure Needs
4. Resolution of Indian Water Rights
5. Preparation for Climate Change Impacts
6. Protecting Aquatic Species under the Endangered Species Act

Figure 1: Interim Projections: Percent Change in Population by Region of the United States, 2000 to 2030



Source: U.S. Census Bureau, Population Division, Interim State Population Projections, 2005

Figure 2: Interim Projections: Numerical Change in Population by Region of the United States, 2000 to 2030



Source: U.S. Census Bureau, Population Division, Interim State Population Projections, 2005

Population Growth OKLAHOMA

U.S. Census Bureau Projections

2000	3.45 million
2005	3.52 million
2010	3.59 million
2015	3.66 million
2020	3.74 million
2025	3.82 million
2030	3.91 million

- 460,000 increase or 13.4% over 30 years
- 2000 population of Oklahoma City was 506,000.

Population Growth in the West

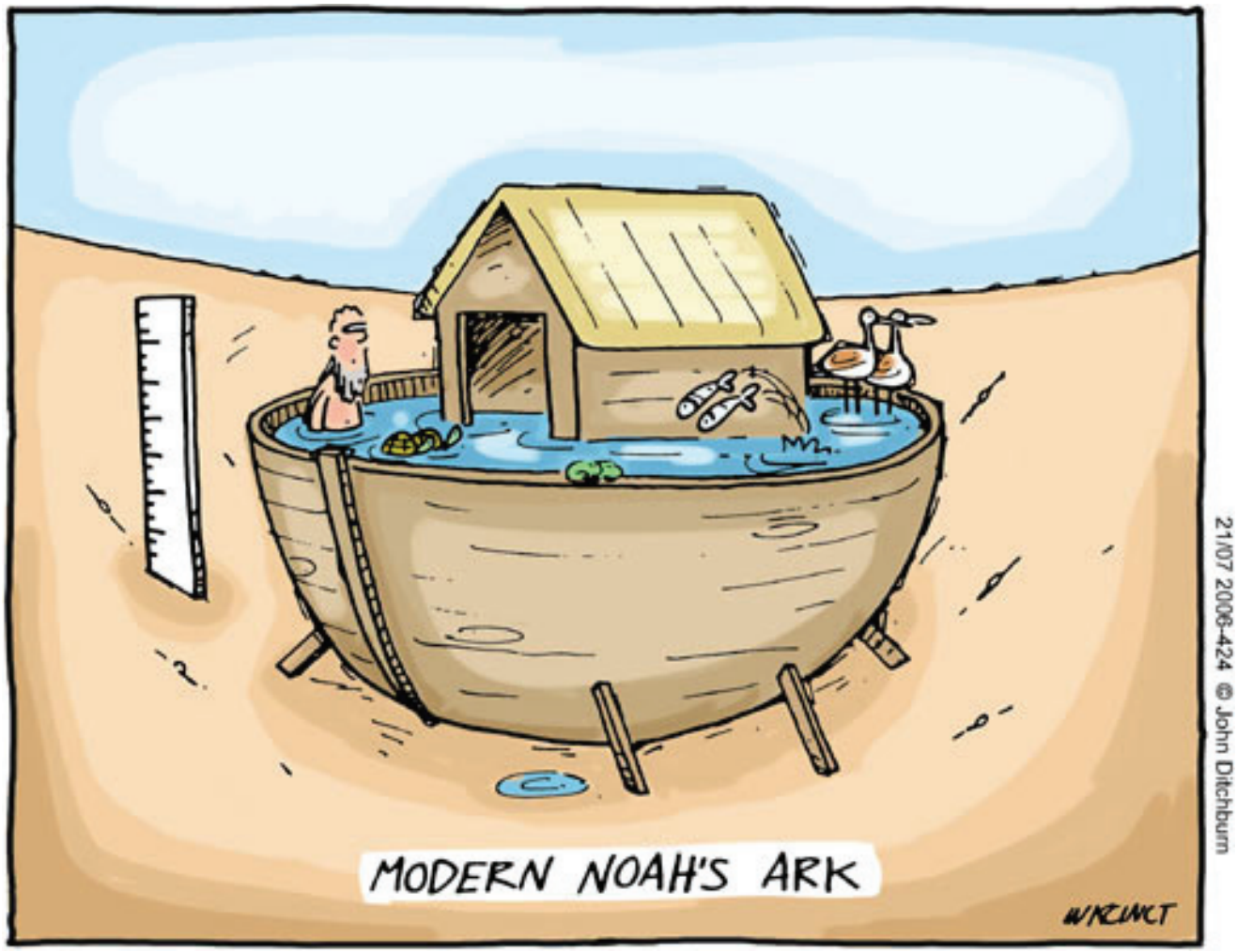
U.S. Census Bureau

State	2000	2030	Difference
KS	2.69	2.94	250,000
TX	20.9	33.3	13 million
NM	1.81	2.10	290,000
ID	1.29	1.97	680,000
CO	4.3	5.79	1.49 million
AZ	5.13	10.7	5.57 million
NV	1.99	4.28	2.29 million
WA	5.89	8.62	2.73 million
OR	3.42	4.83	1.41 million
CA	33.87	46.44	12.6 million

1. Water Policy & Growth Recommendations

- States should identify water needs for future growth
- States should facilitate watershed-focused planning that balances growth with other water demands
- States should consider local and watershed plans re: growth management with transfers, new uses, and changed use
- Consider impacts from growth that rely on water transfers (& seek alternatives when appropriate)

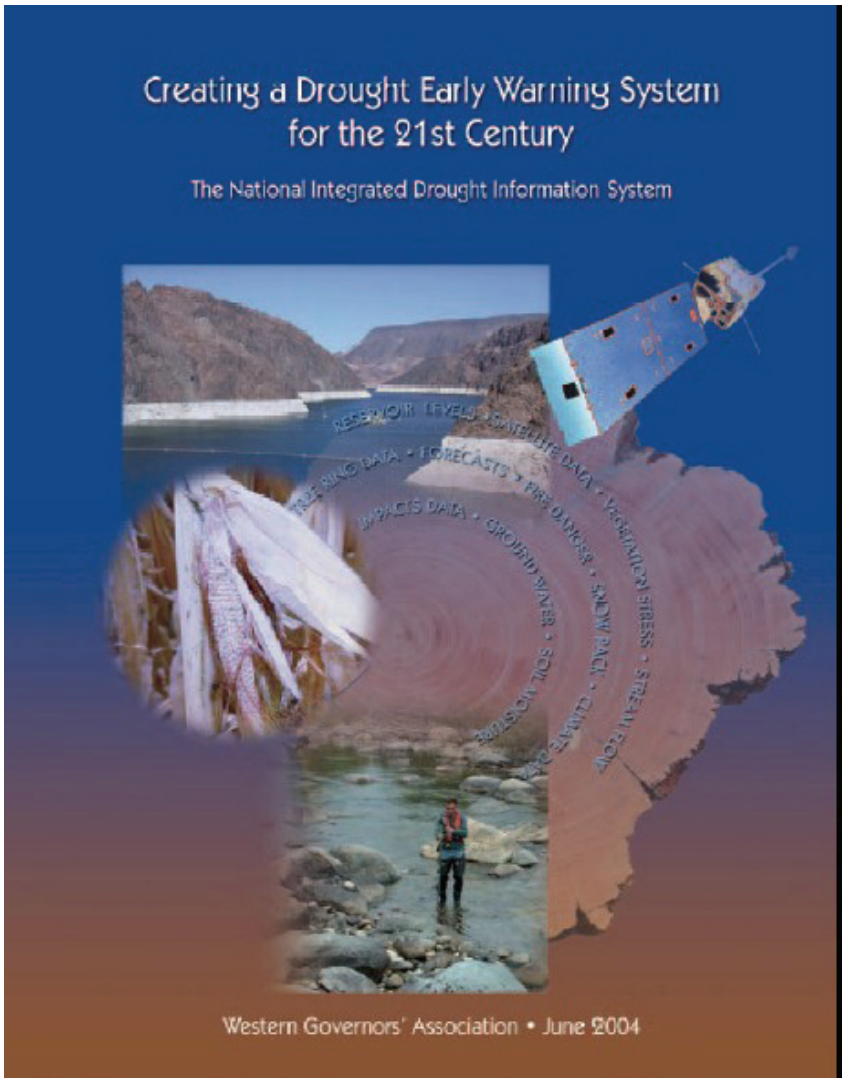
2. State Needs and Strategies to Meet Future Demands



2. State Needs and Strategies to Meet Future Demands Recommendations

- Develop & implement “strong” State Water Plans!
- Increase Federal & State water data gathering
- Focus research on practical applications of new technologies
- Consider relative merits of augmentation technologies
- National Integrated Drought Information System (NIDIS)

National Integrated Drought Information System (NIDIS)



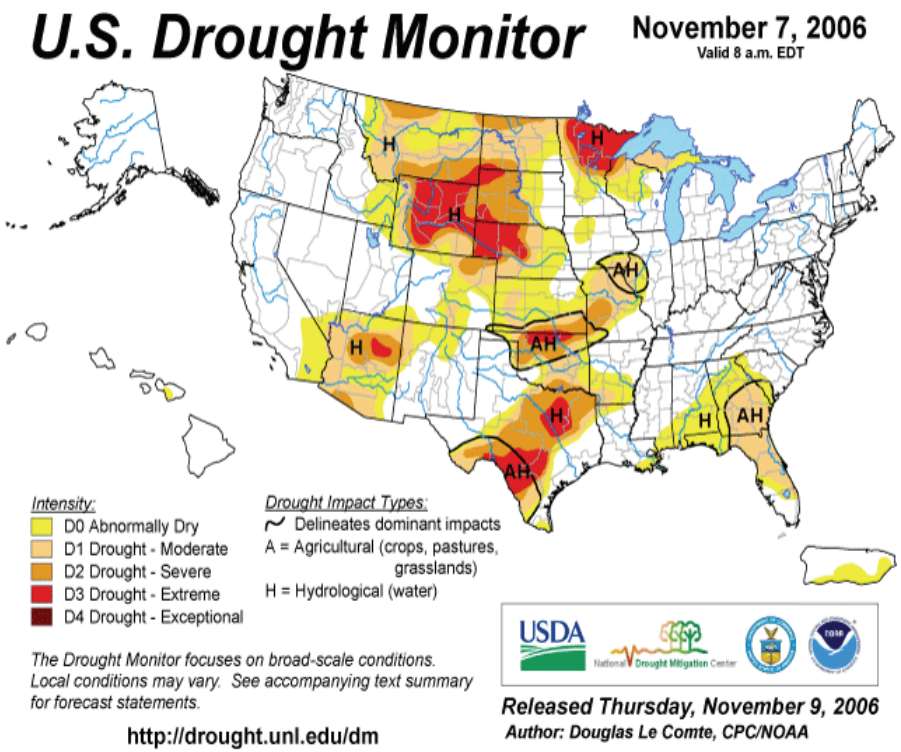
- H.R. 5136

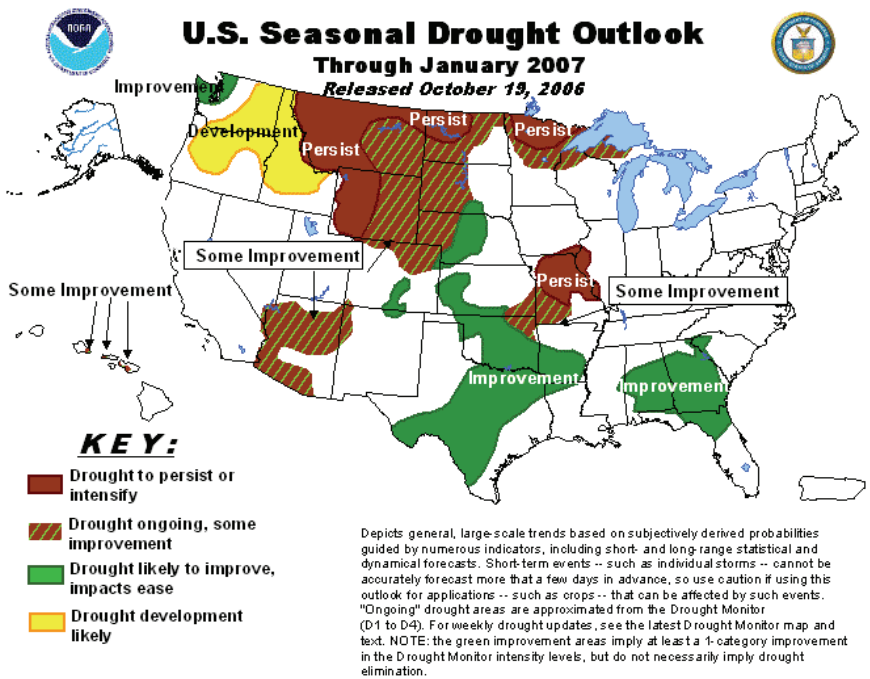
Rep. Hall (R-TX) & Udall (D-CO)

- S. 2751

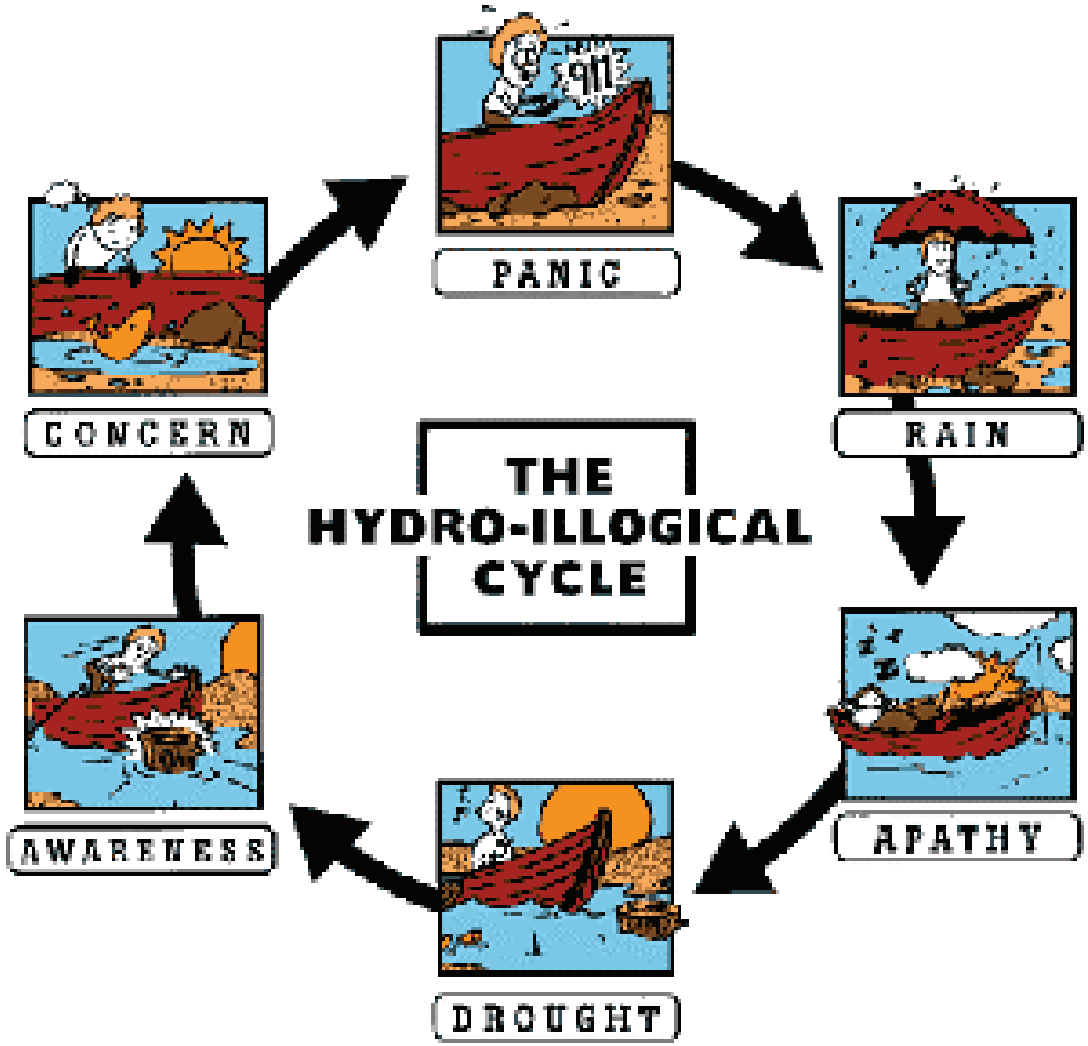
Sen. Nelson (D-NE) & Domenici (R-NM)

National Integrated Drought Information System (NIDIS)

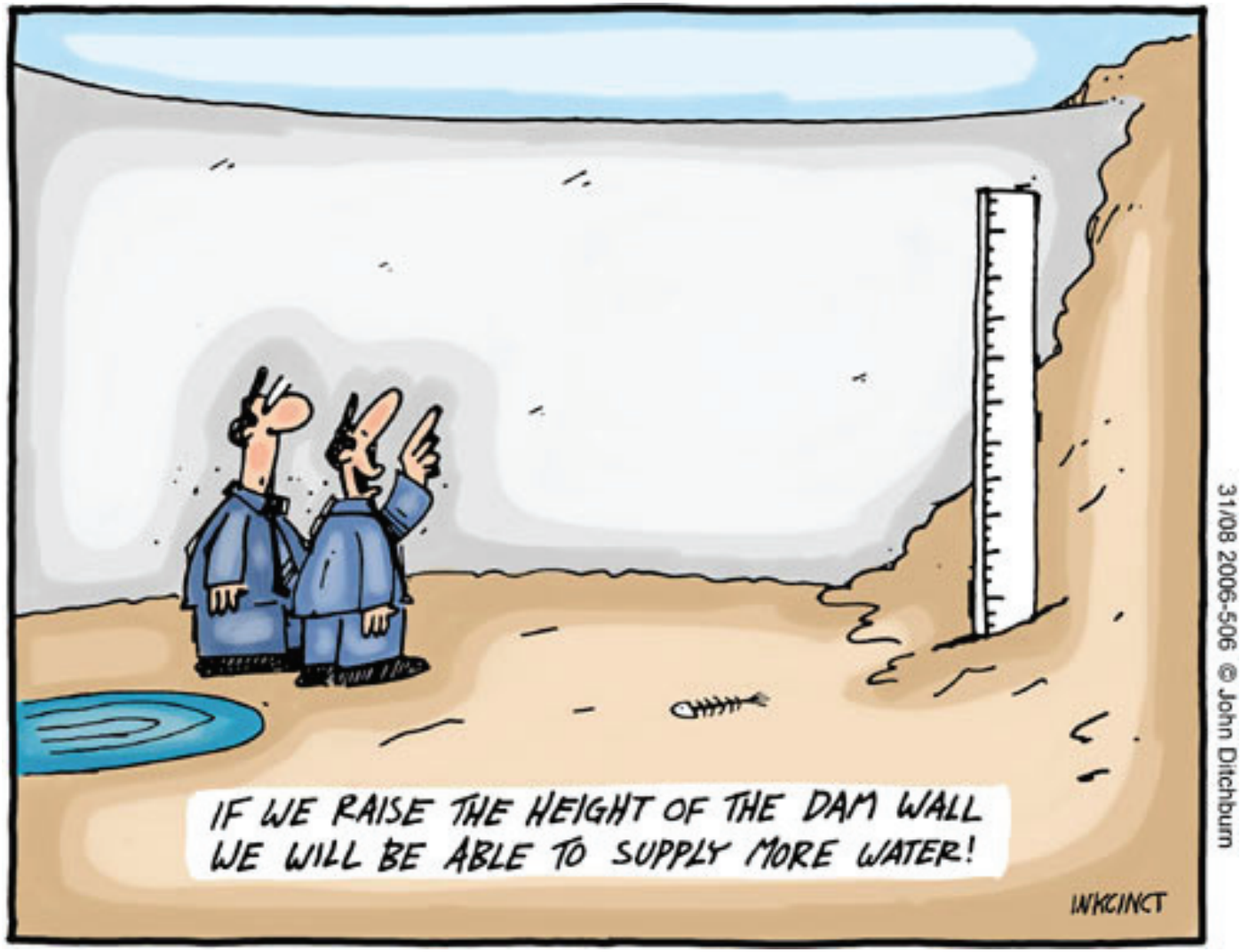




U.S. National Drought Policy



3. Water Infrastructure Needs



3. Water Infrastructure Needs Recommendations

- Support continued and stable SRF funding
- Urge Congress to increase appropriations from Reclamation Fund to BoR projects
- Urge Congress to enact WRDA to authorize important Western projects
- Watershed planning, i.e. source-water protection; stormwater; and NPS
- Coalition building to support infrastructure funding

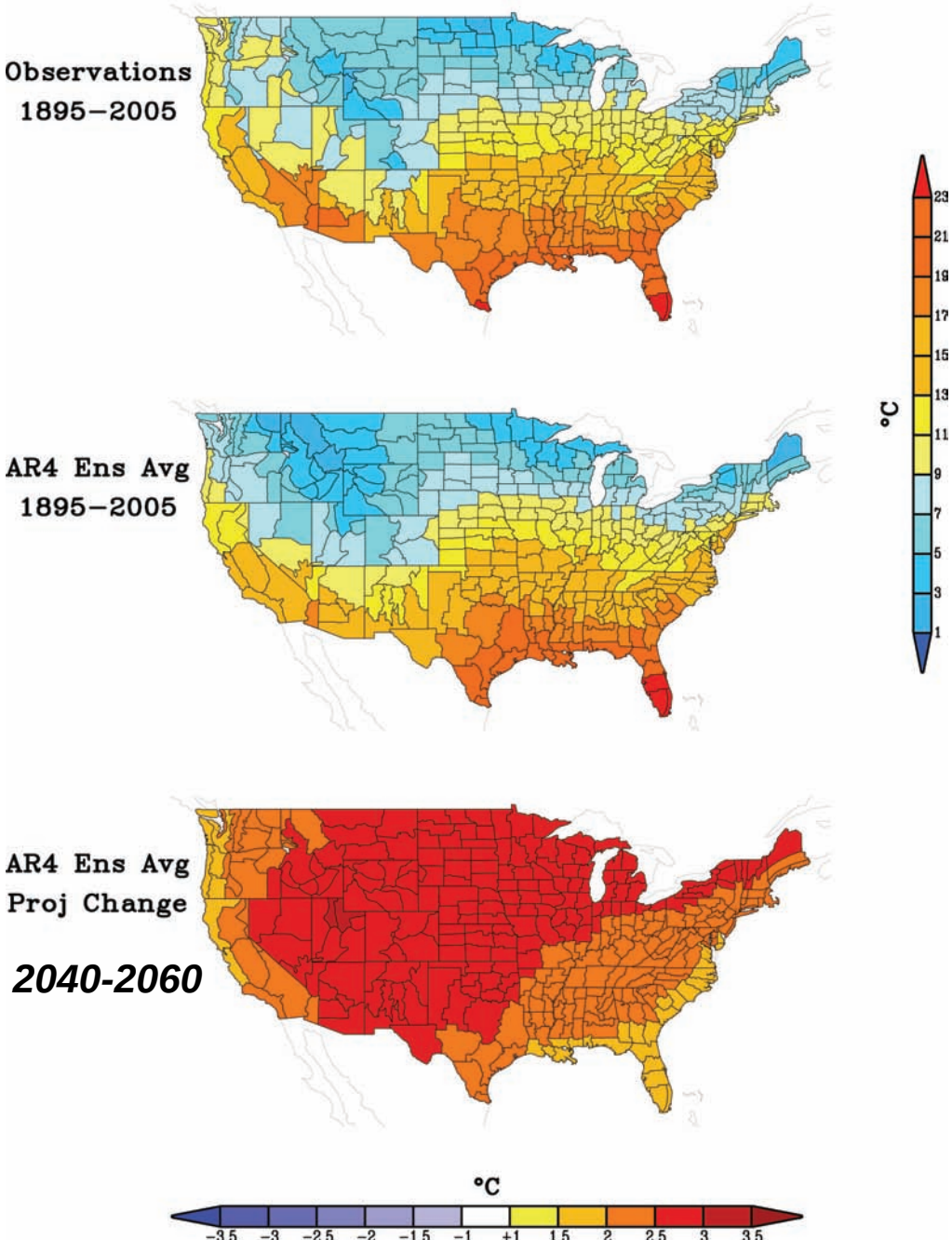
4. Resolution of Indian Water Rights Recommendations

- Reaffirm WGA resolution that supports the negotiated settlement of Indian water right claims
- Engage Congress on federal policy toward Indian Water right claims and funding of settlements
- Engage DoI on their programmatic and trust responsibilities

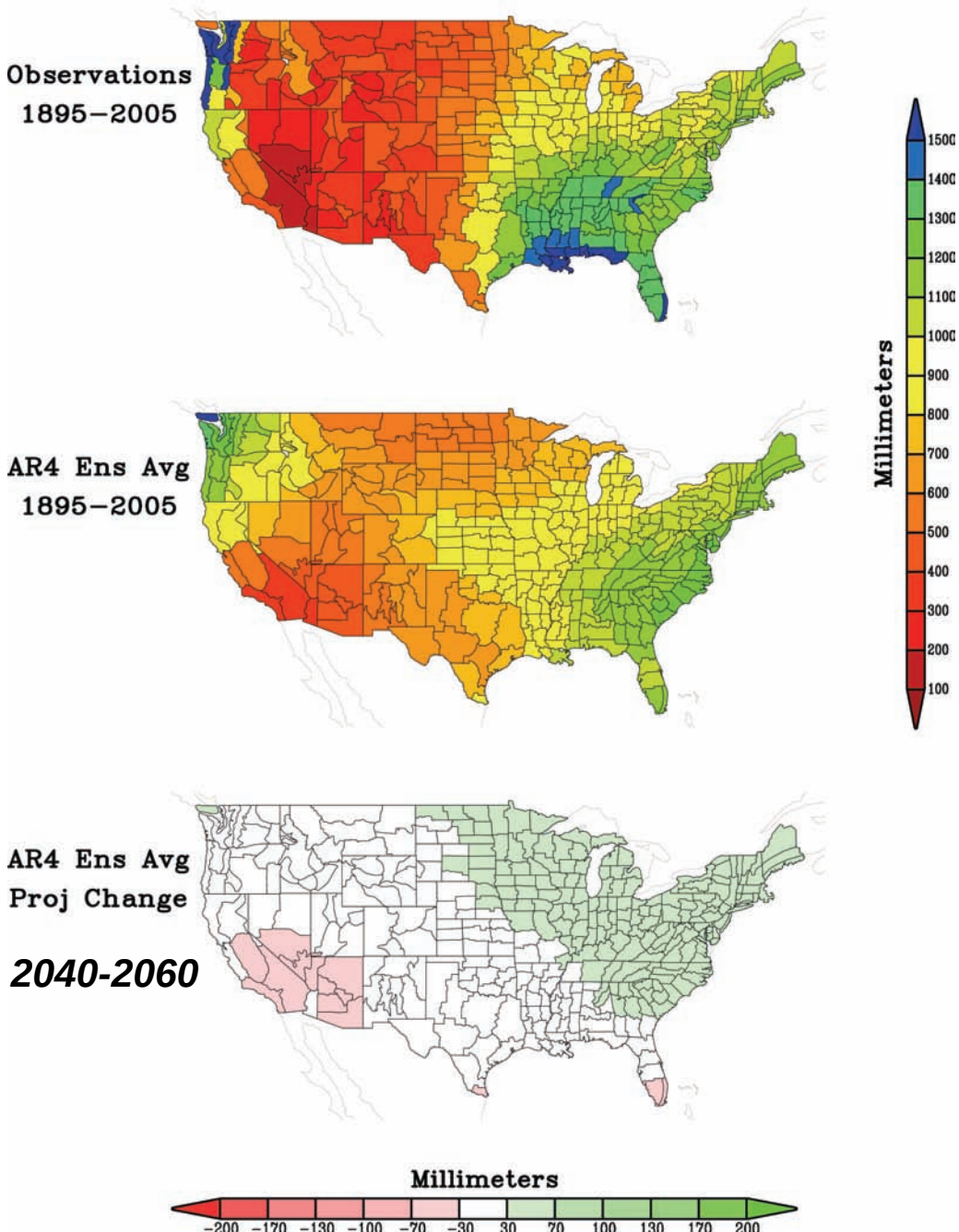
5. Preparation for Climate Change Impacts Recommendations

- Data Collection
- Improved Prediction, Modeling, and Impact Assessment
- State Planning
  - State climate assessments
  - Plans include climate change scenarios
  - States should work with local governments
  - Revise legal framework as necessary
- Ongoing coordination & information sharing

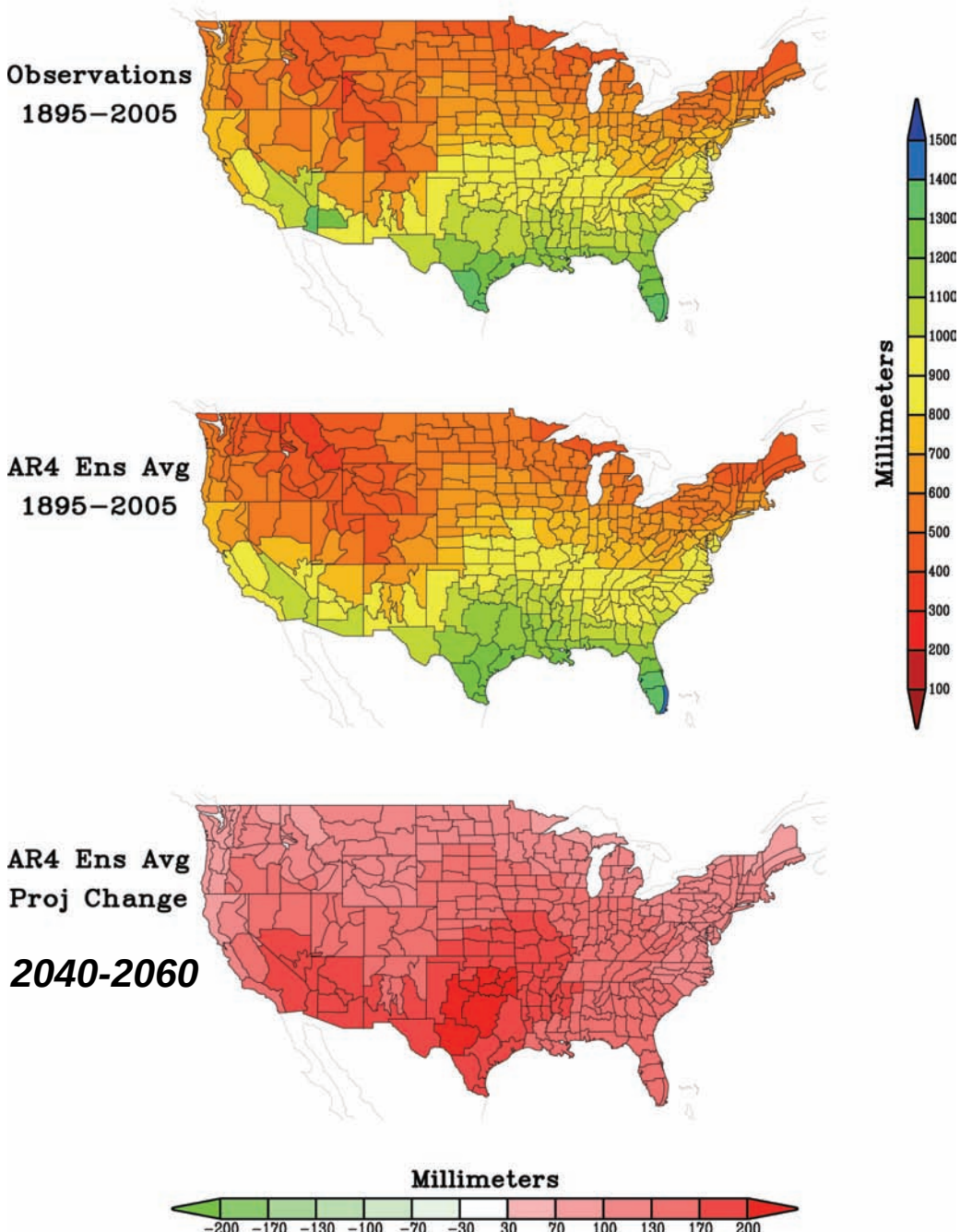
Annual Temperature



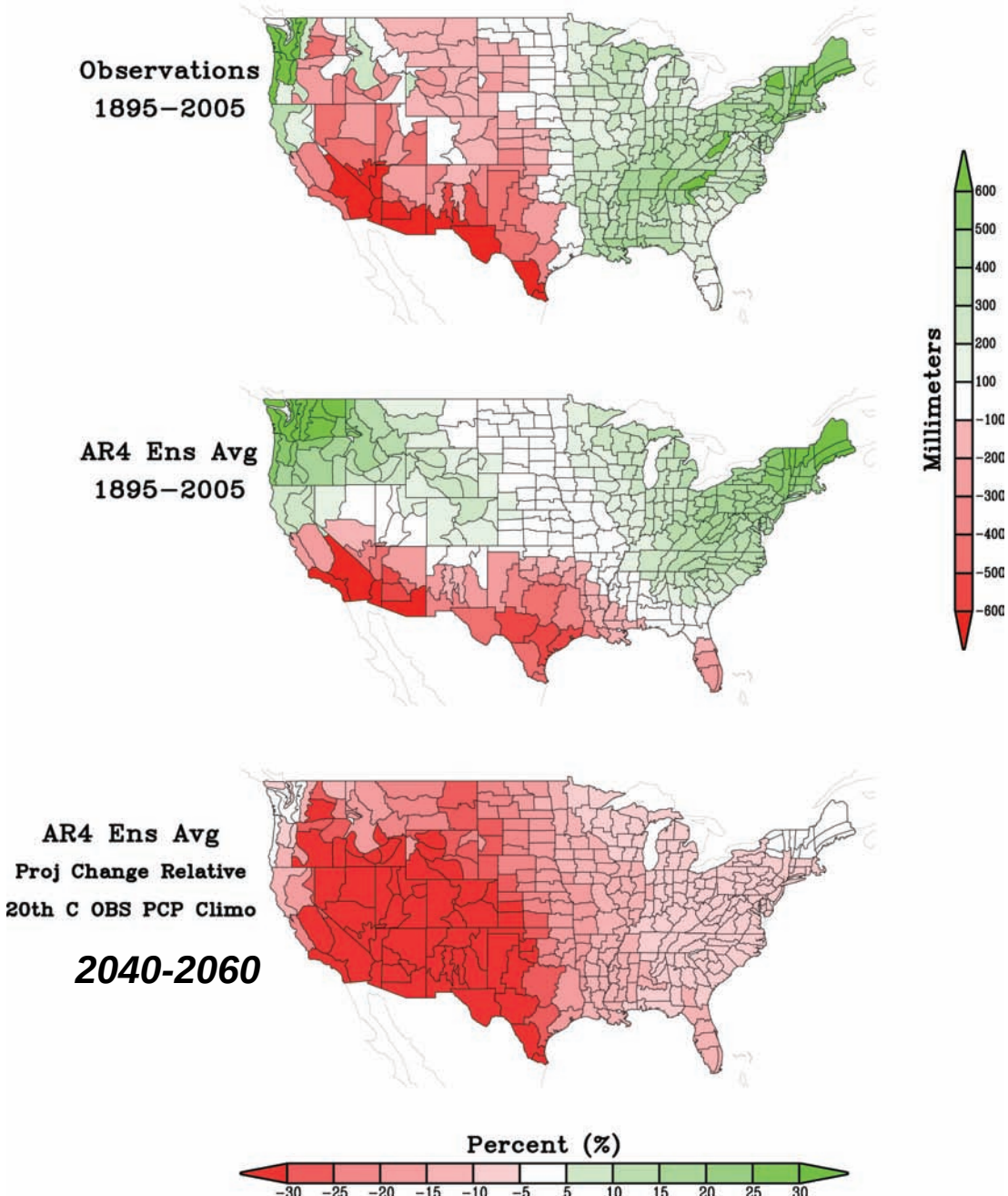
Annual Precipitation

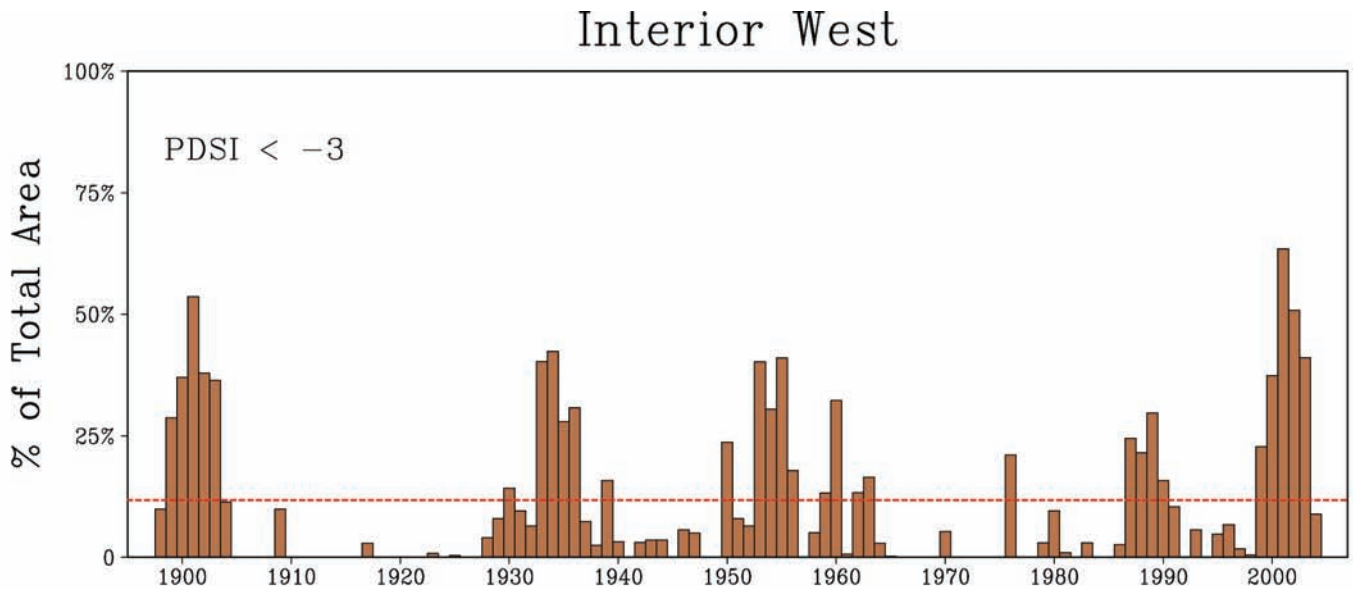


Annual Potential Evapotranspiration

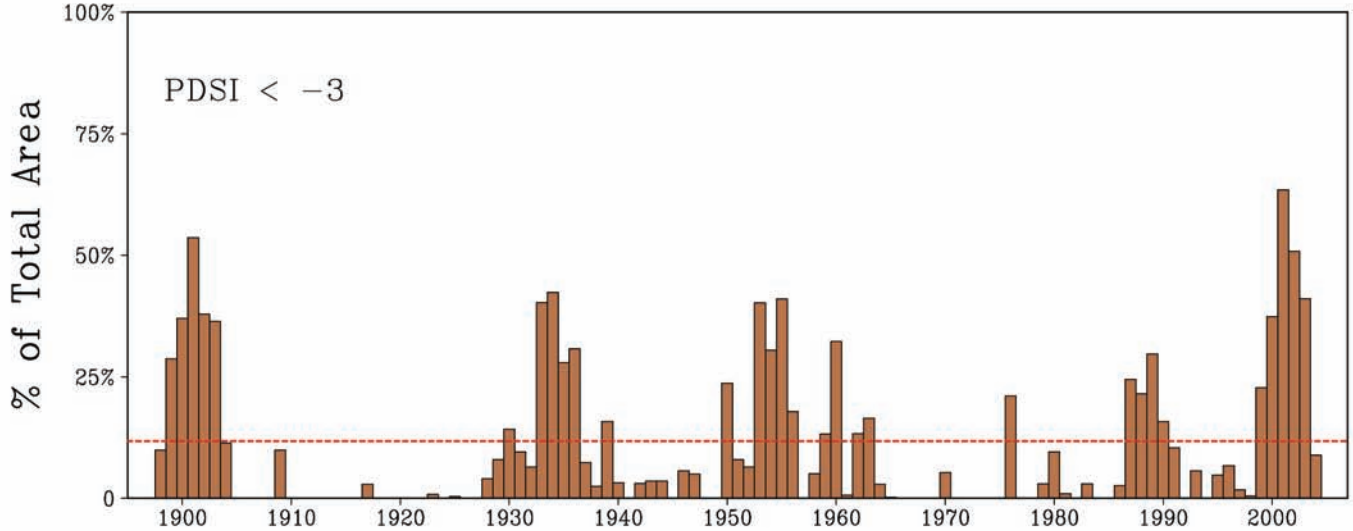


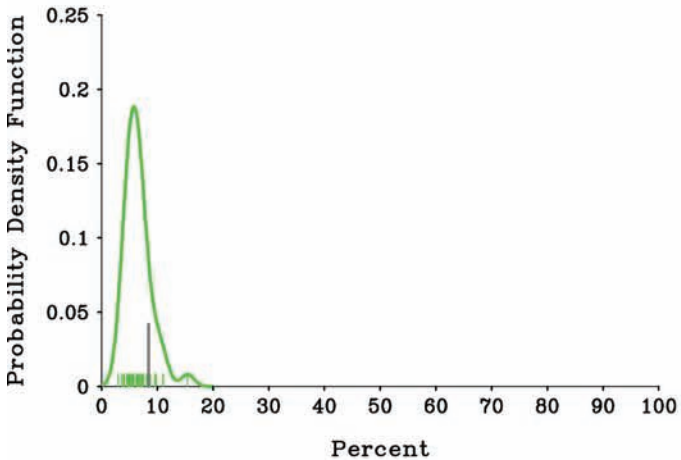
Annual Precipitation minus Annual Potential Evapotranspiration



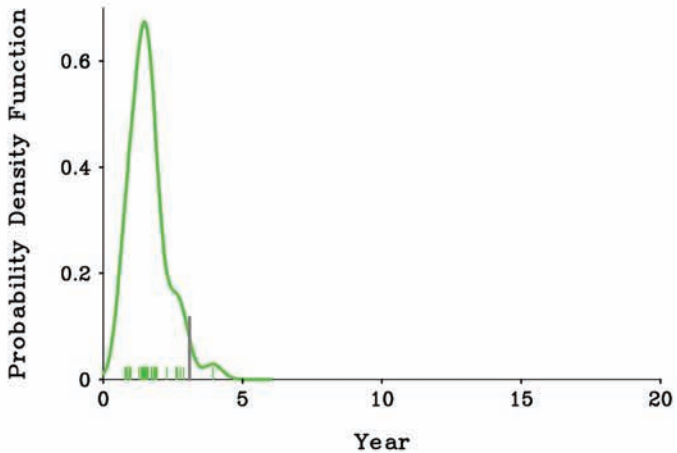

Interior West
PDSI < −3
% of Total Area
100%
75%
50%
25%
0
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000

Interior West



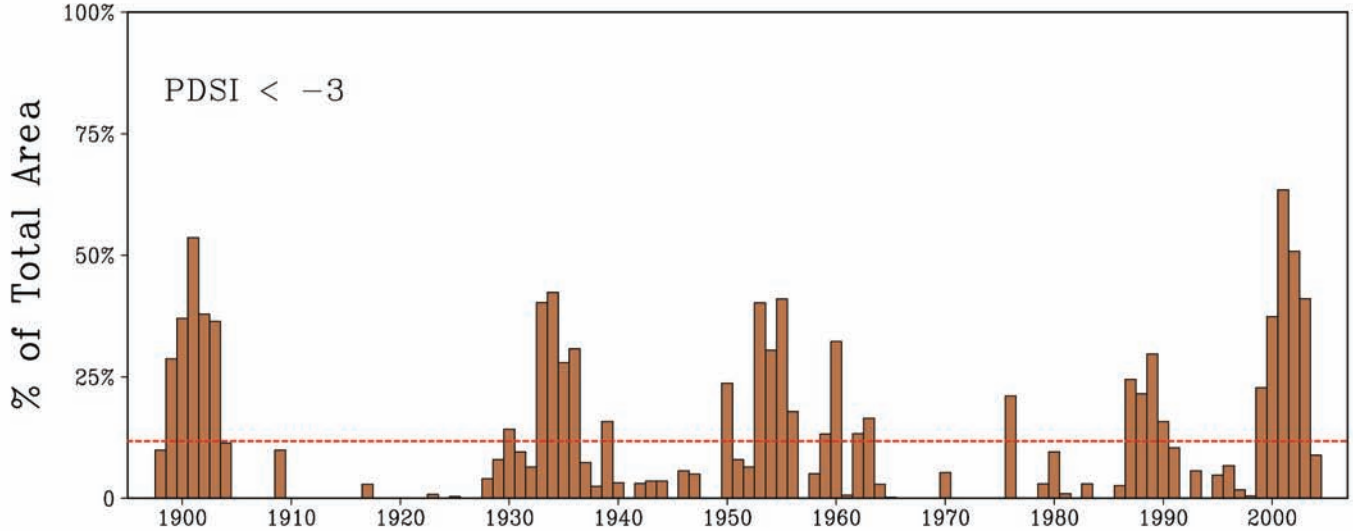


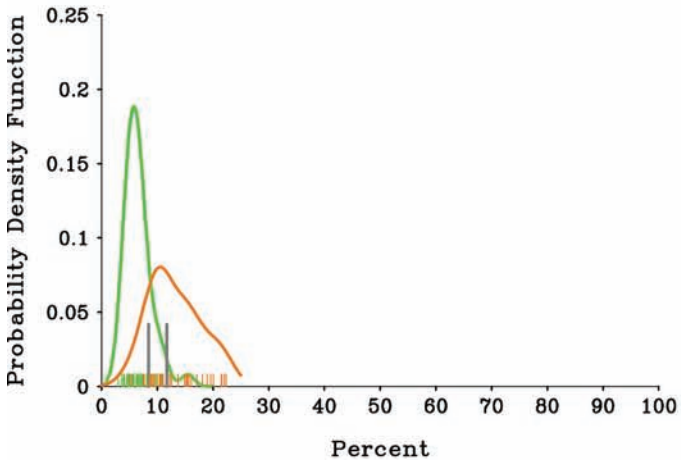
early 20th C
6.5%



early 20th C
1.6yrs

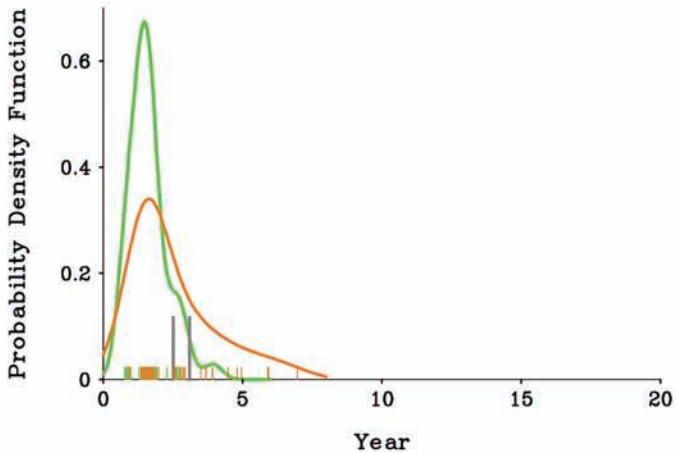
Interior West





early 20th C 6.5%

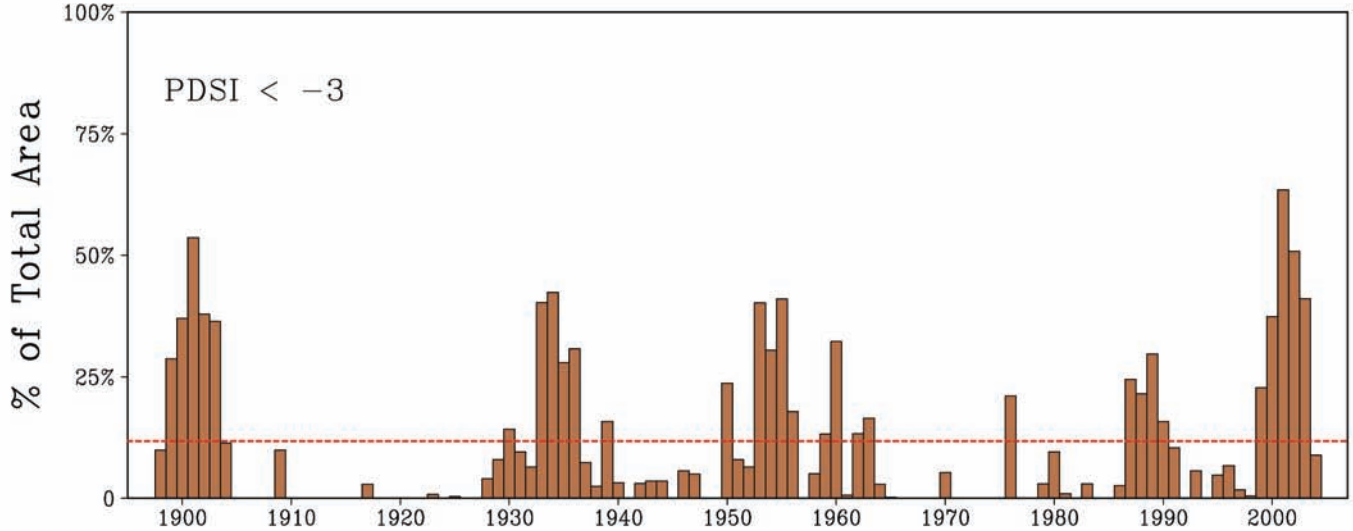
late 20th C 13.2%

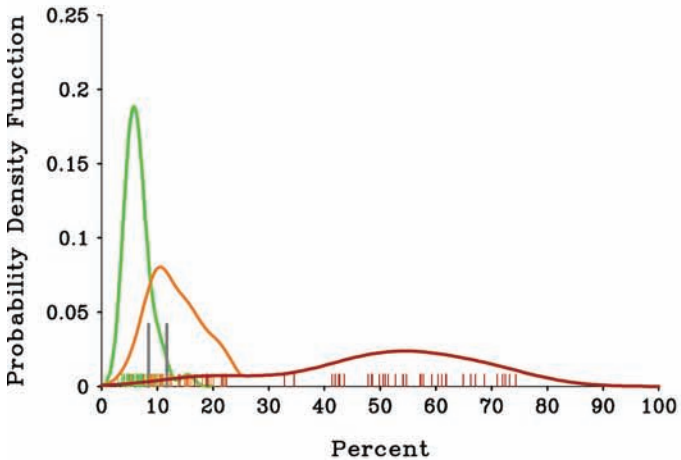


early 20th C 1.6yrs

late 20th C 2.5yrs

Interior West

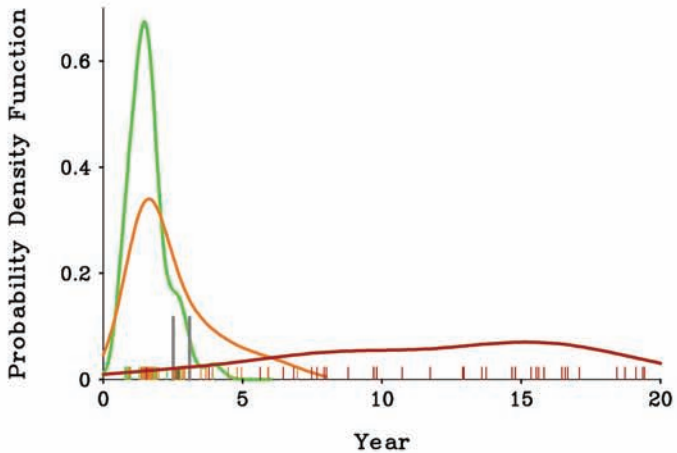




early 20th C 6.5%

late 20th C 13.2%

early 21st C 50.2%

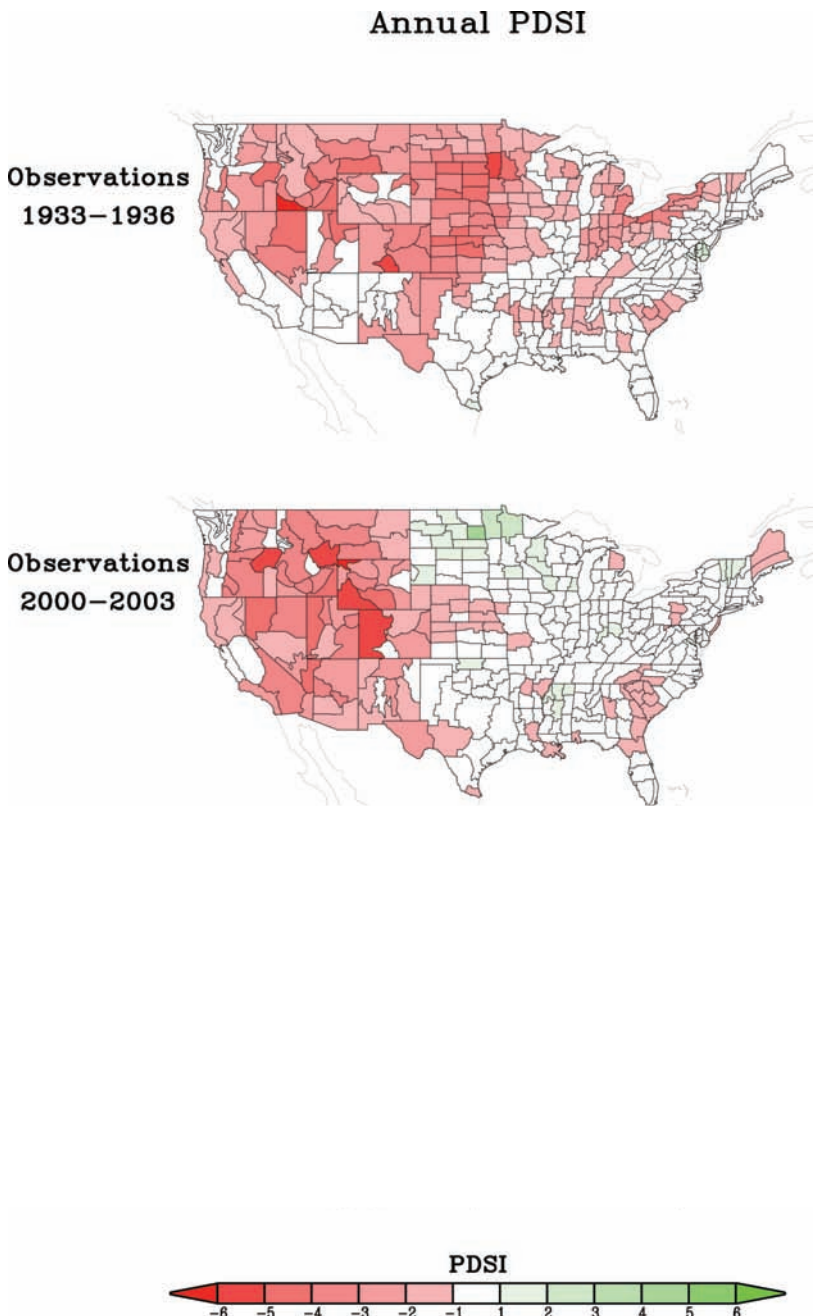


early 20th C 1.6yrs

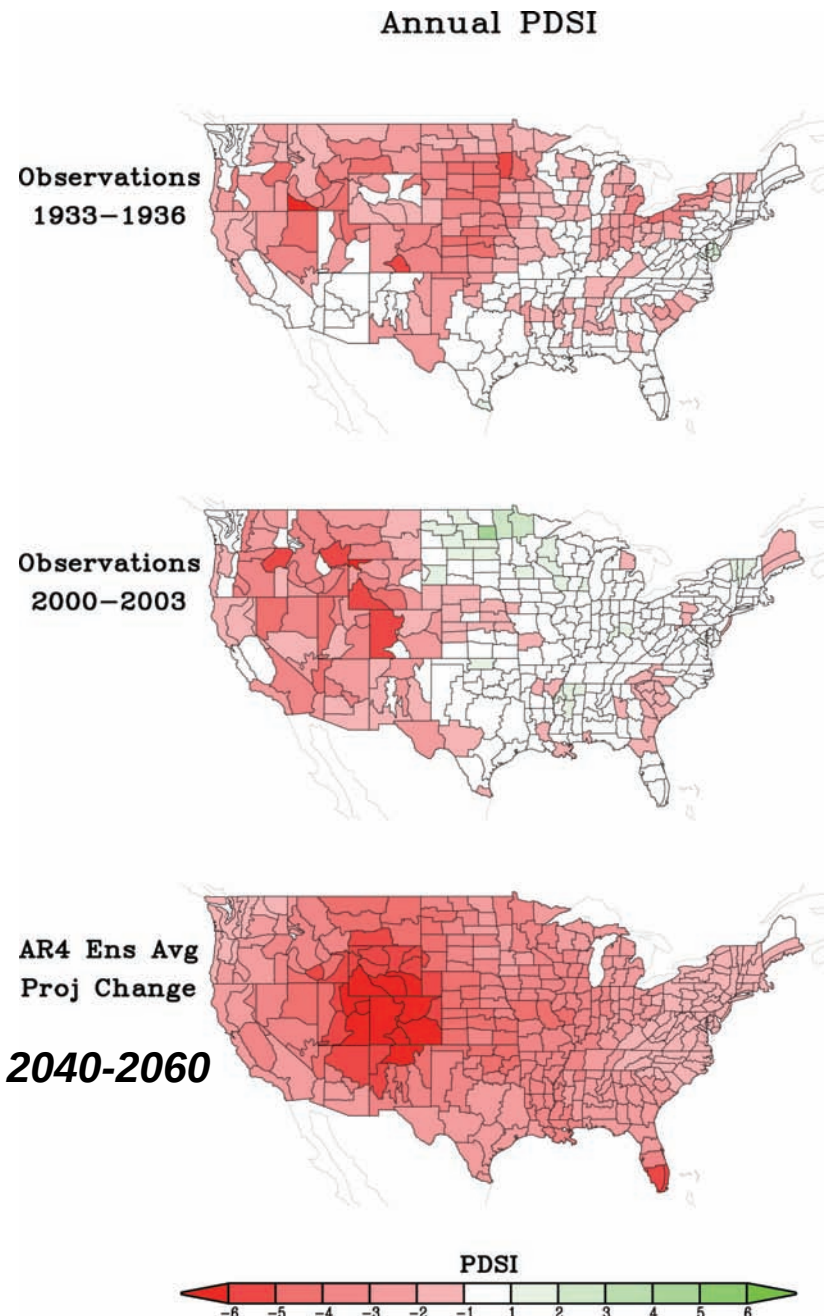
late 20th C 2.5yrs

early 21st C 12yrs

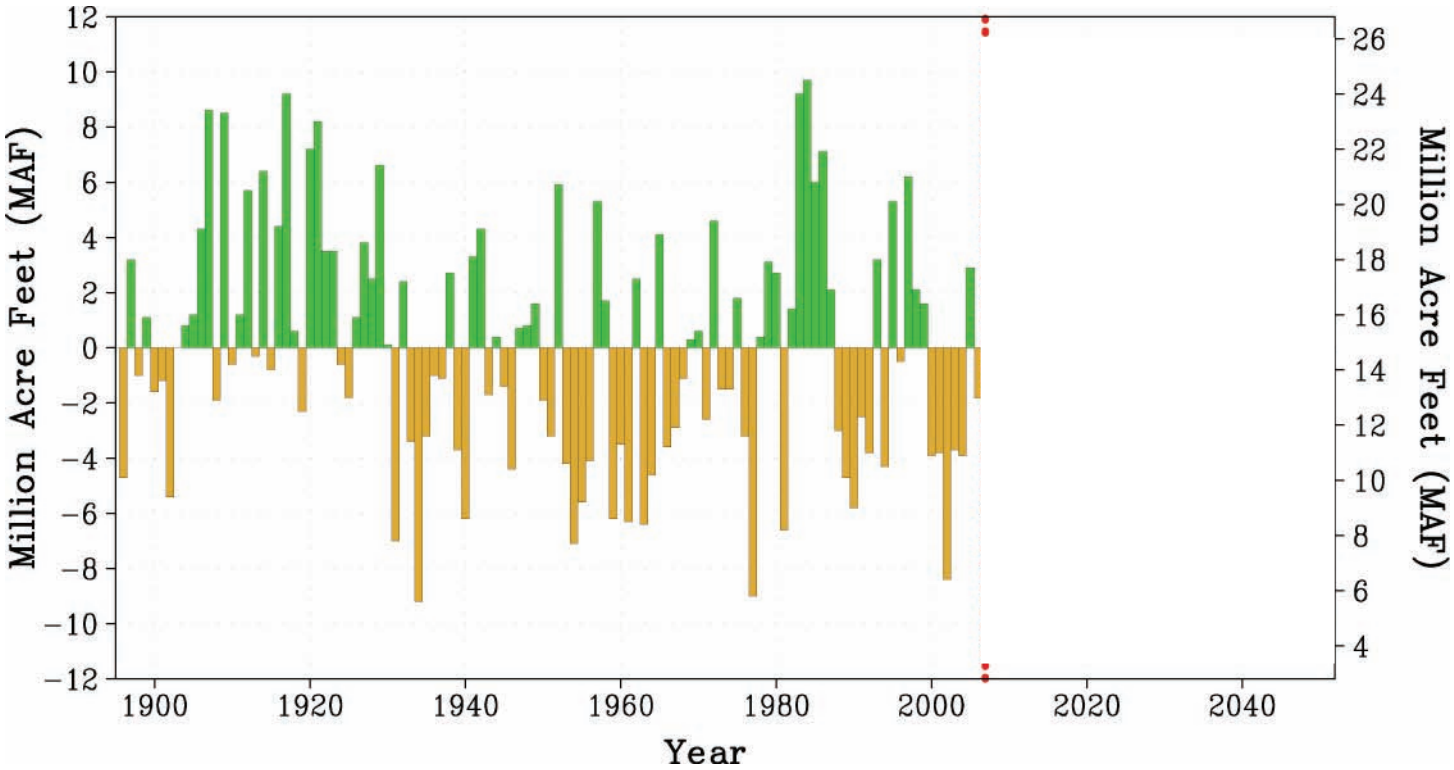
Drought @2050 vs Notorious Recent Historical Droughts

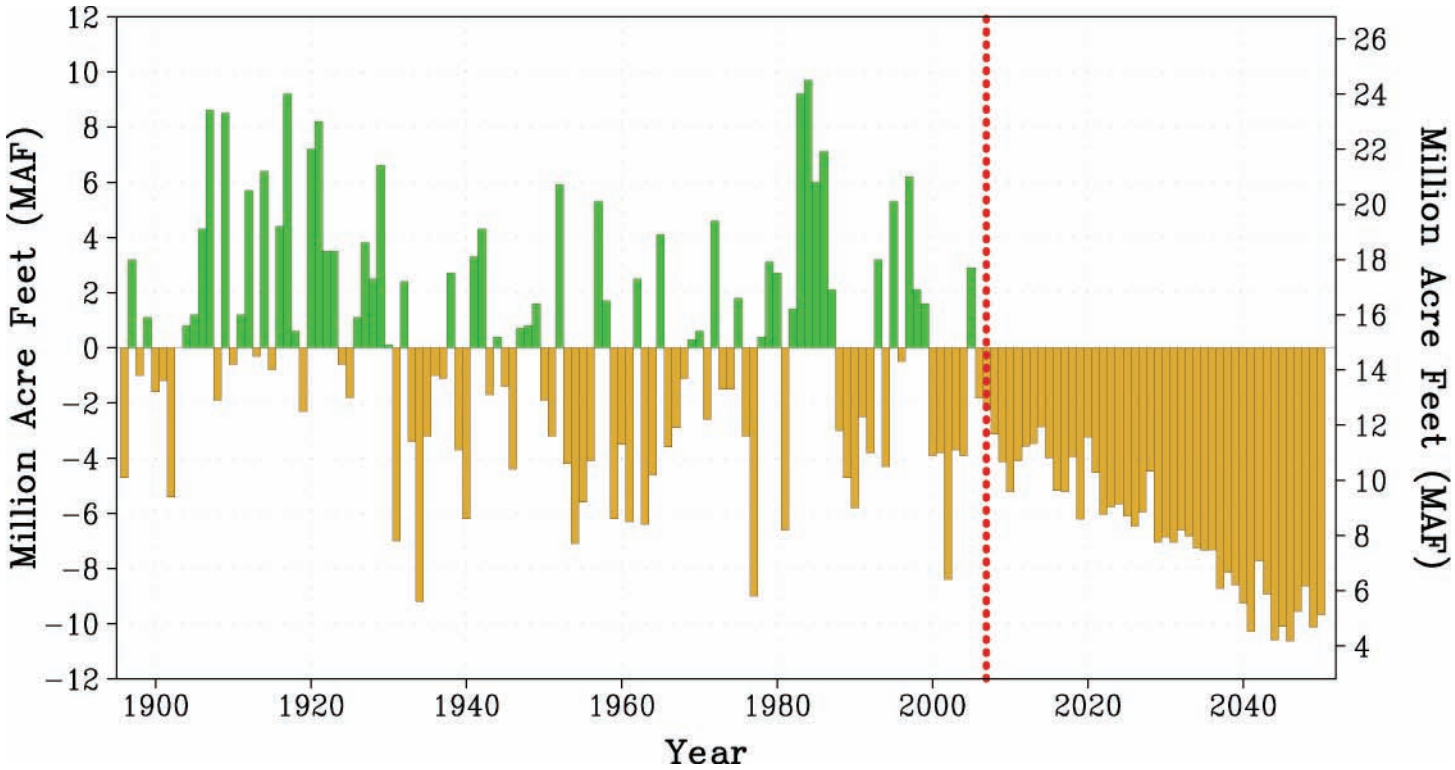


Drought @2050 vs Notorious Recent Historical Droughts



Projected Streamflow Change at Lees Ferry


Million Acre Feet (MAF)
Million Acre Feet (MAF)
Year
12
10
8
6
4
2
0
−2
−4
−6
−8
−10
−12
26
24
22
20
18
16
14
12
10
8
6
4
1900
1920
1940
1960
1980
2000
2020
2040


Million Acre Feet (MAF)
Million Acre Feet (MAF)
Year
12
10
8
6
4
2
0
−2
−4
−6
−8
−10
−12
26
24
22
20
18
16
14
12
10
8
6
4
1900
1920
1940
1960
1980
2000
2020
2040

Key Points

- *Air temperatures are virtually certain to warm further in coming decades*
- *Warmer air temperatures alone would greatly increase drought severity and duration*
- *Warmer air temperatures would probably severely reduce the quantity of water resources*
- *It is unlikely that precipitation changes will compensate the surface water losses by evapotranspiration*

- *The semi-arid and arid West is found to be at greatest risk. It is likely that Lees Ferry flow will decline below 20th Century consumptive uses within a mere 25 years*

6. Endangered Species Act Recommendations

- Establish a protocol for implementing ESA Section 2(c)(2):

  "Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species."

- Identify tools under state water law that can be used for ESA species protection

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