Water Planning at the Oklahoma Climatological Survey (OCS)

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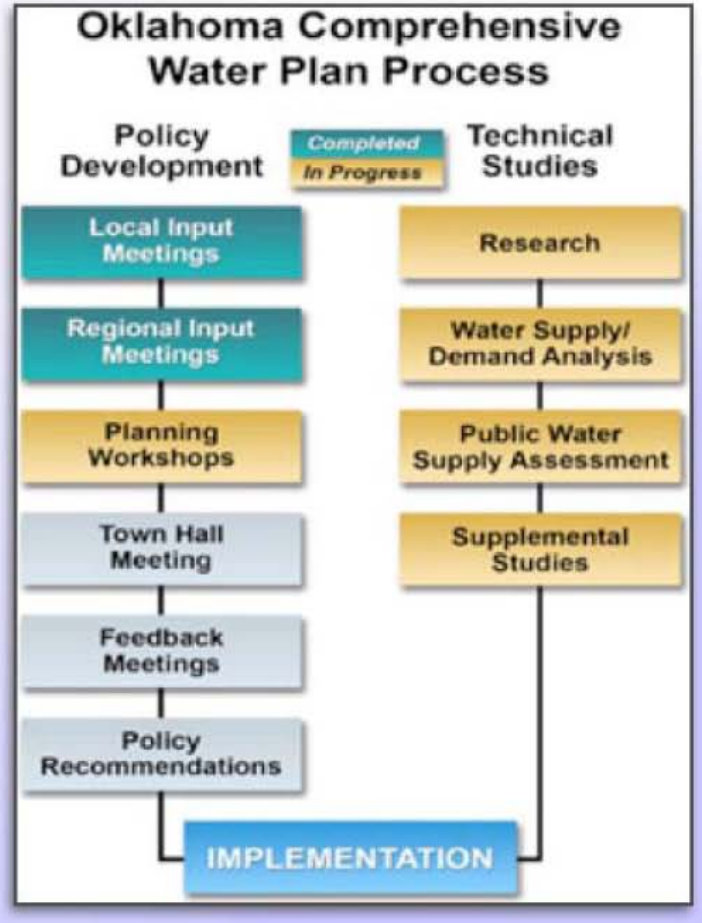
Roles of OCS in Water Planning

- OCS obtains, analyses, & provides climate & weather information for use by state policy and decision makers
- OCS studies the state's weather & climate history to provide a context for decision makers
- OCS links relevant partners together to enhance products, services, & decisions



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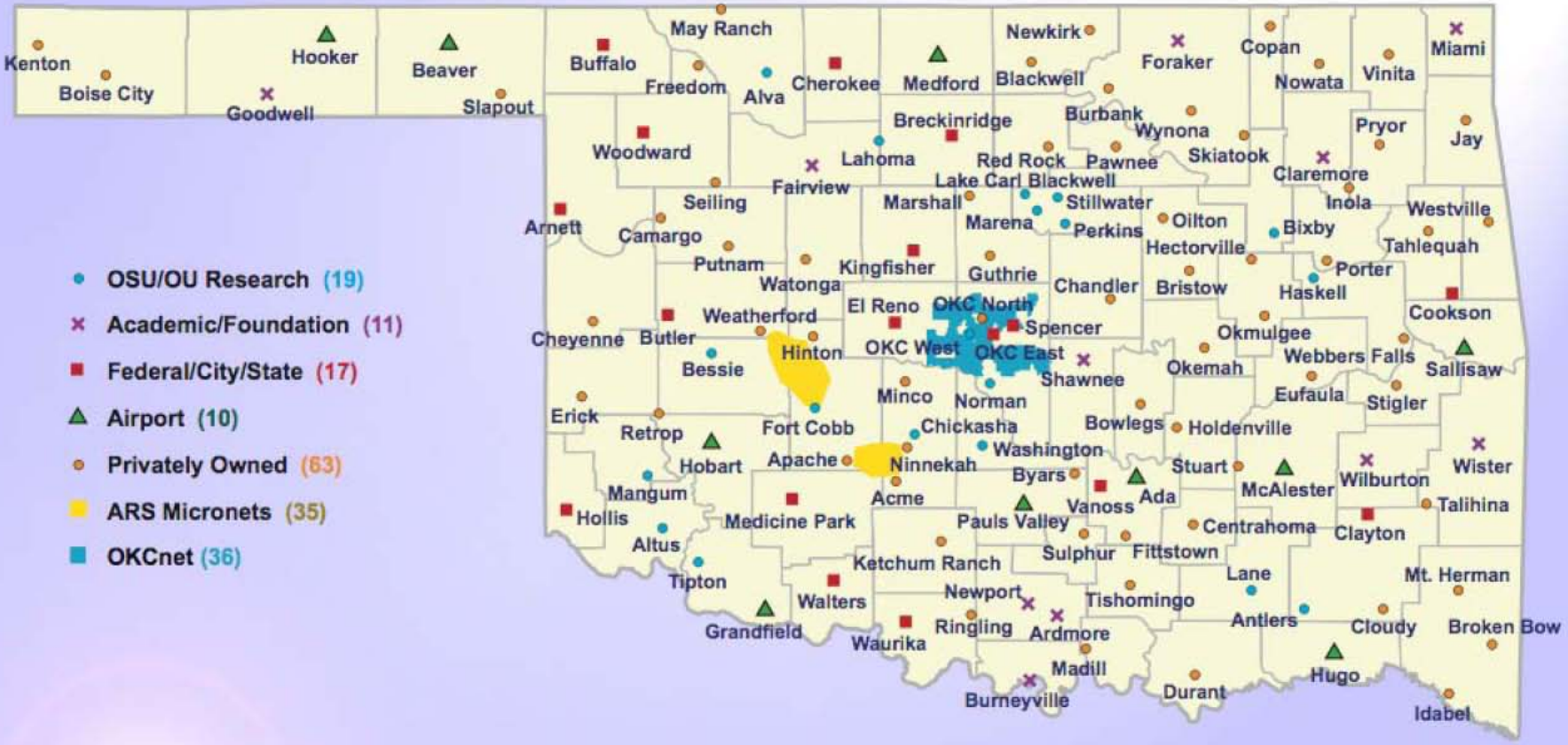
Monitoring Water across Oklahoma



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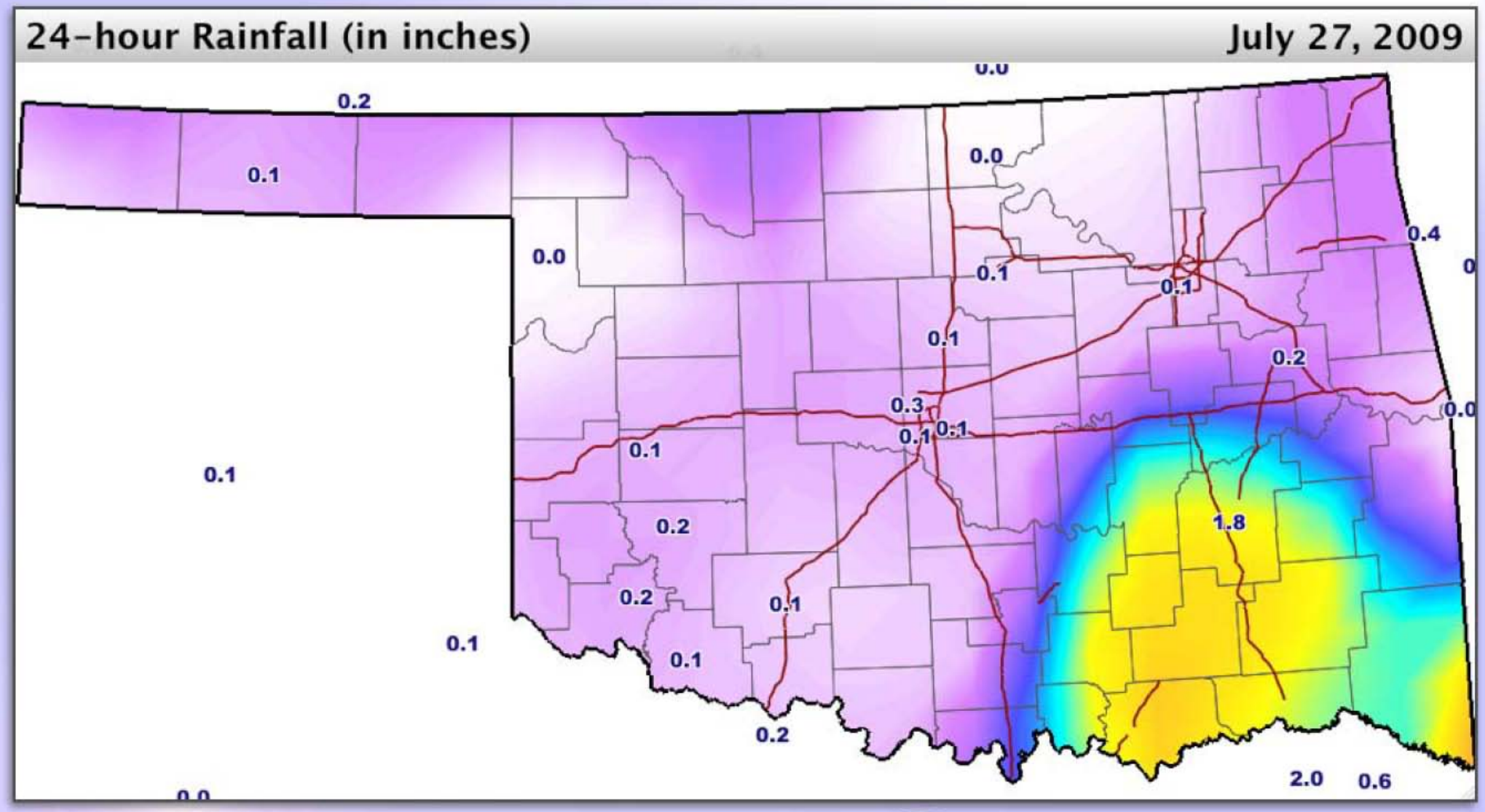
NWS Rainfall Measurements



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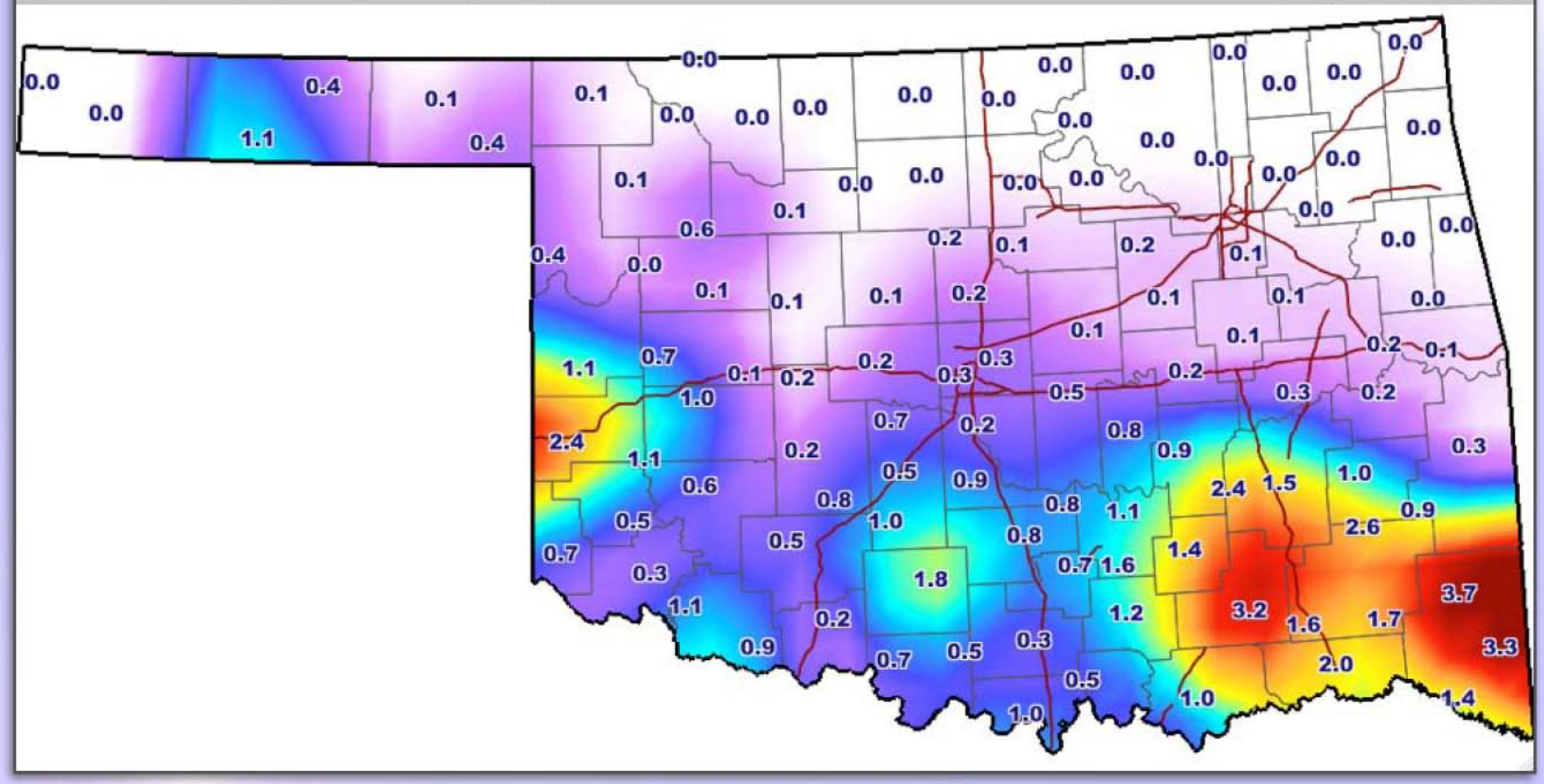
OK Mesonet Rainfall Measurements

24-hour Rainfall (in inches) July 27, 2009



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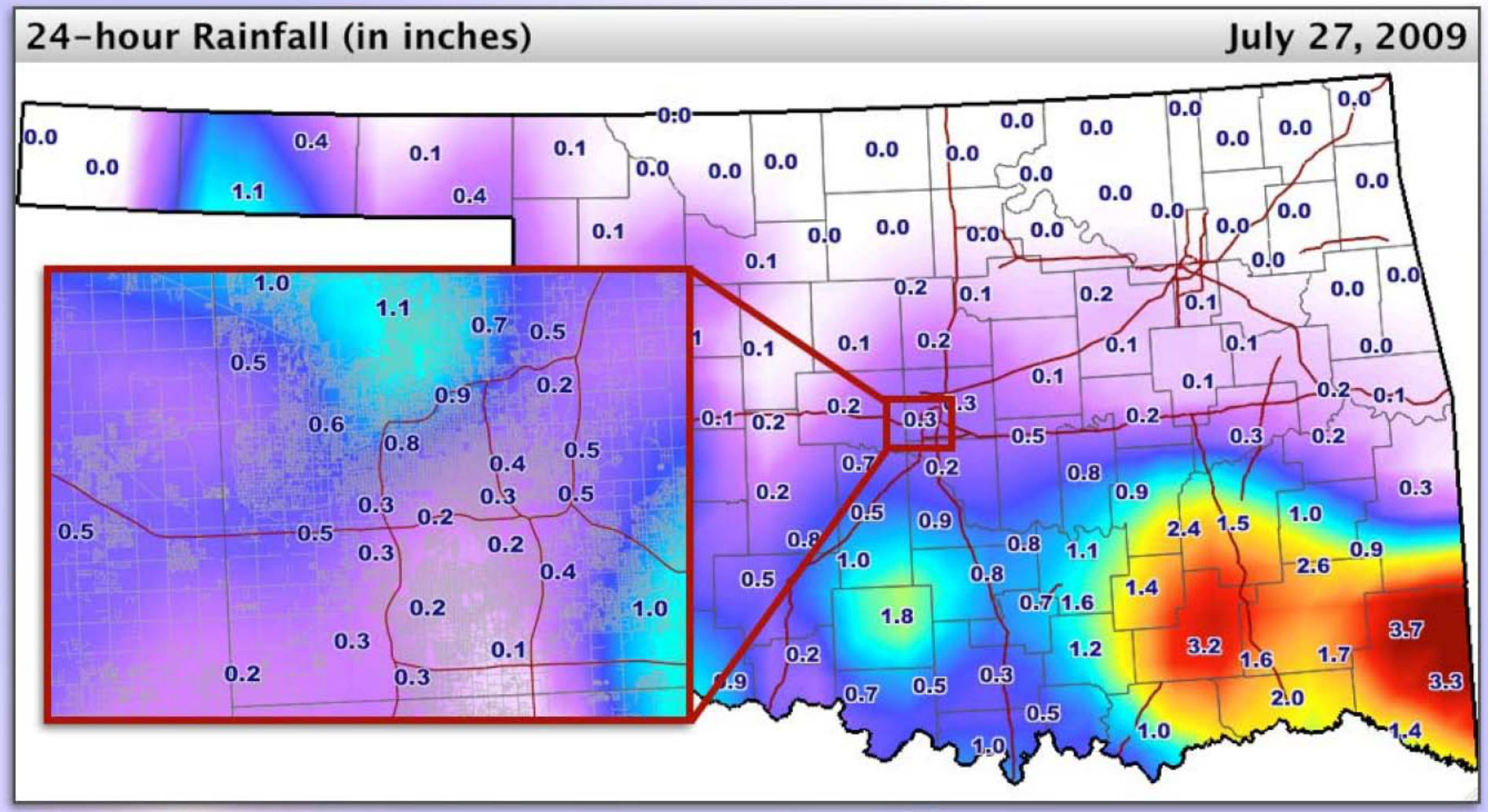
OK Mesonet & OKCnet Measurements



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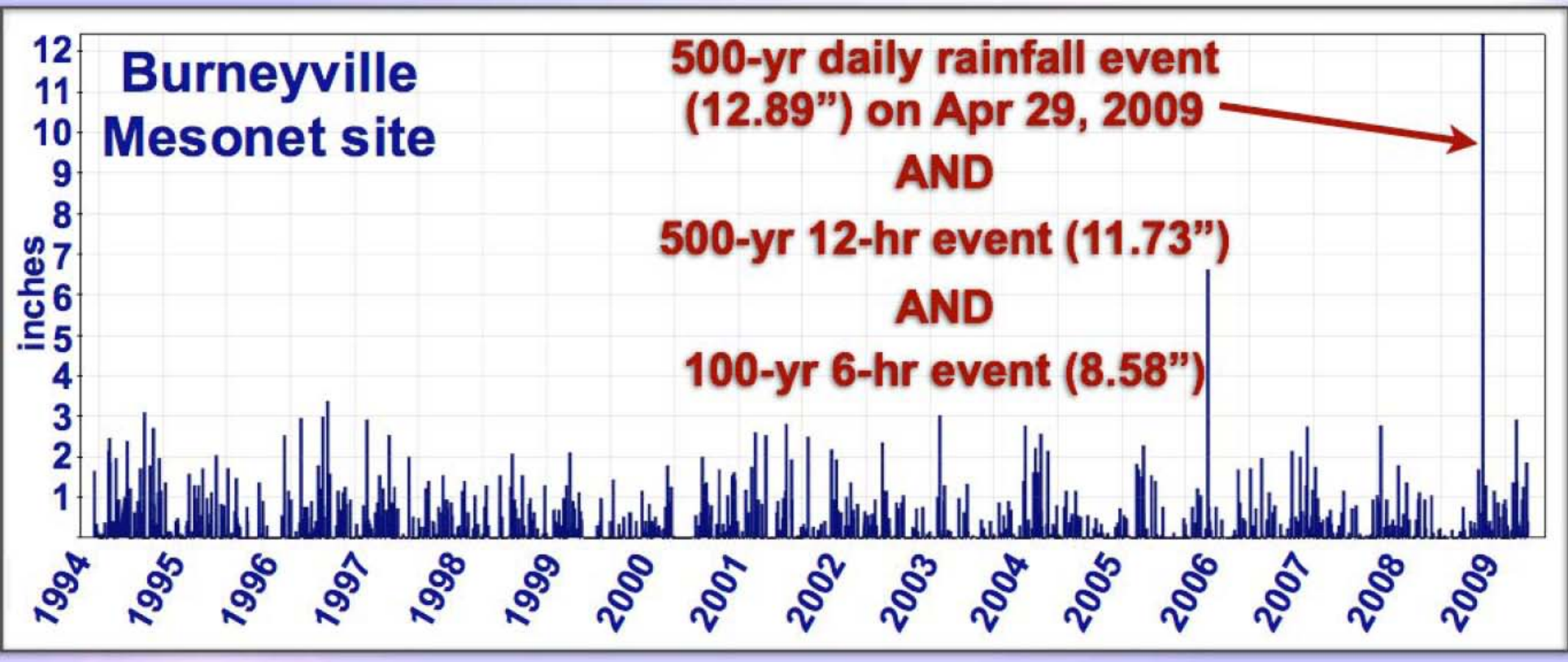
A Rich, Quality Data Set for Analyses



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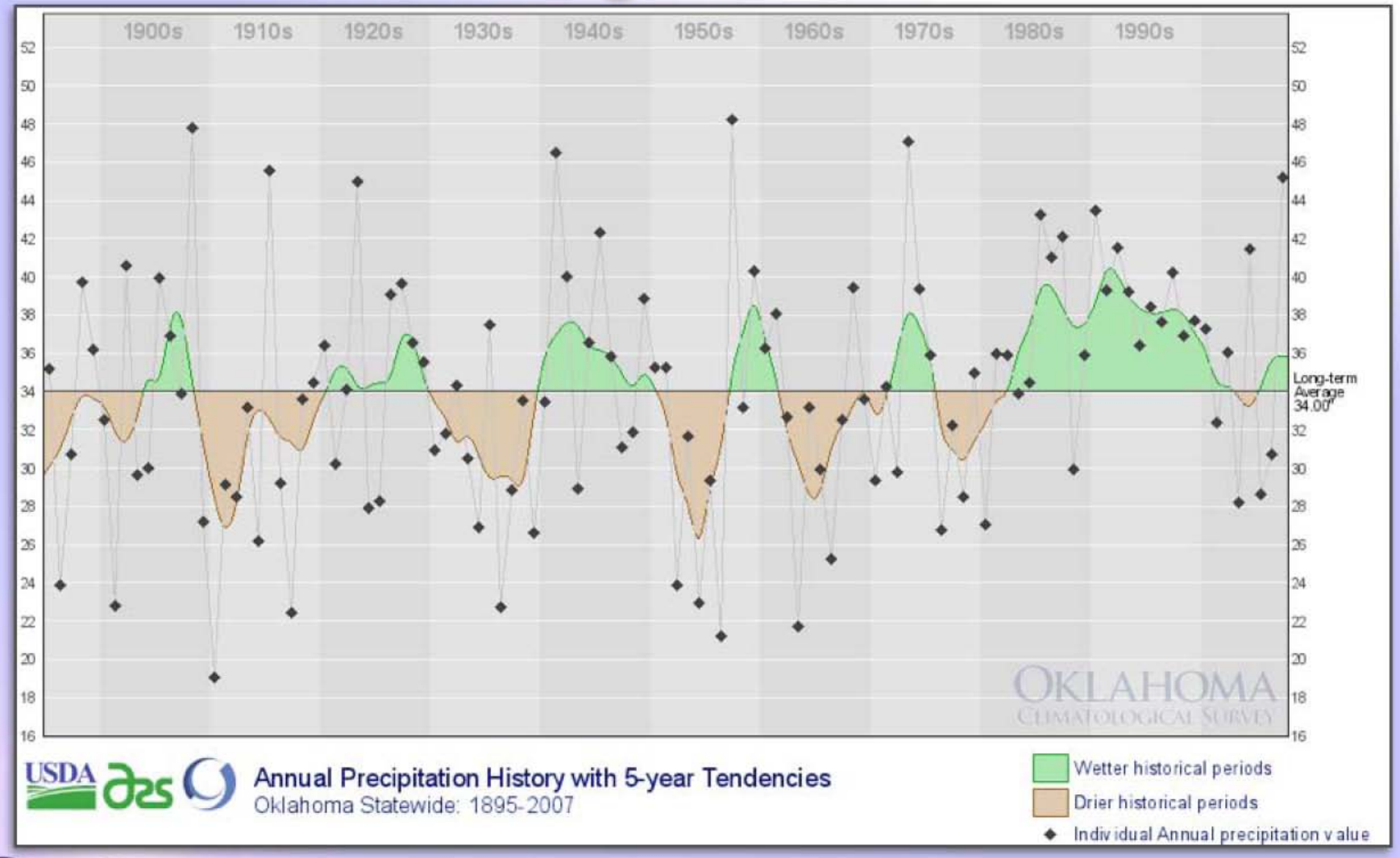
Adding Context to the Data...



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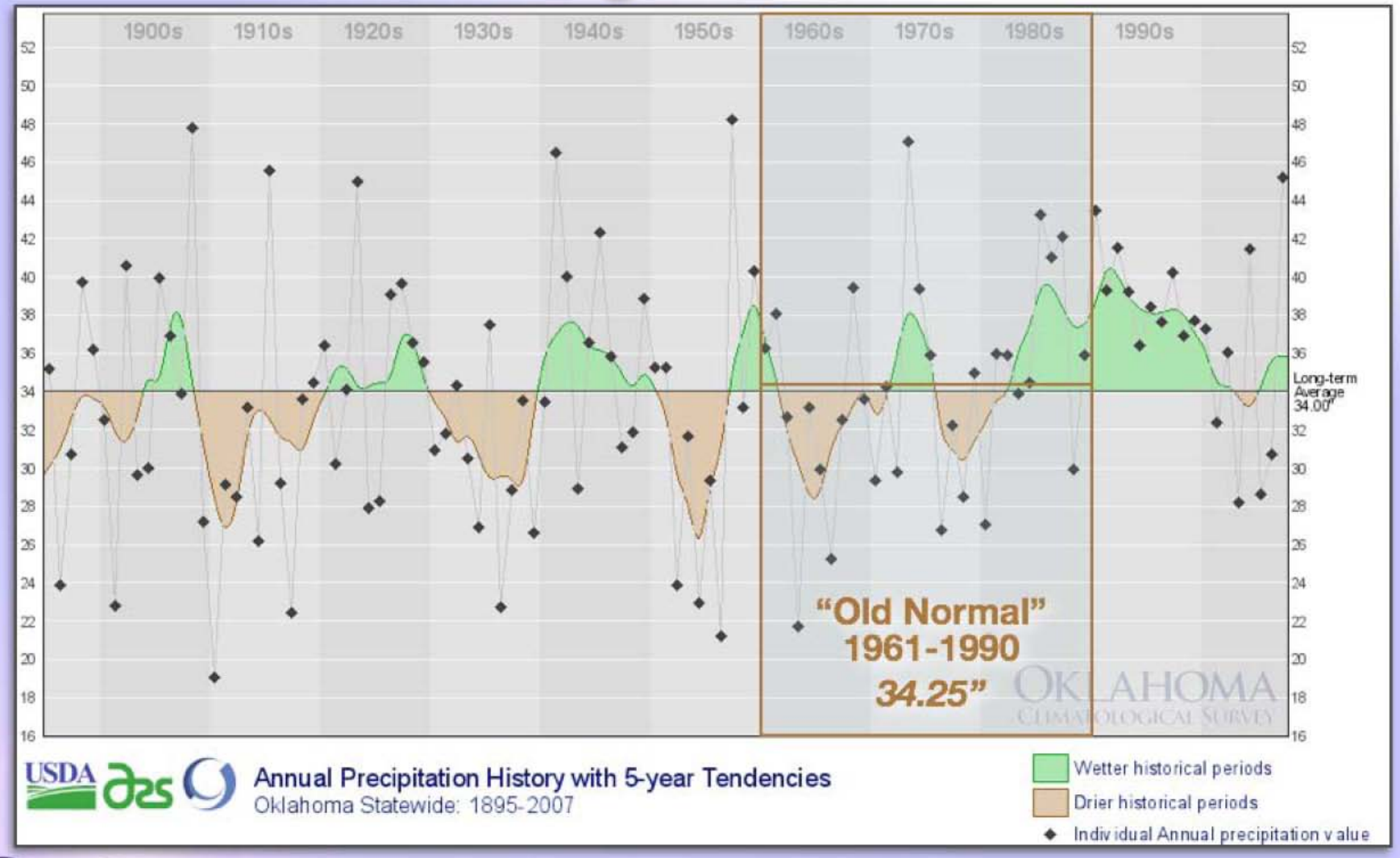

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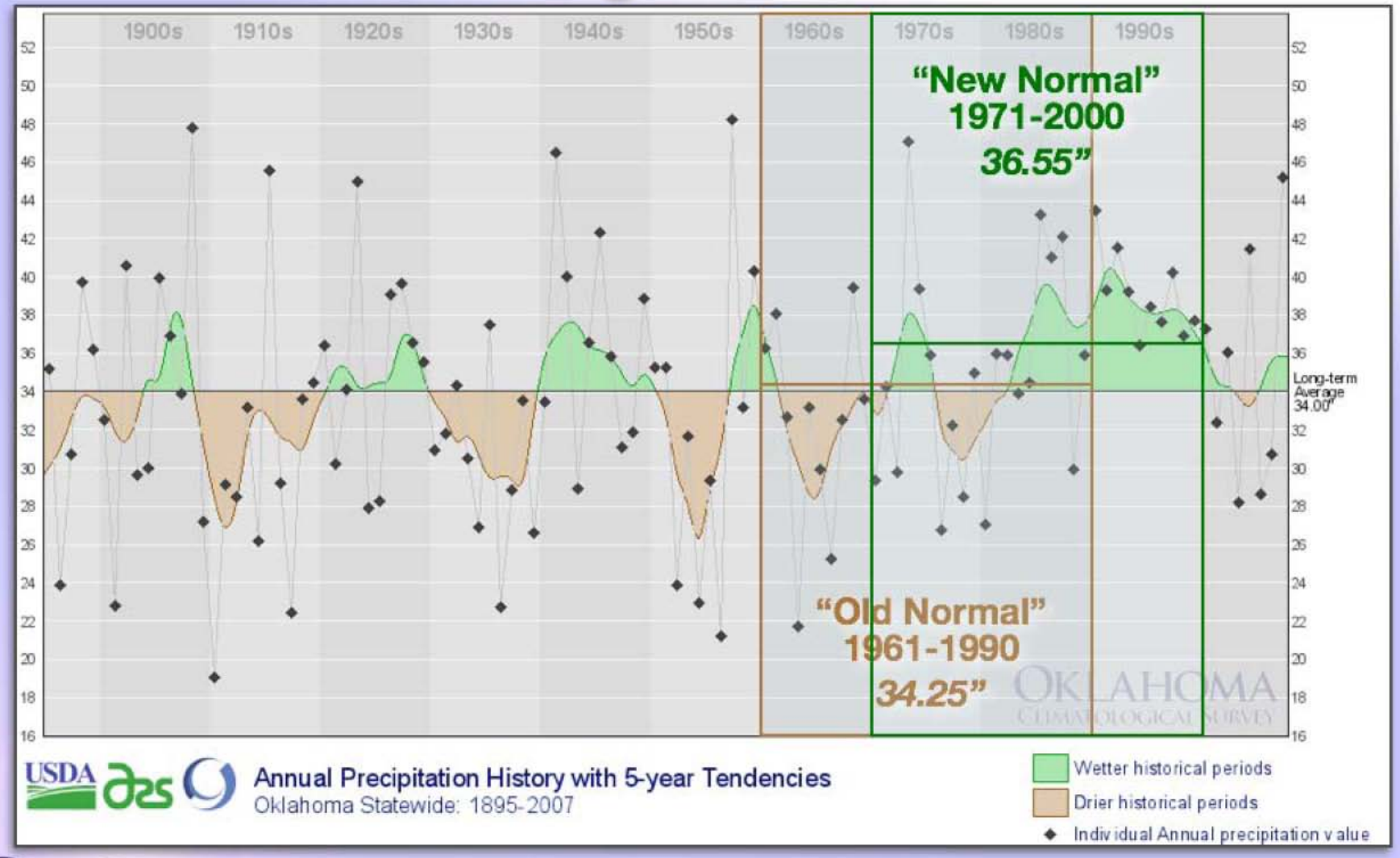
Adding Context to the Data...



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OK Mesonet Data

- Every 5 minutes: air temperature (1.5 m & 9 m); relative humidity (1.5 m); barometric pressure; wind speed (10 m & 2 m) & direction (10 m); rainfall; solar radiation (1.8 m)
- Every 15 minutes: soil temperature at 5, 10, & 30 cm
- Every 30 minutes: soil moisture at 5, 25, & 60 cm

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Soil Moisture Monitoring Nationwide

Adapted from "Observing Weather and Climate from the Ground Up," National Research Council (2009)

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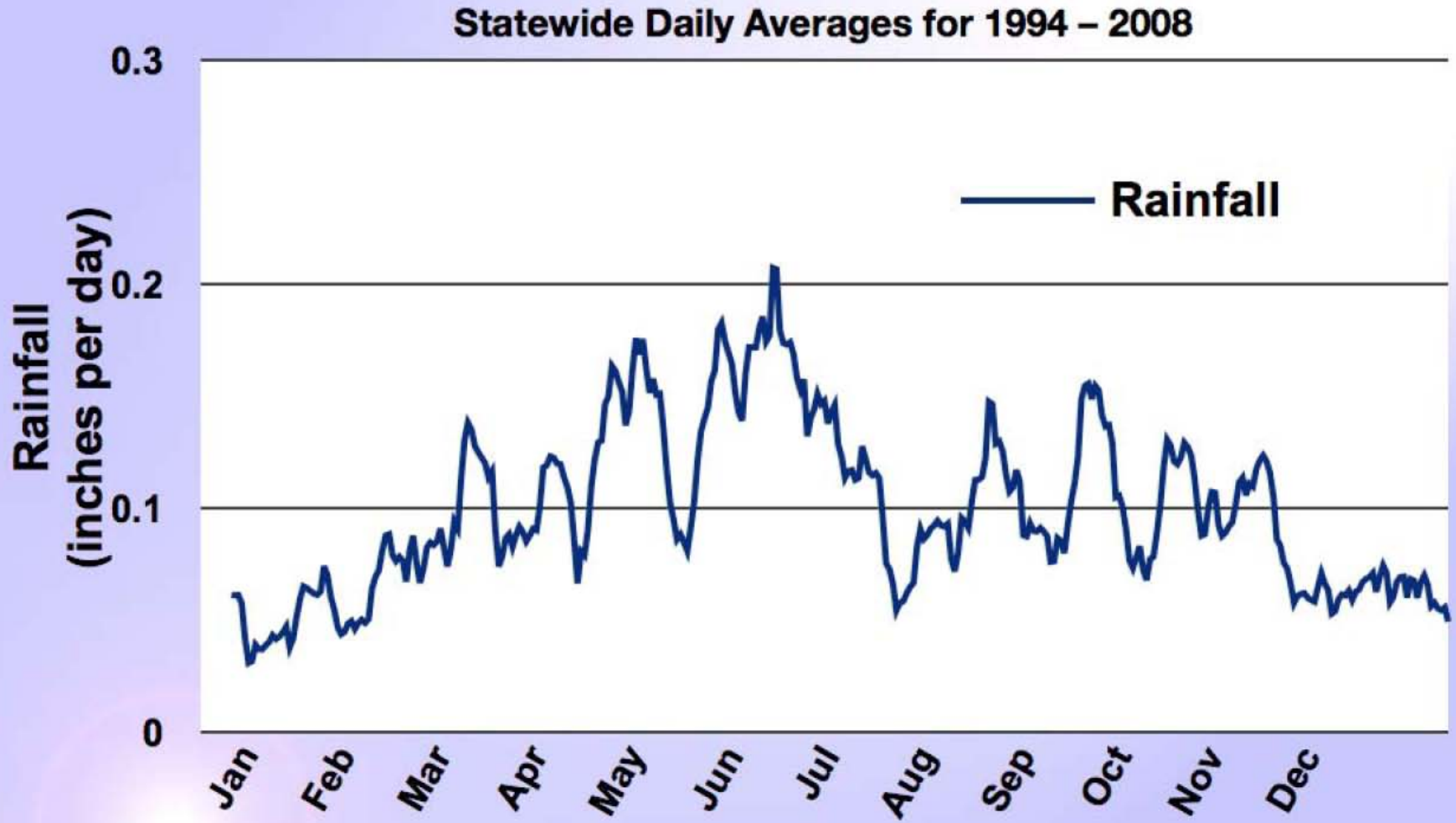
OWRB-funded Research



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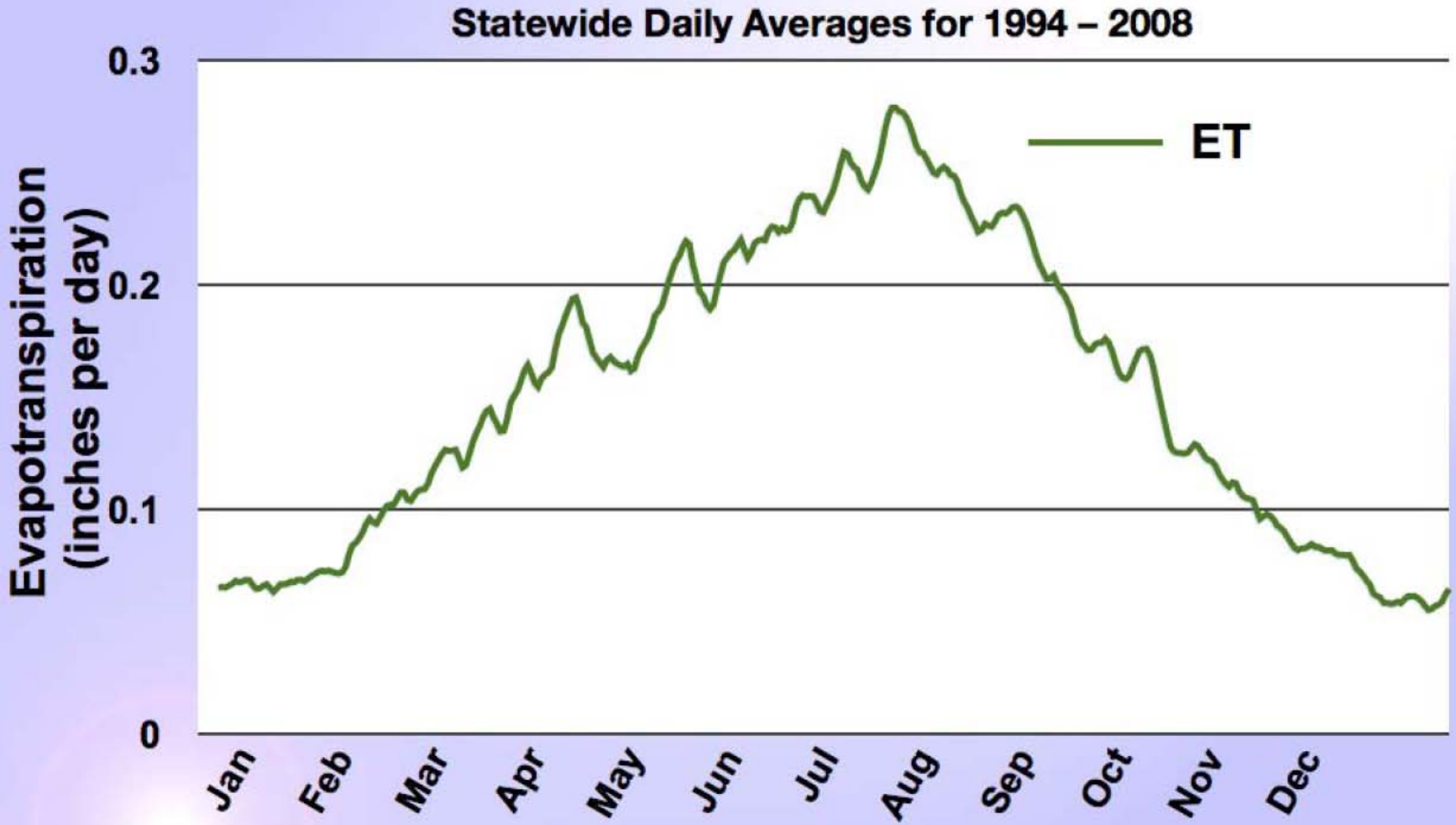

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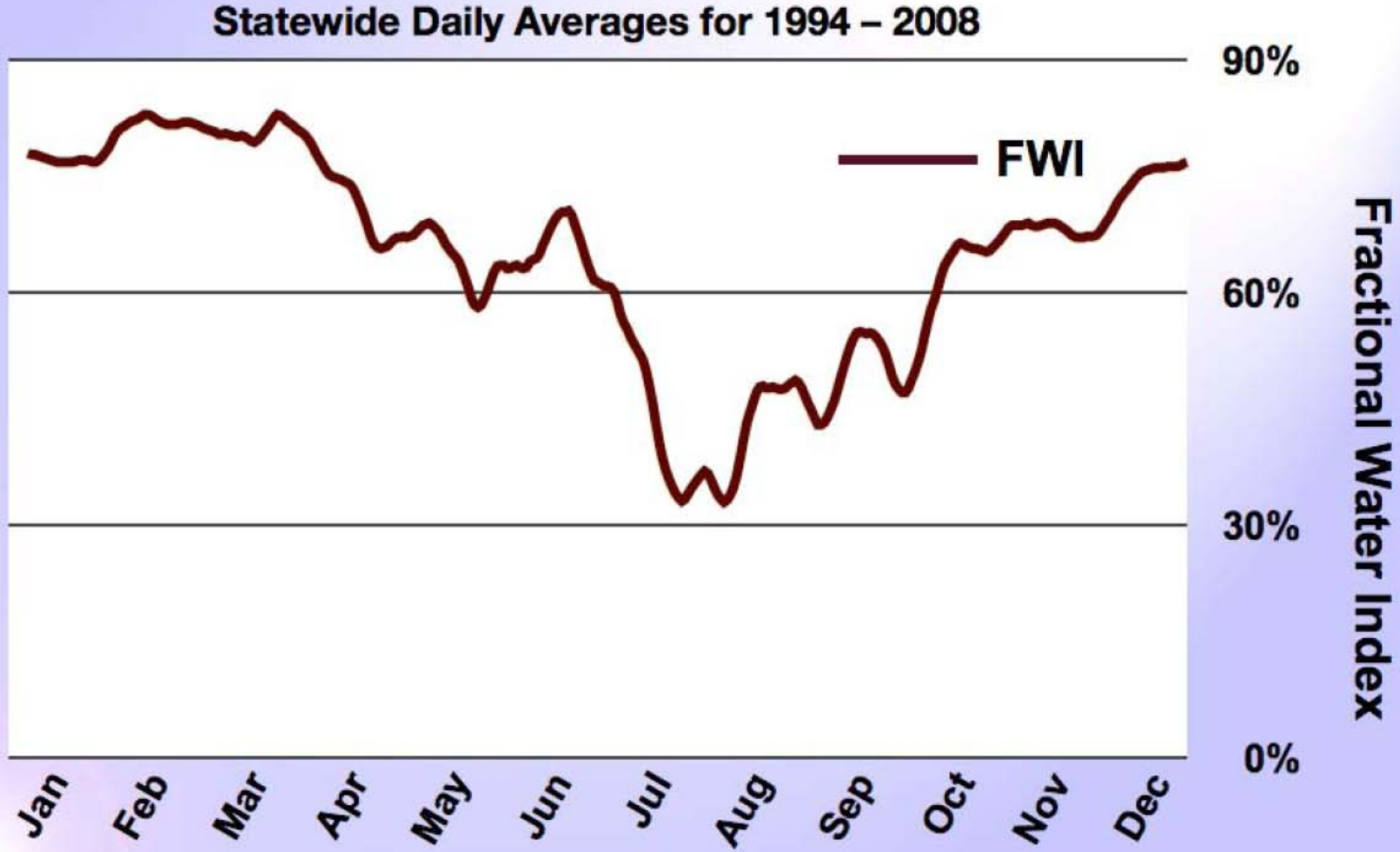

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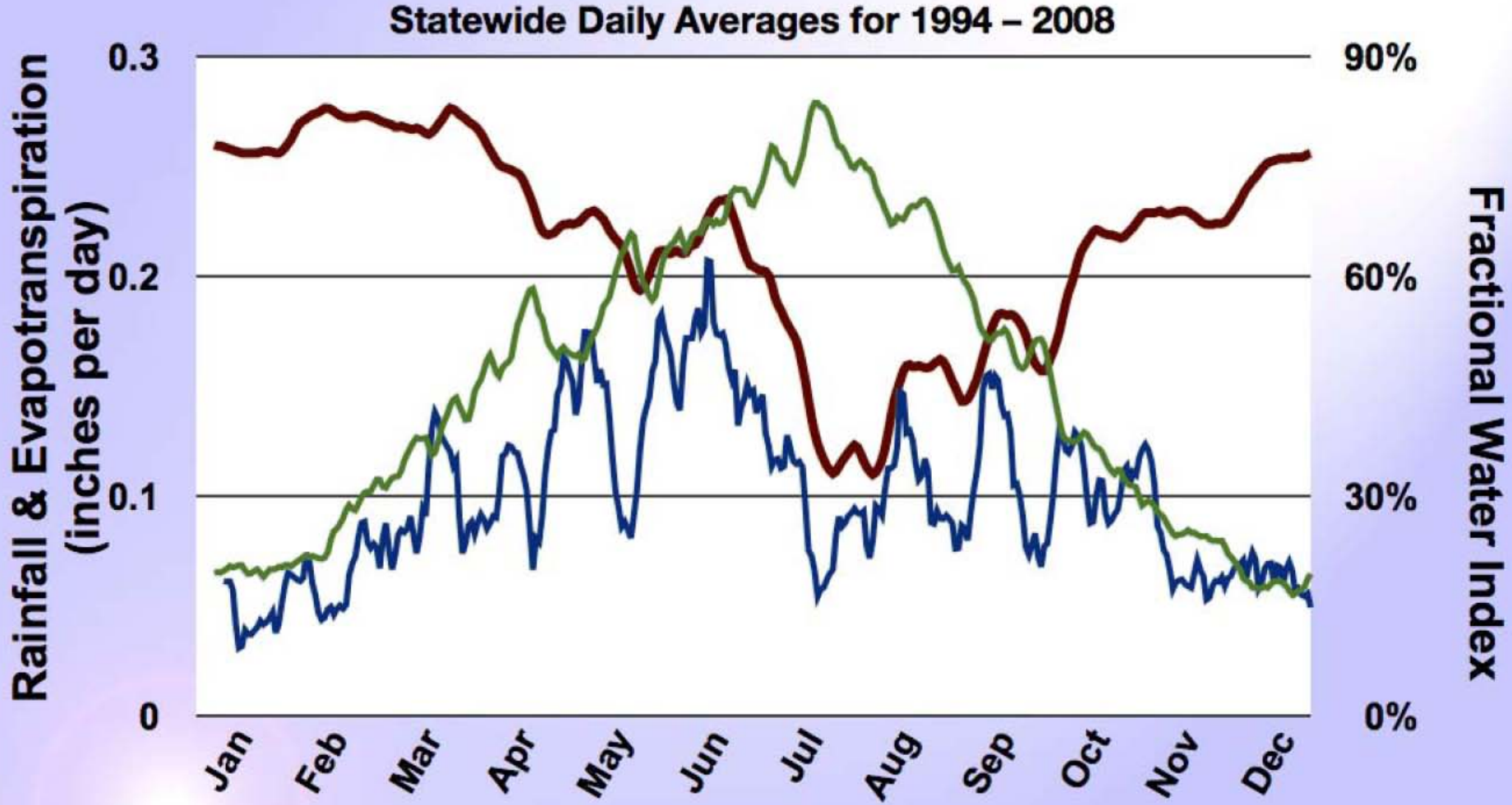

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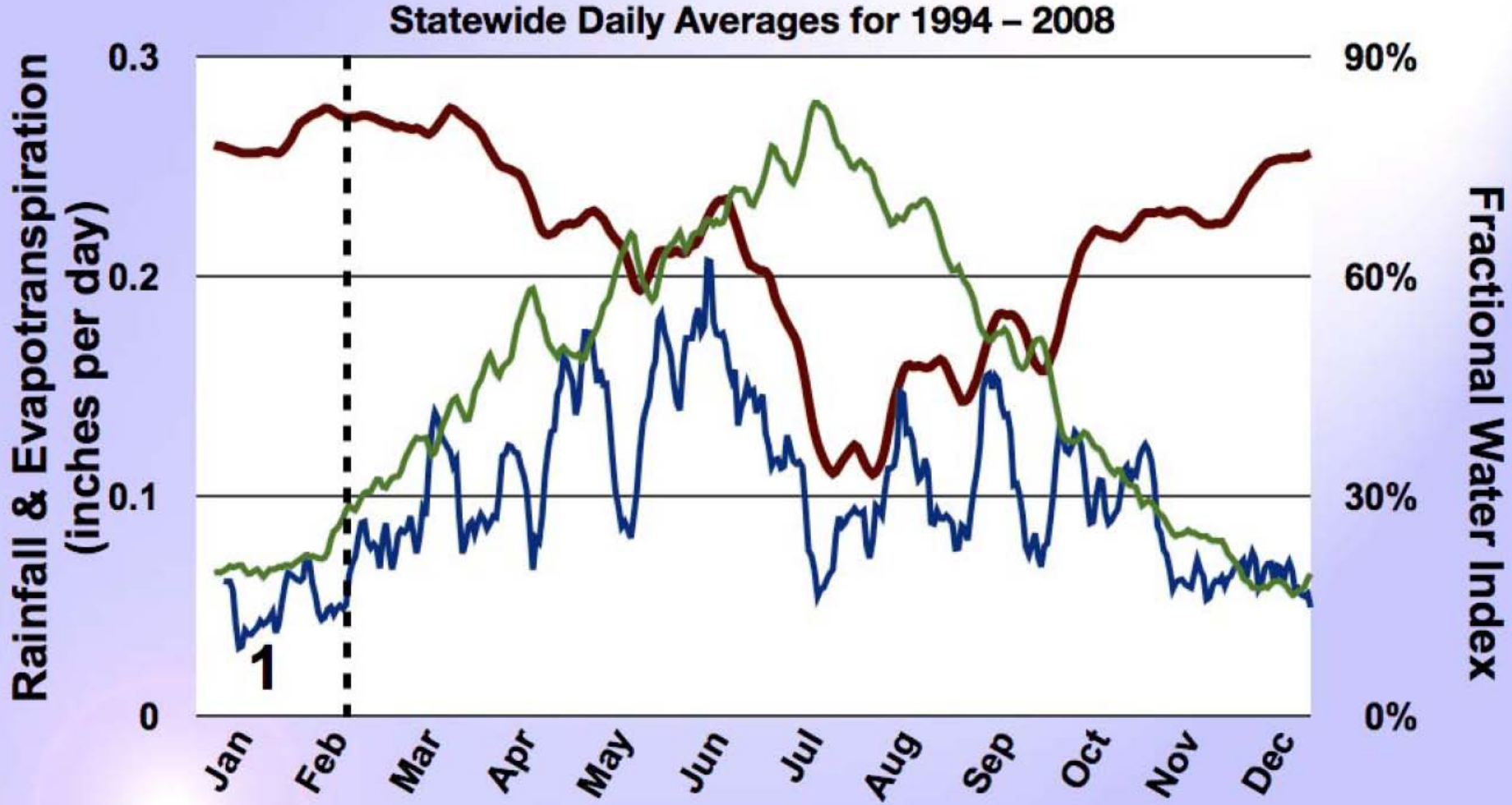

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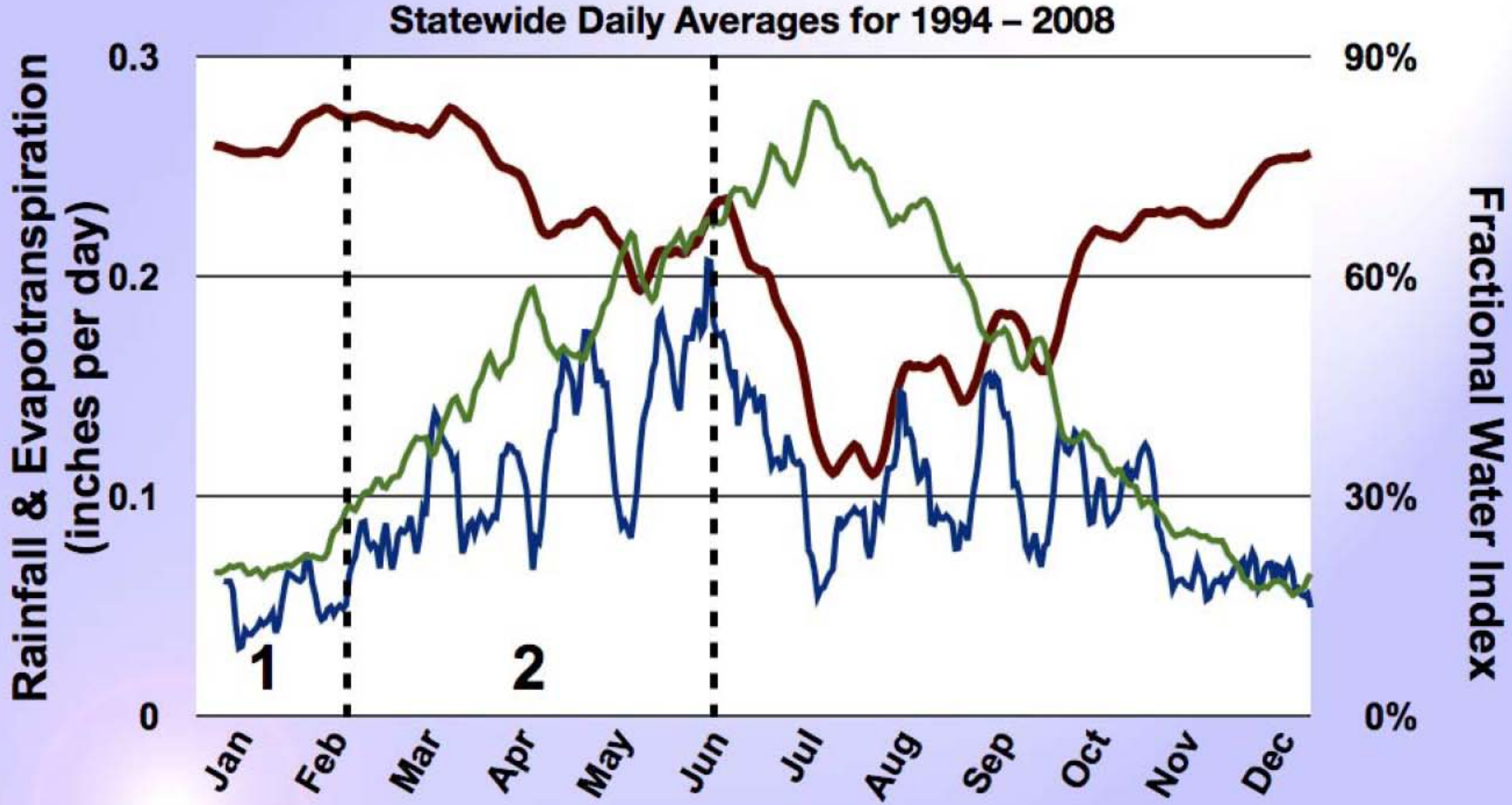

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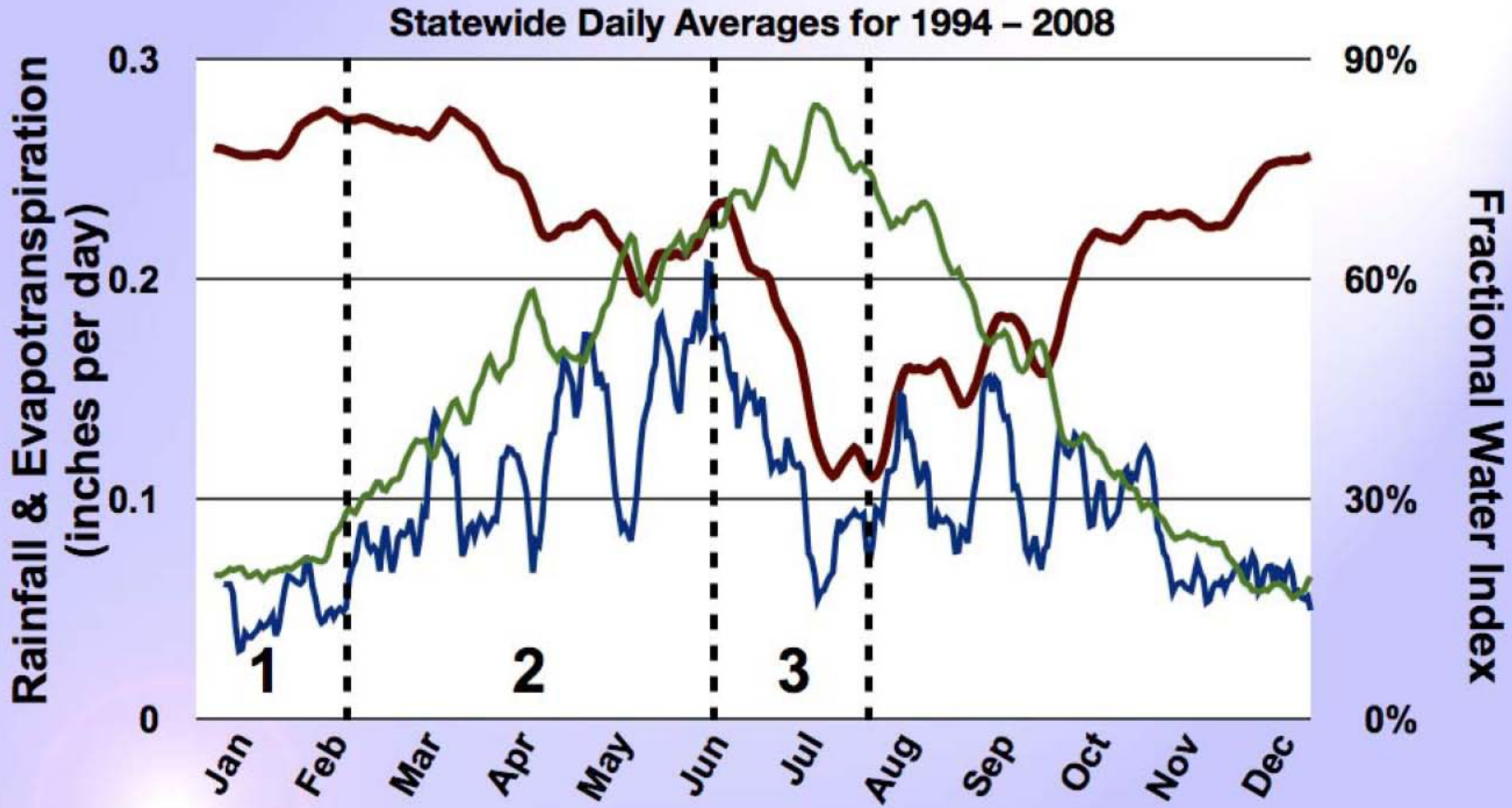

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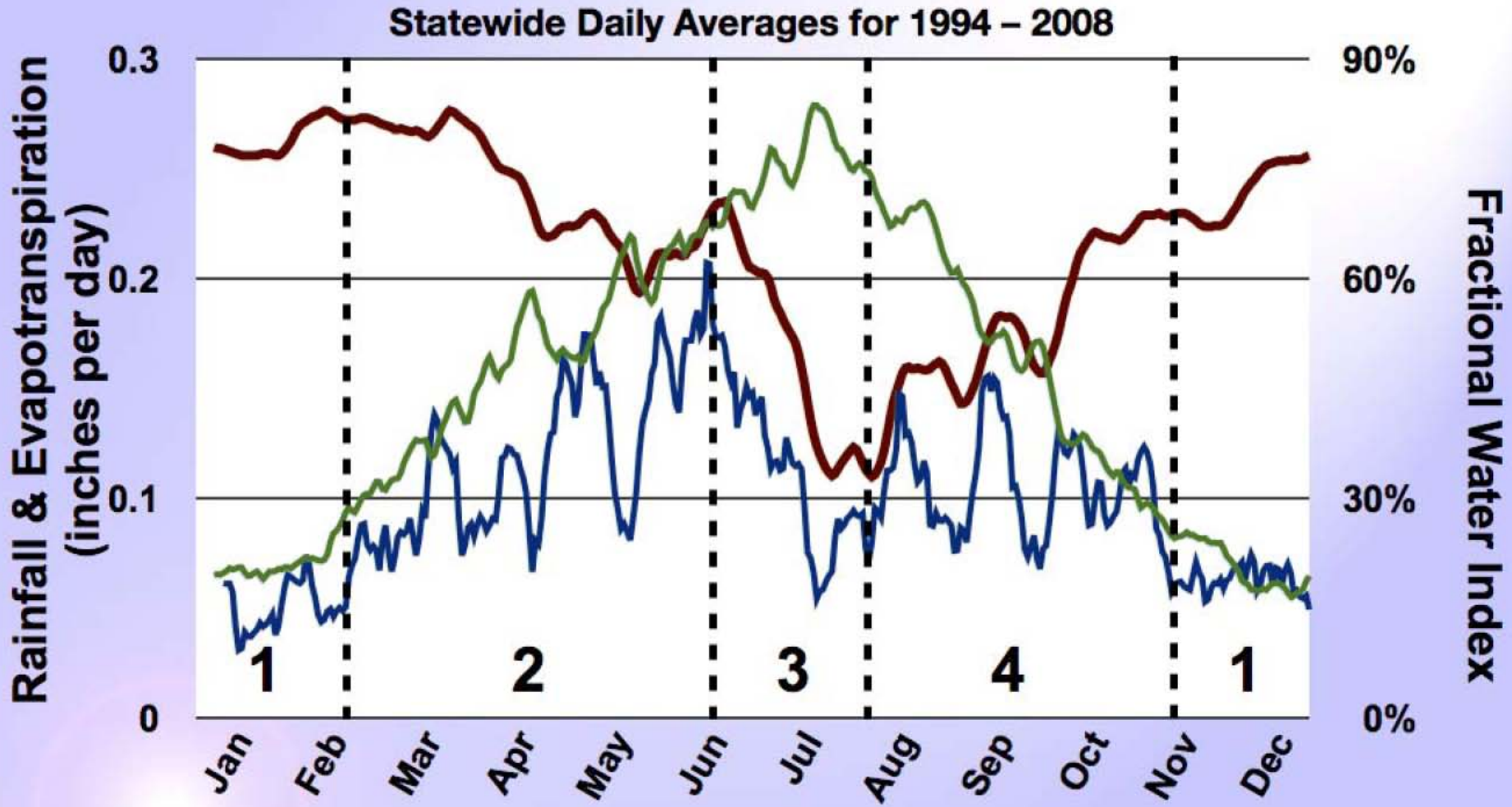

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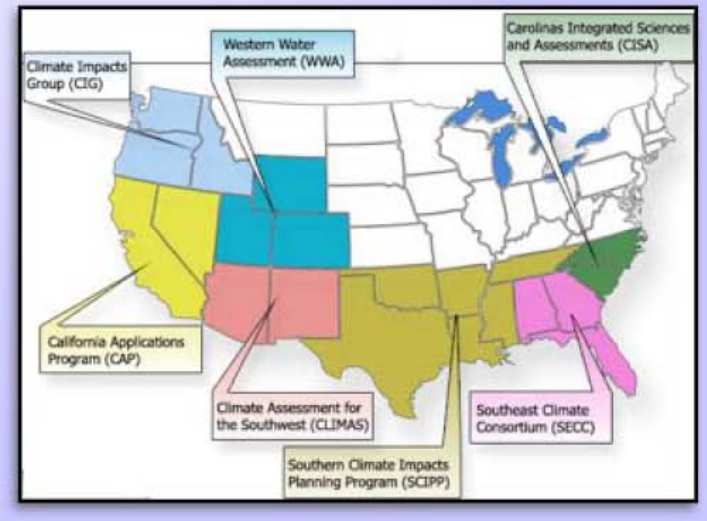
Southern Climate Impacts Planning Program

- $3.8 Mil, 5-year program funded by NOAA
- SCIPP investigates major climate hazards of the region and actively engages community-level decision makers to:
  - determine hazard planning and climate data gaps
  - collaboratively develop an all-hazards assessment tool
  - provide education and outreach
- Climate adaptation meetings



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Hazards of Interest to SCIPP

1846 – Wildfires (Apr 09)

1823 – Ice Storm (Jan 09)

1820 – Tornadoes (Feb 09)

1803 – Storms (Sep 08)

USDA– Drought (Jul 08)

1775 – Floods (Jun 08)

1756 – Tornado (May 08)

1754 – Floods (Apr 08)

1752 – Floods (May 08)

1735 – Ice Storm (Dec 07)

1723 – Floods (May 07)

1718 – Storms (Aug 07)

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Building Partnerships

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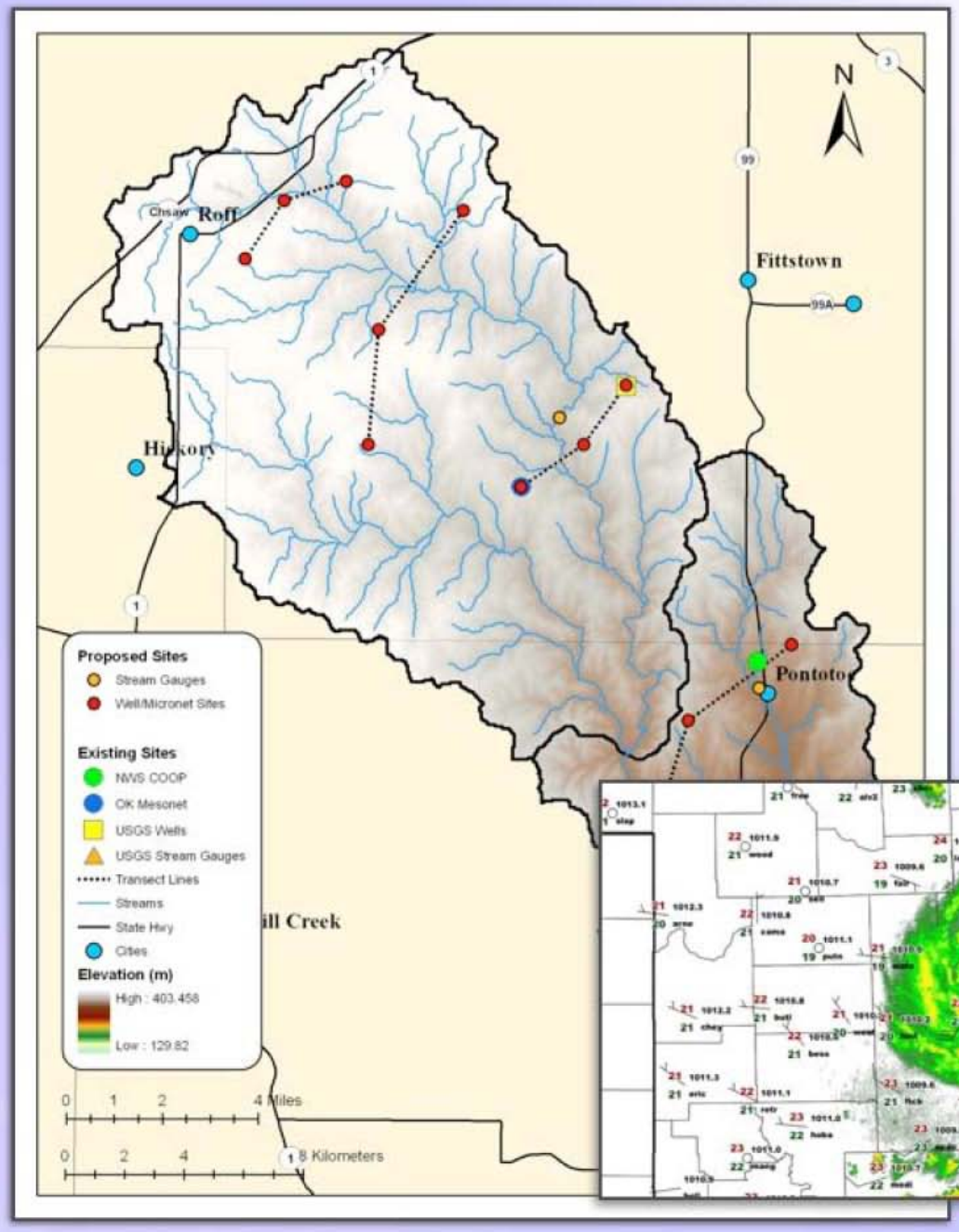
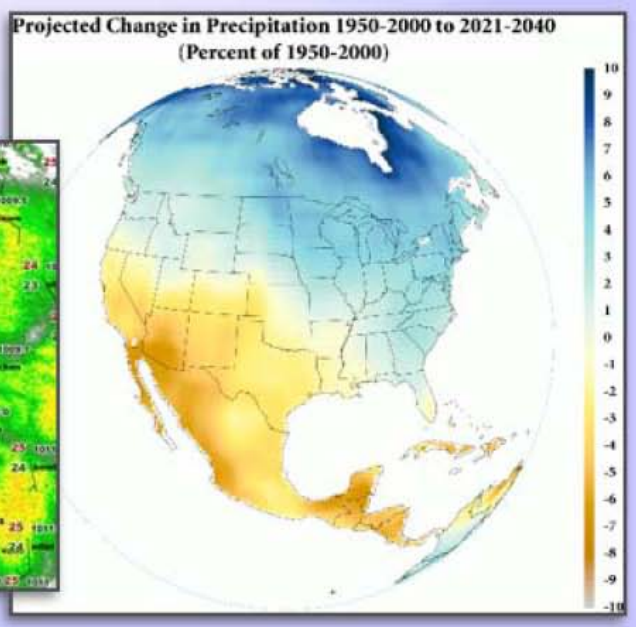
The Future...


N
Roff
Fittstown
Hickory
Pontotoc
ill Creek
Proposed Sites
Stream Gauges
Well/Micronet Sites
Existing Sites
NWS COOP
OK Mesonet
USGS Wells
USGS Stream Gauges
Transect Lines
Streams
State Hwy
Cities
Elevation (m)
High : 403.458
Low : 129.82
0 1 2 4 Miles
0 2 4 8 Kilometers


Projected Change in Precipitation 1950-2000 to 2021-2040
(Percent of 1950-2000)

Thank you!

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climate.ok.gov & www.mesonet.org

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