

Dealing with Water in Texas's Climate

John W. Nielsen-Gammon, Texas A&M University
Texas State Climatologist

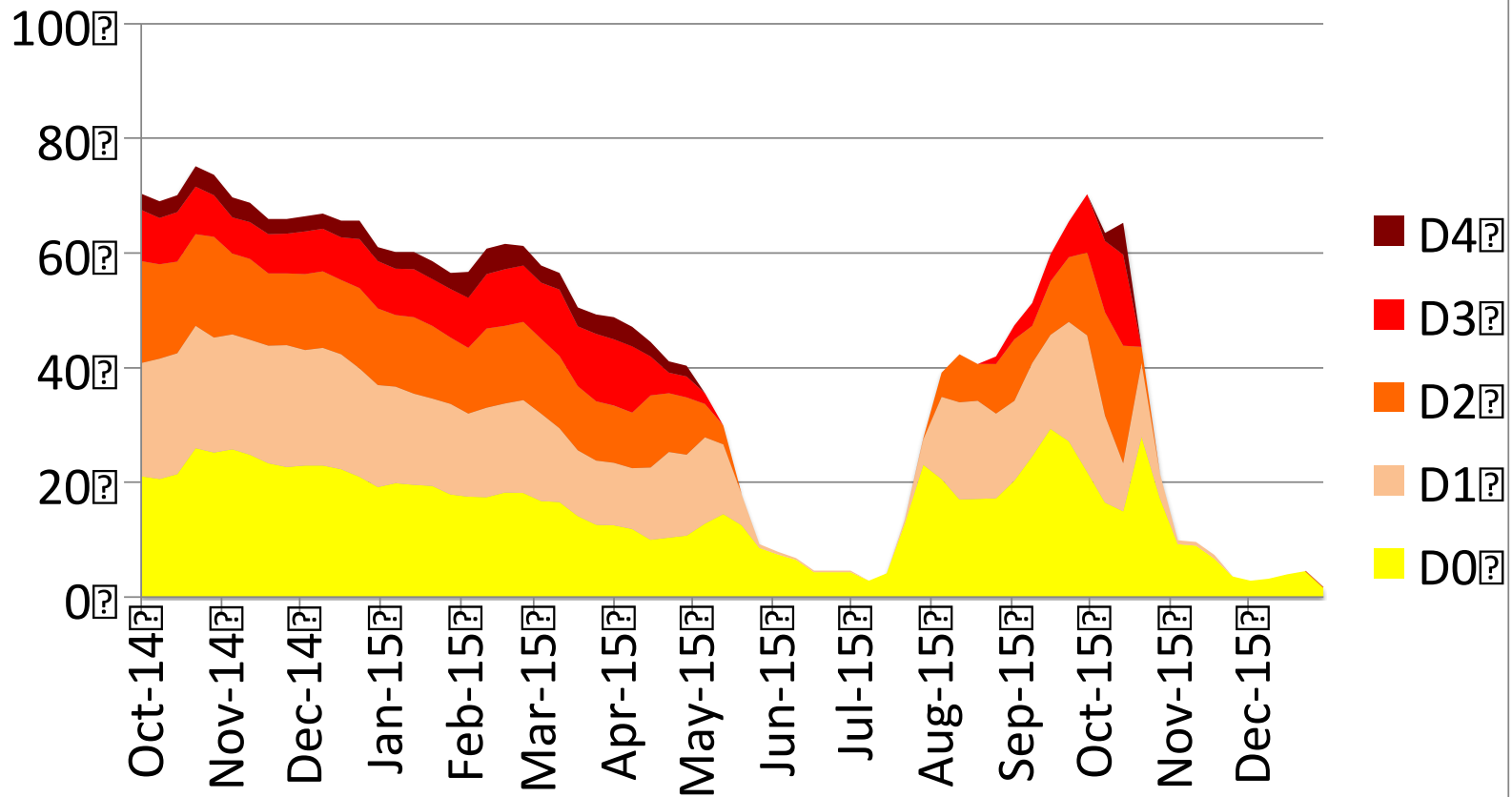


TEXAS A&M
UNIVERSITY.

Topics

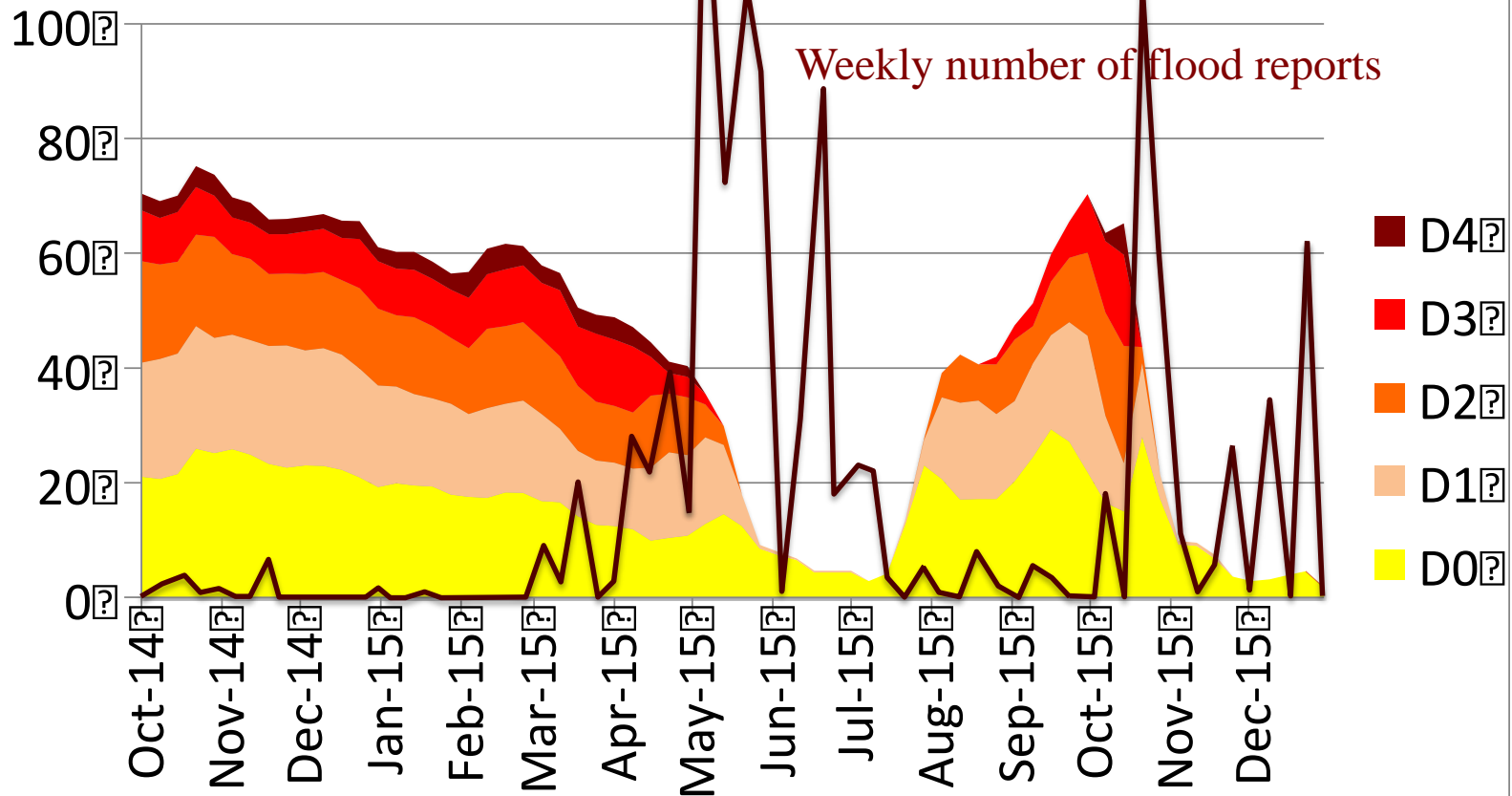
- Heavy rain
- Annual rain
- Drought
- Next year's rain

Percent Drought Coverage, Texas Oct. 7, 2014 to Present

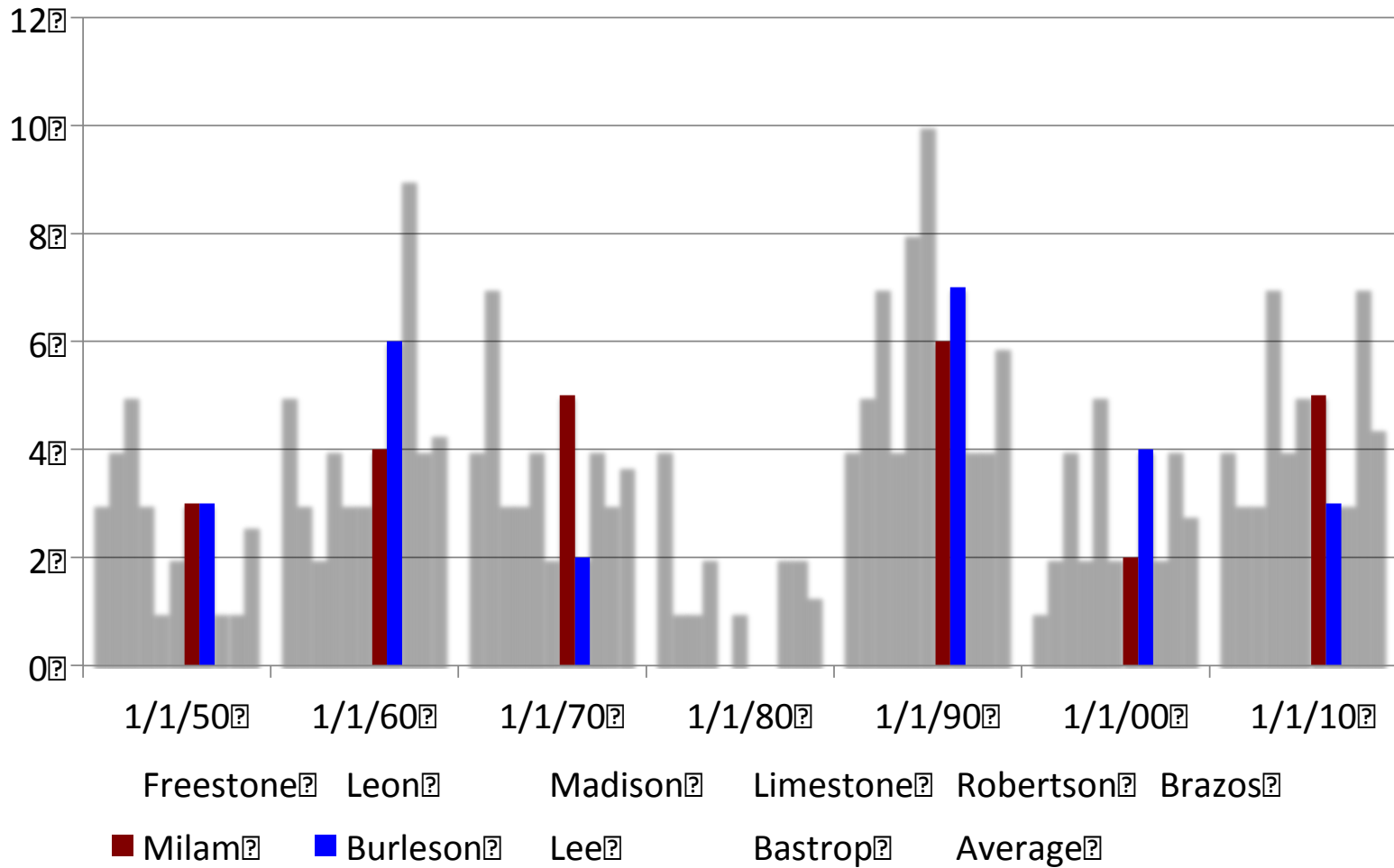


Percent Drought Coverage, Texas

Oct. 7, 2014 to Jan. 5, 2016

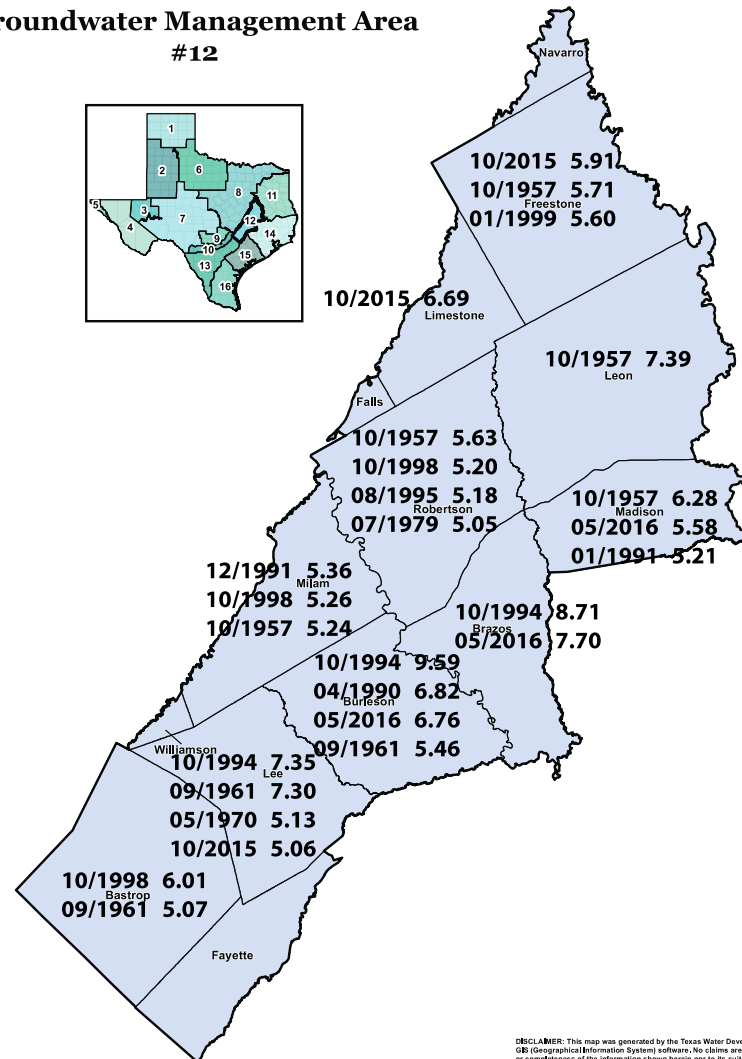
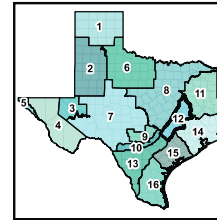


Number of Top-25 One-Day Rain Events Per Decade

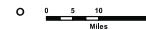


All county-
average one-
day rainfall
totals >5”
since 1950

Groundwater Management Area #12



TEXAS WATER DEVELOPMENT BOARD
1700 North Congress Avenue | P.O. Box 13231
Austin, Texas 78711-0231
www.twdb.texas.gov



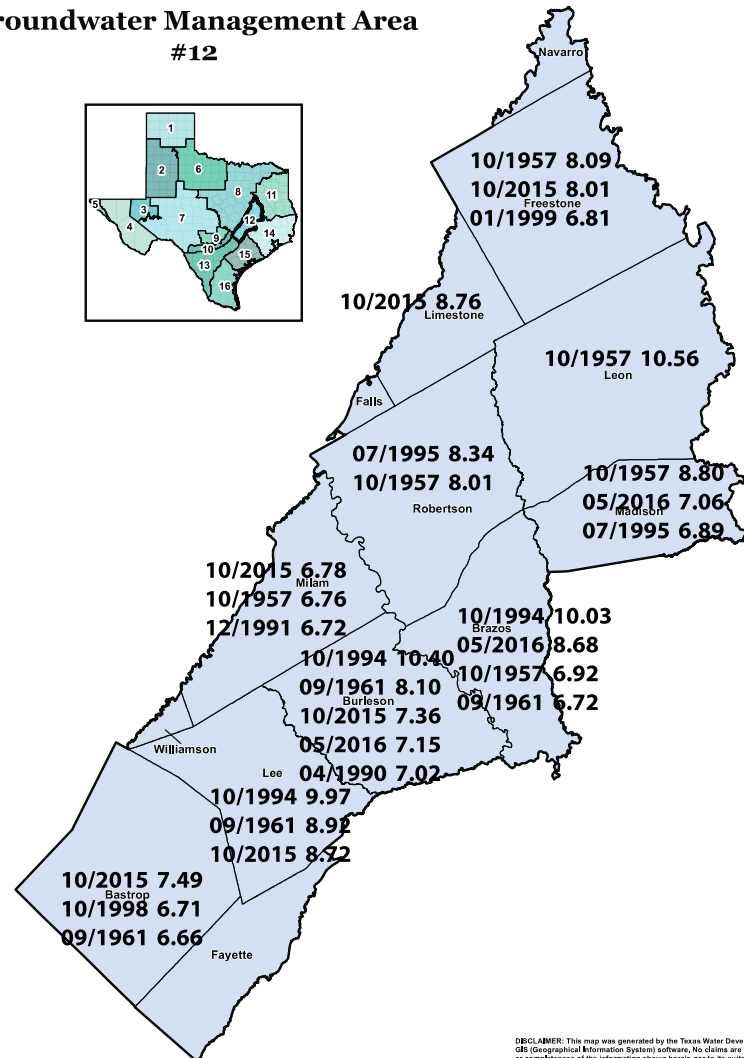
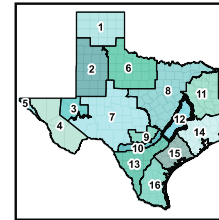
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MISSION: The Texas Water Development Board's (TWDB) mission is to provide leadership, planning, financial assistance, information, and education for the conservation and responsible development of water for Texas.

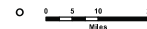


All county-
average two-
day rainfall
totals $>6.5''$
since 1950

Groundwater Management Area #12



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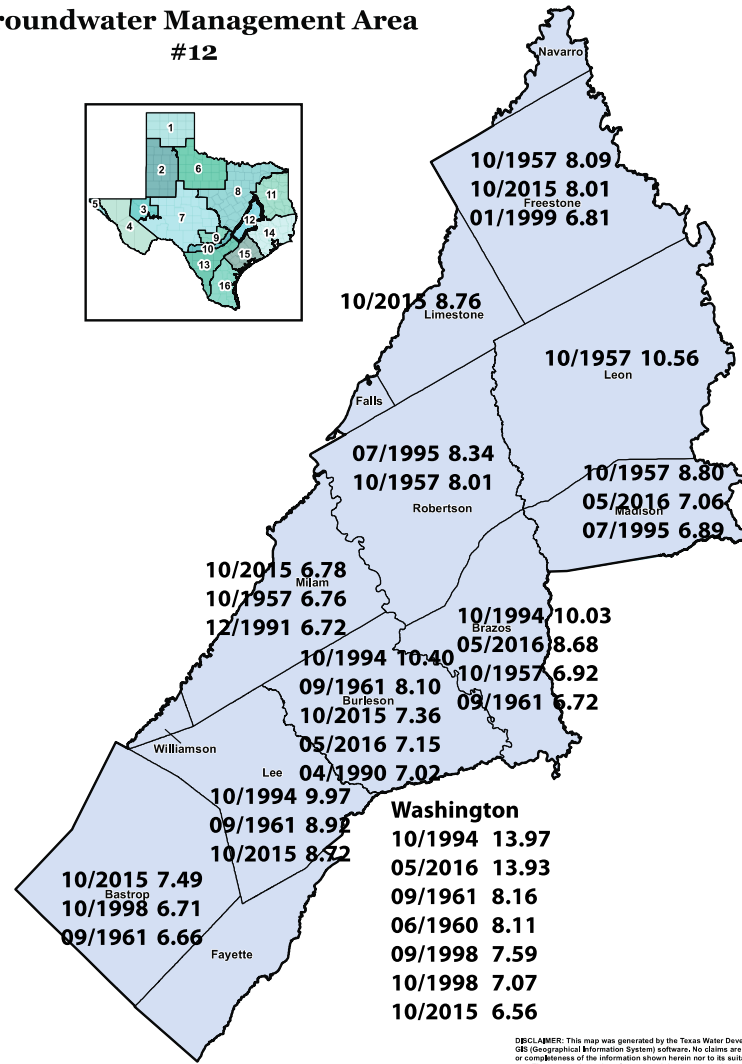
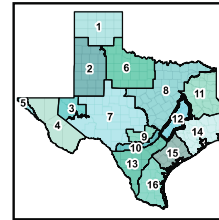
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All county-
average two-
day rainfall
totals >6.5”
plus
Washington
County

Groundwater Management Area #12



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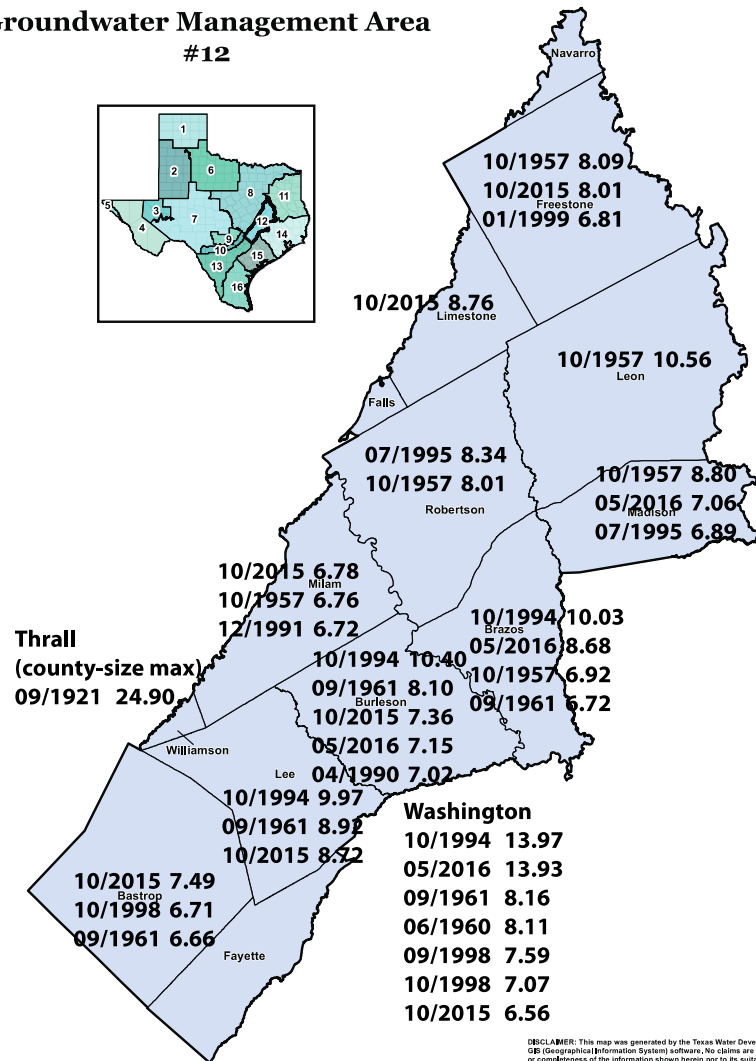
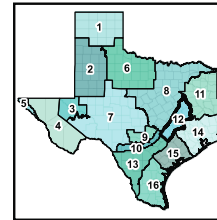
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Texas Water Development Board



All county-
average two-
day rainfall
totals >6.5”
plus
Washington
County and
Thrall

Groundwater Management Area #12



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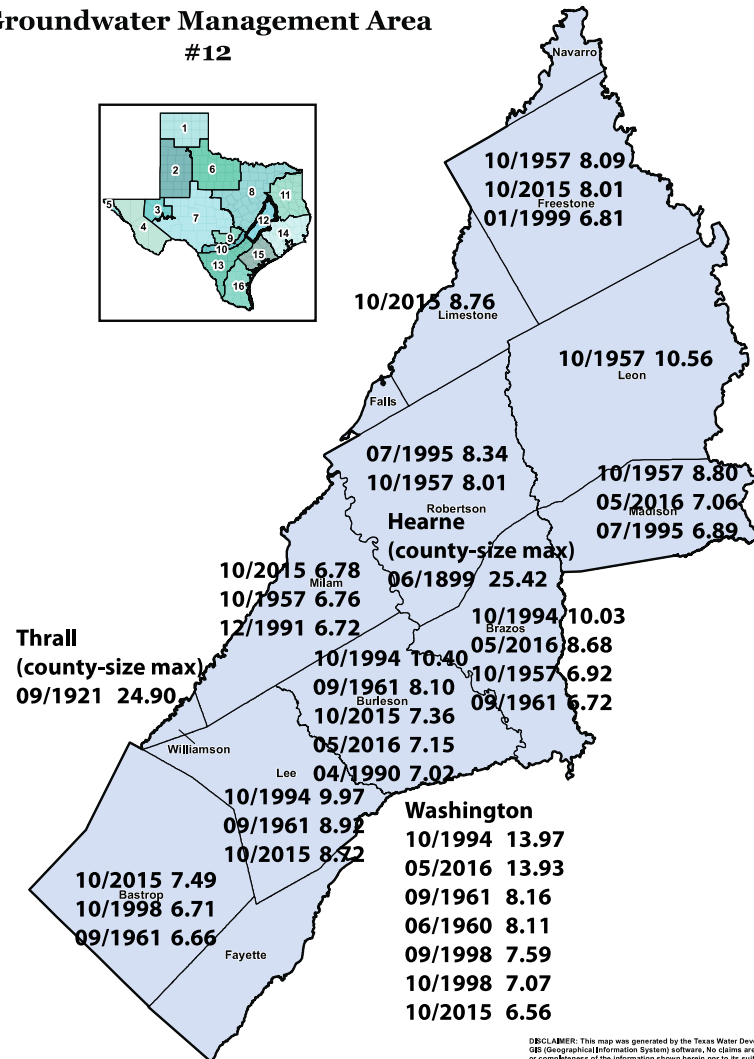
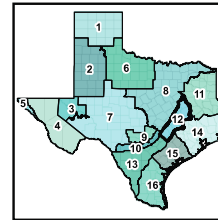
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Texas Water Development Board



All county-
average two-
day rainfall
totals $>6.5''$
plus
Washington
County,
Thrall,
and
Hearne

Groundwater Management Area #12



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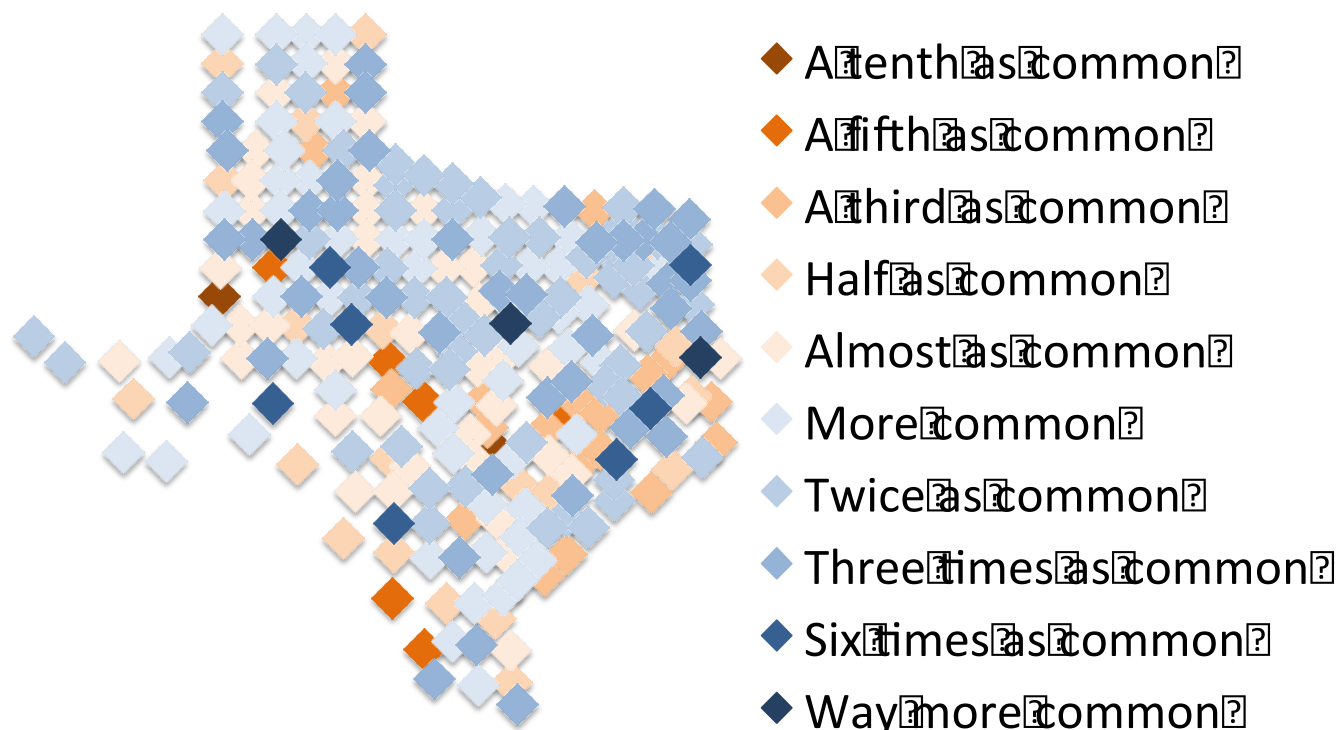
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Texas Water
Development Board



Change in Frequency of Very Heavy* Rainfall

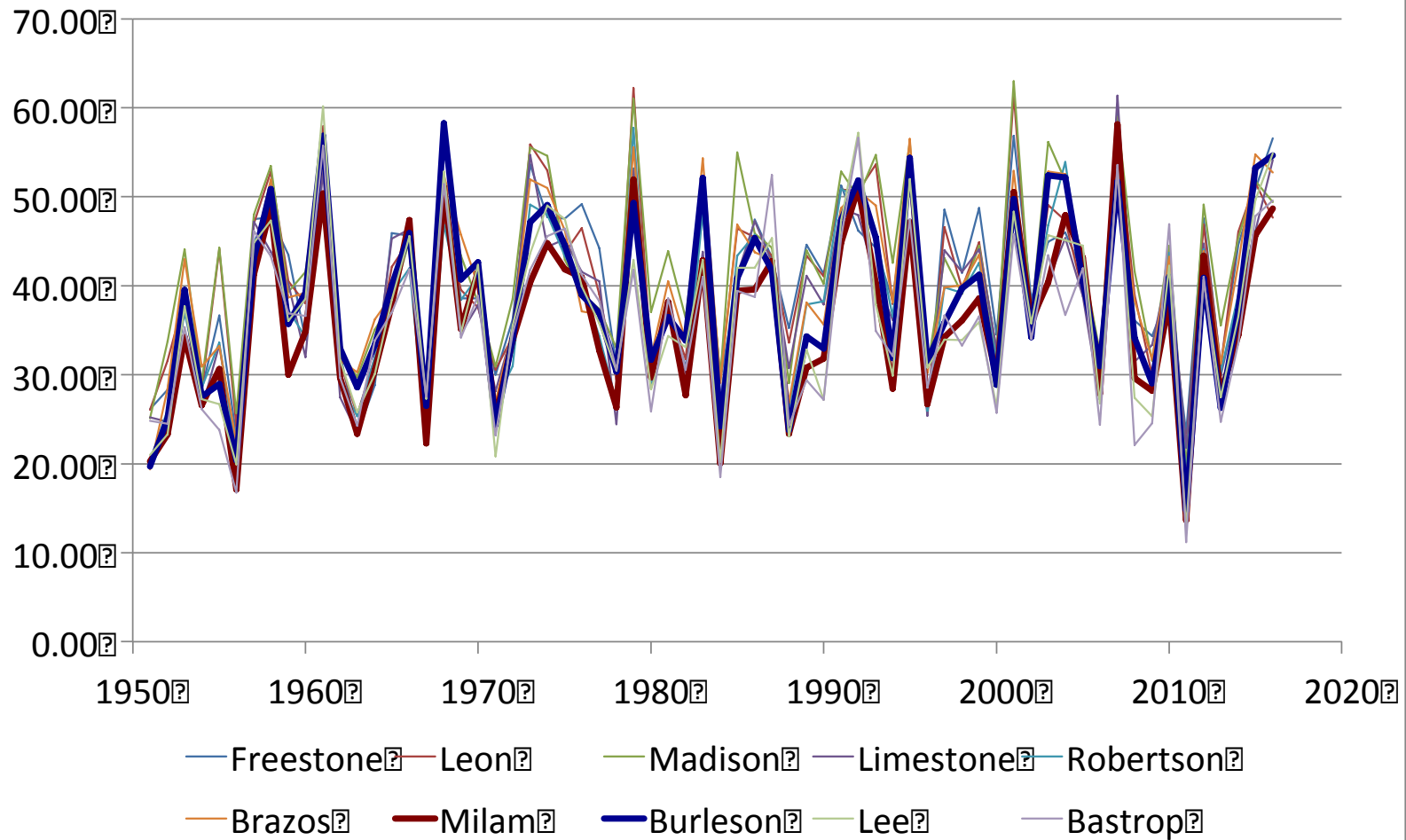


*about once every 5000 days

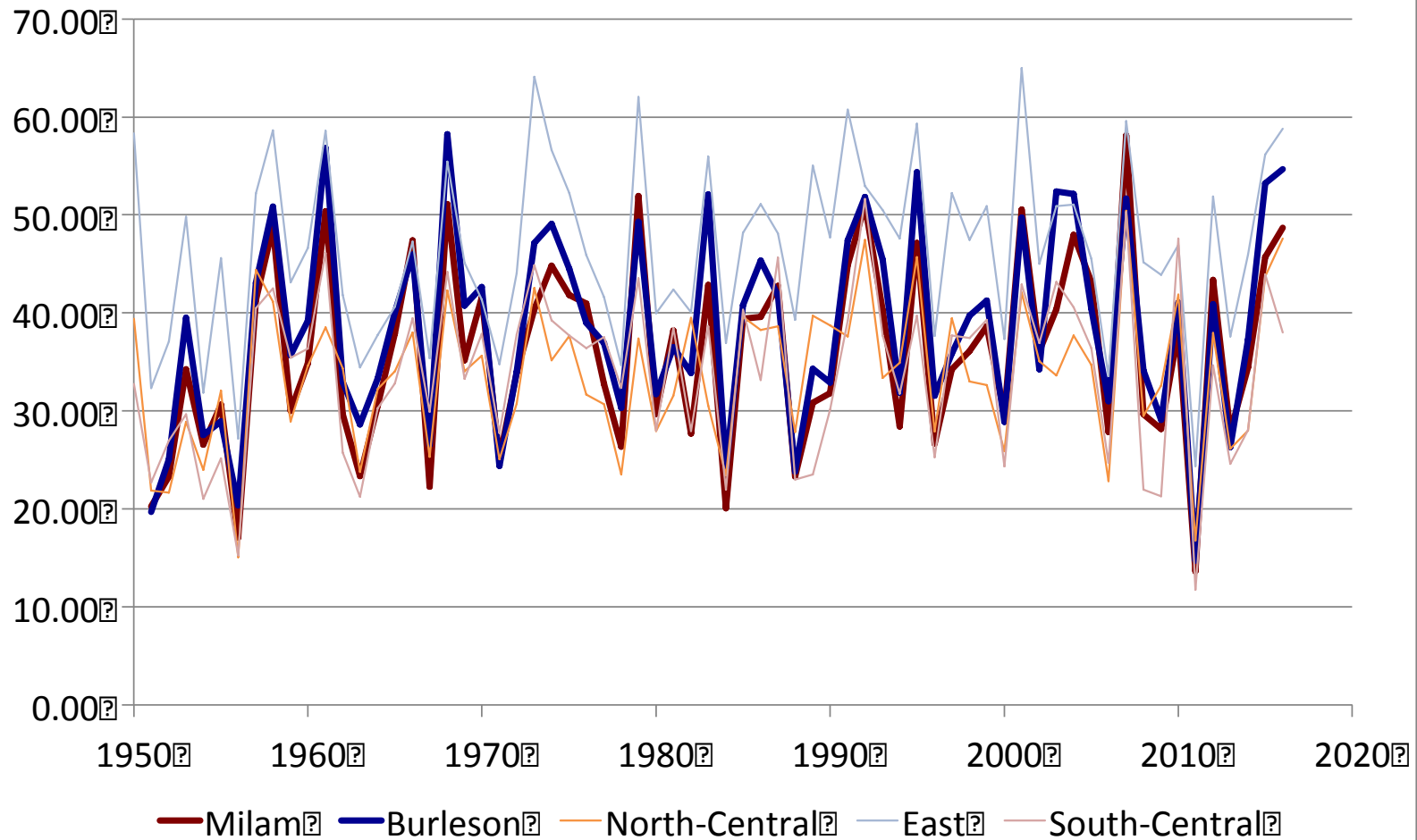
Summary: Heavy Rain

- Heavy rain is increasing in general
- Heavy rain is expected to increase
- Local trends are more random
 - Don't trust the local trends!
- Have a plan for Thrall and Hearne

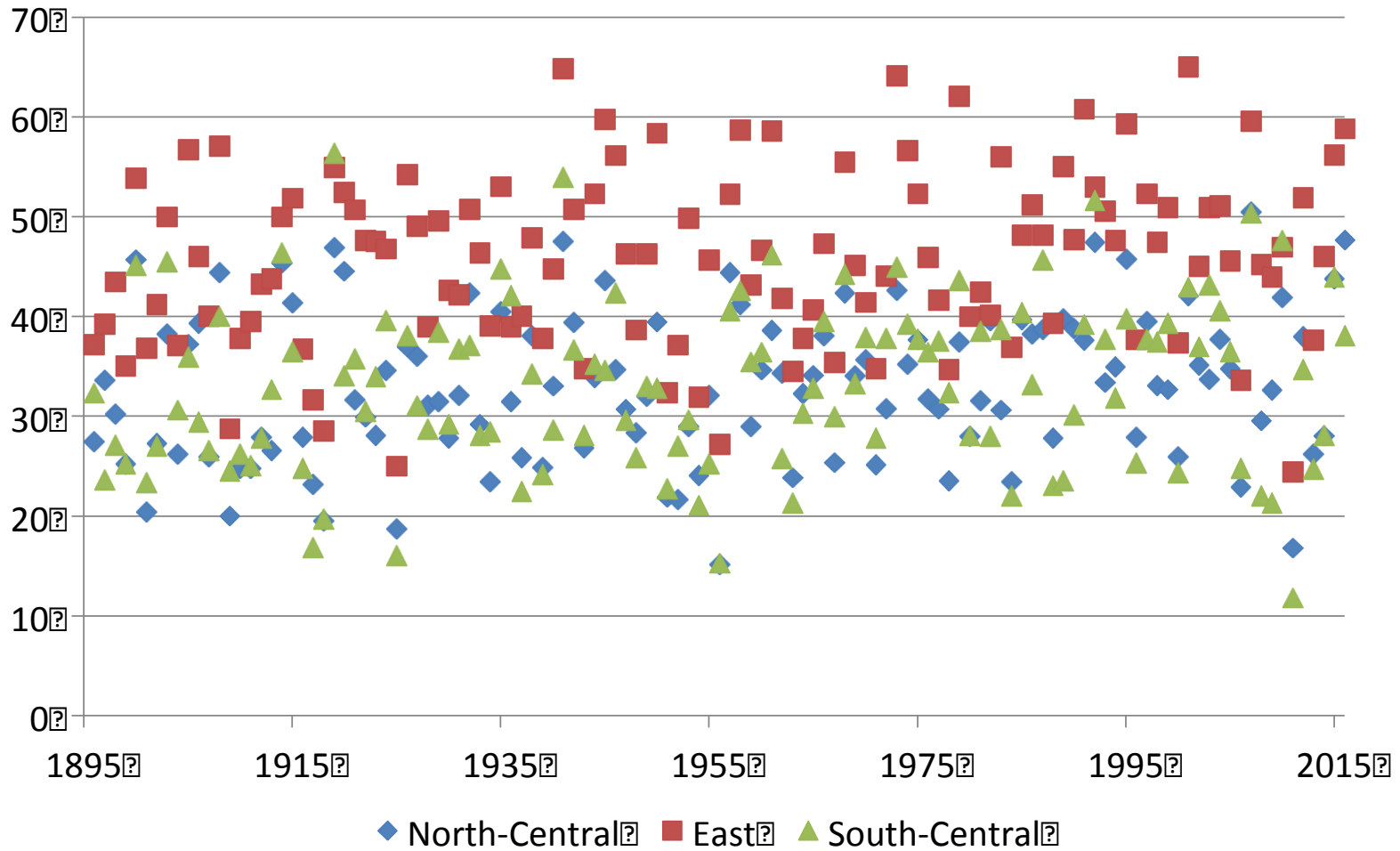
Water Year Rainfall, Post-Dak-Savannah-GCD



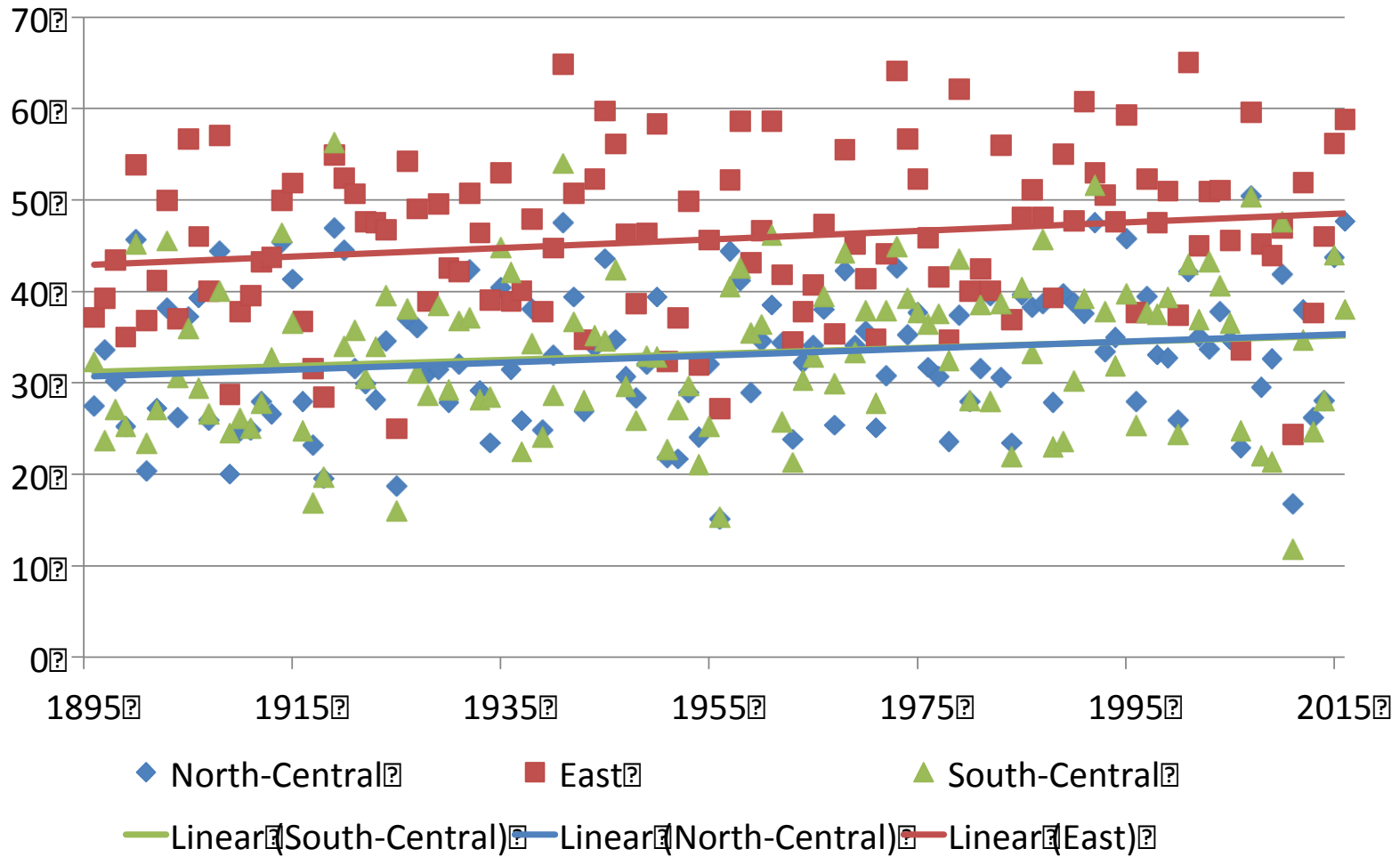
Water Year Rainfall, Post-Dak-Savannah-GCD



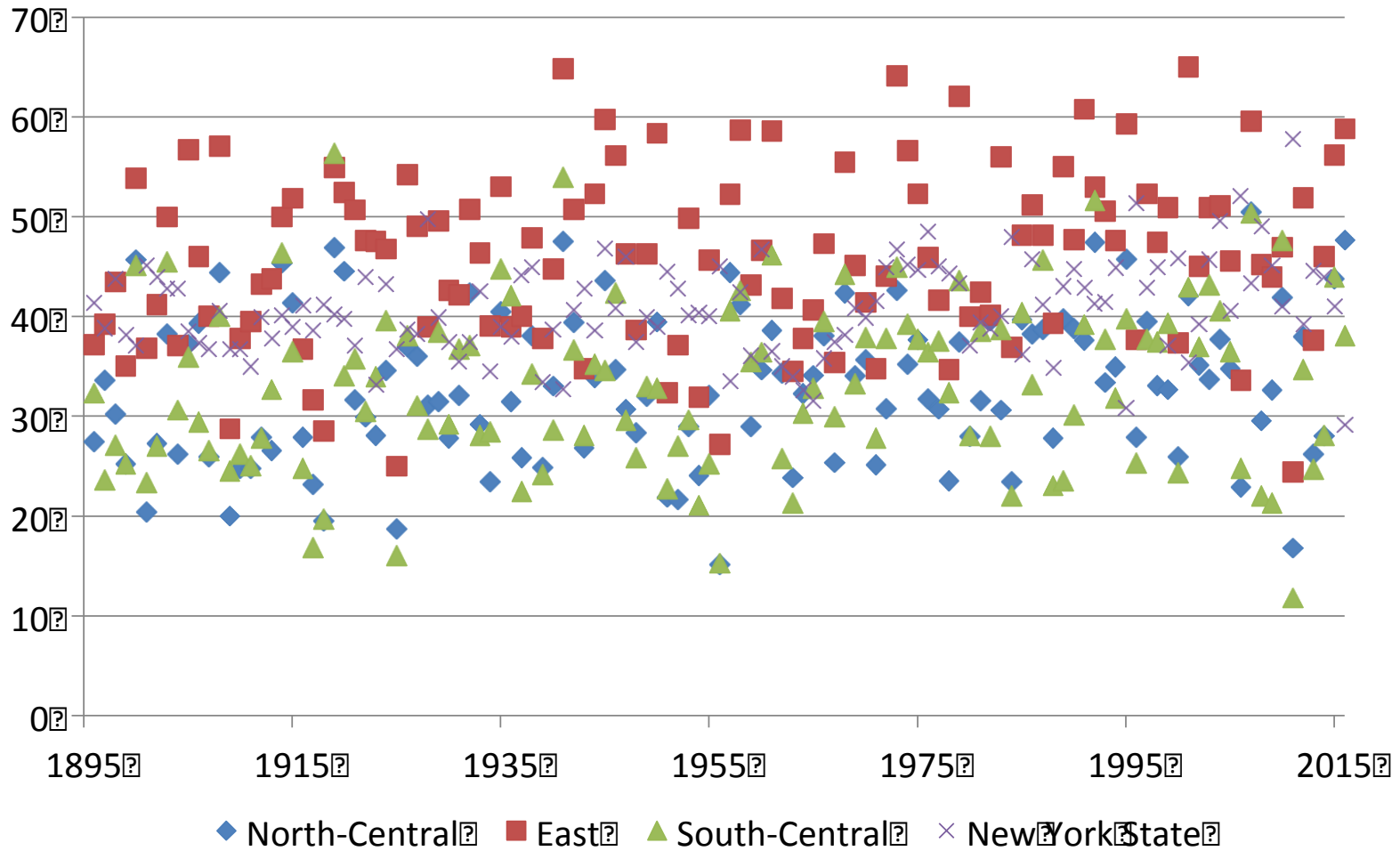
Climate Division Water-Year Precipitation



Climate Division Water-Year Precipitation



Climate Division Water-Year Precipitation



Summary: Annual Rain

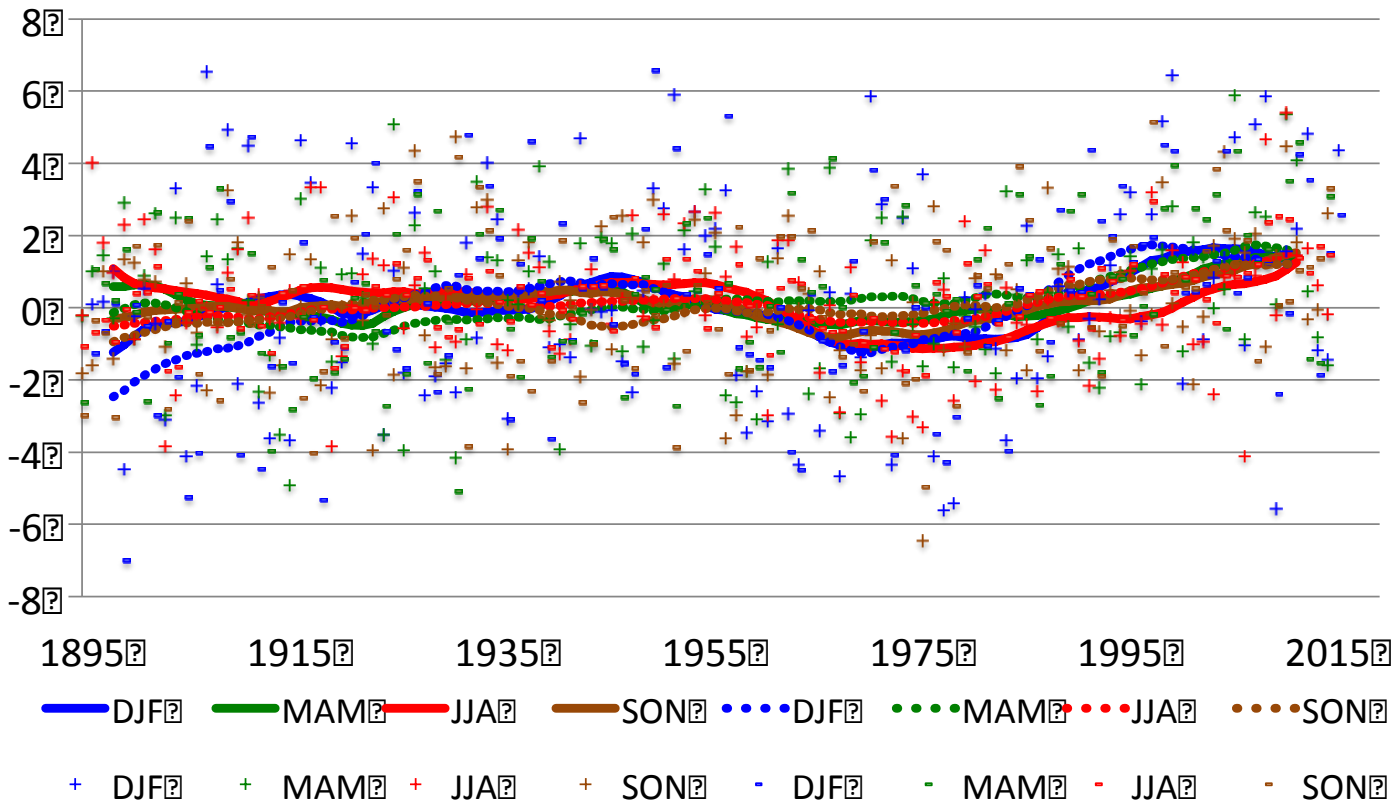
- Observed upward trend: 10% per century
- Trend tentatively not expected to continue

TX07 Seasonal Temperature Anomalies

Tmax plus, Tmin minus

Tmax smoothed solid, Tmin smoothed dotted

Difference from 20th Century Average (°F)

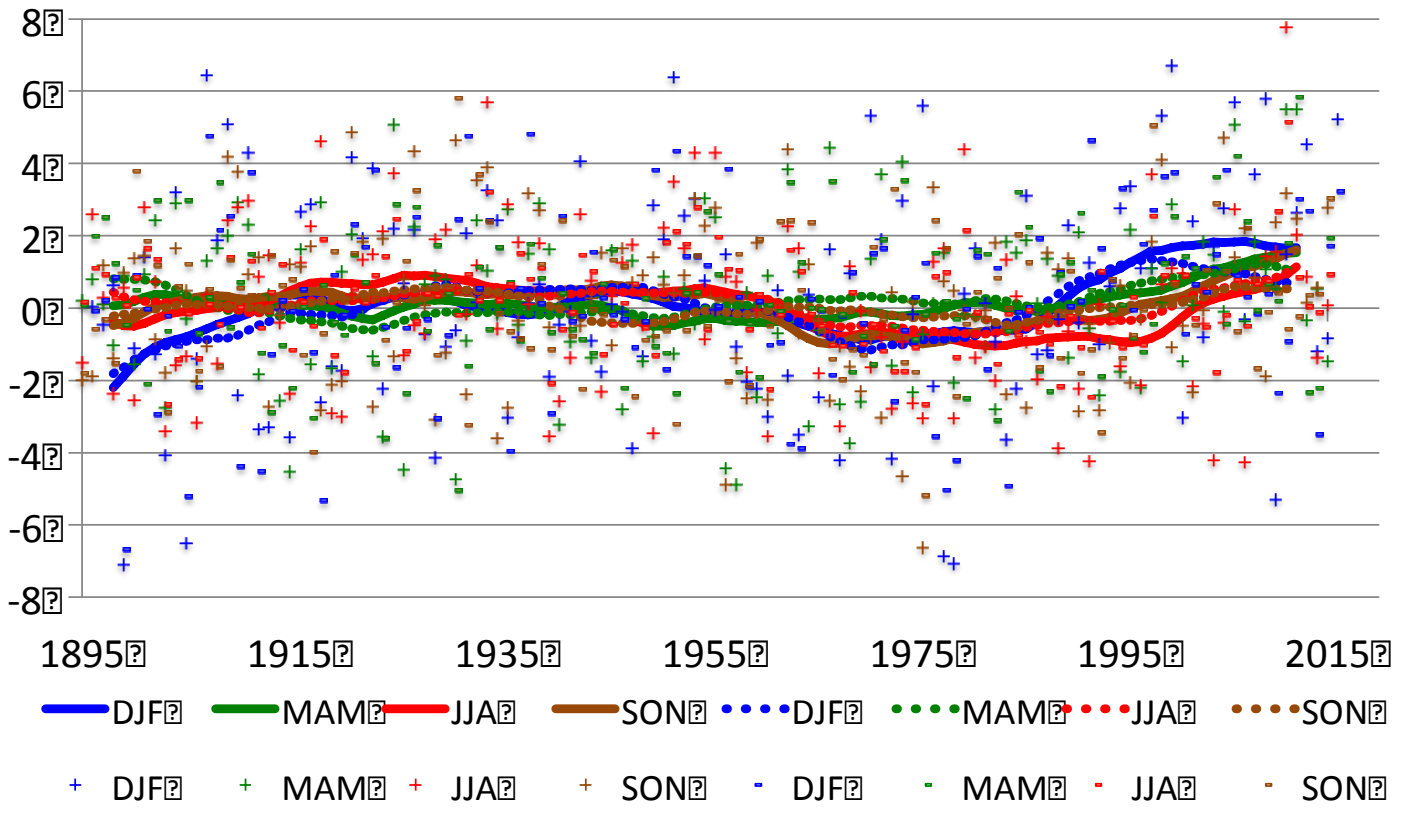


TX03 Seasonal Temperature Anomalies

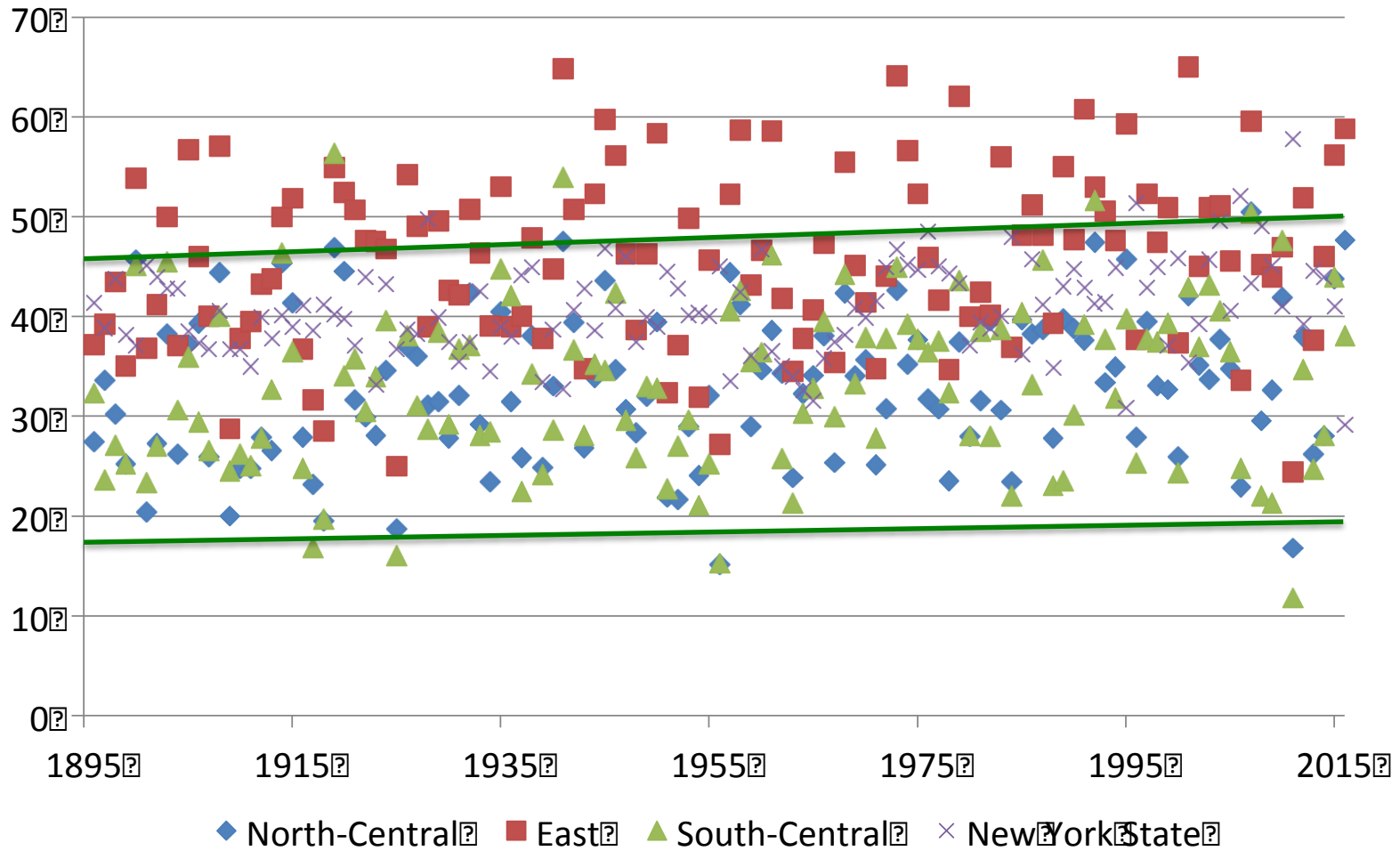
Tmax plus, Tmin minus

Tmax smoothed solid, Tmin smoothed dotted

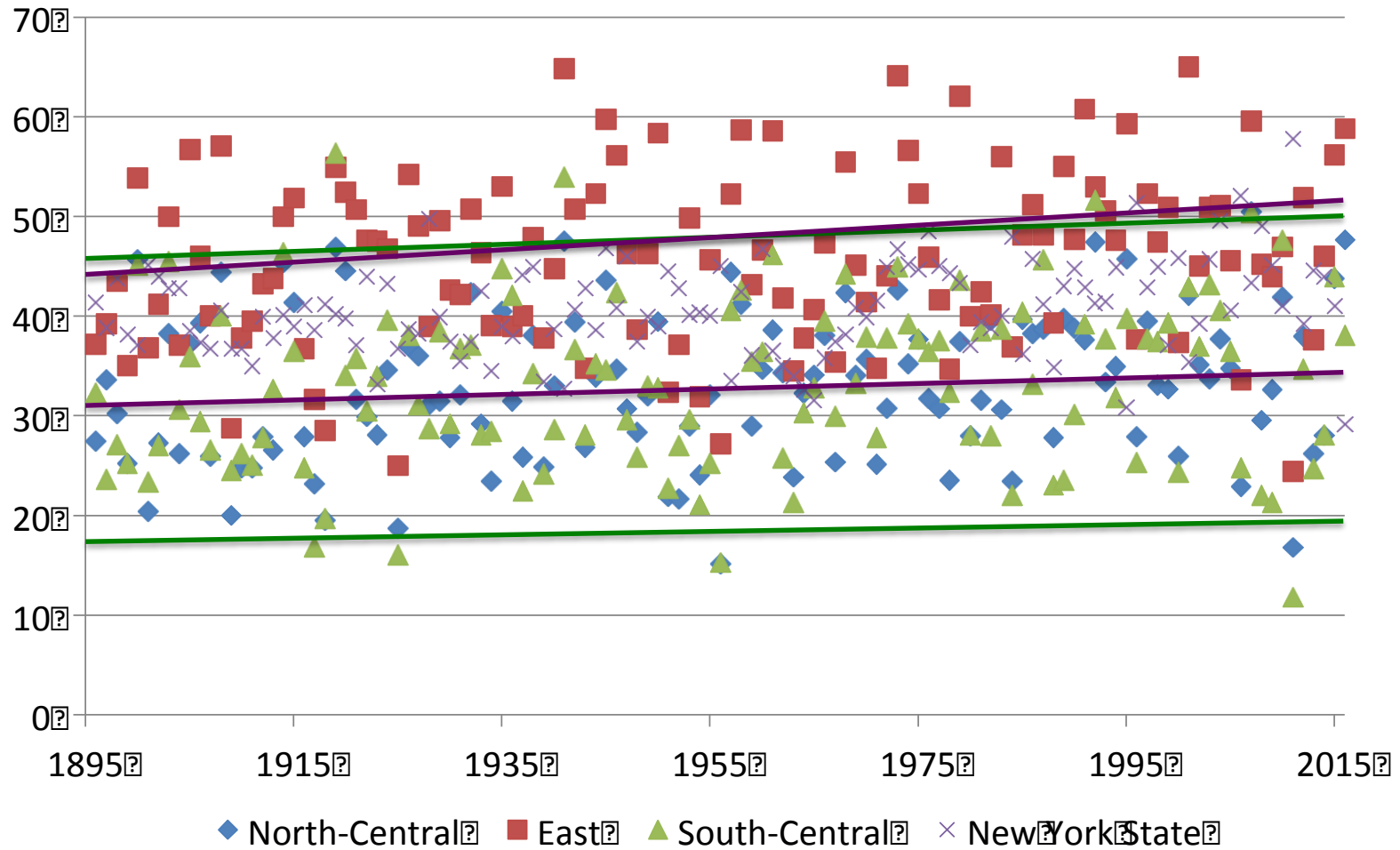
Difference from 20th Century Average (°F)



Climate Division Water-Year Precipitation



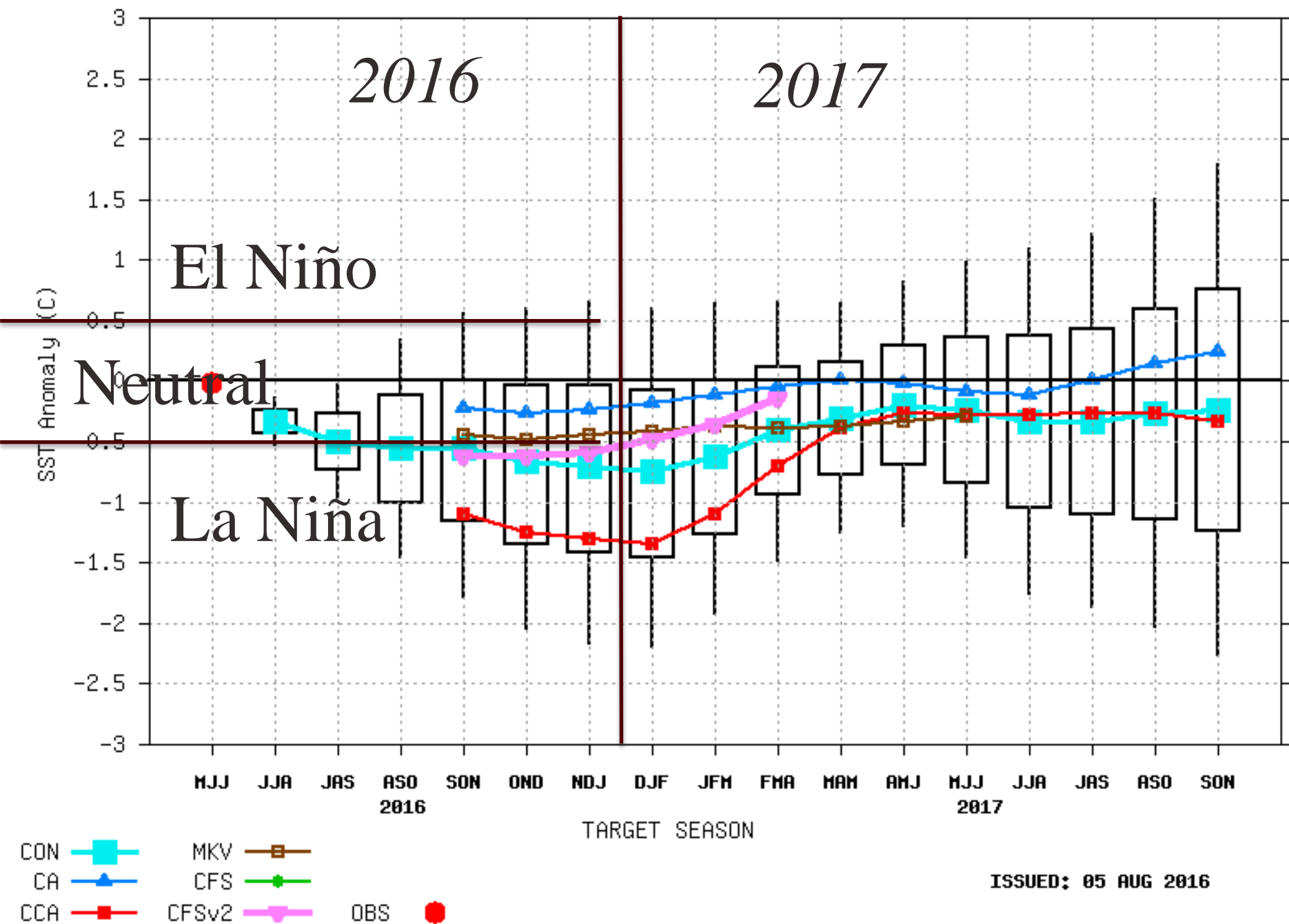
Climate Division Water-Year Precipitation



Summary: Drought

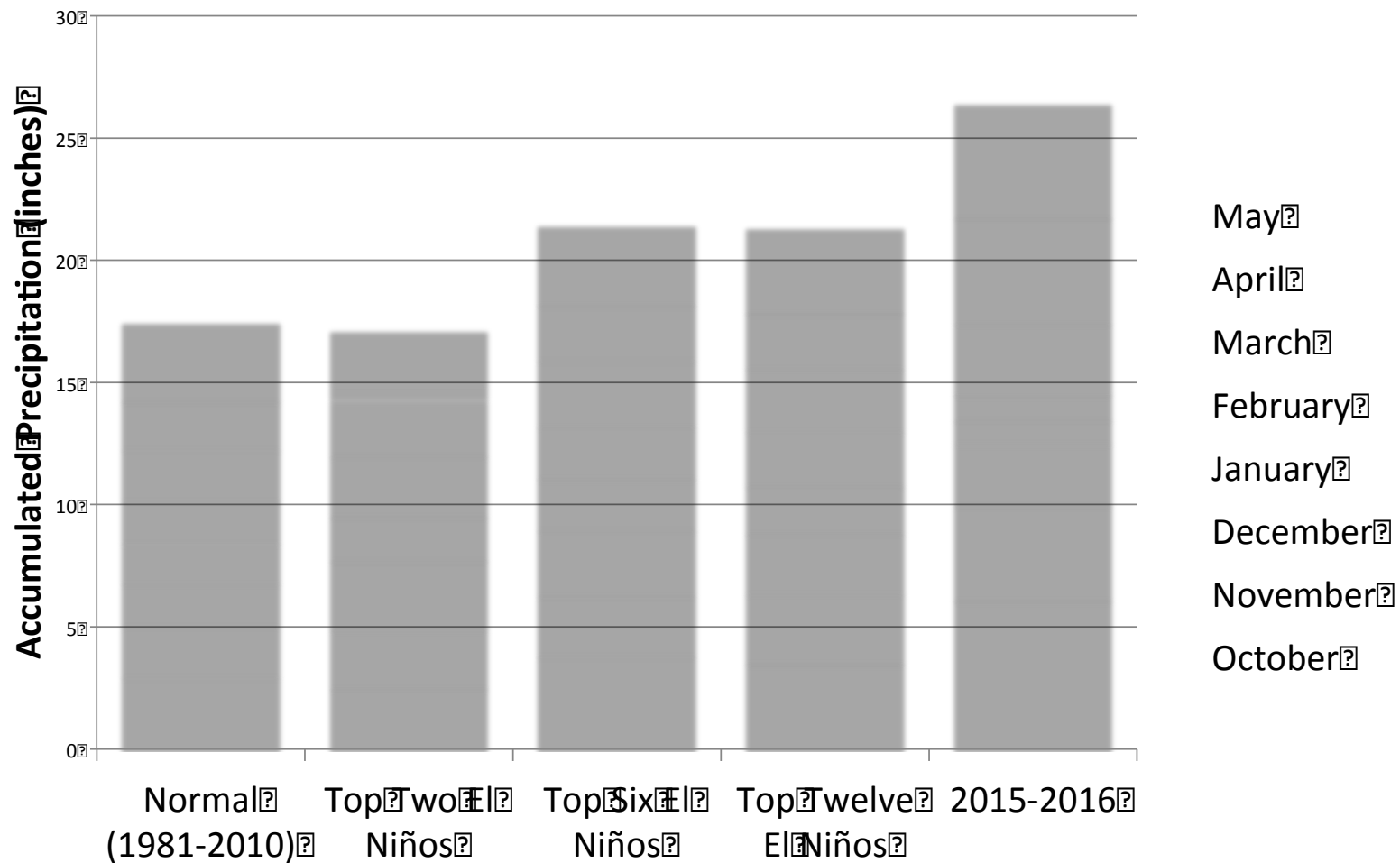
- Texas is unusually drought-prone
- Drought depends on:
 - Rainfall, increasing so far (good)
 - Temperature, increasing (not so good)
 - Carbon dioxide (good for plants)
- Drought tentatively expected to become more severe

SST CONSOLIDATION NINO 3.4

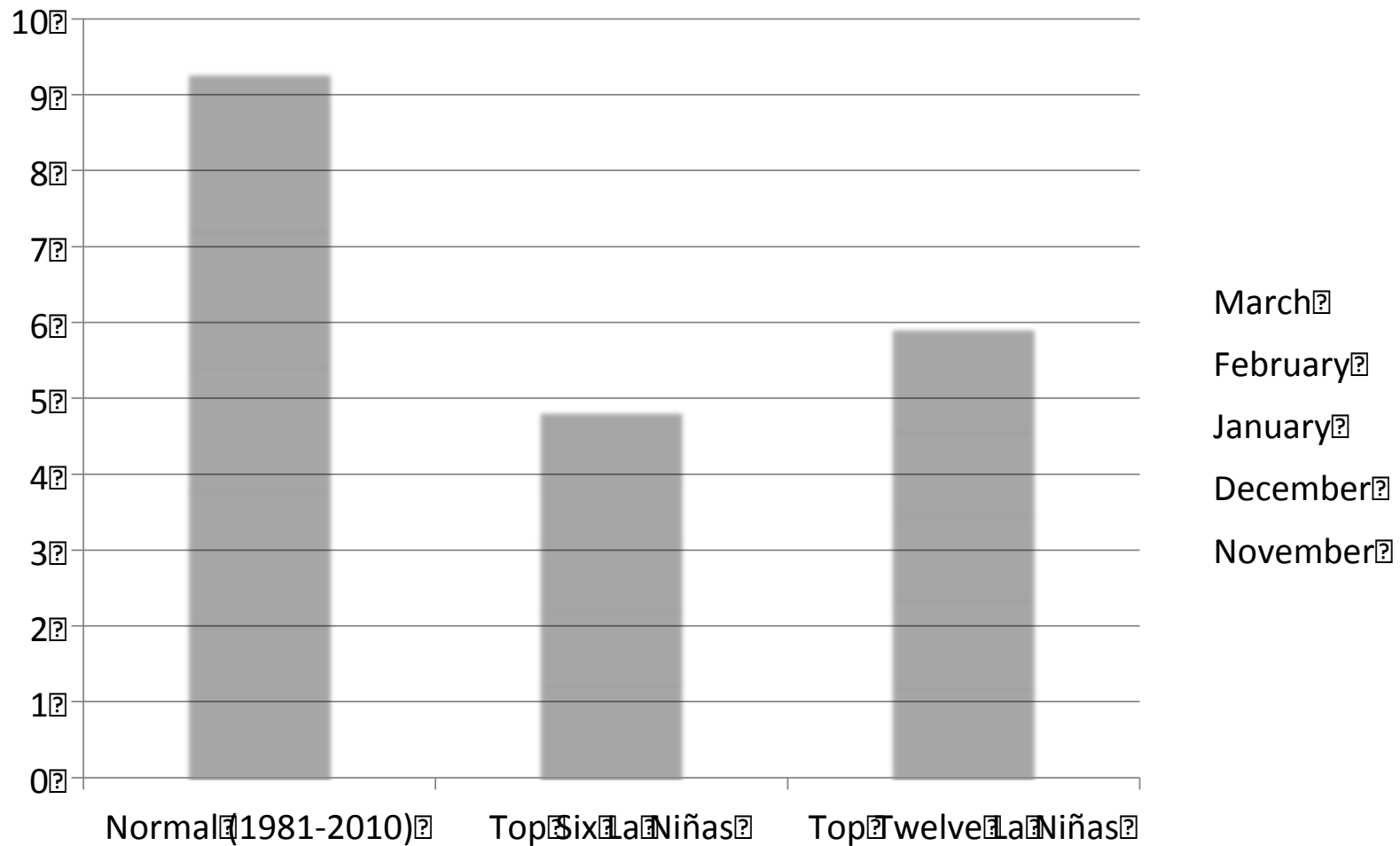


ISSUED: 05 AUG 2016

Texas Precipitation During Stronger El Niño Events



Texas La Niña Rainfall



Next Year's Rain

- We'll see
- Odds tilted toward drier than normal winter
- Strong La Niña very unlikely

Contact Info

- John Nielsen-Gammon
 - N-g@tamu.edu
 - 979-862-2248
 - <http://climatexas.tamu.edu>
 - Climatexas on Facebook

