

A Primer on Drought History in Alabama and Georgia

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Drought in the Southeast

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 - At least from a climatic view

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- Societal Changes change our vulnerability to drought
 - both increasing and decreasing our vulnerability

Societal Changes in the Southeast

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 - 2008 – State of Georgia over 9 million

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 - Along the coast
 - Northern Piedmont – top of the water shed

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- Landscape changes
 - Urban sprawl – changes in the watershed flow patterns
 - Conversion of row crop fields to forest (started in 1920s)

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 - Shift in amount in land in row crops and trees
 - Increase in irrigation

Societal Changes in the Southeast

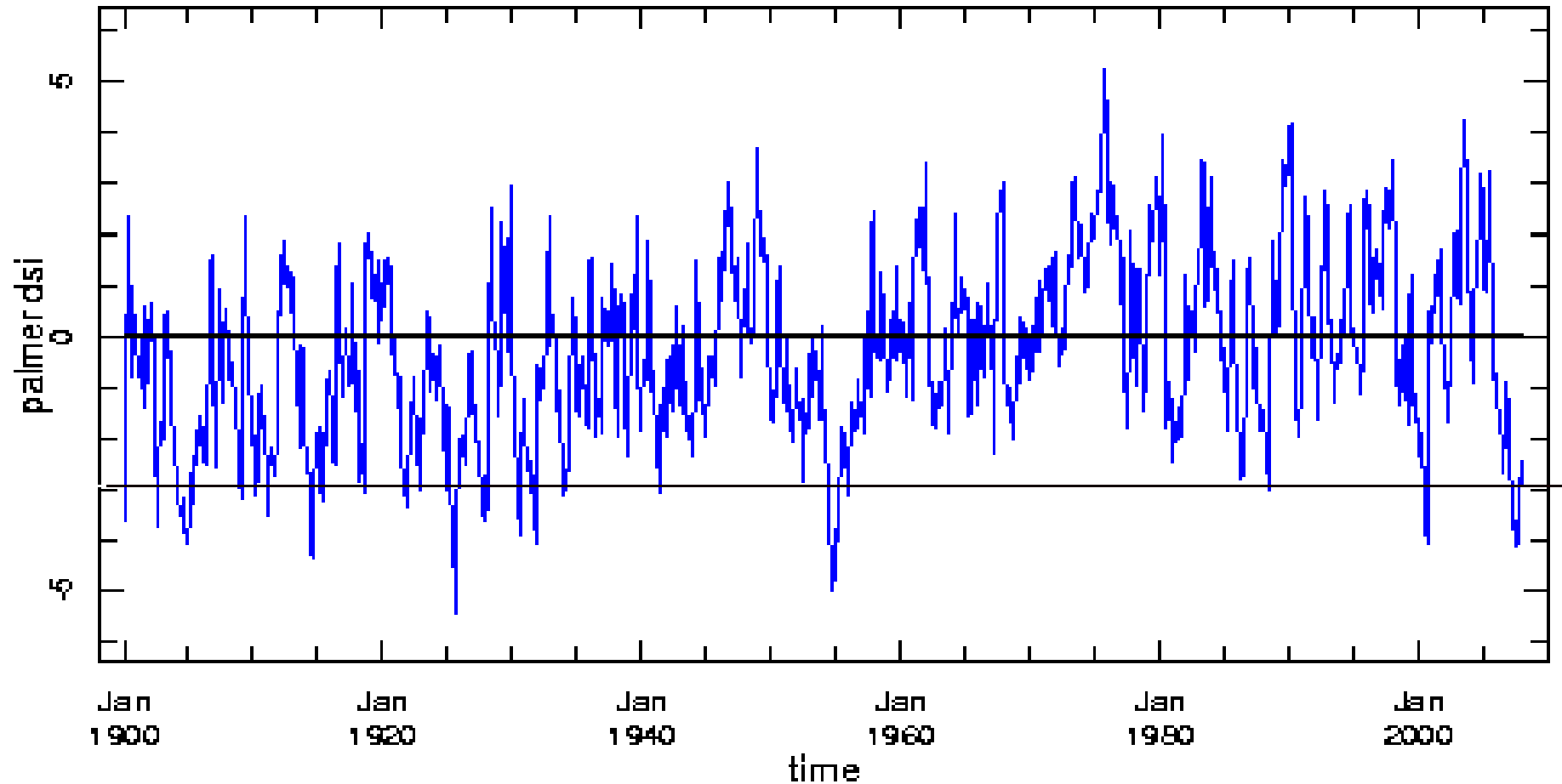
- Rapid population growth starting after World War II
- Landscape changes
- Agricultural Changes
 - Shift in amount in land in row crops and trees
 - Increase in irrigation
 - Increase in urban agriculture – the “green” industry

Climate Trends Across the Southeast

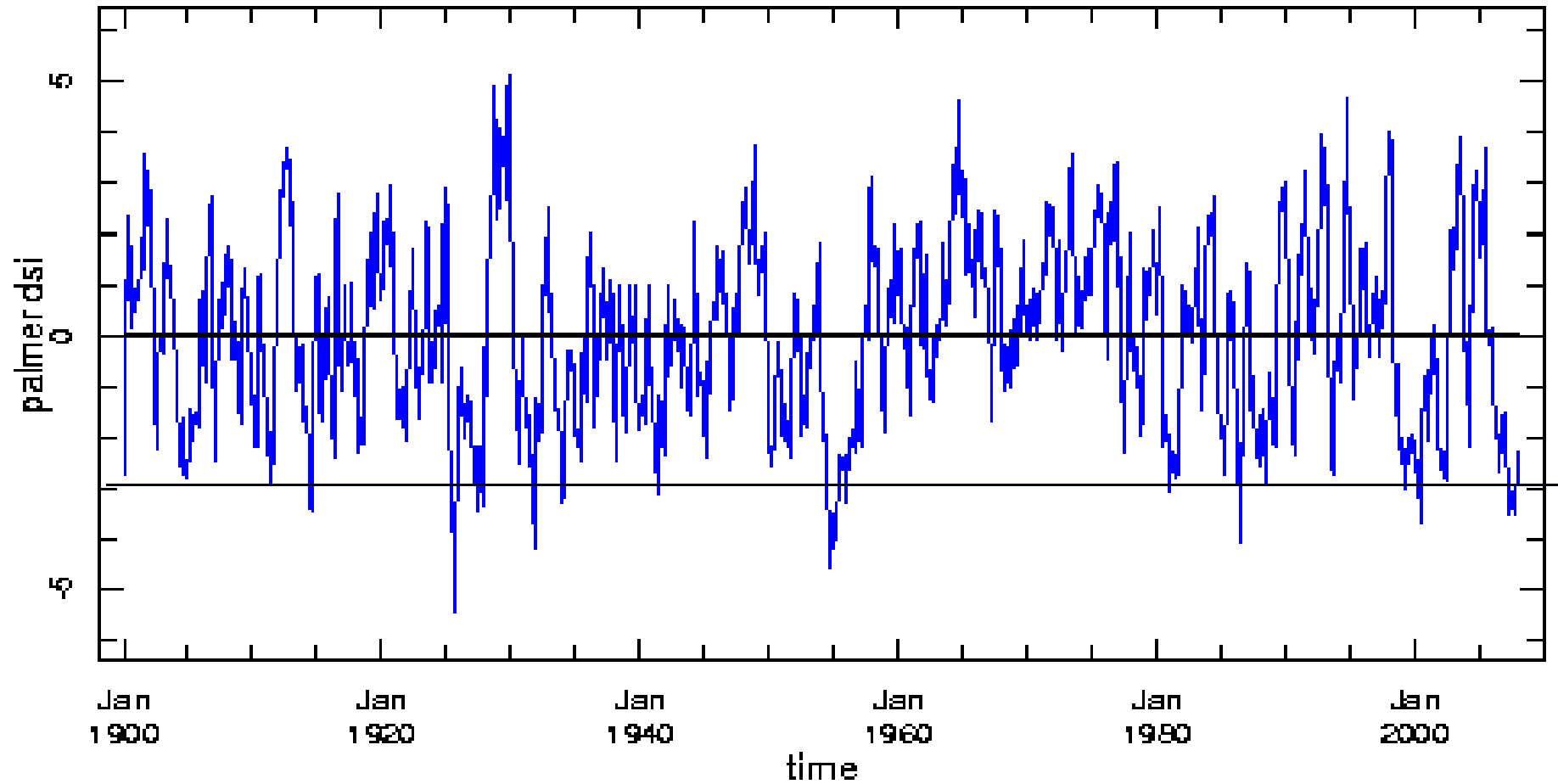
Climate Trends Across the Southeast

- Since 1900 – No trend in yearly precipitation
- Since 1900 – No trend to slight cooling in yearly average temperatures

Alabama Droughts



Georgia Droughts



Tree Ring Drought Information

- Long-term Droughts (3 or more years PDI < -0.99)
 - 1756-1760
 - 1762-1764
 - 1797-1802
 - 1855-1857
 - 1896-1899
 - 1925-1927
 - 1954-1956
 - 1998-2002
 - 2006- ?

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 - 1925-1927
 - 1954-1956
 - 1998-2002
 - 2006- ?
- Long-term drought about once in 40 years

Tree Ring Drought Information

- Long-term Droughts (2 or more years $PDI < -0.99$)

1756-1760

1762-1764

1797-1802

1855-1857

1896-1899

1925-1927

1954-1956

1998-2002

2006- ?

- Adds the following years

- 1708-1709

- 1714-1715

- 1839-1840

- 1844-1845

- 1914-1915

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Return interval is now once in 25 years

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- We will have droughts in the future
- No trend in southeastern climate since 1900
- More people but the same amount of water