Benefits of Irrigation in Humid Areas

Ed Barnes

Precision Irrigation Workshop

November 9, 2012 – Tunica, MS

Cotton Incorporated

Acknowledgements (those not on program)

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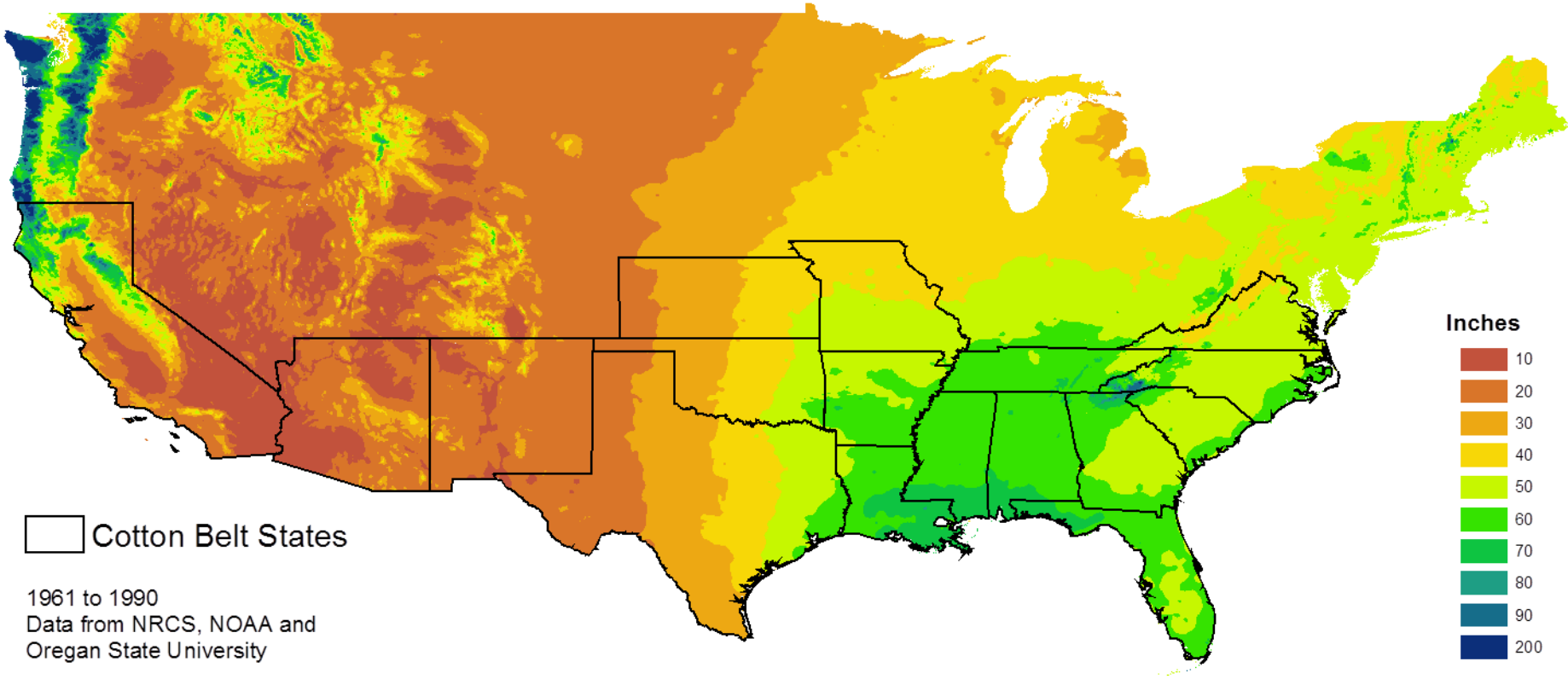
- And see the author list in the irrigation publication for other experts.

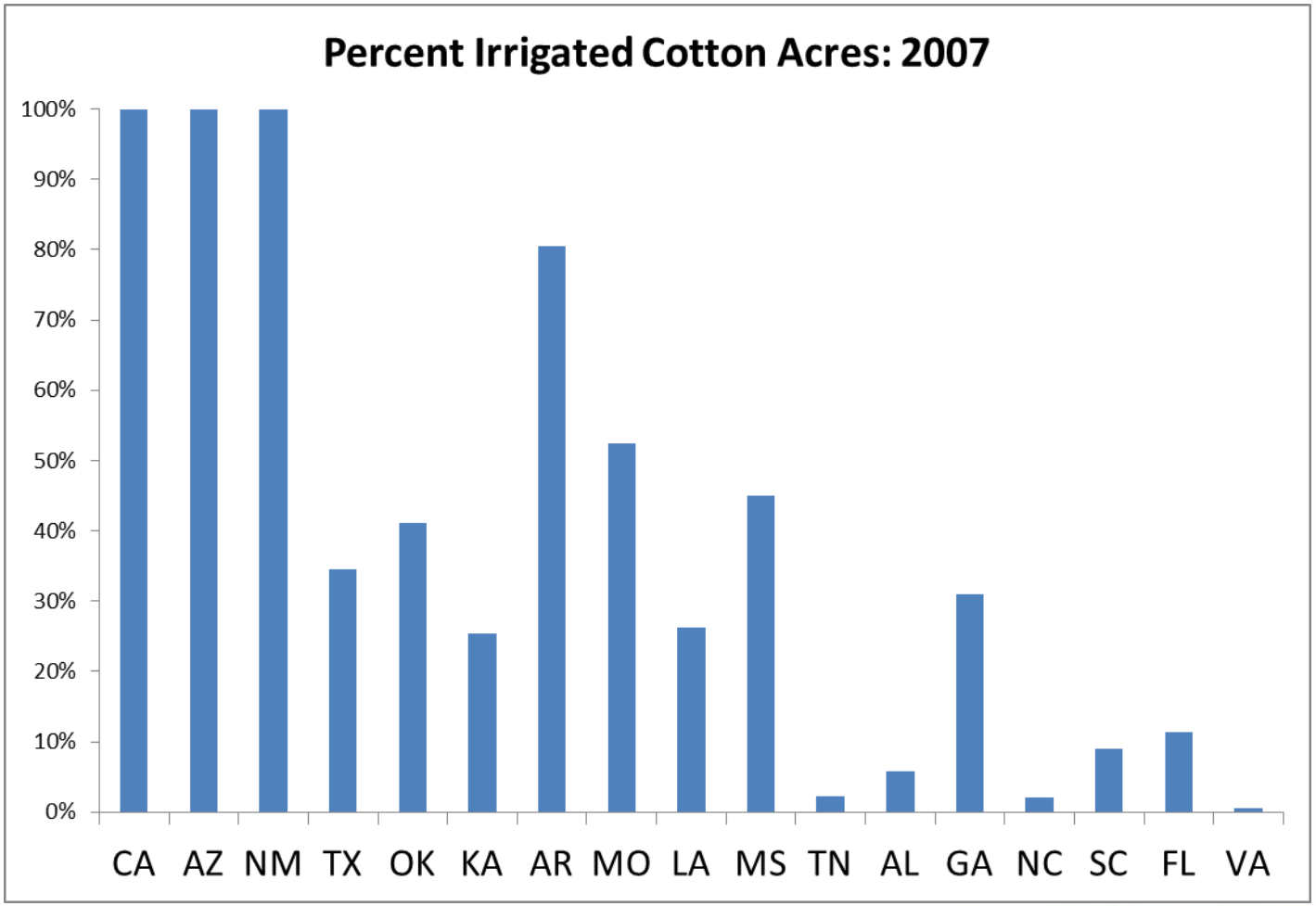
Overview

- Benefits of **Precision Managed** Irrigation:
  - Maximize Yield
  - Minimize Risk
  - Improve sustainability of operation
  - Reduce pressure from regulators
  - Better public perception of water used

Average Annual Rainfall



U.S. Irrigated Acres in 2007



West → East

Source: USDA 2007 Census of Agriculture

Impact on Productivity (Yield)

- **Cotton**: 40 to 70 lbs of fiber per acre inch
- **Corn**: 7 bushel per acre inch
- **Wheat**: 4 bushel per acre inch
- **Rice**: 250 lb per acre inch

+ Risk Management

Yield from Irrigation in Mid-South

- **Pounds of fiber per acre:**
- Arkansas: **215**
- Mississippi: **185**
- Louisiana: **102**
- Range: **-13 to 365**
- Years: 1990 to 2011 (LA ends 2009)
- Source: USDA, NASS Survey Data

Regulatory

California's Man-Made Drought

The green war against San Joaquin Valley farmers.

Potential water shortage

Recommend Be the first of yc

Posted: Jul 21, 2010 3:50 PM
Updated: Jul 21, 2010 3:50 PM

STATE OF MISSISSIPPI (WLBT) - A ne
for a potential water shortage in the r

The report from the Natural Resources Def
picture of warm temperatures further taxir
heavy agricultural and consumer use.

Mississippi is one of fourteen states consid

New Water Councils Appointed for Georgia Water Management

February 18th, 2009

Last week the Atlanta Journal Constitution ran an article on the creation of 10 new water councils all throughout the state. Each council will be made up of "farmers, government officials, businessmen and others" and will be tasked with determining how to divide rivers, lakes and underground aquifers.

Sustainability Organizations Have Water Metrics

THE SUSTAINABILITY CONSORTIUM

Members Approve Life-Cycle Assessments for Independent Review

Sustainable Apparel Coalition

Coalition to set Common Metrics and Standards to Improve Apparel Sustainability

Sample of TSC Members:

Walmart

MONSANTO

MillerCoors

BEST BUY

DELL

Kellogg's

DISNEY

P&G

Water Risk


CARBON DISCLOSURE PROJECT
Collective responses to rising water challenges

Today's Program

- Lessons Learned from Pumping Monitoring in the Midsouth – *Chris Henry*
- Cotton Water Requirements in Humid Areas – *Ken Fisher*
- Sensitivity of Cotton to Water Stress – *Derrick Oosterhuis*
- Agronomic Considerations Managing Irrigated Cotton- *Tom Barber*
- Overview of Sensor-based Irrigation Scheduling – *Brian Leib*
- Irrigation Sensor Company Presentations:
  - Tom Speed – Smartfield
  - Steve Perkins – CMA / Irrometer
  - Mel Cantebury - EnviroSolutions, Inc.
  - Keith Patterson – John Deere Water