AGRICULTURAL IMPACTS OF DROUGHT ON THE SOUTHEAST US

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Topics

• Drought recap
• Agriculture in the Southeast
• Impacts of drought on agriculture

Onion planting in Vidalia GA
Timeline of Drought in the SE
Groundwater status as of Feb. 5

Miller County, GA
(Upper Floridan Aquifer)
Flint River flow at Bainbridge
Irrigation

Irrigated acres, 2005

Permitted Withdrawals for Irrigation within the State of Georgia
Source: Georgia DNR EPD
- Groundwater Sources
- Surface Water Sources
- River Basins
Types of agriculture by state in SE
Peanuts

Peanut yield of 4550 pounds per acre in 2012

Yield in 2011 was 3625 pounds per acre

“A perfect year for peanuts”

Factors in record yield:
• Maximum (89 F) and minimum (68 F) temperatures about 3 degrees below long term average—optimal is max of 86 F
• Timely rain in July and August helped fill the pods
Peanuts

Can’t count on weather being cooperative

Irrigation – peanut fields need 1.5 – 2.0 inches of water per week during pod development and pod fill (weeks 10-17)
Livestock

A warmer than usual spring in 2012 coupled with drought led to declines in farm pond levels and the growth of toxic algae which killed a number of cows in Georgia during early summer.
Corn

Dry conditions in the critical fertilization period lead to inadequate filling of ears. Most of Georgia’s corn is used in local feed industries but about 80 percent of needs are imported from the Midwest.

One farmer estimated that he spent $88K in May and June 2012 running his diesel irrigation pumps to keep plants moist in SW Georgia.
Cotton harvest in 2007 was 25 lb per acre above the 5-year average of 759 lb per acre but 40 lb per acre below the 10-year trend yield of 824 lb per acre.

The yield loss was estimated at $24.5 million in lint income and $3.2 million in cottonseed income.

In addition there were increased production costs from more irrigation and more weed control.

Reductions also occurred in loss of lint quality.
Estimated losses from 2007 drought

- Field crop losses estimated at $1.3 billion for the Southeast
  Peanut crop losses estimated at $92.5 million and corn
  at $63.1 million
  *Tropical Storm Barry prevented worse losses by adding soil moisture which allowed
  the planting of several thousand acres of peanuts late in the season*

- Florida orange crop down 13% but losses offset due to higher prices

- Hay production was down 50 percent or more in Alabama,
  leading to beef cow herd reductions of 5-10 percent
Urban Agriculture and Landscaping

- Estimated industry-wide job losses in urban agriculture (landscaping) of 35,000 due to layoffs in the 2007-8 drought in GA
- Most cuts came from part-time and seasonal workers as businesses tried to keep their full-time workers employed
- Estimated loss due to the 2007 drought and watering restrictions was $225K per business
- Many businesses quit or declared bankruptcy

Charmar Flower and Gifts in Athens lost 30% of their business in 2007
Urban Agriculture and Landscaping

- Briggs and Stratton shut down temporarily in 2012 due to lack of demand for lawn equipment from drought and economy, laying off 340 hourly workers and 200 part-time employees
Forestry

Multi-year events have the most impact on forests. Impacts include:

- Stress on trees which increases vulnerability to insect pests, diseases and root rot
- Oak are least affected and pine the most affected
- Reduced growth and successful planting
- Increased wildfire chances (almost 600k acres burned in 2007)

Eighty percent of tree growth is due to water availability
Forestry

Economic activity in Georgia due to forestry decreased due to a combination of drought impacts and economic recession.

Figure 2-1  Forestry Industry Economic Activity: Output by Sector (Dollars in Millions)
Monthly Rainfall Departures

- January 2013
- February 2013

[Maps showing rainfall departures for January and February 2013]
Drought Timeline for 2013
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