

Quick Stats and CropScape for Mississippi Farming

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Introduction

- NASS has two on-line services for crop data. Statistics are obtainable from both with Quick Stats providing official values by political locations and Cropscape providing pixel estimates for selected areas.
- NASS started collecting cotton and corn statistics just after the Civil War. Great changes brought on by the mechanization of farming and the great depression lead to the addition of soybean and later rice farming in Mississippi. These farming changes allowed more effectively use of high clay soils.
- Quick Stats has become the source of current official NASS estimates containing both census and survey data. It is currently available in both the old and the next generation versions.
- The Cropland Data Layer was started for Mississippi in 1999. CropScape, started in January of this year, allows on-line and download capabilities for the Cropland Data Layer (CDL).
- Quick Stats data is best examined graphically and the CDL gives the ability to examine raster data.

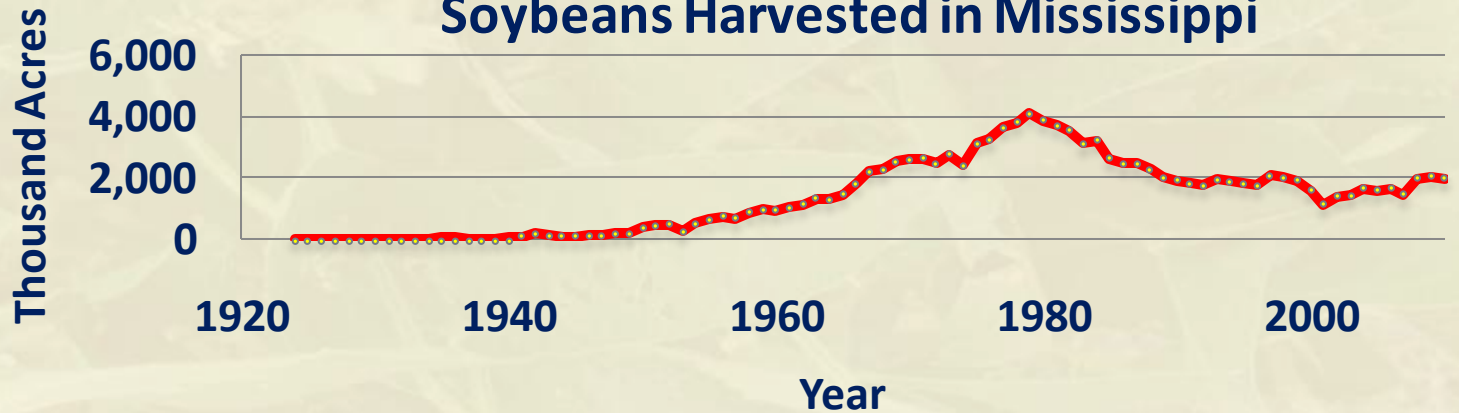
Quick Stats Soybean Statistics for Mississippi Farms

Soybean yield is near an all time high and soybeans are currently over half of the acreage of cultivated cropland in Mississippi.

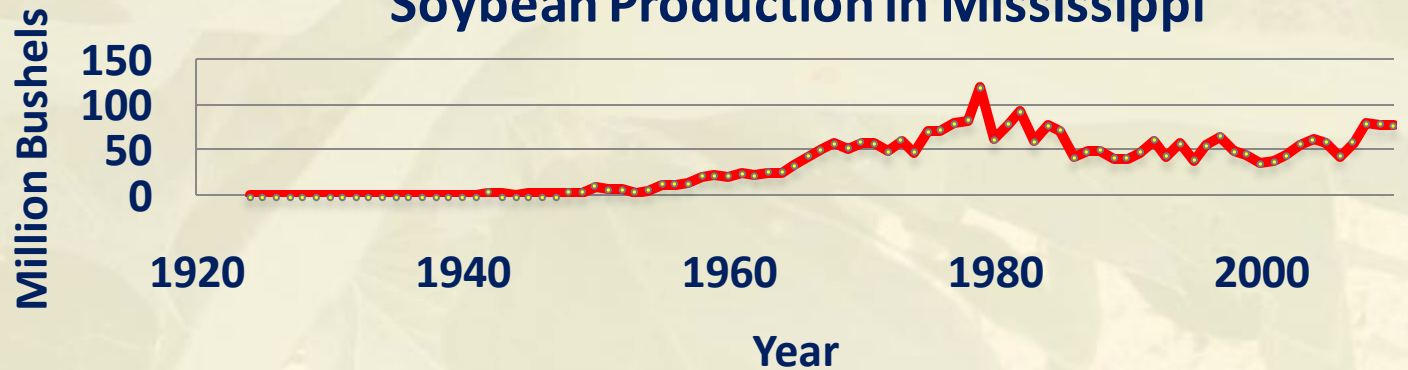
Soybean Yield in Mississippi



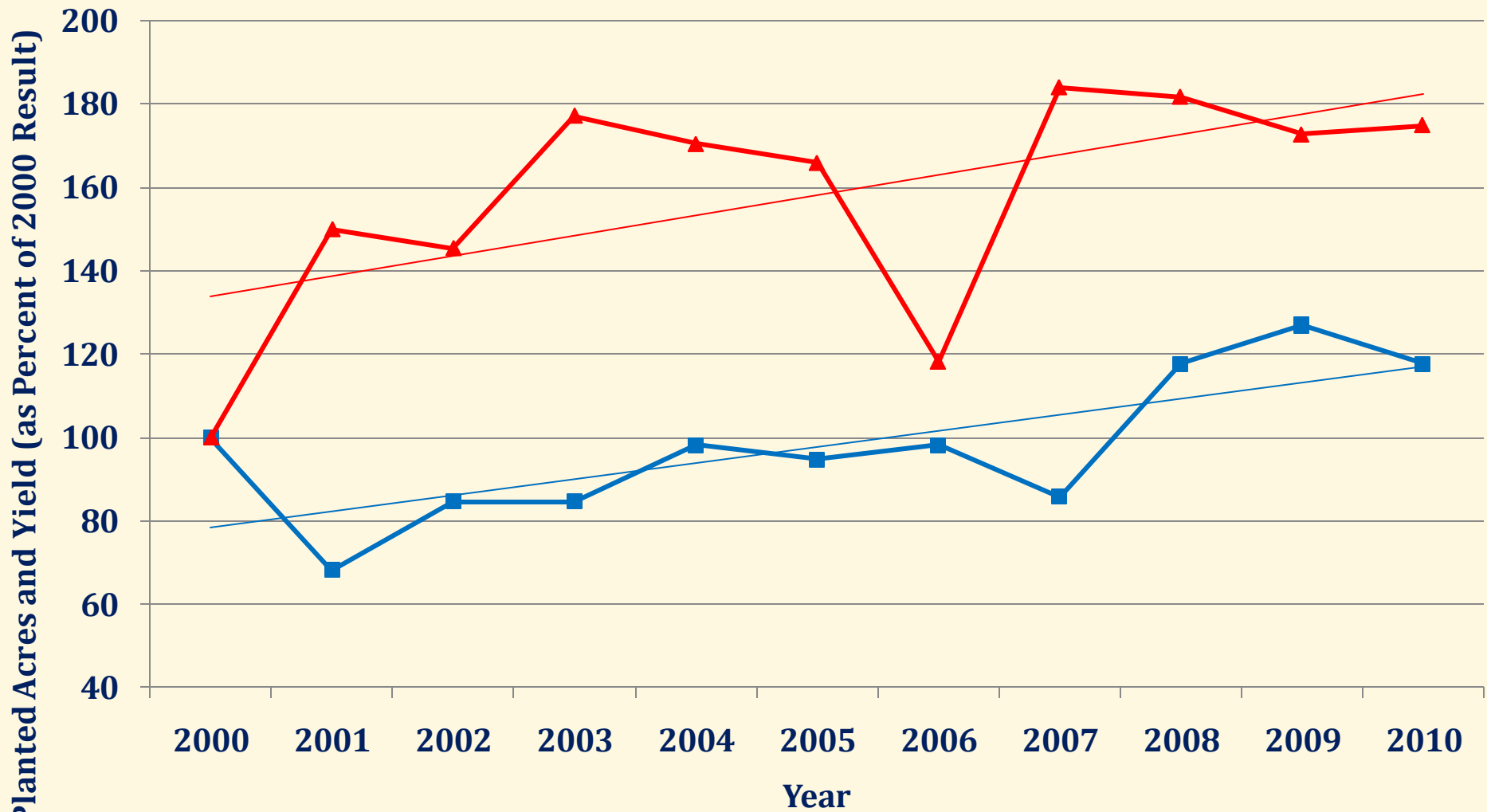
Soybeans Harvested in Mississippi



Soybean Production in Mississippi



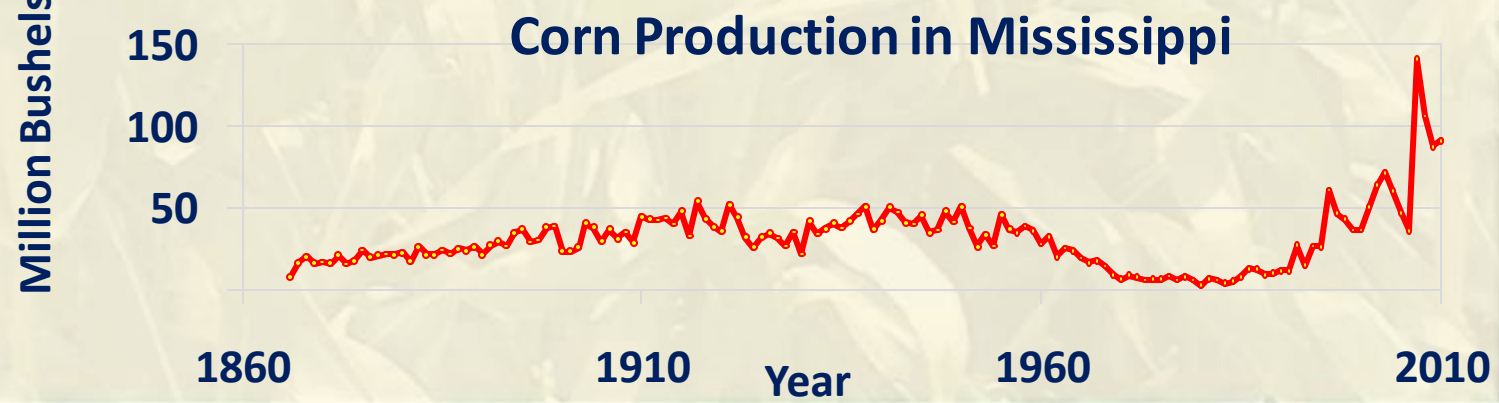
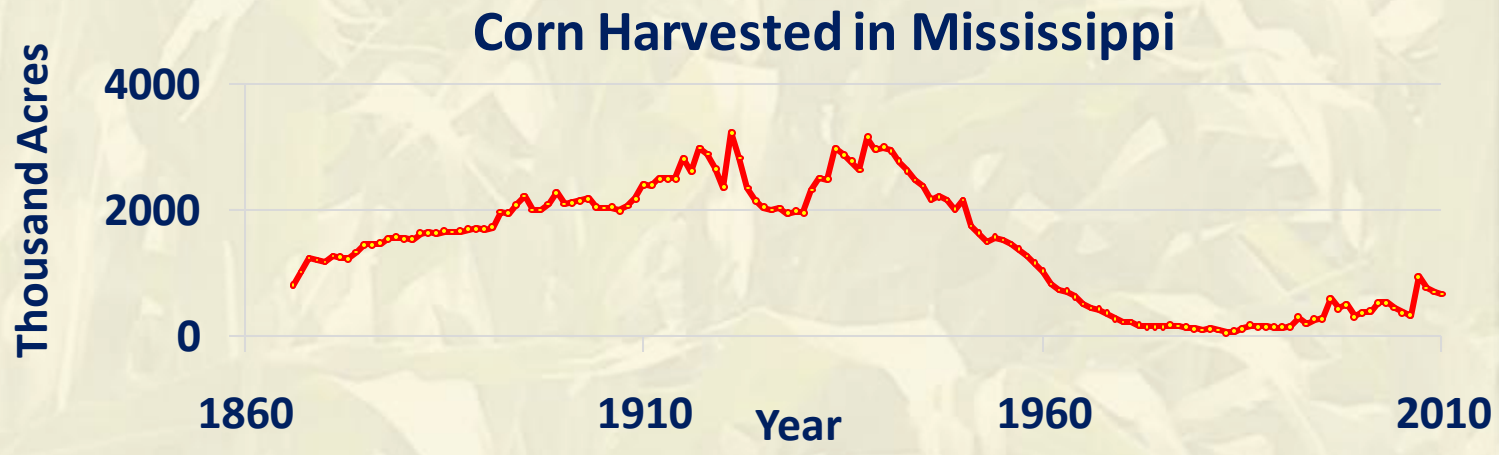
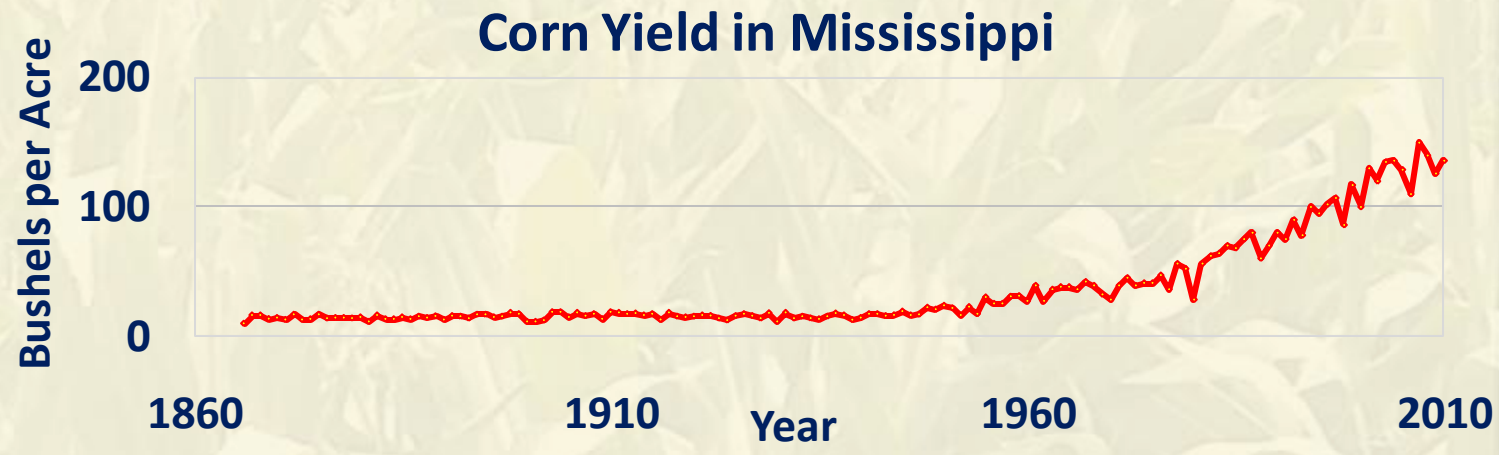
Soybean Planted Acres and Yield



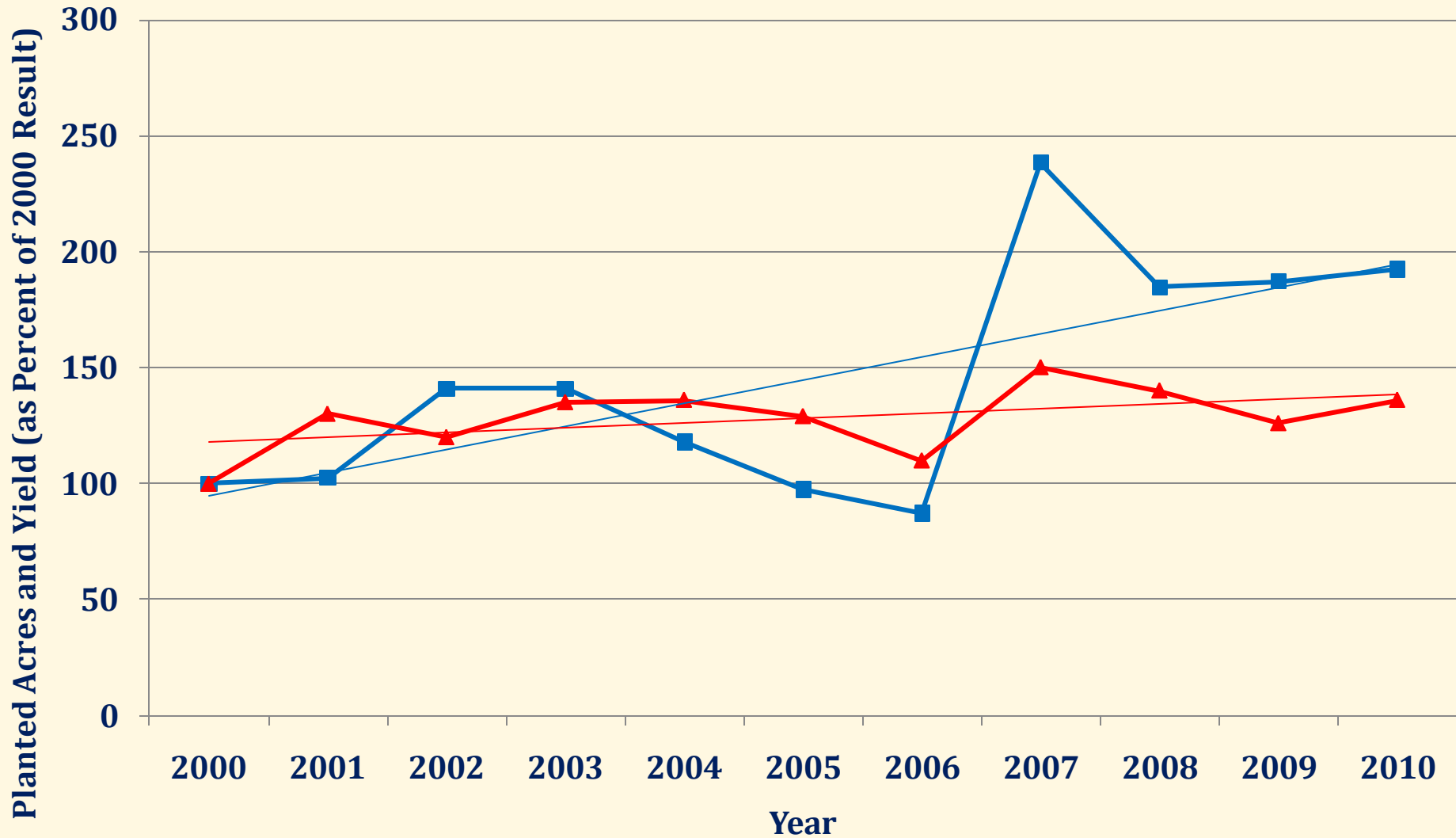
- Planted Acres, Normalized to 2000
- ▲ Yield, Normalized to 2000
- Linear (Planted Acres, Normalized to 2000)
- Linear (Yield, Normalized to 2000)

Quick Stats Corn Statistics for Mississippi Farms

Both yield and production have increased at a faster rate than the harvested acreage.



Corn Planted Acres and Yield



■ Planted Acres, Normalized to 2000

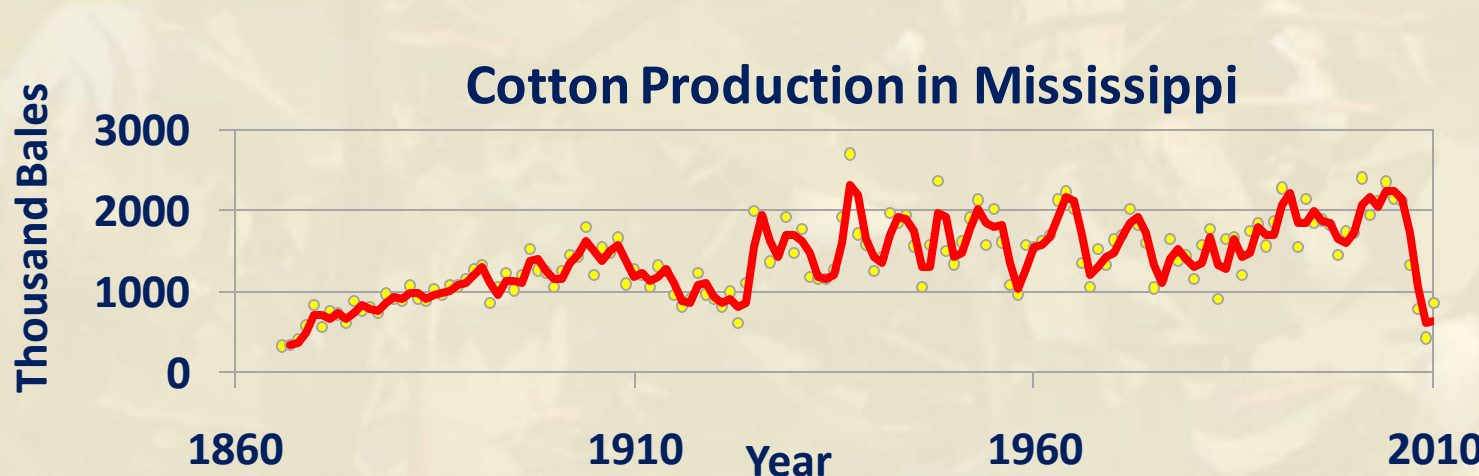
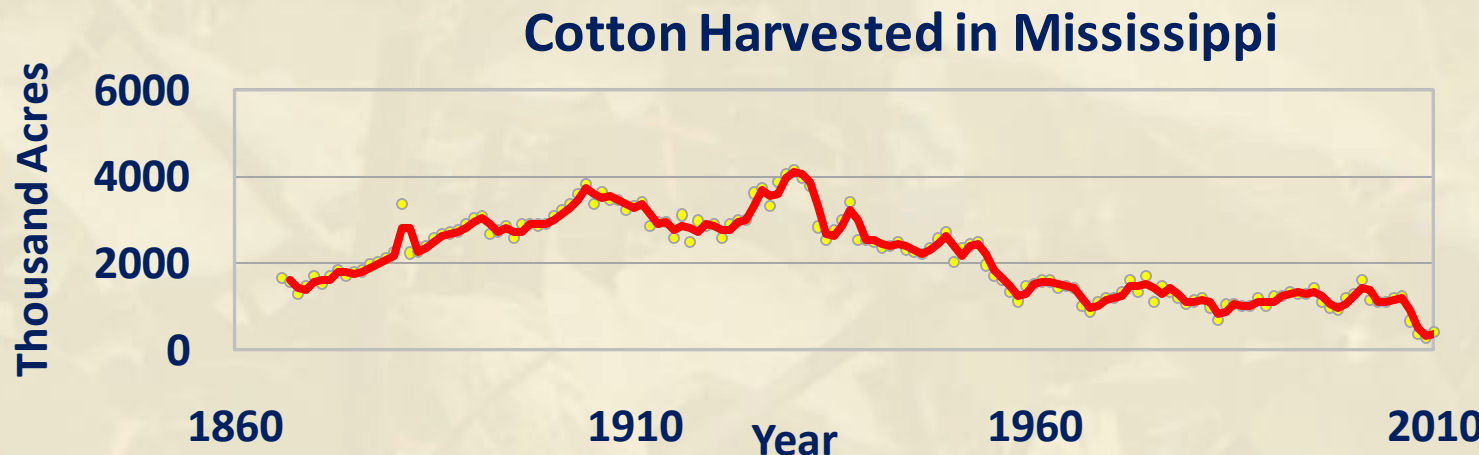
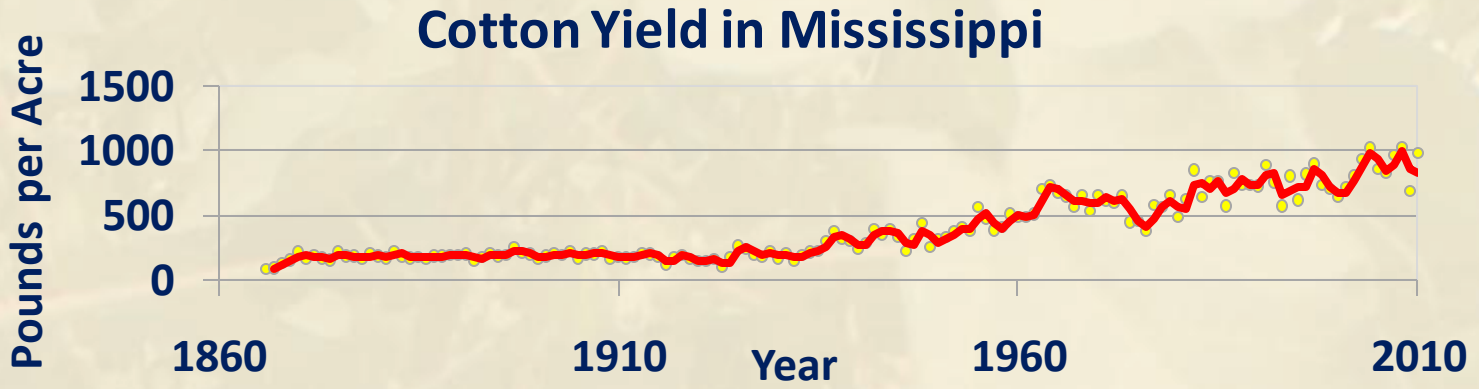
▲ Yield, Normalized to 2000

— Linear (Planted Acres, Normalized to 2000)

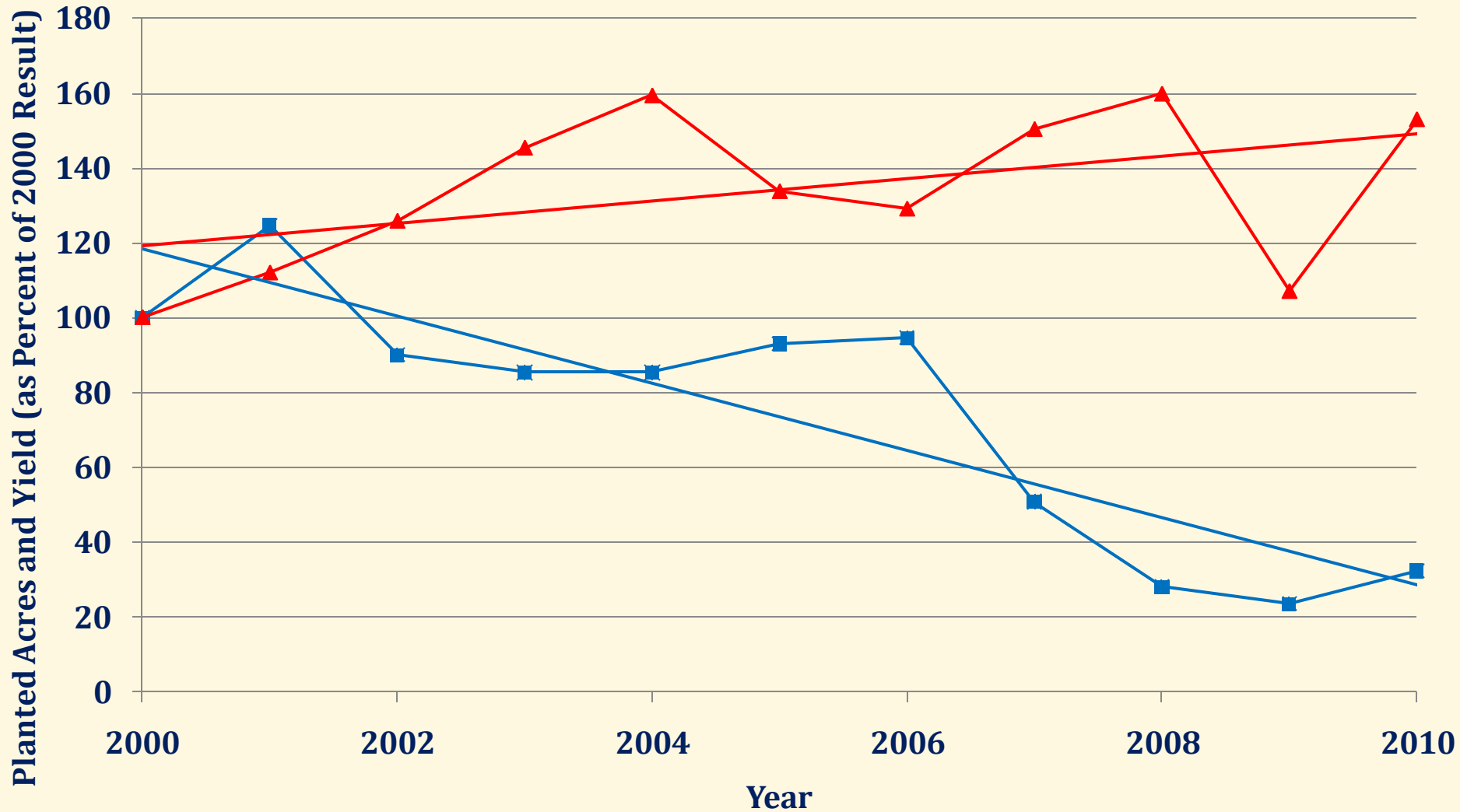
— Linear (Yield, Normalized to 2000)

Quick Stats Cotton Statistics for Mississippi Farms

Cotton production is cyclical. Harvested acres are near the lowest point on record, and cotton yield is near an all time high.

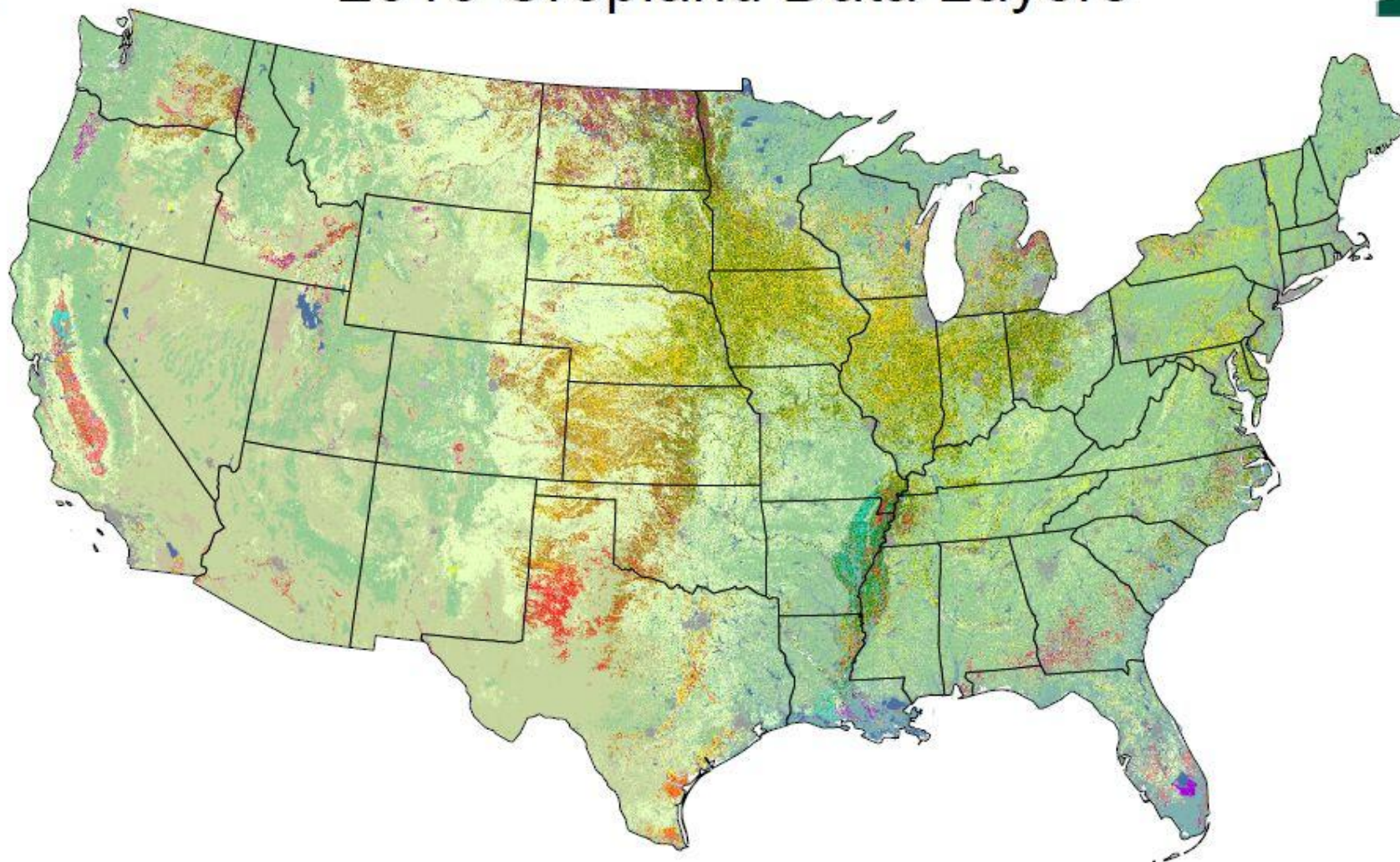


Cotton Planted Acres and Yield












- Planted All Purpose (Normalized to 2000)
- ▲ Yield (Normalized to 2000)
- Linear (Planted All Purpose (Normalized to 2000))
- Linear (Yield (Normalized to 2000))

2010 Cropland Data Layers






Major Land Cover Categories

Agriculture

 Pasture/Grass	 Fallow/Idle Cropland	 Alfalfa
 Corn	 Cotton	 Other Crops
 Soybeans	 Vegetables/Fruits/Nuts	
 All Wheat		
 Other Hay		

Non-Agriculture

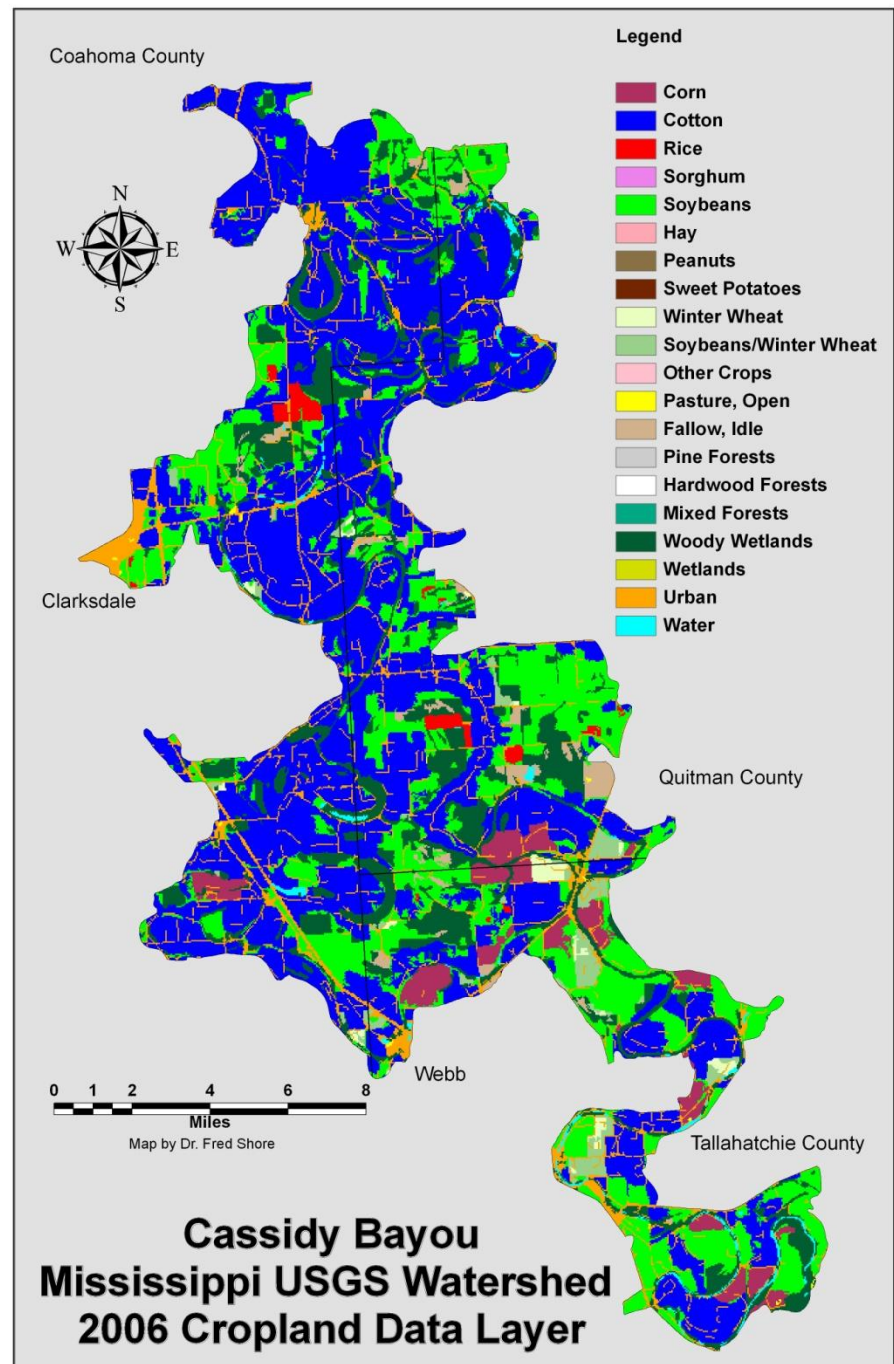
 Woodland	 Barren
 Shrubland	 Perennial Ice/Snow
 Urban/Developed	
 Wetlands	
 Water	

 Sorghum
 Other Small Grains
 Rice

The Cassidy Bayou Watershed. Cotton was the predominate crop in 2006.

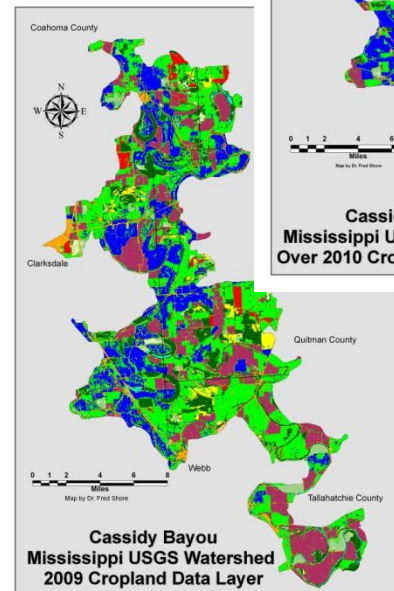
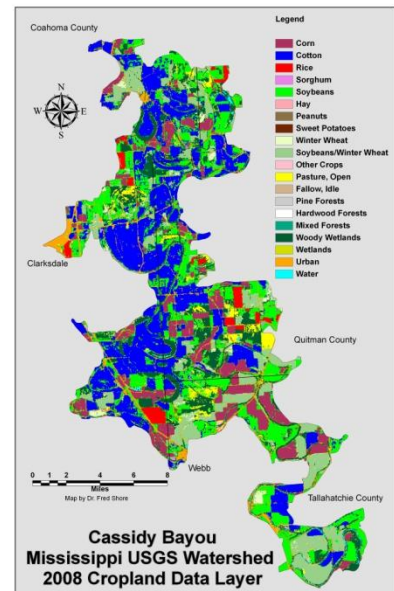
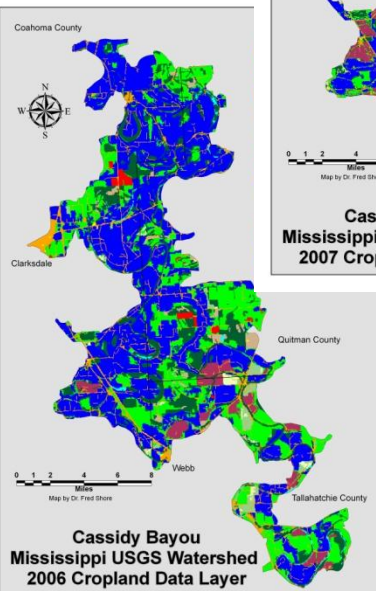
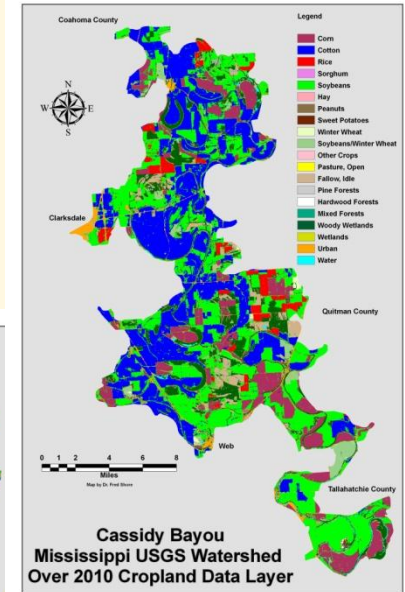
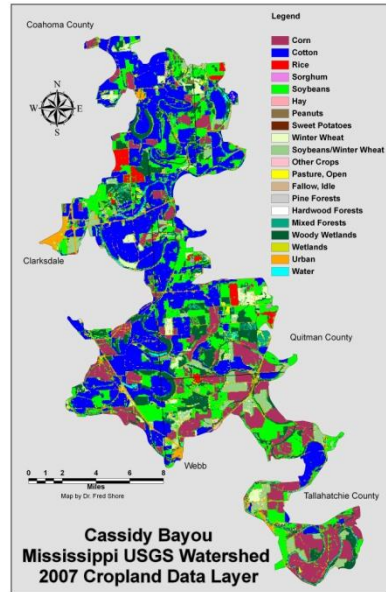


Cassidy Bayou, © Eggleston Artistic Trust, © 1973 The J. Paul Getty Trust. All rights reserved.

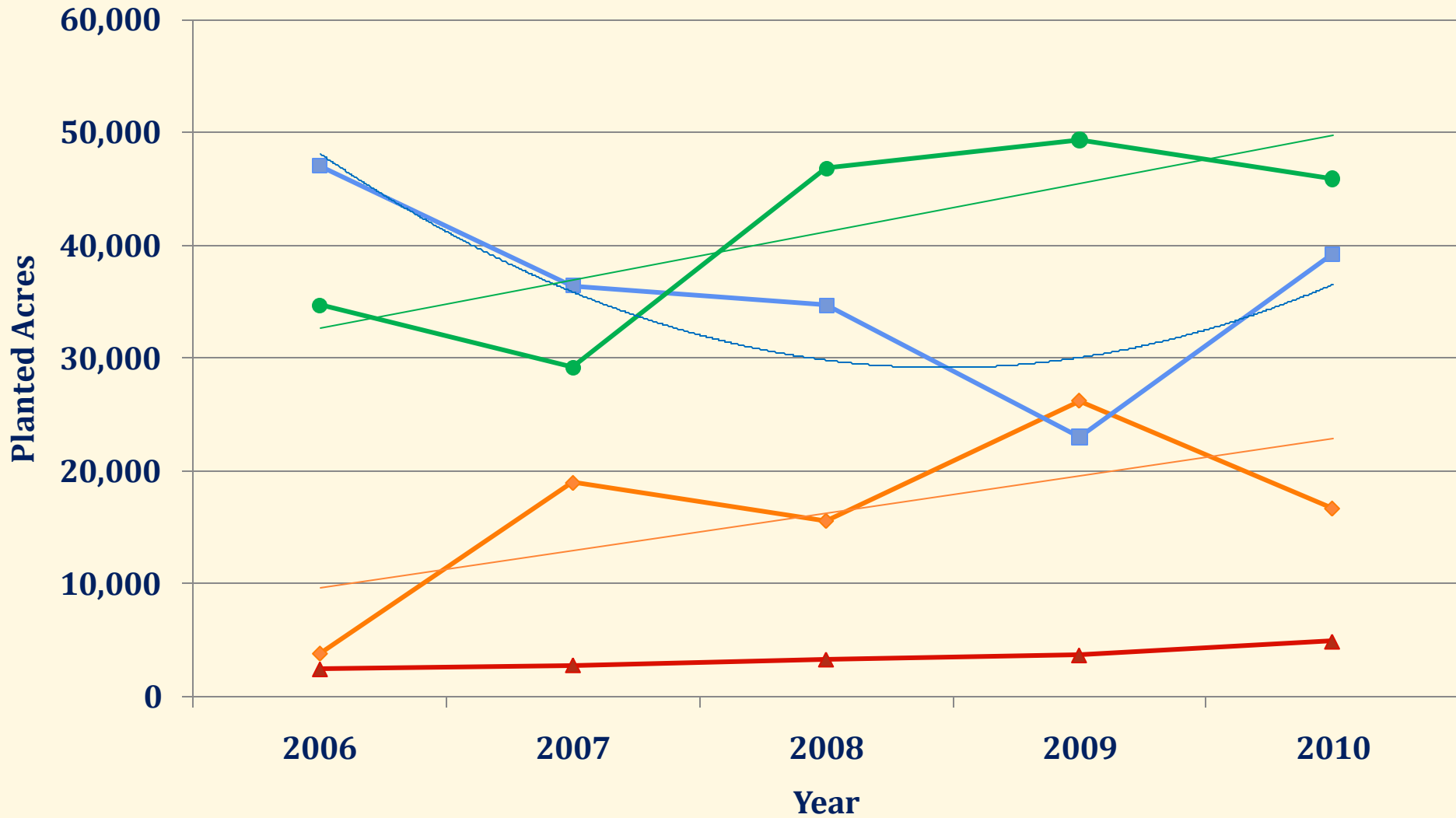


Cassidy Bayou Crop Acres 2006-2010

Year	Corn	Cotton	Rice	Soybeans
2010	16,688	39,270	4,884	45,912
2009	26,233	23,022	3,661	49,374
2008	15,595	34,696	3,285	46,844
2007	18,954	36,440	2,777	29,167
2006	3,854	47,073	2,412	34,698



Cassidy Bayou Watershed, Crop Acres per Year



◆ Corn

● Soybeans

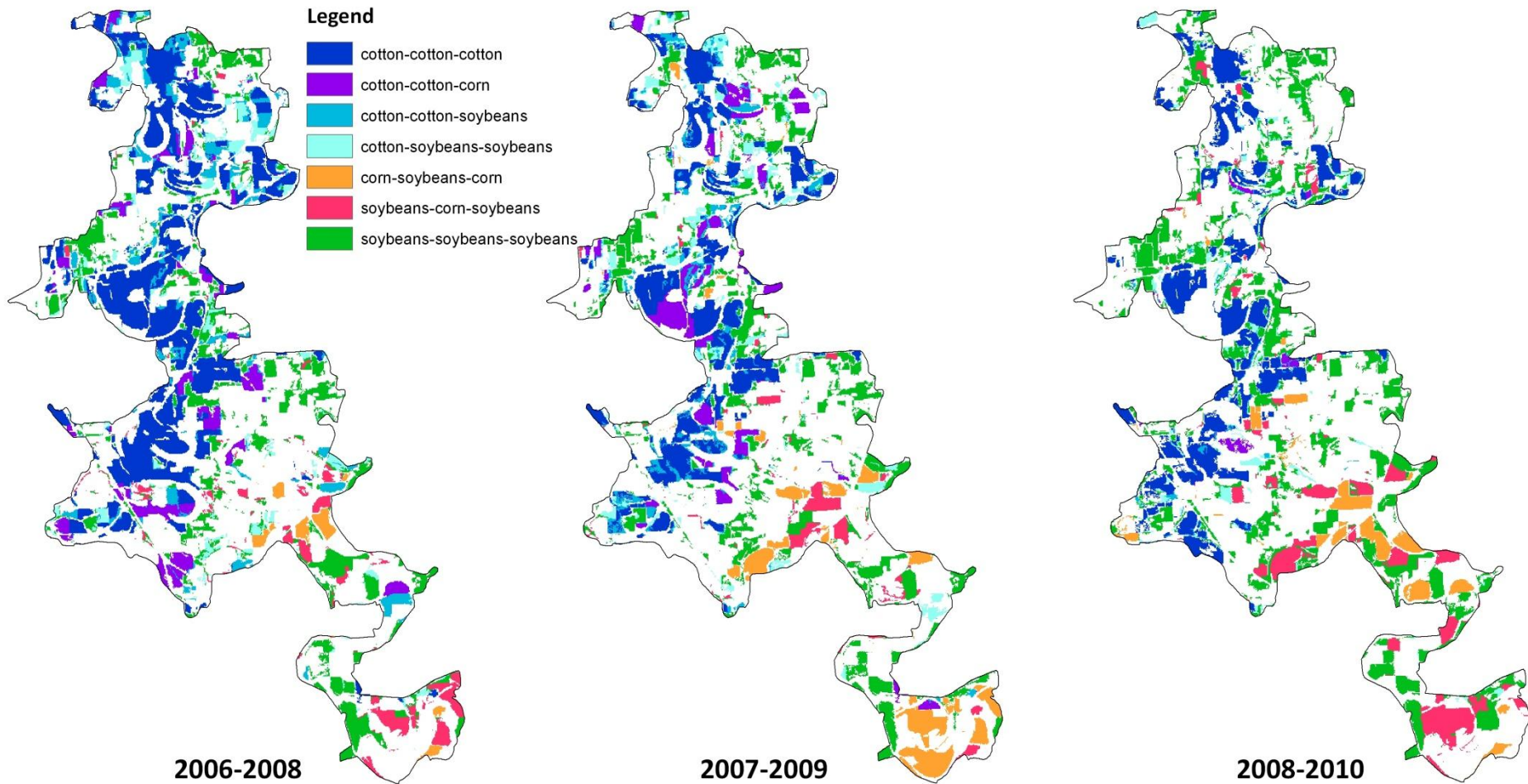
■ Cotton

— Linear (Corn)

▲ Rice

— Poly. (Cotton)

Major Three Year Crop Rotations for the Cassidy Bayou Watershed, 2006-2010



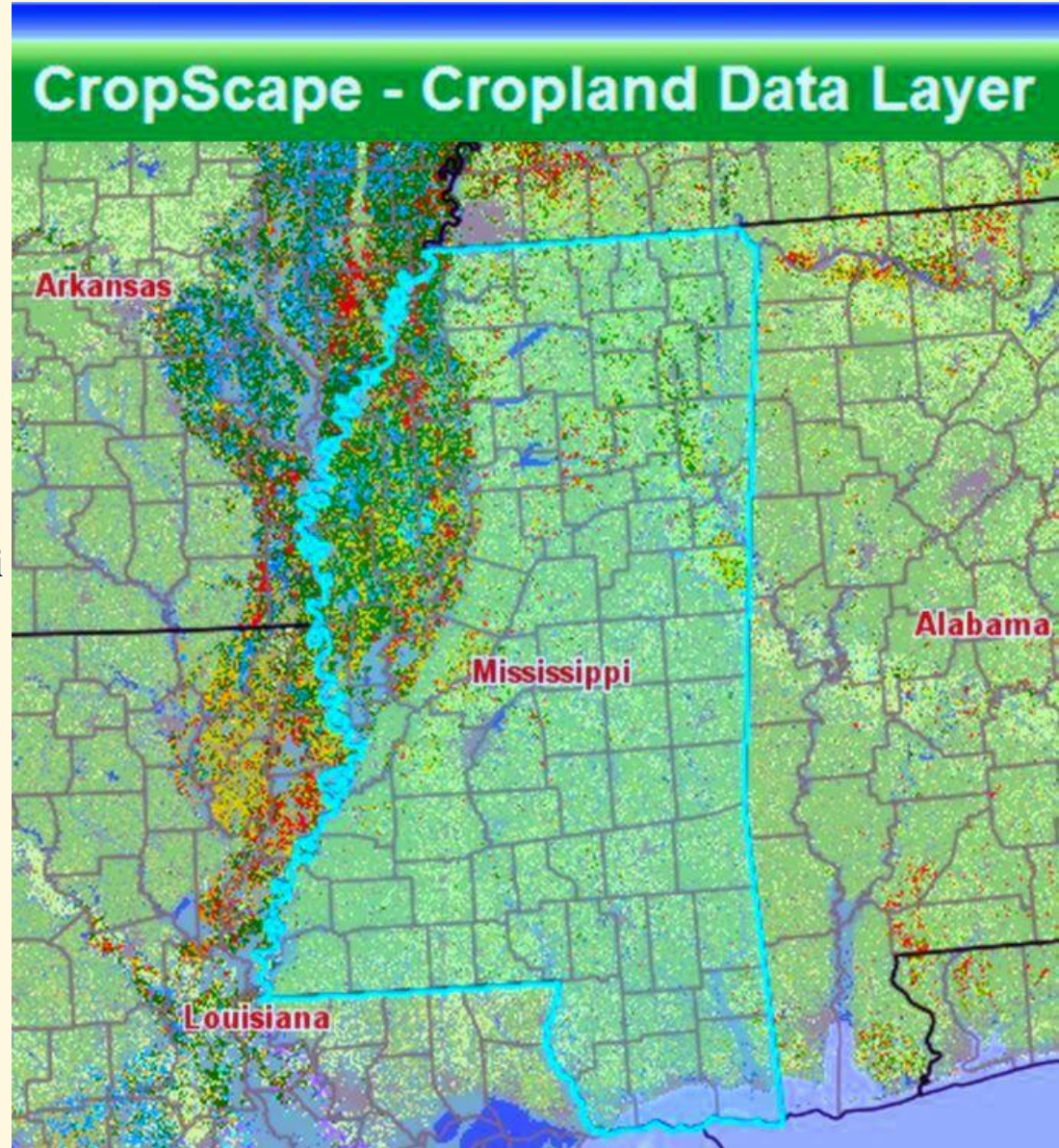
Major Three Year Crop Rotations for the Cassidy Bayou Watershed vs. State, 2006-2010

Rotation	Cassidy Bayou, Pixel Percent				State, Pixel Percent			
	2006-8	2007-9	2008-10	Mean	2006-8	2007-9	2008-10	Mean
cotton-cotton-cotton	21.06	13.21	13.84	16.04	4.24	2.25	1.90	2.80
cotton-cotton-corn	4.68	5.15	0.62	3.49	3.39	1.18	0.44	1.67
cotton-cotton-soybeans	5.79	4.27	0.86	3.64	3.35	1.49	0.43	1.76
cotton-soybeans-soybeans	4.39	4.78	2.75	3.97	3.76	3.27	1.44	2.82
corn-soybeans-corn	1.24	5.63	3.81	3.56	1.17	4.63	3.87	3.22
soybeans-corn-soybeans	3.52	2.55	6.62	4.23	4.67	3.29	5.57	4.51
soybeans-soybeans-soybeans	12.33	14.93	20.42	15.89	17.00	20.20	24.90	20.70
Totals for major rotations	53.01	50.53	48.93	50.83	37.57	36.30	38.56	37.48

The National Agricultural Statistics Service Announces a New Release.

Experience the Cropland Data Layer at: <http://nassgeodata.gmu.edu/CropScape/>
Free software applications from USDA-NASS with downloads to the free version of Google Earth. An elegant solution for GIS web work.

Maps, land use and changes for Mississippi and surrounding states from 1999 to 2010. A primary measure of acreages obtained from satellite imagery (not official NASS estimates).



Results and Discussion

- Quick Stats reveals that soybeans had all time highs in acreage and production in 1979 with the peak yield more recent. Corn acreage decreased with mechanization but are on the upswing due to biomass energy uses. Rice had an all time high in acreage in 1981, but production and yield highs were more recent.
- The recent large drop in cotton acreage and increase in yield is likely the result of the very best soil remaining in use for cotton. See papers by Gregory and Shore at the 2009 and 2010 Cotton Beltwide Conferences ([http://www.nass.usda.gov/Education and Outreach/Reports, Presentations and Conferences/Presentations/index.asp](http://www.nass.usda.gov/Education_and_Outreach/Reports,_Presentations_and_Conferences/Presentations/index.asp)).
- Cassidy Bayou Watershed was examined using the Cropland Data Layer for pixel changes and crop rotations. Crop changes were from cotton the major crop in 2006 to soybeans in 2010. State wide statistics show an even more dramatic change in the same direction. Cotton rebounded in 2010.

Results and Discussion (Continued)

- Over the 2006-2010 period there were 7 major crop rotations with acreages from 0.6 to 21.1 percent of the 100,000 acres of the Watershed. These rotations for the State had a range of 0.4 to 5.6 percent of the 4 million crop acres.
- In the Watershed and the State much land previously used for cotton was rotated to soybeans. The rotation effect and better soil have contributed to better yields for soybeans.
- The Statistics of major Mississippi crops from the CropScape and from Quick Stats show the recent dramatic changes in cropland utilization and reinforce the need for NASS annual estimates and the annual Cropland Data Layer product.

Acknowledgements

Commissioner Lester Spell, Jr., D.V.M., Mississippi Department of Agriculture and Commerce, and Dr. Gary Jackson, Director, Mississippi Cooperative Extension Service, were critical to the success of this project. Also, thank you to Rick Mueller, Claire Boryan, Dave Johnson, and other members of USDA-NASS, Spatial Analysis Research Section, Fairfax, VA for training and assistance.



Dog in the Fog, Maude Schuyler Clay from her book of photographs: DELTA LAND. University of Mississippi Press