Quick Stats and CropScape for Mississippi Farming

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Presented at the Coastal Development Strategies Conference, Biloxi, MS, May 11-12, 2011
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 Planted Acres and Yield

Planted Acres and Yield (as Percent of 2000 Result)

Year

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 and Yield (as Percent of 2000 Result)

Year

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Planted All Purpose (Normalized to 2000)</th>
<th>Yield (Normalized to 2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>120</td>
<td>100</td>
</tr>
<tr>
<td>2002</td>
<td>130</td>
<td>90</td>
</tr>
<tr>
<td>2004</td>
<td>140</td>
<td>80</td>
</tr>
<tr>
<td>2006</td>
<td>150</td>
<td>70</td>
</tr>
<tr>
<td>2008</td>
<td>160</td>
<td>60</td>
</tr>
<tr>
<td>2010</td>
<td>170</td>
<td>50</td>
</tr>
</tbody>
</table>

Legend:
- Planted All Purpose (Normalized to 2000)
- Yield (Normalized to 2000)
- Linear (Planted All Purpose (Normalized to 2000))
- Linear (Yield (Normalized to 2000))
The Cassidy Bayou Watershed. Cotton was the predominate crop in 2006.
## Cassidy Bayou Crop Acres 2006-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn</th>
<th>Cotton</th>
<th>Rice</th>
<th>Soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>16,688</td>
<td>39,270</td>
<td>4,884</td>
<td>45,912</td>
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<tr>
<td>2009</td>
<td>26,233</td>
<td>23,022</td>
<td>3,661</td>
<td>49,374</td>
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<tr>
<td>2008</td>
<td>15,595</td>
<td>34,696</td>
<td>3,285</td>
<td>46,844</td>
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<tr>
<td>2007</td>
<td>18,954</td>
<td>36,440</td>
<td>2,777</td>
<td>29,167</td>
</tr>
<tr>
<td>2006</td>
<td>3,854</td>
<td>47,073</td>
<td>2,412</td>
<td>34,698</td>
</tr>
</tbody>
</table>
Major Three Year Crop Rotations for the Cassidy Bayou Watershed, 2006-2010

Legend
- cotton-cotton-cotton
- cotton-cotton-corn
- cotton-cotton-soybeans
- cotton-soybeans-soybeans
- corn-soybeans-corn
- soybeans-corn-soybeans
- soybeans-soybeans-soybeans

2006-2008
2007-2009
2008-2010
### Major Three Year Crop Rotations for the Cassidy Bayou Watershed vs. State, 2006-2010

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Cassidy Bayou, Pixel Percent</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>State, Pixel Percent</th>
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</thead>
<tbody>
<tr>
<td>cotton-cotton-cotton</td>
<td>21.06</td>
<td>13.21</td>
<td>13.84</td>
<td>16.04</td>
<td>4.24</td>
<td>2.25</td>
<td>1.90</td>
<td>2.80</td>
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<tr>
<td>cotton-cotton-corn</td>
<td>4.68</td>
<td>5.15</td>
<td>0.62</td>
<td>3.49</td>
<td>3.39</td>
<td>1.18</td>
<td>0.44</td>
<td>1.67</td>
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<tr>
<td>cotton-cotton-soybeans</td>
<td>5.79</td>
<td>4.27</td>
<td>0.86</td>
<td>3.64</td>
<td>3.35</td>
<td>1.49</td>
<td>0.43</td>
<td>1.76</td>
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<tr>
<td>cotton-soybeans-soybeans</td>
<td>4.39</td>
<td>4.78</td>
<td>2.75</td>
<td>3.97</td>
<td>3.76</td>
<td>3.27</td>
<td>1.44</td>
<td>2.82</td>
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<tr>
<td>corn-soybeans-corn</td>
<td>1.24</td>
<td>5.63</td>
<td>3.81</td>
<td>3.56</td>
<td>1.17</td>
<td>4.63</td>
<td>3.87</td>
<td>3.22</td>
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<tr>
<td>soybeans-corn-soybeans</td>
<td>3.52</td>
<td>2.55</td>
<td>6.62</td>
<td>4.23</td>
<td>4.67</td>
<td>3.29</td>
<td>5.57</td>
<td>4.51</td>
<td></td>
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<tr>
<td>soybeans-soybeans-soybeans</td>
<td>12.33</td>
<td>14.93</td>
<td>20.42</td>
<td>15.89</td>
<td>17.00</td>
<td>20.20</td>
<td>24.90</td>
<td>20.70</td>
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</tr>
<tr>
<td>Totals for major rotations</td>
<td>53.01</td>
<td>50.53</td>
<td>48.93</td>
<td>50.83</td>
<td>37.57</td>
<td>36.30</td>
<td>38.56</td>
<td>37.48</td>
<td></td>
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</tr>
</tbody>
</table>
The National Agricultural Statistics Service Announces a New Release.

Experience the Cropland Data Layer at: [http://nassgeodata.gmu.edu/CropScape/](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.
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