Commissioner Lester Spell, Jr., D.V.M., Mississippi Department of Agriculture and Commerce, Melissa J. Mixon, Interim Director, Mississippi Cooperative Extension Service, and the USDA Field Enumerators in Mississippi 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.
2008 Cropland Data Layers

35 States in 2008 (47 currently complete for 2009)
A total of 1,326 different soils are shown on this map.

The two highlighted soils of the Delta both are historically important cotton growing areas. Soil 270 is 81,708 acres and soil 1166 is 585,271 acres.
Modern creeks and rivers are not always contained in the soil areas. For example, soil 1166 contains parts of the Tallahatchie and the Sunflower Rivers. This soil was once the bottomlands along an ancient water course, perhaps the Mississippi River itself.
Different areas of the Mississippi Delta have different land use. The NRCS General Soil Map is a useful categorization to compare the major crop growing areas. In this map the soils layer is overlayed with the cotton cropping intensity.

Soil area 1166 has more continuous cropping for cotton. The statistics are 10.6% continuous cropping in soil area 1166 vs. 2.7% in soil area 270.
# Cotton Planted by Soil and Frequency, 2006-2008

<table>
<thead>
<tr>
<th>Years of Use</th>
<th>Soil 1166</th>
<th></th>
<th>Soil 270</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td>Percent</td>
<td>Acres</td>
<td>Percent</td>
</tr>
<tr>
<td>0</td>
<td>287,982</td>
<td>49.2</td>
<td>41,538</td>
<td>50.8</td>
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<tr>
<td>1</td>
<td>131,137</td>
<td>22.4</td>
<td>28,110</td>
<td>34.4</td>
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<tr>
<td>2</td>
<td>103,823</td>
<td>17.7</td>
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<td>62,330</td>
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<td>2.7</td>
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<td>Total</td>
<td>585,271</td>
<td>100.0</td>
<td>81,708</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Crop Intensity for Two Soils of the Mississippi Delta, 2006-2008

Cotton
Percent of Land Use per Soil
Years / 1166 / 270
- 0 / 49.2 / 50.8
- 1 / 22.4 / 34.4
- 2 / 17.7 / 12.1
- 3 / 10.6 / 2.7

Corn
Percent of Land Use per Soil
Years / 1166 / 270
- 0 / 70.3 / 45.3
- 1 / 23.0 / 37.1
- 2 / 6.7 / 17.5
- 3 / 0.12 / 0.09

Soybeans
Percent of Land Use per Soil
Years / 1166 / 270
- 0 / 58.7 / 43.3
- 1 / 22.9 / 30.2
- 2 / 13.1 / 19.5
- 3 / 7.3 / 6.9

Map by Dr. Fred Shore
USDA-NASS/MSU-ESMDAC
<table>
<thead>
<tr>
<th>Years of Use</th>
<th>Soybeans</th>
<th></th>
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<td></td>
<td>Soil 1166</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soil 270</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<tr>
<td>Total</td>
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<td>81,708</td>
<td>100.0</td>
<td>585,271</td>
<td>100.0</td>
<td>81,708</td>
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</tbody>
</table>
Mississippi Delta Crop Rotation from Cotton Acres in 2006

Cotton Rotation Statistics from 2006

Crop Rotations
2006-2007-2008
- cotton-cotton-cotton
- cotton-cotton-corn
- cotton-cotton-other
- cotton-corn-cotton
- cotton-corn-corn
- cotton-corn-other
- cotton-other-cotton
- cotton-other-corn
- cotton-other-other

Map by Dr. Fred Shore
USDA-NASS/MSU-ES/MDAC
2009 Cotton Planted in the Delta by Soil and Frequency

Mississippi Delta Area Cotton 2009

Legend
- 2009 cotton

Mississippi Delta Area Cotton 2009 Overlay on 2006-2008 Rotation

Legend
- Cotton Rotation from 2006
  - cotton-cotton-cotton
  - cotton-cotton-corn
  - cotton-cotton-other
  - cotton-corn-cotton
  - cotton-corn-corn
  - cotton-corn-other
  - cotton-other-cotton
  - cotton-other-corn
  - cotton-other-other

Mississippi Delta Area Cotton 2009 Under 2006-2008 Rotation

Legend
- Cotton Rotation from 2006
  - cotton-cotton-cotton
  - cotton-cotton-corn
  - cotton-cotton-other
  - cotton-corn-cotton
  - cotton-corn-corn
  - cotton-corn-other
  - cotton-other-cotton
  - cotton-other-corn
  - cotton-other-other

Map showing distribution and rotation of cotton planting in the Mississippi Delta in 2009 with overlay of 2006-2008 rotation patterns.
Results and Conclusions

Coupling the CDL cropping intensity and rotation with the NRCS General Soil Map gives statistics of crop use for specific soils.

Two soils traditionally planted to cotton are along the Tallahatchie and Sunflower Rivers (1166) and along Deer Creek (270). For these areas in 2006-2008:

- The percent land use for cotton at least one year is 50.8 and 49.2, respectively.
- The percent of continuous cotton use varies widely for the two soils: soil 1166 at 10.6 percent and soil 270 at 2.7 percent.
- In 2009, only 1.4% of the surface area of soil 270 was planted to cotton vs. 11.6 percent for soil 1166.