



CropScape: Mississippi Land Cover On-line

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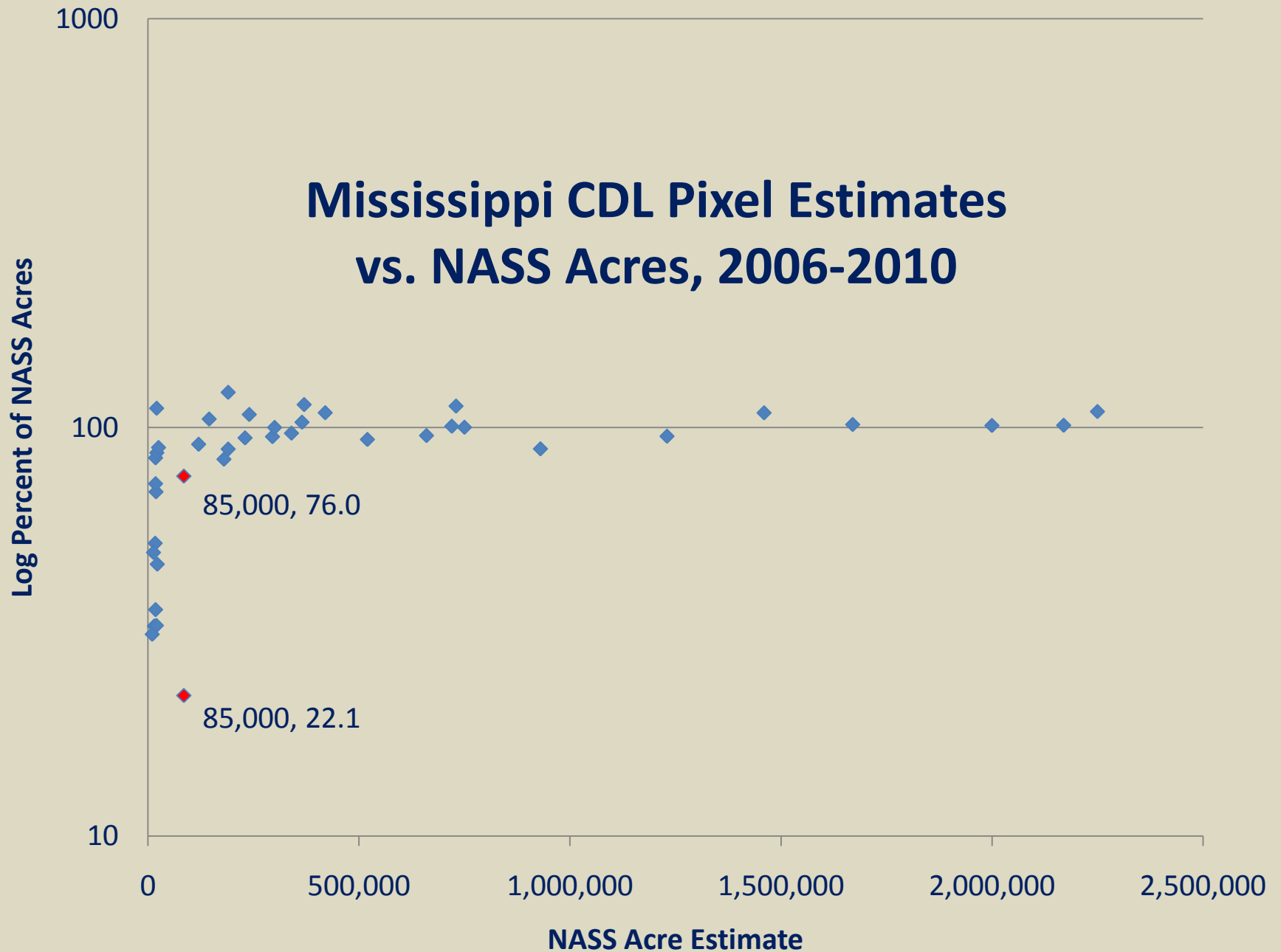
Introduction

- CropScape is a viewer and calculator for the Cropland Data Layer (CDL) that NASS has made available on line.
- Combining available annual CDLs with selected functionality normally only available in programs like ArcGIS© and ERDAS Imagine©, the web service does not take up space on your hard disk. Perfect for mobile computing.
- The web site (<http://nassgeodata.gmu.edu/CropScape/>) is intuitive and has a tutorial and links to further details.
- CDLs were prepared using a maximum likelihood classifier prior to 2006 for only a few states, starting in 1999 for Mississippi. This early data is mainly for crops.
- From 2006 to the present, a decision tree classifier has been used along with reference data from the National Land Cover Database (NLCD) giving land cover results for crops, forests, pasture, and other widely useful categories on an annual basis.

Introduction (Continued)

- Excellent accuracies have been obtained for CDL crop and NLCD categories. See studies by Shore and Gregory, AAG, 2010 on Mississippi forests, 2006-2009 ([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)) and Luman and Tweddate on the 2007 Illinois CDL (<http://www.nass.usda.gov/research/Cropland/SARS1a.htm>).
- Both spatial and numeric statistics for selected areas of interest can be downloaded to a hard drive for further use.
- We have investigate CropScape for use in answering the usual questions from Mississippi farmers and other CDL users.
- In addition, we have provided historic Mississippi CDL crop accuracy of pixel acres vs. the state-wide total NASS official acres.

Mississippi CDL Pixel Estimates vs. NASS Acres, 2006-2010



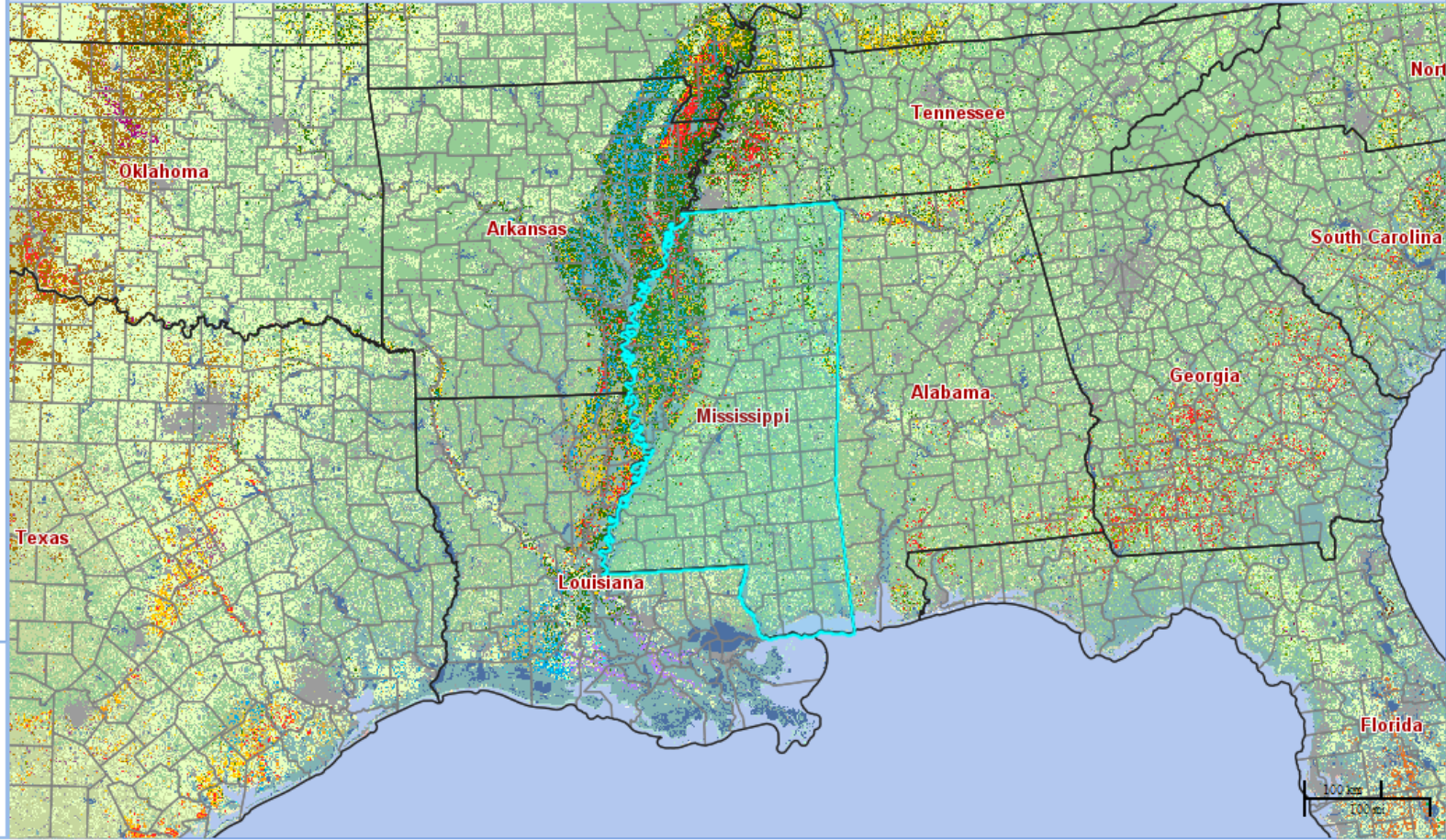


CropScape - Cropland Data Layer

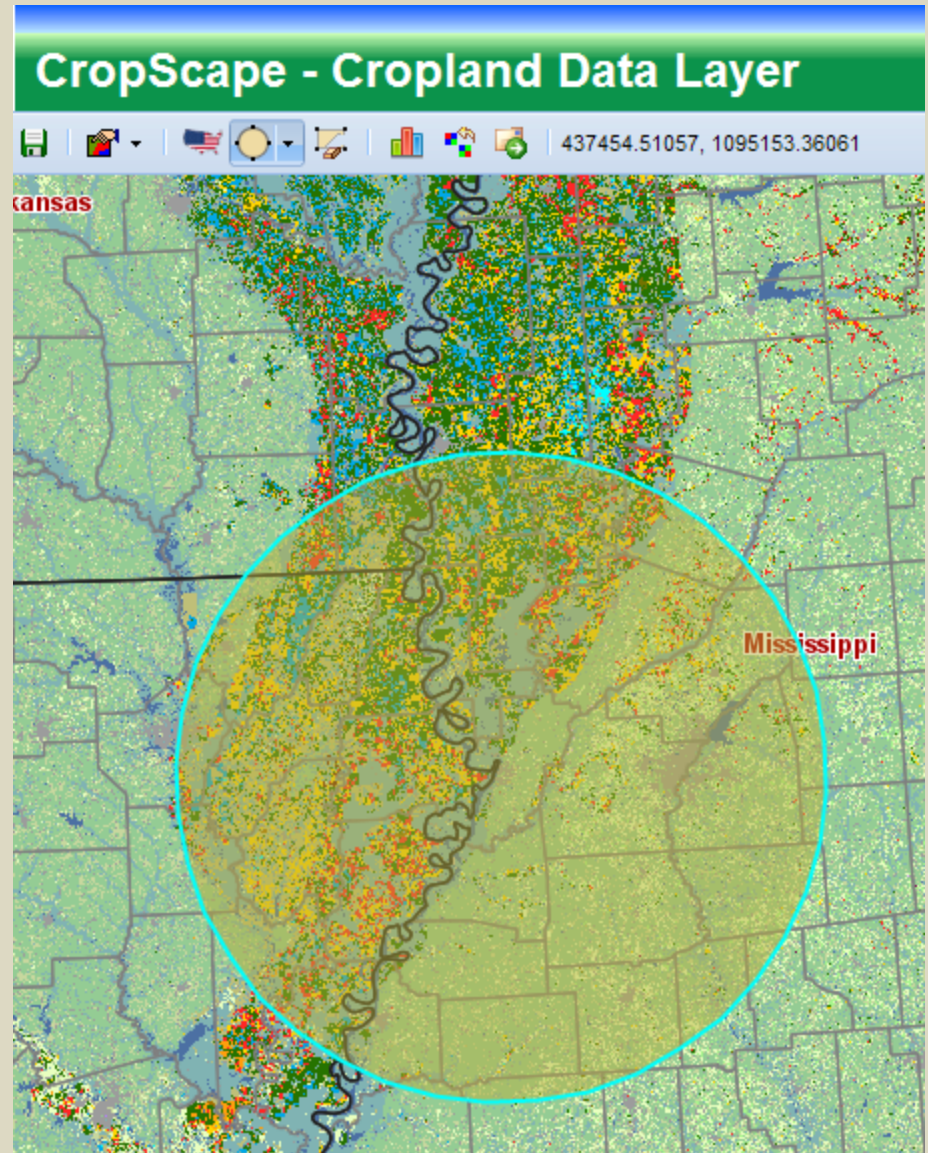
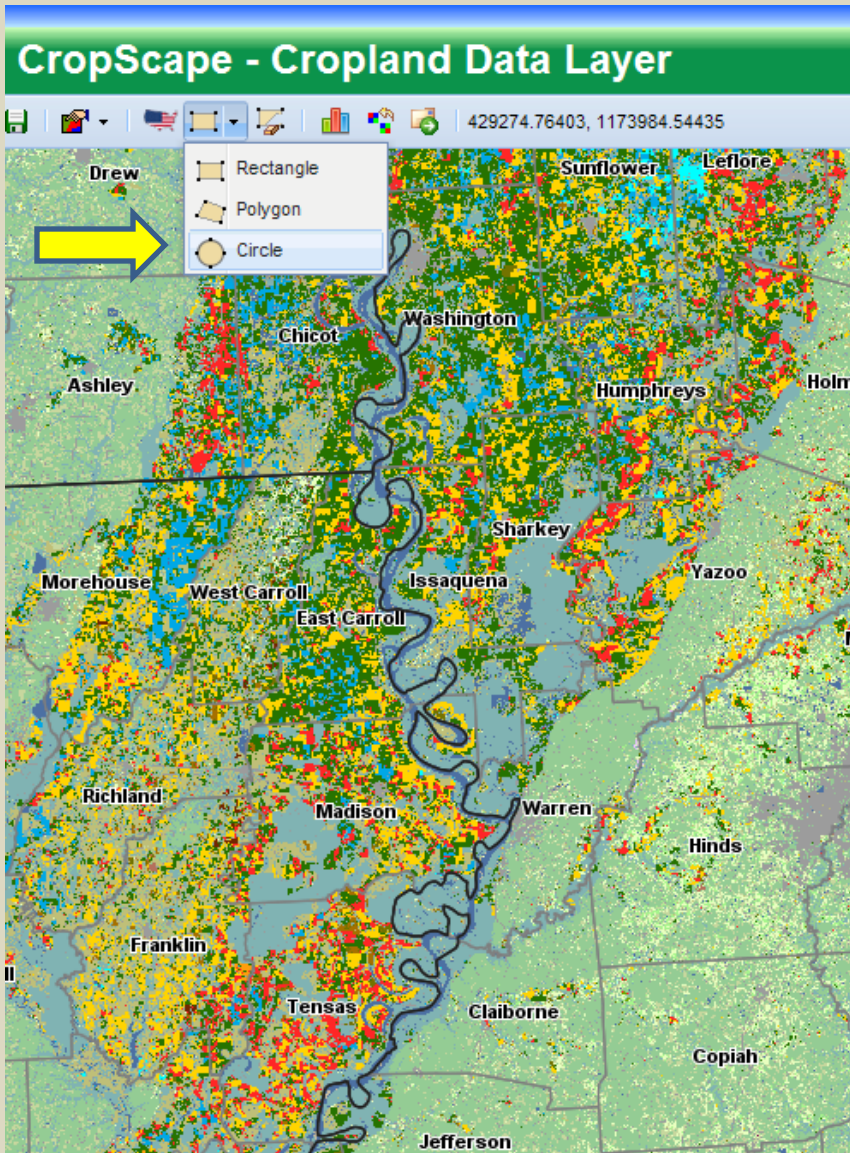
Layers Legend

263465.12347, 930525.60226

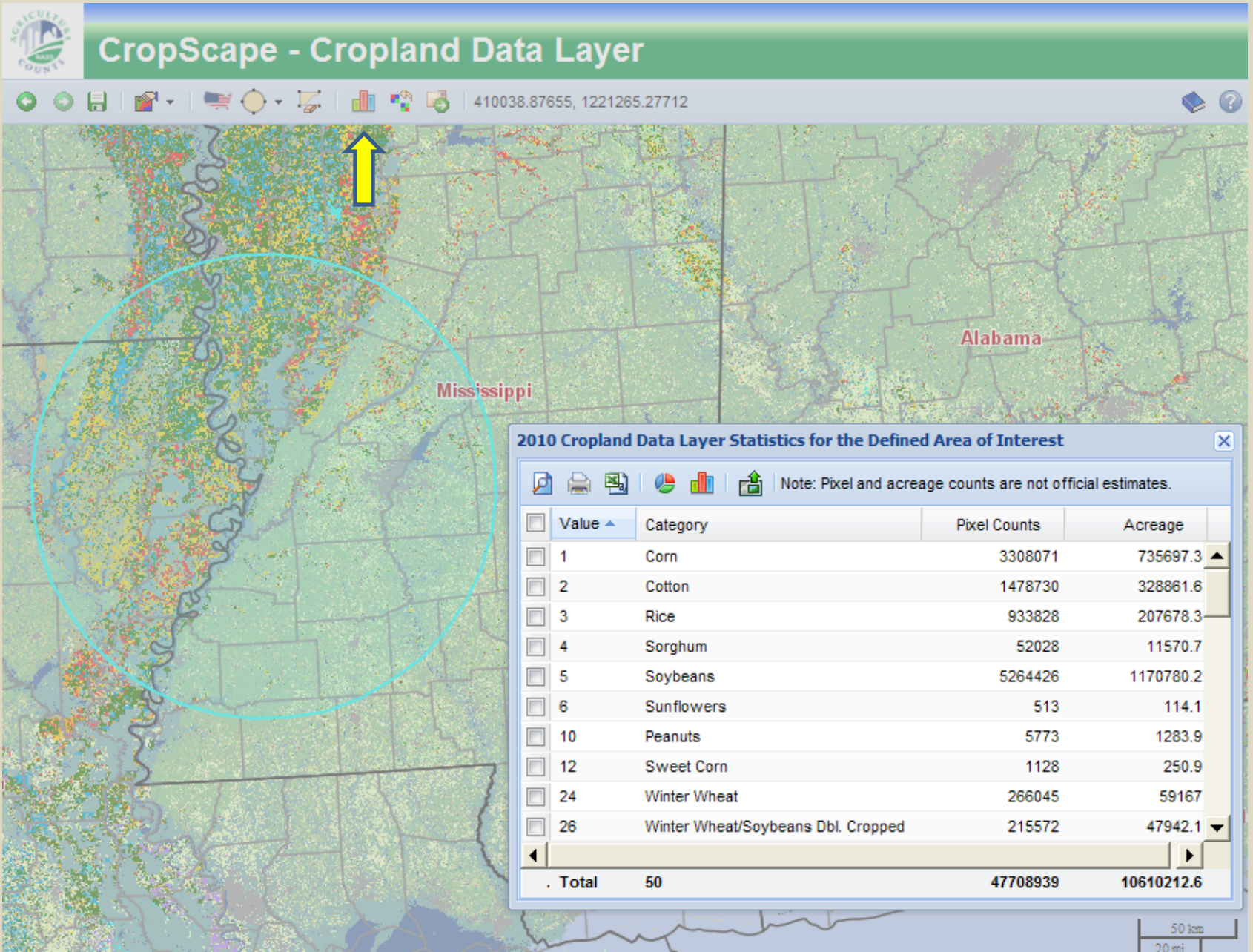
- Background Layers
 - Global Land Cover
 - None
- Cropland Data Layers
 - 2010
 - 2009
 - 2008
 - 2007
 - 2006
 - 2005
 - 2004
 - 2003
 - 2002
 - 2001
 - 2000
 - 1999
 - 1998
 - 1997
- Boundaries
 - County
 - ASD
 - State



Defining an Area of Interest 50 Mile Radius of Vicksburg

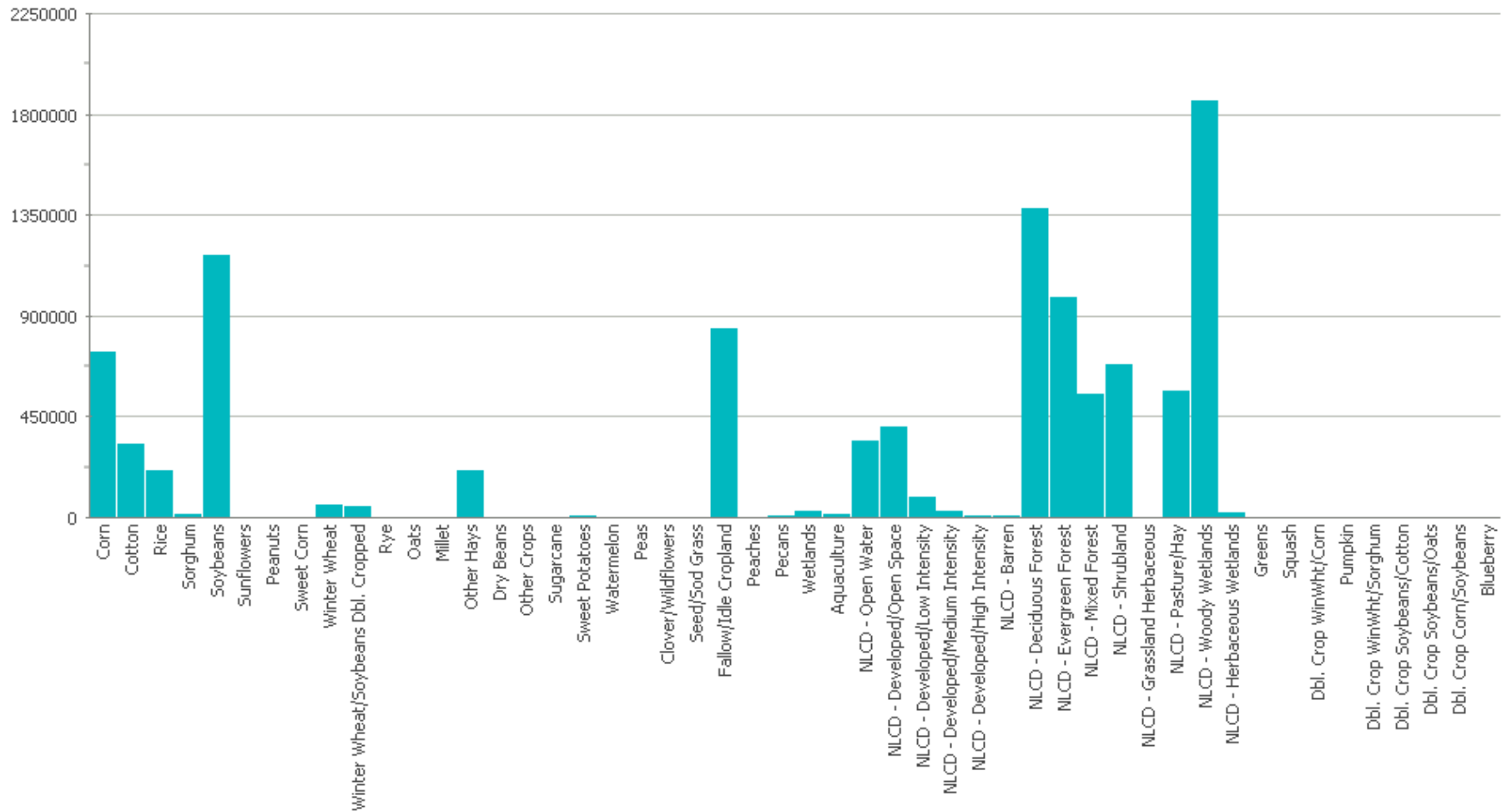


Obtain Statistics for the Area of Interest



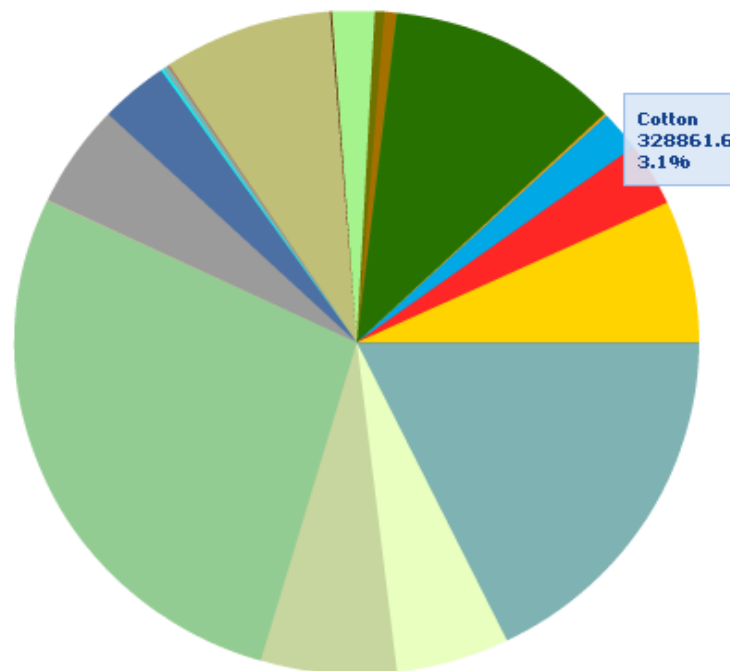
2010 Land Cover Categories 50 Mile Radius of Vicksburg

2010 Cropland Data Layer Statistics for the Defined Area of Interest



2010 Land Cover Categories 50 Mile Radius of Vicksburg Acreage and Category Color

2010 Cropland Data Layer Statistics for the Defined Area of Interest



- | | | | | | | | | | | | |
|-----------------------------------|---------------------------------|---------------------------|---------------------------|----------------------------|-------------------------|-----------------------------|--------------------------------|--------------------|------------------------------------|-----|------|
| Corn | Cotton | Rice | Sorghum | Soybeans | Sunflowers | Peanuts | Sweet Corn | Winter Wheat | Winter Wheat/Soybeans Dbl. Cropped | Rye | Oats |
| Millet | Other Hays | Dry Beans | Other Crops | Sugarcane | Sweet Potatoes | Watermelon | Peas | Clover/Wildflowers | Seed/Sod Grass | | |
| Fallow/Idle Cropland | Peaches | Pecans | Wetlands | Aquaculture | NLCD - Open Water | NLCD - Developed/Open Space | NLCD - Developed/Low Intensity | | | | |
| NLCD - Developed/Medium Intensity | NLCD - Developed/High Intensity | NLCD - Barren | NLCD - Deciduous Forest | NLCD - Evergreen Forest | NLCD - Mixed Forest | | | | | | |
| NLCD - Shrubland | NLCD - Grassland Herbaceous | NLCD - Pasture/Hay | NLCD - Woody Wetlands | NLCD - Herbaceous Wetlands | Greens | Squash | | | | | |
| Dbl. Crop Win/Wht/Corn | Pumpkin | Dbl. Crop Win/Wht/Sorghum | Dbl. Crop Soybeans/Cotton | Dbl. Crop Soybeans/Oats | Dbl. Crop Corn/Soybeans | Blueberry | | | | | |

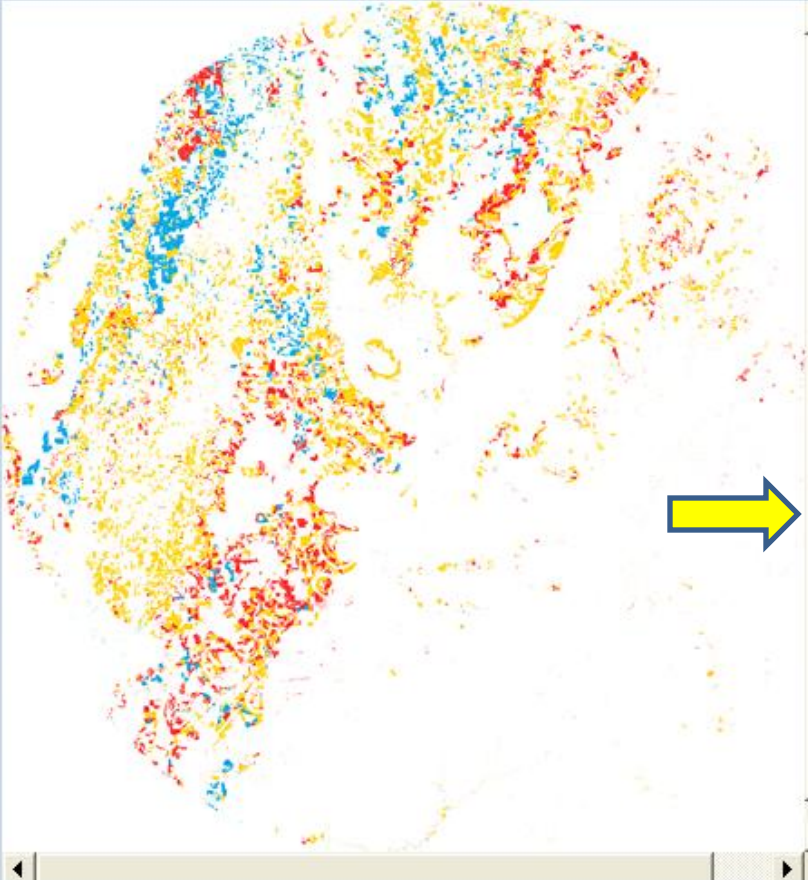
Corn, Cotton, and Rice in a 50 Radius of Vicksburg, 2010 to Download as Raster GeoTIFF

Future
Statistics Service

CropScape - Cropland Data Layer

410038.87655, 1221265.27712

Data Preview of Corn, Cotton, Rice



2010 Cropland Data Layer Statistics for the Defined Area of Interest

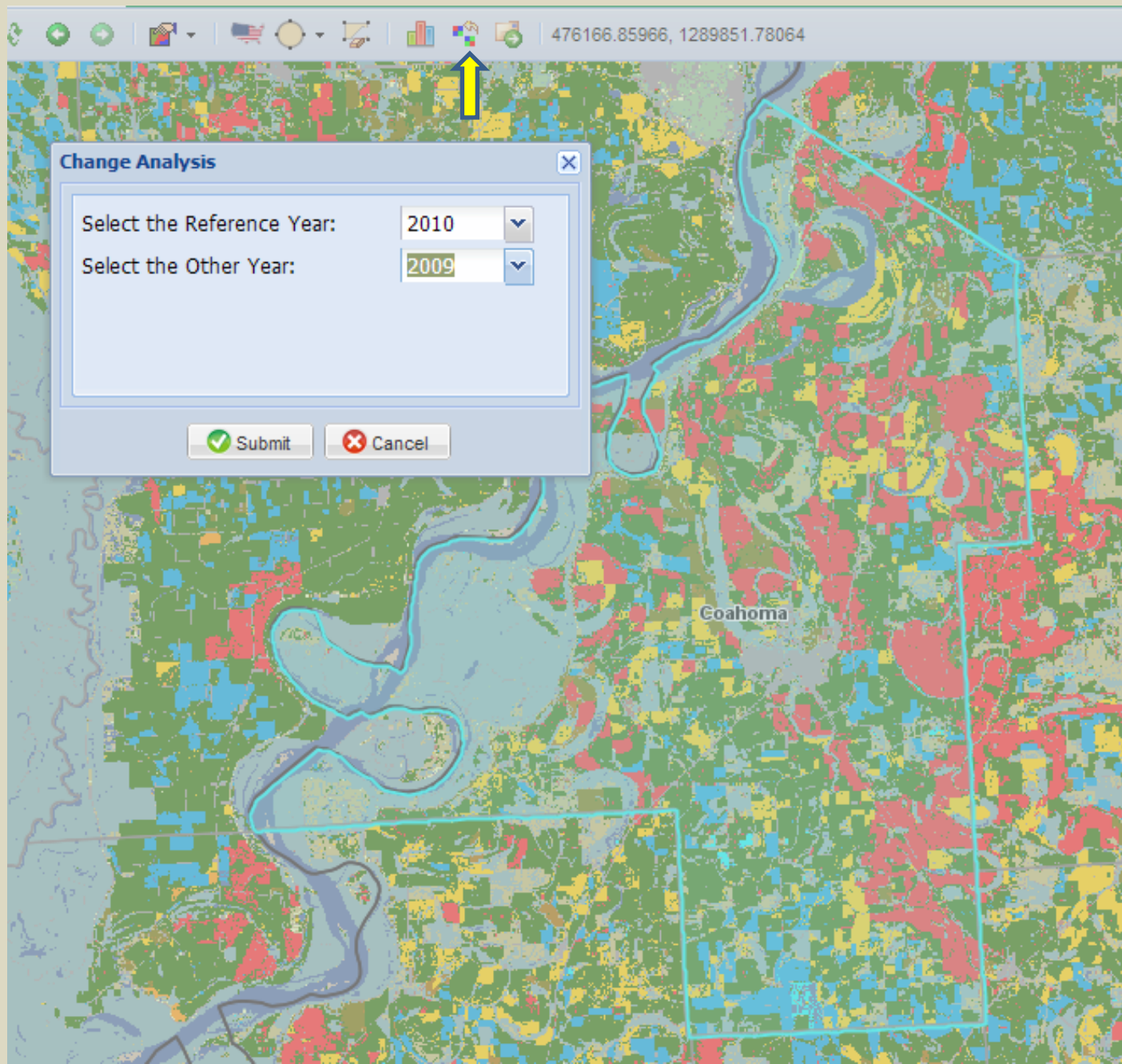
Note: Pixel and acreage counts are not official estimates.

<input type="checkbox"/>	Value	Category	Pixel Counts	Acreage
<input checked="" type="checkbox"/>	1	Corn	3308071	735697.3
<input checked="" type="checkbox"/>	2	Cotton	1478730	328861.6
<input checked="" type="checkbox"/>	3	Rice	933828	207678.3
<input type="checkbox"/>	4	Sorghum	52028	11570.7
<input type="checkbox"/>	5	Soybeans	5264426	1170780.2
<input type="checkbox"/>	6	Sunflowers	513	114.1
<input type="checkbox"/>	10	Peanuts	5773	1283.9
<input type="checkbox"/>	12	Sweet Corn	1128	250.9
<input type="checkbox"/>	24	Winter Wheat	286045	59167
<input type="checkbox"/>	26	Winter Wheat/Soybeans Dbl. Cropped	215572	47942.1
Total		50	47708939	10610212.6

Download Close

50 km
20 mi

Change Analysis for Coahoma County Area of Interest



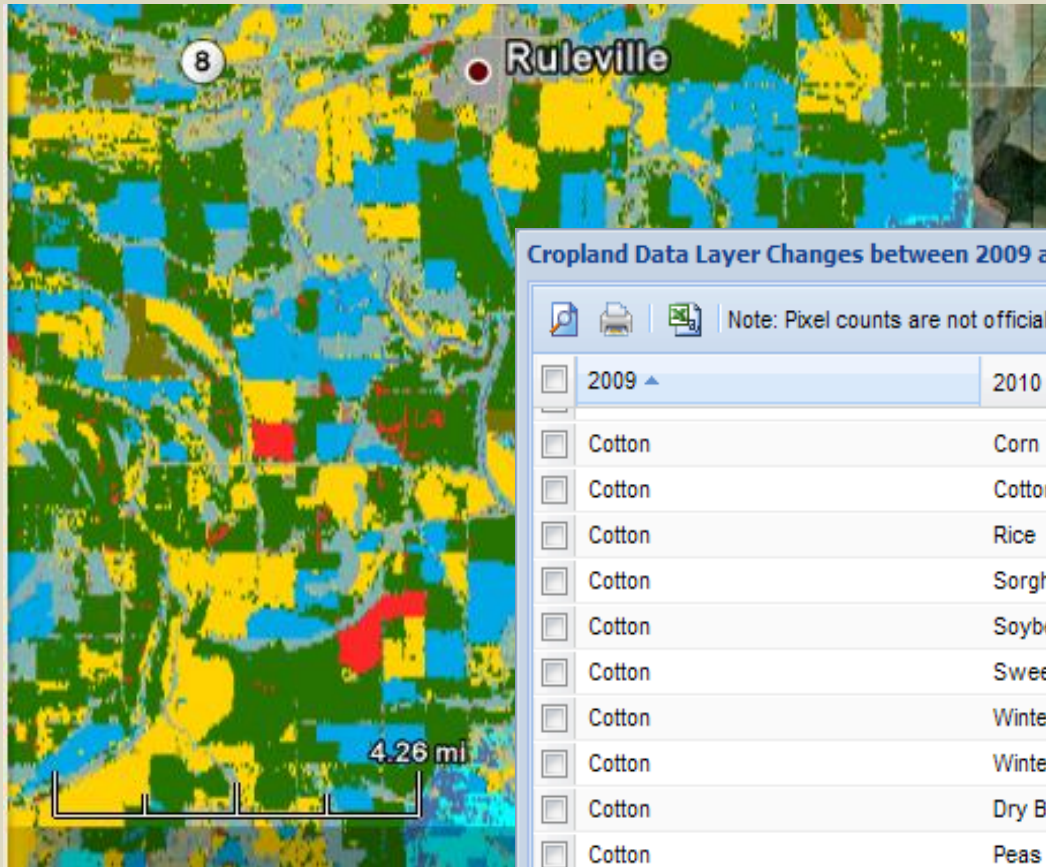
Coahoma County Acreage Planted to Corn in 2010

Cropland Data Layer Changes between 2010 and 2009

Note: Pixel counts are not official estimates.

<input type="checkbox"/> 2010 ▲	2009	Pixel Counts	Acreage
<input type="checkbox"/> Corn	Cotton	3944	3056.3
<input type="checkbox"/> Corn	Rice	553	428.5
<input type="checkbox"/> Corn	Sorghum	17	13.2
<input type="checkbox"/> Corn	Soybeans	14376	11140.3
<input type="checkbox"/> Corn	Winter Wheat	754	584.3
<input type="checkbox"/> Corn	Winter Wheat/Soybeans Dbl. Cropped	3272	2535.5
<input type="checkbox"/> Corn	Other Hays	1	0.8
<input type="checkbox"/> Corn	Fallow/Idle Cropland	167	129.4
<input type="checkbox"/> Corn	Grass/Pasture/Non-Ag	238	184.4
<input type="checkbox"/> Corn	Other Tree Nuts Fruits	44	34.1
<input type="checkbox"/> Corn	Aquaculture	12	9.3
<input type="checkbox"/> Corn	NLCD - Open Water	16	12.4
<input type="checkbox"/> Corn	NLCD - Developed/Open Space	1532	1187.2
<input type="checkbox"/> Corn	NLCD - Developed/Low Intensity	15	11.6
<input type="checkbox"/> Corn	NLCD - Developed/Medium Intensity	1	0.8
<input type="checkbox"/> Corn	NLCD - Barren	4	3.1
<input type="checkbox"/> Corn	NLCD - Mixed Forest	2	1.5
<input type="checkbox"/> Corn	NLCD - Shrubland	1	0.8
<input type="checkbox"/> Corn	NLCD - Grassland Herbaceous	2	1.5
<input type="checkbox"/> Corn	NLCD - Pasture/Hay	43	33.3
<input type="checkbox"/> Corn	NLCD - Woody Wetlands	497	385.1
		481650	373239.3

Sunflower County Land in Cotton 2009 and 2010



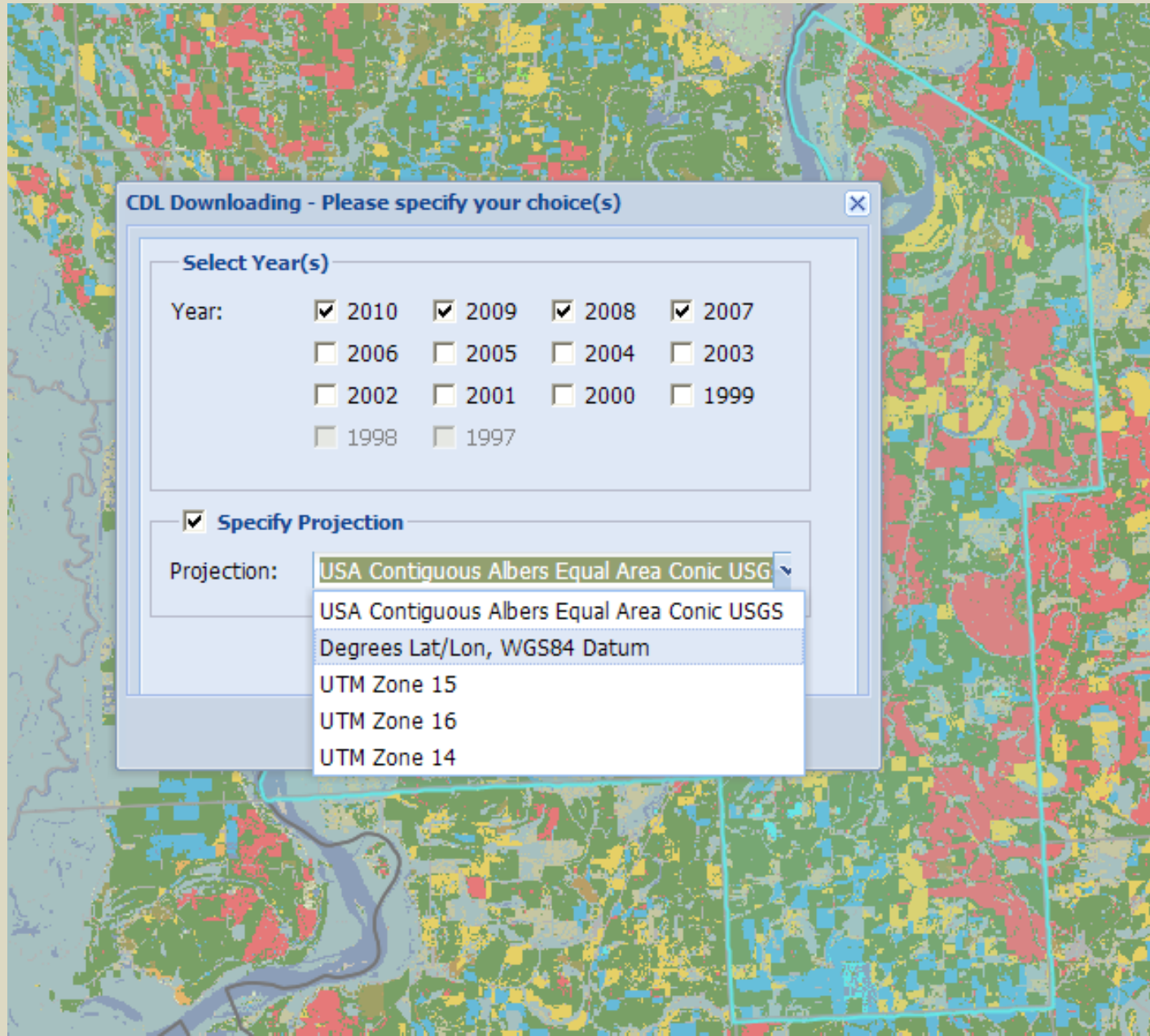
Cropland Data Layer Changes between 2009 and 2010

Note: Pixel counts are not official estimates.

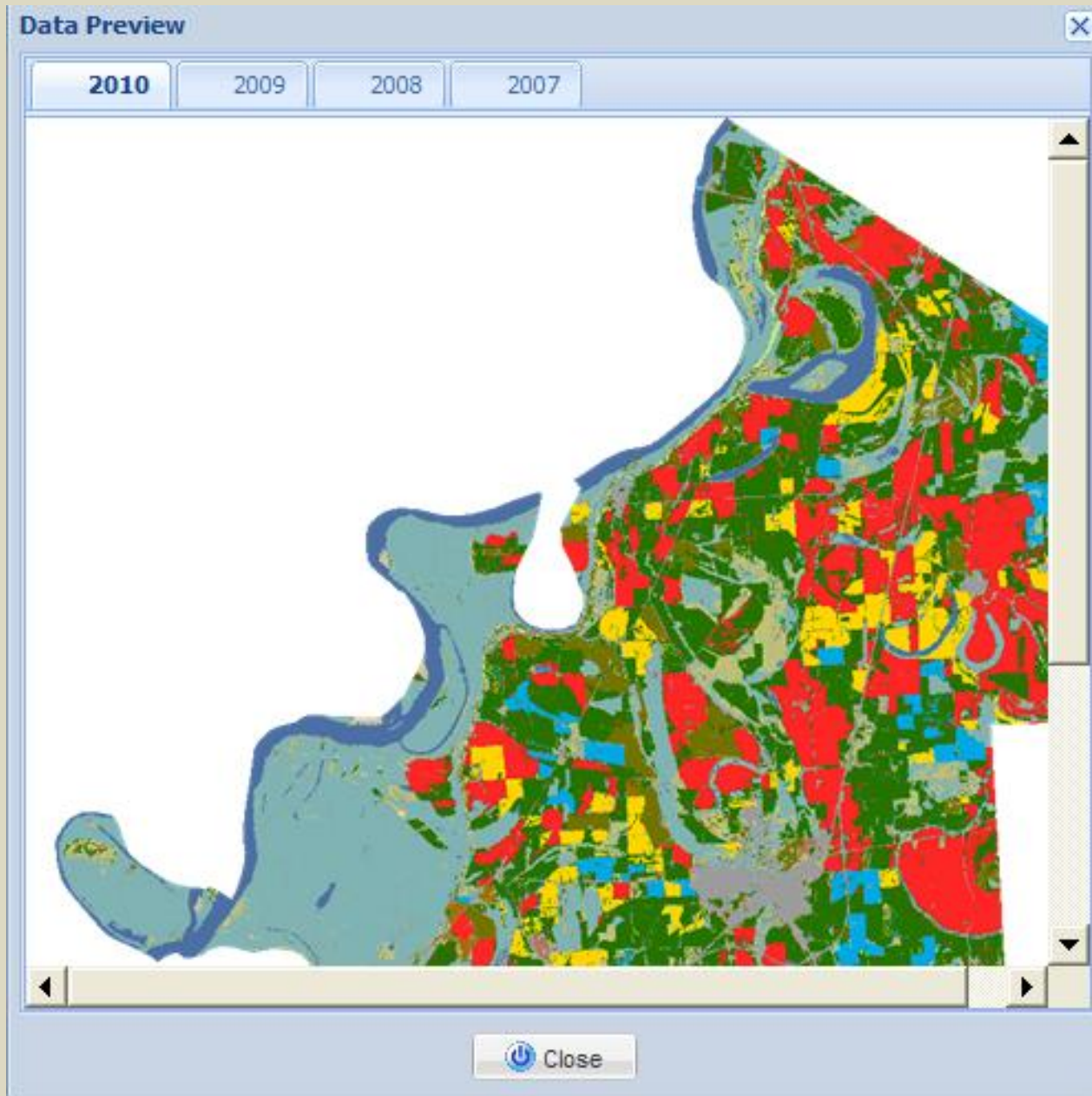
<input type="checkbox"/> 2009 ▲	2010	Pixel Counts	Acreage
<input type="checkbox"/> Cotton	Corn	5537	4290.7
<input type="checkbox"/> Cotton	Cotton	521	403.7
<input type="checkbox"/> Cotton	Rice	381	295.2
<input type="checkbox"/> Cotton	Sorghum	138	106.9
<input type="checkbox"/> Cotton	Soybeans	5156	3995.5
<input type="checkbox"/> Cotton	Sweet Corn	239	185.2
<input type="checkbox"/> Cotton	Winter Wheat	10	7.7
<input type="checkbox"/> Cotton	Winter Wheat/Soybeans Dbl. Cropped	15	11.6
<input type="checkbox"/> Cotton	Dry Beans	3	2.3
<input type="checkbox"/> Cotton	Peas	25	19.4
<input type="checkbox"/> Cotton	Fallow/Idle Cropland	82	63.5
<input type="checkbox"/> Cotton	Pecans	2	1.5
<input type="checkbox"/> Cotton	Wetlands	4	3.1
<input type="checkbox"/> Cotton	Aquaculture	1	0.8
<input type="checkbox"/> Cotton	NLCD - Developed/Open Space	189	146.5
<input type="checkbox"/> Cotton	NLCD - Developed/Low Intensity	4	3.1
<input type="checkbox"/> Cotton	NLCD - Woody Wetlands	5	3.9
		583973	452531.2

One square mile is 640 acres.

Download CDLs of a Selection for Multiple Years in a Specific Projection



Preview CDL Downloads for Each Selected Year



Open Download to Put Selection in Google Earth

File Download



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Name: CropScape_CD_L_1255501036.kml

Type: Google Earth.kmlfile

From: **nassgeodata.gmu.edu**

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Coahoma County Selection Downloaded to Google Earth

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Search
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Fly to e.g., Reservoir Rd. Clayville, NY

Places
Temporary Places
Cropland Data Layer
NASS
CDL 2010
CDL 2009
CDL 2008
CDL 2007

Layers
Primary Database
Borders and Labels
Places
Photos
Roads
3D Buildings
Ocean
Weather
Gallery
Global Awareness
More

Image State of Arkansas
© 2011 Google
Image USDA Farm Service Agency
Image © 2011 DigitalGlobe

Imagery Date: 8/7/2007
34°15'31.38" N 90°40'26.86" W elev 167 ft
Eye alt 42.41 mi

Results and Conclusions

- CropScape retains the accuracy of the CDL for major acreage land covers. Categories with low state-wide acres are usually under represented.
- Sitting a biomass plant in Vicksburg? CropScape can give you crop and forest acres per year for a 50 mile radius in Mississippi and the adjoining states in minutes.
- Doing a study of current field conditions vs. land use since 1999? Find the answer in minutes.
- Identify and quantify what was grown in an area of interest in a given year and what was grown there a reference year? In minutes.
- Downloads of GeoTIFFs to the hard drive or to Goggle Earth© in minutes.
- Spend a few minutes with CropScape to expand your land cover information and contact me with suggestions for improvement at fred_shore@usda.nass.gov.

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.

