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CropScape Demo

Innovations to Minimize Crop Loss in a Changing Climate

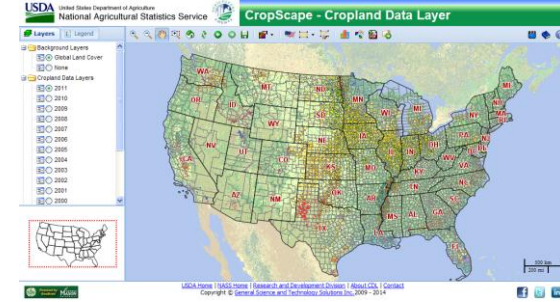
Rick Mueller

National Agricultural Statistics Service

February 24, 2012



CropScape



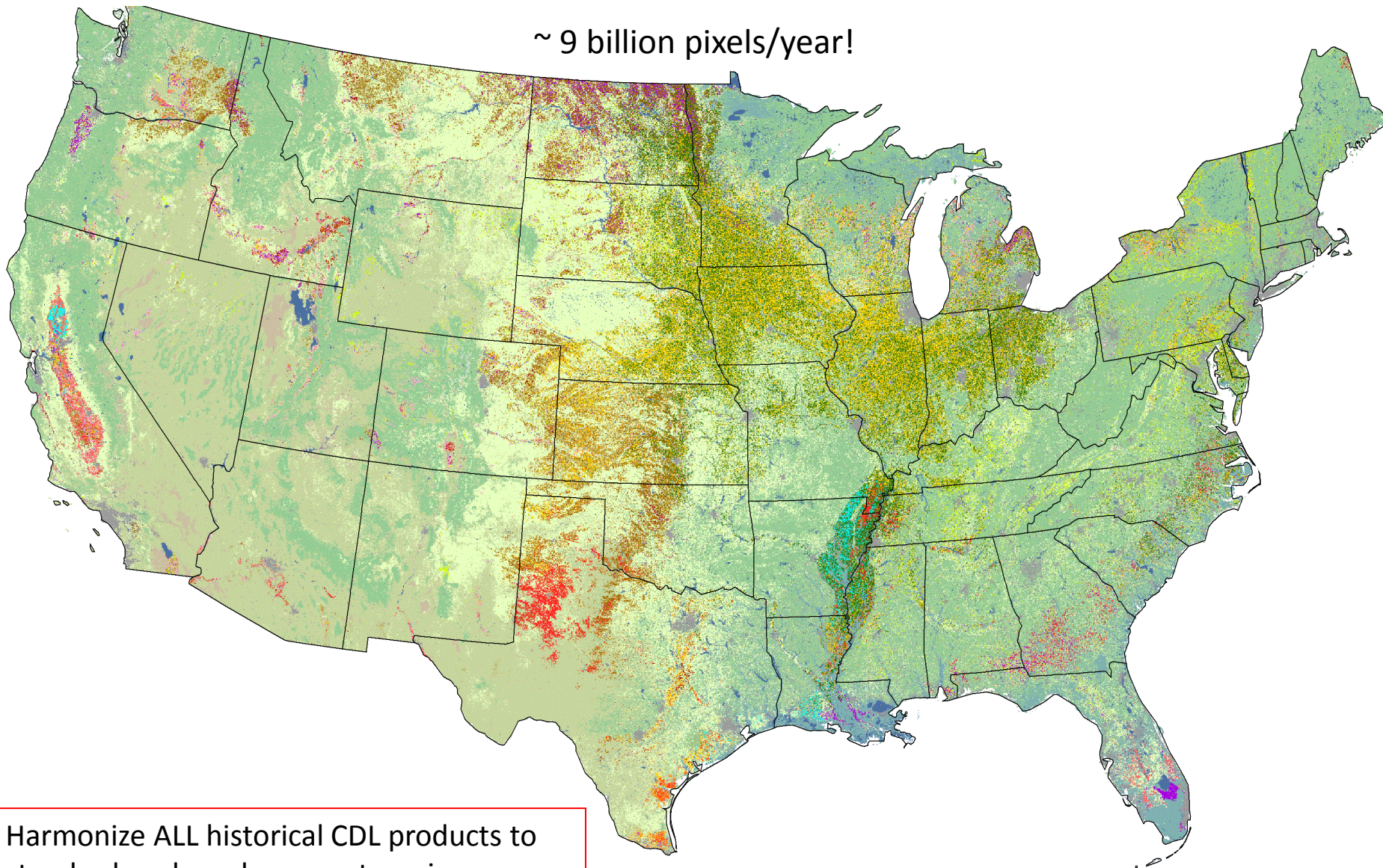
- A web service based interactive map visualization, dissemination and querying system for U.S. cropland
 - No burden on users
 - No client software development & installation
 - No special software tools needed
 - Data mashable
 - Democratization of data
 - Equitable information access, automatic timely delivery, and geospatial navigation
- Collaboration with George Mason University/Center for Spatial Information Science and Systems (CSISS)

<http://nassgeodata.gmu.edu/CropScape>



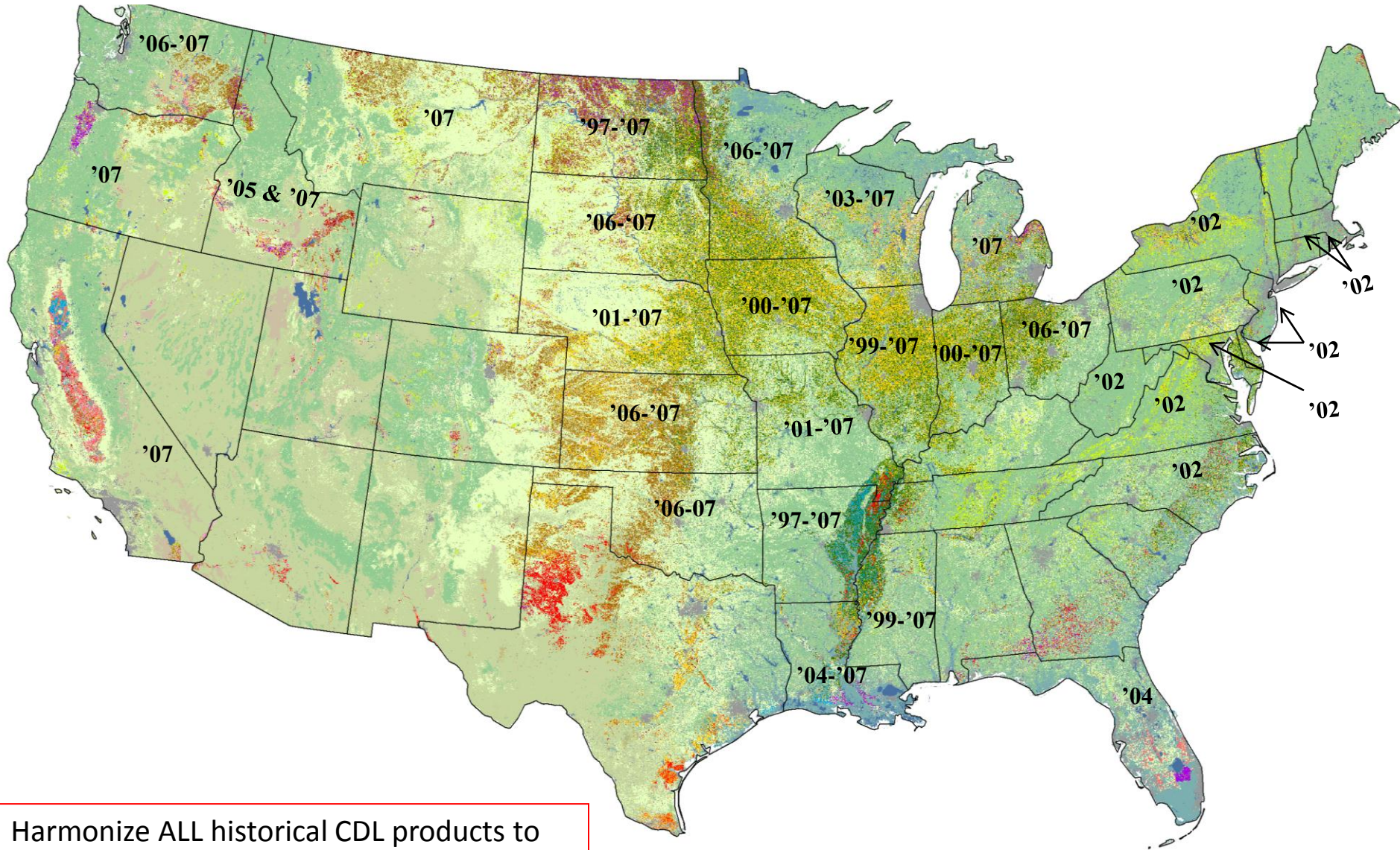
2008 – 2011 National Cropland Data Layers

~ 9 billion pixels/year!



Harmonize ALL historical CDL products to standard: color scheme, categories, projection, metadata.

1997 – 2007 Cropland Data Layers



Harmonize ALL historical CDL products to standard: color scheme, categories, projection, metadata.

CropScape Components

Data View

Pixel Query

Stats/Change

USDA United States Department of Agriculture
National Agricultural Statistics Service



CropScape - Cropland Data Layer

Layers Legend



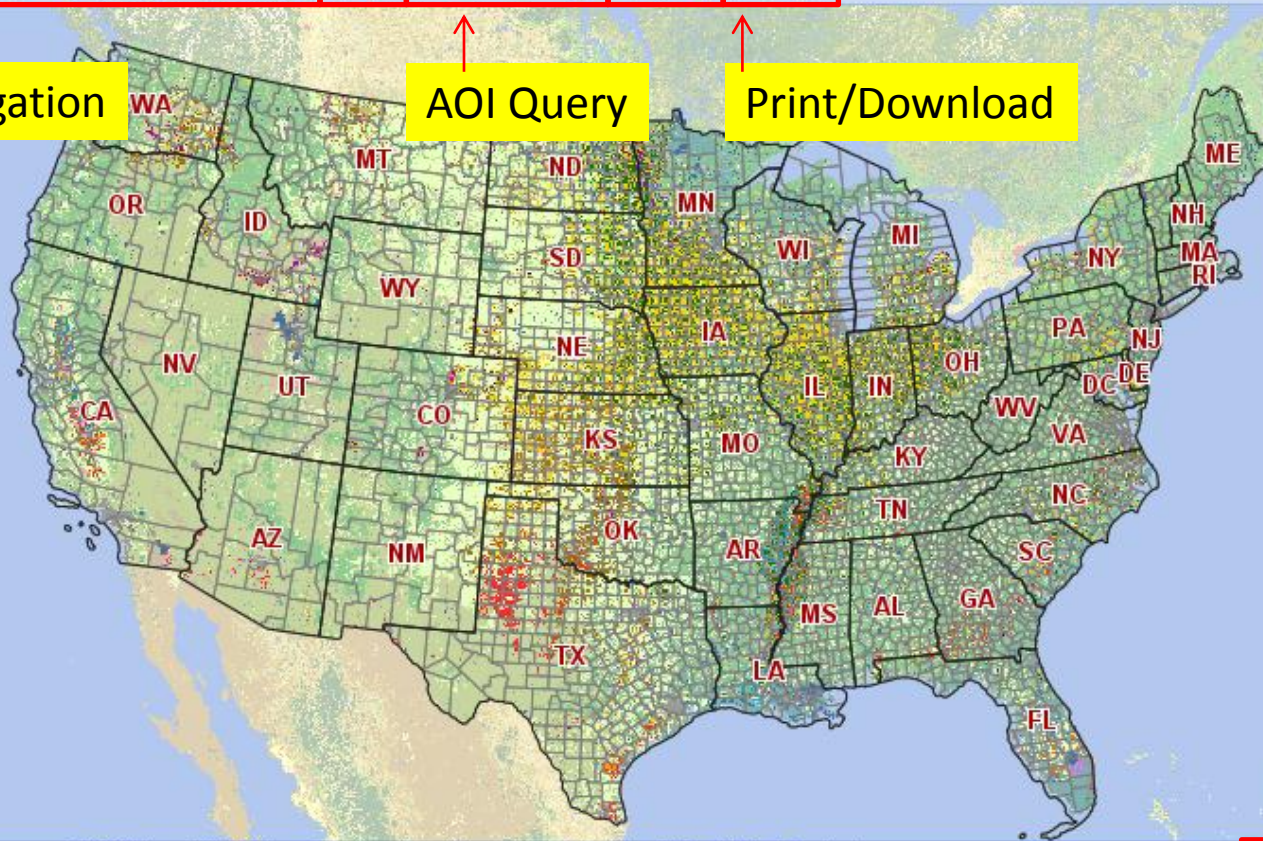
- Background Layers
 - Global Land Cover
 - None
- Cropland Data Layers
 - 2011
 - 2010
 - 2009
 - 2008
 - 2007
 - 2006
 - 2005
 - 2004
 - 2003
 - 2002
 - 2001
 - 2000

Navigation

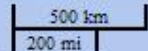
AOI Query

Print/Download

Help



Overview



[USDA Home](#) | [NASS Home](#) | [Research and Development Division](#) | [About CDL](#) | [Contact](#)
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Social Media

Select an Area of Interest



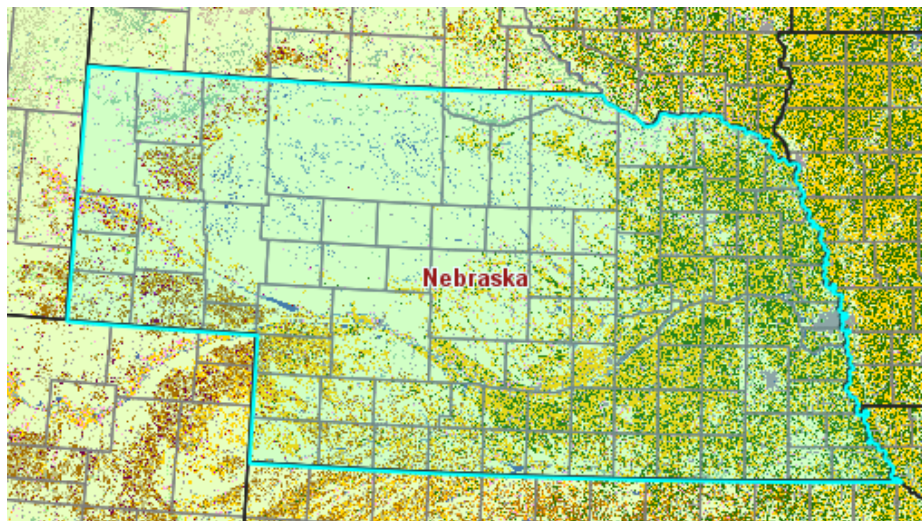
By State

Define Area of Interest By State/ASD/County

Select a State
State:

Select an ASD
ASD:

Or Select a County
County:



By State & ASD

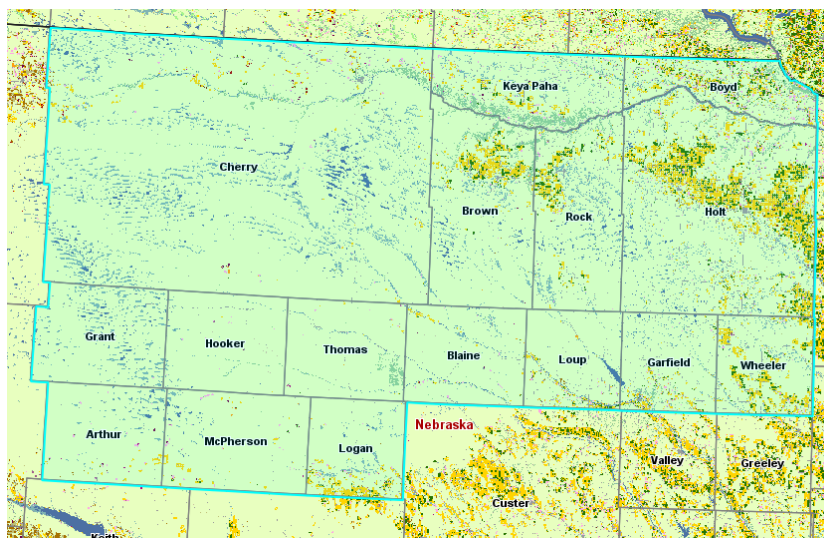
Define Area of Interest By State/ASD/County

Select a State
State:

Select an ASD
ASD:

- 3110
- 3120
- 3130
- 3150
- 3160
- 3170
- 3180

Or Select a County
County:



Select an Area of Interest



By State, District & County

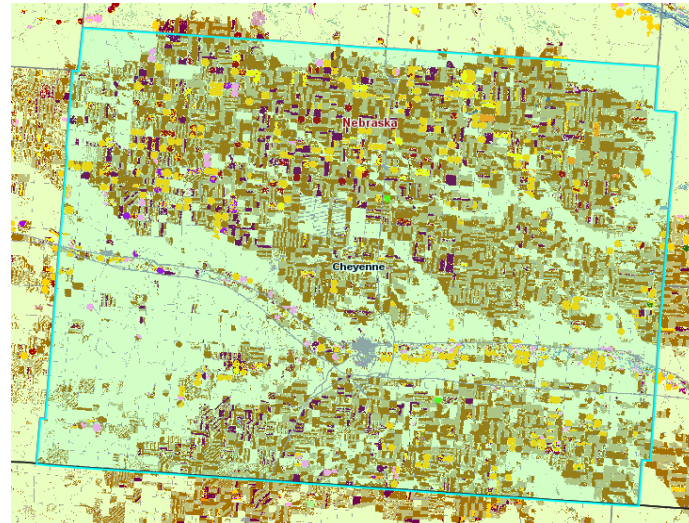
Define Area of Interest By State/ASD/County

Select a State
State: Nebraska

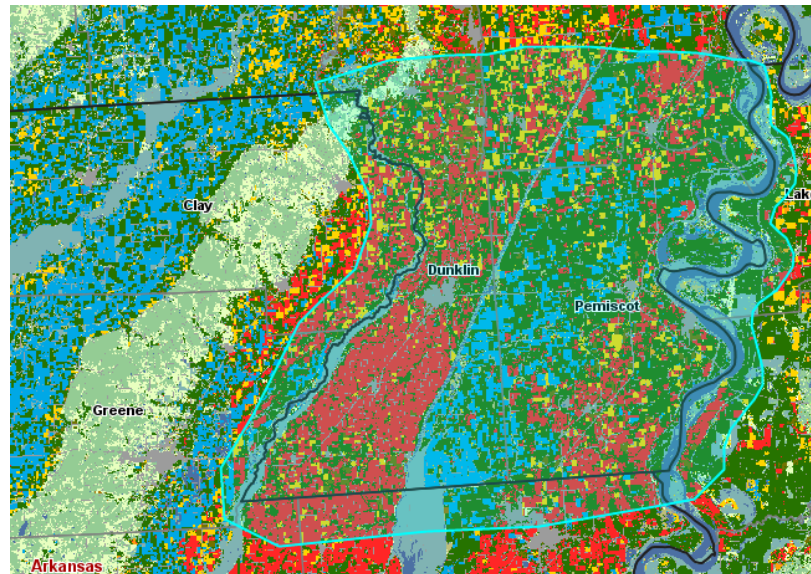
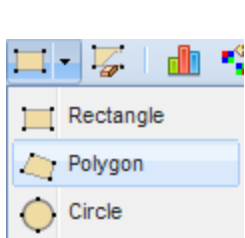
Select an ASD
ASD: Select an ASD...

Or Select a County
County: Cheyenne

Reset Submit Cancel



By Rectangle, Circle, or Polygon



Crop Statistics



2010 Cropland Data Layer Statistics for the Defined Area of Interest

Note: Pixel and acreage counts are not official estimates.

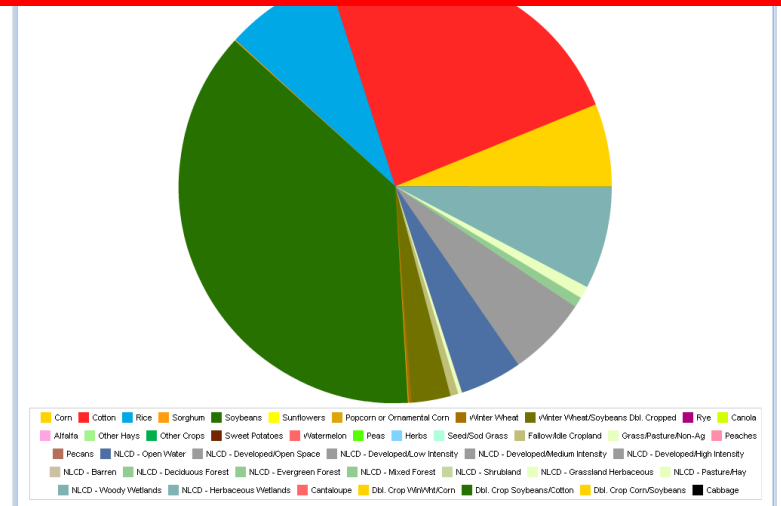
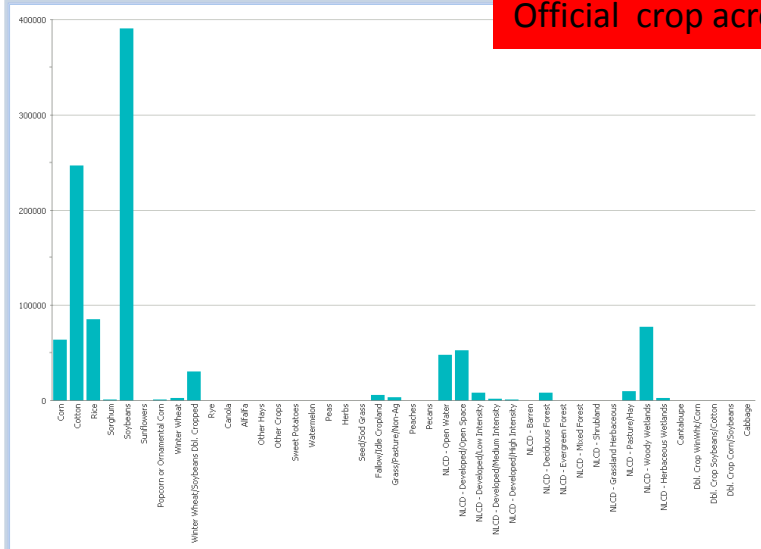
Value	Category	Pixel Counts	Acreage
1	Corn	286654	63750.3
2	Cotton	1110237	246910.8
3	Rice	383221	85226.3
4	Sorghum	3977	884.5
5	Soybeans	1754198	390124.2
6	Sunflowers	22	4.9
13	Popcorn or Ornamental Corn	2895	643.8
24	Winter Wheat		
26	Winter Wheat/Soybeans Dbl. Cropped		
Total	42		

Data Preview of Soybeans



Pixel counting is usually downward biased when compared to official estimates. Counting pixels and multiplying by the area of each pixel will result in biased area estimates and should be considered raw numbers needing bias correction. Official crop acreage estimates are available at <http://www.nass.usda.gov/>.

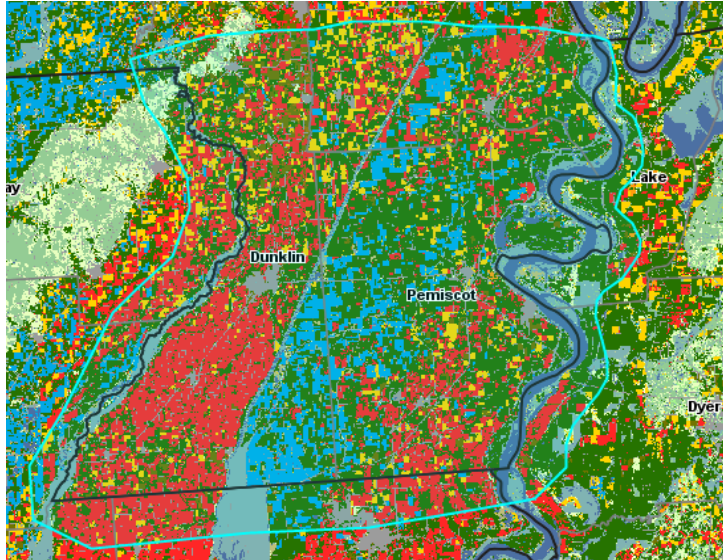
2010 Cropland Data Layer Statistics for the Defined Area of Interest



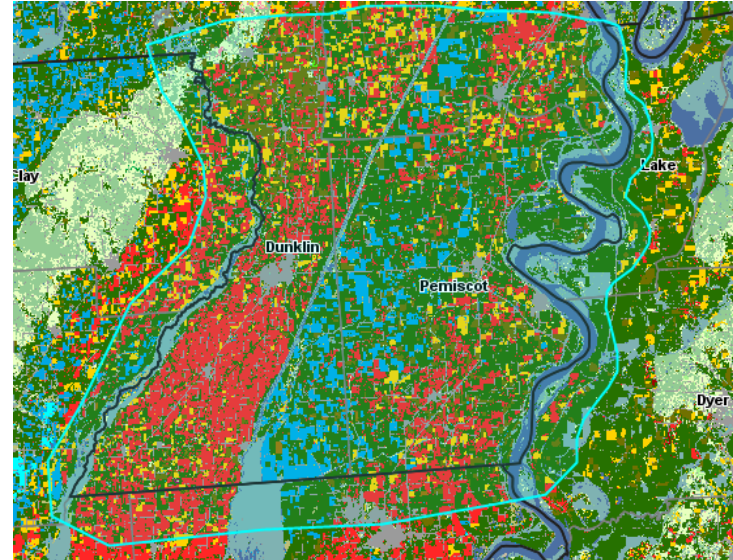
Change Analysis



2010



2009



Change Analysis ✕

Select the Reference Year: ▾

Select the Other Year: ▾

Cropland Data Layer Changes between 2010 and 2009

Note: Pixel and acreage counts are not official estimates.

<input type="checkbox"/>	2010 ▾	2009	Pixel Counts	Acreage
<input type="checkbox"/>	Soybeans	Soybeans	322645	250024.6
<input type="checkbox"/>	Soybeans	Popcorn or Ornamental Corn	175	135.6
<input type="checkbox"/>	Soybeans	Winter Wheat	1202	931.5
<input type="checkbox"/>	Soybeans	Winter Wheat/Soybeans Dbl. Cropped	39529	30631.9
<input type="checkbox"/>	Soybeans	Rye	12	9.3
<input type="checkbox"/>	Soybeans	Other Hays	11	8.5
<input type="checkbox"/>	Soybeans	Dry Beans	2	1.5
<input type="checkbox"/>	Soybeans	Other Crops	1	0.8
<input type="checkbox"/>	Soybeans	Misc. Vegs. & Fruits	1	0.8
			1337369	1036354.0

Download/Mashup



CDL Downloading - Please specify your choice(s)

Select Year(s)

Year: 2010 2009 2008 2007
 2006 2005 2004 2003
 2002 2001 2000 1999
 1998 1997

Specify Projection

Projection: USA Contiguous Albers Equal Area Conic USC

Download Files from Server

http://129.174.131.228/nass_data_cache/byfips/CDL_2010_31.tif

Opening CropScape_CDL_775336053.kml

You have chosen to open

CropScape_CDL_775336053.kml
which is a: KML file
from: <http://nassgeodata.gmu.edu>

What should Firefox do with this file?

Open with: Google Earth (default)

Save File

Do this automatically for files like this from now on.



Google Earth

File Edit View Tools Add Help

Search

Fly To: Find Businesses Directions

Fly to e.g., 37.407229, -122.107162

Places

- My Places
 - Sightseeing Tour
 - Make sure 3D Buildings layer is checked
- Temporary Places
 - Cropland Data Layer
 - NASS

Layers

Earth Gallery >>

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

South Dakota

Nebraska

Kansas

Colorado

Image NMRGIS
© 2011 Europa Technologies
Image USDA Farm Service Agency
© 2011 Google

39°25'54.31" N 103°49'01.10" W elev 5548 ft








Eye alt 592.78 mi

**2011 Continental United States
Land Cover Categories (by decreasing acreage)**

Agriculture

 Pasture/Grass	 Triticale	 Dbl Crop Lettuce/Cotton
 Corn	 Citrus	 Mustard
 Soybeans	 Safflower	 Plums
 Winter Wheat	 Pistachios	 Dbl Crop Barley/Sorghum
 Fallow/Idle Cropland	 Blueberries	 Broccoli
 Other Hay/Non Alfalfa	 Christmas Trees	 Radishes
 Alfalfa	 Dbl Crop Barley/Soybeans	 Garlic
 Cotton	 Tomatoes	 Speltz
 Spring Wheat	 Onions	 Vetch
 Sorghum	 Flaxseed	 Apricots
 Dbl Crop WinWht/Soybeans	 Dbl Crop Oats/Corn	 Caneberries
 Rice	 Pop or Orn Corn	 Greens
 Barley	 Herbs	 Nectarines
 Oranges	 Misc Veggies & Fruits	 Cucumbers
 Oats	 Olives	 Other Small Grains
 Sunflower	 Other Tree Crops	 Turnips
 Dry Beans	 Dbl Crop Corn/Soybeans	 Dbl Crop Lettuce/Cantaloupe
 Peanuts	 Sweet Potatoes	 Camelina
 Durum Wheat	 Peaches	 Cauliflower
 Sugarbeets	 Cranberries	 Rape Seed
 Potatoes	 Tobacco	 Honeydew Melons
 Canola	 Cantaloupes	 Celery
 Sugarcane	 Prunes	 Dbl Crop Durum Wht/Sorghum
 Almonds	 Dbl Crop Barley/Corn	 Eggplants
 Sod/Grass Seed	 Dbl Crop Soybeans/Cotton	 Gourds
 Grapes	 Pears	 Dbl Crop Lettuce/Barley
 Apples	 Lettuce	
 Rye	 Dbl Crop Lettuce/Durum Wht	
 Peas	 Watermelons	
 Millet	 Switchgrass	
 Walnuts	 Asparagus	
 Lentils	 Carrots	
 Pecans	 Strawberries	
 Dbl Crop WinWht/Cotton	 Pumpkins	
 Dbl Crop WinWht/Sorghum	 Squash	
 Sweet Corn	 Cabbage	
 Aquaculture	 Peppers	
 Clover/Wildflowers	 Dbl Crop Soybeans/Oats	
 Other Crops	 Hops	
 Dbl Crop WinWht/Com	 Mint	
 Cherries	 Pomegranates	

Non-Agriculture

 Forest
 Shrubland
 Developed
 Wetlands
 Water
 Barren
 Perennial Ice/Snow

National Cropland Data Layer Legend

2011 CDL, Pocahontas, Iowa

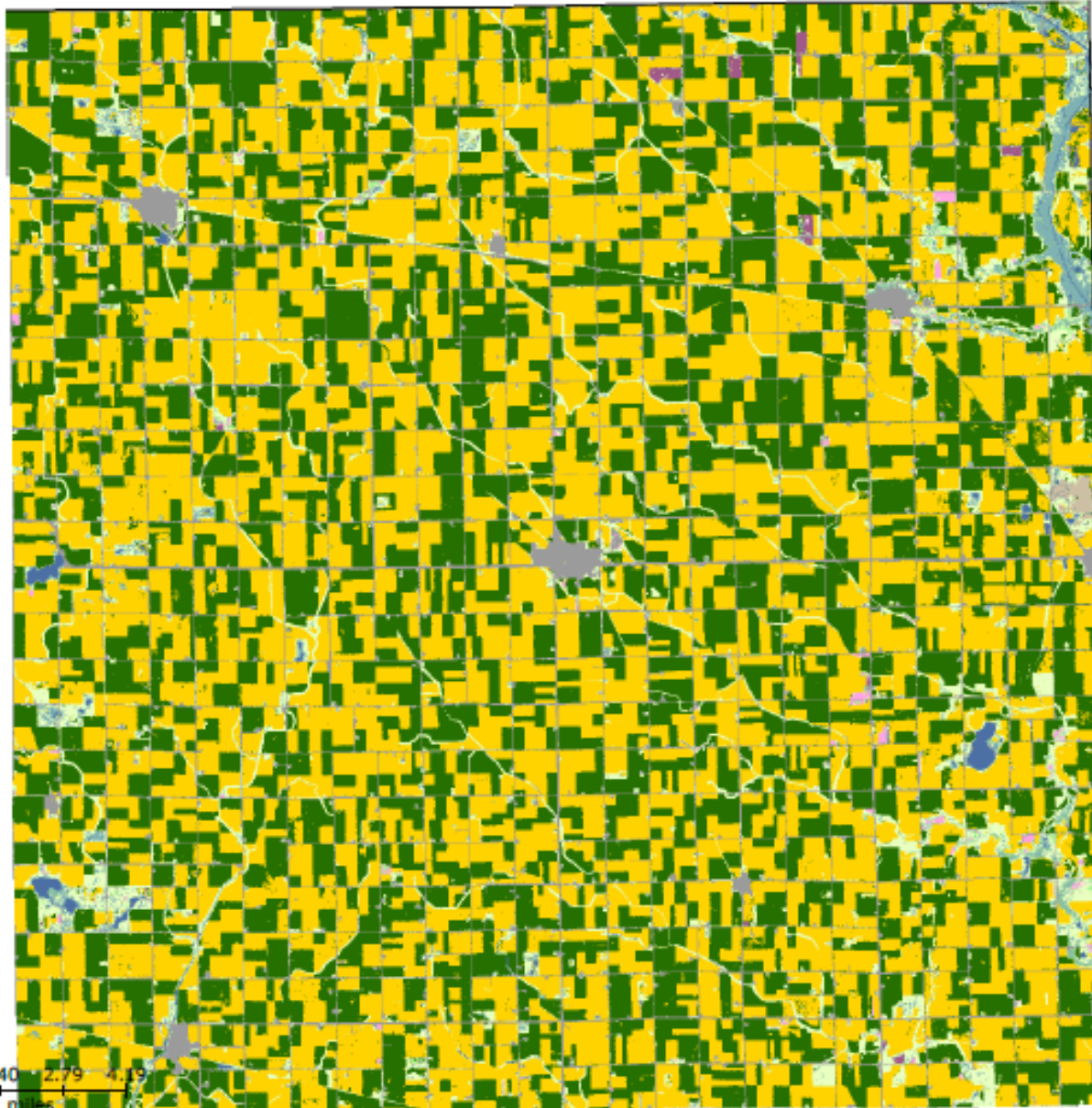
Land Cover Categories
(by decreasing acreage)

AGRICULTURE

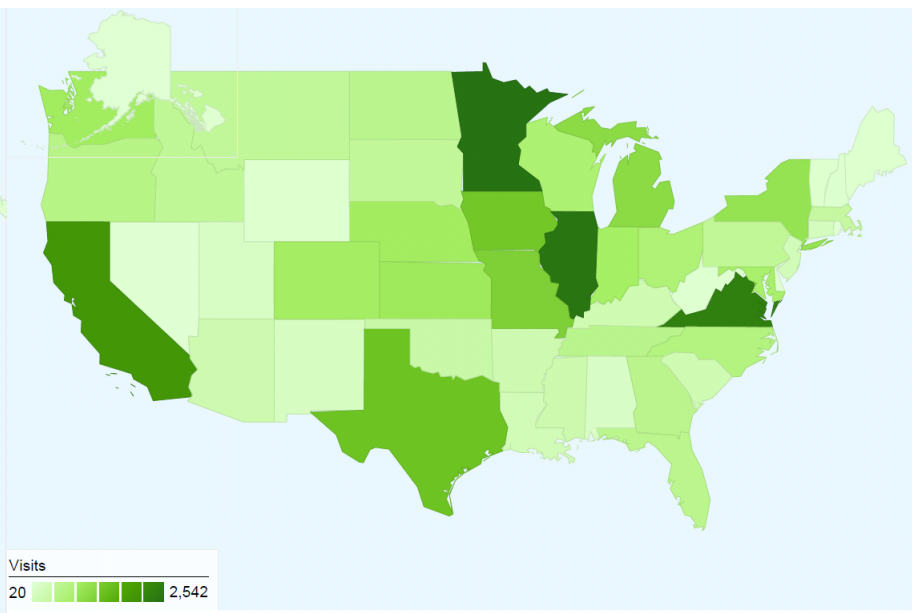
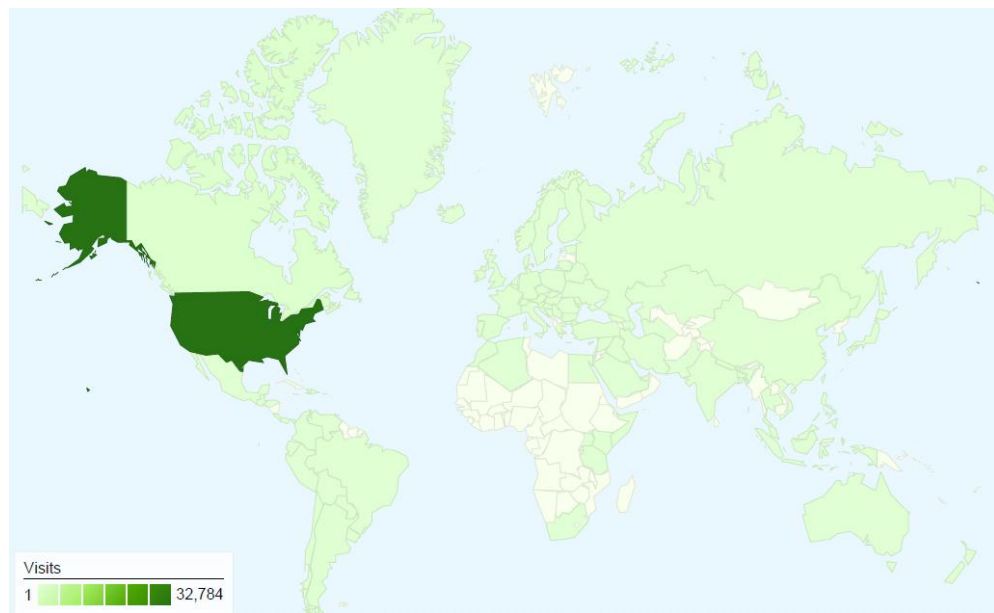
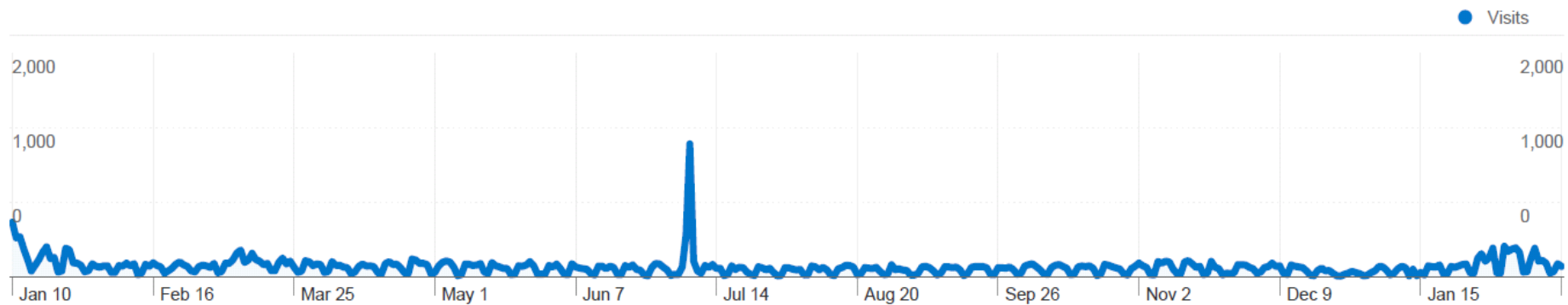
- Corn
- Soybeans
- Grassland Herbaceous
- Alfalfa
- Oats
- Other Hay/Non Alfalfa
- Pop or Orn Com
- Winter Wheat
- Fallow/Idle Cropland

NON-AGRICULTURE*

- Developed/Open Space
- Herbaceous Wetlands
- Developed/Low Intensity
- Woody Wetlands
- Open Water
- Deciduous Forest



CropScape Google Analytics



NASS Cropland Data Layer Applications

