



UNITED STATES DEPARTMENT OF AGRICULTURE
NATIONAL AGRICULTURAL STATISTICS SERVICE

Operational Monitoring of US Croplands with Landsat 8

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Landsat Science Team Kickoff Meeting
December 12, 2012 Washington, DC

National Agricultural Statistics Service (NASS)

Provider of timely, accurate, and useful statistics in service to U.S. agriculture

NASS - Data and Statistics - Microsoft Internet Explorer

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Address http://www.nass.usda.gov/Data_and_Statistics/index.asp

USDA United States Department of Agriculture
National Agricultural Statistics Service

The 2002 Census of Agriculture is the most comprehensive source of statistics portraying our nation's agriculture

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Data and Statistics

Quick Stats (Agricultural Statistics Data Base)

NASS publishes U.S., state, and county level agricultural statistics for many commodities and data series. Quick Stats offers the ability to query by commodity, state(s) and year(s), providing the most up-to-date statistics including all revisions. The query dataset can be downloaded for easy use in your database or spreadsheet.

Query our Quick Stats Data Base

Additional Crops Quick Resources

Maps of crops county estimates for acreage and yield are available from NASS as both CSV data files and maps.

County data from Quick Stats data is also available in pre-extracted data sets by year and by crop.

Census of Agriculture

To query Census of Agriculture data, choose from the Census years below. To view the Census publications, click here:

- Data Queries for 2002, select below:

Select a Census Query

- Data Queries for 1997, 1992, 1987

Interactive Data

NASS provides a variety of tools for interacting with our Census datasets.

Interactive Statistical Maps for 2002 Census Highlights

Table Lens Application for 1997 Census Data

Last modified: 12/30/05

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2001 Wildlife Damage Survey

7.7 Percent of Crop Value Lost to Deer and Geese

Maryland farmers lost \$17.2 million of corn, soybeans and wheat to deer and geese during 2001. This translates to Maryland farmers losing 7.7 percent of the crop value to deer and geese. Soybeans accounted for the greatest economic loss, totaling \$9.1 million, 11 percent. Corn losses were \$6.6 million, 5.8 percent and wheat \$1.5 million, 5.6 percent. Deer damage resulted in losses of \$11.6 million, 6.6 percent, while geese losses were \$5.6 million, 1.6 percent.

Production losses totaled 6.0 million bushels. Corn losses were 3.2 million bushels, soybean losses totaled 2.2 million bushels and wheat accounted for 0.6 million bushels. Production losses to deer were 4.7 million bushels and geese 1.3 million bushels.

In terms of yield, losses to deer were most severe in Central and Western Maryland, while geese damage was greater on the Eastern Shore. Corn yield losses of 9.6 bushels per acre and 7.4 bushels per acre were reported in Central and Western Maryland, respectively. The Lower Eastern Shore reported the highest soybean losses of 6.1 bushels per acre.

Sixty-two percent of farms reported deer or geese damage to one or more crops. Damage was reported on 61 percent of farms raising corn, 58 percent of farms growing soybeans and 27 percent of farms with wheat.

Region	Crop	Acre Harvested	Harvested Yield (bushels)	Average Yield Loss (bushels)	Production Loss (bu)	Economic Loss (\$)
Western Maryland	Corn	5,200	104.0	7.4	40,700	81,415
	Soybeans	300	36.0	7.4	2,260	4,520
	Wheat	200	45.0	2.3	460	1,157
Central Maryland	Corn	149,200	892.0	9.0	1,303,200	2,603,200
	Soybeans	92,000	368.0	3.9	360,720	1,479,276
	Wheat	39,300	63.3	3.3	126,390	319,656
Southern Maryland	Corn	29,800	132.9	4.9	148,200	296,411
	Soybeans	43,200	18.8	3.9	142,560	584,496
	Wheat	15,600	57.2	0.9	14,400	35,838
Upper Shore	Corn	157,000	153.0	5.1	800,700	1,641,413

Corn Area Planted for All Purposes and Harvested for Grain, Yield, and Production - States and United States: 2009-2011 (continued)

State	Yield per acre			Production		
	2009	2010	2011	2009	2010	2011
	(bushels)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Alabama	109.0	116.0	114.0	27,900	29,000	28,500
Arkansas	175.0	215.0	180.0	5,500	4,020	5,760
California	148.0	150.0	142.0	60,580	57,000	73,840
Colorado	193.0	195.0	185.0	28,830	36,300	27,750
Connecticut	153.0	151.0	133.0	151,470	182,710	172,900
Delaware	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Florida	100.0	105.0	100.0	3,700	2,625	3,000
Georgia	140.0	145.0	158.0	51,800	35,525	42,660
Idaho	180.0	180.0	185.0	14,400	19,800	22,200
Illinois	174.0	157.0	167.0	2,053,200	1,948,800	1,946,800
Indiana	171.0	160.0	160.0	930,600	898,000	899,000
Iowa	182.0	165.0	172.0	2,420,500	2,153,250	2,356,400
Kansas	155.0	125.0	107.0	598,300	351,250	449,600
Kentucky	165.0	124.0	139.0	189,750	152,220	180,700
Louisiana	132.0	140.0	135.0	80,520	70,000	76,950
Maine	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Maryland	145.0	106.0	109.0	61,625	45,580	46,870
Massachusetts	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Michigan	149.0	150.0	153.0	309,320	315,000	335,070
Minnesota	174.0	177.0	156.0	1,244,100	1,292,100	1,201,200
Mississippi						
Missouri						
Montana						
Nebraska						
Nevada						
New Hampshire						
New Jersey						
New Mexico						
New York						
North Carolina						
North Dakota						
Ohio						
Oklahoma						
Oregon						
Pennsylvania						
Rhode Island						

WISCONSIN AGRICULTURAL STATISTICS SERVICE

USDA

In cooperation with WI Department of Agriculture, Trade and Consumer Protection

2002 Dairy Producer Opinion Survey

November 2002

Wisconsin Milk Production To Recover

National Agricultural Statistics Service 2002 Census of Agriculture

United States | All data items are from Chapter 2 - Table 1. Area Summary Highlights: 2002 Selected crops harvested - Land in orchards (acres)

State: United States - County Level | Data Item: Selected crops harvested - Land in orchards (acres)

United States Total: 5,330,439

State Total:

County Total:

County Total:

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Legend

Scale: National

Zero or Data Withheld

- <= 20,000
- 20,001 to 40,000
- 40,001 to 60,000
- 60,001 to 80,000
- 80,001 to 100,000
- 100,001 +

Comparisons: 6

Color: Green

Source: USDA-NASS 2002 Census of Agriculture © USDA-NASS 2005-2006

Navigate: Mouse-over a specific state/county to view the state/county level data. Right click to zoom (option-click for MAC users). Hold the Alt key and click+drag to pan. For additional assistance with this application, [click here to view the support page.](#)

All Milk Price, Wisconsin Annual Average, 1989-2002

1989-2002 price in January/September average.

Wisconsin Dairy Herds by Herd Size

Milk cow herd size	May 2002 herds	May 2007 herds (projected) 1/	Change 2007/2002
1-29	2,800	4,440	+45
30-49	4,700	3,440	-27
50-99	7,400	5,800	-24
100-199	1,800	2,080	+9
200-499	700	900	+20
500+	400	440	+20
Total	17,500	19,900	+20

1/7 May 2007 projection is based on farmers' opinions May-June 2002, with the assumption that milk prices for the next five years will be at the same level as the past five years.

Wisconsin Dairy Farmer Plans for May 2007 1/ by Herd Size

Milk cow herd size	Herds	Keep same herd size	Increase herd size	Discontinue milking
1-29	2,800	47	17	36
30-49	4,700	71	9	20
50-99	7,400	63	19	18
100-199	1,800	53	27	10
200-499	700	33	59	8
500+	200	22	78	0
Total	17,500	80	20	20

1/7 May 2007 projection is based on farmers' opinions May-June 2002, with the assumption that milk prices for the next five years will be at the same level as the past five years.

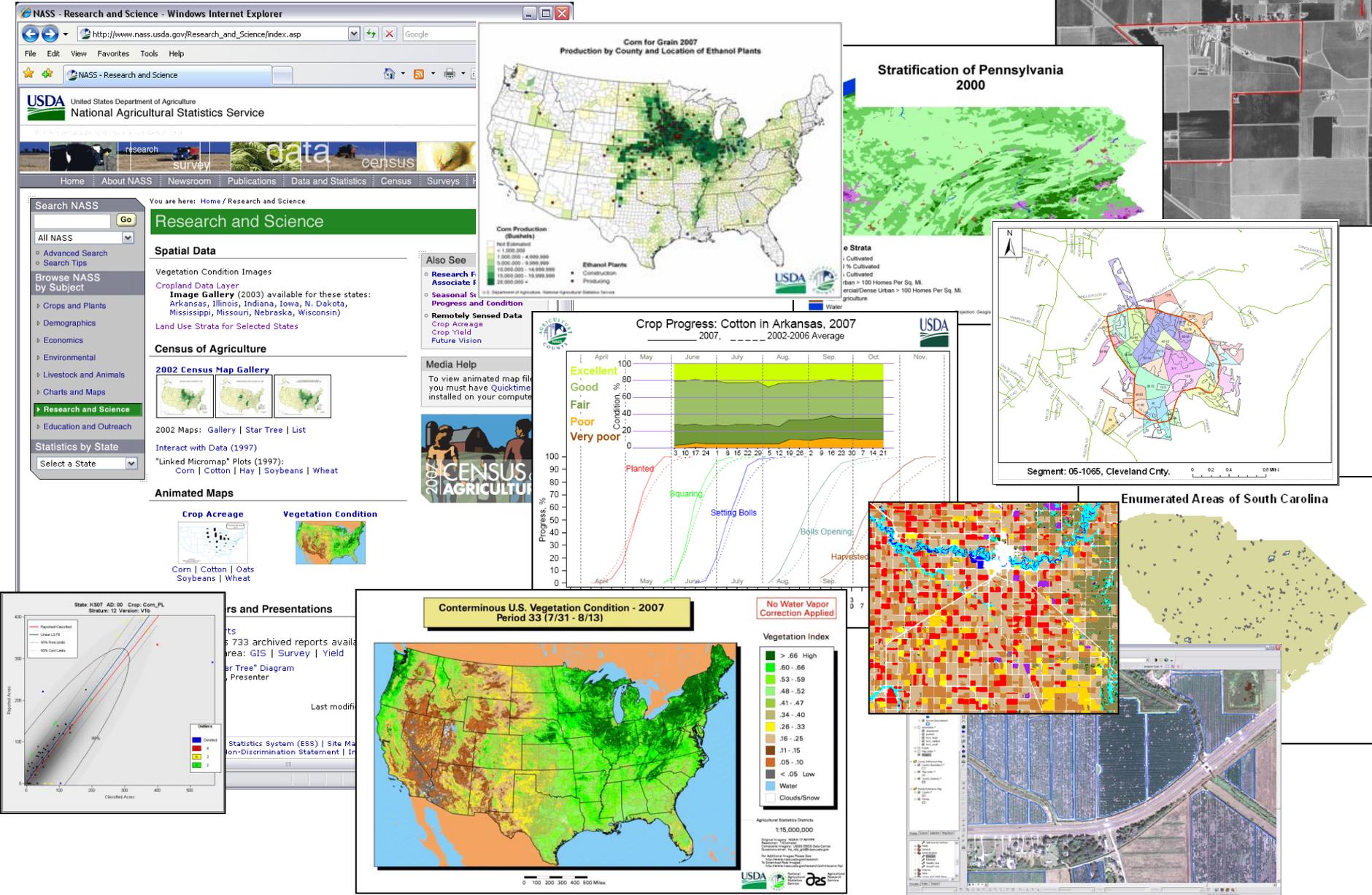
Percent of Herds by Size Group 2007 Projection

1/7 May 2007 projection is based on farmers' opinions May-June 2002, with the assumption that milk prices for the next five years will be at the same level as the past five years.

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Research and Development Division

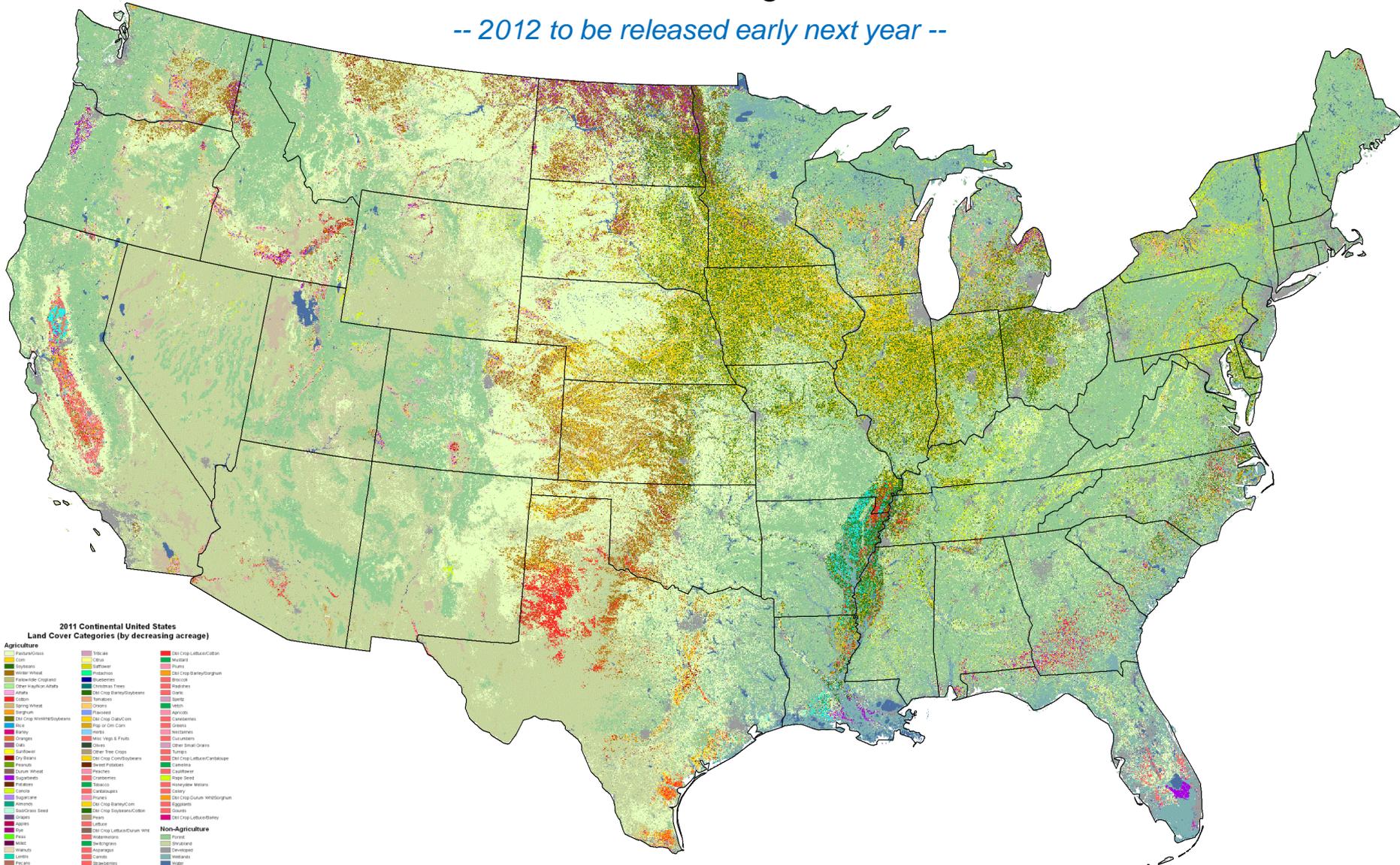
Geospatial Information Branch



Cropland Data Layer

Annual national coverage 2008 – 2011

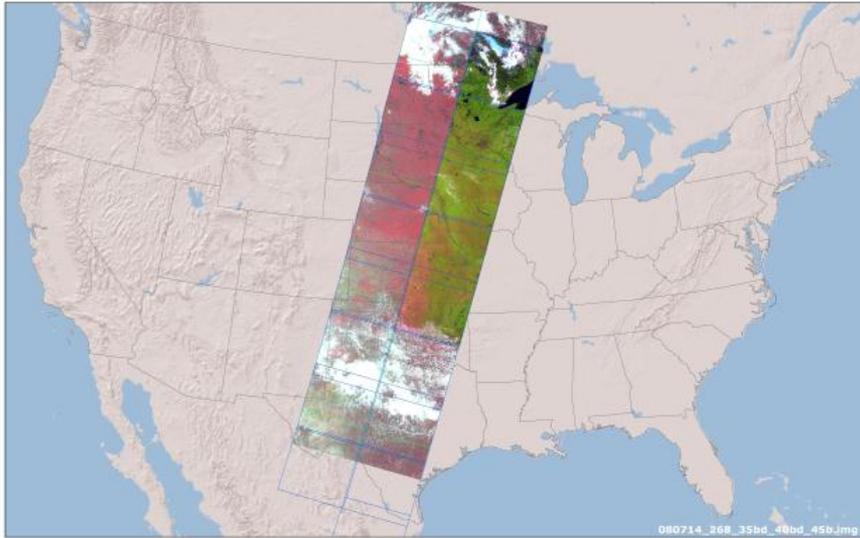
-- 2012 to be released early next year --



nassgeodata.gmu.edu/CropScape

Mid-resolution data sources NASS uses

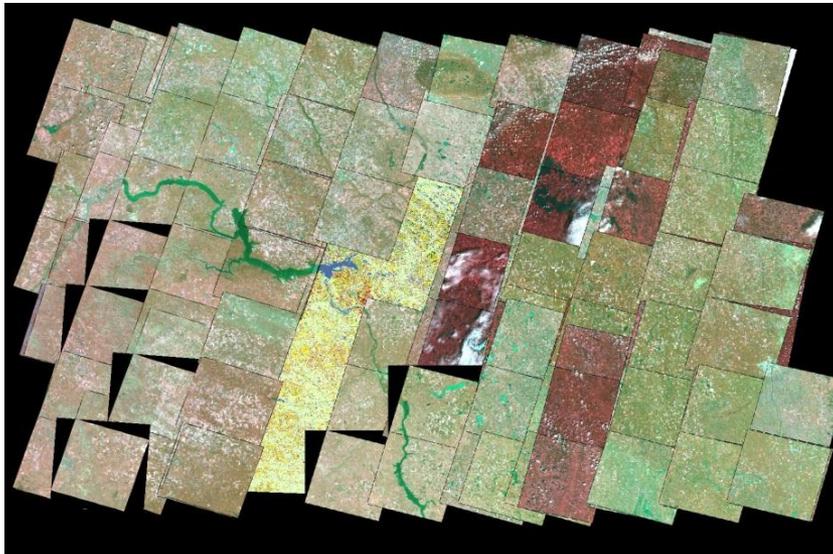
IRS AWiFS



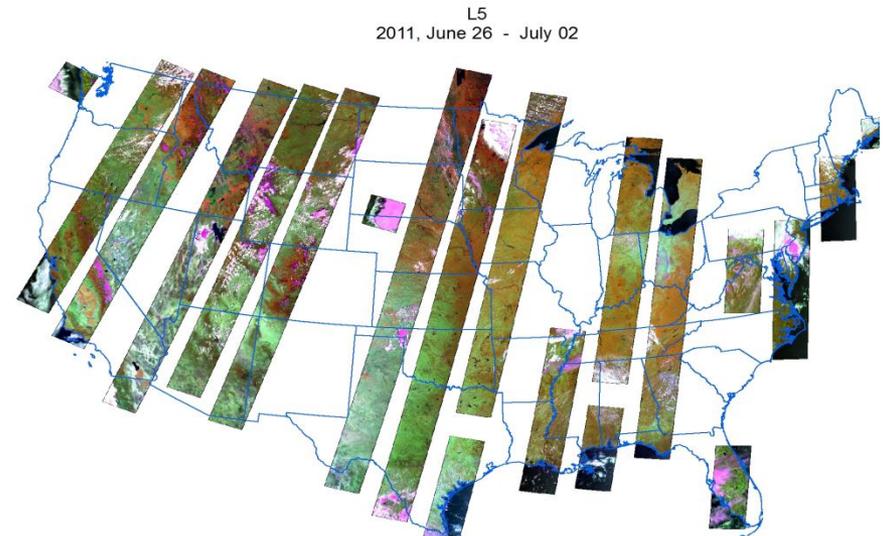
Deimos & UK2



SPOT



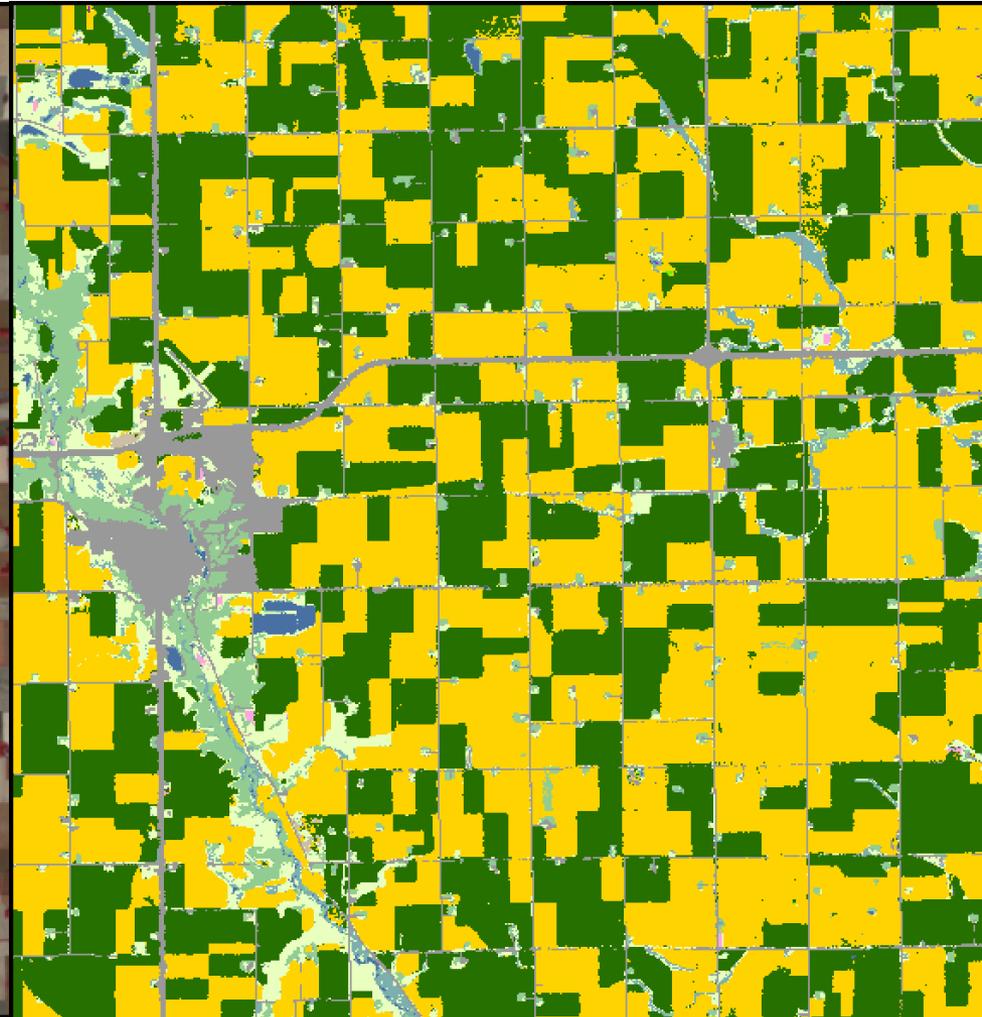
Landsat



Cropland - a dynamic land cover

September 23, 2012

circa October 1, 2012

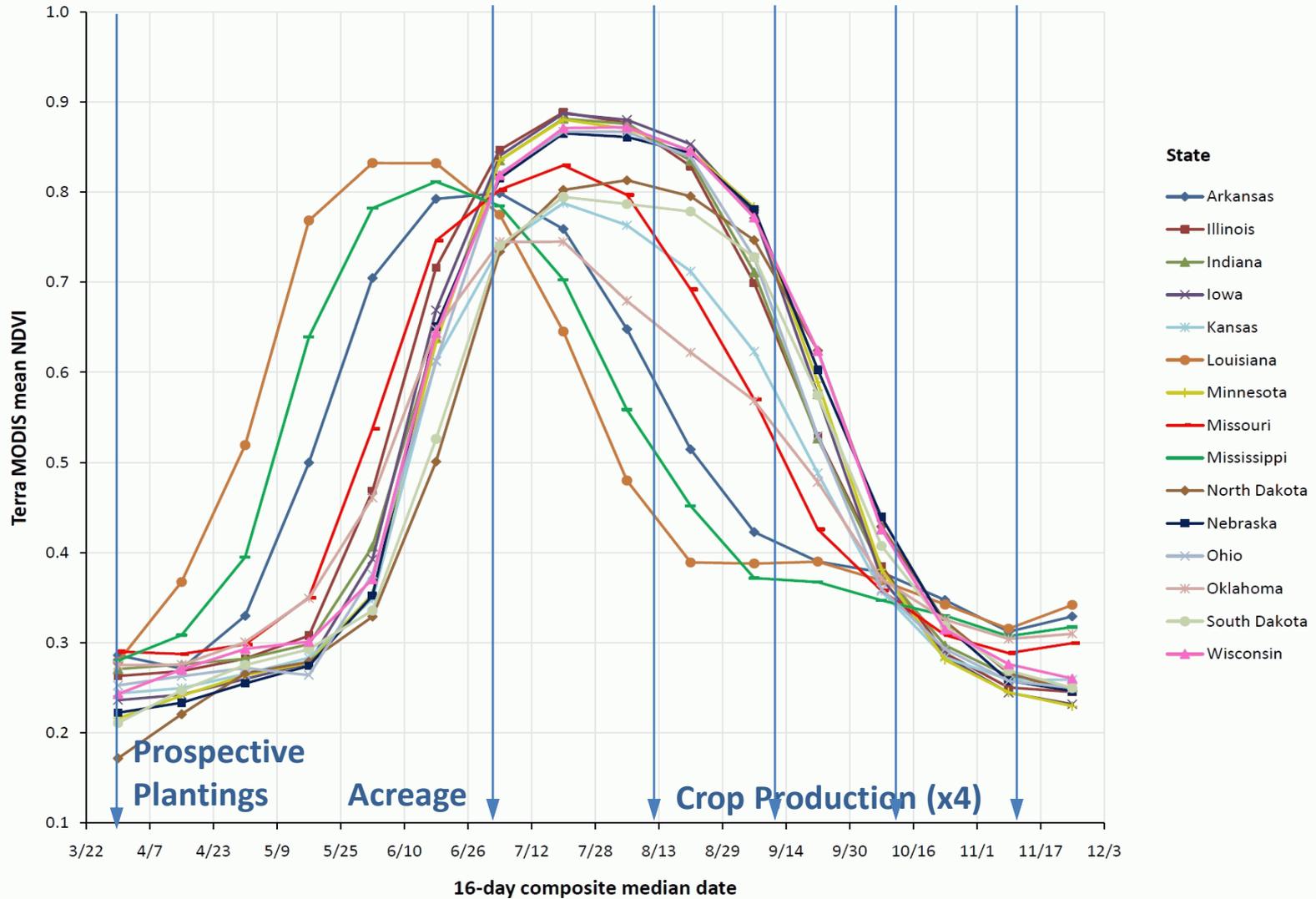


DMC Deimos-1, False-color infrared

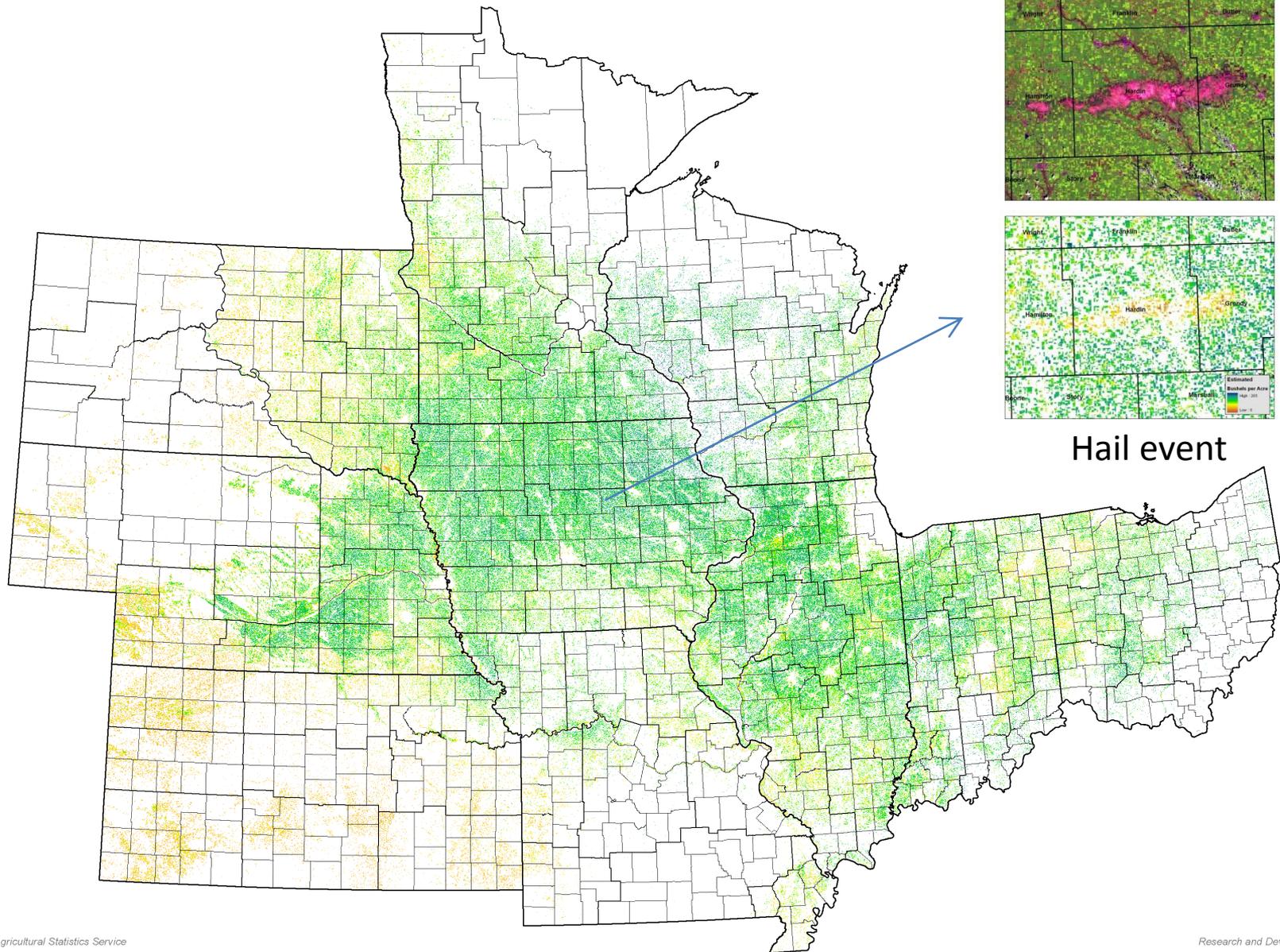
NASS CDL

Corn phenology fundamentals with crop publication dates

Corn 5-year average 2006-2010



Field level crop model estimation



Landsat 8 imagery will primarily be evaluated for:

- use in CDL creation and crop acreage estimation
- agricultural disaster monitoring
- timeliness, acquisition simplicity, and ease of use
- ability of the new OLI and TIRS bands to improve crop type discrimination
- utility of the panchromatic band for land cover classification at 15 meters
- integration and/or comparison with other Landsat-like data sources (DMC, IRS)
- capacity to assess crop progress, condition and yield through temporal analysis
- comparison of near-time, nadir versus off-nadir collects over the same area.



Others at NASS involved with Landsat science

- Claire Boryan (*geographer*)
- Richard Mueller (*section head, information technology*)
- Robert Seffrin (*mathematical statistician*)
- Patrick Willis (*agronomist*)
- Zhengwei Yang (*information technology*)
- Audra Zakzeski (*mathematical statistician*)



Zhengwei

Lee

Claire

Audra

Dave

Bill

Bob

Larry

Rick

