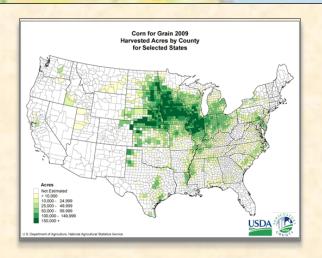
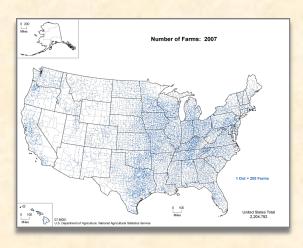
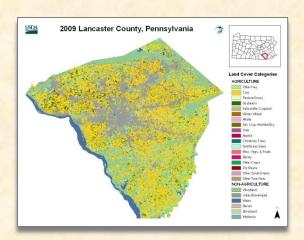
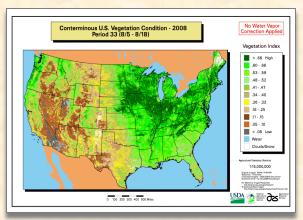
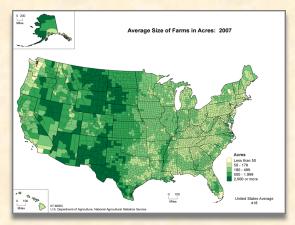
NASS Geospatial Products

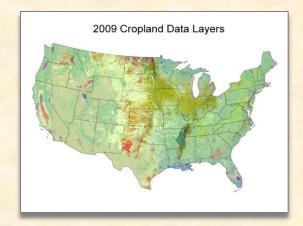












Gail Wade
National Agricultural Statistics Service
Research and Development Division
Geospatial Information Branch
September 15, 2010



NASS MISSION:

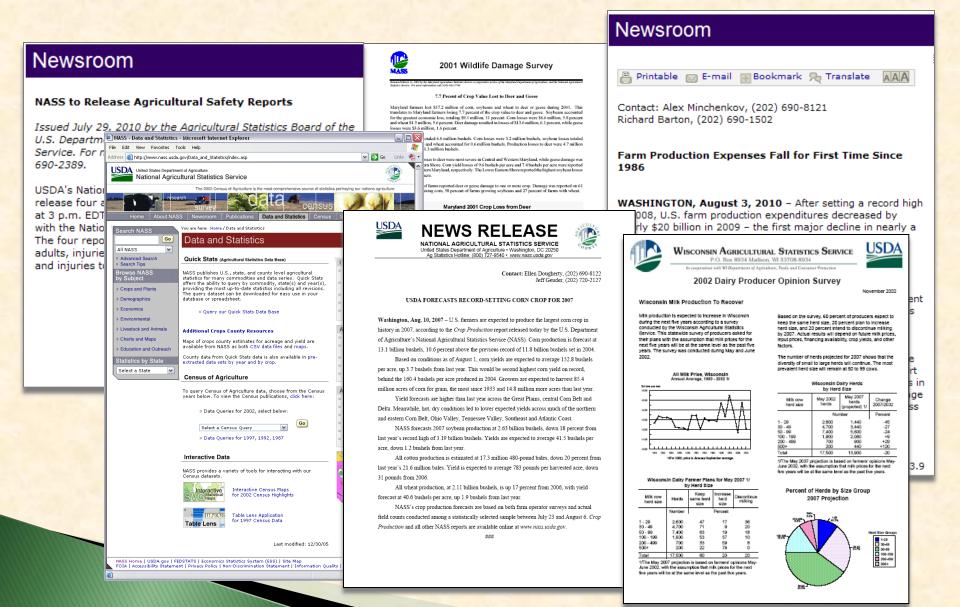
To provide timely, accurate, and useful statistics in service to U.S. agriculture



What does NASS do?

- Administer USDA's Statistical Estimating Program
- Conduct the 5-year Census of Agriculture
- Coordinate Federal/State agricultural statistical needs
- Provide statistical consulting for Federal/State governments, universities, and other countries
- Collect and summarize agricultural data under reimbursable agreements
- Conduct statistical research

NASS issues about 500 statistical reports each year and about 9,000 reports and news releases from its 46 field offices

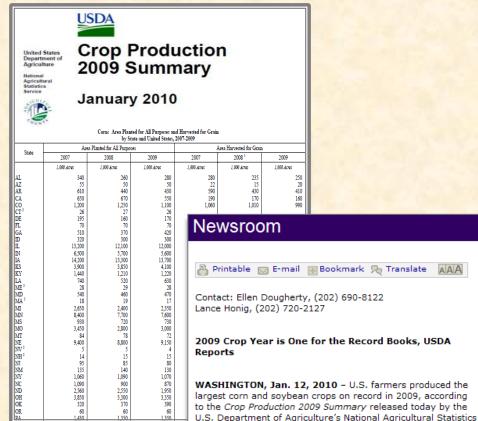


Topics

- County Estimates
- Census of Agriculture
- Vegetation Condition
- Cropland Data Layer

NASS begins preparing year end county crop production estimates immediately after publishing the annual Crop Production

Summary in January



Service (NASS).

The NASS Annual County Estimates Program provides for the collection of crop data through cooperative agreements with each state

Measures year to year change at the county level



- The county data are assembled starting with the state estimate and working back to the county
- NASS Field Offices set the annual county estimates for acreage, yield and production and submit them to headquarters for dissemination

A release schedule provides the dates for when the data is available

County Data Release Schedule

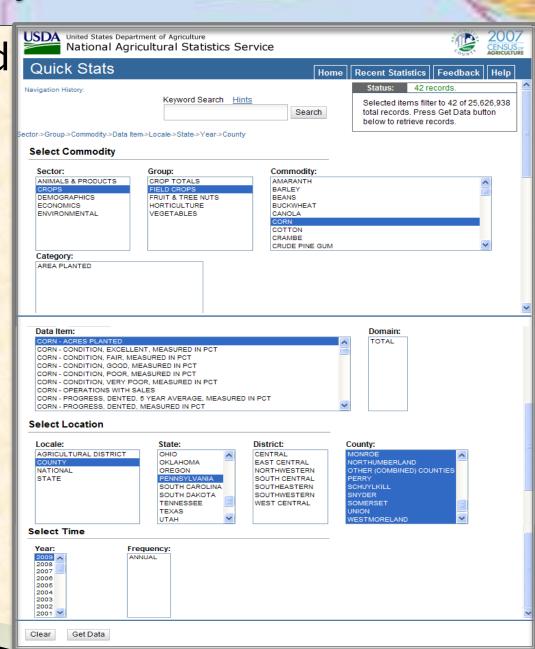
When Does NASS Publish Annual County Data?

NASS begins preparing year-end county crop production estimates immediately after publishing the annual *Crop Production Summary* in January. State totals for some commodities are published in the monthly *Crop Production* report (April, May and June) and other reports. NASS expects data to be available in the Quick Stats database at 3 p.m. ET on the dates listed below. However, circumstances may sometimes prevent this. Therefore, final dates will be added to the "All States Available" column when all data are available.

Barley February 20 February 2 Oats February 20 February 2 Rye February 20 February 2 All Wheat February 25 February 2 Durum Wheat February 25 February 2 Other Spring Wheat February 25 February 2 Winter Wheat February 25 February 2 Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	ates	unty Crop Estimates	ule for Preliminary 2008 Co	2009 Release Schedu
Oats February 20 February 2 Rye February 20 February 2 All Wheat February 25 February 2 Durum Wheat February 25 February 2 Other Spring Wheat February 25 February 2 Winter Wheat February 25 February 2 Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	ailable	All States Available	Anticipated Release	Commodity
Rye February 20 February 2 All Wheat February 25 February 2 Durum Wheat February 25 February 2 Other Spring Wheat February 25 February 2 Winter Wheat February 25 February 2 Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	20	February 20	February 20	Barley
All Wheat February 25 February 2 Durum Wheat February 25 February 2 Other Spring Wheat February 25 February 2 Winter Wheat February 25 February 2 Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	20	February 20	February 20	Oats
Durum Wheat February 25 February 2 Other Spring Wheat February 25 February 2 Winter Wheat February 25 February 2 Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	20	February 20	February 20	Rye
Other Spring Wheat February 25 February 2 Winter Wheat February 25 February 2 Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	27	February 27	February 25	All Wheat
Winter Wheat February 25 February 2 Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	27	February 27	February 25	Durum Wheat
Sorghum March 2 March 2 Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	27	February 27	February 25	Other Spring Wheat
Sunflower, All, Non-Oil & Oil March 2 March 2 Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	27	February 27	February 25	Winter Wheat
Corn for Grain & Silage March 2 March 9 Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13		March 2	March 2	Sorghum
Soybeans March 2 March 9 Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13	2	March 2	March 2	Sunflower, All, Non-Oil & Oil
Canola March 4 March 4 Dry Edible Peas April 8 April 13 Lentils April 8 April 13)	March 9	March 2	Corn for Grain & Silage
Dry Edible Peas April 8 April 13 Lentils April 8 April 13)	March 9	March 2	Soybeans
Lentils April 8 April 13	4	March 4	March 4	Canola
		April 13	April 8	Dry Edible Peas
All they Alfelfe 9 Other April 17 April 20	3	April 13	April 8	Lentils
All hay, Alfalfa & Other April 17 April 20		April 20	April 17	All Hay, Alfalfa & Other
Forage - All, Alfalfa April 17 April 17	,	April 17	April 17	Forage - All, Alfalfa

 Data can be accessed using Quick Stats interactive statistical database from www.nass.usda.gov

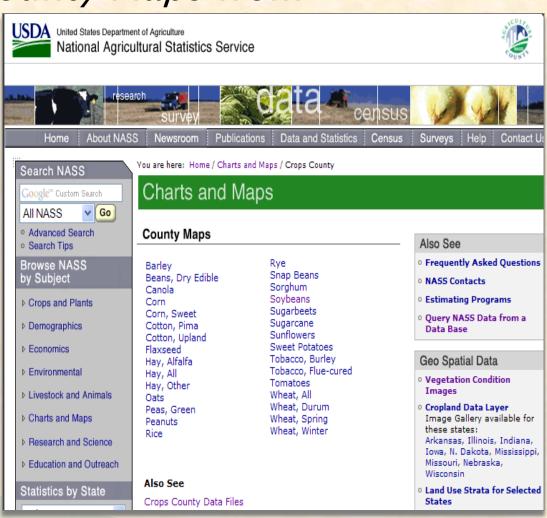


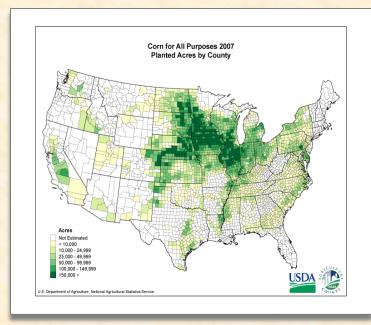


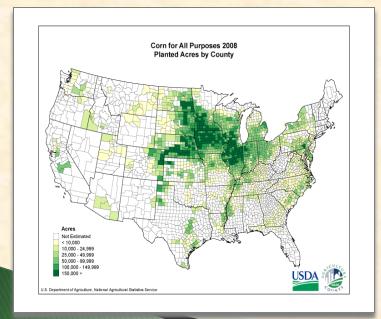
 County maps can be accessed by selecting Charts and Maps-County Maps from

www.nass.usda.gov USDA United States Department of Agriculture National Agricultural Statis



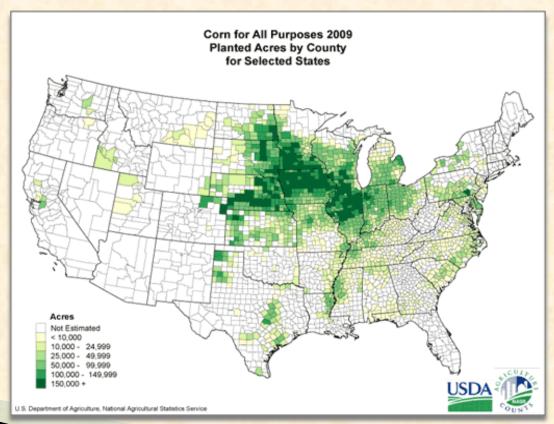


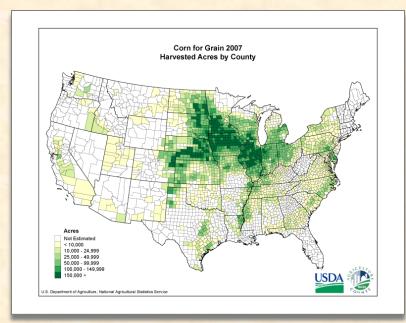


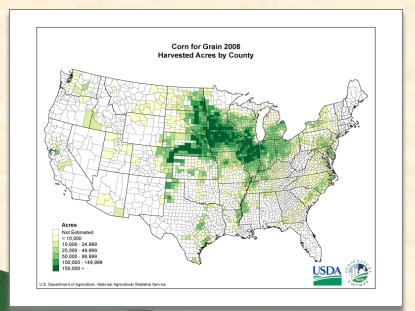


Planted Acres



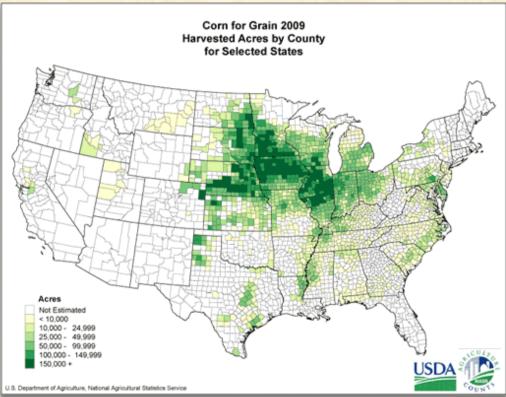


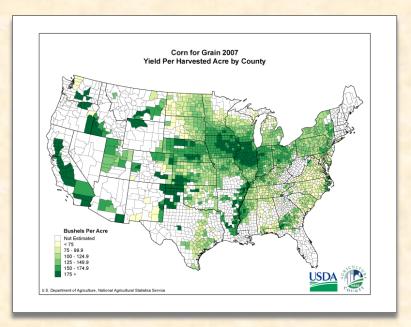


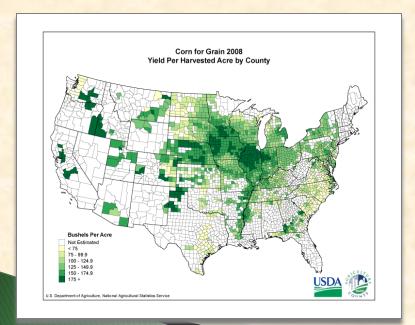


Harvested Acres



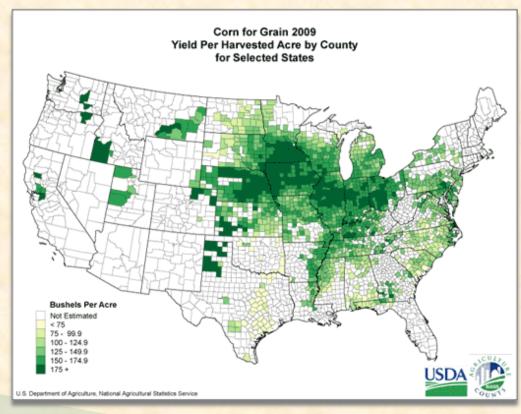


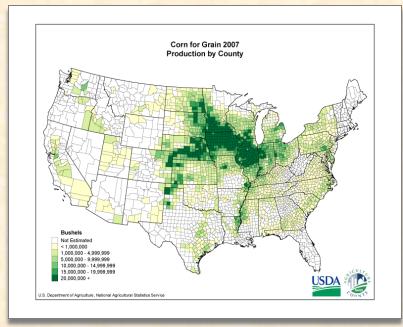


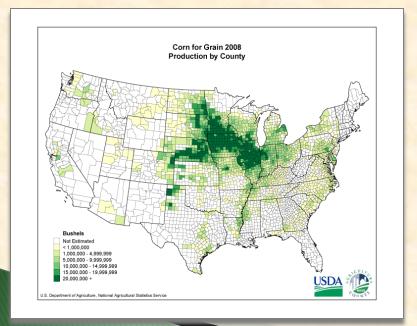


Yield Per Harvested Acre



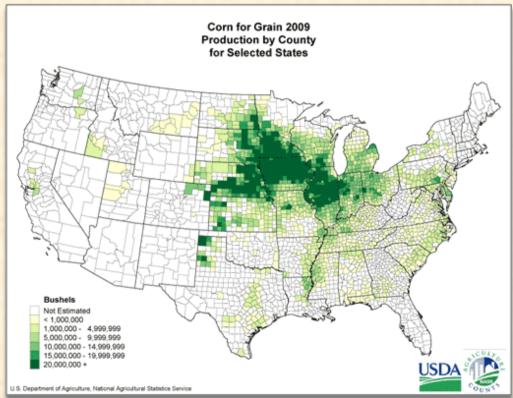






Production

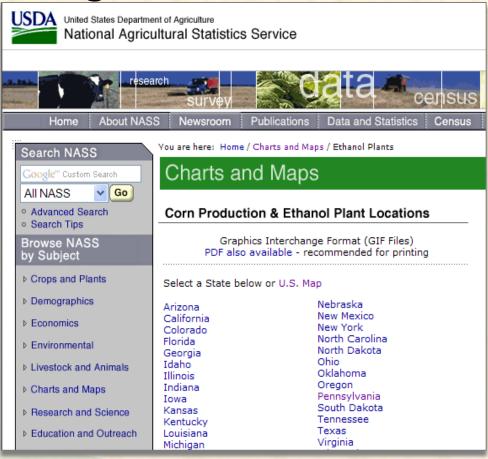




Ethanol maps showing US and State level corn production with ethanol plant locations can be accessed by selecting Charts and

Maps-Ethanol Plants

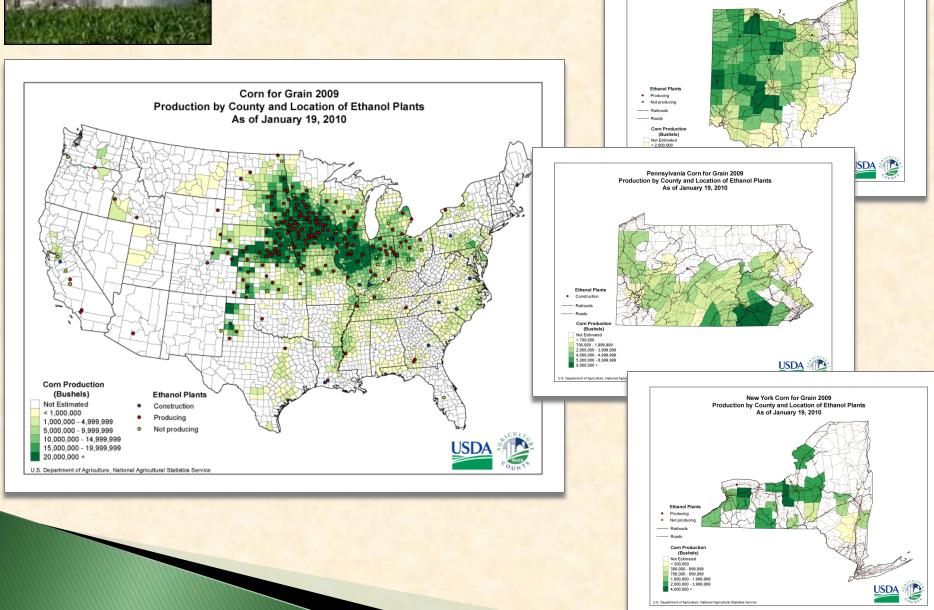






Ethanol Plants and Corn Production by County

Ohio Corn for Grain 2009 Production by County and Location of Ethanol Plants As of January 19, 2010



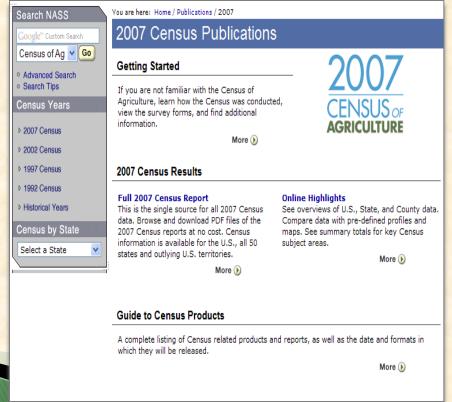


2007 Census of Agriculture

- Census of Agriculture is conducted every 5 years
- A complete accounting of crops and livestock on all farms
- Collects information on operator characteristics, demographics, income and expenses



The 2007 Census of Agriculture Guide to Census Products can be accessed by selecting 2007 Census from www.agcensus.usda.gov





 Users can view or download census data online using the Quick Stats database

Users can download Desktop Query Tool

to their desktop

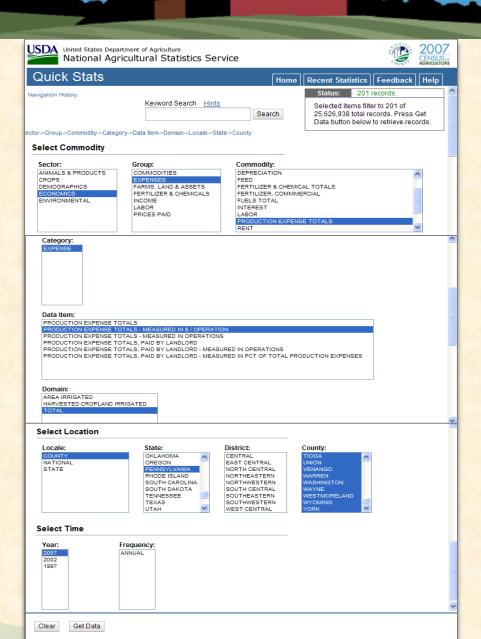
Users can view, print or download static maps

http://www.agcensus.usda.gov/Publications/2007/Getting_Started/Guide_to_Census_Products/index.asp Census of Agriculture - 2007 Census Publications - Ge					
	Online Census Highlights	Release Date			
	Quick Stats 2.0 Beta Query the 2007 Census of Agriculture database to retrieve customized tables with Census data at the national, state and county levels.	Feb. 4, 2009			
	Desktop Data Query Tool This downloadable desktop application allows users offline access to the 2007 Census data. Users are able to query by Census table as well as browse our cross tabulations tables which are not available in Quick Stats. All data queries are downloadable as .csv files for use in spreadsheets.	Feb. 4, 2009			
	Agricultural Atlas Agricultural Atlas maps graphically illustrate a profile of the nation's agriculture at the county-level in a series of multicolor pattern and dot maps.	Feb. 4, 2009			



 2007 Census data can be accessed using the Quick Stats database

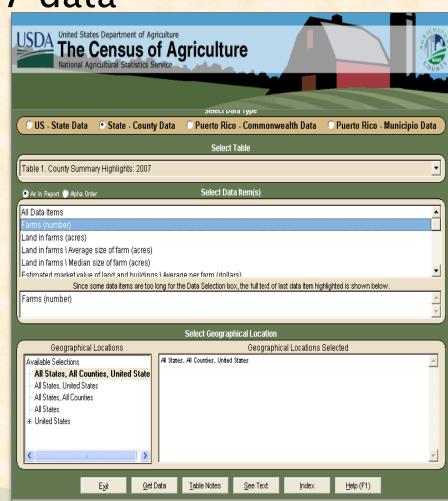






The Desktop Data Query Tool allows users offline access to the 2007 data

- Users are able to query by Census table
- Data can be downloaded as csv files for use in a spreadsheet or in a GIS





- 250 Static Atlas Maps are available in the following areas
 - Crops and Plants
 - Economics
 - Farms
 - Livestock and Animals
 - Operators

Online Census Highlights	Release Date
Quick Stats 2.0 Beta Query the 2007 Census of Agriculture database to retrieve customized tables with Census data at the national, state, and county levels. Counts of farms at the ZIP Code level are now available for selected statistics	Feb. 4, 2009
Desktop Data Query Tool 1.02 This downloadable desktop application allows users offline access to the 2007 Census data. Users are able to query by Census table as well as browse our cross tabulations tables which are not available in Quick Stats. All data queries are downloadable as .csv files for use in spreadsheets.	Feb. 4, 2009
Agricultural Atlas Agricultural Atlas maps graphically illustrate a profile of the nation's agriculture at the county-level in a series of multicolor pattern and dot maps.	Feb. 4, 2009

Fact Sheets

Summaries highlighting key topics from the 2007 Census of Agriculture. Fact sheets combine narrative and data to illustrate current trends among U.S. farmers and agricultural operations.

2007 Census Publications

Ag Atlas Maps

Ag Atlas Maps are available in the following areas for the 2007 Census of Agriculture:

Crops and Plants Economics Farms Livestock and Animals Operators

How the Maps Were Made

Geographic information system (GIS) and desktop publishing technologies were used in the production of maps for this atlas. NASS developed an automated map production system to generate digital map files based on statistical data from the 2007 and 2002 Censuses of Agriculture. The system utilized agricultural statistical data files, geographic area boundary files, land use/cover boundary files, map parameter data files, and customized GIS and statistical software to produce thematic choropleth and dot-density maps. The customized software performed statistical calculations to class the data into categories and to allocate the number of dots for a geographic area. The software also executed other cartographic functions including, assigning symbology to represent the data; randomly placing dots; creating and positioning map titles, legends and notes; and outputting individual maps to digital image files. Colors for the maps were selected with the assistance of ColorBrewer, an online tool for selecting map color schemes. The color schemes were developed by Dr. Cynthia A. Brewer at Pennsylvania State University.

The U.S. Census Bureau provided a generalized county boundary file, urbanized areas boundary file, land use/cover boundary file (originator - USGS), and county-level land area/perimeter data file. NASS modified the county boundary file to show the county-level geographic areas for which agriculture census statistics are reported. The statistical data and geographic areas were identified by Federal Information Processing Standards (FIPS) codes that allowed for a 1-to-1 correspondence between the data and the geographic area. NASS updated the land use/cover boundary file with generalized urbanized areas. The continental U.S. and Hawaii were mapped at a scale of 1:21,000,000 and Alaska used a map scale of 1:63,000,000. The maps were projected using Albers Equal Area Conic projection.

The Census of Agriculture National Agricultural Statistics Service





Ag Atlas Maps, Crops and Plants

Map Number Field Crops Harvested

Note: These documents are in Adobe Acrobat's Portable Document Format (PDF). If you need the Acrobat Reader, it is available for free from the Adobe web site.

Click here for more information on how these maps were created.

07-M163	Corn for Grain, Harvested Acres: 2007					
07-M164	Irrigated Co	igated Corn for Grain, Harvested Acres: 2007				
07-M165	Acres of Cor	n Harvested for	Grain as Percent of Harvested			
	Cropland Ac	reage: 2007				
07-M166	Corn Harves	sted for Grain - C	change in Acreage: 2002 to 2007			
07-M167	Corn for Sila	ge or Greenchop	o, Harvested Acres: 2007			
07-M168	Sorghum fo	r Grain, Harveste	d Acres: 2007			
07-M169	Irrigated Sc					
07-M170	Acres of So	1				
	Cropland A					
07-M171	Sorghum H	the Acrobat Re	eader, it is available for free fror			
07-M172	All Wheat fo	Click here for	more information on how these			
07-M173	Irrigated All					
07-M174	Acres of All					
	Cropland A	Map Number	Farms by Size			
07-M175	All Wheat H	07-M009	Percent of Farms with Sales of			
07-M176	Barley for G	07-M010	Percent of Farms with Sales of			
07-M177	Barley Harv	07-M011 Percent of Farms with Sales of				
07-M178	Oats for Gra					

Ag Atlas Maps, Livestock and Animals

Note: These documents are in Adobe Acrobat's Portable Document Format (PDF). If you need the Acrobat Reader, it is available for free from the Adobe web site.

Click here for more information on how these maps were created.

Milk Cows as Percent of

Map Num	ber Liv	estock, Poultry, and Other Animals	For	mat
07-M13	34 Cat	ttle and Calves - Inventory: 2007	PDF	GIF
07-M13	5 Cat	ttle and Calves - Change in Inventory: 2002 to 2007	PDF	GIF
07-M13		erage Number of Cattle and Calves per 100 Acres of All Land in ms: 2007	PDF	GIF
07-M13	7 Nur	mber of Farms with 200 or More Cattle and Calves: 2007	PDF	GIF
07-M13	38 Co	ws and Heifers That Had Calved - Inventory: 2007	PDF	GIF
07-M13		vs and Heifers That Had Calved as Percent of Cattle and	PDF	GIF
07-M14	IO Mill	k Cows - Inventory: 2007	PDF	GIF
07-M14	1 Mill	k Cows - Change in Inventory: 2002 to 2007	PDF	GIF
07-M14	12 Mill	k Cows as Percent of All Cattle and Calves: 2007	PDF	GIF
07-M14	Nur	mber of Farms with 2		

Ag Atlas Maps, Economics

07-M012

07-M013

07-M014

07-M015

07-M016

07-M018

Note: These documents are in Adobe Acrobat's Portable Document Format (PDF). If you need the Acrobat Reader, it is available for free from the Adobe web site.

Click here for more information on how these maps were created.

Percent of Farms with Sales of \$25

Market Value of Agricultural Pro

Market Value of Agricultural Produc

					07-M145	Beef Cows - Inventory: 2
Map Number	Farms by Size		For	mat	07-M146	Beef Cows - Change in I
07-M009	Percent of Farms with Sales of Less	Than \$10,000: 2007	PDF	GIF	07-M147	Other Cattle as Percent
07-M010	Percent of Farms with Sales of \$10	Ag Atlas Maps, Farms				

PDF GIF

GIF

GIE

PDF

PDF GIF PDF

PDF

Note: These documents are in Adobe Acrobat's Portable Document Format (PDF). If the Acrobat Reader, it is available for free from the Adobe web site.

Click here for more information on how these maps were created.

Average Value of Agricultural Prod	Map Number	Farms	
Value of Crops Sold: 2007	Map Number	Farms	
Value of Crops Sold as Percent of	07-M001	Number of Farms: 2007	PE
Agricultural Products Sold: 2007	07-M002	Change in Number of Farms: 2002 to 2007	PE
	07-M251	Percent of Farms with Internet Access	PE
Average Value of Crops Sold per A	07-M252	Percent of Farms with High-Speed Internet Access	PE
2007			
Value of Grains, Oilseeds, Dry Bea	Map Number	Farms by Size	'
Percent of Total Market Value of A	07-M003	Average Size of Farms in Acres: 2007	PE
Value of Cotton and Cottonseed S	07-M004	Change in Number of Farms with Less Than 50 Acres: 2002 to	PE
Value of Agricultural Products Sold		2007	
Value of Tobacco Sold as Percent	07-M005	Change in Number of Farms with 50 to 179 Acres: 2002 to 2007	PE
Agricultural Products Sold: 2007	07-M006	Change in Number of Farms with 180 to 499 Acres: 2002 to 2007	PE
	07-M007	Change in Number of Farms with 500 to 1,999 Acres: 2002 to	PE
		2007	
	07-M008	Change in Number of Farms with 2,000 Acres or More: 2002 to	PE
		2007	

Ag Atlas Maps, Operators

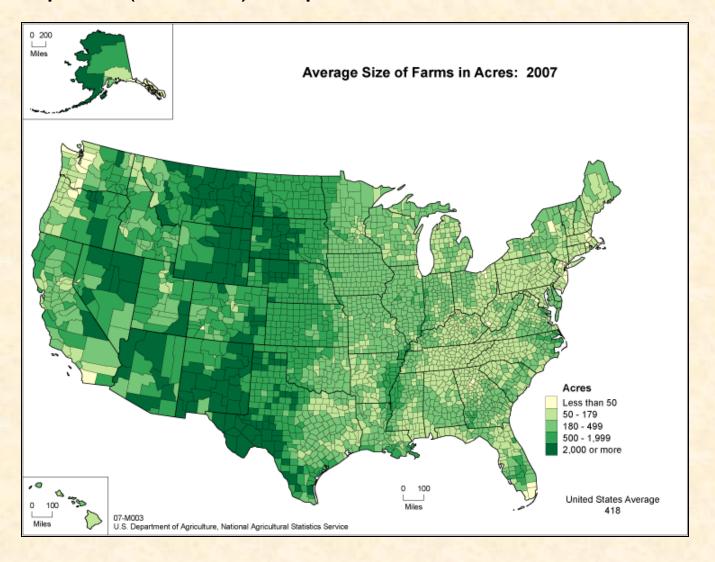
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Click here for more information on how these maps were created.

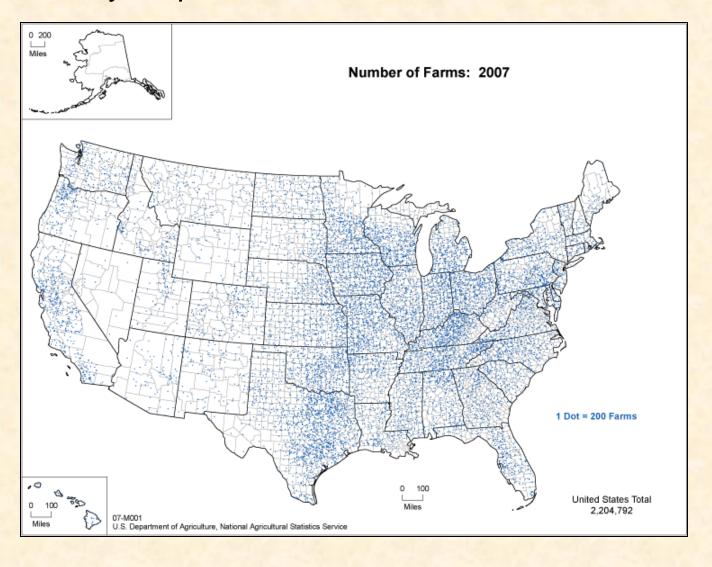
Map Number	Hired Farm Labor	Format	
07-M075	Hired Farm Workers Working Less Than 150 Days: 2007	PDF	GIF
07-M076	Hired Farm Workers Working 150 Days or More: 2007	PDF	GIF
Map Number	Tenure of Farm Operators and Farm Operations	For	mat
07-M111	Percent of Farms Operated by Full Owners: 2007	PDF	GIF
07-M112	Percent of Land in Farms Operated by Full Owners: 2007	PDF	GIF
07-M113	Percent of Farms Operated by Part Owners: 2007	PDF	GIF
07-M114	Percent of Land in Farms Operated by Part Owners: 2007	PDF	GIF
07-M115	Percent of Farms Operated by Tenants: 2007	PDF	GIF
07-M116	Percent of Land in Farms Operated by Tenants: 2007	PDF	GIF
07-M117	Percent of Land in Farms Rented or Leased: 2007	PDF	GIF
Map Number	Farms by Type of Organization	Format	
07-M118	Percent of Farms Operated by Family or Individual: 2007	PDF	GIF
07-M119	Percent of Farms Operated by Partnership: 2007	PDF	GIF
07-M120	Percent of Farms Operated by Corporation: 2007	PDF	GIF
Map Number	Principal Occupation of Operator	Format	
07-M121	Percent of Principal Farm Operators Reporting Primary Occupation	PDF	GIF

	Map Number	nber Land in Farms and Land Use		
	07-M077	Acres of Land in Farms: 2007	PDF	GIF
	07-M078	Land in Farms - Change in Acreage: 2002 to 2007	PDF	GIF
ı	07-M079	Acres of Land in Farms as Percent of Land Area in Acres: 2007	PDF	GIF

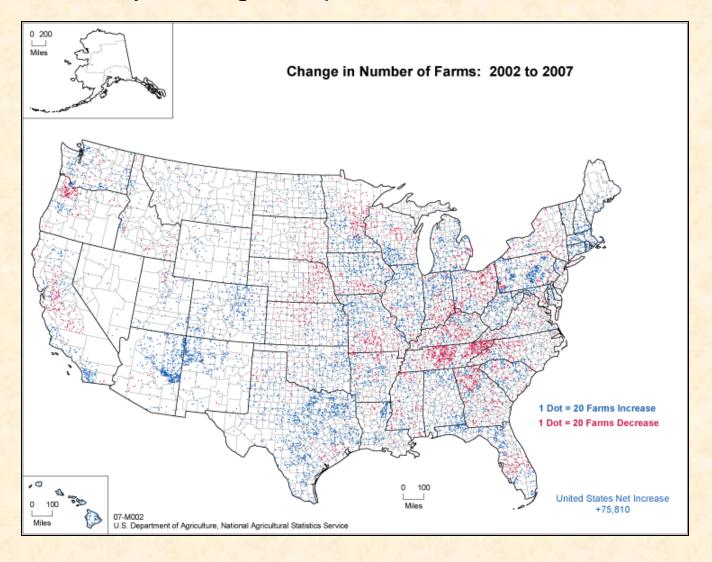
Choropleth (shaded) Maps



Dot Density Maps



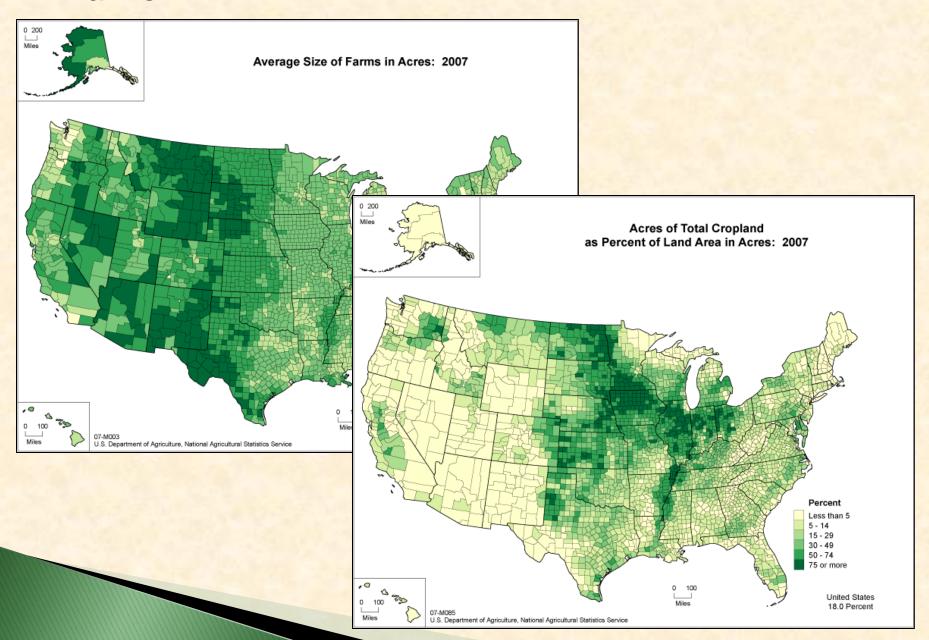
Dot Density Change Maps



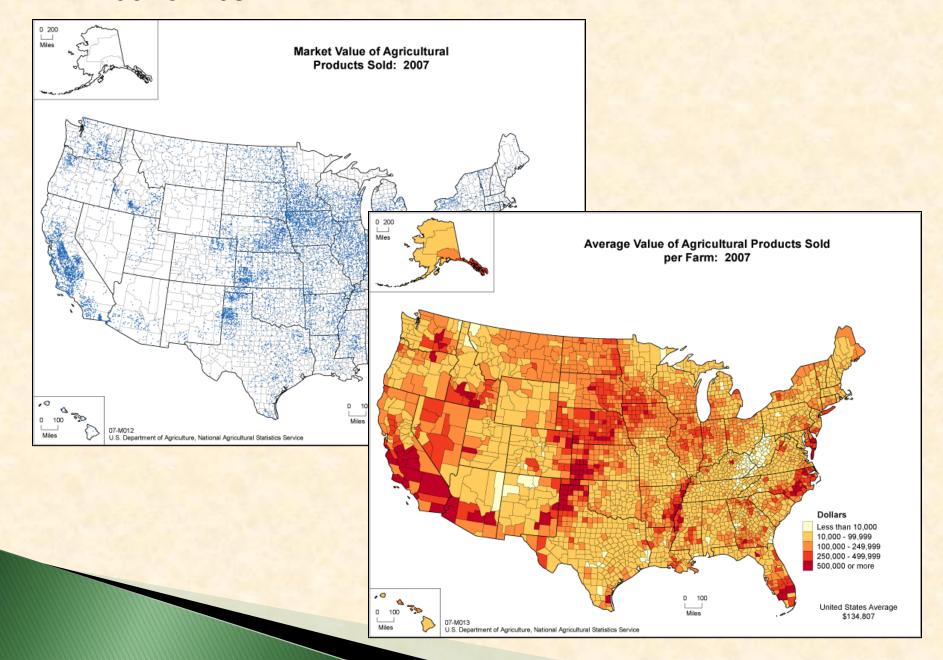
Farms



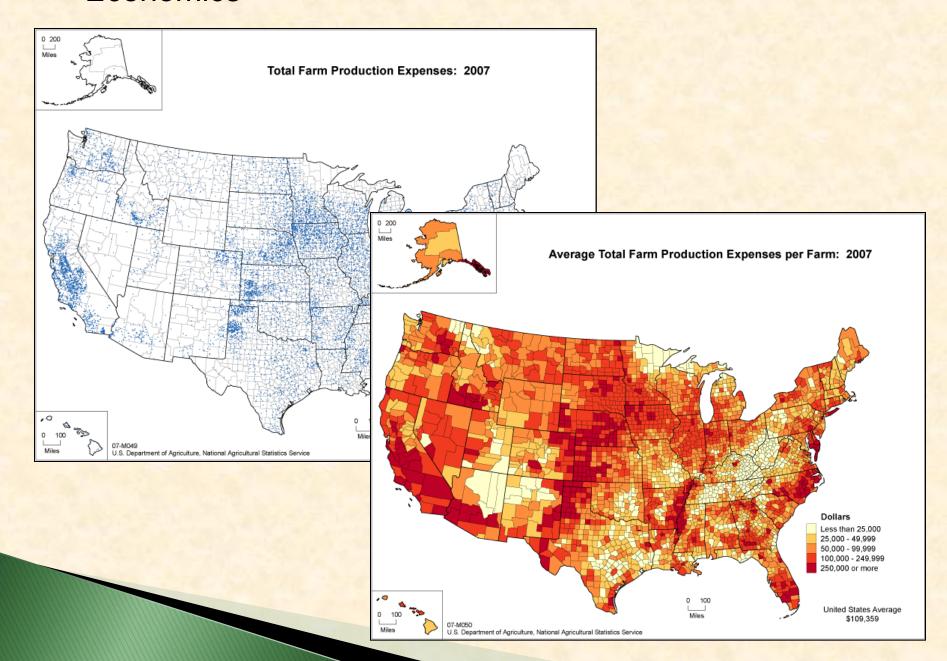
Farms



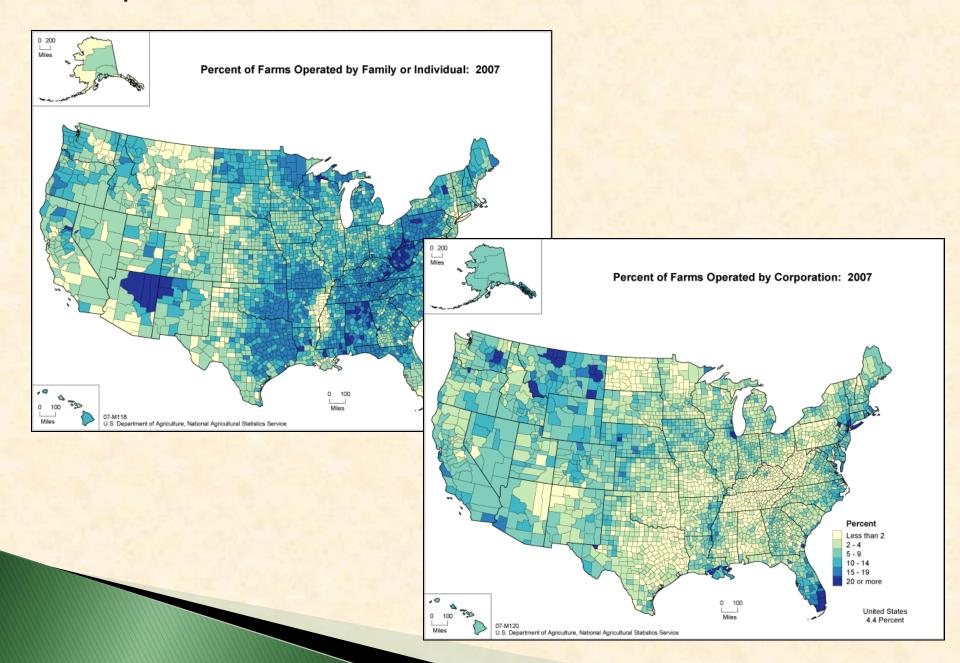
Economics



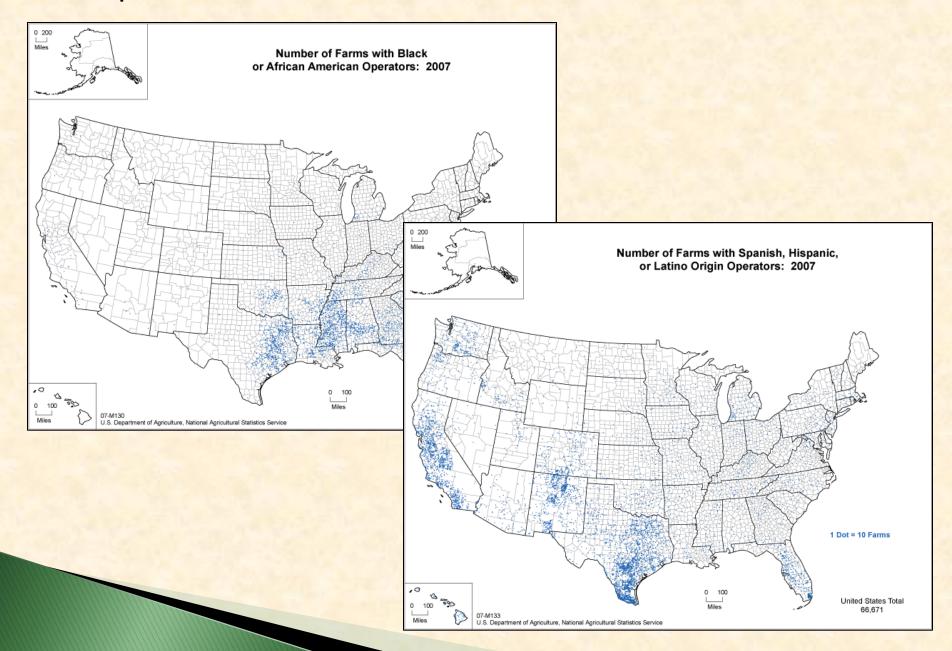
Economics



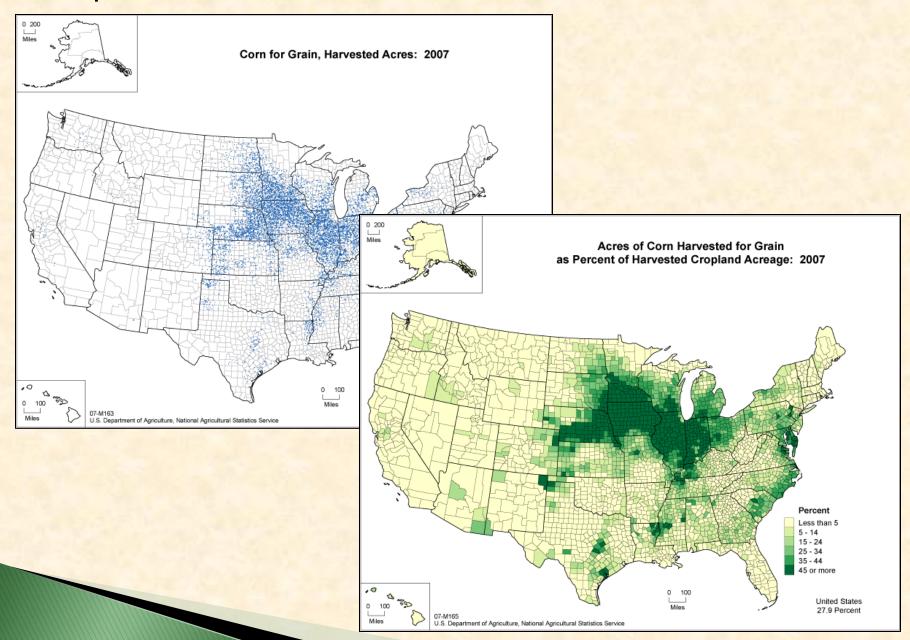
Operators



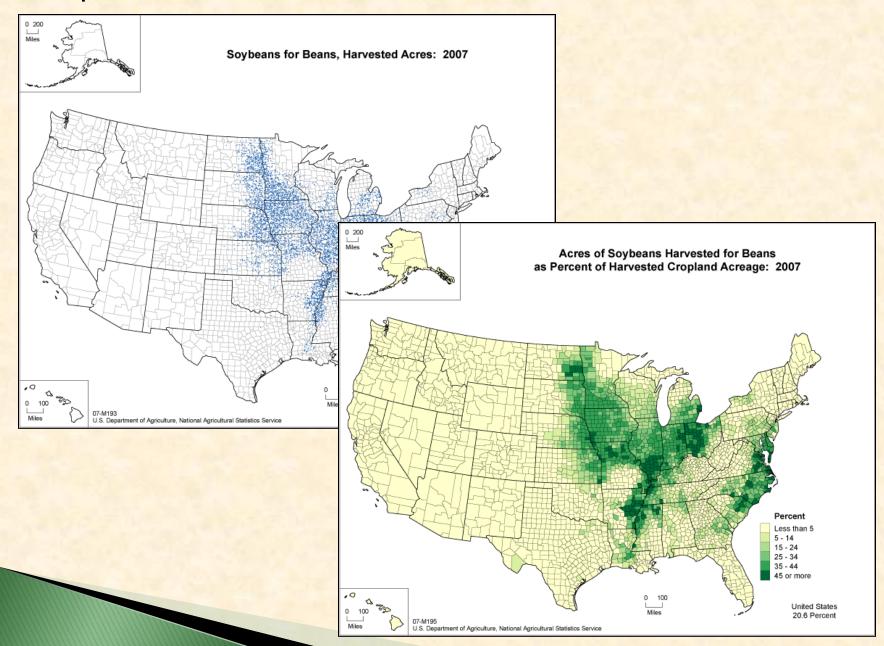
Operators



Crops

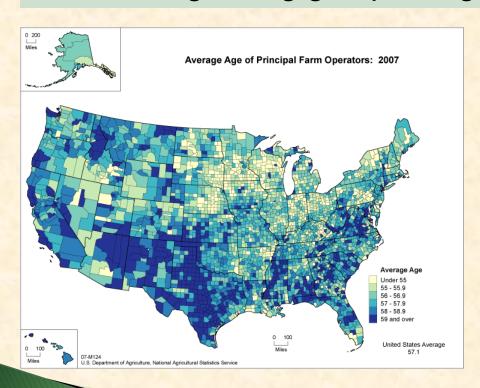


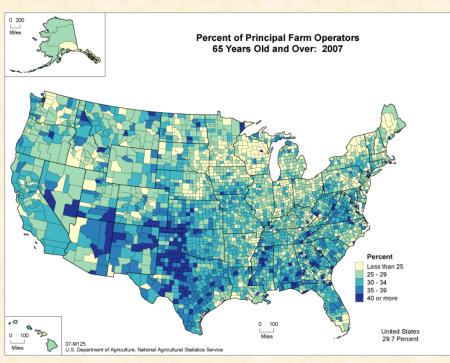
Crops



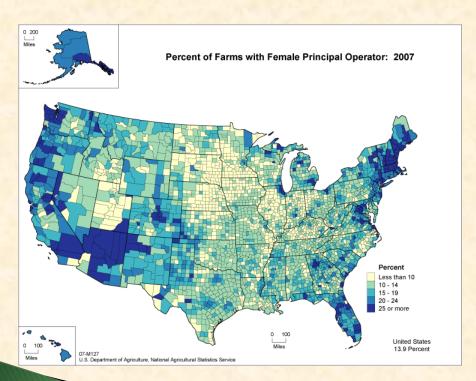
2007 Census of Agriculture - The American Farmer

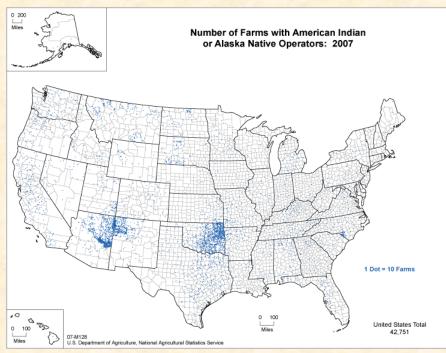
The 2007 Census of Agriculture shows a continuation in several trends regarding the characteristics of U.S. farm operators. The average age of farmers continues to rise with the fastest growing group being 65 years and older.



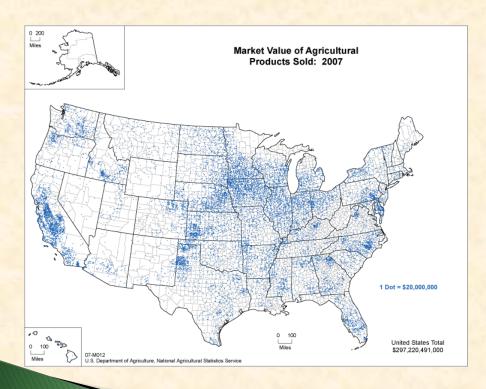


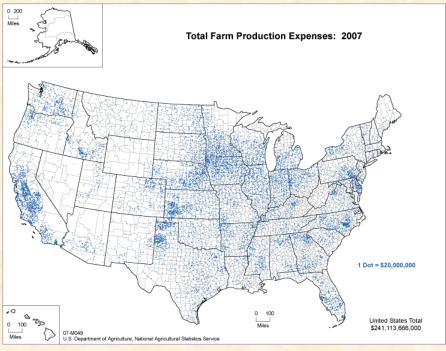
Farm operators have become more demographically diverse and women have a growing presence in U.S. agriculture.



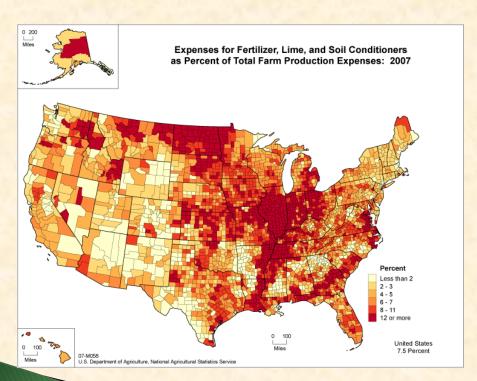


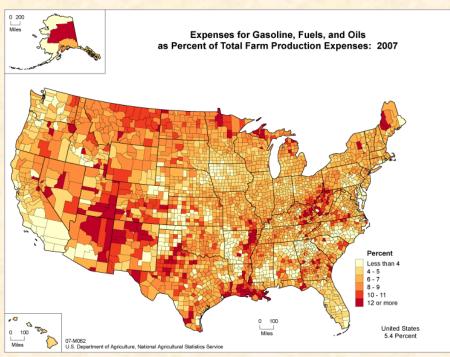
U.S. farmers sold \$297 billion in agricultural products while incurring \$241 billion in production expenses. One of the steepest cost increases was in gasoline and fuel.



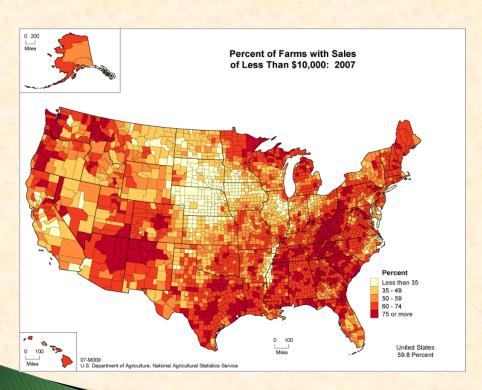


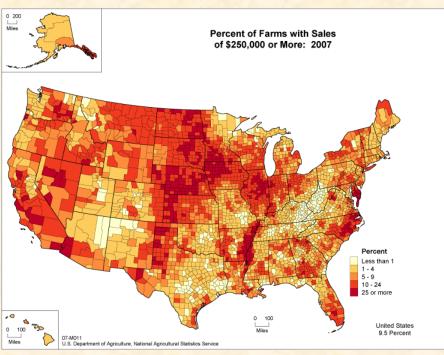
One of the steepest cost increases was in fertilizer and gasoline and fuel.



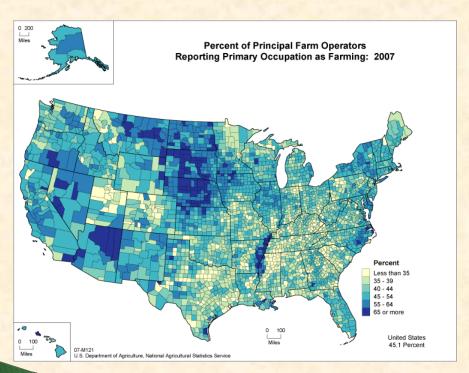


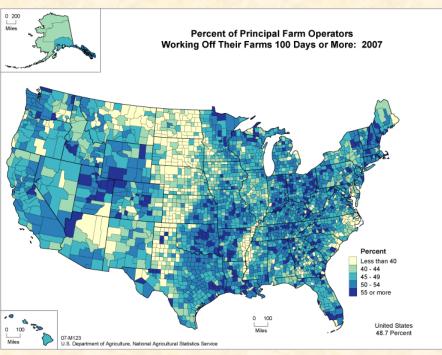
Most U.S. farms are small with 60 percent reporting less than \$10,000 in sales. The demographic characteristics of operators on larger farms, with sales over \$250,000, differ from those of small farms.



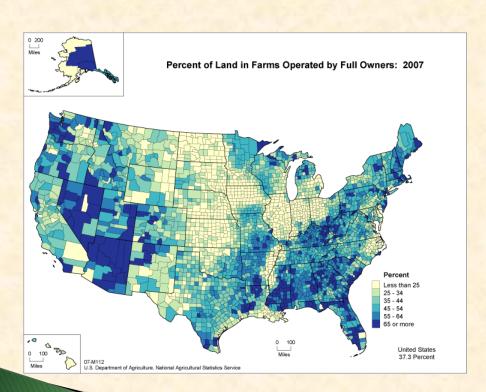


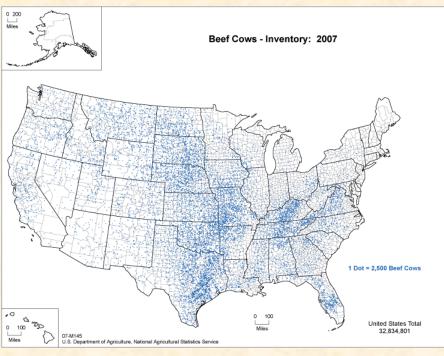
Operators of larger farms tend to be younger, are more likely to report farming as their primary occupation, and are less likely to work off the farm.



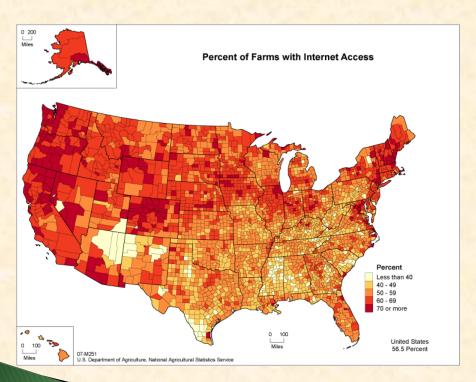


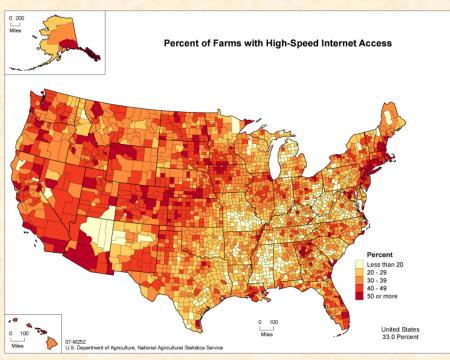
The 2007 Census shows that 62 percent of farmland in the U.S. is owned by the operator. Areas with more cropland, such as the Midwest tend to have a greater percentage of rented land. The largest category of production for farms with sales between \$10,000 and \$99,000 was beef cattle and calves.





The 2007 Census found that 57 percent of all farmers have internet access.









Profiles and Rankings

Summary reports that combine narrative and data from the 2007 Census of Agriculture. These reports give an insight into State, County, and Congressional District agricultural information, as well as the agriculture products ranking reports sorted by market value.

Regional Studies

Rankings

- · State & County Profiles
- · Race, Ethnicity and Gender Profiles
- · Ranking: Market Value Ag Products
- Congressional District Rankings
- (updated 10/30/09) PDF | CSV
- · ZIP Code Tabulations

2007 Census Publications 2007 Congressional Distric

State and County Profiles



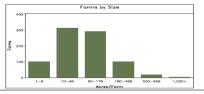
Statewide Summary

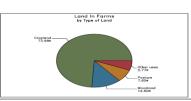
,			
Adams	Clinton	Lackawanna	Pike
Allegheny	Columbia	Lancaster	Potter
Armstrong	Crawford	Lawrence	Schuylkill
Beaver	Cumberland	Lebanon	Snyder
Bedford	Dauphin	Lehigh	Somerset
Berks	Delaware	Luzerne	Sullivan
Blair	Elk	Lycoming	Susquehanna
Bradford	Erie	McKean	Tioga
Bucks	Fayette	Mercer	Union
Butler	Forest	Mifflin	Venango
Cambria	Franklin	Monroe	Warren
Cameron	Fulton	Montgomery	Washington
Carbon	Greene	Montour	Wayne
Centre	Huntingdon	Northampton	Westmoreland
Chester	Indiana	Northumberland	Wyoming
Clarion	Jefferson	Perry	York
Clearfield	luniata	Philadelphia	

2007 CENSUS OF AGRICULTURE

Dauphin County Pennsylvania

	2007	2002	% change
Number of Farms	836	852	- 2
Land in Farms	89,533 acres	94,983 acres	- 6
Average Size of Farm	107 acres	111 acres	- 4
Market Value of Products Sold	\$82,887,000	\$46,487,000	+ 78
Crop Sales \$16,348,000 (20 percent) Livestock Sales \$66,539,000 (80 percent)			
Average Per Farm	\$99,148	\$54,562	+ 82
Sovernment Payments	\$857,000	\$948,000	- 10
Average Per Farm Receiving Payments	\$2.985	\$4.493	- 34





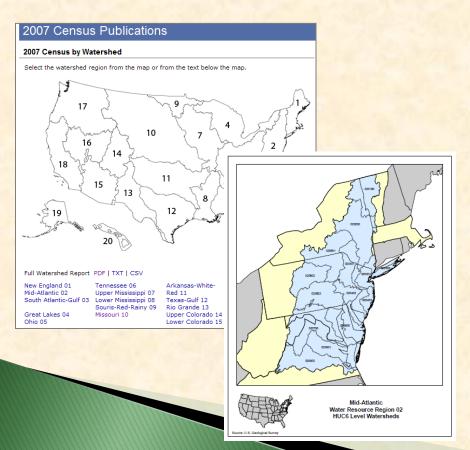
Dauphin County - Pennsylvania

ltem	Quantity	State Rank	Universe 1	U.S. Rank	Universe 1
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD (\$1,000)					
Total value of agricultural products sold	82.887	21	67	1.070	3.076
Value of crops including nursery and greenhouse	16.348	27	67	1.581	3.072
Value of livestock, poultry, and their products	66,539	21	67	618	3,069
VALUE OF SALES BY COMMODITY GROUP (\$1,000)					
Grains, oilseeds, dry beans, and dry peas	10,109	16	67	1,223	2,933
Tobacco	(D)	15	19	(D)	437
Cotton and cottonseed	-	-	-	-	626
Vegetables, melons, potatoes, and sweet potatoes	1,208	33	67	749	2,796
Fruits, tree nuts, and berries	1,257	18	66	409	2,659
Nursery, greenhouse, floriculture, and sod	753	50	65	1,213	2,703
Cut Christmas trees and short rotation woody crops	(D)	51	66	(D)	1,710
Other crops and hay	2,977	18	66	565	3,054
Poultry and eggs	30,925	11	67 67	318	3,020
Cattle and calves	7,042	25	67 65	1,474	3,054
Milk and other dairy products from cows	21,118	25 15	65	287 484	2,493
Hogs and pigs Sheep, goats, and their products	6,252 384	15	66	331	2,922 2,998
Horses, ponies, mules, burros, and donkeys	459	14	67	527	3,024
Aguaculture	220	39	59	526	1,498
Other animals and other animal products	139	39	67	844	2.875
	139	35	67	044	2,075
TOP CROP ITEMS (acres)					
Forage - land used for all hav and havlage, grass silage, and greenchop	19.611	33	67	1.069	3.060
Corn for grain	17.599	22	66	975	2.634
Sovbeans for beans	10.539	14	61	1.012	2.039
Corn for silage	3,919	31	64	403	2,263
Wheat for grain, all	3,759	13	60	1,106	2,481
TOP LIVESTOCK INVENTORY ITEMS (number)					
Layers	788,324	8	67	122	3,024
Broilers and other meat-type chickens	669,744	10	62	355	2,476
Pullets for laying flock replacement	226,273	8	65	140	2,627
Turkeys	127,231	8	63	151	2,371
Hogs and pigs	21,604	13	66	504	2,958



Watershed data published at the 6 digit hydrologic unit code for 38 selected land

use characteristics



CENSUS OF AGRICULTURE

Watersh

Volume 2 · Subject

Issued May 2009

Table 1. Summary by Hydrologic Unit Code: 2007 and 2002 - Con

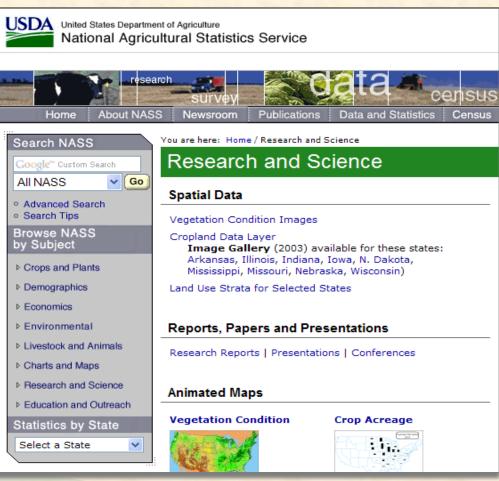
[For meaning of abbreviations and symbols, see introductory text]

ltem	ι	us		H10 Missouri		H100100	
	2007	2002	2007	2002	2007	2002	
Farmsfa		2,128,982	267,832	262,610	113	98	
Land in farmsa	res 922,095,840	938,279,056	256,892,881	261,263,483	167,325	164,070	
Land use:							
Total cropland		1,751,450	219,730	225,784	69	66	
Harvested cropland fa	res 408,424,909 rms 1.328,004	434,164,946 1.362,608	110,542,228 175,765	115,541,128 180,259	66,738 39	70,143 49	
	res 309.607.601	302.697.252	81.388.773	75.505.818	25,735	31.683	
Cropland used only for pasture or grazing fa		716.202	81,388,773 41.950	72,189	20,730	31,083	
	res 35.771.154	60.557.805	7.139.131	12,458,439	8.074	4.084	
Cropland on which all crops failed	00,111,104	00,007,000	7,100,101	12,100,100	0,074	4,004	
or were abandoned fa	ms 89.587	119.642	11.829	27.912	- 11	11	
	res 7 405 898	17.089.584	1,813,275	7 937 248	2.421	1,914	
Cropland idle or used for cover crops or soil improvement			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,	-,	.,	
but not harvested and not pastured or grazed	ms 380.225	380,300	59.007	58.580	37	24	
a	res 37,968,749	37,281,096	12,032,518	10,569,882	18,994	14,300	
Cropland in cultivated summer fallowfa	ms 67,960	72,335	20,170	22,778	24	23	
a	res 15,671,507	16,559,229	8,168,529	9,069,741	11,514	18,162	
Total woodland fa		818,105	60,139	55,009	6	11	
	res 75,098,603	75,878,213	5,856,042	6,023,423	191	15,609	
Woodland pasturedfa		379,795	31,141	31,791	3	7	
	res 28,609,690	31,128,955	3,547,009	3,819,573	151	1,860	
Woodland not pasturedfa		568,956	37,334	31,457	3	5	
	res 46,488,913	44,749,258	2,309,033	2,203,850	40	13,749	
Permanent pasture and rangeland, other than cropland	ms 1.132.606	850.913	155.925	131 317	85	88	
	res 408.832.116	395,278,829	134,080,604	132,931,778	98,696	74.277	
Land in farmsteads, buildings, livestock facilities,	res 400,032,110	380,210,028	134,000,004	132,831,776	90,090	14,211	
ponds, roads, wasteland, etc. fa	ms 1.126.272	1,165,564	142.109	150.213	51	58	
	res 31.740.212	32,957,088	6.414.009	6.767.158	1.700	4 041	
	01,110,212	02,007,000	0,111,000	0,707,100	1,100	1,011	
Impated land	rms 301.028	299.583	40.139	39.940	16	16	
	res 58,599,305	55,311,236	14,158,358	13,159,297	4,421	2,480	
Harvested cropland	ms 258.105	258,030	38.615	38.827	14	16	
· a	res 51,537,104	50,334,022	13,215,761	12,163,616	4,021	(D)	
Pastureland and other land		69,568	7,947	7,528	6	1	
a	res 5,062,201	4,977,214	942,595	995,681	400	(D)	
Land used for organic production	ms 20.437	7.254	1.117	518	1		
	res 2.577.418	7,20 4 582,488	628.227	140.383	(D)		
a	/es 2,017,410	302,460	020,221	190,383	(0)		
Fertilizers and chemicals:							
Commercial fertilizer, lime, and soil conditioners		1,078,435	134,024	141,755	28	36	
a	res 265,995,497	248,080,293	66,934,686	59,391,228	20,981	28,629	

Vegetation Condition Images

Vegetation condition images can be accessed from http://www.nass.usda.gov/
Research and Science



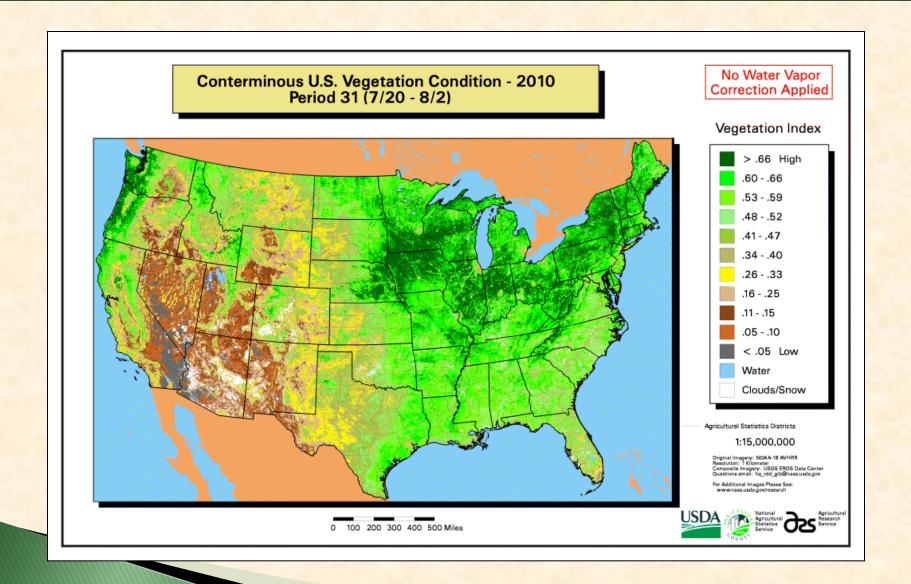


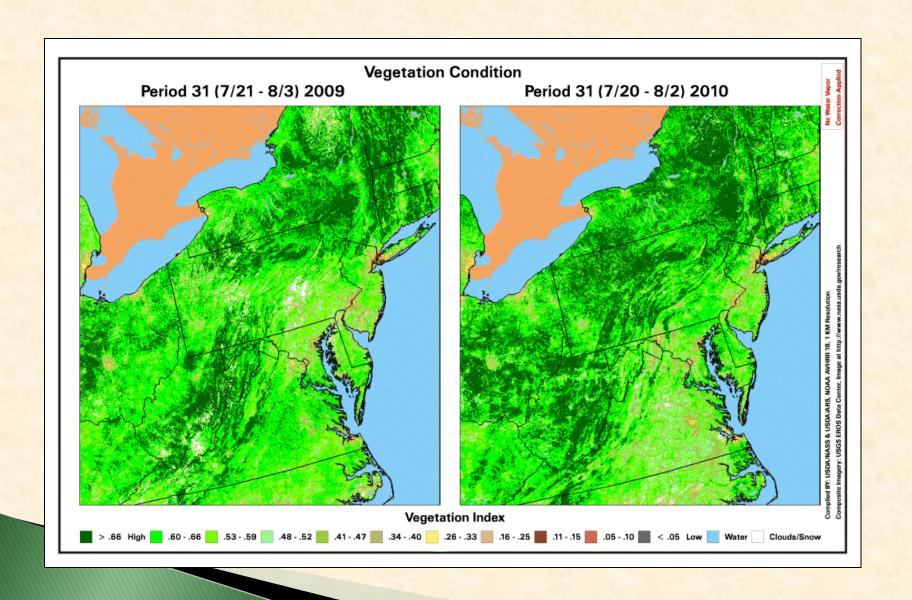


- Bi-weekly composite images utilizing the normalized difference vegetation index (NDVI) from the Advanced Very High Resolution Radiometer (AVHRR) weather satellite.
- Integration of remote sensing along with survey data are used to illustrate weather effects on various sources of information

- Weather satellite is used to monitor changing vegetation conditions throughout the growing season
- Vegetation condition images are based on a Normalized Vegetation Index or NDVI

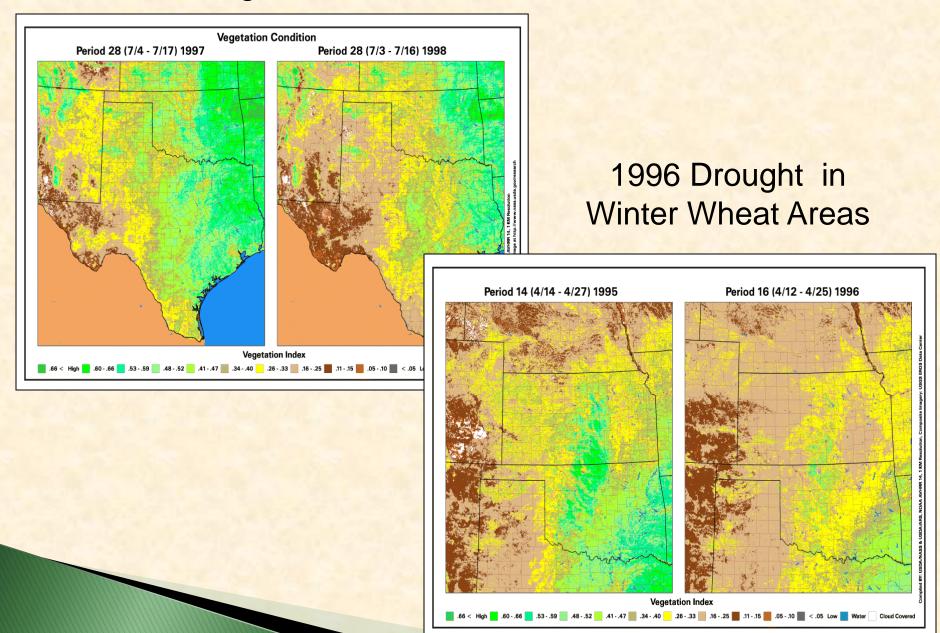
- The NDVI measures vegetation vigor (greenness) caused by "chlorophyll activity"
- NDVI values have been shown to have a close relationship to the growth stages of crops





- Lower NDVI values are likely to show areas under stress due to
 - drought
 - excessive moisture
 - disease
- Higher NDVI values represent healthy vegetation

1998 Drought in Texas



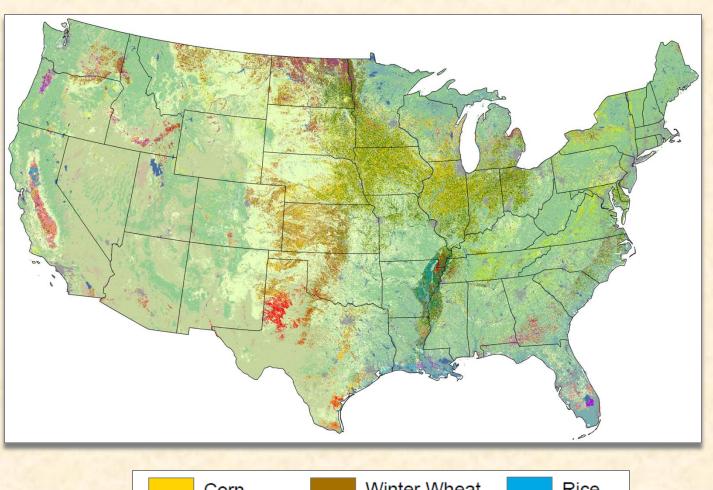
The USDA/NASS 2009 Cropland Data Layer

48 State Continental US Coverage

What is a Cropland Data Layer (CDL)?

Identifies agriculture type and location

Each pixel represents a type of crop or land cover





Cropland Data Layer (CDL)

Cropland Data Layer can be accessed from http://www.nass.usda.gov/ Research and

Science





Cropland Data Layer (CDL)

 Cropland Data Layer is available on CD-ROM or DVD and from the NRCS Geospatial Data Gateway



Cropland Data Layer (CDL)

 Brief history from 1971 to present, examples, FAQ's, order forms, metadata and methodology

The Cropland Data Layer (CDL) contains crop specific digital data layers, suitable for use in geographic information systems (GIS) applications. The CDL Program annually focuses on producing digital categorized geo-referenced output products using imagery from the Resourcesat-1 AWiFS and the Landsat 5 TM satellites. See the Indian Government's National Remote Sensing Agency handbook for the Resourcesat-1 satellite. The CDL Program represents a cooperative venture between three USDA Agencies (Headquarters units of NASS, the Foreign Agriculture Service IPA group and the Farm Service Agency/Aerial Photography Field Office) plus in-state agreements between NASS Field Offices and their respective state government or university partners. Currently there are numerous historical research reports with more detailed information on NASS's general uses of remote sensing and GIS.

The Cropland Data Layer product contains statewide categorizations of ortho-rectified mosaicked images using <u>See5</u> software, and are exported to GeoTIFF format. <u>ESRI's</u> <u>ArcExplorer</u> GIS data viewer that can be downloaded to view the CDL's. Limitations of this data are <u>declared</u>. The CD-ROM's and/or DVD's are at cost of reproduction <u>to the public</u>.

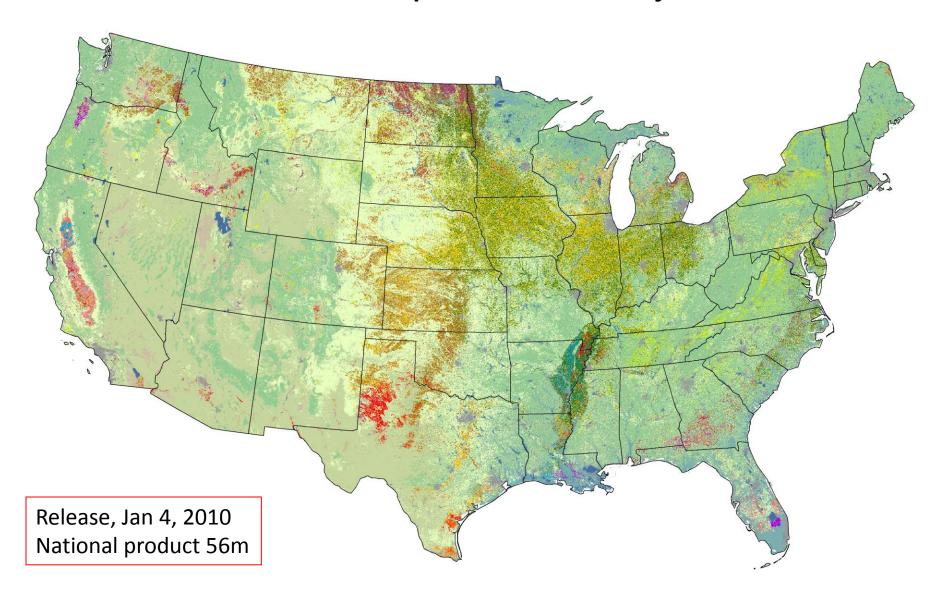
Visit our <u>cooperators sites</u> to see how they are using and enhancing the Cropland Data Layer products.

An independent CDL accuracy assessment performed by the University of Illinois at Urbana-Champaign Institute of Natural Resources Sustainability titled: <u>Assessment and Potential of</u> the 2007 USDA-NASS Cropland Data Layer for Statewide Annual Land Cover Applications

A CDL History White Paper: A brief history from 1971 to present

Examples | FAQ's | Order Form | Metadata | Methodology

2009 Cropland Data Layers



Cropland Data Layer Objectives



- "Census by Satellite"
 - Without area duplication
 - Annually cover major program crop regions
- Provide timely, accurate, useful independent estimates
 - Measurable error
 - County, State, District and Watershed level
- Output crop specific Cropland Data Layer
 - Distribute free to public NRCS Geospatial Data Gateway
 - Publish accuracy statistics/metadata

Cropland Data Layers 1997 - 2009 '06-'07 & '09 **'09** ·09 por '97-'09 '07 & '09 '06-'09 '07 & '09 '03-'09 '05, '07 & '09 '02,'08 &'09 '06-'09 A Par '07-'09 '08-'09 ,02 & .09 '02,'08 &'09 '00-'09 '08-'09 '01-'09 **'06-'09** ''02,'08 &'09 **'99-'09** '00-'09 202, 08 & 709 '08-'09 '08-'09 °,02,'08 &'09 °02, '08 & '09 \$ '07 & '09[\] '06-'09 '01-'09 ·08 - ·09 02,'08 &'09 ·08-**'09 '06-09** '08 - '09 '97-'09 208- '09 '08-'09 '08 - '09 '08 - '09 99-'09 '08 - '09 '04-'09 '04 & '09

Cropland Data Layer Program Components



▶ Inputs

- Resourcesat-1 AWiFS & Landsat imagery
- Farm Service Agency Common Land Unit
- NASS June Ag Survey
- Ancillary data –USGS NLCD & derivative products

Outputs

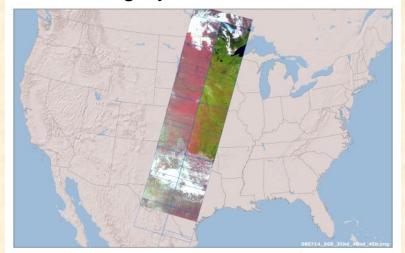
- Acreage Estimates
- Cropland Data Layer

Process

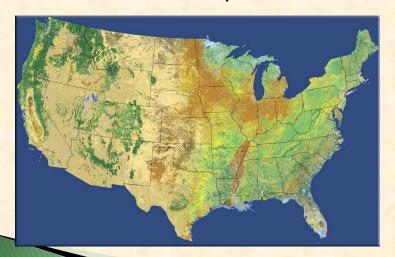
Commercial software

Inputs

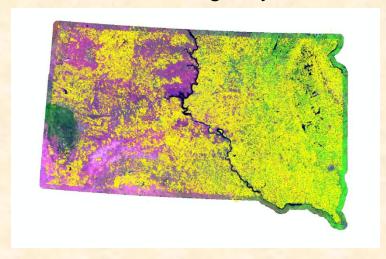
Satellite Imagery - AWiFS & Landsat TM



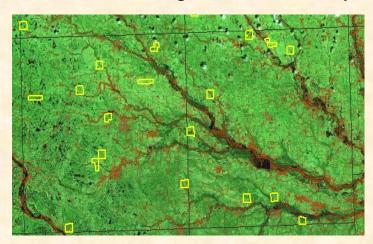
NLCD & Derivative products



Farm Service Agency - CLU



NASS June Agriculture Survey



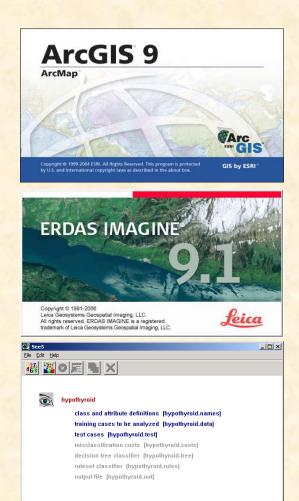
Software Suite

Ground Truth Preparation
•ESRI ArcMap

Image Preparation
•Leica Geosystems ERDAS
Imagine 9.1

Image Classification
•See 5

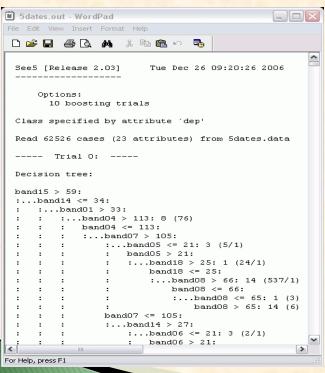
Acreage Estimates
•SAS/IML Workshop





Software Suite





See 5 Decision Tree

State-of-the-art technique for image classification

Relatively inexpensive (\$900)

Uses ground truth categories and spectral bands from imagery to define specific rules to classify imagery

Incorporates a powerful ensemble method known as "boosting"

Data Partnerships

- Foreign Agricultural Service
 - Resourcesat-1 AWiFS
- Farm Service Agency
 - Common Land Unit "ground truth"
- US Geological Survey
 - National Land Cover Dataset
- US Geological Survey/ NASA
 - Landsat TM 5 & 7
 - MODIS





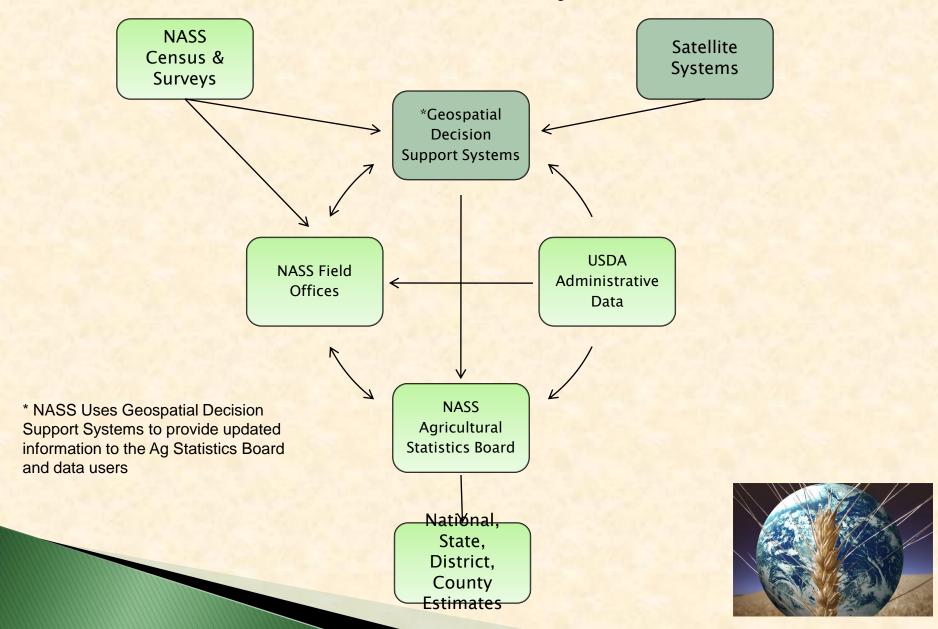


MRLC Consortium

Cropland Data Layer

- The CDL program has undergone major restructuring, reengineering and modernization the past few years.
- ■The new efficiencies allow for production of inseason crop acreage estimates, that were not previously possible with our older methods.
- ■The CDL is now able to deliver state/district/county estimates throughout the growing season starting with Winter Wheat for the June 30th Crop Acreage Report.
- Additional states are processed as the growing season progresses

NASS Estimation Systems



2010 CDL Production Schedule

January											
М	Т	W	Т	F	S						
				1	2						
4	5	6	7	8	9						
11	12	13	14	1 5	16						
18	19	20	21	22	23						
25	26	27	28	29	30						
	4 11 18	M T 4 5 11 12 18 19	M T W 4 5 6 11 12 13 18 19 20	M T W T 4 5 6 7 11 12 13 14 18 19 20 21	M T W T F L 1 1 4 5 6 7 8 11 12 13 14 15						

February										
S	М	Т	W	Т	F	S				
	1	2	3	4	5	6				
7	8	9	10	11	12	13				
14	15	16	17	18	19	20				
21	22	23	24	25	26	27				
28										

March										
S	М	Т	W	Т	F	S				
	1	2	3	4	5	6				
7	8	9	10	11	12	13				
14	15	16	17	18	19	20				
21	22	23	24	25	26	27				
28	29	30	31							

			April			
S	М	Т	W	Т	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Acreage Report – Winter Wheat	Acread	e Repo	ort – Wir	nter Wheat
-------------------------------	--------	--------	-----------	------------

Acreage Report - Wil											
May											
S	M	Т	W	Т	F	S					
						1					
2	3	4	5	6	7	8					
9	10	11	12	13	14	15					
16	17	18	19	20	21	22					
23	24	25	26	27	28	29					
30	31										
						_					

١,		ICU					
				June			
	S	М	Т	W	Т	F	S
1			1	2	3	4	5
	6	X	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30			

Ü	rop	Pr	oau	ICTIC July	n F	кер	ort
	S	М	Т	W	Т	F	S
					1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31

August								
S	IVI	I	W		F	S		
1	2	3	4	_5_	6	7		
8	9	10	11	12	13	14		
15	16	17	18	19	20	21		
22	23	24	25	26	27	28		
29	30	31						

Crop Production Report - CDL Cotton, Rice, & Peanuts

Orop i roddolloll Rop									
September									
S	М	Т	w	Т	F				
			1	2	3	4			
5	6	7	8	9	10	11			
12	13	14	15	16	17	18			
19	20	21	22	23	24	25			
26	27	28	29	3//					

October								
S	М	Т	W	Т	F	S		
					1	2		
3	4	5	6	7	8	9		
10	11	12	13	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		
31								

		No	veml	ber		
S	М	Т	W	Т	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				
			7			

December								
S	М	Т	W	Т	F	S		
			1	2	3	4		
5	6	7	8	9	10	11		
12	13	14	15	16	17	18		
19	20	21	22	23	24	25		
26	27	28	29	30	31			

Small Grains Summary

Crop Production Report – All Crops

Cropland Data Layer

The CLUs from the Farm Service Agency supply the agricultural data needed to distinguish between the different crop types in a particular state

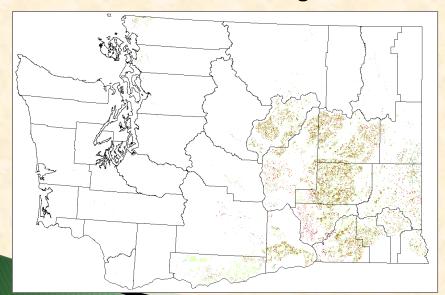
The National Land Cover Data (NLCD) is used to identify areas of urban infrastructure, like cities and roads, as well as land cover that is not considered agriculture, like forest, wetland or water

Ground Truth - Land Cover

Agriculture Ground Truth

Provided by Farm Service Agency Identifies known fields and crops

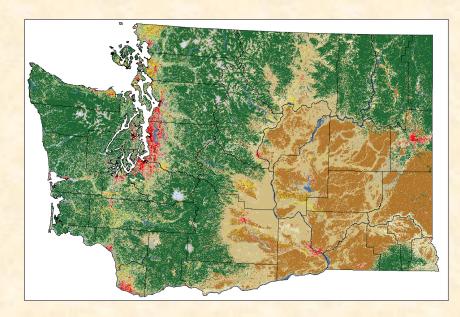
Divide known fields into 2 sets 70 % used for training software 30% used for validating results



Non-Agriculture Ground Truth

USGS National Land Cover Dataset

Identifies urban infrastructure and non-agriculture land cover Forest, grass, water, cities



Ground Truth - Ancillary US Geological Survey

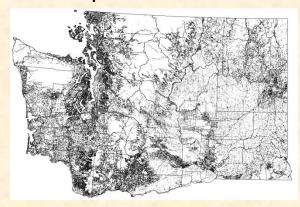
Forest Canopy



Elevation

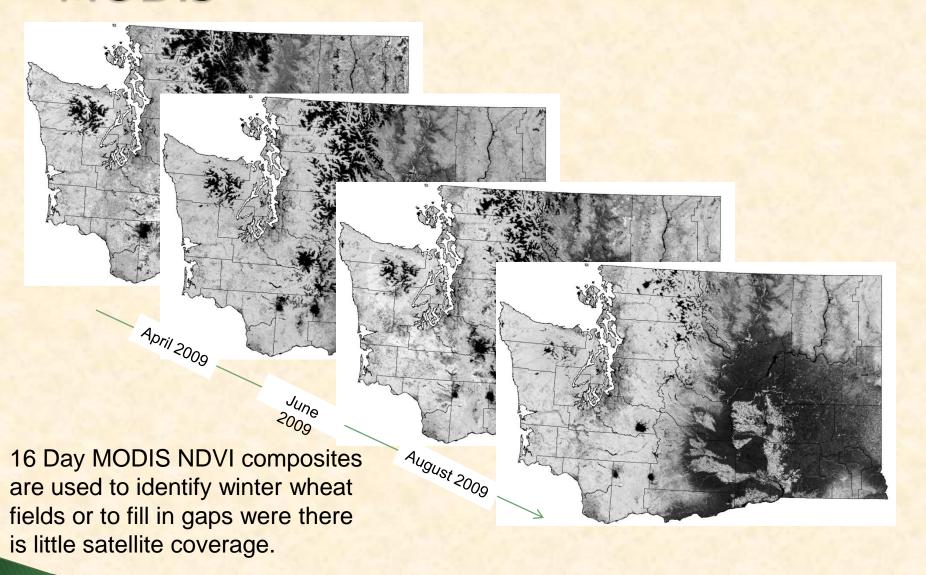


Impervious Surfaces

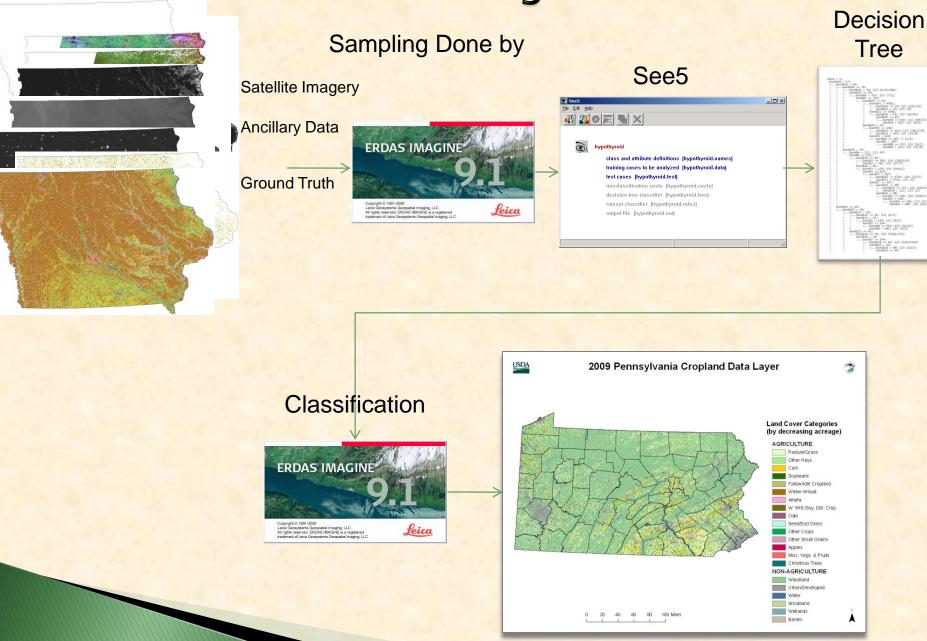


Ancillary datasets help separate the agricultural landscape; determining agricultural potential

MODIS



CDL Processing Method

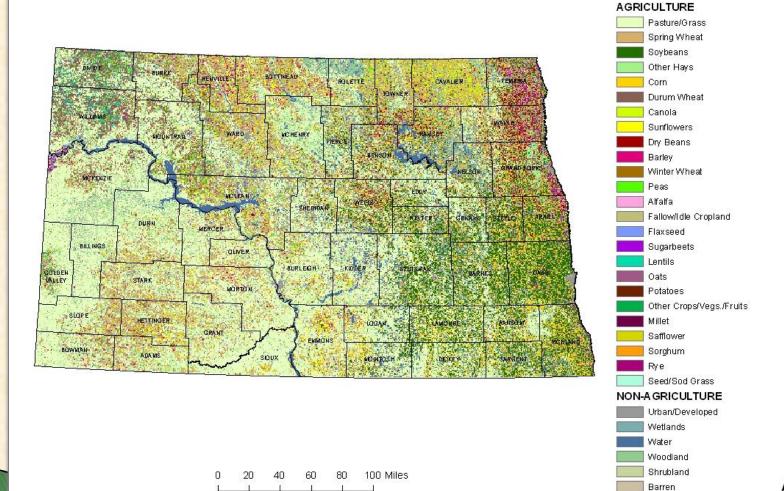




2009 North Dakota Cropland Data Layer



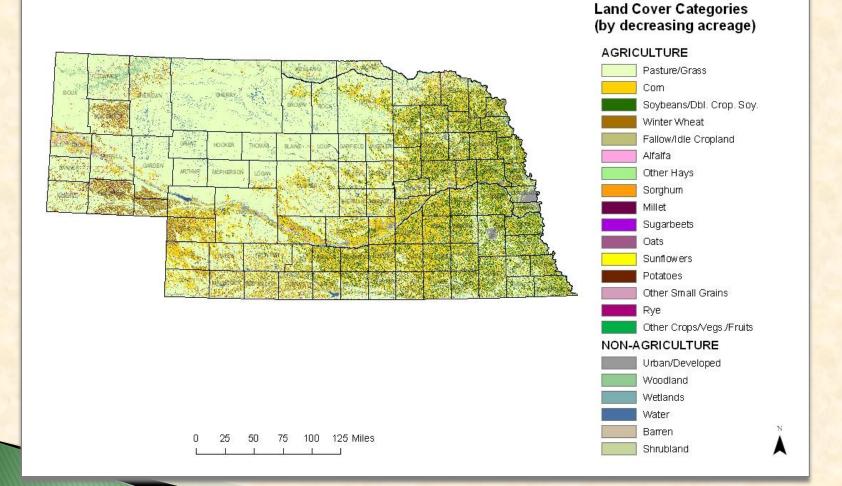
Land Cover Categories (by decreasing acreage)

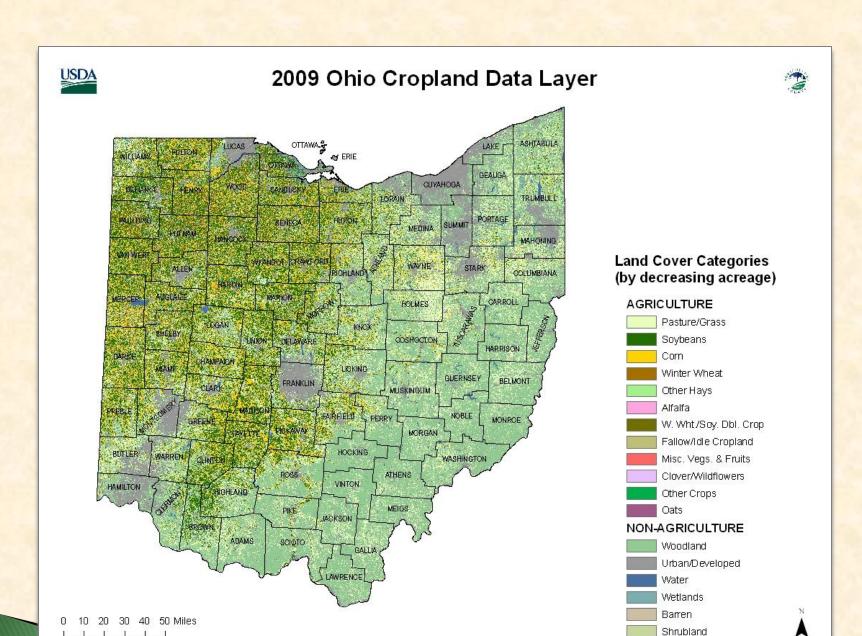




2009 Nebraska Cropland Data Layer







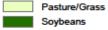


2009 Arkansas Cropland Data Layer



Land Cover Categories (by decreasing acreage)





Rice

Cotton

Fallow/Idle Cropland

Corn

W. Wht./Soy. Dbl. Crop

Winter Wheat

Sorghum

Aquaculture

Other Crops/Vegs. & Fruits

Other Tree Nuts

NON-AGRICULTURE

Woodland Wetlands

Urban/Developed

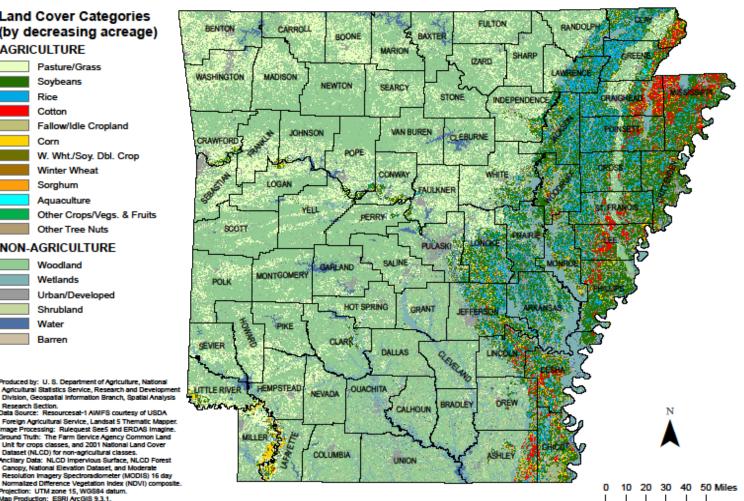
Shrubland

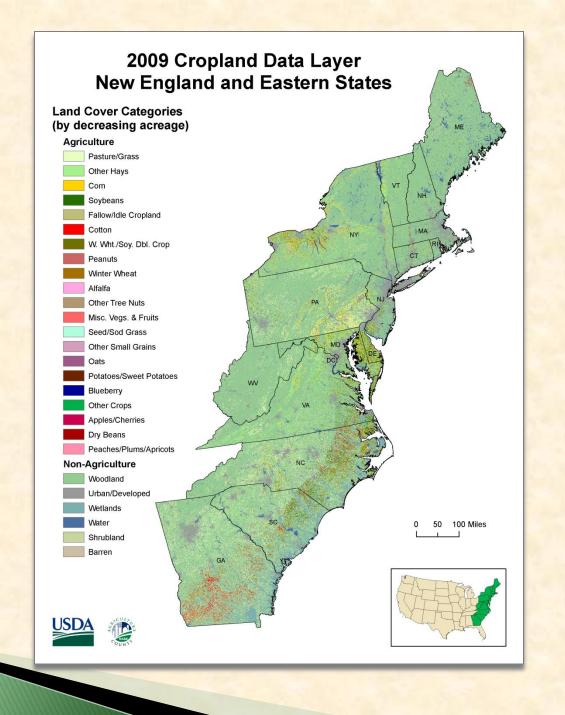
Water Barren

Produced by: U. S. Department of Agriculture, National Agricultural Statistics Service, Research and Development Division, Geospatial Information Branch, Spatial Analysis Research Section.

Data Source: Resourcesat-1 AWF8 courtesy of USDA Foreign Agricultural Service, Landsat 5 Thematic Mapper. Image Processing: Rulequest See5 and ERDAS Imagine. Ground Truth: The Farm Service Agency Common Land Unit for crops classes, and 2001 National Land Cover Dataset (NLCD) for non-agricultural classes. Ancillary Data: NLCD Impervious Surface, NLCD Forest Canopy, National Elevation Dataset, and Moderate Resolution Imagery Spectroradiometer (MODIS) 16 day

Projection: UTM zone 15, WG884 datum. Map Production: ESRI ArcGIS 9.3.1.

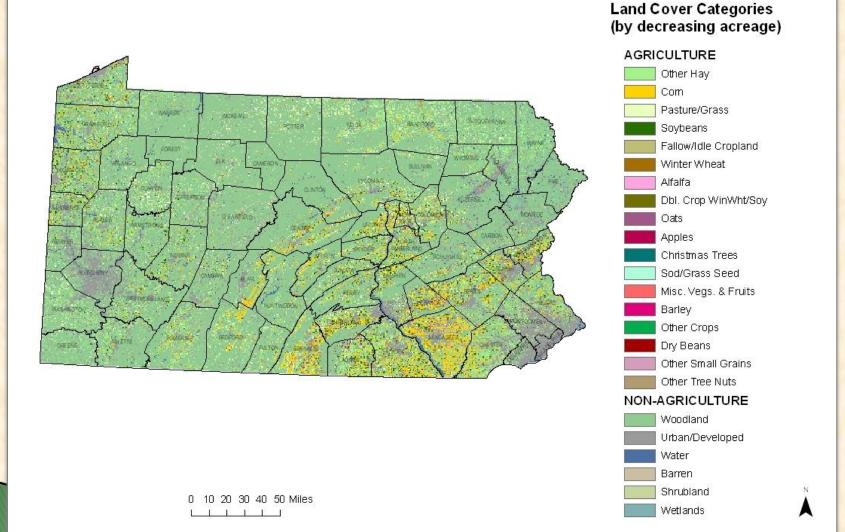


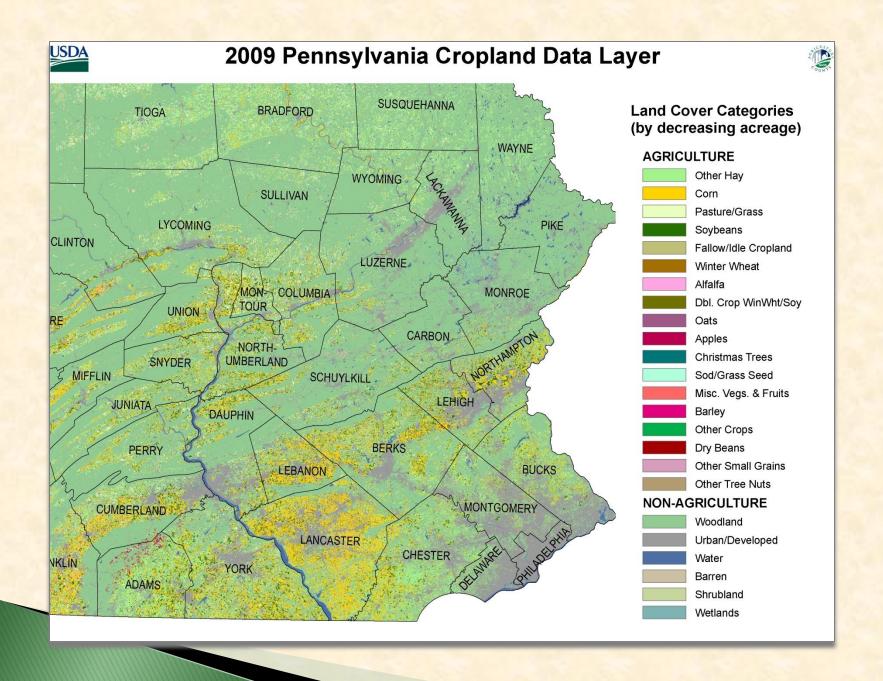


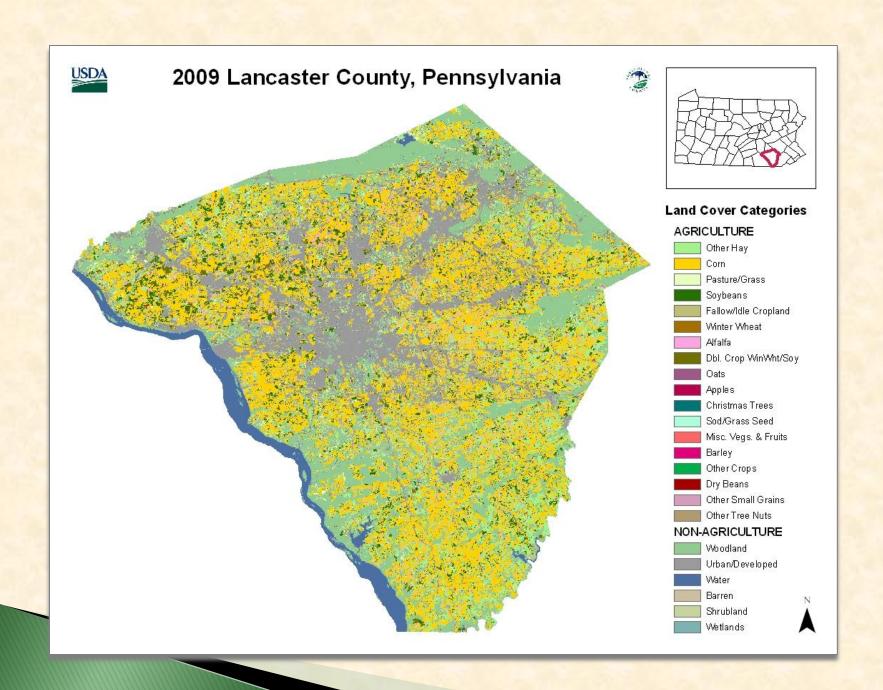


2009 Pennsylvania Cropland Data Layer









Cropland Data Layer Summary

Operational Program

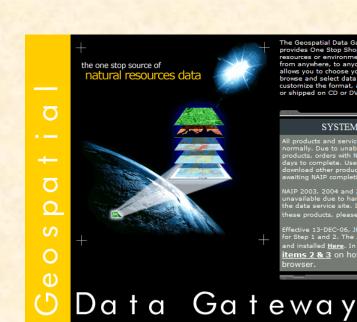
- Early delivery of estimates
- Provides measureable statistical error
- Results used for setting national acreage estimate

Components

- AWiFS/Landsat imagery
- Farm Service Agency
- Commercial Software
- June Agricultural Survey

Distribution

datagateway.nrcs.usda.gov

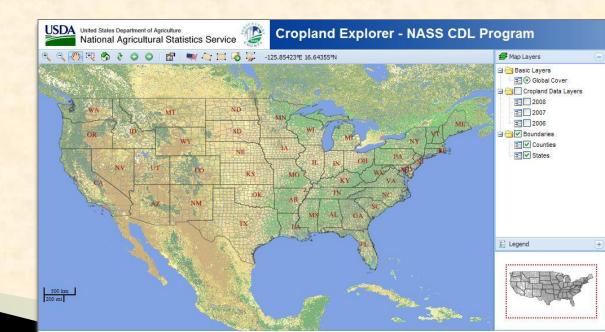


CDL Program

- CDL program paramount to other NASS geospatial activities
- Partnerships with cooperating agencies critical for success
- Heavy reliance on satellites and information technology
- Timely delivery of geospatial data and statistical information are critical

CDL Future

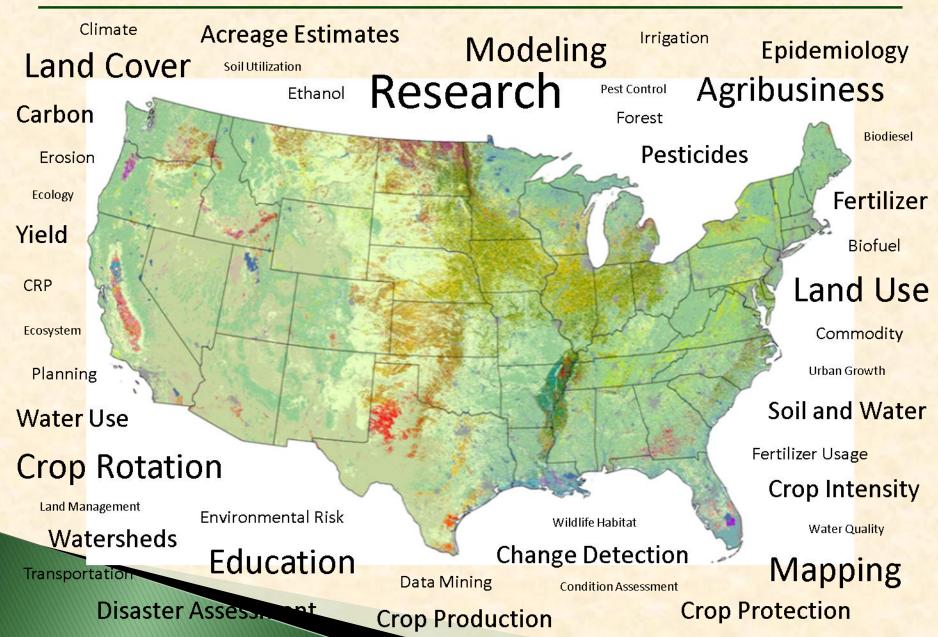
- National CDL crop year 2010
 - Released Jan 2011
- Fund Geospatial CDL portal
 - George Mason University/Center for Spatial Information Science and Systems
- National Commodity Crop Productivity Index
 - NRCS dynamic soils layer



Cropland Data Layer Uses

- Watershed runoff modeling
- Agribusiness planning
- Ground truth
- Change detection
- Water use mapping
- Epidemiological research
- Habitat monitoring
- Carbon sequestration analysis
-and more

NASS Cropland Data Layer Applications



Summary

- County Estimates
 - Accessing NASS County maps and County data
- Census of Agriculture
 - Accessing AgAtlas maps and Census data
- Vegetation Condition
 - Accessing vegetation condition maps
- Cropland Data Layer
 - Accessing the CDL from the NRCS Geospatial Gateway

