

The logo features the word "USDA" in blue serif font, positioned above a green horizontal bar with a white wave-like pattern. This is set against a background of overlapping teal and light blue circular shapes.

USDA

The USDA FSA National Agriculture Imagery Program (NAIP)

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USDA-FSA-APFO

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Outline

- Overview of NAIP
- NAIP Specifications
- NAIP Contract
- Cost Share Partnerships



Overview of NAIP

○ NAIP

- 2002-present
- Began as a pilot program
- Response to need for **more current** imagery to support USDA programs



Allen Co, KS
2008 NAIP CCM



USDA Base Map – Keeping Farm Records Current

USDA



Harlan County, KY
1998 Ortho

10/232008

USDA Base Map – Keeping Farm Records Current

USDA



10/232008

Harlan County, KY
2004 NAIP

USDA Base Map – Keeping Farm Records Current

USDA



Franklin County, OH
1994 Ortho Base

10/232008

USDA Base Map – Keeping Farm Records Current

USDA

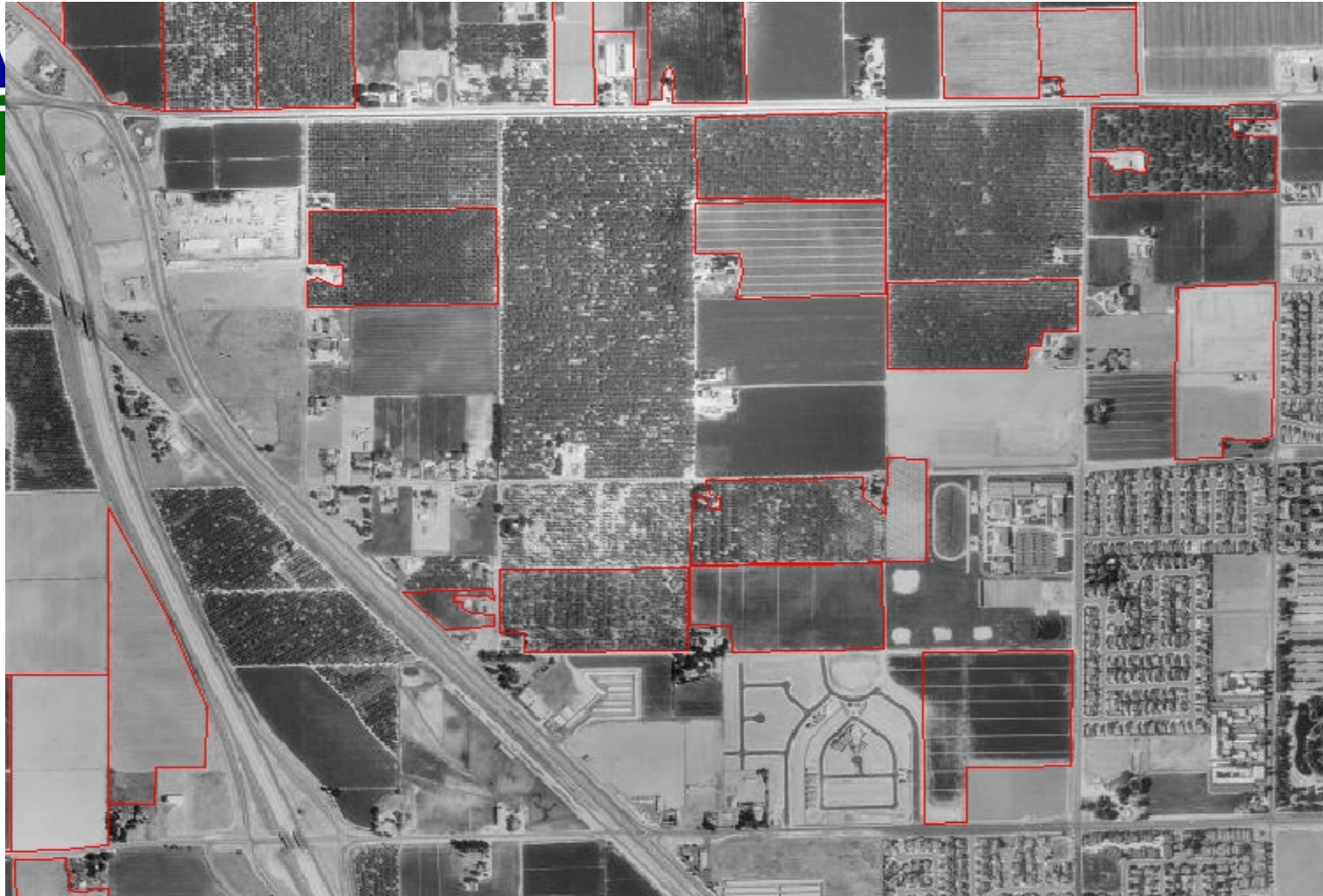


10/232008

Franklin County, OH
2004 NAIP

USDA Base Map – Keeping Farm Records Current

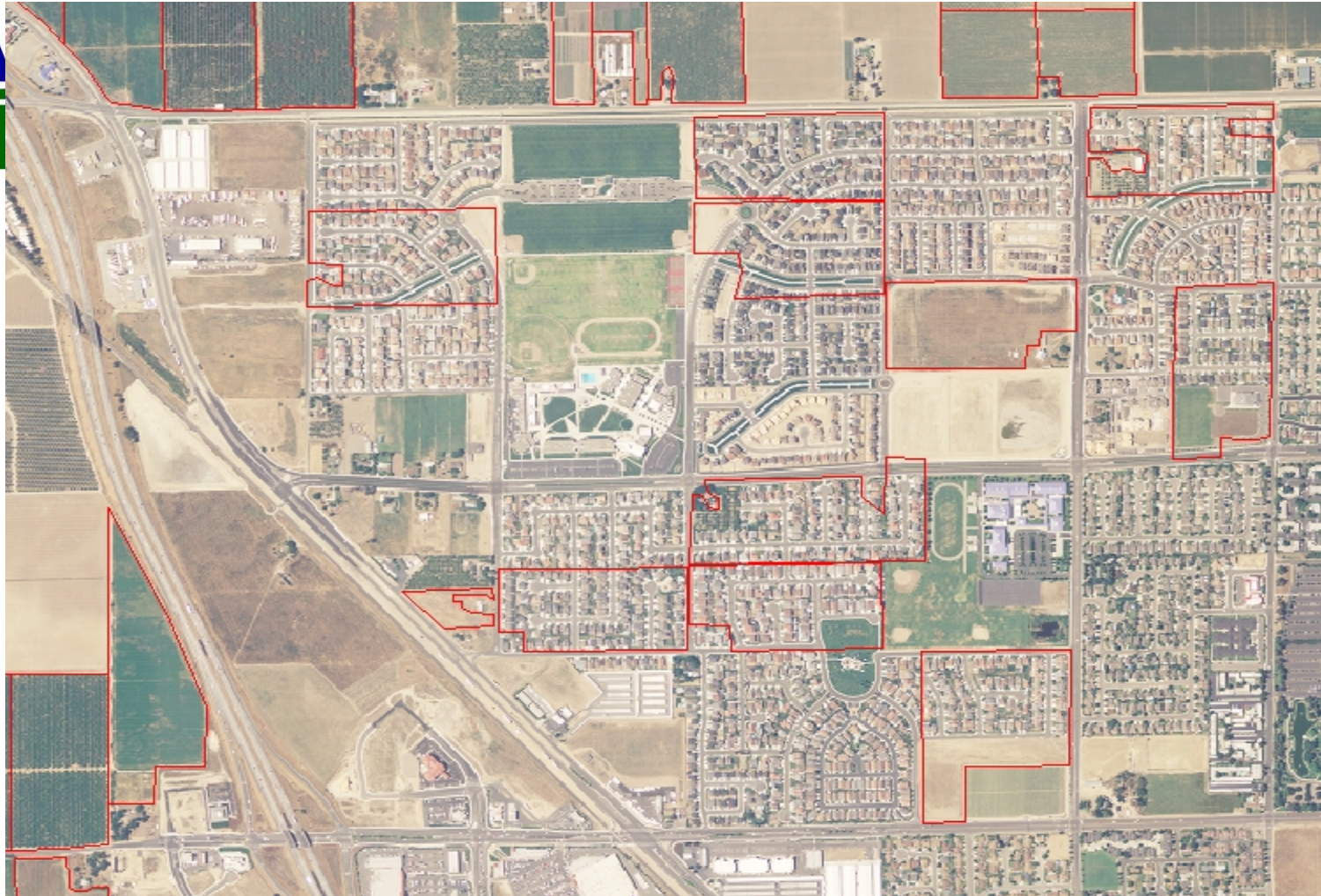
USDA



San Joaquin Valley, CA
1998 DOQs

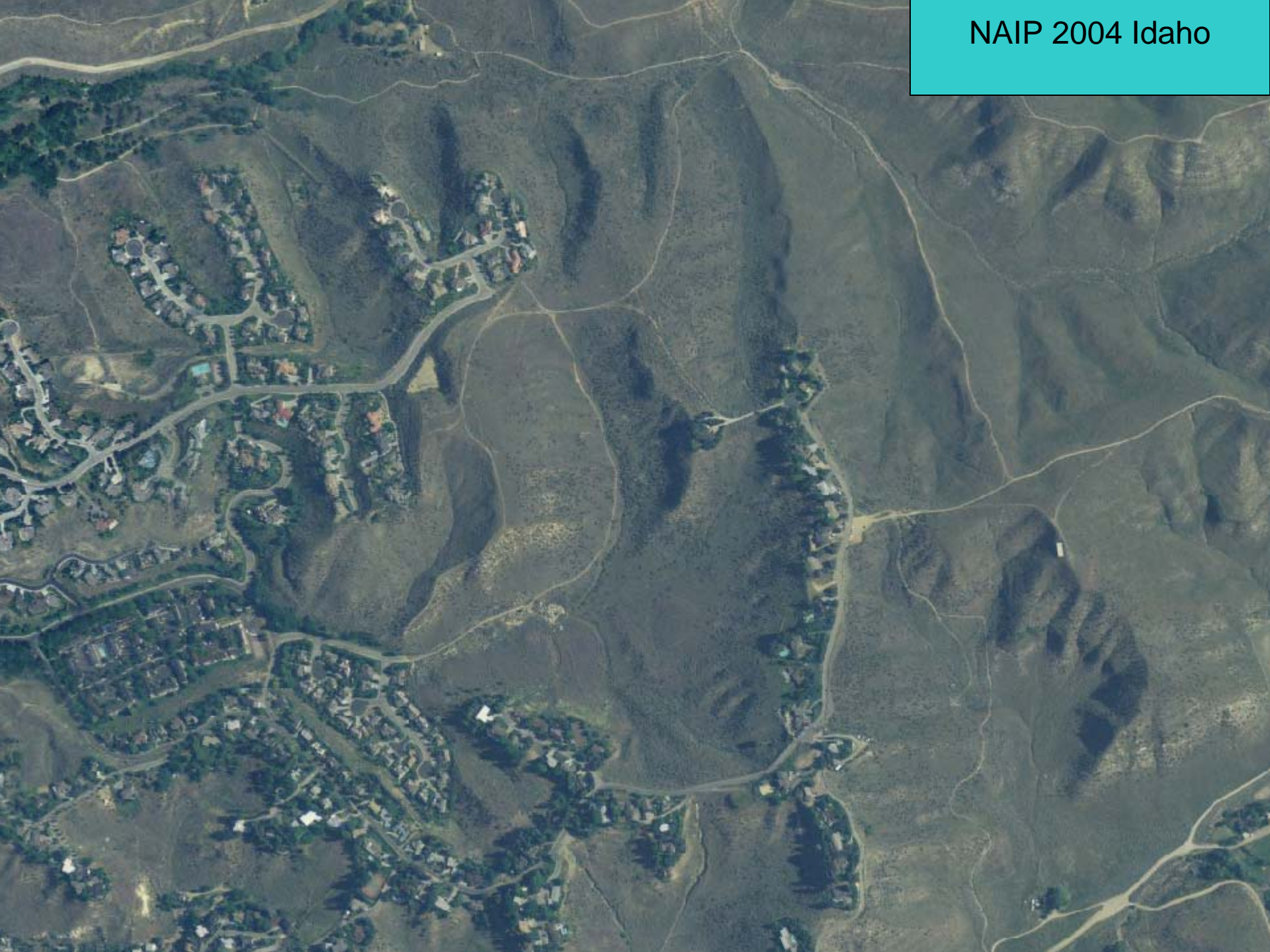
USDA Base Map – Keeping Farm Records Current

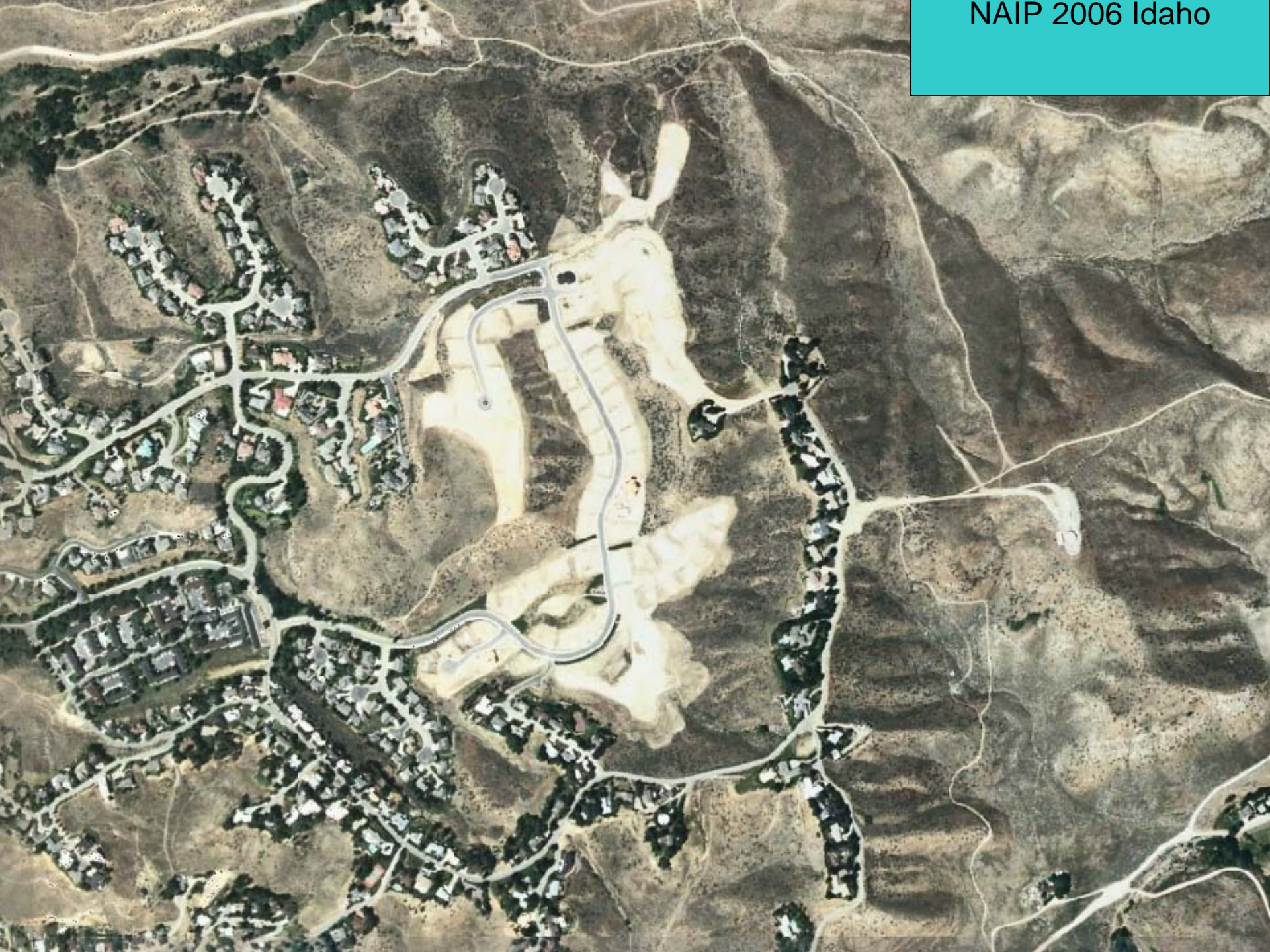
USDA



San Joaquin Valley, CA
2005 NAIP

10/232008

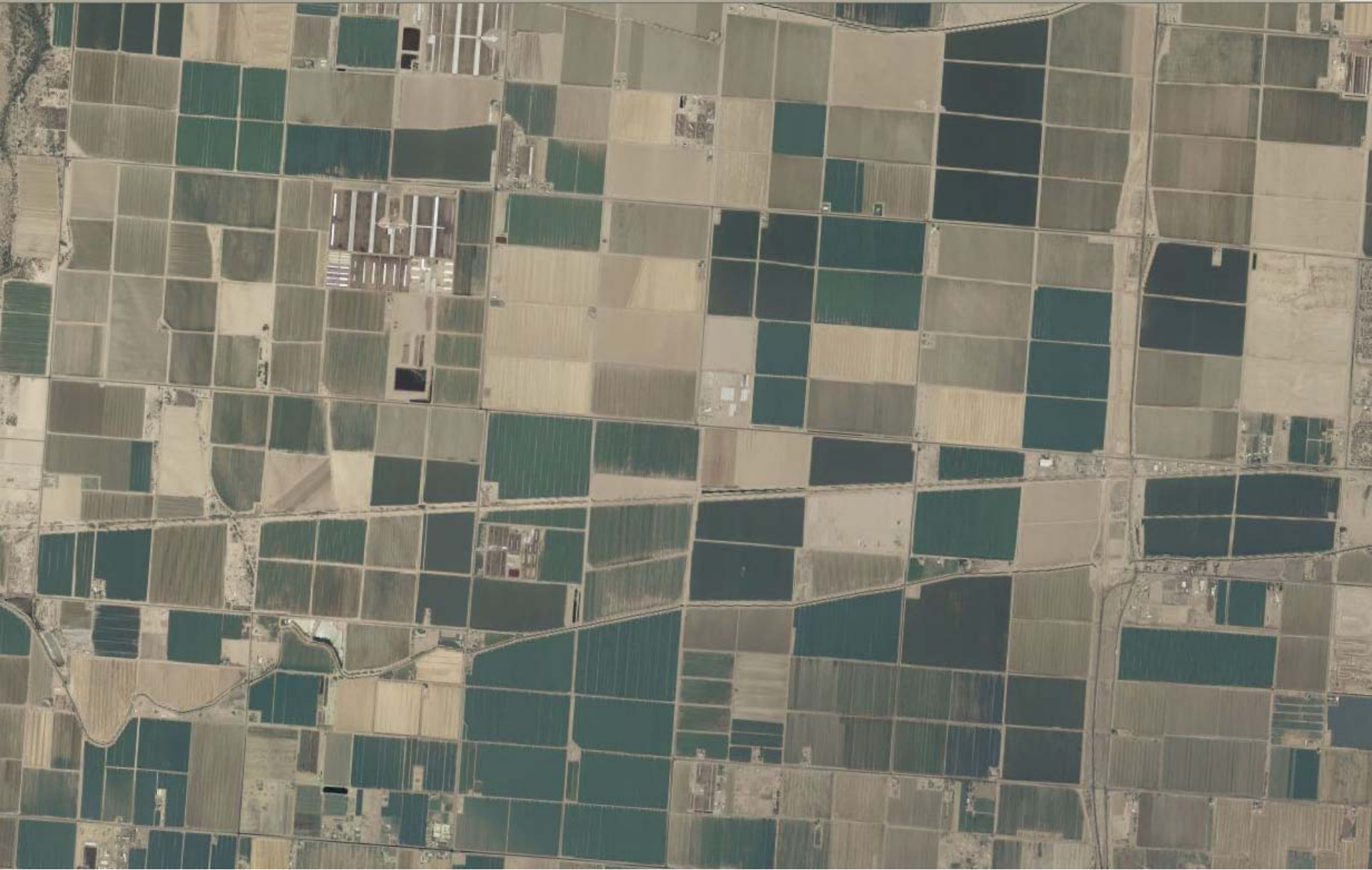






**2006 NAIP from ArcIMS Service - Yellowstone River Delta, South End
Yellowstone Lake**

10/232008



2007 NAIP from Image Server – Cropland West of Phoenix

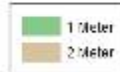
10/232008

2003



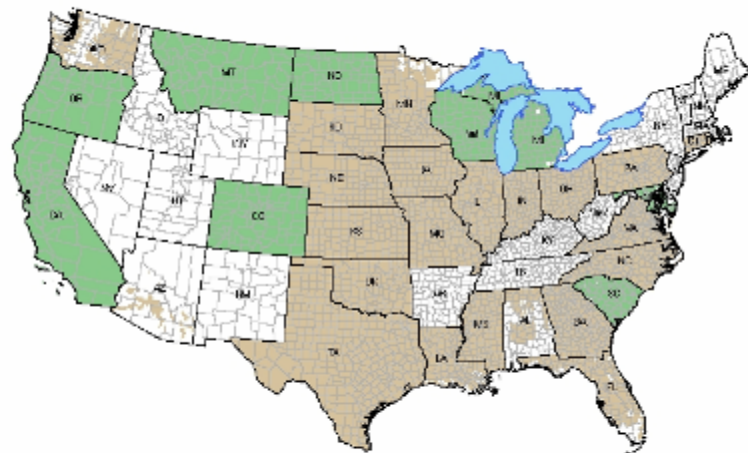
USDA/FSA/APHIS

2004



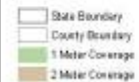
USDA/FSA/APHIS

2005



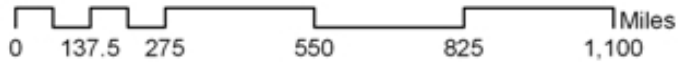
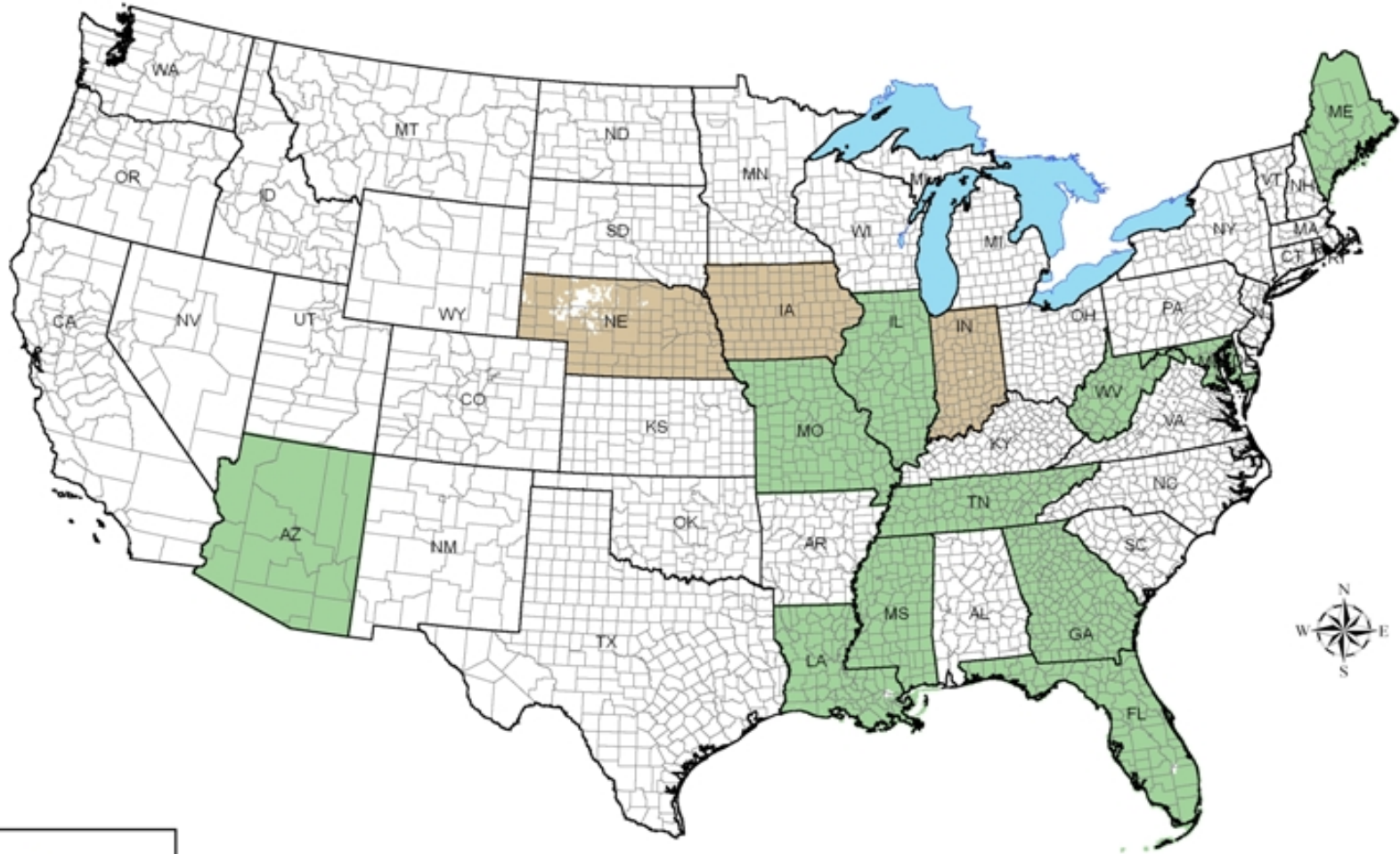
USDA/FSA/APHIS

2006



USDA/FSA/APHIS

2007 NAIP Coverage





NAIP Specifications

- Flying Season
 - Peak crop growing conditions
- Projection
 - NAD83 UTM
 - Single zone Compressed County Mosaicks
- Cloud Cover
 - 10%
- 1 meter and 2 meter resolution



NAIP Specifications

- Basic Contract Deliverables
 - CCMs
 - 15:1 Compression
 - MrSID MG3 Format for natural color
 - Available 30 days after flying season end
 - QQs
 - GeoTIFF
 - Uncompressed
 - Delivered to partners after QA/contract close
- Additional Information
 - Partnership Information
 - <http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=docs&topic=nai>



NAIP Specifications

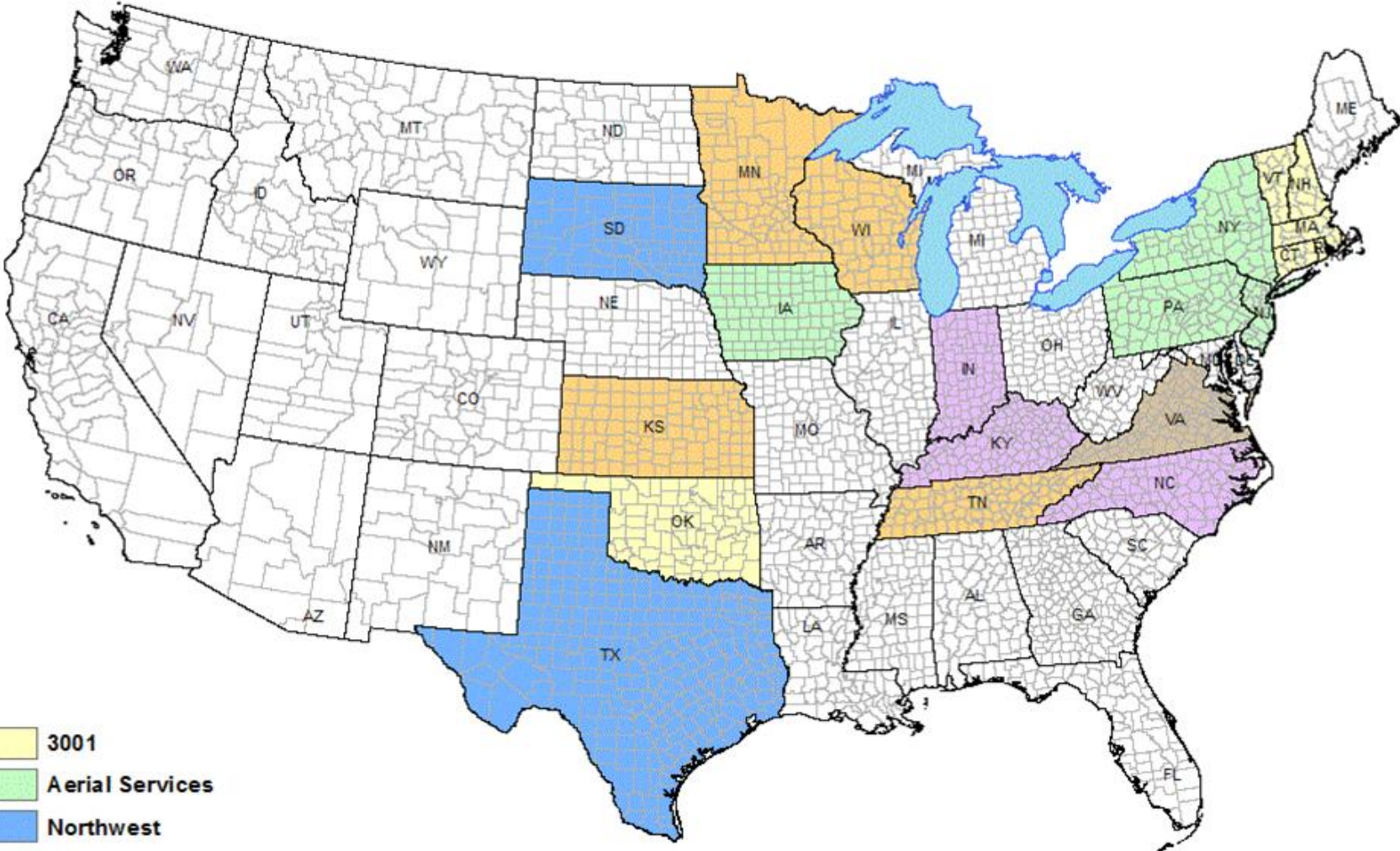
- Basic Contract Deliverables
 - CCMs
 - 15:1 Compression
 - MrSID MG3 Format for natural color
 - JPEG 2000 for 4-band
 - Delivered 30 days after flying season
 - QQs
 - GeoTIFF
 - Uncompressed
 - Delivered to partners after QA/contract close



NAIP 2008 changes

- "4 Band"
- Transition to absolute accuracy specification
- Mosaic cutline shapefile
- 1 meter only

2008 NAIP Contractors



- 3001
- Aerial Services
- Northwest
- Photoscience
- Sanborn
- Surdex



4-band Imagery

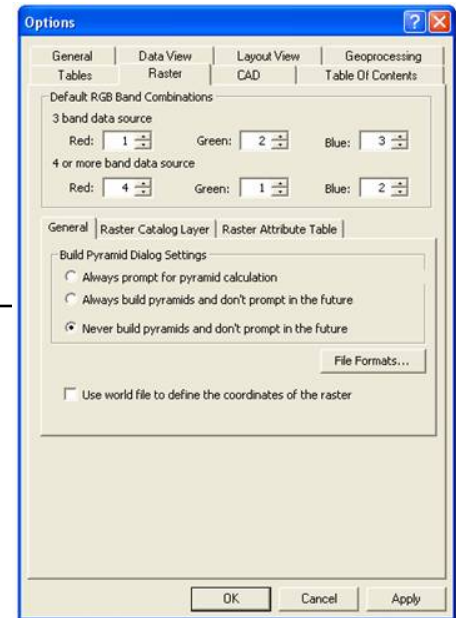
2007 NAIP (AZ)





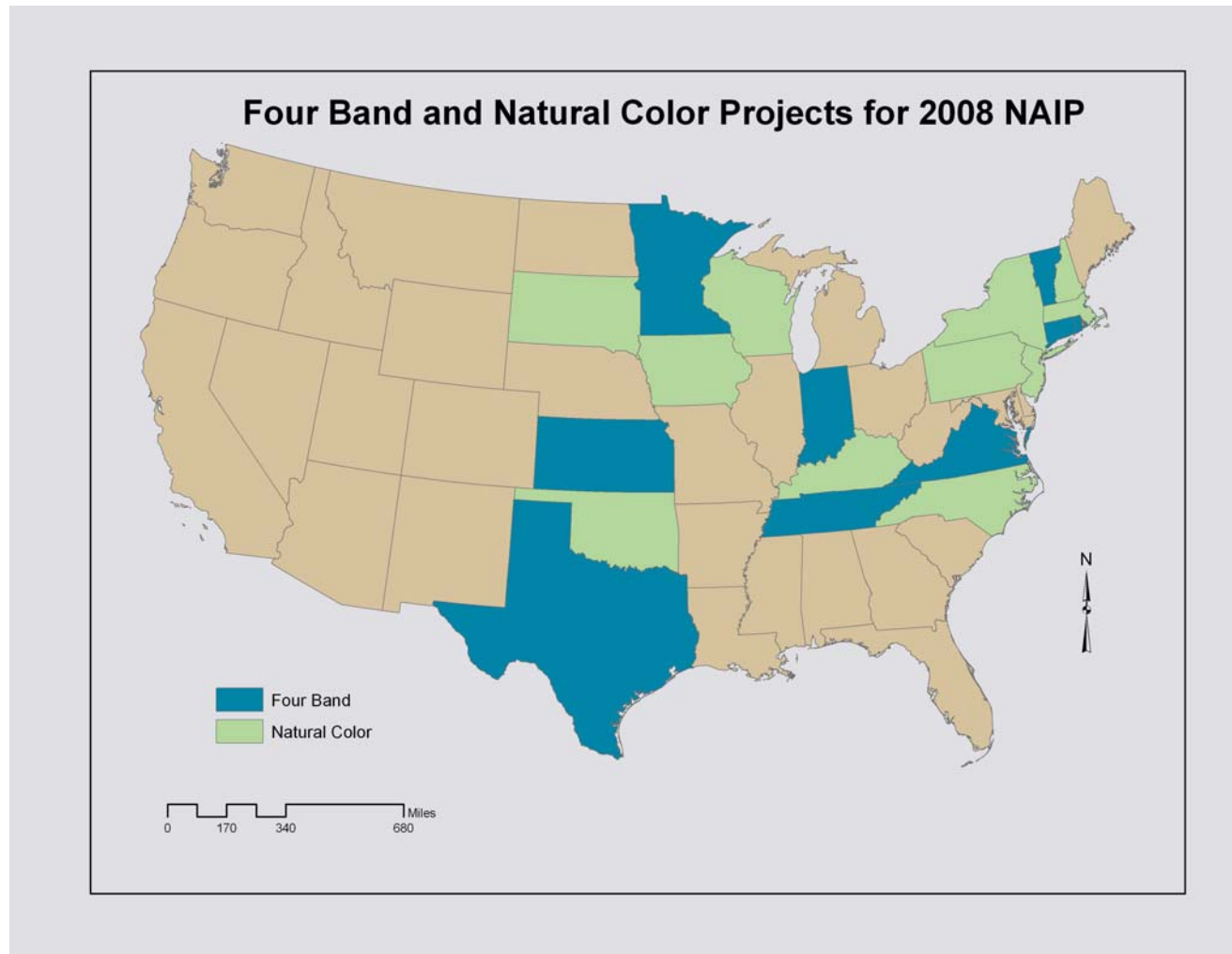
4-band Imagery

- Natural color is default
 - Band Order in ArcGIS – RGBIR
 - Tools, Options, Raster...
- 2008 4-band CCMs – JPEG 2000
 - RFI was released Nov 07 asking for end user/industry input on settings
 - Settings were published in 2008 RFP
- Information Sheet on 4-band
 - http://www.fsa.usda.gov/Internet/FSA_File/fourband_info_sheet_2008pdf.pdf





4-band Imagery



Absolute Horizontal Accuracy

- Large investment in CLU digitizing
 - Tied to the original 1990s “MDOQ”
 - Tie new imagery to true ground, not older imagery



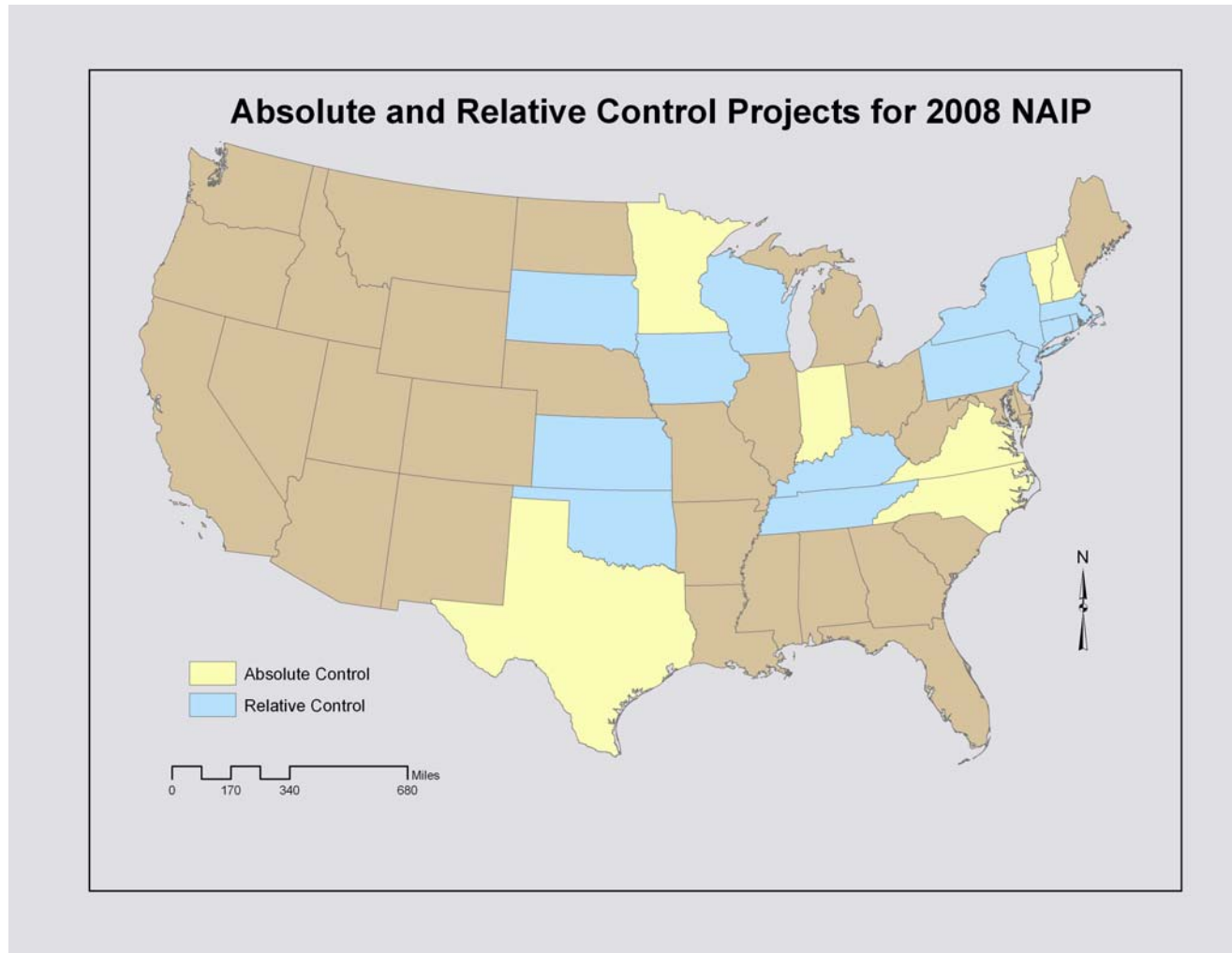


Absolute Horizontal Accuracy

- Need for absolute identified
 - Partners were requesting change
 - Dataset accuracy is better described
- Pilots conducted
 - 2006 (UT)
 - UT: 3.40m RMSE (400+ check points)
 - 2007 (AZ)
 - AZ: 2.87m RMSE (530 check points)
- Future states will be phased in
 - 7 states in 2008
 - 15 states in 2009
 - Once converted, state will not revert
- NAIP 1m GSD Requirement
 - 95% of well-defined points tested shall fall within 6 meters of true ground



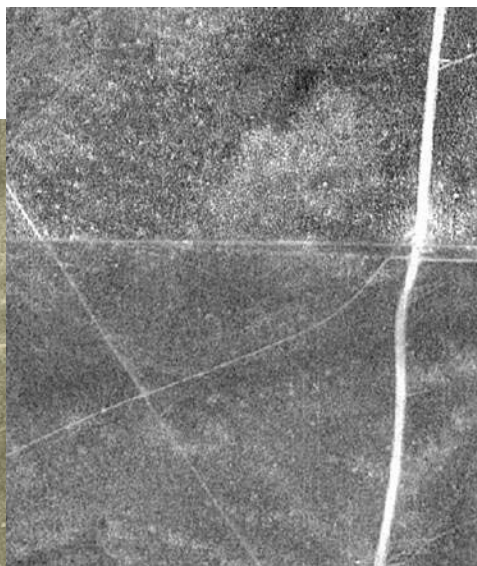
Absolute Horizontal Accuracy



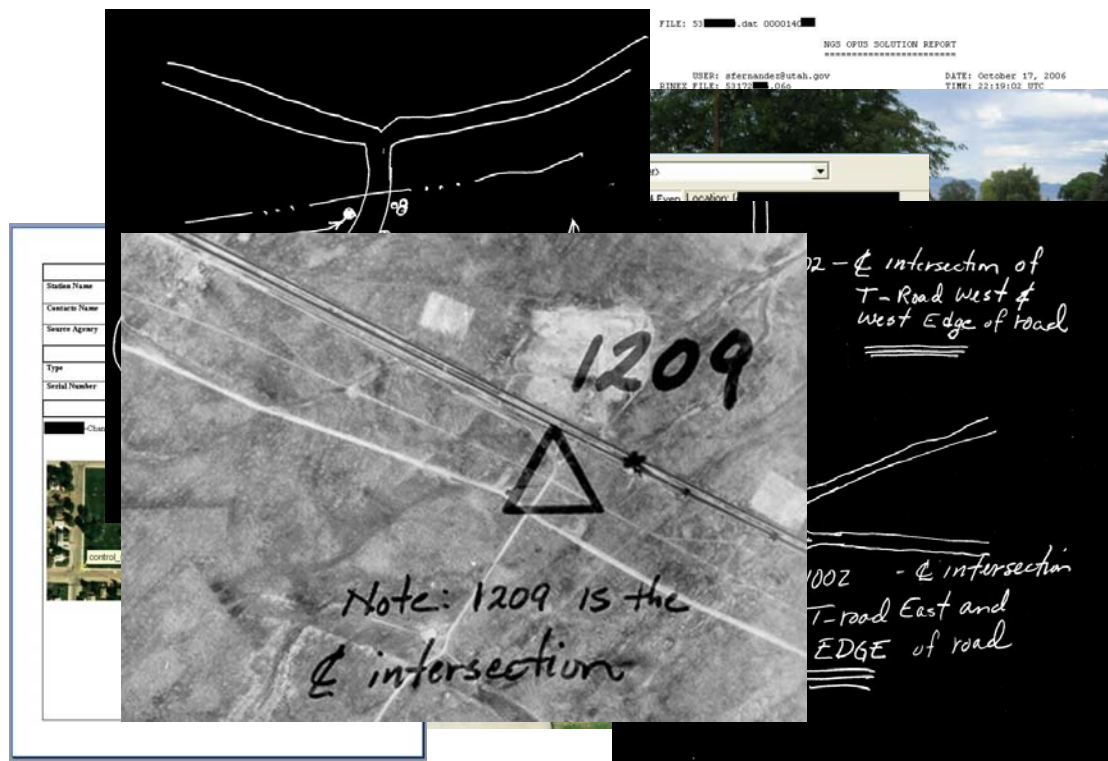
Absolute Horizontal Accuracy

- The engine behind the move of NAIP from relative to absolute control specs is the photo identifiable control database and supplemental data
- Semi-automated inspection process

Relative



Absolute



Station Name	
Contract Name	
Source Agency	
Type	
Serial Number	

FILE: 50... .drc 0000140
 805 GPS SOLUTION REPORT
 USER: aferandse@utah.gov DATE: October 17, 2006
 BINEX FILE: 5117... .dgc TIME: 22:19:03 UTC

1209

Note: 1209 is the intersection

02 - intersection of T-Road West & West Edge of road

002 - intersection T-road East and EDGE of road



Absolute Horizontal Accuracy

- Working with other Federal and State agencies to create a photo identifiable control database for QA check points
- Will be asking for assistance, if we haven't already
 - Thanks for your efforts

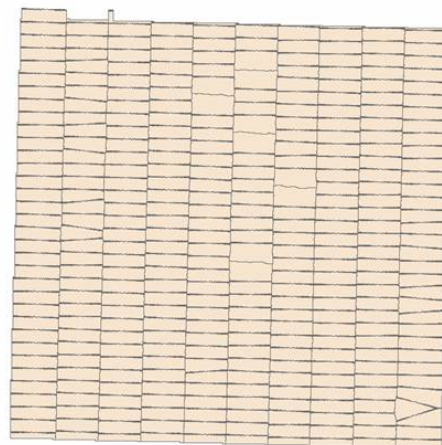


Seamline Shapefile

- Expanded seamline shapefile requirements in 2008
 - Test different digital camera footprints
 - Resolve “unknowns” before proceeding to all states

Seamline Shapefile

- 2007 NAIP Pilot (AZ)
 - Better represent image dates
 - Majority dates in QQ
- “Look” can vary greatly by sensor



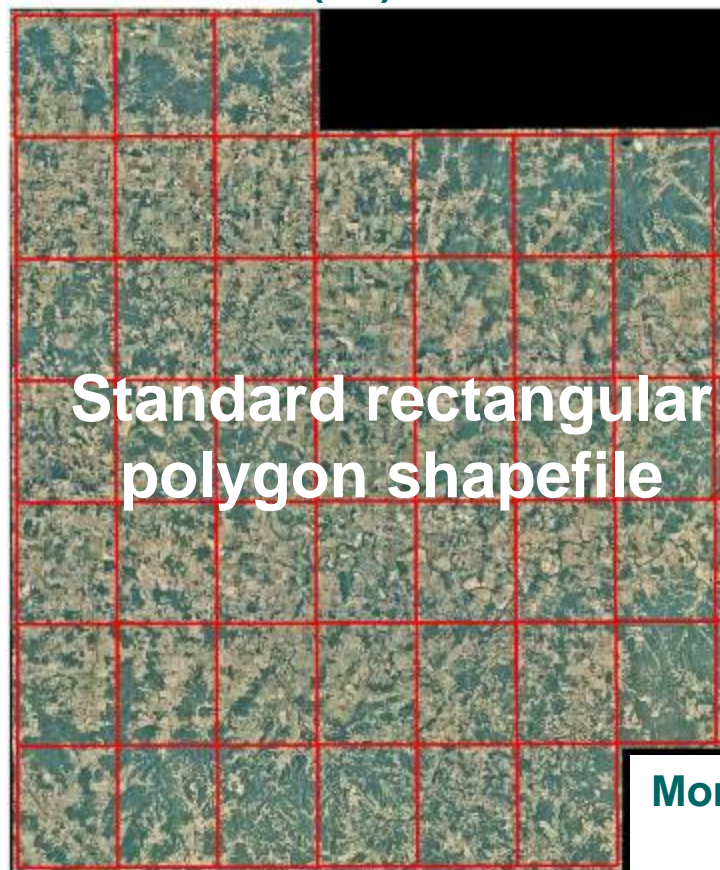


Seamline Shapefile

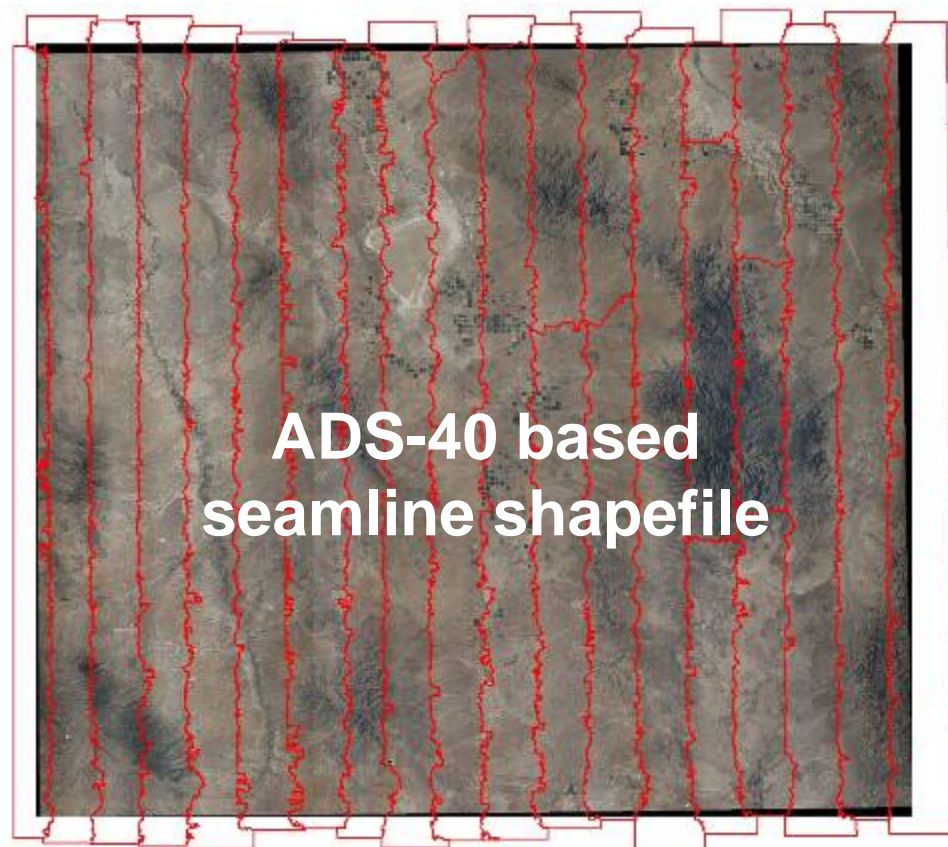
IDAT	SDATE	EDATE	CAM_TYPE	CAM_MAN	CAM_MOD	SENSNUM	SHAPE_AREA
6/9/2007	06/09/2007 15:37	06/09/2007 16:10	Digital	Leica Geosystems	ADS52	30022	1373900000.0000000000
6/9/2007	06/09/2007 16:14	06/09/2007 16:38	Digital	Leica Geosystems	ADS52	30022	1132200000.0000000000
6/9/2007	06/09/2007 16:43	06/09/2007 17:15	Digital	Leica Geosystems	ADS52	30022	1136900000.0000000000
6/9/2007	06/09/2007 17:19	06/09/2007 17:43	Digital	Leica Geosystems	ADS52	30022	766640000.0000000000
6/9/2007	06/09/2007 17:47	06/09/2007 18:19	Digital	Leica Geosystems	ADS52	30022	521530000.0000000000
6/9/2007	06/09/2007 18:22	06/09/2007 18:46	Digital	Leica Geosystems	ADS52	30022	569680000.0000000000
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6/10/2007	06/10/2007 15:50	06/10/2007 16:13	Digital	Leica Geosystems	ADS52	30022	416480000.0000000000
6/10/2007	06/10/2007 16:18	06/10/2007 16:37	Digital	Leica Geosystems	ADS52	30022	50555000.0000000000
6/10/2007	06/10/2007 16:41	06/10/2007 16:58	Digital	Leica Geosystems	ADS52	30022	27035000.0000000000
6/25/2007	06/25/2007 16:18	06/25/2007 16:46	Digital	Leica Geosystems	ADS52	30022	860710000.0000000000
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6/25/2007	06/25/2007 19:28	06/25/2007 19:56	Digital	Leica Geosystems	ADS52	30022	986610000.0000000000
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6/30/2007	06/30/2007 15:37	06/30/2007 15:46	Digital	Leica Geosystems	ADS52	30022	544800000.0000000000
6/30/2007	06/30/2007 16:04	06/30/2007 16:23	Digital	Leica Geosystems	ADS52	30022	592820000.0000000000
6/30/2007	06/30/2007 16:34	06/30/2007 16:43	Digital	Leica Geosystems	ADS52	30022	684610000.0000000000
6/30/2007	06/30/2007 16:47	06/30/2007 17:00	Digital	Leica Geosystems	ADS52	30022	699940000.0000000000
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6/30/2007	06/30/2007 17:56	06/30/2007 18:16	Digital	Leica Geosystems	ADS52	30022	1081400000.0000000000

Seamline Shapefile

2007 NAIP (TN)



Standard rectangular polygon shapefile



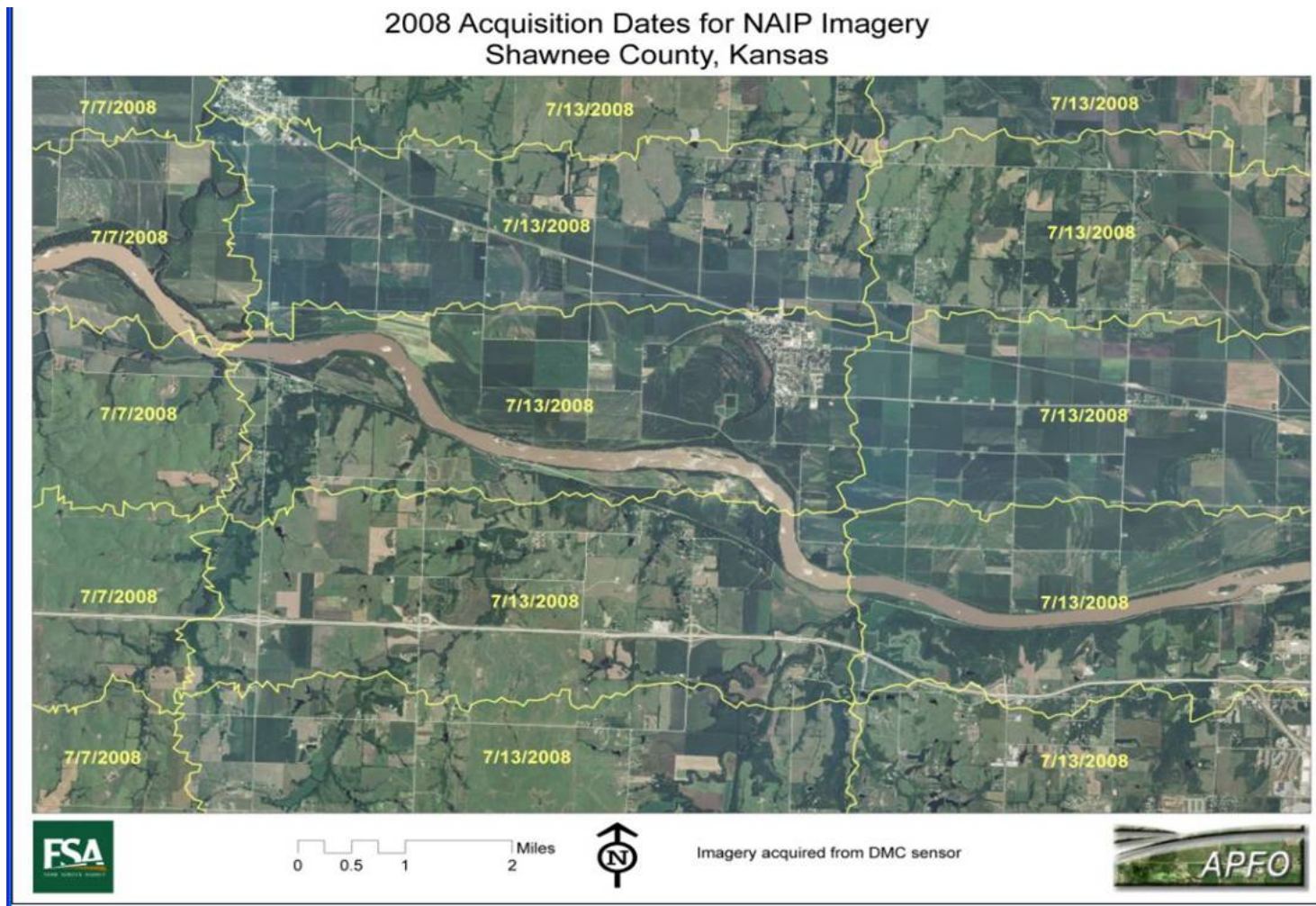
ADS-40 based seamline shapefile

2007 NAIP (AZ)

More accurate representation of exposure dates

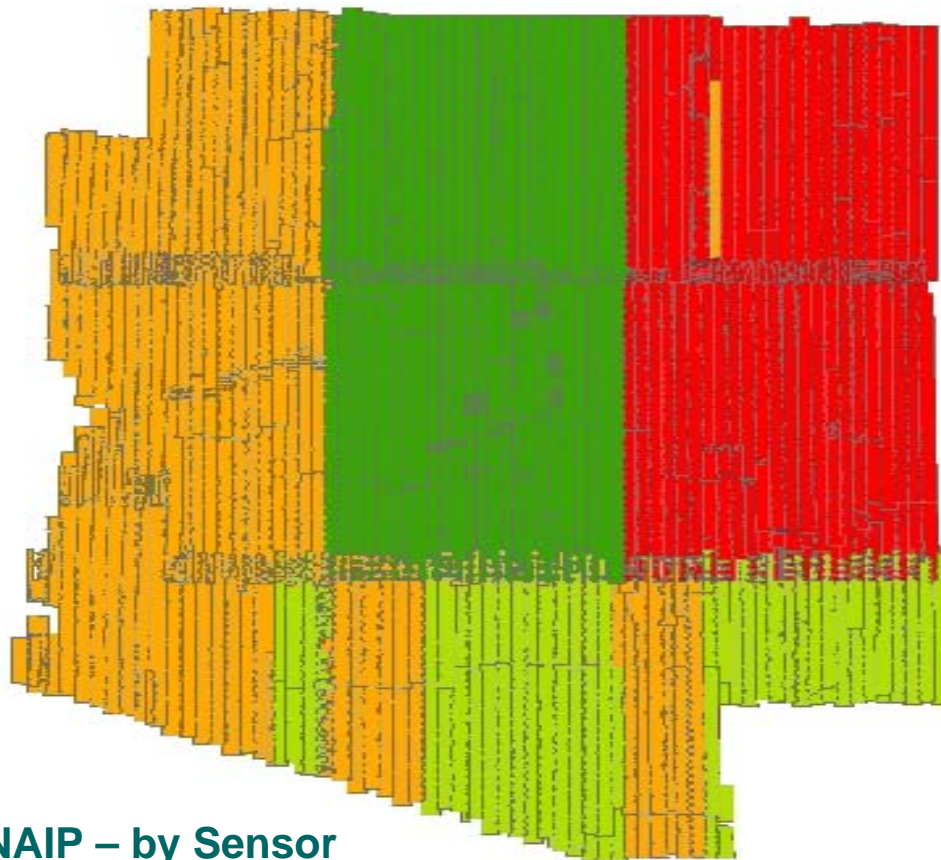
Seamline Shapefile

2008 Acquisition Dates for NAIP Imagery
Shawnee County, Kansas





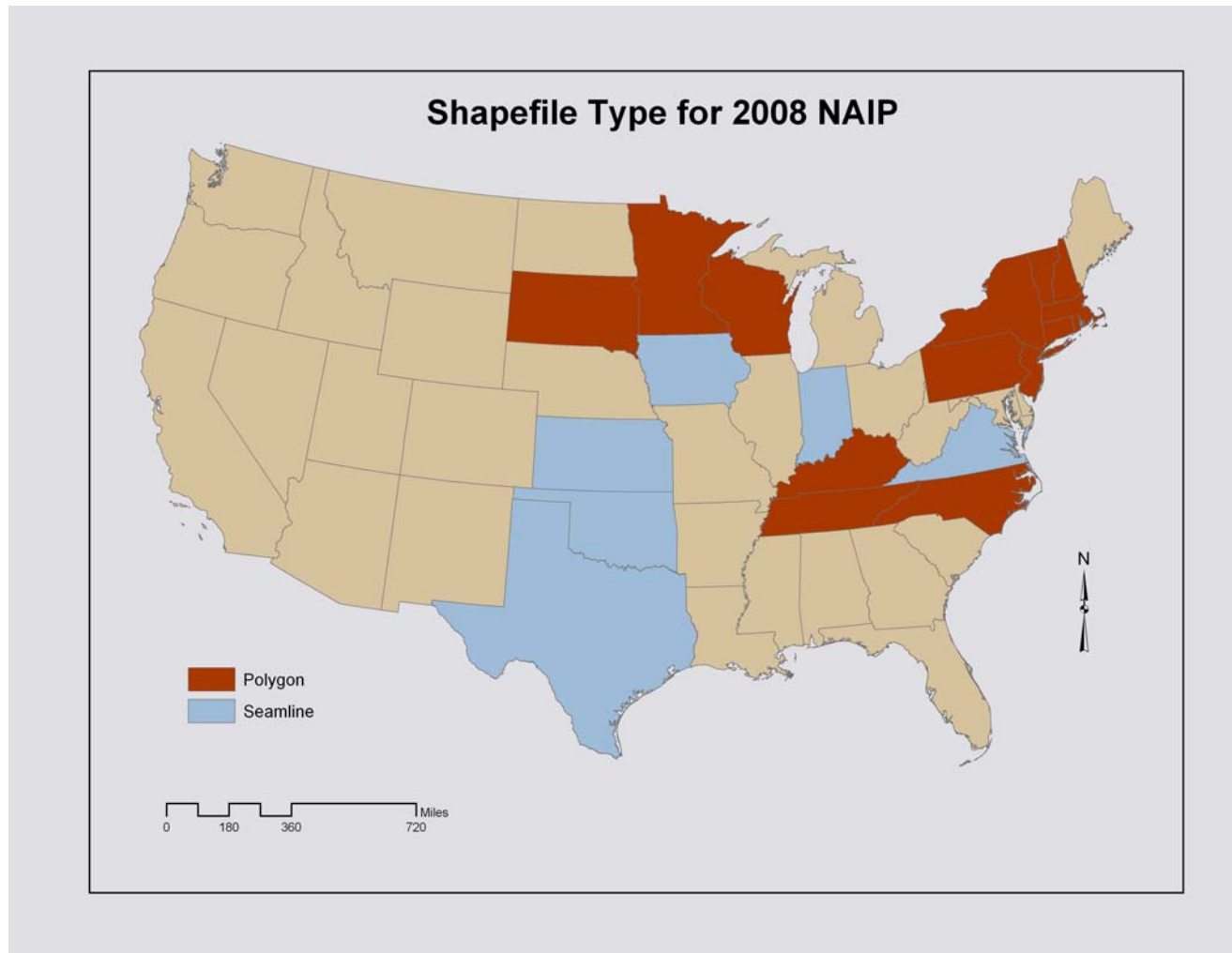
Seamline Shapefile



**2007 AZ NAIP – by Sensor
Number (SENSNUM)**



Seamline Shapefile





NAIP Contract

- "Best Value"
 - Specifies a product, not a process
- 5 year contract (2007-2011)
 - Annual Task Awards for states based on cost, and past performance
- 6 "prime" contractors



NAIP Contract

- 5 year (2007-2011) Contract
 - 6 "prime" vendors
 - Task awards made each year

- "Best Value" contracting
 - Specify a product not a process
 - Vendors bid on states
 - States are awarded on "best value" to the government
 - Based on cost, quality of proposal, past performance
 - Means that partners can't pick a vendor



NAIP Contract

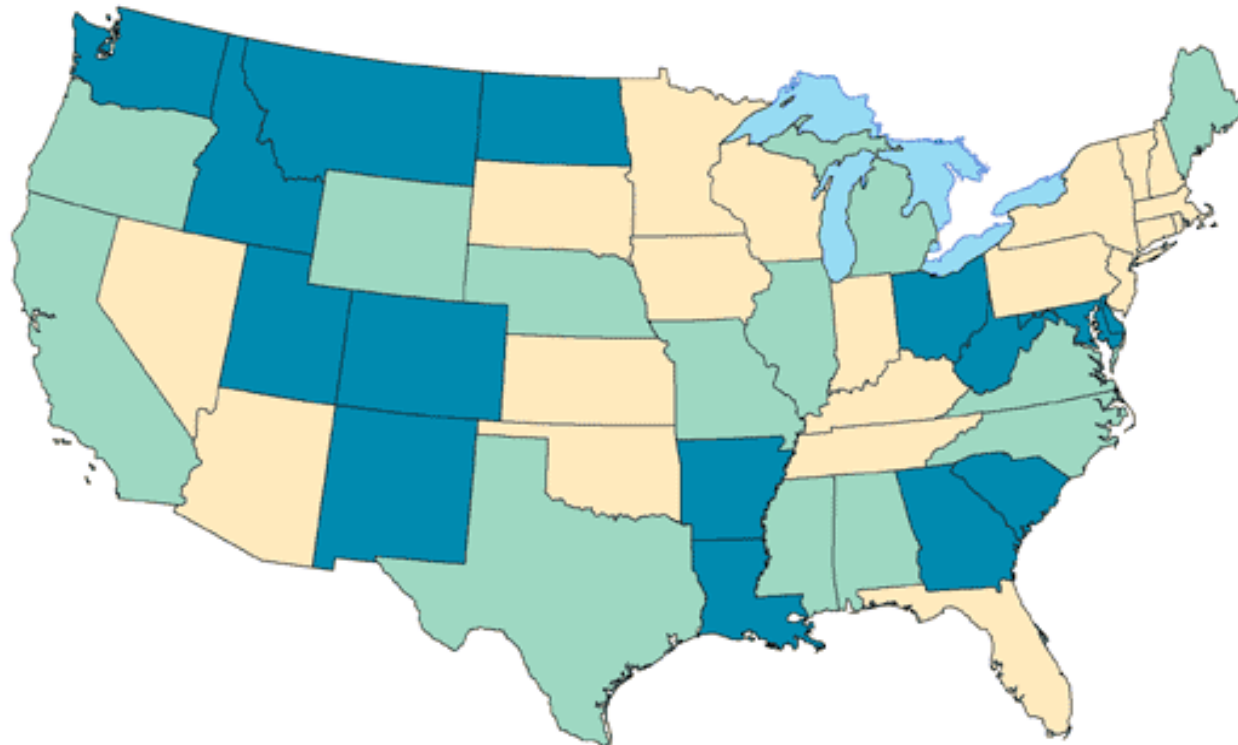
- Basic Contract Requirements
 - On APFO Website
(<http://www.apfo.usda.gov>)
 - Contract:
http://www.fsa.usda.gov/Internet/FSA_File/naip-3-07_mod1_51508.pdf
 - Task Order:
http://www.fsa.usda.gov/Internet/FSA_File/naip-to-3-08-1v1.pdf



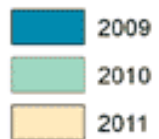
NAIP 2009-2011

- States acquired on a 3 year cycle
 - Build in more stability and consistency
 - 1-meter resolution
 - Based on CLU coverage
 - Continually improve quality
 - Transition to better accuracy specification

NAIP Acquisition Cycle

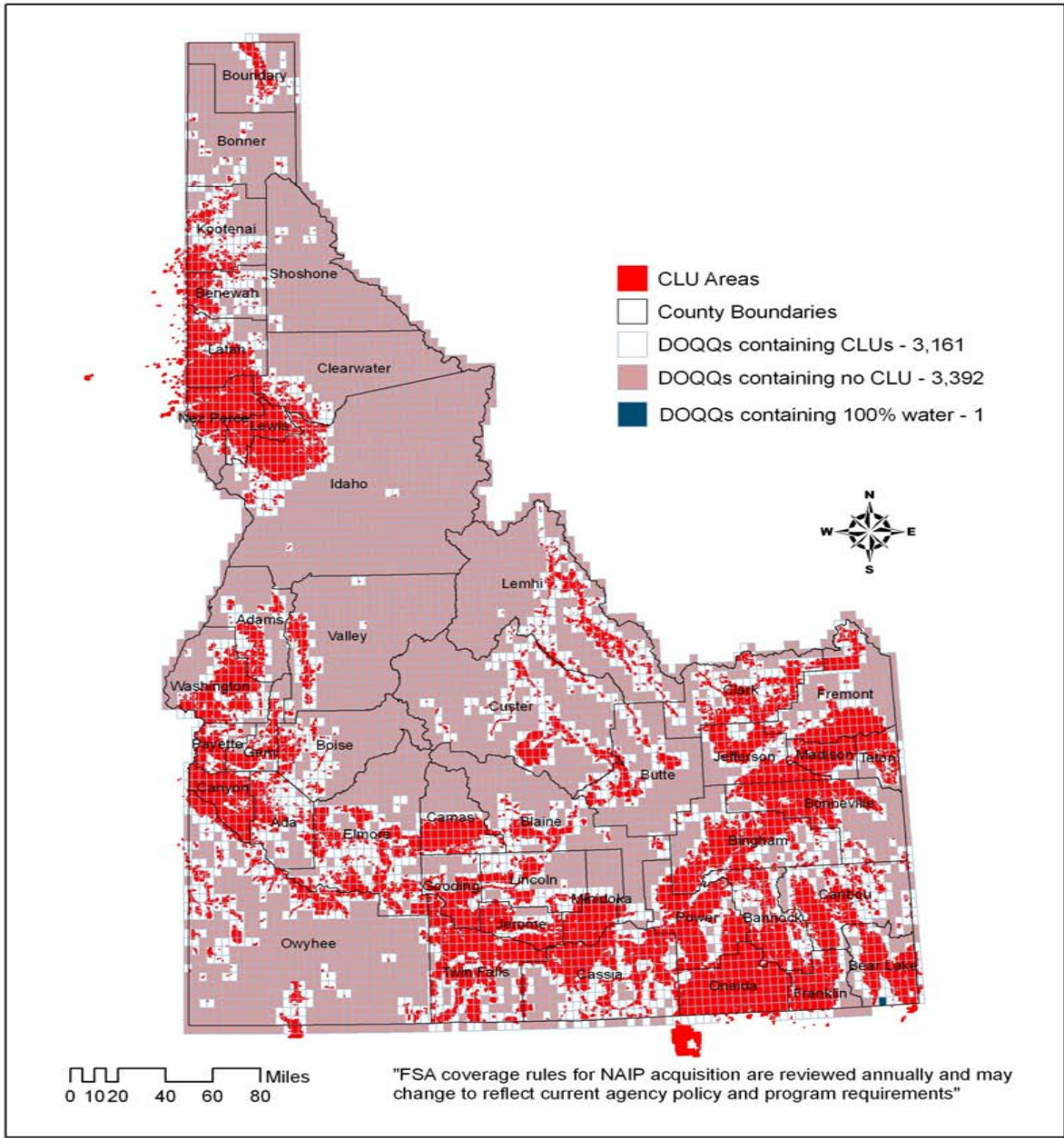


Cycle Dates





Idaho CLU Coverage 2009





Cost Share Partnerships

- Federal Partners cost sharing at a national level
 - Coverage of non-ag land
 - based on estimated 2009 costs
- Full coverage of cycle states not a certainty
 - Funding
 - Vendor bids



Partnership Opportunities

- Why Cost Share?
 - Helps ensure full state coverage



Partnership Opportunities

- Why Cost Share?
 - Helps ensure full state coverage
 - It's a great deal
 - *Minimum Cost share amount is 10% of FSA costs for a state*



Partnership Opportunities

- Why Cost Share?
 - Helps ensure full state coverage
 - It's a great deal
 - Can buy up to 4 band
 - Subject to vendor capacity



Partnership Opportunities

- Why Cost Share?
 - Helps ensure full state coverage
 - Can buy up to 4 band
 - Access USDA image services
 - *State based projects via ESRI Image Server*
 - *Account based access to data provisioning system (Earthwhere)*



Partnership Opportunities

- Why Cost Share?
 - Helps ensure full state coverage
 - Can buy up to 4 band
 - Access USDA image services
 - Receive all contract deliverables
 - Compressed mosaics delivered incrementally on DVD
 - Uncompressed Quarter Quads on HDD after project completion



Partnership Opportunities

- Why Cost Share?
 - Helps ensure full state coverage
 - Can buy up to 4 band
 - Access USDA image services
 - Receive all contract deliverables
 - Enter into secondary contracts with NAIP vendor
 - *Cannot impact primary NAIP deliverables*
 - *Flying season, price of NAIP bids, delivery timeline*



Partnership Opportunities

- Why Cost Share?
 - Helps ensure full state coverage
 - *Can buy up to 4 band*
 - *Subject to capacity*
 - *Access USDA image services*
 - *Receive all contract deliverables*
 - *Enter into secondary contracts with NAIP vendor*
 - *Subject to USDA approval*



Distribution

- Distribution Services
 - Hard Copy, CD/DVD, Hard Drive, Bulk Order, etc.
 - APFO Customer Service Section
 - (801) 844-2922 apfo.sales@slc.usda.gov
 - David Parry, Customer Service Section Supervisor (801) 844-2923 david.parry@slc.usda.gov
 - General Information (our website)
 - USDA/Farm Service Agency/APFO
 - <http://www.apfo.usda.gov>



Distribution

- Distribution Services
 - Downloads
 - USDA Geospatial Data Gateway
 - <http://datagateway.nrcs.usda.gov/>
 - APFO Geodata Warehouse
 - ArcIMS Service
 - gdw.apfo.usda.gov (Add ArcIMS Server)
 - ArcGIS Server Image Server Service
 - <http://gis.apfo.usda.gov/arcgis/services> (Add ArcGIS Server)
 - ArcIMS Website
 - <http://gdw.apfo.usda.gov/naip/viewer/viewer.htm>
 - <http://gdw.apfo.usda.gov/mdoq/viewer/viewer.htm>



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