The role of USDA’s Risk Management Agency (RMA) is to help producers manage their business risks through effective, market-based risk management solutions. RMA’s mission is to promote, support, and regulate sound risk management solutions to preserve and strengthen the economic stability of America’s agricultural producers. As part of this mission, RMA operates and manages the Federal Crop Insurance Corporation (FCIC). RMA was created in 1996; the FCIC was founded in 1938.
• RMA, through FCIC, provides crop insurance to American farmers and ranchers. Sixteen private-sector insurance companies sell and service the policies. RMA develops and/or approves the premium rate, administers premium and expense subsidies, approves and supports products, and reinsures the companies.

• In crop year 2009, RMA managed nearly $80 billion worth of insurance Coverage.
GIS in Crop Insurance

• FCI-33 Actuarial Map Digitizing Project
• Using GIS to Analyze the Program
• Using GIS in the Validation of Crop Policies
FCI-33 Actuarial Mapping Project

Conversion of Actuarial Maps
Paper to GIS
FCI-33 Digitizing Project Timeline

- Project Beginning
- First 17 GIS Shapefiles Published
- Mapping Standards Developed
- Summer Interns Hired to Digitize Maps
- Remaining Offices brought into Project
- Begin Validating Crop Policies
- Published UTM zone Shapefiles
- Moved to ArcGIS Personal Geodatabase
- Moved to ArcSDE Geodatabase
- Additional ArcGIS Servers Installed
- Deployed Thin Client ArcGIS
- Web-based ArcGIS Map Viewer
- Majority of Maps Digitized
Working with Shapefiles

• From 2003 – 2008
• Each Actuarial Map was 1 Shapefile
• Managed 1,300+ shapefiles
• Stored on each Regional Offices Network Drives
• Numerous Problems with Shapefiles
Move to Personal Geodatabase

- 2008
- Merged all the Actuarial Maps into UTM Zones
- Managed 9 shapefiles
- In preparation to move to ArcSDE
ModelBuilder Applications

- Access queried out Maps From Actuarial Database that needed to be moved.
- Models used Access Table to identify the map and move it to be published.
- Exported map from SDE into shapefiles for distribution to Insurance Companies.
Other Uses of GIS

Analyzing the Crop Insurance Program
Future Focus:

Review High Risk Areas
Ensure Consistency across State and County Lines
Redrawing T-Yield Map Areas
Combining use of NRCS and FSA Cropland Data
Thematic Maps

Deviation from Normal by Grid
Rainfall Index
2009 Interval 4 (August - September)

Percent of Normal
- 0-70%
- 70.1-75%
- 75.1-80%
- 80.1-85%
- 85.1-90%
- 90%+

NOTE: This map serves as a reference only. It does not alter the content of any actual document.
Indemnity Estimates – Quick Response

Counties Affected by the June - July 2007 Flooding

[Map showing affected counties with acreage estimates]
Rate Review Tool
Other Uses of GIS

Validation of Crop Insurance Policies
Buffer is Applied to RMA Area Lines 100 Feet for PLSS
Select Sections that are Completely Within RMA Polygon UnRated (URA) areas
Select Sections that Intersect With the RMA Polygon
Select Sections that are Completely Within RMA Polygon
Select Sections that Intersect With the RMA Polygon
Example of OUTPUT Provided to Insurance Companies

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<th>LANDID</th>
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Export_AllAreas.txt

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Return on Investment...

- In 2007
  - 364 Map Files
  - 12 States
  - $7.3 Million in missed premiums
  - Only in states with Legal Descriptions

RETURN
- $20 Million/year
- Lower Premiums for Regular Rated land
  - Reduces Government Subsidy on All Acreage
Any Questions?

Thank You!

Greg Oetting
Risk Management Specialist
USDA – Risk Management Agency
Topeka Regional Office