Evaluating the Coverage of the Disaster Monitoring Constellation for the NASS Cropland Data Layer

Robert Seffrin
National Agricultural Statistics Service

“... providing timely, accurate, and useful statistics in service to U.S. agriculture.”
Outline

• Background
• Data generation
• Imagery exploration
• Imagery usage
2012 Deimos-1/UK2 Satellite Tasking
2012 Cropland Data Layer (CDL)
Processing

UnZip

Reproject
30 meters
Albers, USGS

Split bands

Mosaic

Clip to state project

CDL production

Degrade(chip)
150 meter

Cloud mask

ASPRS 2013 - Baltimore
March 26, 2013
Spatial and temporal distribution?

• Distribution of collects within a campaign?

• How many days between cloud free collects?

• How many cloud free collects per campaign?
Analysis data - Coverage

- Recode non-Cloud to julian-90
- Merge all mosaics of same date to U.S. extent
- Import to SAS
  - merge tables
  - remove zeros
- Analysis

Imagine: Pixel-to-Table systematic sample every 100th pixel
(State, county, ag. mask)
Analysis data - CDL

Recode non-Cloud to unique Scene ID, +5000 for cloud

Merge all mosaic of same date U.S. extent

Imagine: Pixel-to-Table systematic sample every 100th pixel (State, county, ag. mask)

Import to SAS merge tables remove zeros

Analysis
Mosaic Usage Across Time for LA

Percent of state covered by mosaic

Date
used in CDL
NOT used in CDL

USDA
ASPRS 2013 - Baltimore
March 26, 2013
Frequency of Mosaic Usage by Project

Count of mosaics

Count of state projects

Month 04 05 06 07 08 09

533 of 698, 76% of mosaics from April-Sept. used in CDL production

ASPRS 2013 - Baltimore
March 26, 2013
Deimos May 15, 2012
used in 8 state projects
2012 Cropland Data Layer (CDL)
Evaluating the Coverage of the Disaster Monitoring Constellation for the NASS Cropland Data Layer

Robert Seffrin
National Agricultural Statistics Service