Integrating ESRI Solutions in Mapping Infrastructure for the State of Louisiana

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17 July 2014

Project Overview

- In December 2009, State of Louisiana was awarded $9.5 million dollars to conduct a Statewide Geospatial Project
- Project Divided into two Phases:
  - PHASE 1 – High Resolution Imagery Collection
  - PHASE 2 – Geospatial Data Collection

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Phase I - Imagery Overview

- In February / March 2010 the entire state was flown
- 99% of the State was collected at 6” resolution
- In February / March 2014 urban areas and CI/KR facilities were captured at 3” and 4” resolution

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2010 Flight

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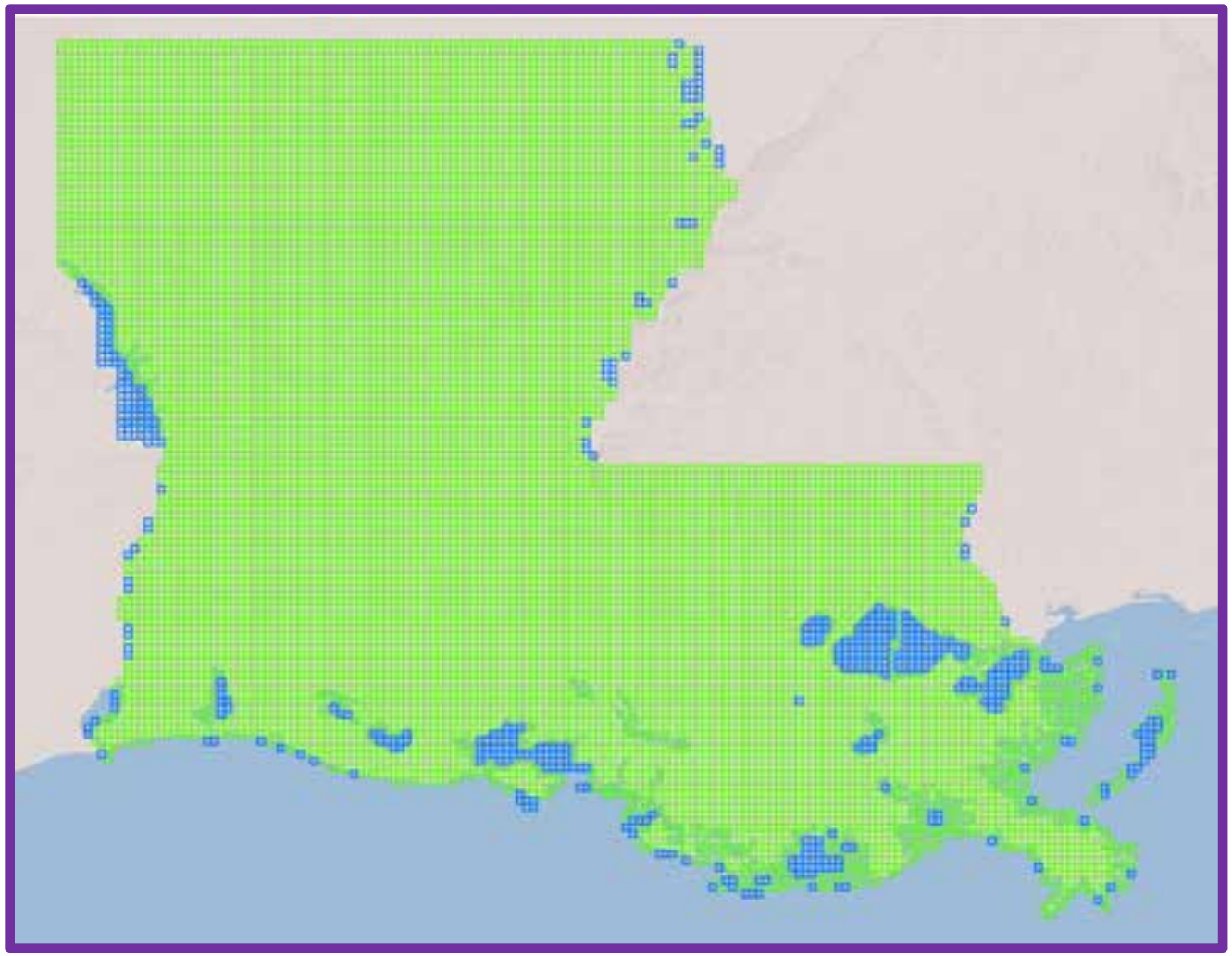

2014 Flight

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Phase II – Data Collection

- **Collection effort is focused on 14 of 16 Homeland Security Sectors**

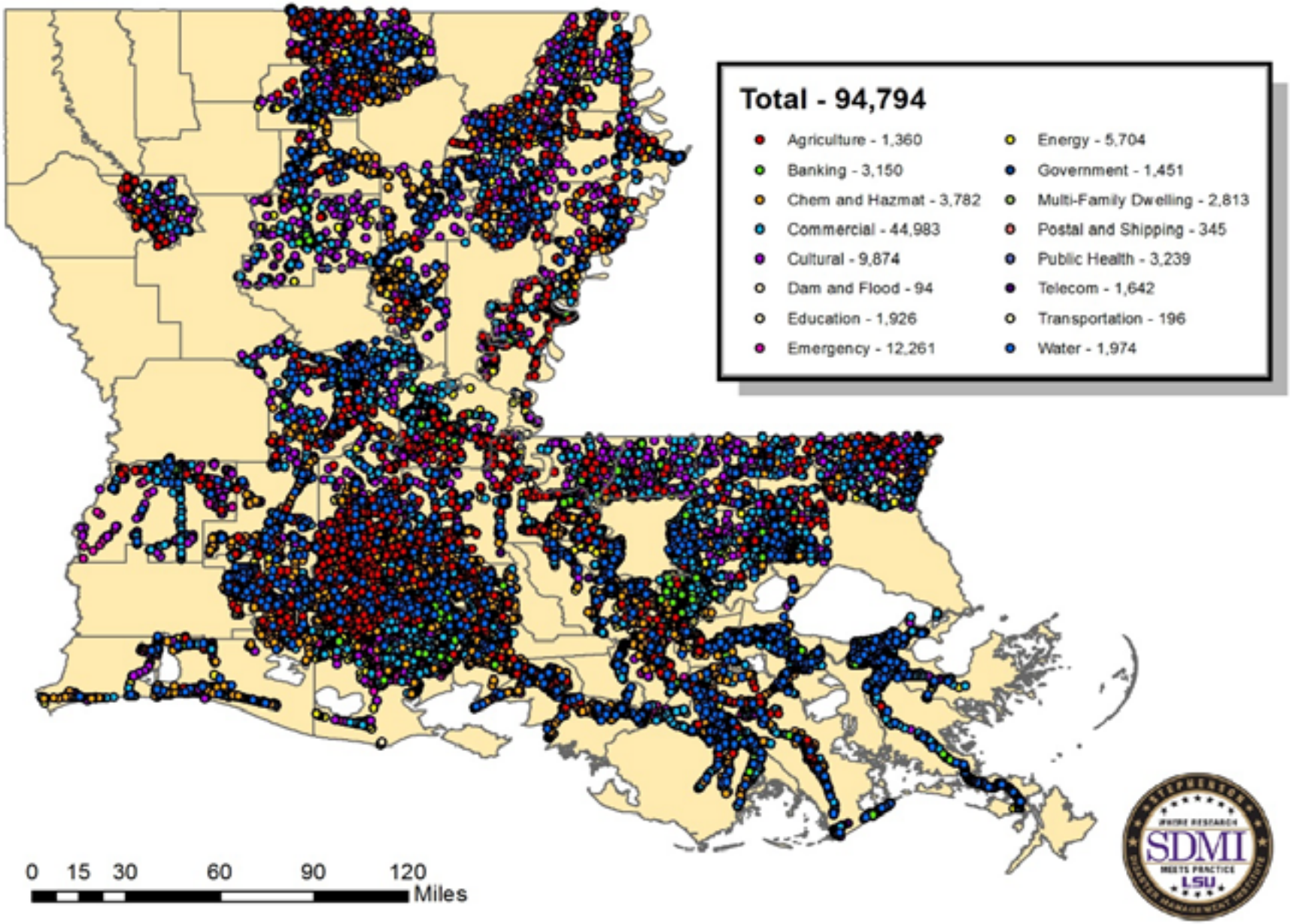
Agriculture	Banking and Finance	Chemical and Hazmat	Commercial Facility	Dams and Flood Control
Emergency Services	Energy	Government Facilities	Postal and Shipping	Public Health
Telecom	Water	Schools	Cultural	

- **Features and Attributes are based on the DHS Homeland Security Geospatial Guidelines**

Energy	Power Plant
	Electricity Distribution
	Fossil Fuel Supply
	Fuel Distribution
	Fuel Storage
	Fuel Processing

Emergency Services	Law Enforcement
	Prison / Correctional Facility
	EOC
	Emergency Shelter
	EMS
	Fire & SAR

Hazard Mitigation Collection Progress



Initial Collection Methodology

- 3 - 4 Field Teams
- Utilize Trimble Yuma Devices
- Have spatial accuracy of 2 to 4 inches
- Augmented with laser range finders
- Each Point photographed with the Yuma and/or GPS Cameras

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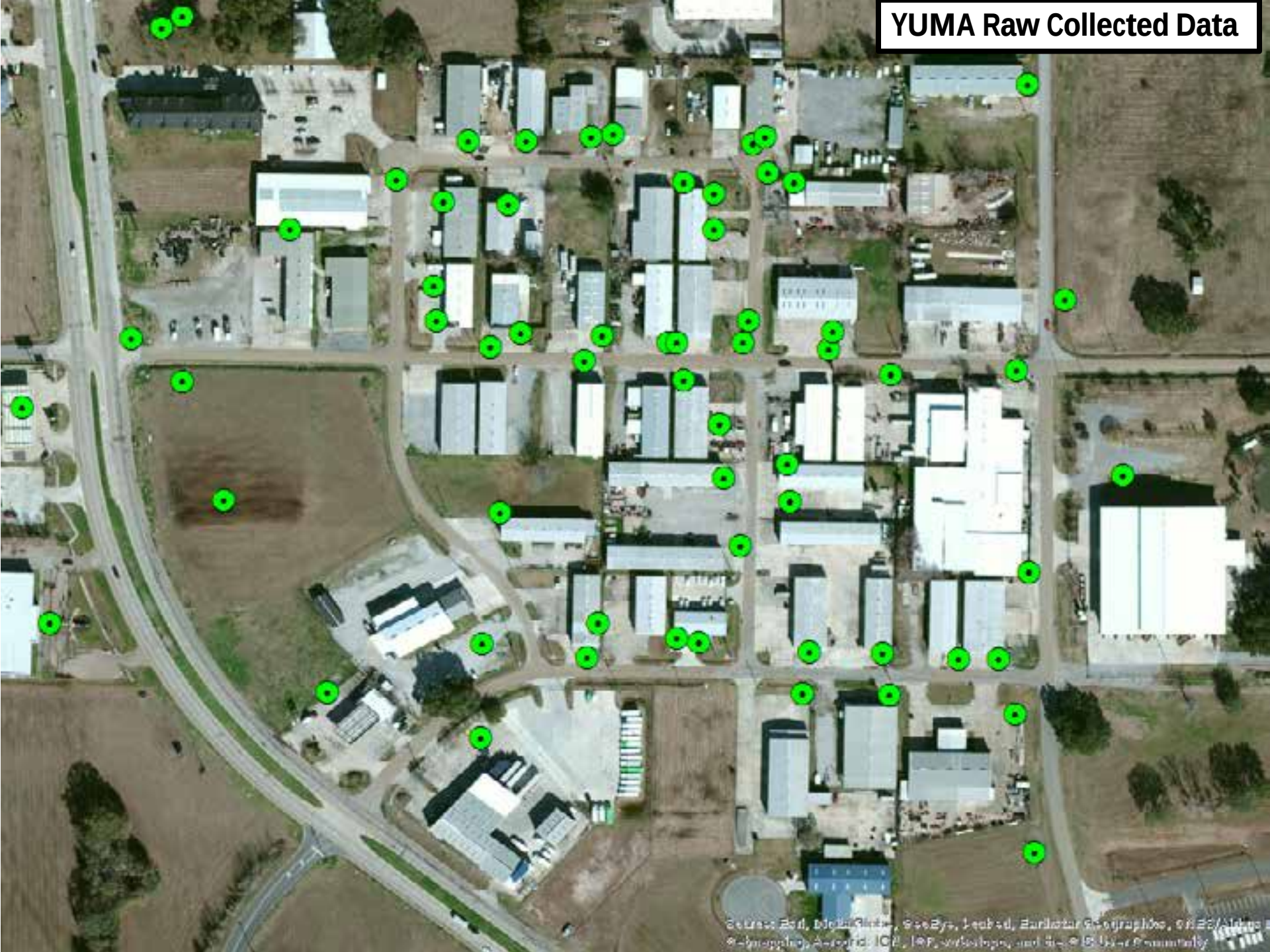
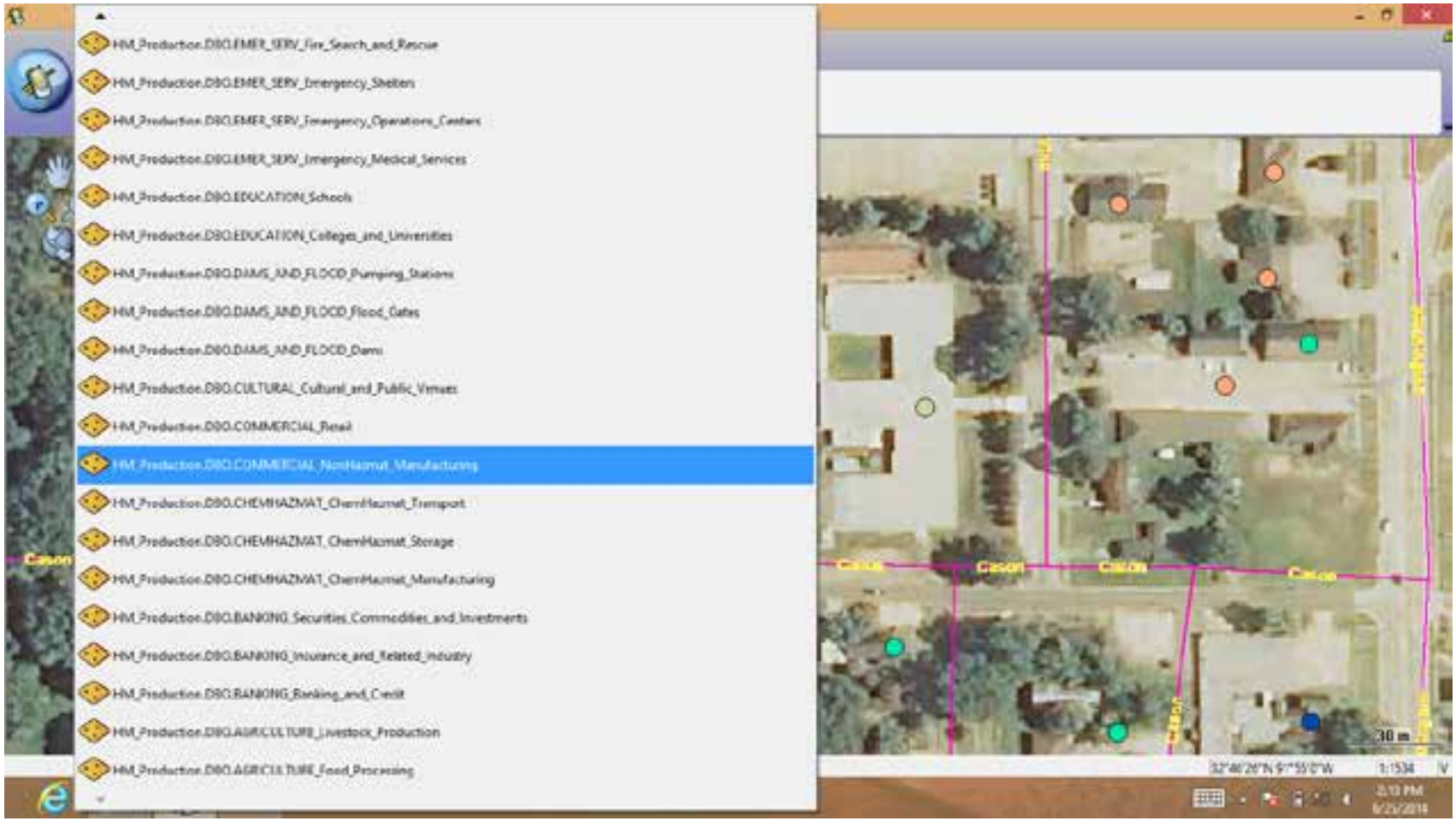

YUMA Raw Collected Data

New Collection Methodology



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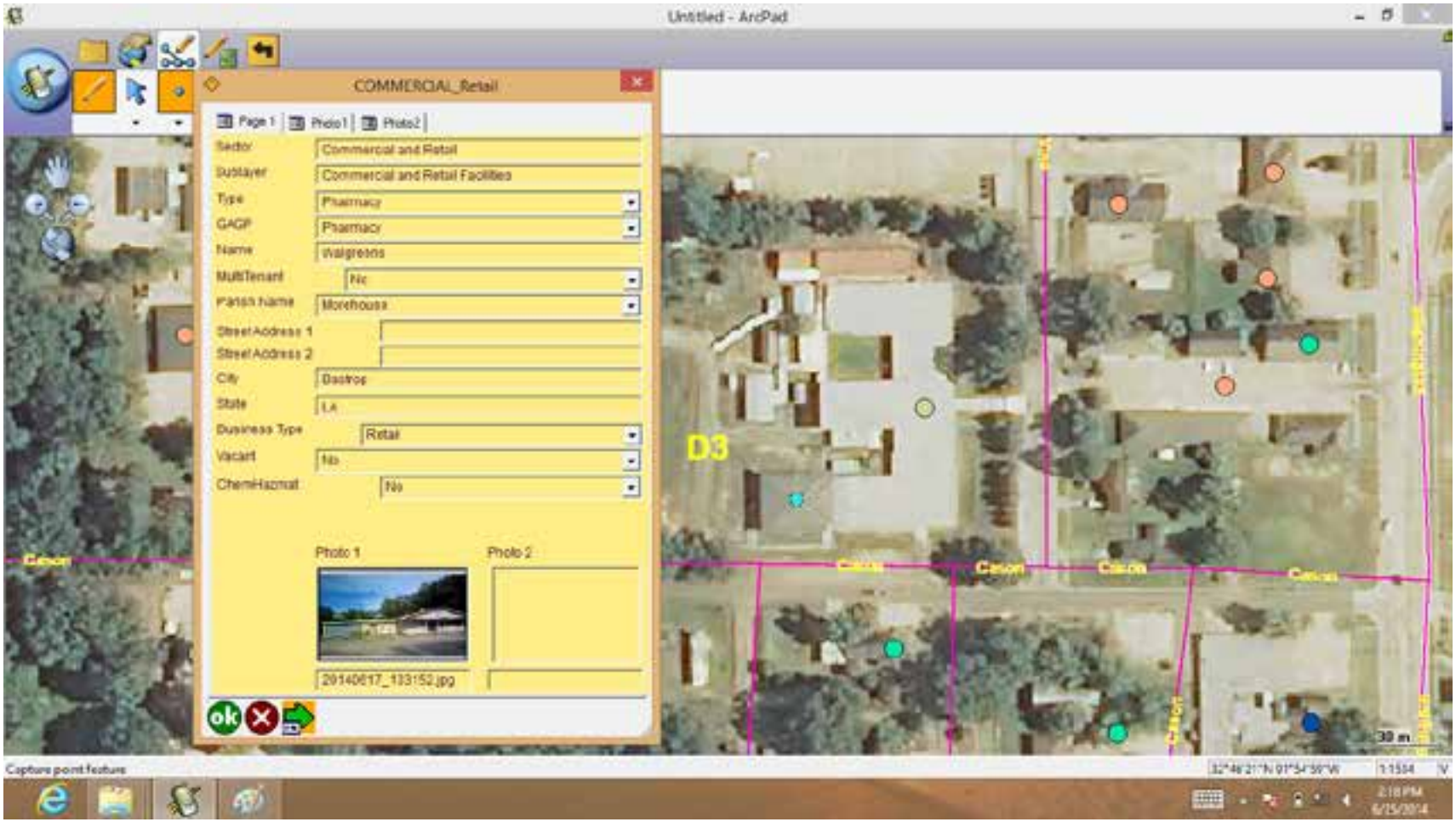
New Collection Methodology



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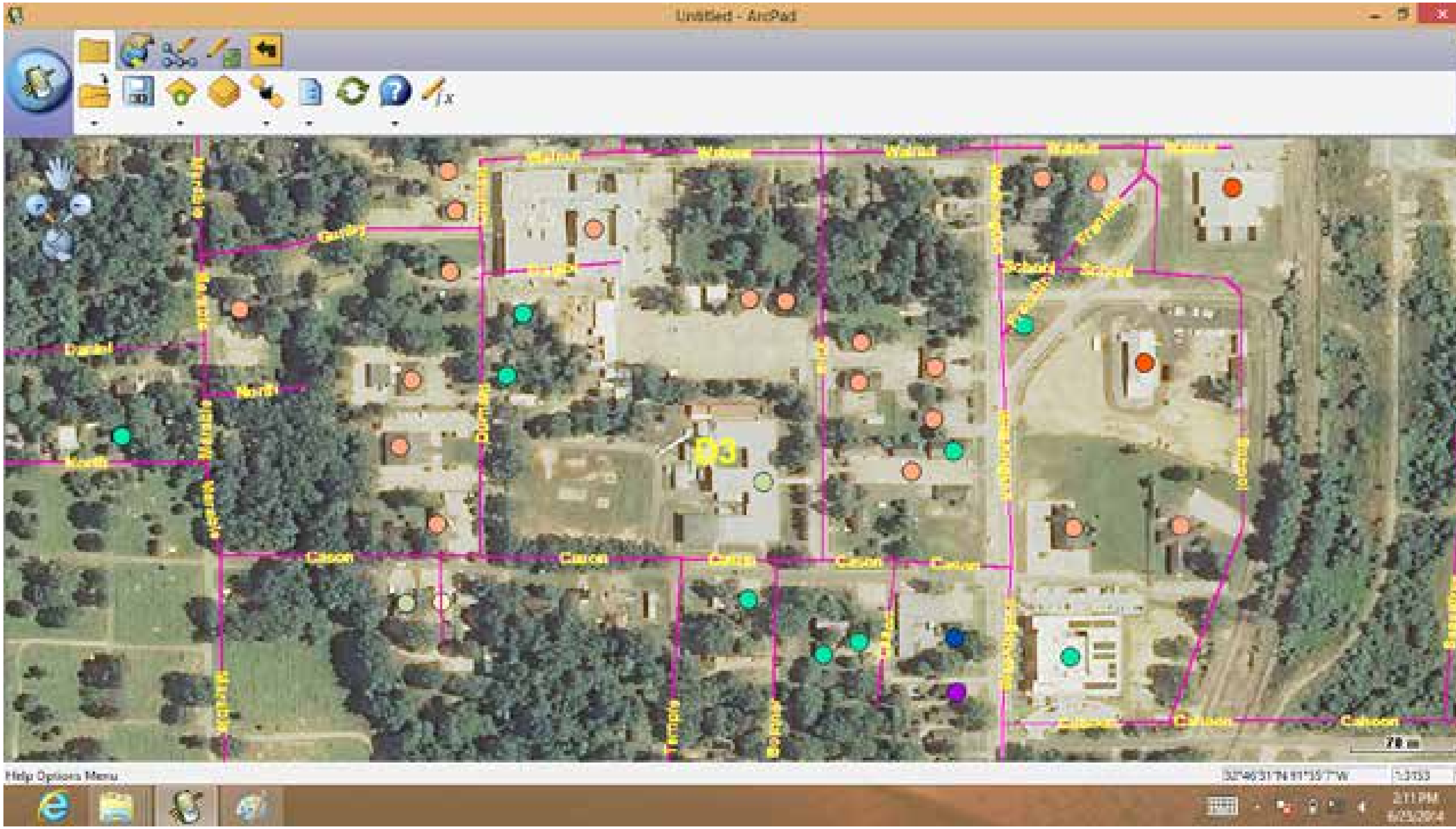
New Collection Methodology



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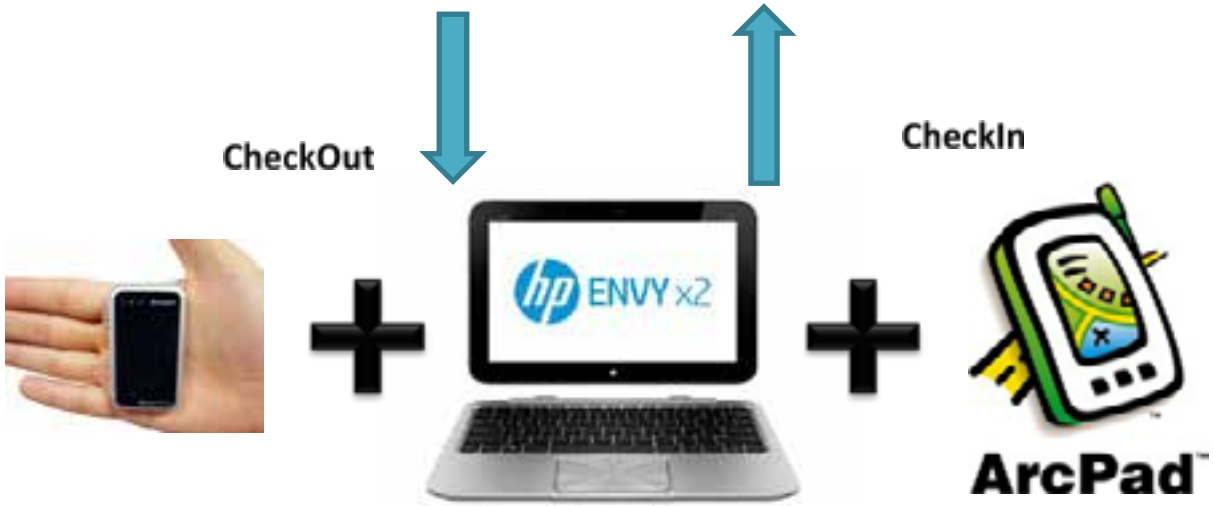
New Collection Methodology

- Enterprise GeoDatabase (SDE/ MS SQL)
- 52 Feature Classes (Sectors)
  - Domains for dropdown
- Laptop with ArcPad
  - Puck GPS
- Basemap
  - 6” imagery MrSID
  - 1m NAIP



ArcPad Data Collection

Design considerations

No Internet Rural Areas

- Offline capability

Touch Screen Capability for simplicity

- Larger symbology for fat fingers J
- Domains for quick data selection

Data Entry

- Detachable keyboard
- Touch screen keyboard
- Stylus not accurate enough, and ArcPad is not designed for touchscreens
- Custom forms for multiple images, colors for sunny conditions, and single screen

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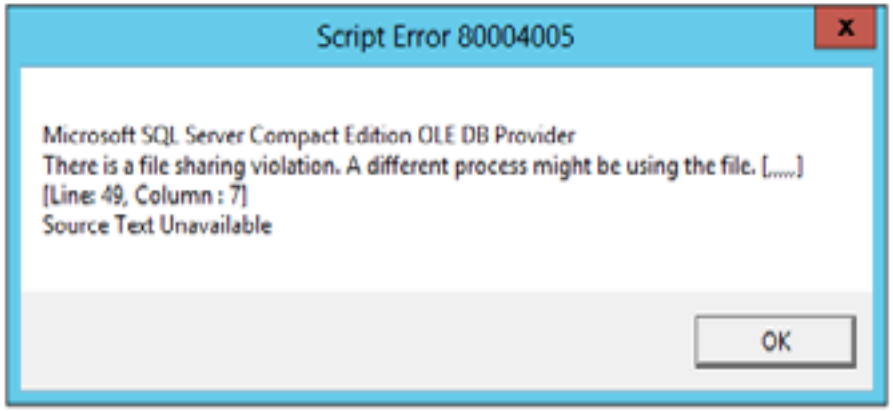
Issues/Improvements

- ArcPad does not support Attachments
  - Pictures have to be handled separately (ArcPad Check-in copy images to folder does not work)
  - Limits AGO integration, b/c AGO does not natively support attachments not stored in geodatabase (blob)

- ArcPad 10.2.2 does not support Mr. Sid MG4

Issues / Improvements

- GetData for ArcPad
  - Works, but gives error when opening in ArcPad



- Error can be ignored, but prevents from checking in through cloud from field (AGO or ArcGIS Server)

Pros/Cons of using Tablets over Trimble Yuma's for field data collection

Pros

- Greater GPS stability and no need to wait for signal triangulation for each point
- Spatial correction takes place on the spot because of the availability of imagery on tablet, which insures accuracy
- Ability to see which points you have taken which reduces duplicate points
- Data management is much more user friendly (editing of information associated with each point)
- Physical keyboard makes inputting data quick and less prone to errors than using touch screen and stylus
- Much lighter and easier to handle
- Fewer accessories needed to collect points (Tablet and GPS receiver vs Yuma, GPS Receiver, Camera, and laser range finder)
- System stability is less prone to crashes
- Processing power decreases time needed to run software
- Much bigger screen

Cons

- Does not give a total number of points taken each day
- Battery Life is half that of Yuma
- Much more fragile when exposed to outside elements
- Glare on screen can get bad

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