Spatial Index Scan Project

USDA - Farm Service Agency
Aerial Photography Field Office

July 21st, 2015
Nathan Pugh - Cartographer/GIS Specialist - APFO
Background

- The USDA - FSA - Aerial Photography Field Office currently administers NAIP.
- The USDA - FSA - Aerial Photography Field Office has a warehouse with over 70,000 rolls of aerial film which is roughly 11 million exposures.
- Each past project (could be several rolls of film) has a spatial Index.
What is a Spatial Index?
Photo Index
Line Index
Other Products

Footprint Shapefiles!
## Attribute Table

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Metadata

Identification Information:
- Citation:
  - Originator: USDA-FSA-APFO Aerial Photography Field Office
  - Title: o_nhapi_49001_12_01_1982
  - Publication Date: 20131121
- Geospatial Data Presentation Form: vector digital data
- Publication Information:
  - Publication Place: Salt Lake City, Utah
  - Publisher: USDA-FSA-APFO Aerial Photography Field Office

Description:
- Abstract: This data set contains polygons delineating the approximate boundaries of exposures represented by roll and exposure numbers, and exposure dates. Indexes are formatted to the UTM coordinate system using 1984
- Purpose: To preserve in a geospatially ready format unique and irreplaceable data. Most historical georeferenced images

Time Period Information:
- Time_Period_Information:
  - Single_Date/Time: Calendar Date: 1984
- Currentness Reference: ESRI shapefile creation date.

Status:
- Progress: Complete
- Maintenance and Update Frequency: None Planned

Spatial Domain:
- Bounding Coordinates:
  - West_Bounding_Coordinate: -112.766444
  - East_Bounding_Coordinate: -112.360138
  - North_Bounding_Coordinate: 38.645573
  - South_Bounding_Coordinate: 38.064914

Keywords:
- Theme:
  - Theme_Keyword_Thesaurus: None
  - Theme_Keyword: farming
  - Theme_Keyword: Film Vault
  - Theme_Keyword: Historical
  - Theme_Keyword: United States Department of Agriculture (USDA)
  - Theme_Keyword: Digital Georeferenced Image
- Place:
  - Place_Keyword_Thesaurus: None
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  - Place_Keyword: FSA
  - Place_Keyword: "Beaver"
  - Place_Keyword: Aerial Photography Field office
  - Place_Keyword: APFO
  - Place_Keyword: USDA
  - Place_Keyword: United State Department of Agriculture (USDA)
What are we creating?

Georeferenced Index Scans & Footprint Shapefiles + Attributes & Metadata
How do we do that?

- Start by georeferencing the index scans
  - 4 point georeferencing - good combination of time savings and accuracy with regards to product
- Create footprint shapefiles
  - Custom models help create polygons by flight line
  - Some polygon by polygon editing is needed
- Populate attribute table with information from index
- Create FGDC Metadata
  - Populate handfull of entries based on template
Fortunately or Unfortunately....

Some of this work was contracted out but it was not completed to specification. We have to inspect each georeferenced index scan, shapefile and metadata file delivered and fix errors as we find them.
Output

A correctly georeferenced Index Scan in Geotiff format with a matching Shapefile populated with the correct attributes for each exposure and a corresponding FGDC metadata file.
What does that look like?
Next?
we hope to place the footprint shapefiles into an ArcGIS Online Map(s) so the public can search for all the historical imagery available within APFO holdings

Date - TBD....
Questions?