HISTORIC AERIAL PHOTOS: WHO HAS WHAT?

Jeff Essic
NC ArcGIS Users Group Annual Conference
September 29, 2016
VALUE OF HISTORIC AERIAL PHOTOS

- Deed / Property disputes
- Family heritage / genealogical research
- Land use and environmental changes
  - Former industrial sites
  - Landscape prior to development, lake impoundments, forestry practices, other changes
  - Vegetation
- Historic research and interest
AERIAL PHOTO SUMMARY RECORD SYSTEM (APSRS)

- CD product from mid 1990’s
- Query system for getting a list of all aerial projects that covered a selected topo quadrangle
- 16bit – will not run on modern 64bit computers
- Would be great for USGS to update or publish the data!
- Not to be confused with ASPRS
<table>
<thead>
<tr>
<th>AGENCY</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>FIPS Code</th>
<th>DATE</th>
<th>PROJECT</th>
<th>SCALE</th>
<th>FOCAL LENGTH</th>
<th>FILM TYPE</th>
<th>SENSORCLASS</th>
<th>QC</th>
<th>REMARKS</th>
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<td>Air Photographics, Inc.</td>
<td>354500N</td>
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<td>U.S. Army</td>
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MOST COMPREHENSIVE EARLY COLLECTIONS

**USDA**
- Mid 1930’s – 1954: National Archives, College Park MD
- 1955 – Present: Farm Service Agency, Aerial Photography Field Office
- Other more convenient local sources

**USGS**
- Many different collections, including Army Map Service, U.S. Air Force, Natl. Park Service
- Online via EarthExplorer
USDA: NATIONAL ARCHIVES

- Mid 1930’s – 1954 USDA imagery
- Found 1949 Brunswick Co. index online via https://catalog.archives.gov
- A – C state indexes appear mostly cataloged. Guessing they are working their way alphabetically.
- Scans and prints are ordered through vendors
USDA: FARM SERVICE AGENCY; AERIAL PHOTOGRAPHY FIELD OFFICE

- Film archive of all USDA imagery, 1955 - ~2000
- Digital archive of later products (Urban areas, NAIP)
  - Links to
    - Product Descriptions
    - Status Maps
    - Ordering Information
    - One 10”x10” image scan = $13.
    - “Quantity discounts upon eligibility”
- [ArcGIS Online Map: Historic Availability of Imagery](http://www.fsa.usda.gov/programs-and-services/aerial-photography/index)
USDA donated photo prints, boxed by County

1st Series: 1938 – 1942, most counties, shown below

2nd Series: 1951-1960, most counties, may be easier to order from NC Geologic Survey though

3rd Series: mid 1960’s – mid 1970’s, smattering of counties

4th Series: mid 1970’s – 80’s, small amount

No Indexes! Must visit on site to pick what you need. Roughly 200 total boxes

Cost $4 / scan

1938-1942 images at state archives

Contact:
Kim Andersen
kim.andersen@ncdcr.gov
919-807-7311
STATE ARCHIVES OF NC

▪ Small TVA collection
▪ Dismal Swamp Canal – unknown year, maybe 1950’s
▪ Chatham Co. USACE working files for Jordan Lake area
▪ Coast of NC continuous N/S orientation, 1940’s along beach, individual frames glued together

Contact:
Kim Andersen
kim.andersen@ncdcr.gov
919-807-7311
NC GEOLOGIC SURVEY

- USDA photo prints
- Mostly 1950’s – early 1960’s
- Mostly Indexed
- Can be ordered over the phone/email by specifying a physical address or lat/long and a scan PDF will be emailed.
- No charge, but don’t overwhelm. Prefer only 3-4 scans at a time.

- Also have Buncombe, Henderson, Macon, and Watauga Counties from the 50’s georeferenced for the Land Slide project.

Contact:
Mike Medina
michael.medina@ncdenr.gov
919-707-9203
<table>
<thead>
<tr>
<th>PHOTO INDEX NO.</th>
<th>COUNTY</th>
<th>YEAR</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Alamance</td>
<td>1960</td>
</tr>
<tr>
<td>2</td>
<td>Alexander</td>
<td>1951</td>
</tr>
<tr>
<td>3</td>
<td>Alleghany</td>
<td>1953</td>
</tr>
<tr>
<td>4</td>
<td>Anson</td>
<td>1956</td>
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<tr>
<td>5</td>
<td>Ashe</td>
<td>1954</td>
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<tr>
<td>6</td>
<td>Avery</td>
<td>1952</td>
</tr>
<tr>
<td>7</td>
<td>Beaufort</td>
<td>1958</td>
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<tr>
<td>8</td>
<td>Bertie</td>
<td>1954</td>
</tr>
<tr>
<td>9</td>
<td>Bladen</td>
<td>1961</td>
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<tr>
<td>10</td>
<td>Brunswick</td>
<td>1956</td>
</tr>
<tr>
<td>11</td>
<td>Buncombe</td>
<td>1951</td>
</tr>
<tr>
<td>12</td>
<td>Burke</td>
<td>1960</td>
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<tr>
<td>13</td>
<td>Cabarrus</td>
<td>1956</td>
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**NO INDEX** Caldwell 1954

<table>
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<tr>
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<td>Carteret</td>
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</tr>
<tr>
<td>20</td>
<td>Cherokee</td>
<td>1953</td>
</tr>
<tr>
<td>21</td>
<td>Chowan</td>
<td>1955</td>
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<td>22</td>
<td>Clay</td>
<td>1953</td>
</tr>
<tr>
<td>23</td>
<td>Cleveland</td>
<td>1956</td>
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<td>24</td>
<td>Columbus</td>
<td>1961</td>
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<tr>
<td>25</td>
<td>Craven</td>
<td>1958</td>
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<tr>
<td>26</td>
<td>Cumberland</td>
<td>1966</td>
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<td>27</td>
<td>Currituck</td>
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**NO INDEX** Dare No Pics

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<td>Davie</td>
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<td>31</td>
<td>Duplin</td>
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<td>32</td>
<td>Durham</td>
<td>1959</td>
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<td>33</td>
<td>Edgecombe</td>
<td>1954</td>
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<tr>
<td>34</td>
<td>Forsyth</td>
<td>1961</td>
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</tbody>
</table>

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**USDA photo prints**
FSA IMAGES VIA UNC

- [http://www2.lib.unc.edu/reference/gis/USDA/](http://www2.lib.unc.edu/reference/gis/USDA/)
- Durham Co.: 1940, 1955, 1972
- Orange Co.: 1938, 1955, 1975
- Person Co.: 1955, 1975
- Wake Co.: 1938, 1959, 1971
### USGS Imagery

- Search and download via EarthExplorer
- Register for an account to download

### Aerial Photography Single Frame Records Collection

<table>
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<tr>
<th>Organization</th>
<th>Frames</th>
<th>Scale Range</th>
<th>Date Range</th>
<th>Film Type</th>
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<tr>
<td>USGS</td>
<td>2,031,349</td>
<td>1:3,000 - 1:125,000</td>
<td>4/1/937 - 9/2008</td>
<td>B&amp;W, EIR, Color, &amp; CIR</td>
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<tr>
<td>U.S. Bureau of Reclamation</td>
<td>25,831</td>
<td>1:12,000 - 1:20,000</td>
<td>3/1/939 - 9/1/982</td>
<td>B&amp;W</td>
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<tr>
<td>NASA Ames Research Center*</td>
<td>187,875</td>
<td>1:2,000 - 1:199,000</td>
<td>1/1/972 - 7/1/999</td>
<td>B&amp;W, EIR, Color, &amp; CIR</td>
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<tr>
<td>NASA Johnson Space Center*</td>
<td>137,298</td>
<td>1:1,400 - 1:139,000</td>
<td>7/1959 - 6/1952</td>
<td>B&amp;W, EIR, Color, &amp; CIR</td>
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<td>Army Map Service</td>
<td>227,521</td>
<td>1:10,000 - 1:78,440</td>
<td>7/1/941 - 7/1/970</td>
<td>B&amp;W</td>
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<tr>
<td>NASA Wallops Island</td>
<td>1,050</td>
<td>1:1,000 - 1:121,000</td>
<td>12/1971 - 12/1977</td>
<td>B&amp;W, Color, &amp; CIR</td>
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<tr>
<td>NASA Stennis Space Center</td>
<td>303</td>
<td>1:11,658 - 1:113,250</td>
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<td>FEMA</td>
<td>484</td>
<td>1:41,657 - 1:65,600</td>
<td>9/1939</td>
<td>B&amp;W, Color</td>
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<td>Hurricane Mitch (Central America)</td>
<td>8,886</td>
<td>1:2,100 - 1:134,224</td>
<td>12/1946 - 1/2002</td>
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<td>1:40,000 - 1:40,000</td>
<td>4/2001 - 1/2010</td>
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3. Additional Criteria (Optional)
If you have more than one data set selected, use the dropdown to select the additional criteria for each data set.

Data Sets:
- Aerial Photo Single Frames

Aerial Photo Single Frames

Entity ID
- [List of options]
- [Input field]

Agency
- All
- Army Map Service
- EROS Acquired

Vendor ID
- [Input field]

Browse Availability
- All

Recording Technique
- All
- High Oblique
- Low Oblique
- Vertical Cartographic
- Vertical Reconnaissance

Cloud Cover
- All

Show Result Controls
- [Options]

4. Search Results
If you selected more than one data set to search, use the dropdown to see the search results for each specific data set.

Data Set
- Aerial Photo Single Frames

Show Result Controls
- Click here to export your results

Displaying 1 - 10 of 73

1. [Image]
- Entity ID: APA007102304015
- Coordinates: 35.636913, -78.215858
- Acquisition Date: 21-JAN-50
- Scale: 58000

2. [Image]
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- Coordinates: 35.636913, -78.023777
- Acquisition Date: 21-JAN-50
- Scale: 58000

3. [Image]
- Entity ID: APA007102300371
- Coordinates: 35.640865, -78.763566
- Acquisition Date: 21-JAN-50
- Scale: 58000

4. [Image]
- Entity ID: APA007102300372
- Coordinates: 35.589111, -78.806731
- Acquisition Date: 21-JAN-50
- Scale: 58000

View Item Basket
Submit Standing Request
RDU Airport, Nov. 18, 1950

Medium Resolution

Required Vertical and Horizontal Flip to get correct orientation.

Next slide: High Resolution
EARTH EXPLORER ISN'T PERFECT
nc dot

- Highway project based
  - Info: https://connect.ncdot.gov/resources/Photogrammetry/Pages/default.aspx
  - Indexes: https://www.arcgis.com/home/item.html?id=91e02b76dce4470ebd7ec240ad202a04
1993 (B&W), 1998 (CIR) DOQQS

- My Preference: Google Earth (next slide)
- Various JPEG and SID options
- http://www.lib.ncsu.edu/gis/doqq.html - too much info and many dead links. Best to just email me
GOOGLE EARTH

- Time slider

Carter-Finley Stadium
NC Fairgrounds
Feb. 1993
Many county/USGS contracted projects
Floodplain Mapping Program
Wide variation in coverage, scales, formats, time of capture, age, etc.
LOCAL WEBMAPS

- Wake Co. IMAPS
## NCSU HOLDINGS

**http://www.lib.ncsu.edu/gis/counties.html**

<table>
<thead>
<tr>
<th>County</th>
<th>Libraries' Archive</th>
<th>GIS Webpage</th>
<th>Web Map</th>
<th>Data Download</th>
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</table>

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### NCSU Libraries Raster Data Archive

Primarily includes orthophotos (digital aerial photography)

**Local/Regional Collections:**

NCSU Libraries has orthophotos for Wilson County for the following year(s) and formats:

- 1995 - BIL
- 2002 - BIL
- 2006 - SID

Contact [Data Services](http://www.lib.ncsu.edu/gis/counties.html) for information and access to the data files.
http://go.ncsu.edu/nc_aerials_registry

- Imagery Date
- Location
- Indexed
- Format
- Scale or Resolution
- Public Access
- Cost
- Contact
- Additional Comments

Registry of NC Aerial Photo Collections

Please enter information about various historic aerial photo collections that you may have stored or archived in your organization. This information is being sought by NCSU Libraries for inclusion in a guide for finding historic aerial photography. Contact Jeff Essic, jfessic@ncsu.edu, with any questions. Thank you very much!

Imagery Date
Date by year or day, as best as you can tell.

Location
County name or other location description depicted by the photos.

Index
Is there a collection index? If so, is it a photo print, handmade, digital (such as a shapefile) or some other index?

Your answer
CONTACT

Jeff Essic
NCSU Libraries

jfessic@ncsu.edu
(919) 515-5698