

Discover DH: Mapping with Humanities Data

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Who am I?

- Graduate Student in Information Science
- BA in Geography with a concentration in GIS
- Experienced in ArcGIS, Tableau, and QGIS
- Research Interests: Government Information, Disaster Information, Food Deserts, Women's Health, Reproductive Health

TODAY

- **What is GIS?**
- **What is QGIS?**
- **Data Formats**
- **Hands on Exercise**
- **Expanding Your GeoToolbox**
 - **Cartography**
 - **Web Mapping**

- Geographic Information System
- Use this technology to analyze and visualize geographically referenced information over space and even time
- Enables people to have a better understanding of patterns, trends, and relationships
- Applied in agriculture, anthropology, art, economics, biology, criminology, urban planning, emergency management, geoscience
- GIS is only limited by those who use it

GeoToolbox

GIS Dictionary - <http://support.esri.com/other-resources/gis-dictionary/browse/>

GIS Bibliography - <http://gis.library.esri.com>

Examples

- [History As Big Data](#)
- [Star Wars Filming Locations](#)
- [Places Where Prohibition Never Ended](#)
- DH Examples
 - [ORBIS: The Stanford Geospatial Network Model of the Roman World](#)
 - [Caribbean Cholera Map](#)
 - [Pox Americana](#)
 - [Prohibition Raids in New Orleans](#)

- Formerly Quantum GIS
- Open Source → FREE FREE FREE
- Alternative to ArcGIS, most popular yet expensive
- Continuously being developed
- Python-based → Users can create plugins

Data Formats

Data Types

Attribute
Data

Tabular information

CSV

| | A | B | C | D | E | F |
|----|--------------------------------------|---|----------------|---------|---------|----------------|
| 1 | Name | Address | City | State | ZipCode | FoodSource |
| 2 | Macon State Farmers Market | 2055 Eisenhower Parkway | Macon | Georgia | 31206 | Farmers Market |
| 3 | Downtown Gainesville Farmers Market | Main and Spring Streets on the Historic Downtown Square | Gainesville | Georgia | 30503 | Farmers Market |
| 4 | Spout Springs Library Farmers Market | 6488 Spout Springs Road | Flowery Branch | Georgia | 30542 | Farmers Market |
| 5 | Hall County Farmers Market | Jesse Jewell Pkwy SE and East Crescent Drive | Gainesville | Georgia | 30503 | Farmers Market |
| 6 | Washington Farmers Market | 111 North Allison St | Washington | Georgia | | Farmers Market |
| 7 | Elijay Farmers Market | River Street | Elijay | Georgia | 30540 | Farmers Market |
| 8 | Kauffman's Farmers Market | 1305 Mennonite Church Road | Montezuma | Georgia | 31063 | Farmers Market |
| 9 | Apharatta Farmers Market | City parking lot behind Smokejack Grill | Apharatta | Georgia | 30004 | Farmers Market |
| 10 | Athens Locally Grown | 310 Woody Road | Royston | Georgia | 30662 | Farmers Market |
| 11 | Acworth Farmers Market | Main and Lemon Streets | Acworth | Georgia | | Farmers Market |
| 12 | Albany Farmers Market | Corner of W. Broad Ave. & N. Jackson St. | Albany | Georgia | 31702 | Farmers Market |
| 13 | Thomasville State Farmers Market | 502 Smith Ave. | Thomasville | Georgia | 31792 | Farmers Market |
| 14 | Cordele State Farmers Market | 1901 U.S. Highway 41-North | Cordele | Georgia | 31010 | Farmers Market |
| 15 | Atlanta State Farmers Market | 16 Forest Parkway | Forest Park | Georgia | 30927 | Farmers Market |
| 16 | Saturday Farmers Market on Broad | Macartan St., beside Health Central | Augusta | Georgia | 30901 | Farmers Market |
| 17 | Marietta Square Farmers Market | Church Street at Hansell Street | Marietta | Georgia | 30060 | Farmers Market |
| 18 | Augusta State Farmers Market | 1150 5th Street | Augusta | Georgia | 30901 | Farmers Market |
| 19 | Cairo State Farmers Market | 1110 North Broad Street | Cairo | Georgia | 31728 | Farmers Market |
| 20 | Columbus State Farmers Market | 318 10th Ave. | Columbus | Georgia | 31901 | Farmers Market |
| 21 | Battlefield Farmers Market | 10052 Hwy 27 N | Rock Spring | Georgia | 30739 | Farmers Market |
| 22 | Morningside Farmers Market | 1393 North Highland Ave | Atlanta | Georgia | 30306 | Farmers Market |
| 23 | Peachtree Road Farmers Market | 2744 Peachtree Rd | Atlanta | Georgia | 30305 | Farmers Market |
| 24 | Emory Farmers Market | Cox Hall Bridge | Atlanta | Georgia | 30322 | Farmers Market |
| 25 | Valdosta Farmers Market | South Patterson St. | Valdosta | Georgia | 31601 | Farmers Market |

Data Formats

Data Types

Attribute Data

Tabular information

CSV

Raster Data

Continuous grid of cells

GeoTiff

USGS DEM

SDTS

Grass

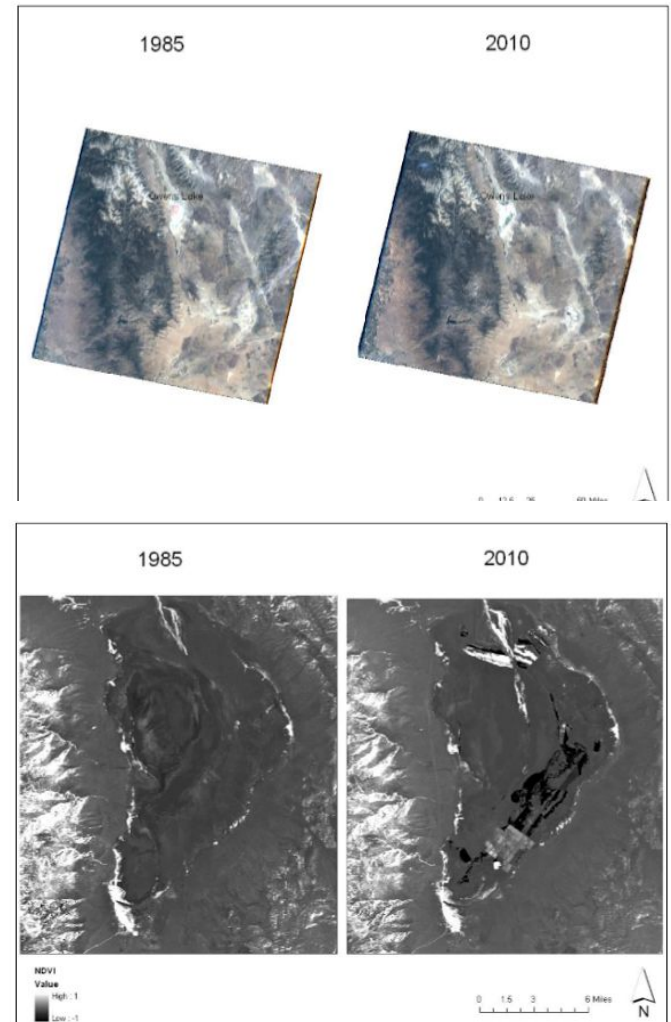


Figure 3: This shows spectral enhancement using NDVI index in each image.

Data Formats

Data Types

Attribute Data

Tabular information

CSV

Vector Data

Points, lines, & polygons

Shapefile

Keyhole Markup Language(KML)

Raster Data

Continuous grid of cells

GeoTiff

USGS DEM

SDTS

Grass

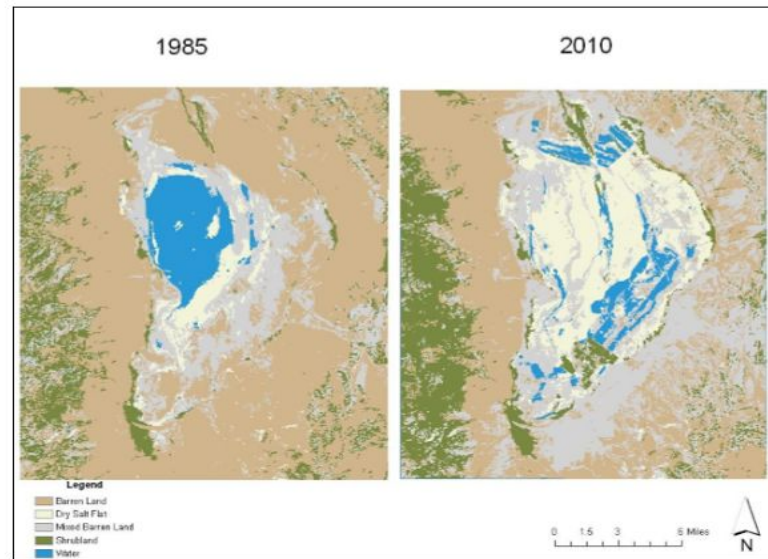


Figure 4: This shows the classifications of the Landsat Tm images. Five categories were chosen.

Spatial Datasets

United States of America

- [Atlas of Historical County Boundaries](#)
 - An atlas of all United States counties from the early 1600s to 2000. The atlas compiles and maps all changes in colonial or territorial and state boundaries.
- [Data.gov - Geospatial data](#)
 - Access several geospatial datasets produced by various federal agencies and associated organizations including state governments, county governments, academic institutions, non-profits, and commercial.
- [Census TIGER Products](#)
 - Census Bureau provides access to shapefiles containing cartographic boundaries, roads, railroads, and water features. You can use the geographic entity codes (GEOIDs) to link to the Census Bureau's demographic data (American FactFinder).

International

- [Free GIS Data](#)
 - An aggregated list of various spatial databases

Gazetteers

A gazetteer is a geographical dictionary or directory of place names that can be used in conjunction with a map or atlas

- [Pleiades](#)
 - “Pleiades is a gazetteer of ancient places. At present, it has extensive coverage for the Greek and Roman world, and is expanding into Ancient Near Eastern, Byzantine, Celtic, Early Islamic, and Early Medieval geography.”
- [GeoNames](#)
 - “The GeoNames geographical database covers all countries and contains over eleven million placenames”
- [Falling Rain Global Gazetteer Version 2.2](#)
 - Global gazetteer for cities and towns. No search capability, only browsing
- [Getty Thesaurus of Geographic Names® Online](#)
 - A worldwide gazetteer maintained by The Getty Museum. Particularly useful for finding alternative, vernacular and old toponyms.

Let's Get Started

- Open QGIS
- Open Google folder <http://bit.ly/dscvrdh9>
- Add Data
- Projections
 - Geographic Coordinate Systems are defined by a 3-D surface and measured in latitude and longitude
 - Projected coordinate systems are defined by a flat 2-D surface and can be measured in units of meters and feet.
 - Learn more here: <http://egsc.usgs.gov/isb/pubs/MapProjections/projections.html>
 - Use this for QGIS: <http://spatialreference.org/>
 - World Geodetic Survey 1984 (WGS84)
 - North American Datum 1983 (NAD83)
 - Universal Transverse Mercator (UTM)
 - Grid Zones - <http://www.dmap.co.uk/utmworld.htm>
- Symbolize Data
- Apply map elements
- Try a plugin if time permits

QGIS Interface

Project Management Tools

Main Menu

Map Navigation Tools

Editing Tools

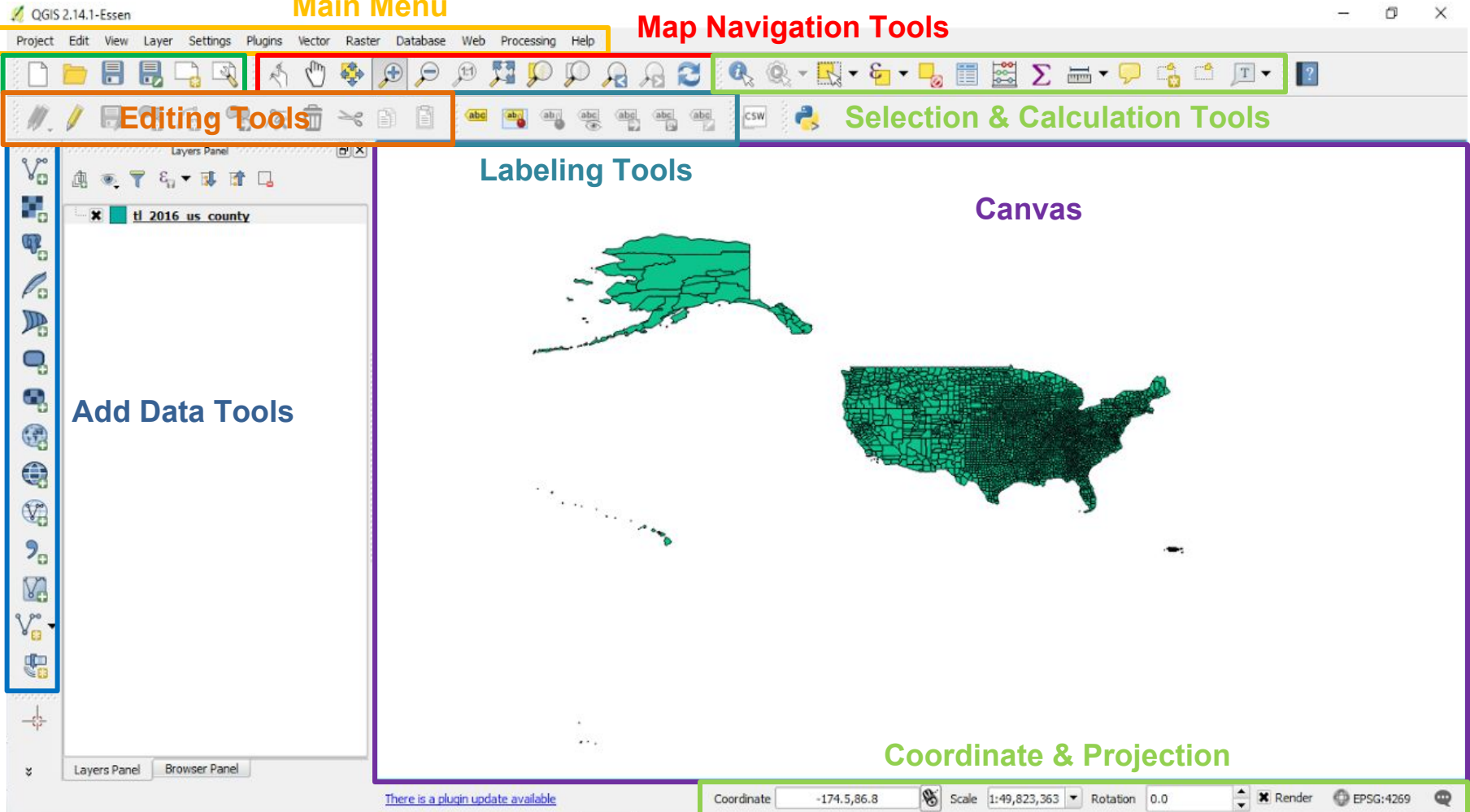
Selection & Calculation Tools

Labeling Tools

Canvas

Add Data Tools

Coordinate & Projection



QGIS Plugins

- Georeferencer GDAL
- OpenLayers – Variety of base maps
- Mmqgis – Enables you to do various geoprocesses including geocoding, buffering, & animations
- Qgis2web – Create quick web map
- Qgis2threejs – 3D visualization
- QGIS Resources Sharing – Enables you to download collections shared by other users
- QGIS TimeManager - Enables you to animate spatio-temporal data

Cartography

Map Elements

- Map
- Legend
- Title
- North Arrow
- Scale
- Citation/Source

Considerations

1. Layout
2. Symbolization
3. Labels
4. Peer Review

GeoToolbox

Color Brewer - <http://colorbrewer2.org/>

Map Icons - <https://mapicons.mapsmarker.com/>

Maki - <https://www.mapbox.com/maki-icons/>

Batch Geocoding -<http://www.findlatitudeandlongitude.com/batch-geocode/#.WARauuArLIV>

Inkscape – Open source alternative to Adobe Illustrator

GIMP – Open source alternative to Adobe Photoshop

QGIS Toolbox

- QGIS Tutorials and Tips

<http://www.qgistutorials.com/>

- QGIS Uncovered by Steven Bernard

<https://www.youtube.com/playlist?list=PL7HotvILKHCS9nD1fFUjSOsZrsnctyV2R>

- Free and Open Source GIS Ramblings

<https://anitagraser.com/>

- Mapping, GIS, QGIS & MapBasic

<http://nyalldawson.net/>

- QGIS Planet

<http://plugins.qgis.org/planet/>

- Programming Historian – Mapping and GIS

<http://programminghistorian.org/lessons/>

Experiment!!

Web Mapping Toolbox

Make your map interactive on the web

- OpenLayers.org (JavaScript library)
- Leaflet (JavaScript library)
- GeoJson
- D3.js (JavaScript library)

That being said, learn some JavaScript.



Other Mapping Tools

Want to try something else, try these:

- DH: Historypin
- DH: Neatline
- DH: Omeka
- Tableau (Free Student Version)
- Google Maps
- Google Earth Pro
- ArcGIS Online
- Carto (Formerly CartoDB)
- GRASS GIS (more for raster)

Let's Talk DH!

DH events and discussion spaces @ FSU

- Percolator: A Digital Scholarship Support Group
 - Meets Wednesdays from 3-5 in the TaDS Commons.
- <http://digischolfsu.slack.com>
 - A discussion space for those interested in digital scholarship
- Invisible Work in the Digital Humanities
 - November 17-18 - Bradley Reading Room (Strozier)
 - Get more info and register at <http://iwdh.cci.fsu.edu>



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