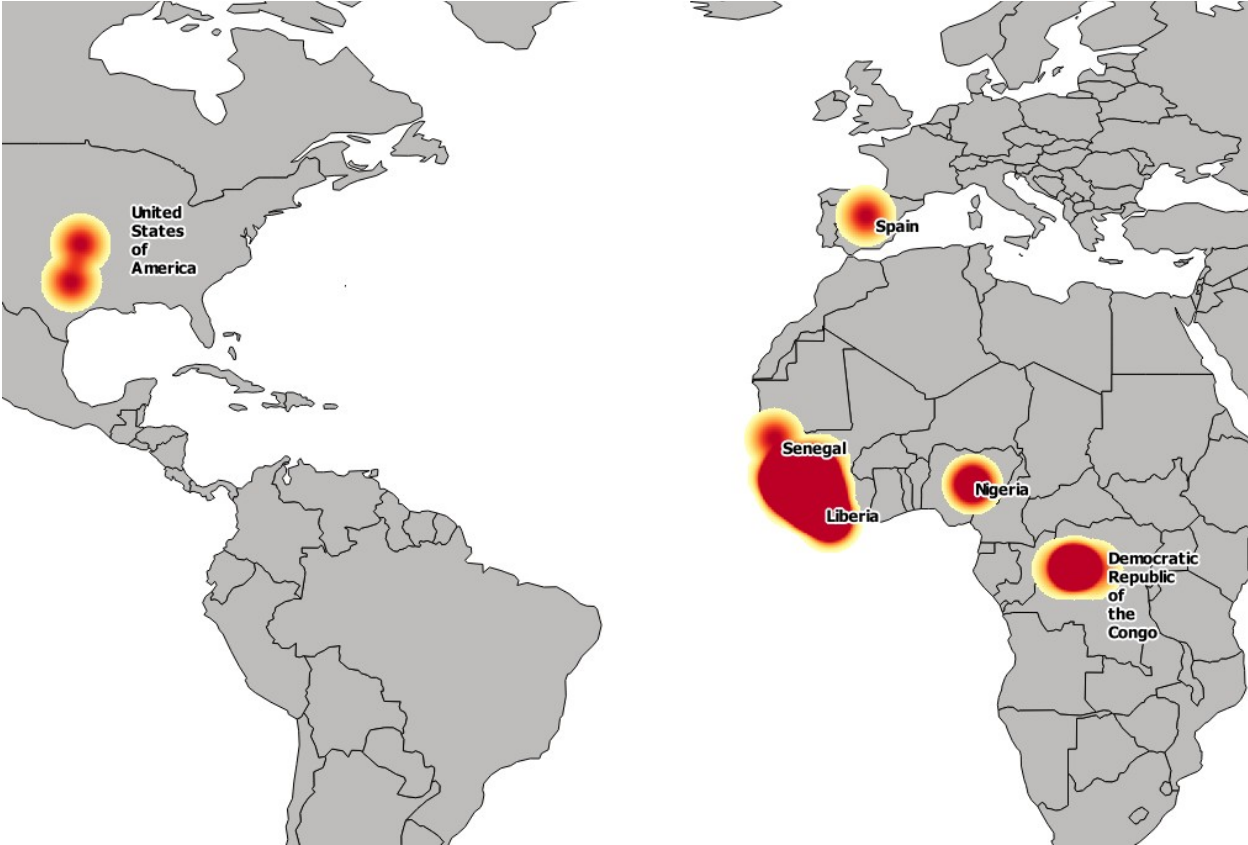
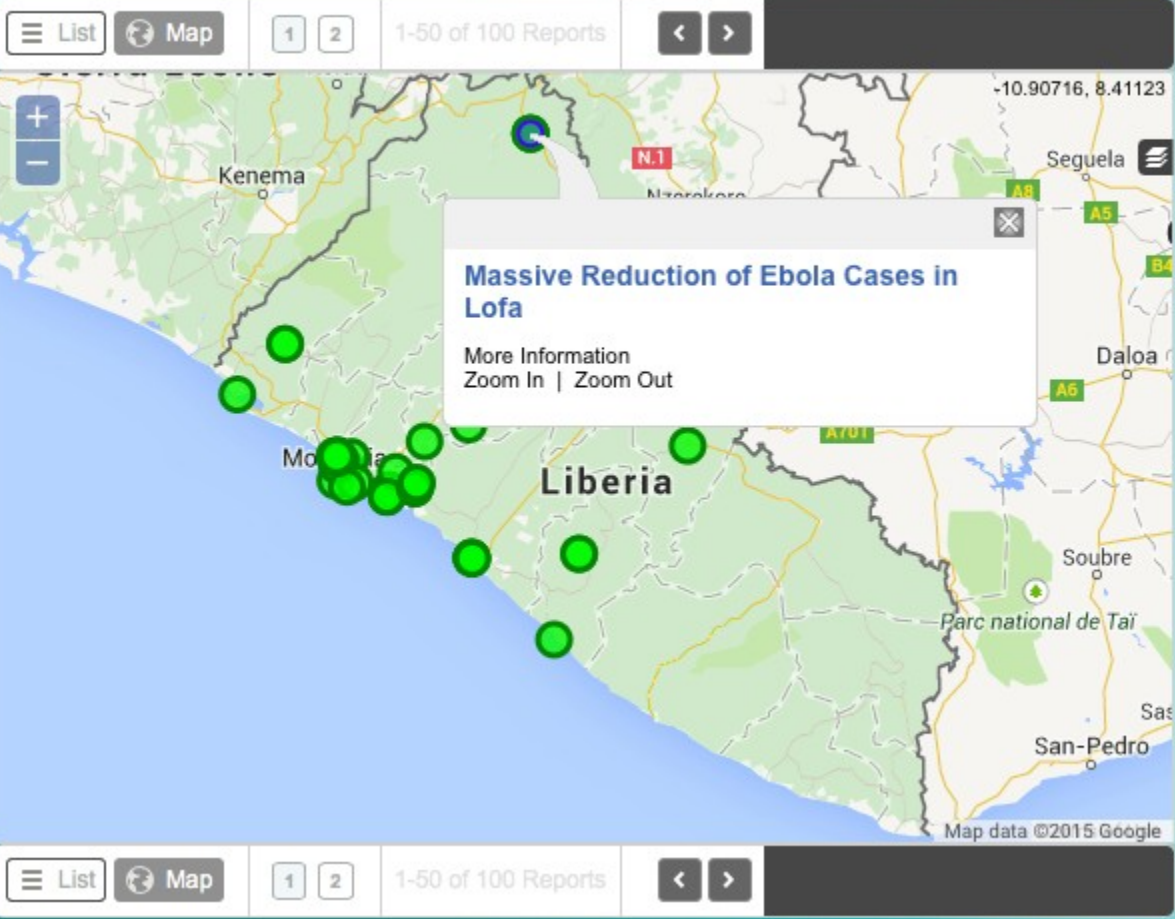
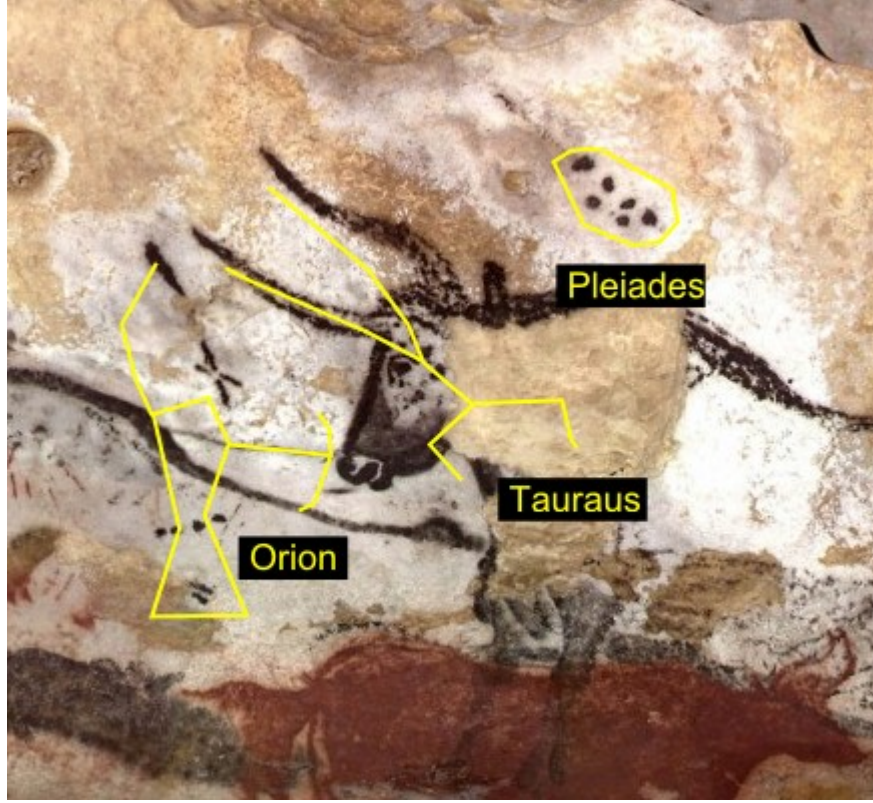


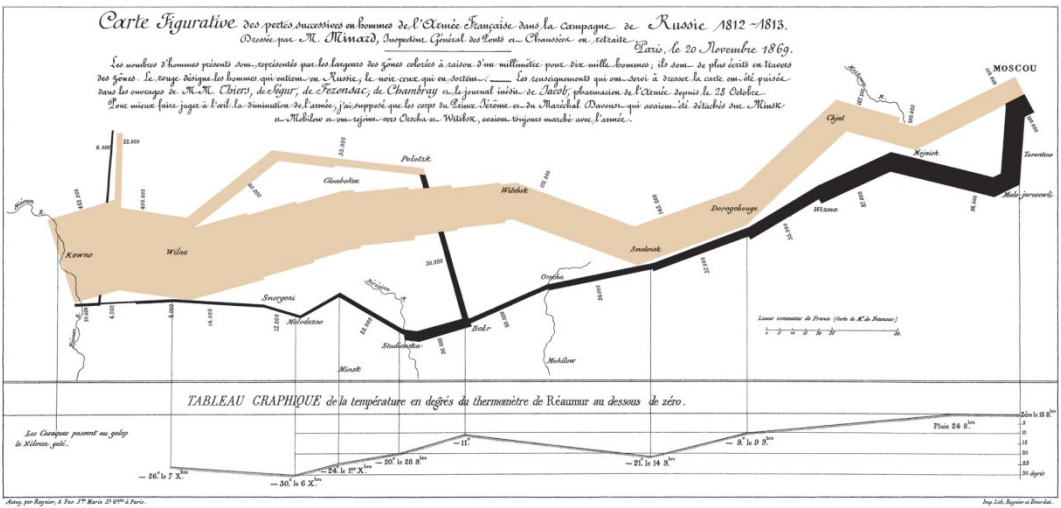
Chapter 1: Learning Geospatial Analysis with Python

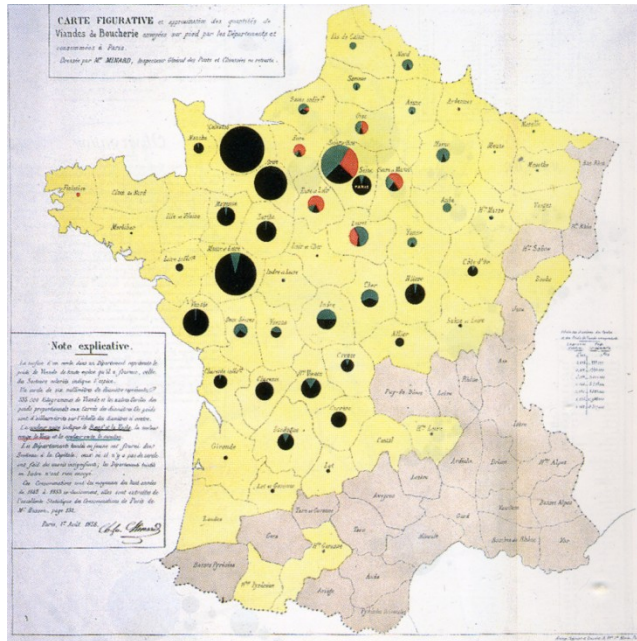


Showing Reports From Feb 07, 2007 to Apr 14, 2015 [Change Date Range](#)

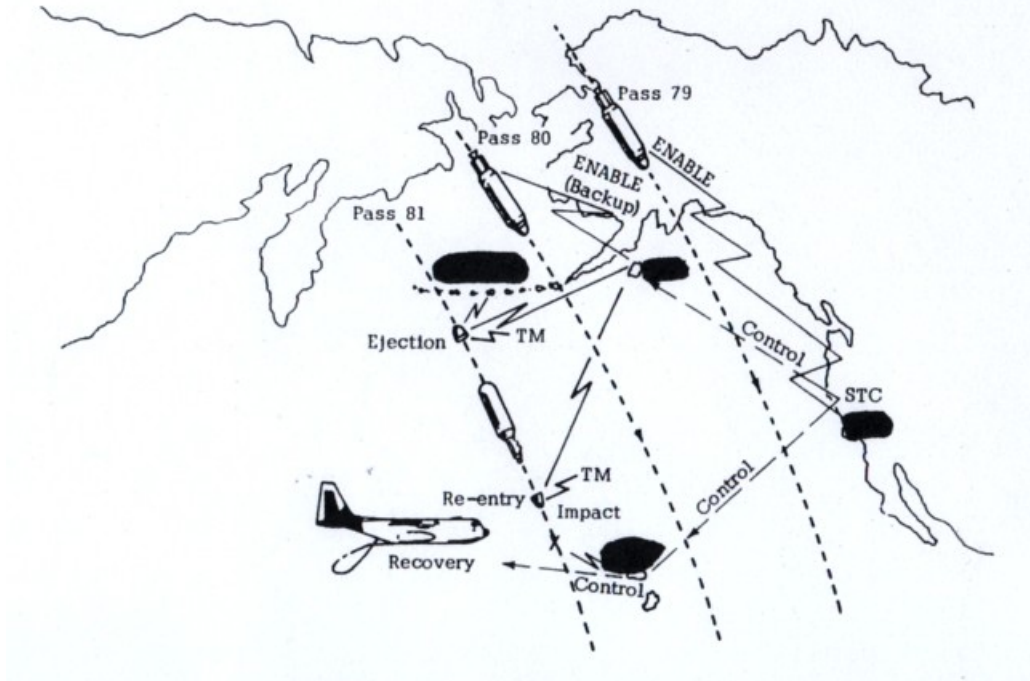


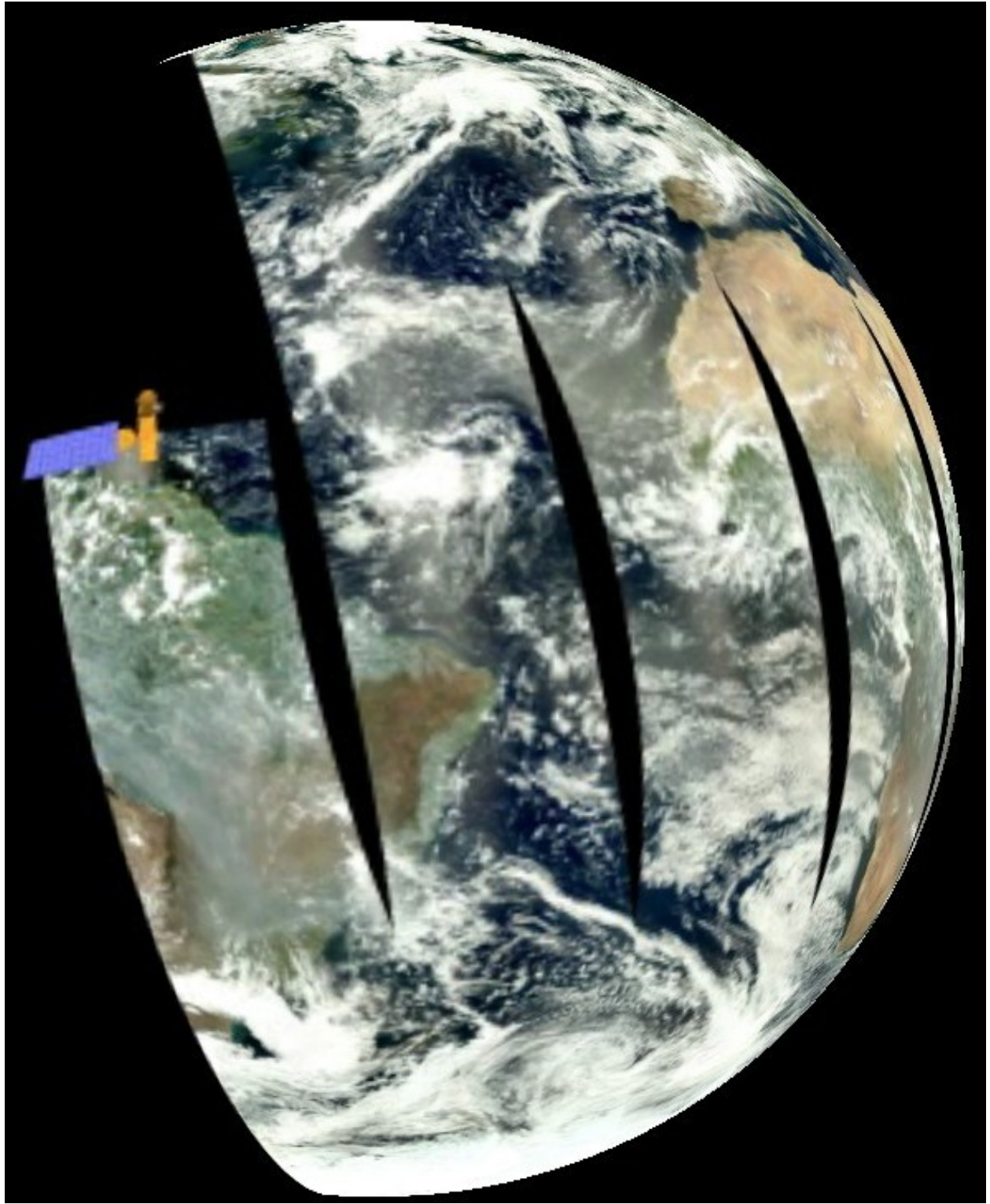


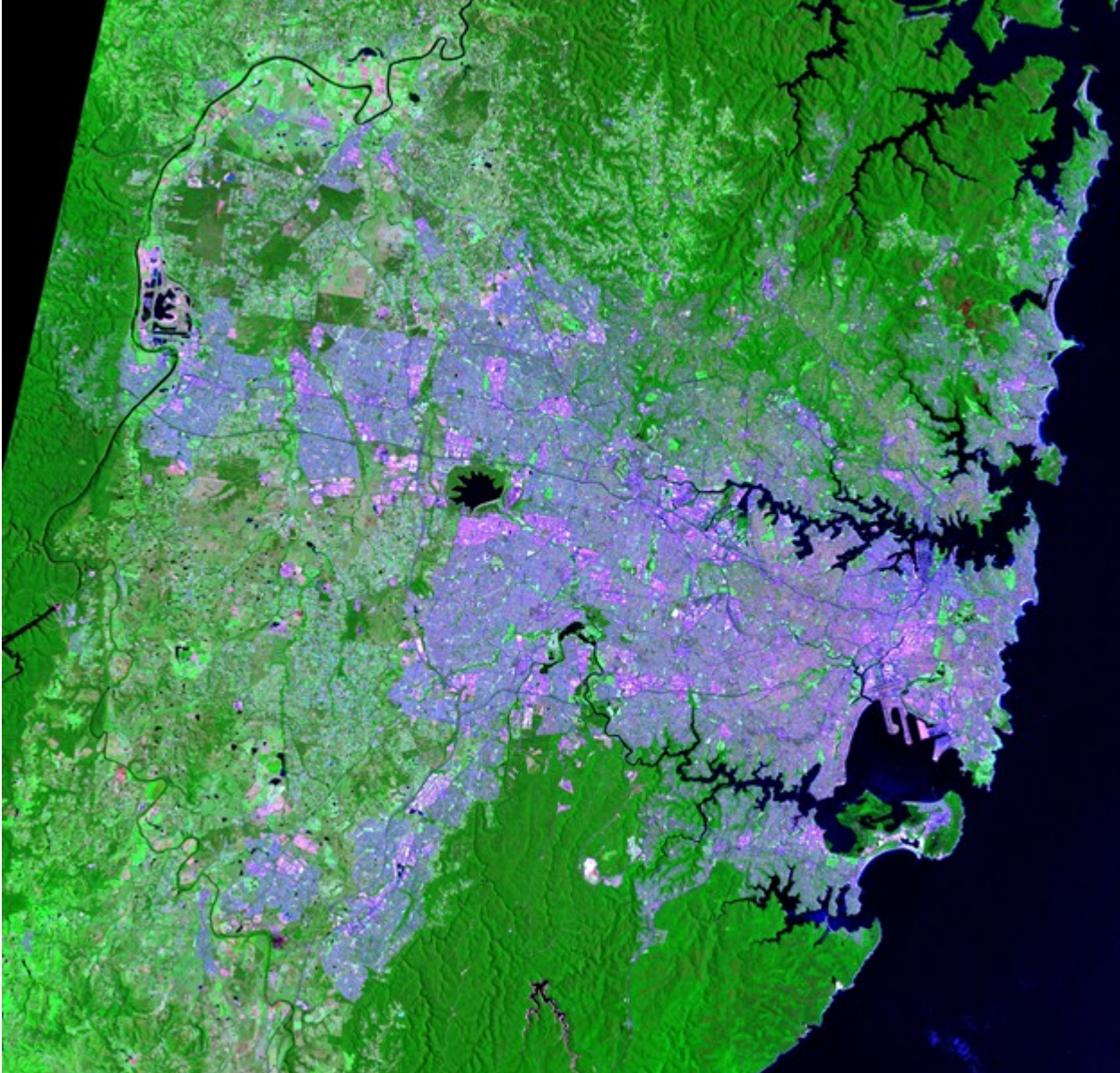




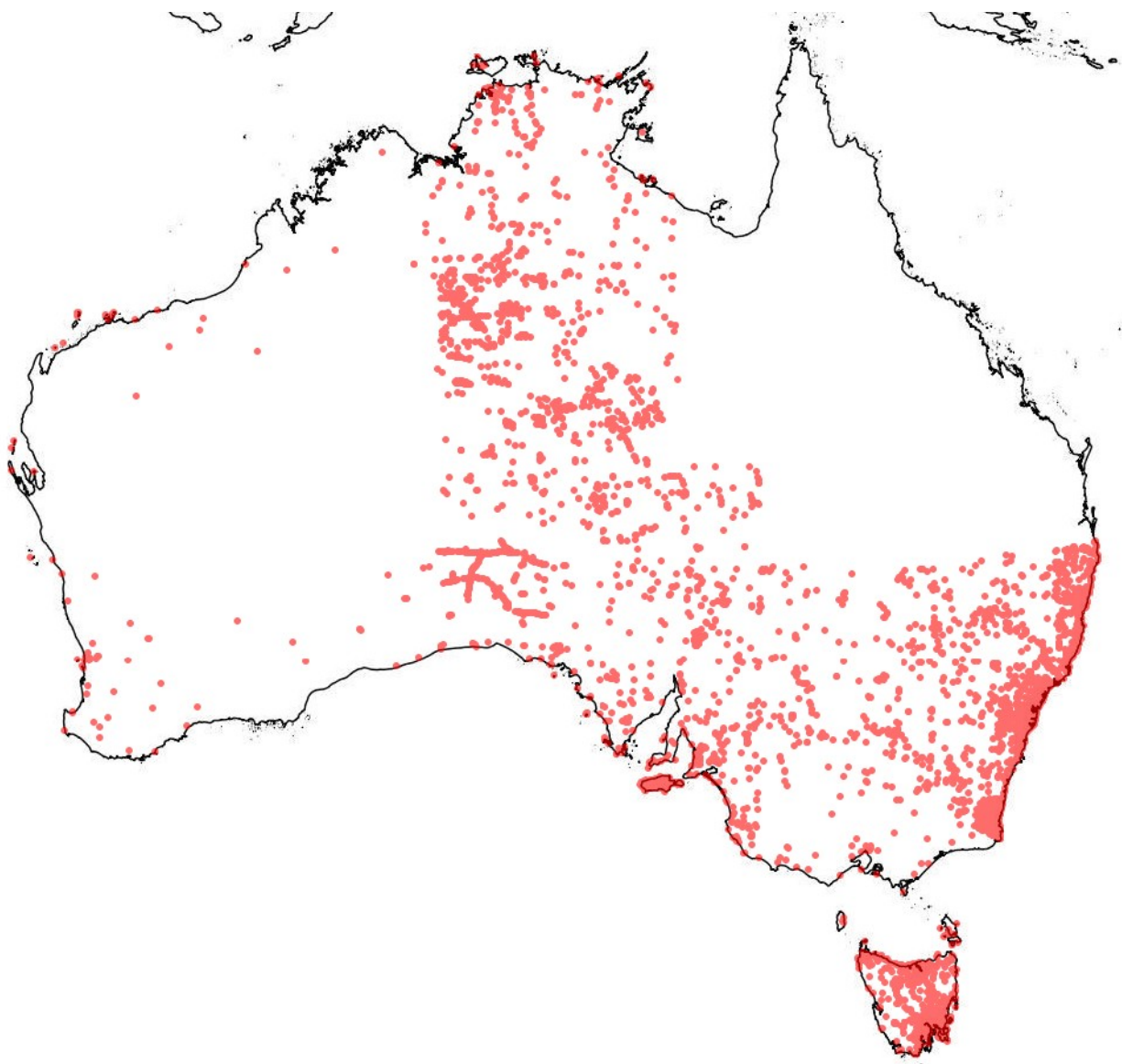
SATELLITE CONTROL FACILITY OPERATION IN RECOVERY



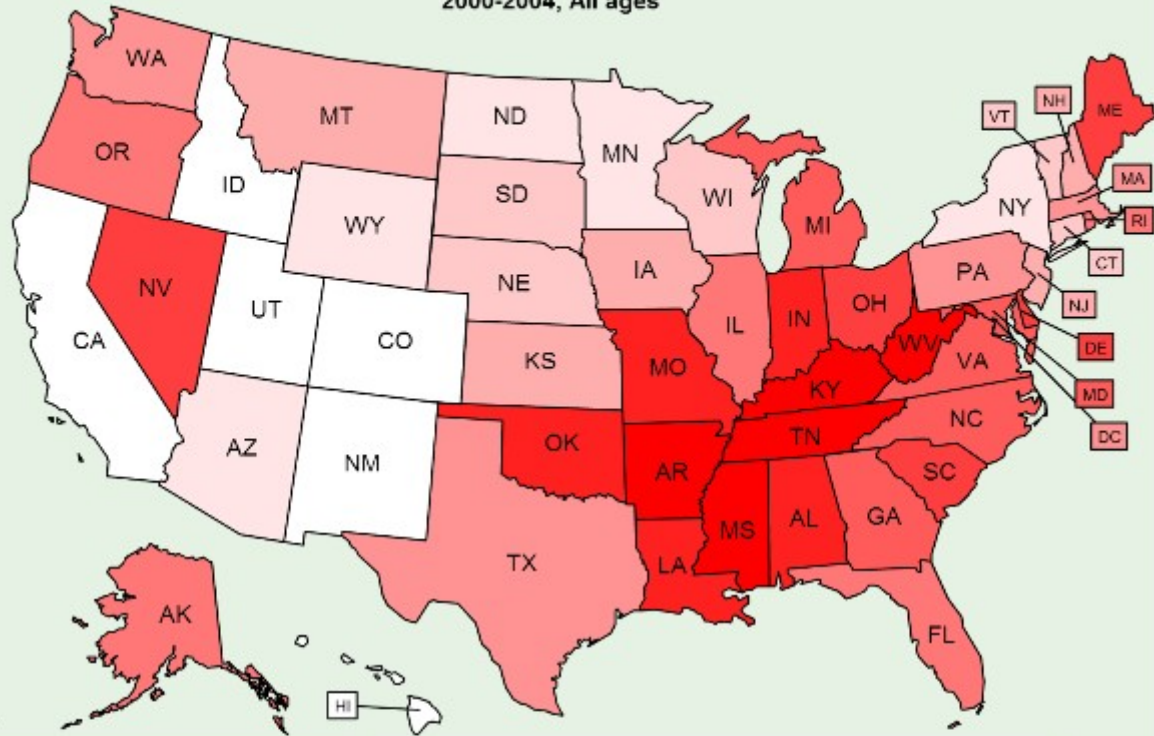








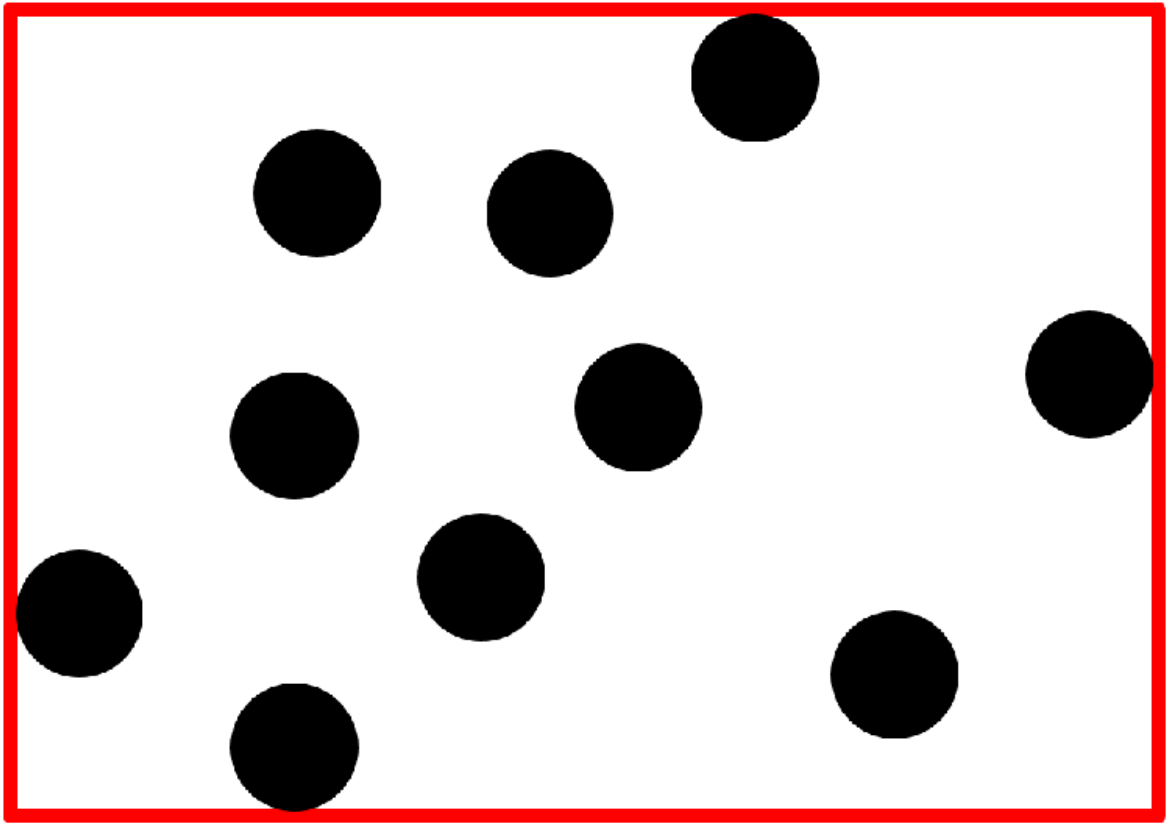
Cancer mortality rates by state (age-adjusted 2000 US population)
Trachea, Bronchus, Lung, and Pleura: White and Non-White Combined Both Sexes Combined, 2000-2004, All ages



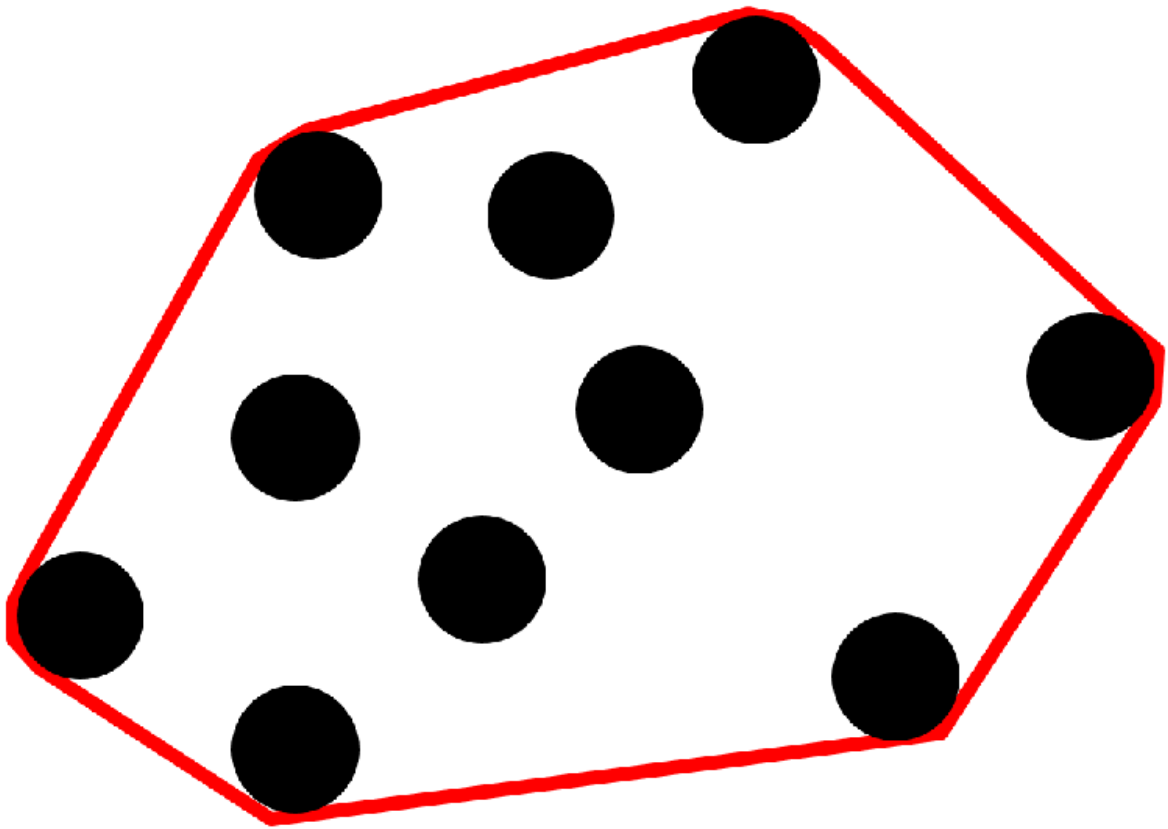
Rates per 100,000 person-years, 2000-2004

- 68.58 - 79.57 (5; 9.8%)
- 63.38 - 68.58 (5; 9.8%)
- 60.93 - 63.38 (5; 9.8%)
- 56.99 - 60.93 (5; 9.8%)
- 55.39 - 56.99 (5; 9.8%)
- 54.29 - 55.39 (5; 9.8%)
- 51.28 - 54.29 (5; 9.8%)
- 48.40 - 51.28 (5; 9.8%)
- 45.71 - 48.40 (5; 9.8%)
- 25.06 - 45.71 (6; 11.8%)
- Sparse data (0)

Mortality rate		Confidence interval	No. of deaths
US	54.81	54.69 - 54.93	786,854



Bounding Box



Convex Hull



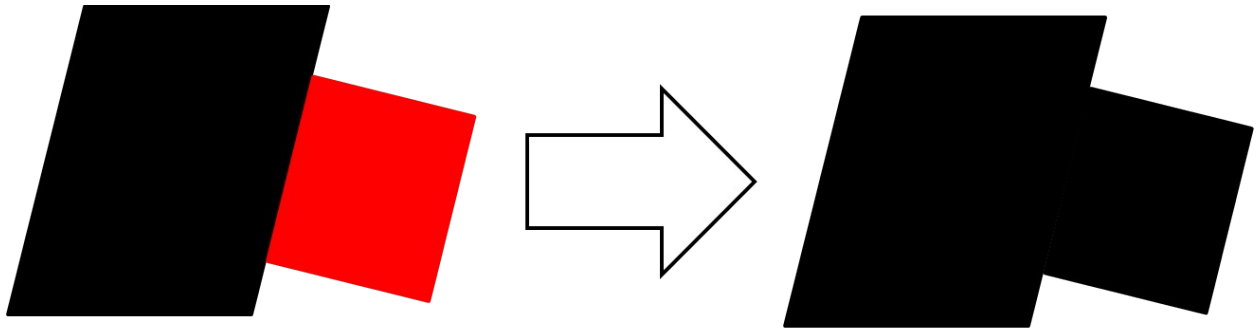
Point Buffer



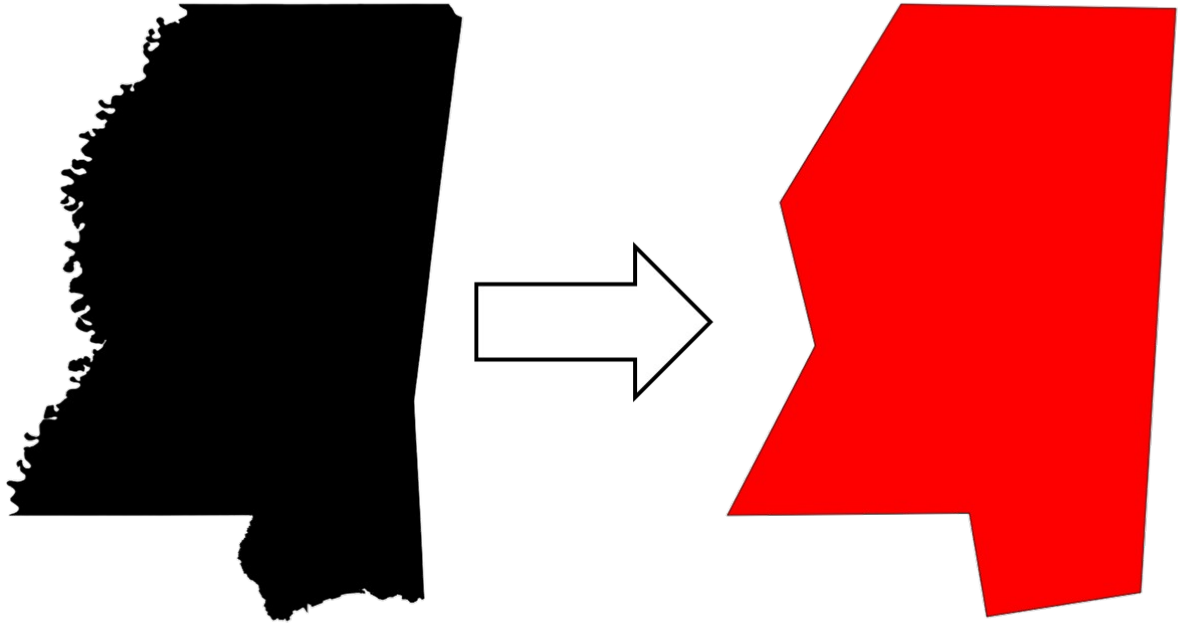
Line Buffer



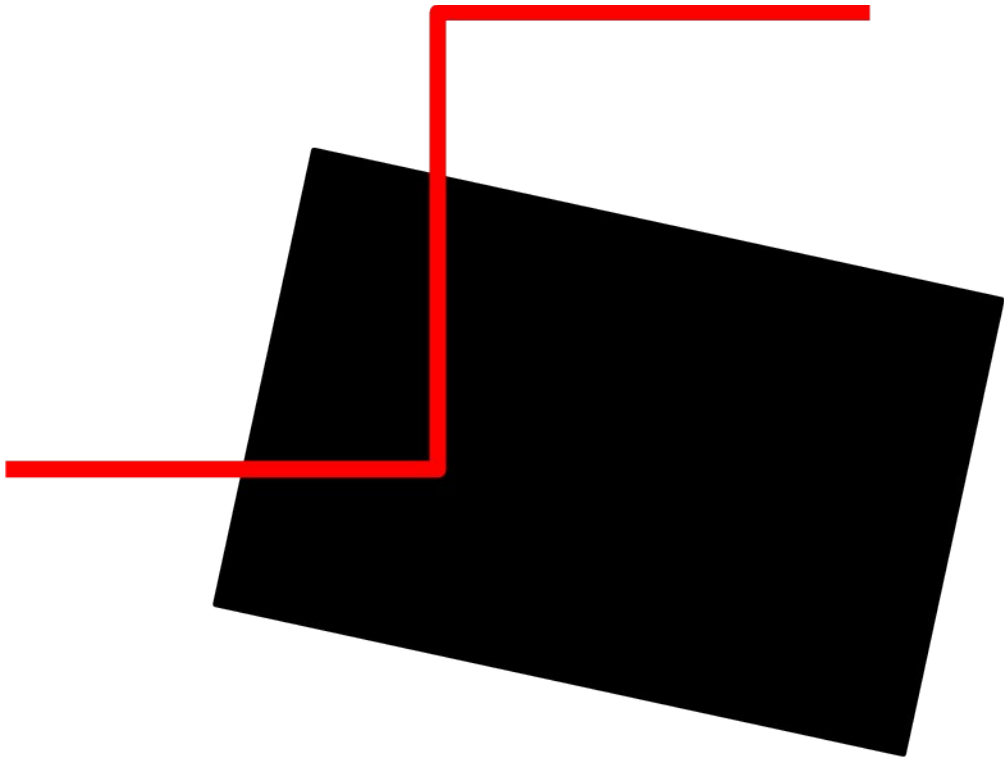
Polygon Buffer



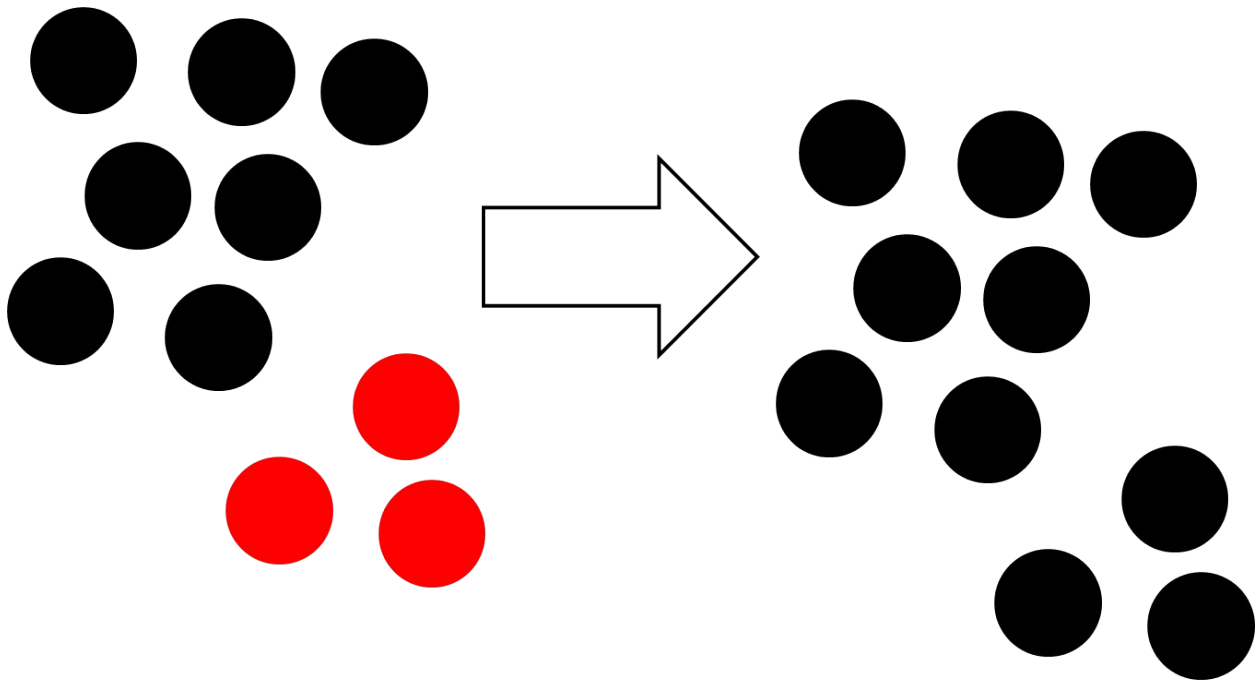
Polygon Dissolve



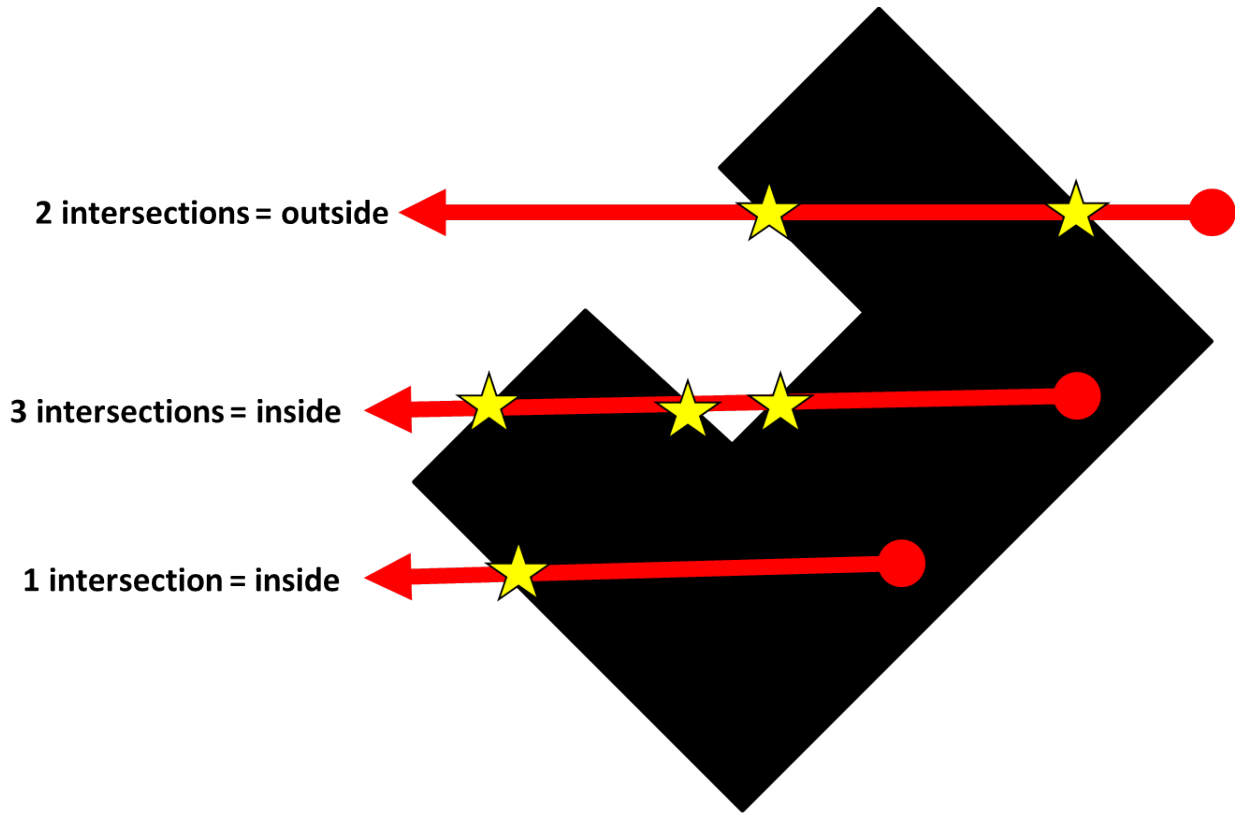
Polygon Generalization



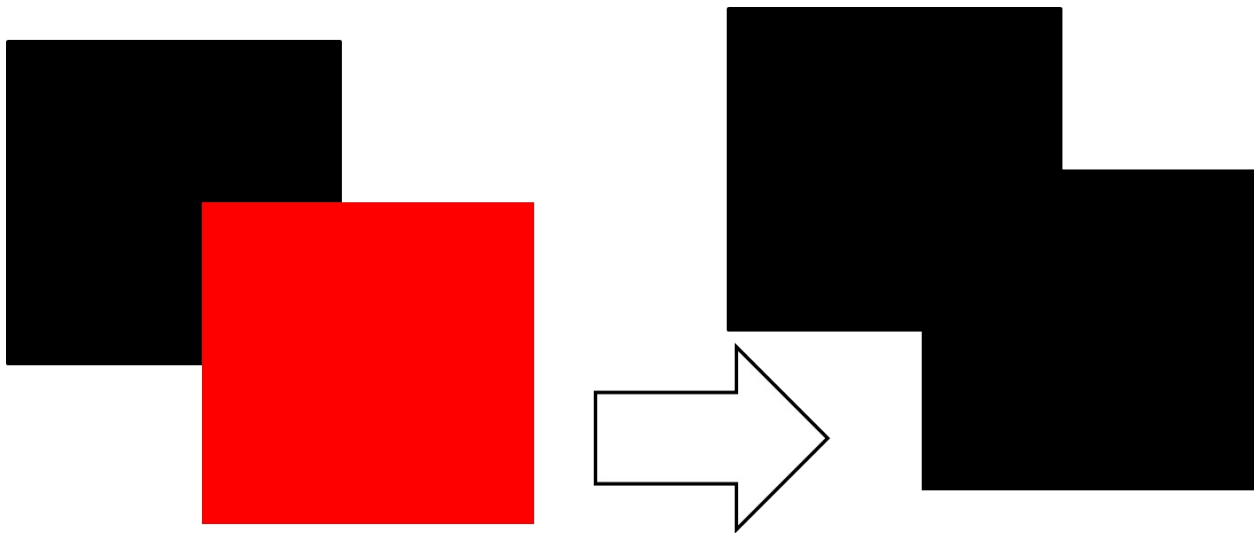
Shape Intersection



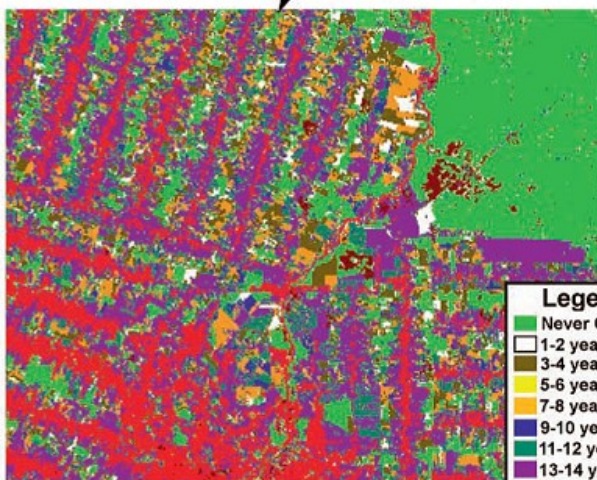
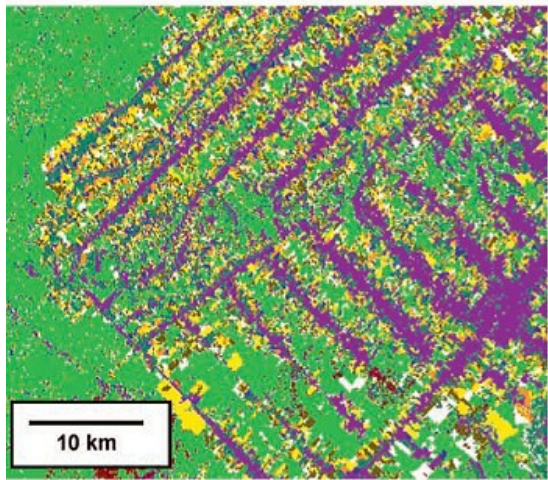
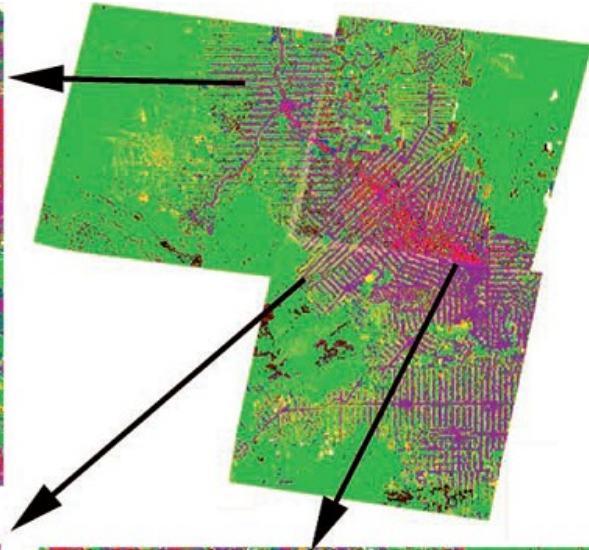
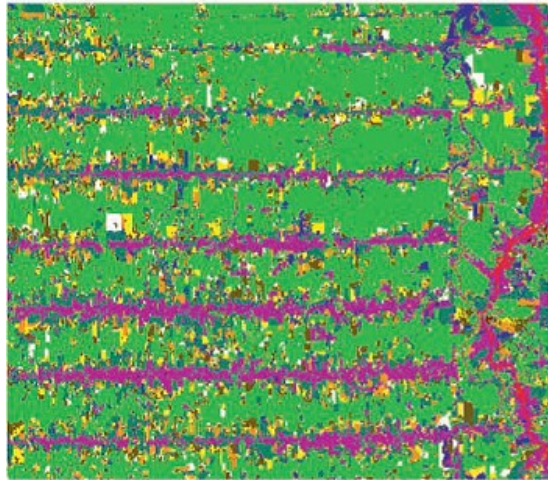
Shape Merge



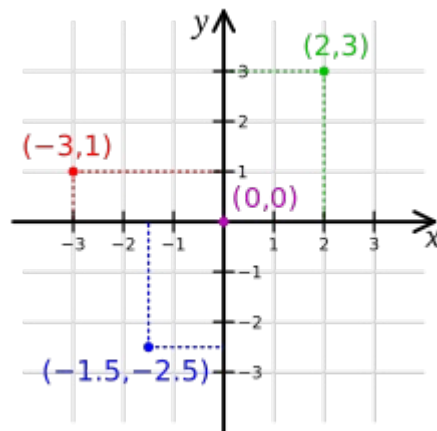
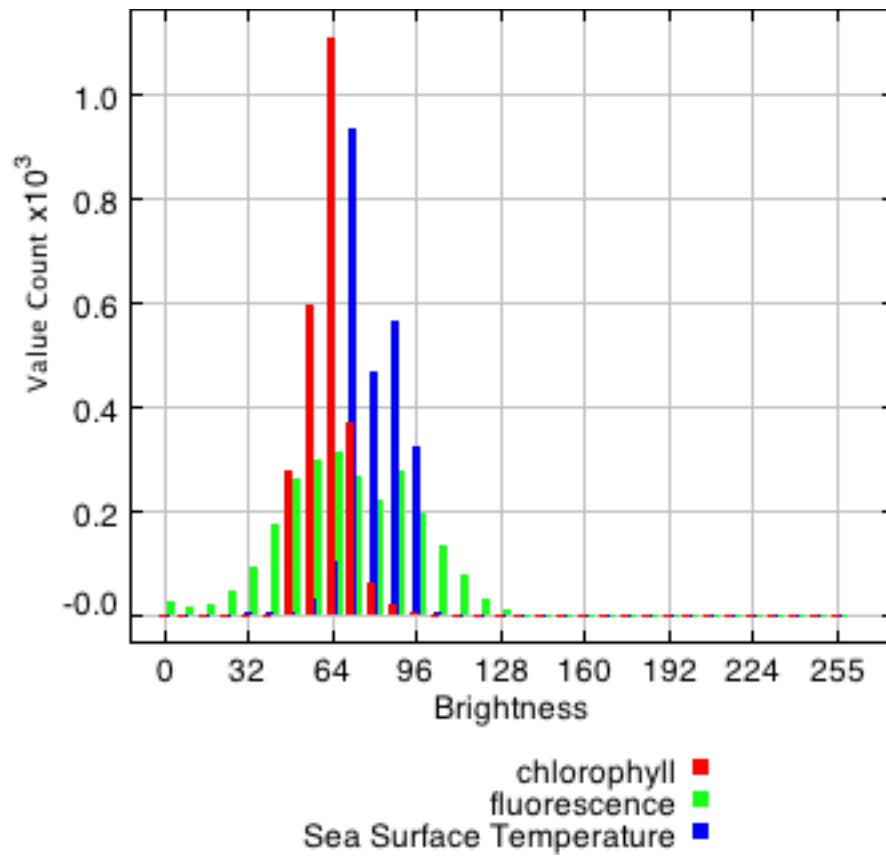
Point in Polygon

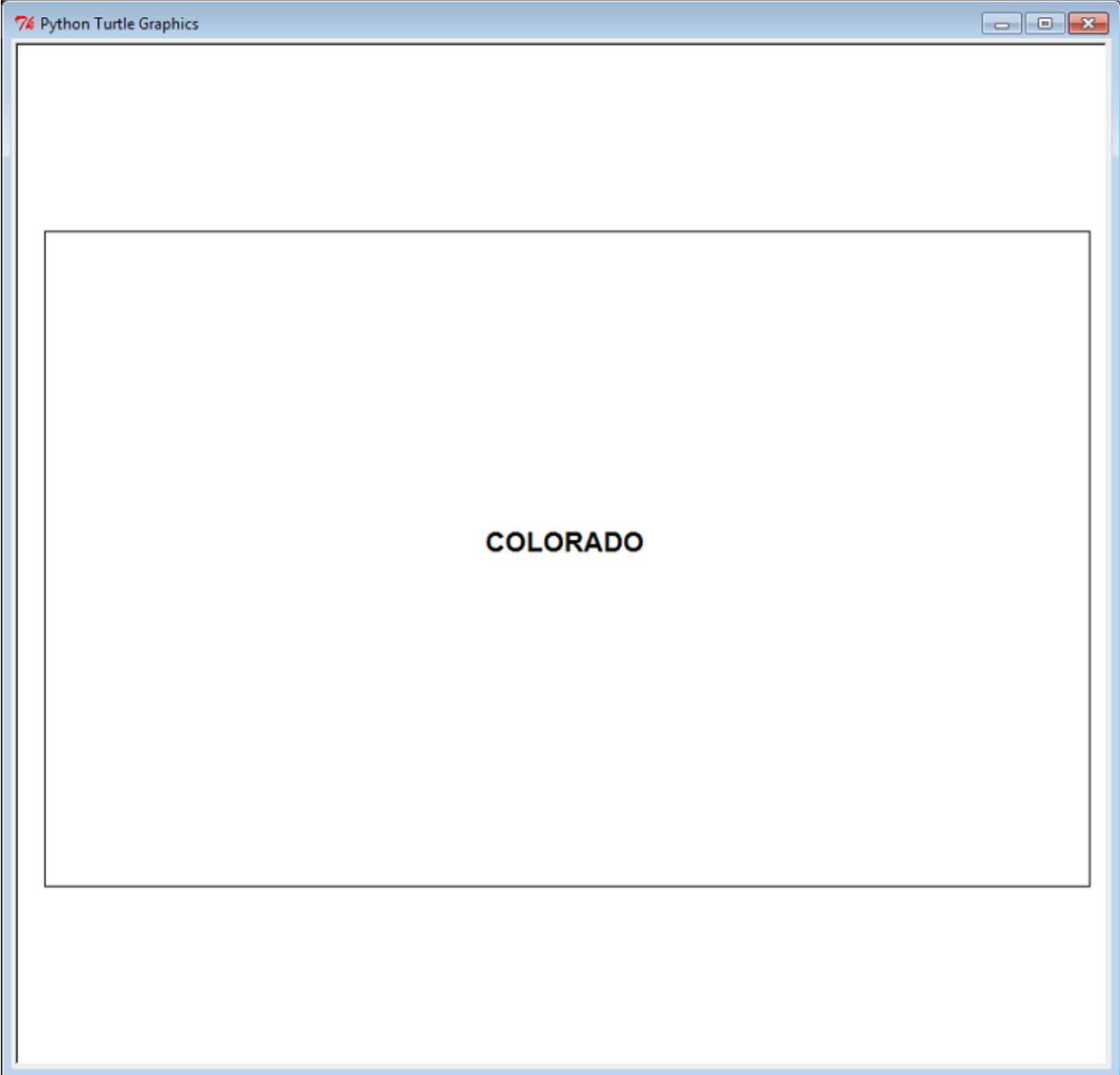


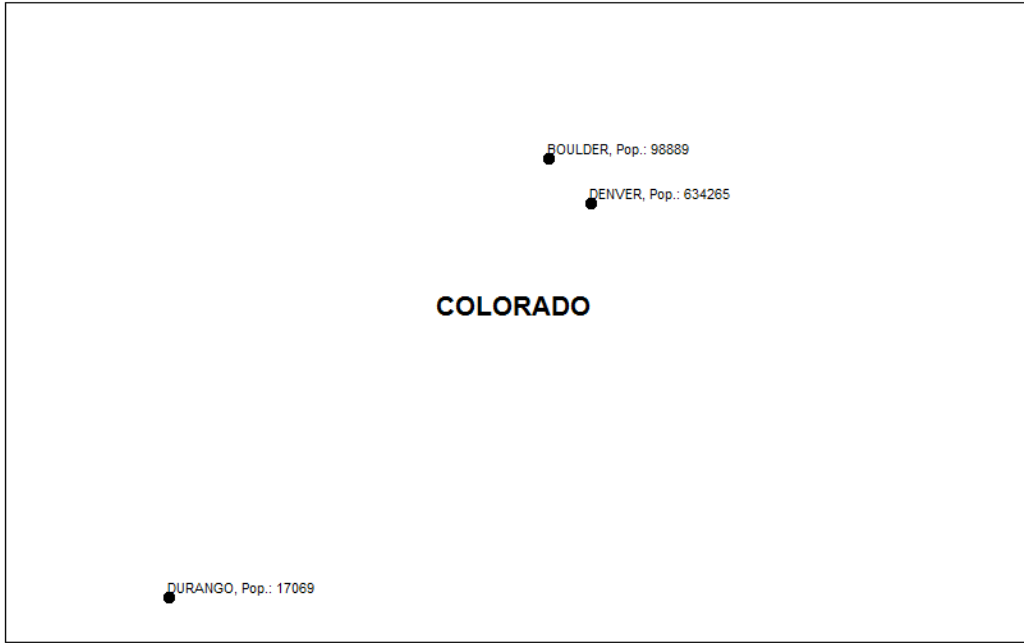
Polygon Union



Legend	
Green	Never Cut
White	1-2 years
Brown	3-4 years
Yellow	5-6 years
Orange	7-8 years
Blue	9-10 years
Teal	11-12 years
Purple	13-14 years
Dark Purple	15-16 years
Red	22-25 years
Dark Red	Rock/Savanna

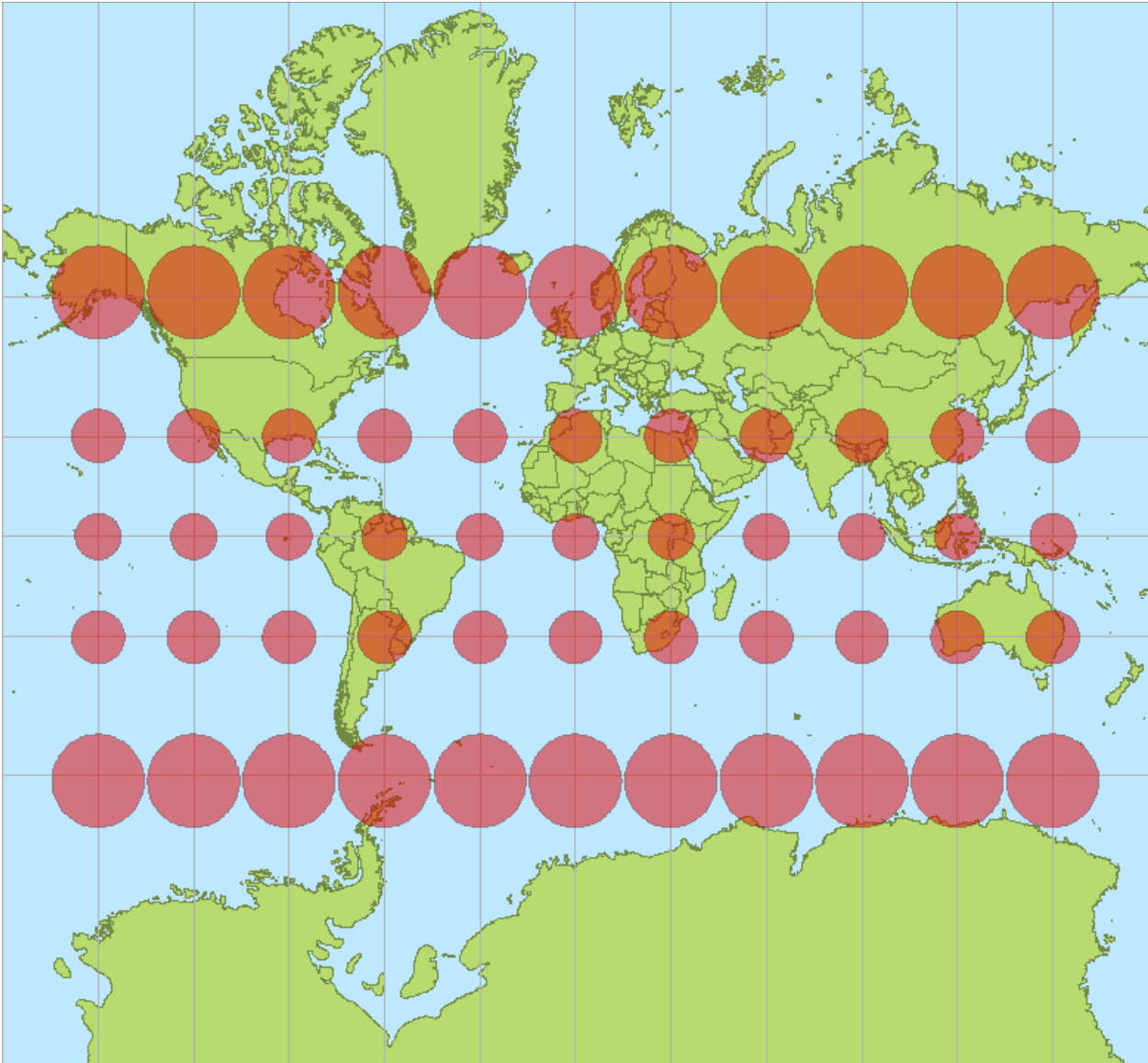


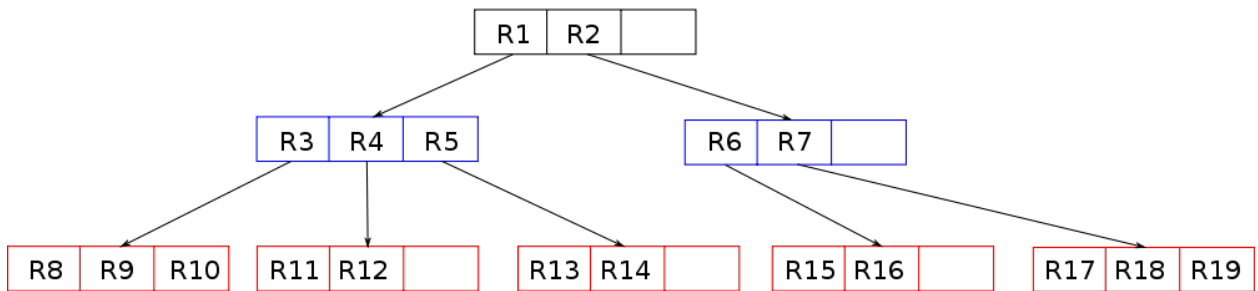
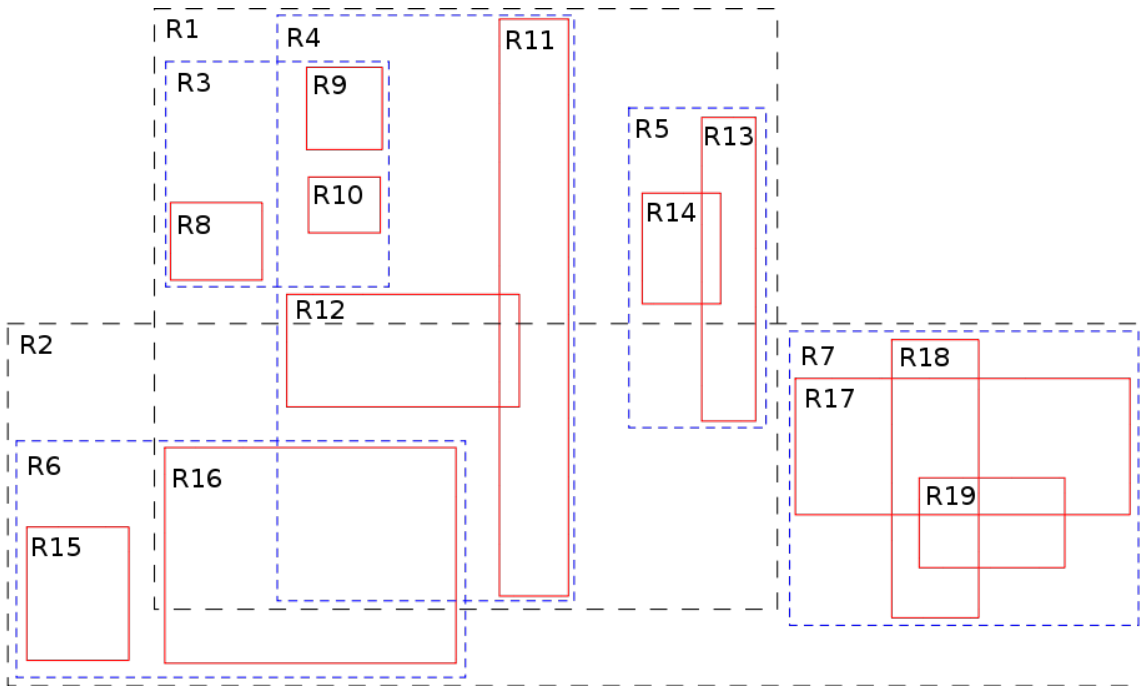
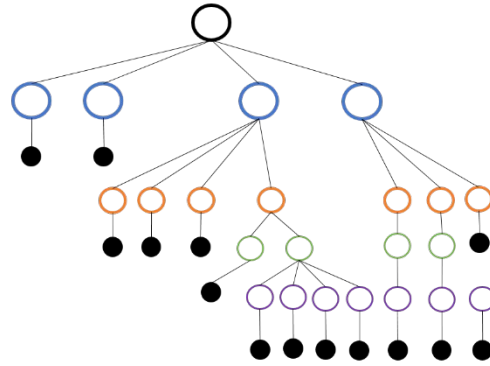
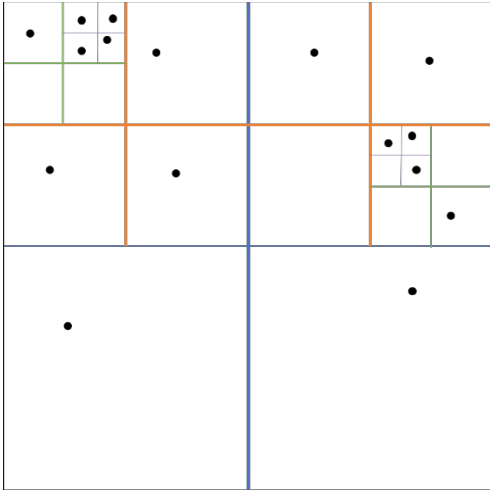


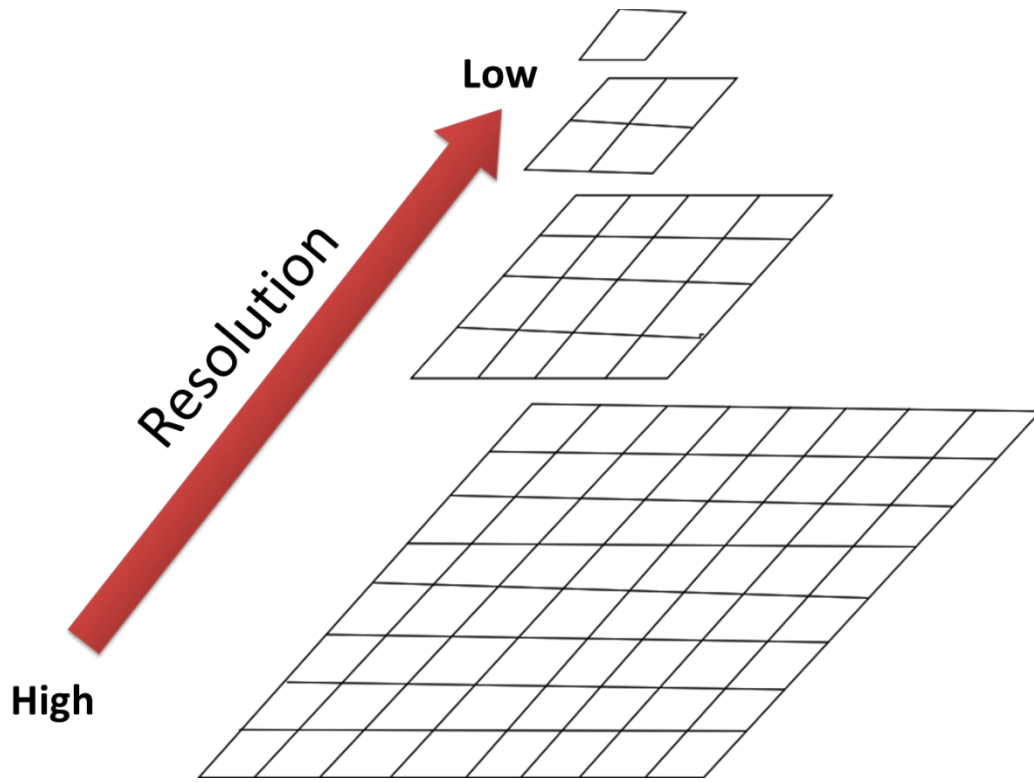


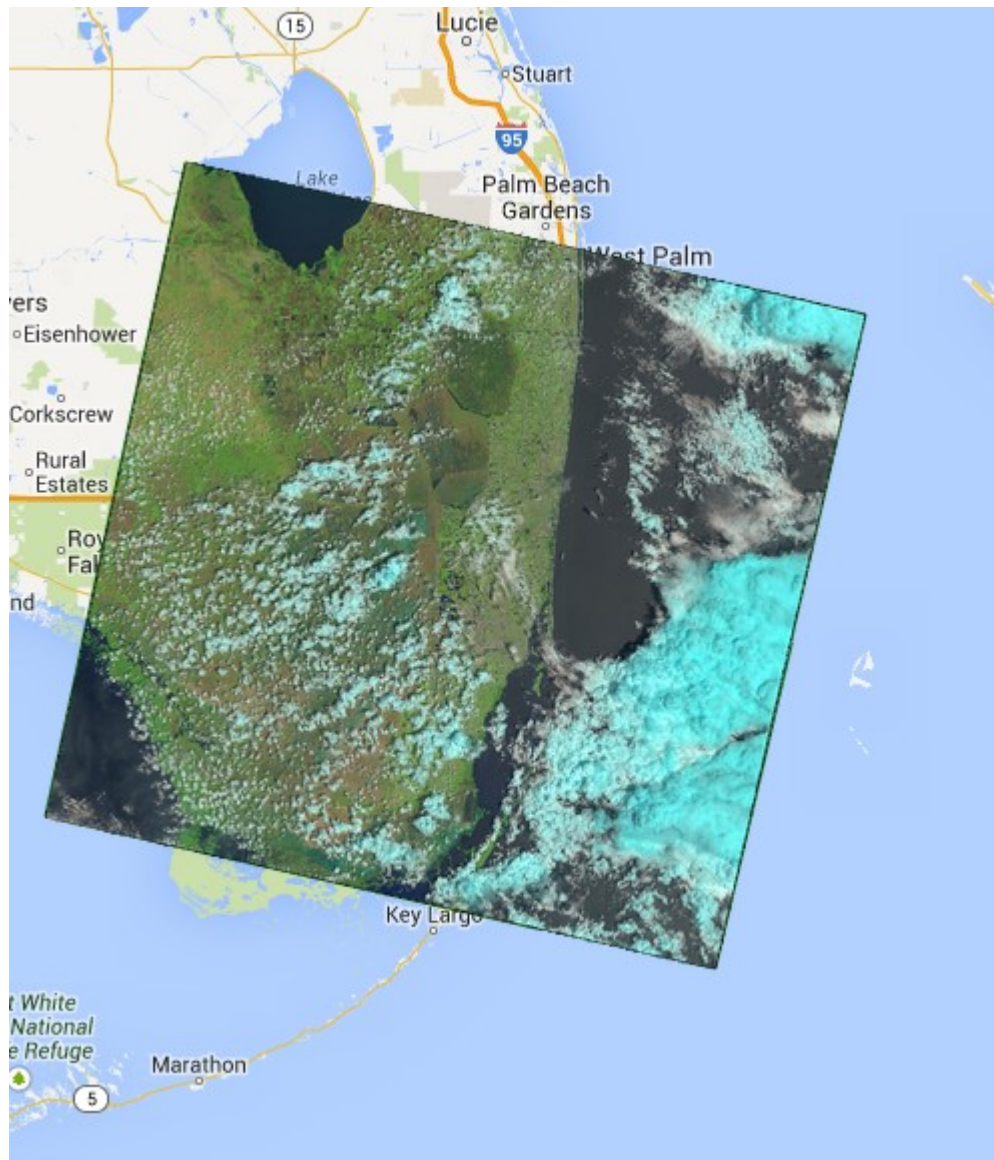
The biggest city is: DENVER
The western-most city is: DURANGO

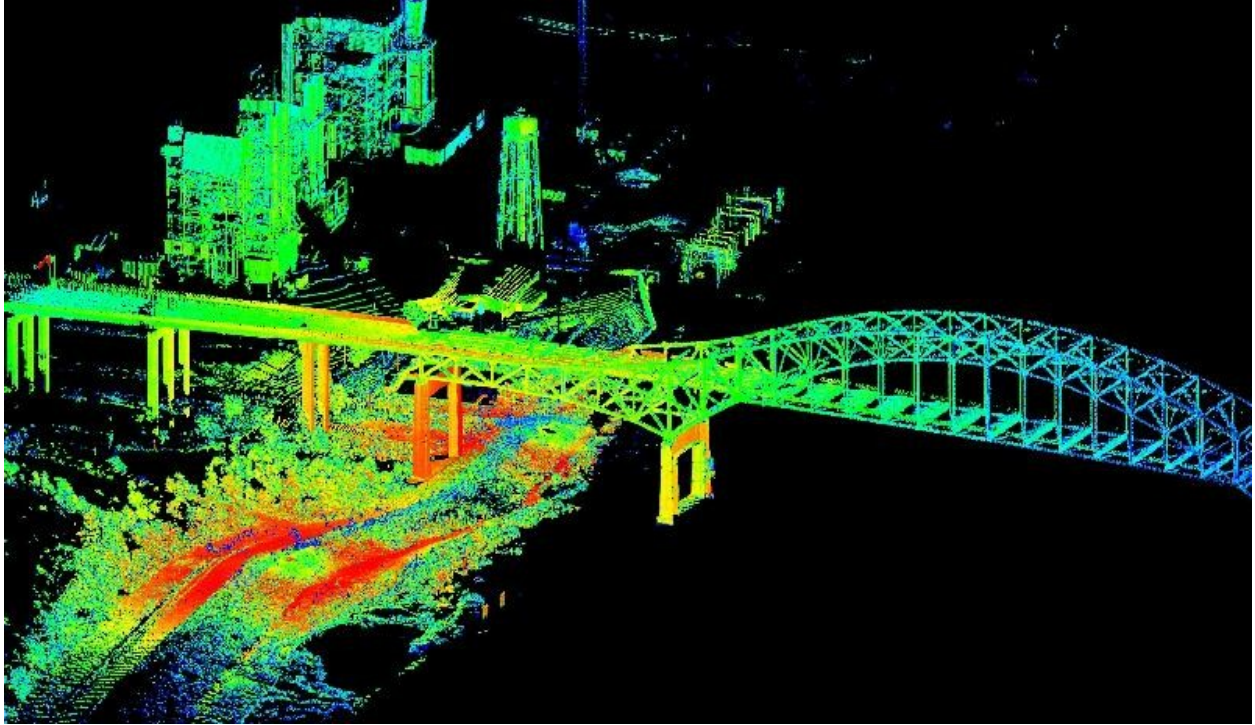
Chapter 2: Geospatial Data



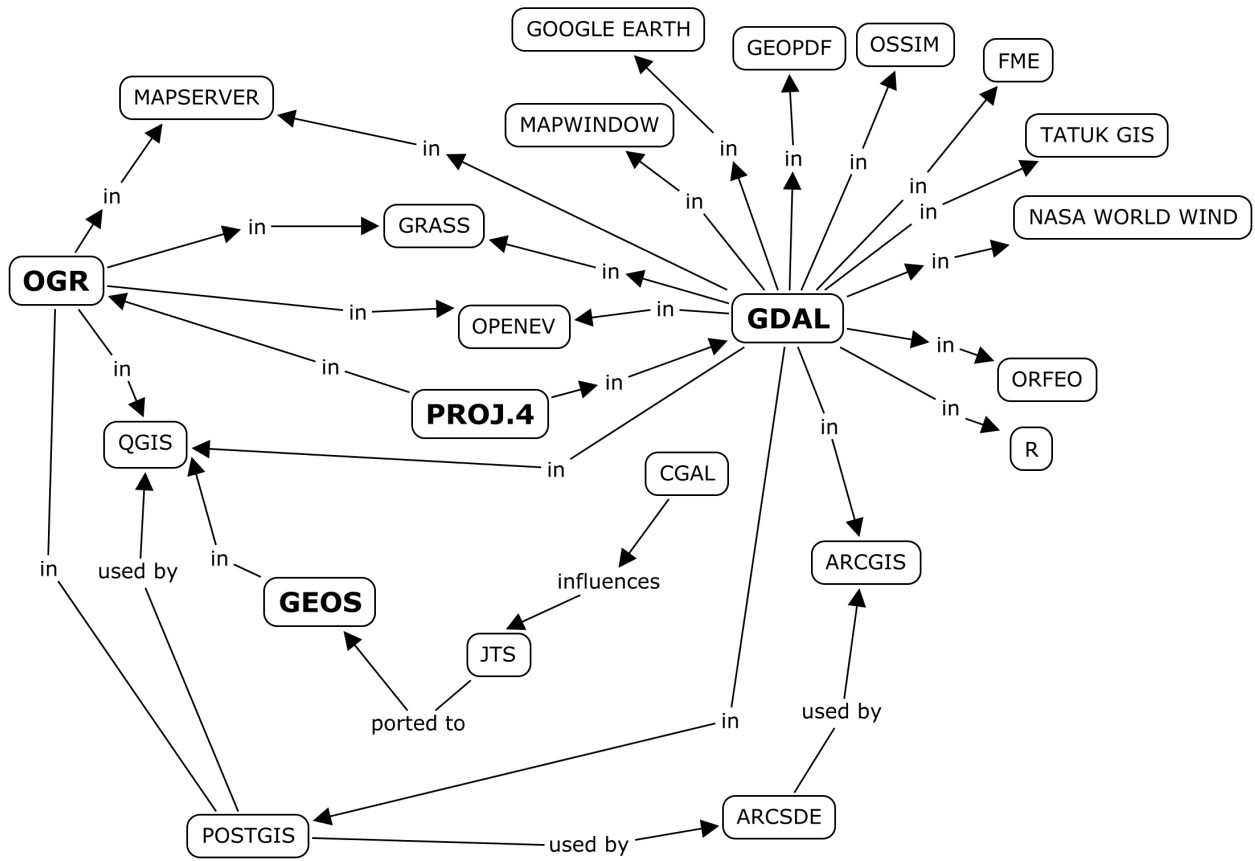








Chapter 3: The Geospatial Technology Landscape



GDAL DATASET

GDAL RASTERBAND

- Raster (*0-n* bands)
 - Width pixels
 - Height in lines
- Data type
 - Byte
 - UInt16
 - Int16
 - UInt32
 - Int32
 - Float32
 - Float64
 - CInt16
 - CInt32CFloat32
 - CFloat64
- Block size
 - data chunk read size

PROJECTION

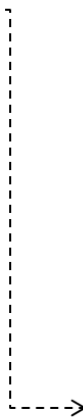
- Coordinate System
- Geo-Referencing
 - Affine Geo-Transform
 - Ground Control Points

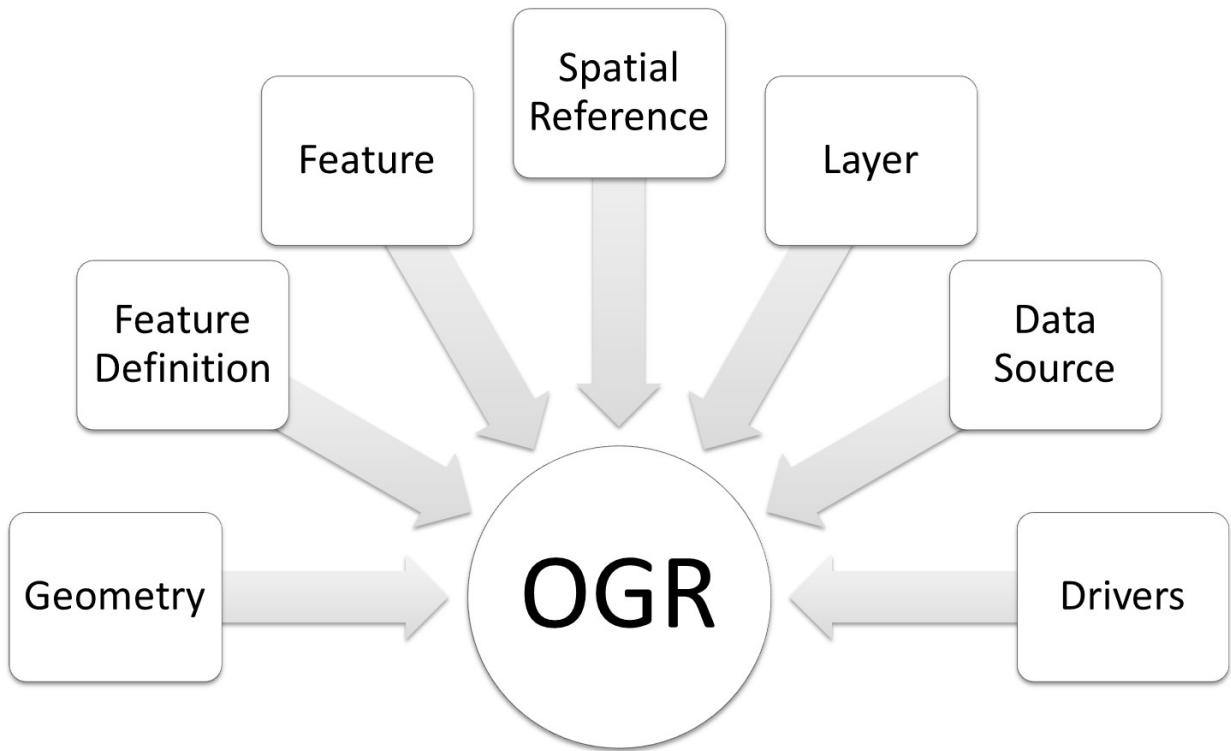
METADATA

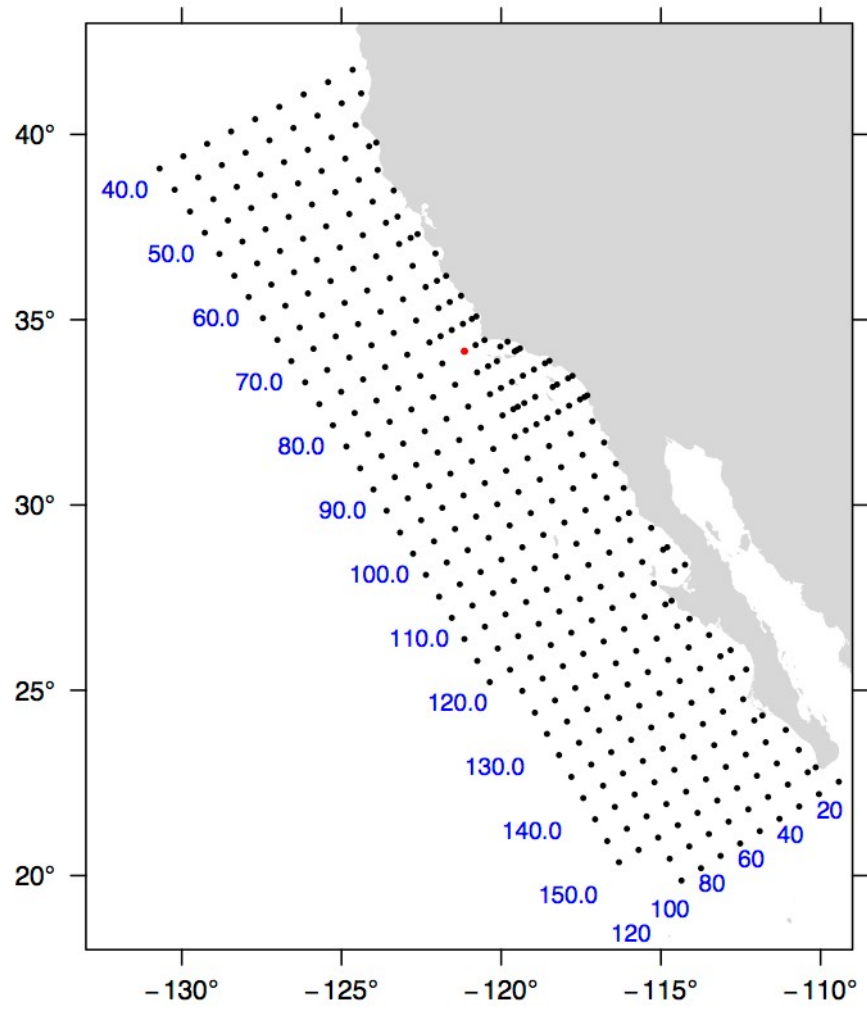
- Arbitrary tagging system
 - Some default tags
 - xml storage ability

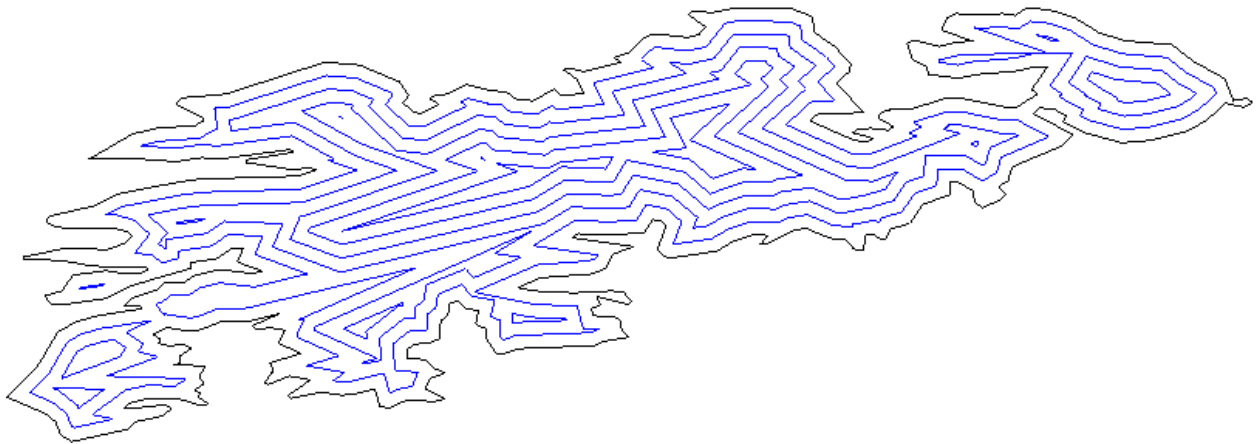
OVERVIEWS

- Freestanding bands
 - Reduced resolution
- *0-n* overview bands









JTS Test Builder

File View Edit Help

← Previous → Next + New - Delete ⚙ Run All Tests

Edit | Predicates | Functions

Spatial Function

- Convex Hull Of A
- Intersection
- Union
- A - B
- B - A
- SymDifference
- Buffer Of A:

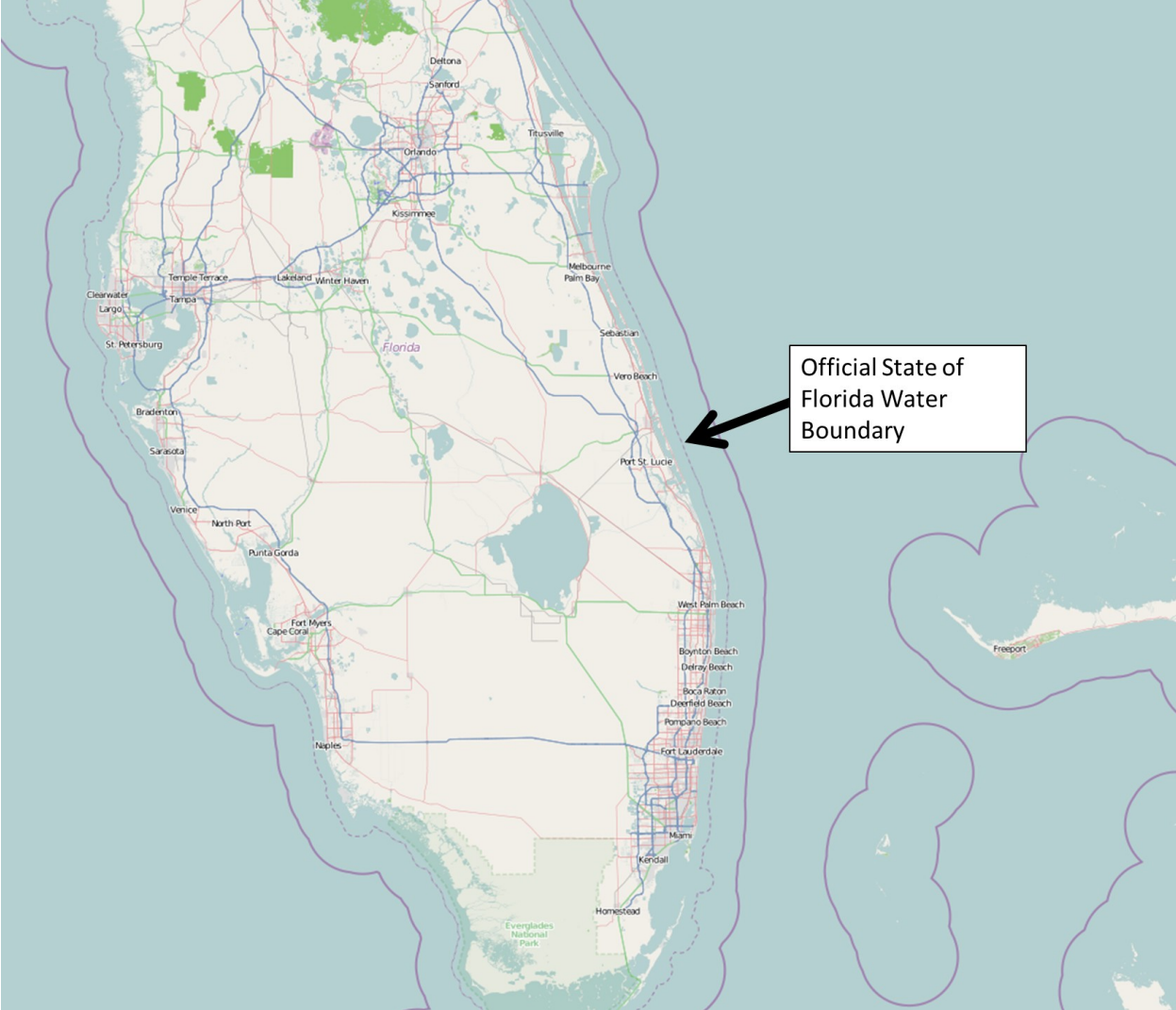
Clear Function

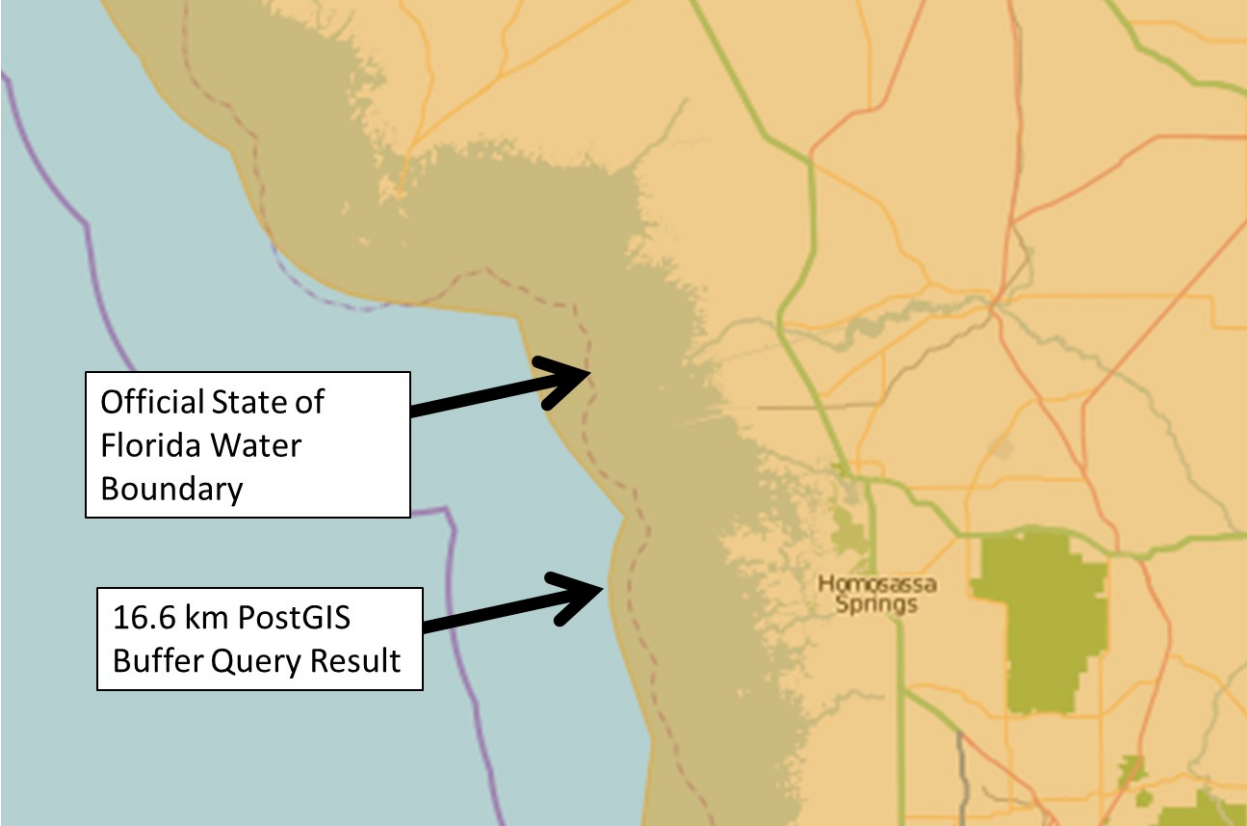
Display Input Geometries

220, 323

Case 1 of 1 Name

Tests	A	POLYGON ((30.0 260.0, 130.0 350.0, 250.0 330.0, 320.0 180.0, 250.0 50.0, 70.0 60.0, 30.0 260.0), (140.0 260.0, 110.0 150.0, 230.0 210.0, 140.0 260.0))	Load
WKT			
Result	B	POLYGON ((210.0 390.0, 180.0 290.0, 170.0 210.0, 190.0 140.0, 360.0 60.0, 470.0 220.0, 440.0 390.0, 210.0 390.0), (340.0 310.0, 250.0 260.0, 270.0 140.0, 360.0 130.0, 390.0 230.0, 340.0 310.0))	



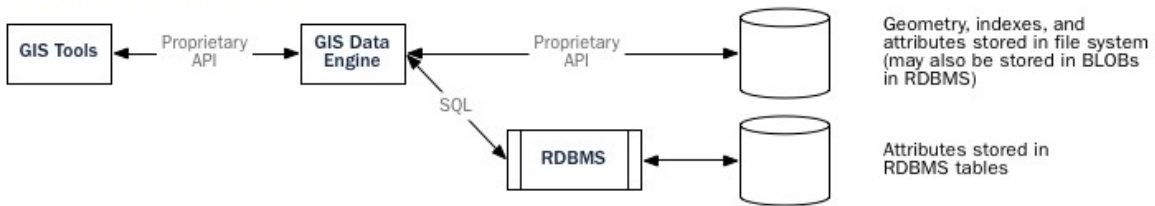


Evolution of GIS Architectures

First-Generation GIS:

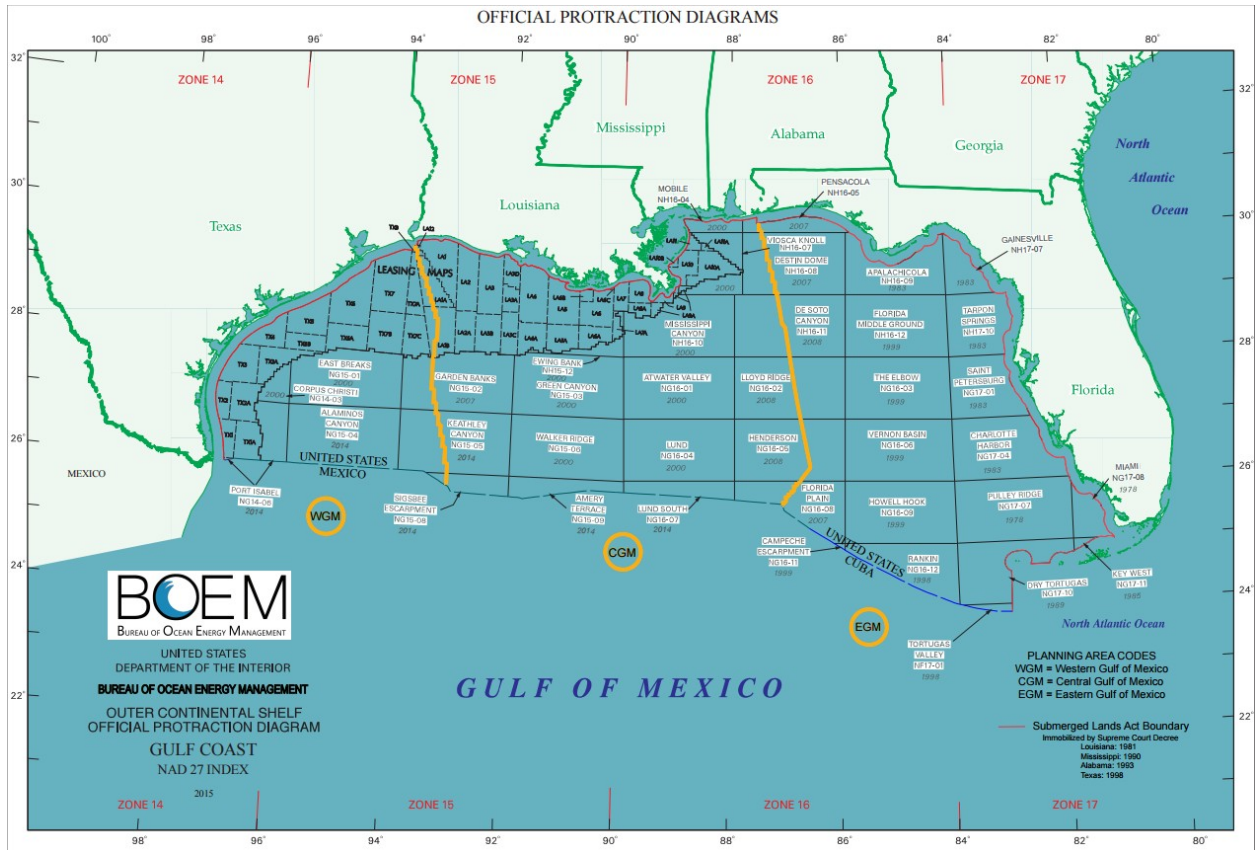


Second-Generation GIS:



Third-Generation GIS:





catalog.data.gov

Search Data.Gov

DATA.GOV DATA TOPICS IMPACT APPLICATIONS DEVELOPERS CONTACT

DATA CATALOG / Datasets Organizations ?

Search datasets...

Order by: Select an option

Datasets ordered by Popular

Filter by location Clear

Enter location...

Map data CC-BY-SA by OpenStreetMap Tiles by MapQuest

Topics Clear All

- A-Z 19
- Local Government (10641)
- AAPI (1366)
- Climate (766)
- Safety (492)
- Energy (325)

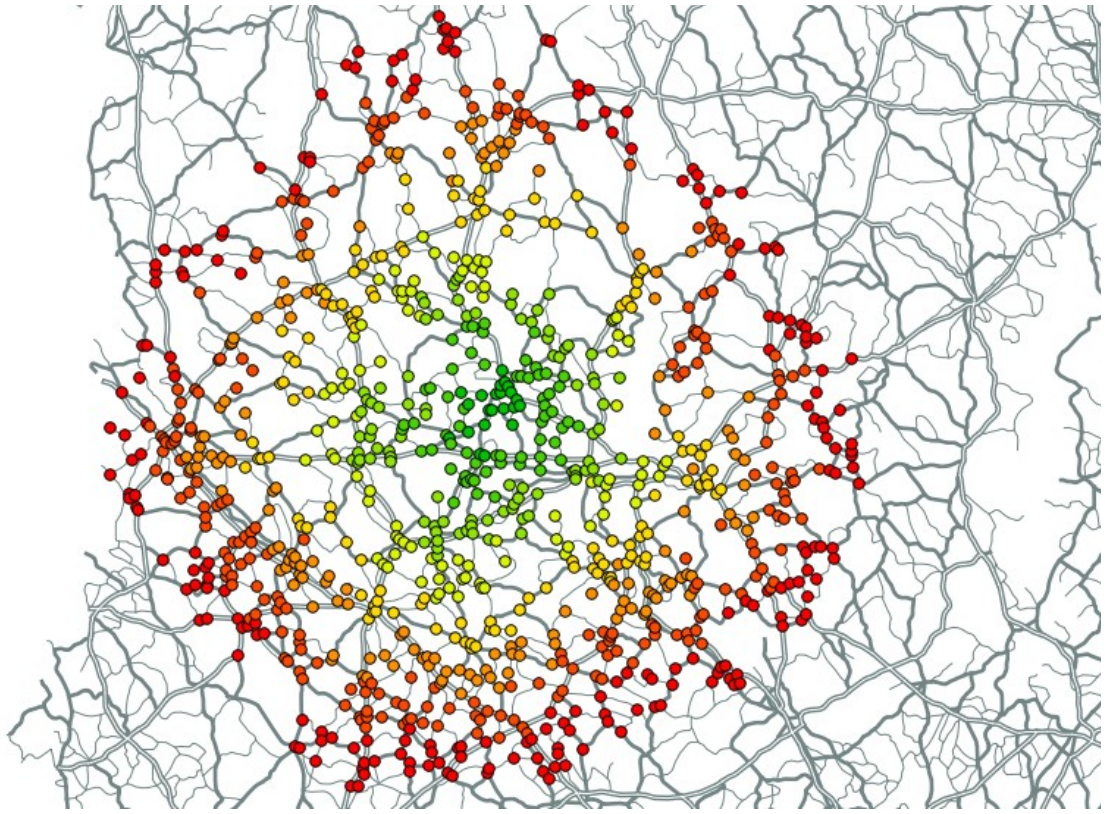
188,380 datasets found

Consumer Complaint Database [1,680 recent views](#)
Consumer Financial Protection Bureau – These are complaints we've received about financial products and services.
[CSV](#) [JSON](#) [XML](#) [API](#)

National Stock Number Extract [1,591 recent views](#)
General Services Administration – National Stock Number extract includes the current listing of National Stock Numbers (NSNs), NSN item name and descriptions, and current selling price of each...
[Excel](#)

USCIS My Case Status [1,268 recent views](#)
Department of Homeland Security – USCIS provide a way for the public who applied for U.S. citizenship to check the status of their application online. To view the status of a case, the application...
[HTML](#)

U.S. International Trade in Goods and Services [1,080 recent views](#)
Department of Commerce – Monthly report that provides national trade data including imports, exports, and balance of payments for goods and services. Statistics are also reported on a...



Quantum GIS 1.8.0-Lisboa

File Edit View Layer Settings Plugins Vector Raster Database Help

Layers: OpenStreetMap

Python Console

```

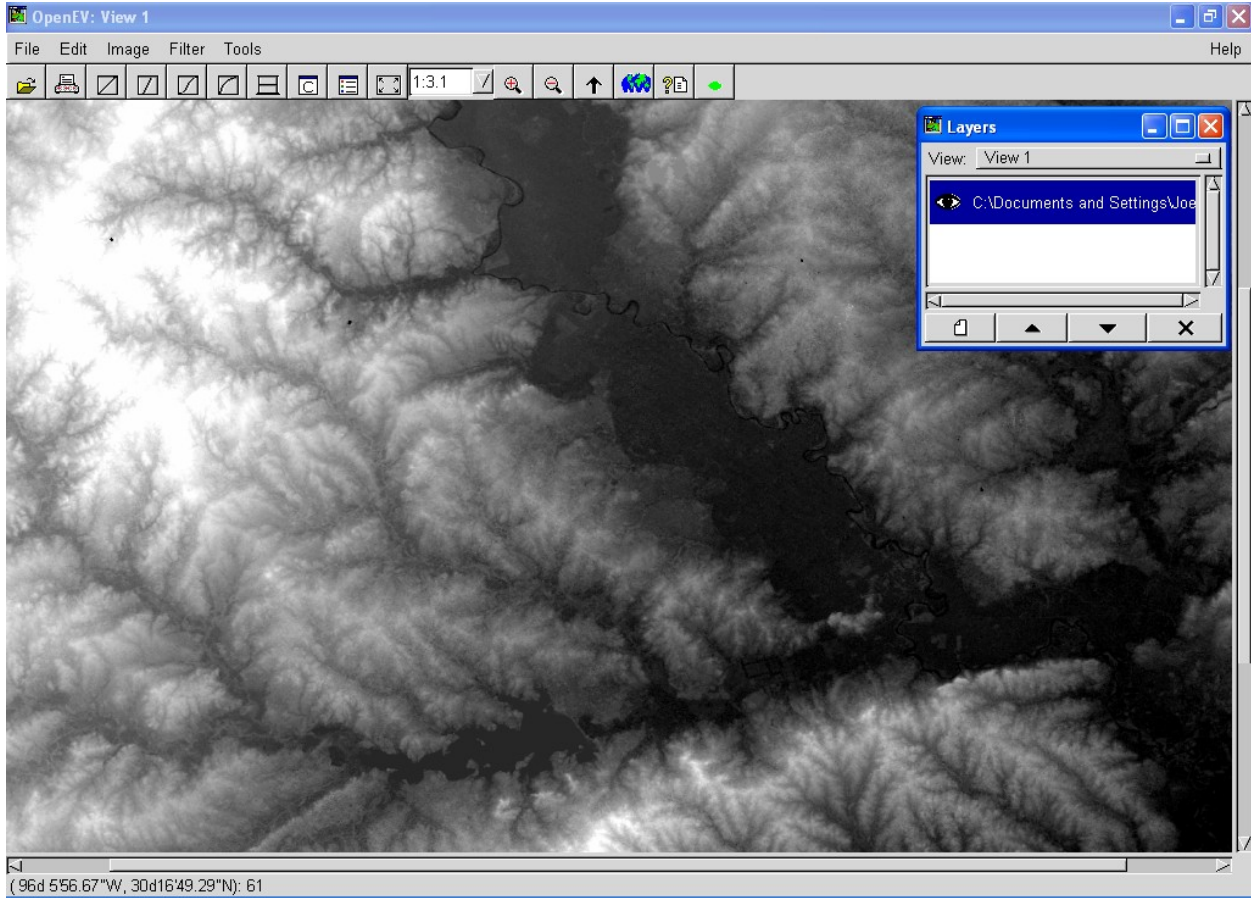
>>> help(qgis.utils iface)
Help on QgisInterface in module qgis.gui object:

class QgisInterface(PyQt4.QtCore.QObject)
| QgisInterface()
|
| Method resolution order:
|   QgisInterface
|   PyQt4.QtCore.QObject
|   sip.wrapper

```

Control rendering order

Coordinate: -9943974,3543752 Scale: 1:6113 Render EPSG:3857



GRASS GIS Attribute Table Manager - vector map layer <roadsmajor@PERMANENT>

Layer 1

Attribute data - right-click to edit/manage records

cat	MAJORRDS_	ROAD_NAME	MULTILA	PROPYEA	OBJECTID	SHAPE_LEN
10	10.0	NC-98	no	0	10	8446.822876
11	11.0	NC-98	no	0	11	14876.323626
12	12.0	NC-98	no	0	12	11610.268716
13	13.0		no	0	13	11828.121704
14	14.0		no	0	14	5524.875869
15	15.0	NC-98	no	0	15	4739.53603
16	16.0	NC-96	no	0	16	8586.517385
17	17.0		no	0	17	12073.33628
18	18.0		no	0	18	10178.42291
19	19.0		no	0	19	4375.530882
20	20.0		no	0	20	6491.037831
21	21.0		no	2025	21	9781.033301
22	22.0		yes	0	22	17315.177857

SQL Query: Simple

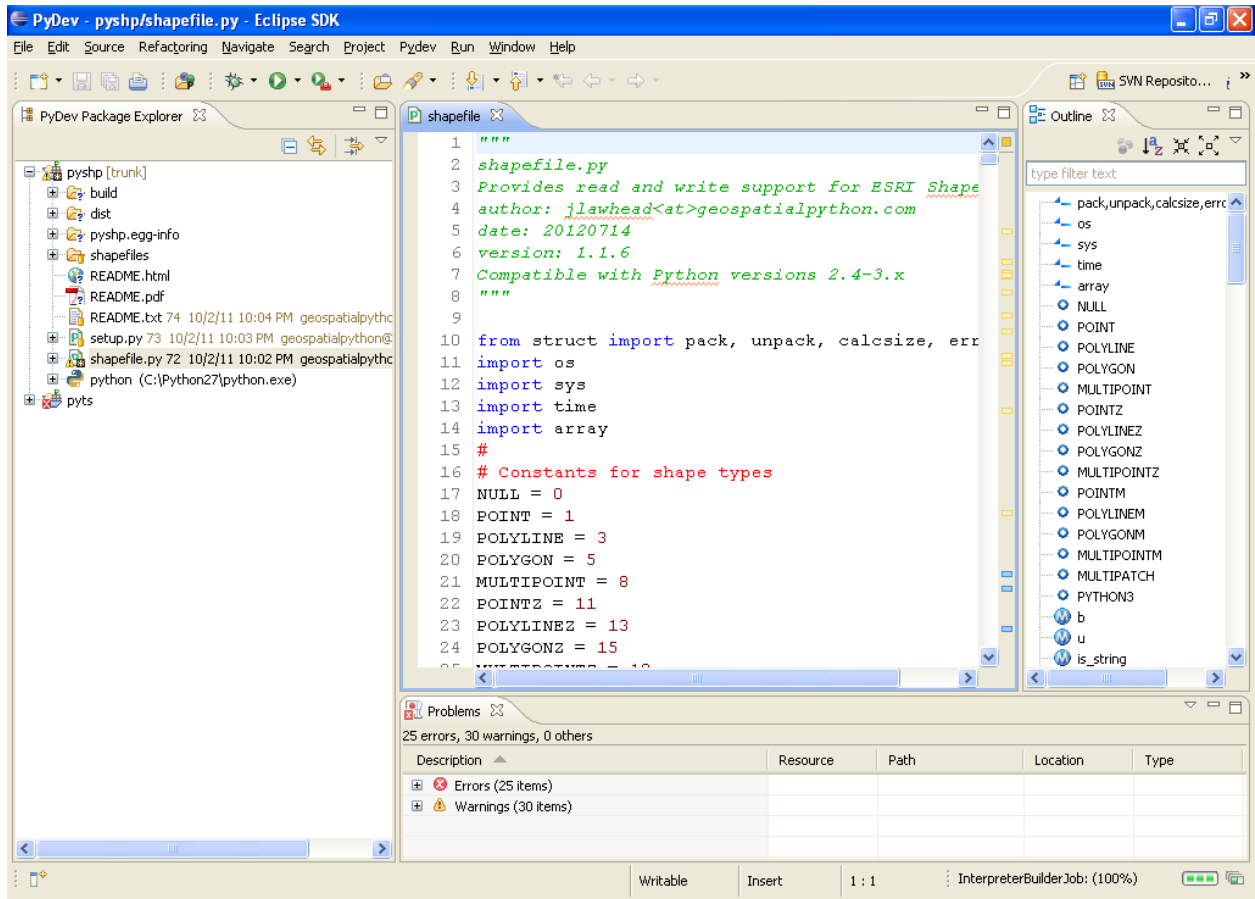
Display selected

Extract selected

Reload

Quit Apply

640595.27, 220432.01 Coordinates



uDig

File Edit Navigation Layer Map Data Window Help

Projects: project, Sample, Map 3

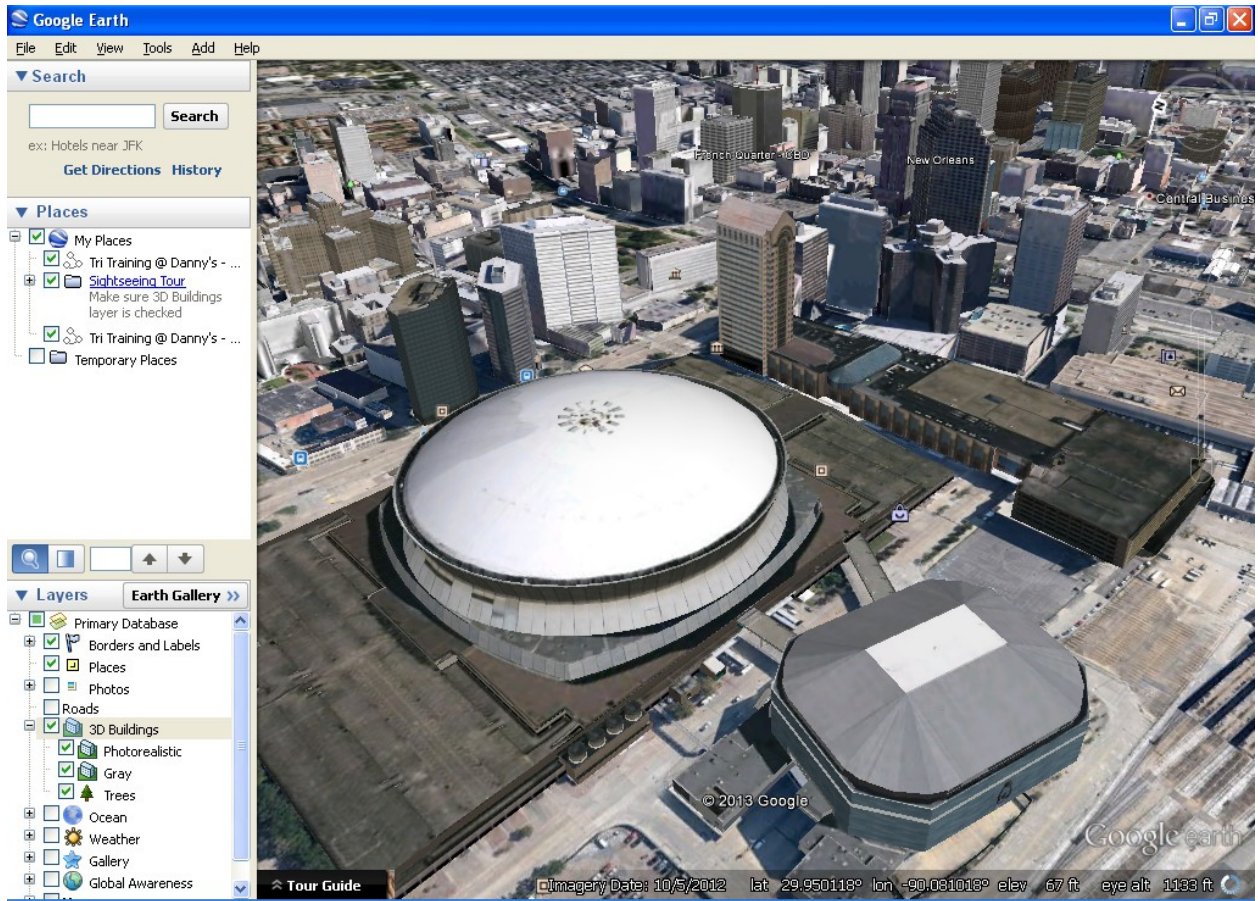
Layers: timezone, cities, countries, clouds.jpg

1:20,275,918 GCS_WGS_1984 -97.2, 35.3

Catalog Web Search Table Information

countries.194

Property	Value
Attributes	
Cntry_name	United States
Color_map	5
Curr_code	USD
Curr_type	US Dollar
Fips_cntry	US
Gmi_cntry	USA
Iso_2digit	US
Iso_3digit	USA
Landlocked	N
Long_name	United States
Pop_cntry	258833000
Sovereign	United States
Sqkm	9449362.0
Cont	North America



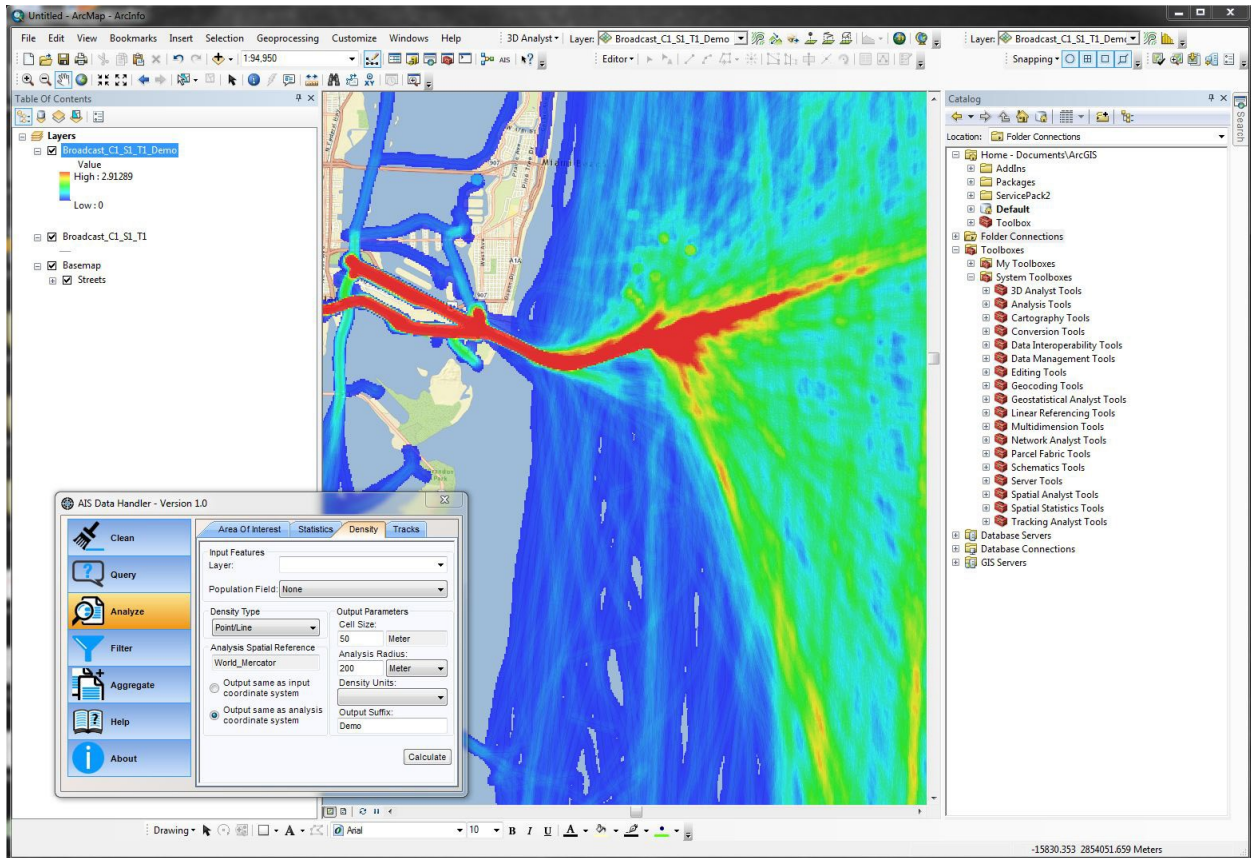
NASA World Wind

File Edit View Tools Plug-Ins Help

Latitude: 29,181791°
Longitude: 6,306616°
Heading: 352,15°
Tilt: 3,15°
Altitude: 12749,8 km
Distance: 12756,27 km
FOV: 45°

Layer Manager

- Starfield
- Images
 - The Blue Marble
 - NASA Landsat Imagery
 - NLT Landsat7 (V)
NASA derived global 30 meters per pixel satellite image mosaic
 - I-Cubed ESAT W
NASA derived global 15 meters per pixel satellite image mosaic, donated and processed by I-Cubed using equipment from Isilon Systems.
 - OnEarth 15m Gk
 - OnEarth 15m Gk
 - NLT Landsat7 (P)
 - Geocover 2000
Pseudo color 15m Landsat mosaic provided by MDA, Federal, scenes comprised from early 2000s
 - Geocover 1990
Pseudo color 30m Landsat mosaic provided by MDA, Federal, scenes comprised from early 1990s
 - USGS Imagery
 - new



-15830.353 2854051.659 Meters



WHAT?

WHERE?



- Any -

Search

Reset Advanced Options

- Administrative and Political Boundaries
- Agriculture and Livestock
- Applied Ecology
- Base Maps, Remote Sensing and Toponomy
- Biological and Ecological Resources
- Climate
- Fisheries and Aquaculture
- Forestry
- Human Health
- Hydrology and Water Resources
- Infrastructures
- Land Cover and Land Use
- Population and Socio-Economic Indicators
- Soils and Soil Resources
- Topography

RECENT CHANGES GeoRSS

• FAO aquatic species distribution map of

Show map

FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS

GEONETWORK'S PURPOSE IS:

- To improve access to and integrated use of spatial data and information
- To support decision making
- To promote multidisciplinary approaches to sustainable development
- To enhance understanding of the benefits of geographic information

GeoNetwork opensource allows to easily share geographically referenced thematic information between different organizations. For more information please contact

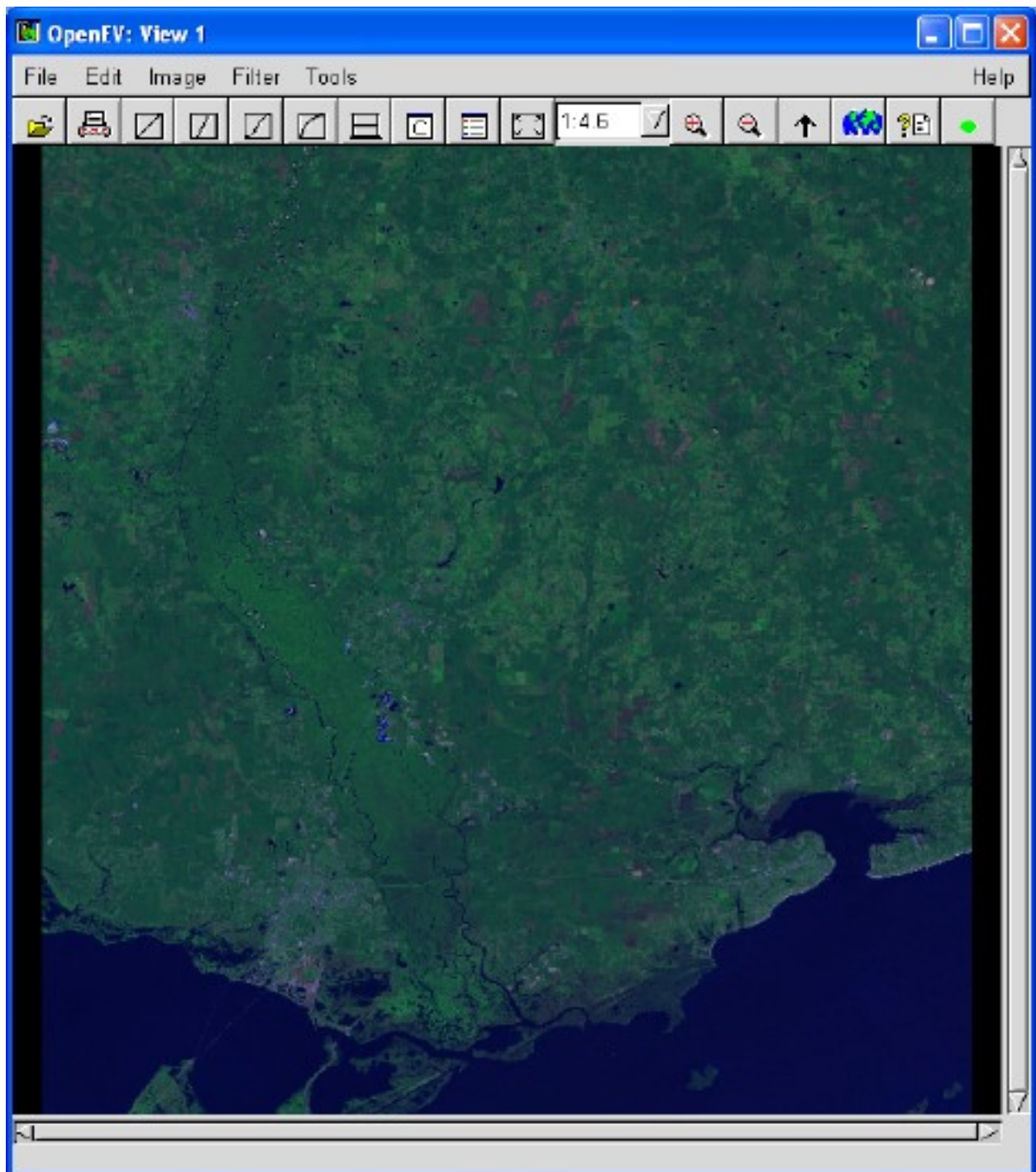
GeoNetwork@fao.org

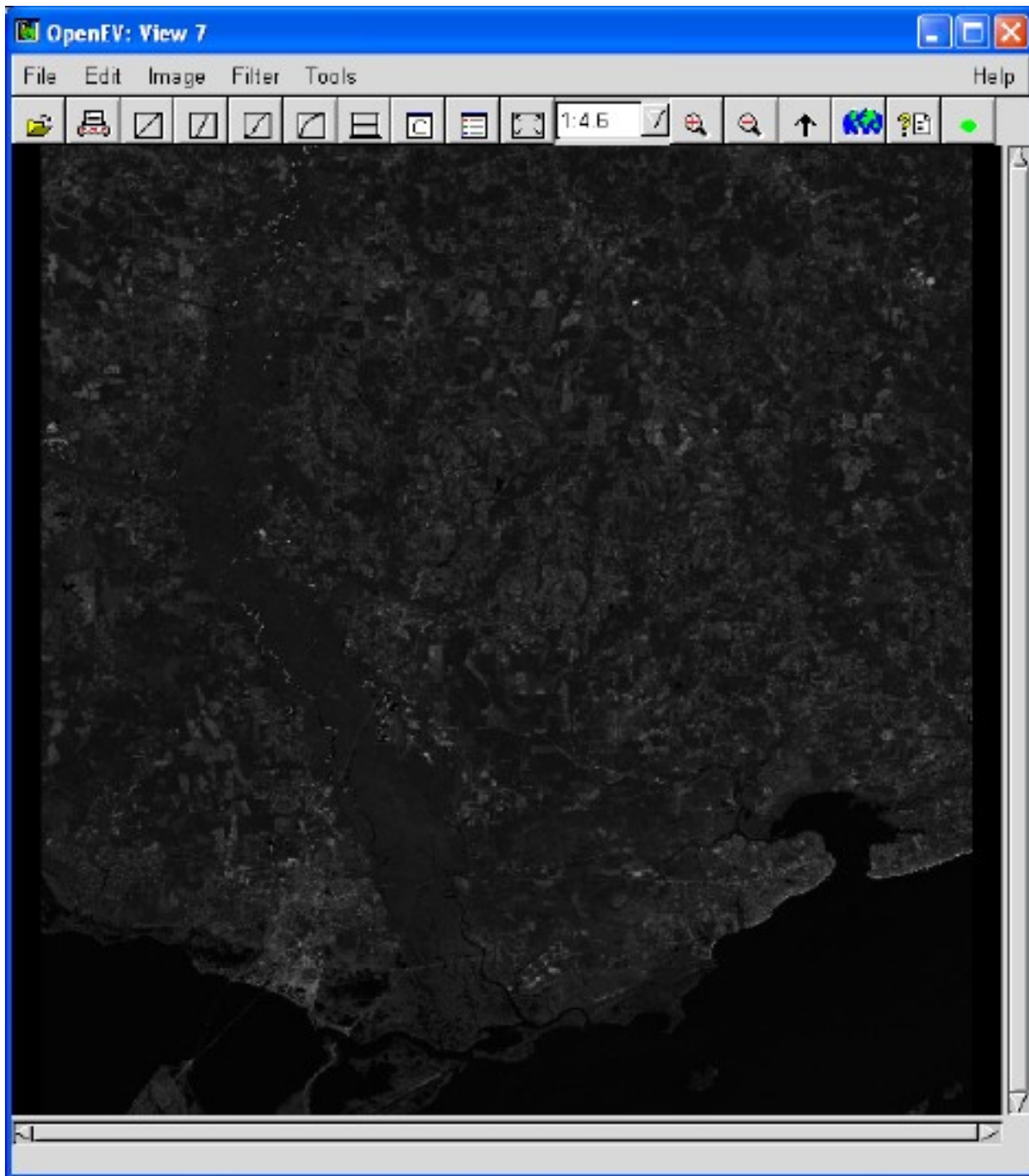
Featured map

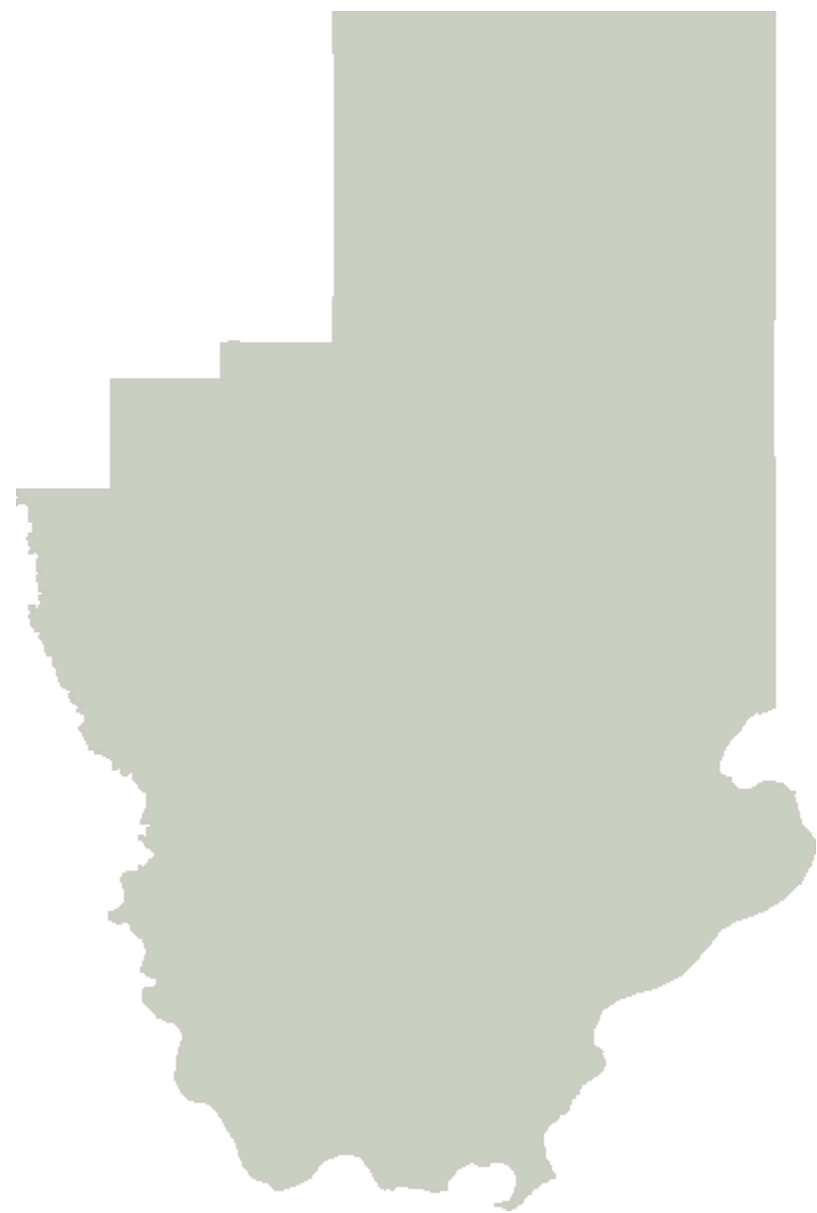
SPATIAL FRAMEWORK

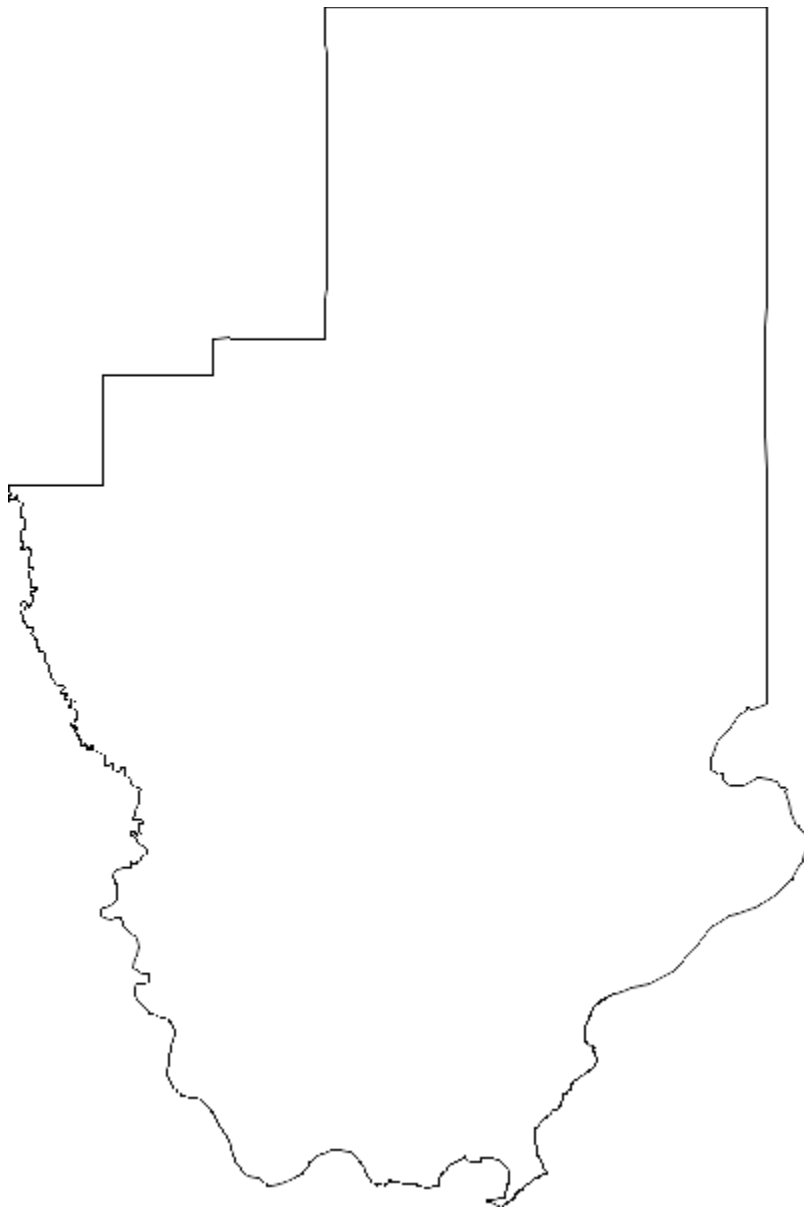


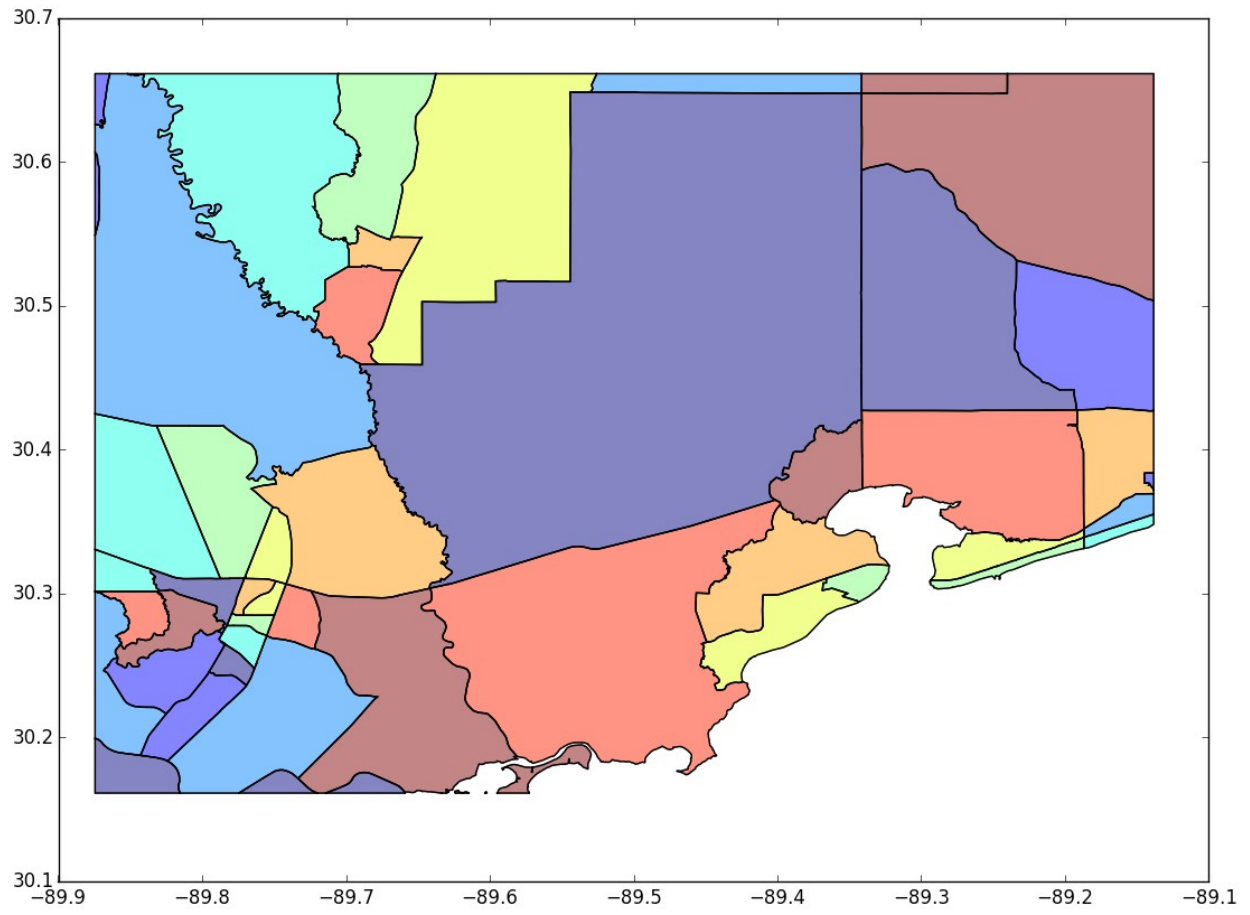
Chapter 4: Geospatial Python Toolbox



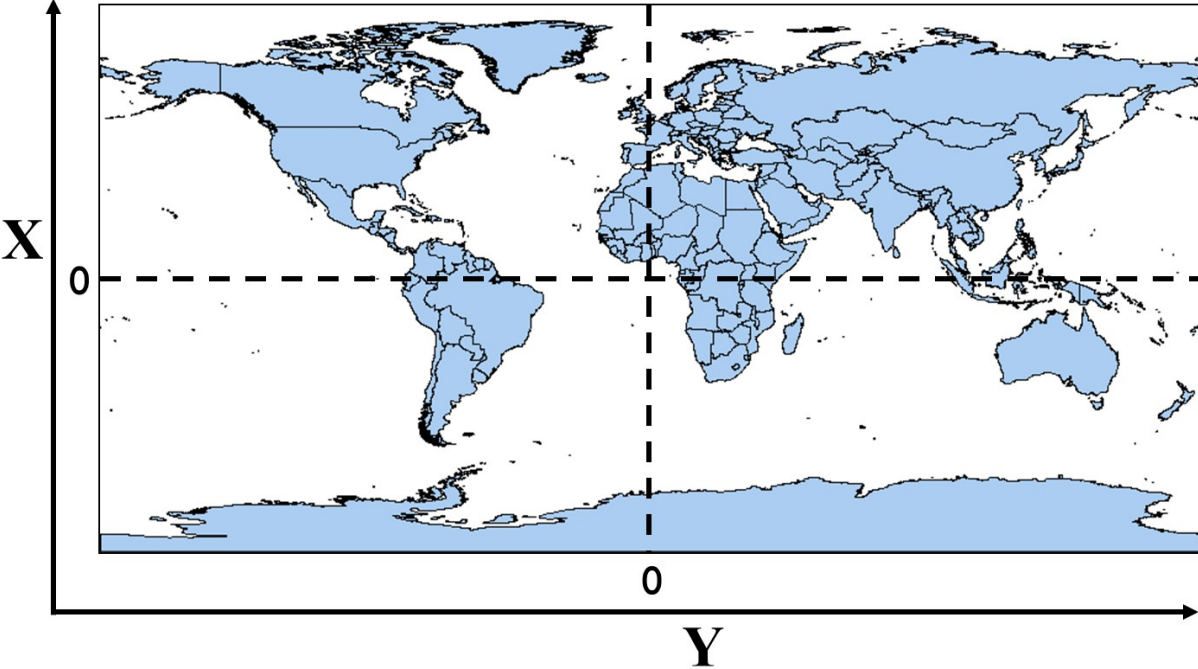


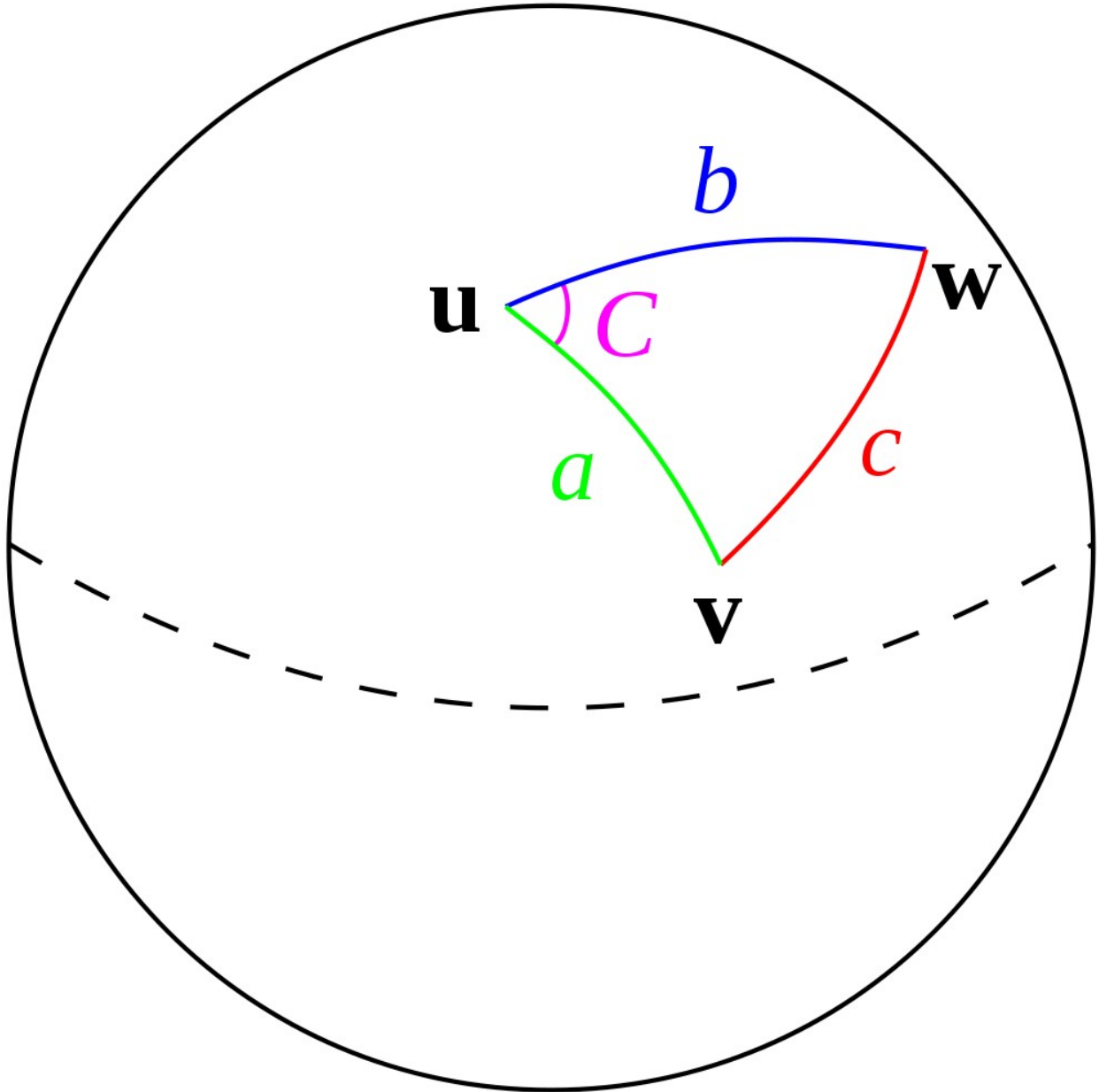


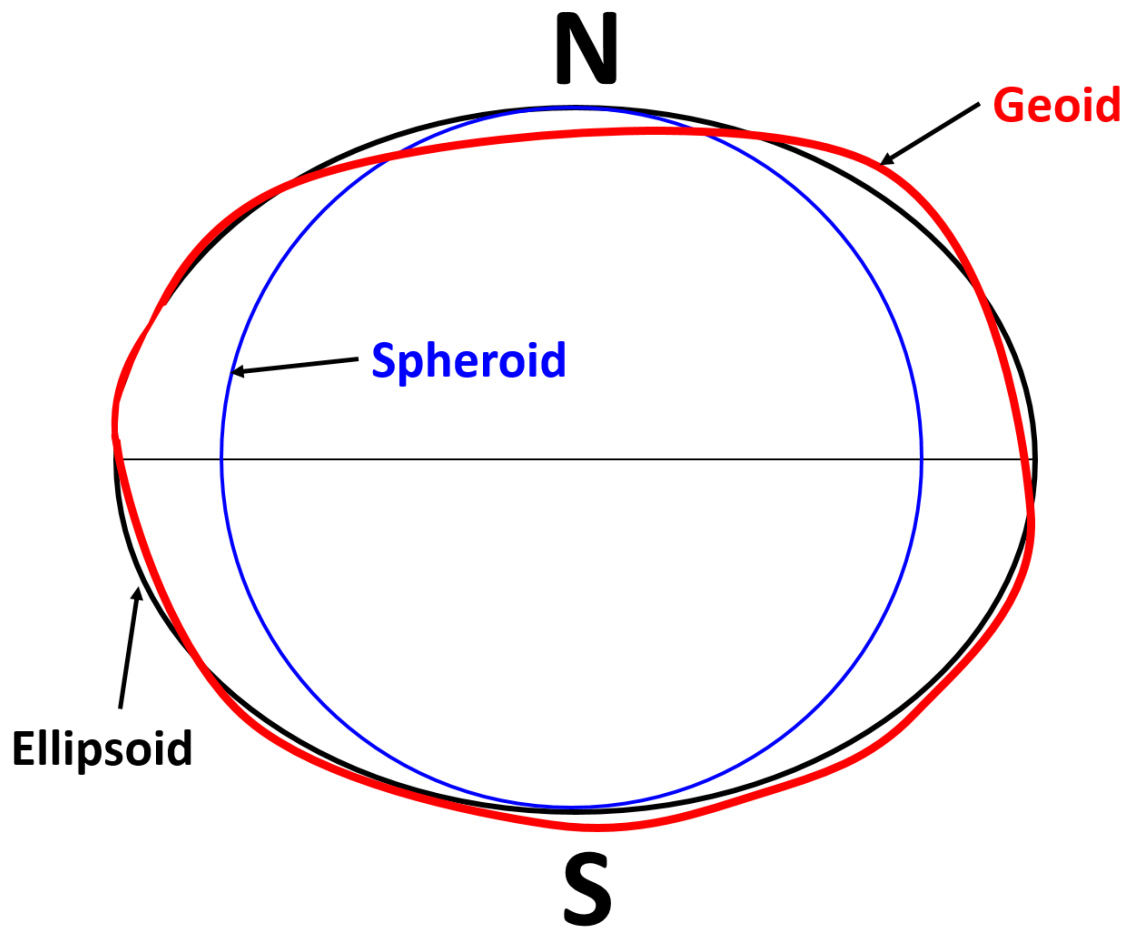


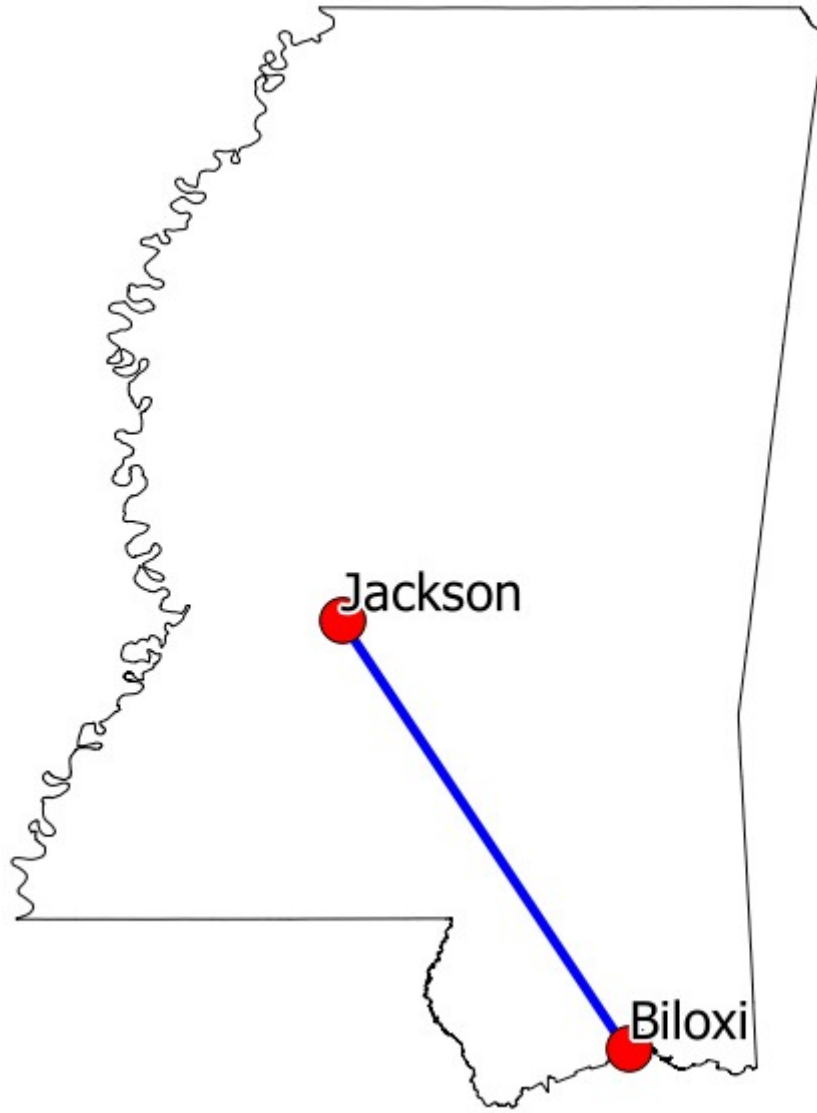


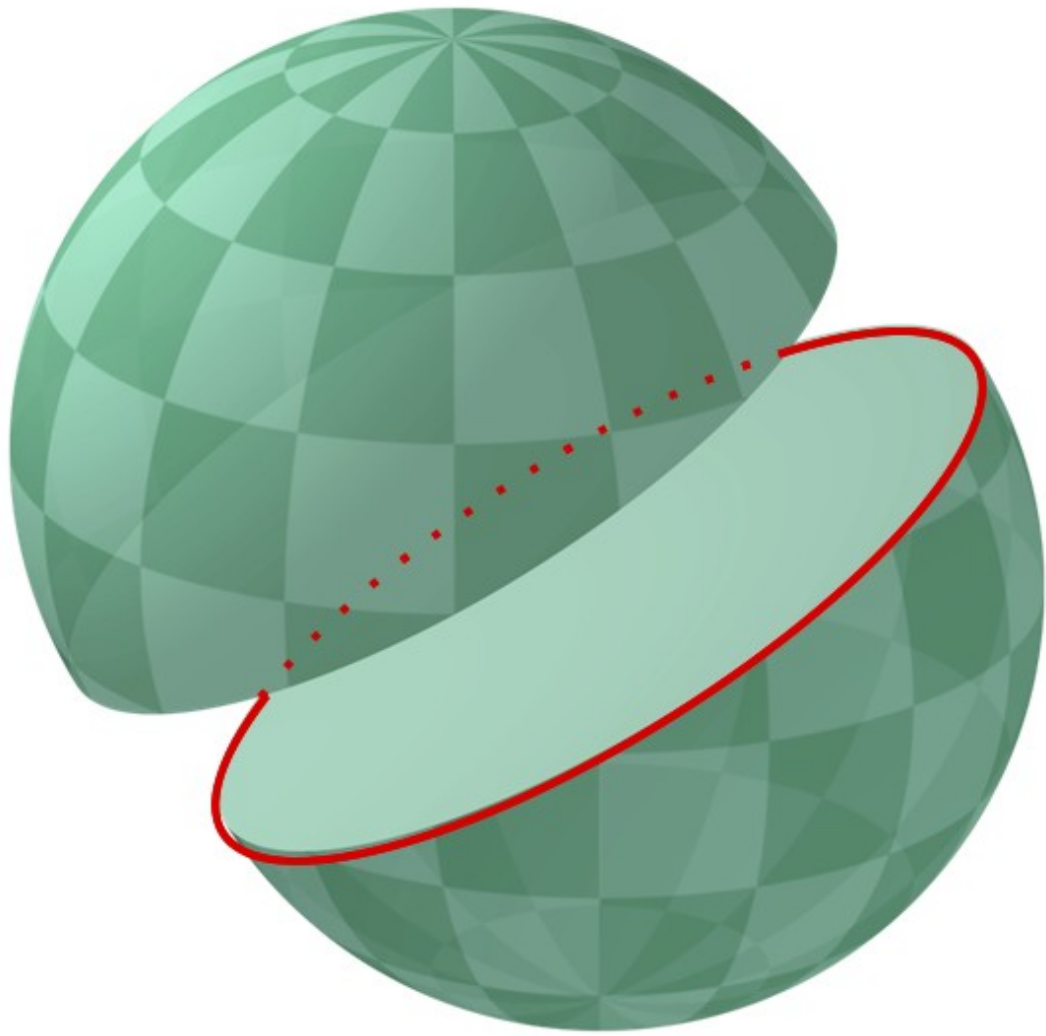
Chapter 5: Python and Geographic Information Systems

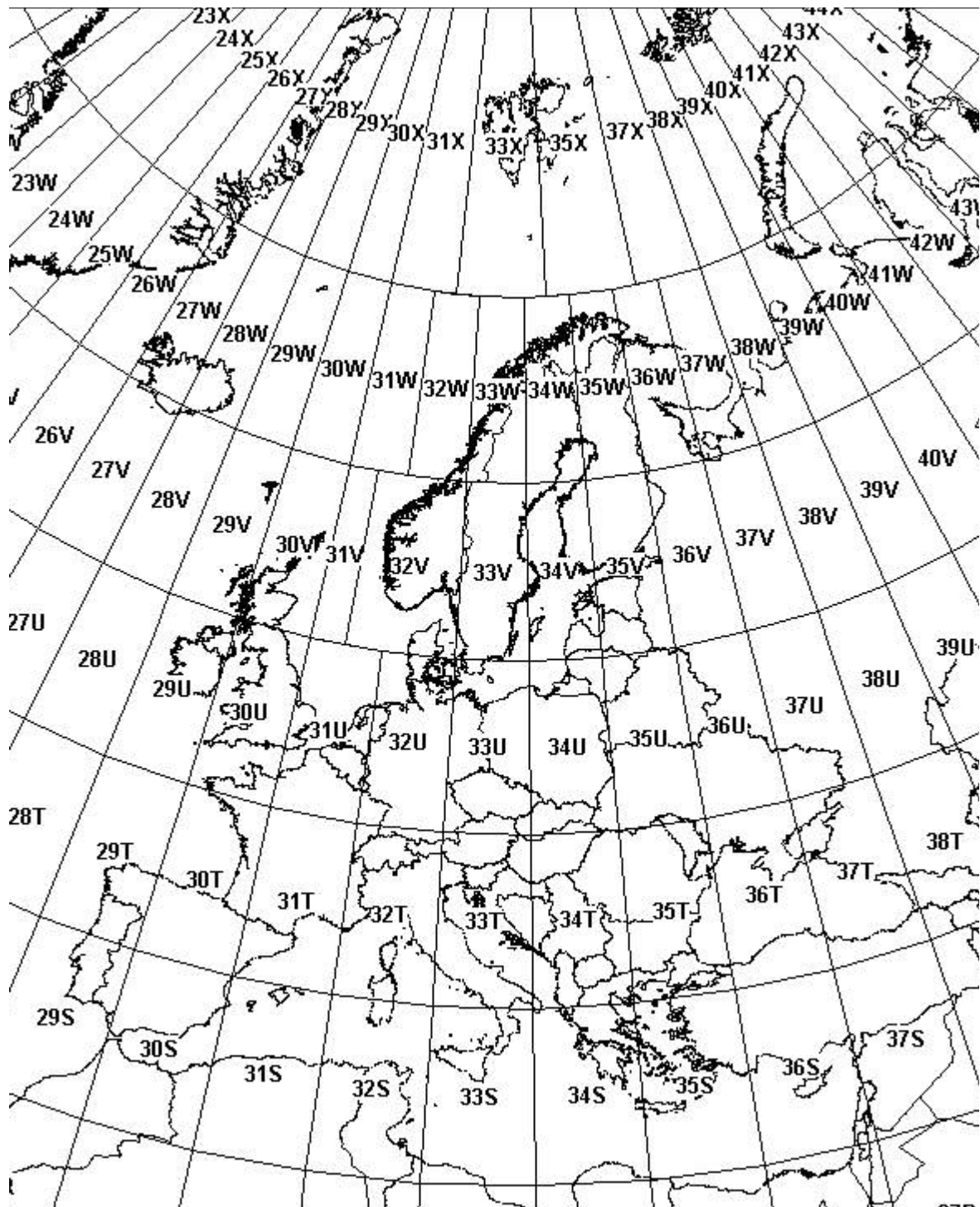


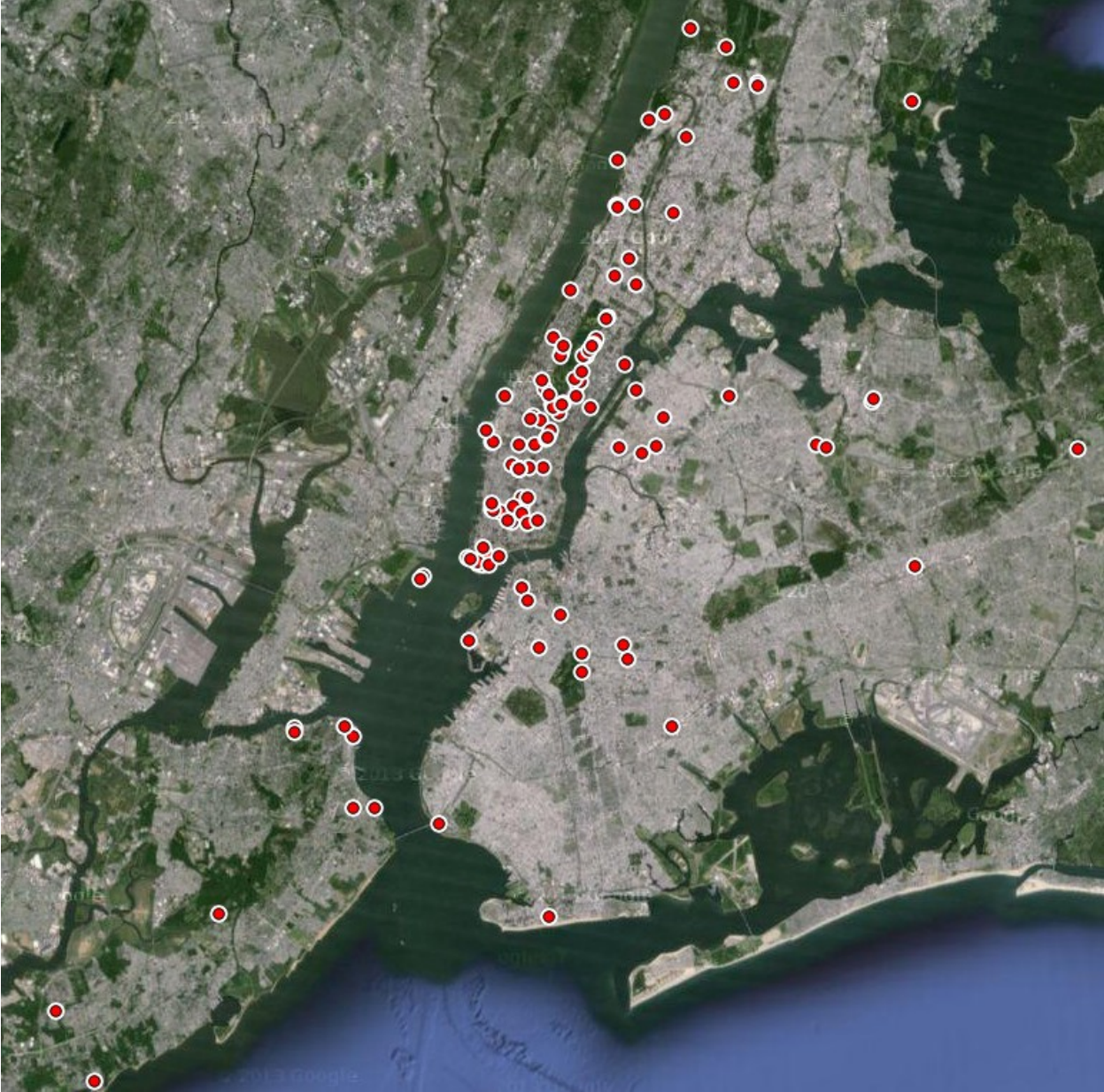


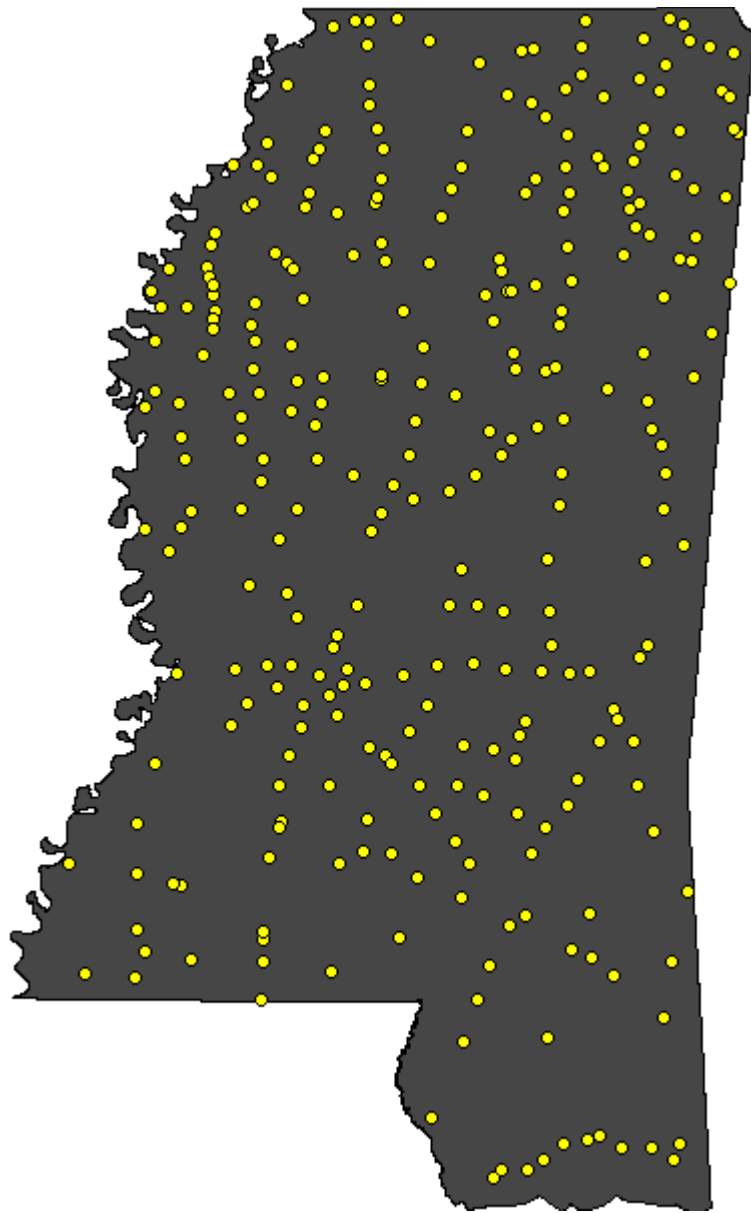


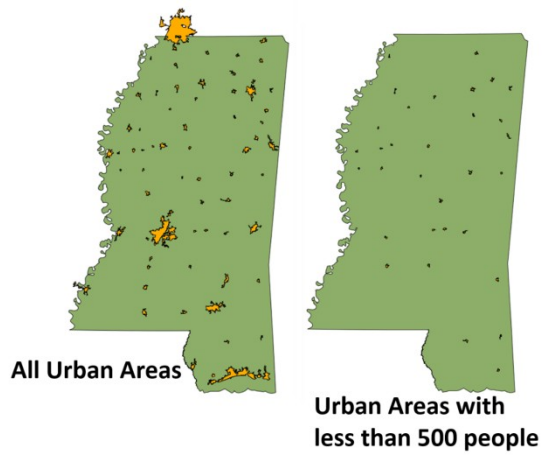
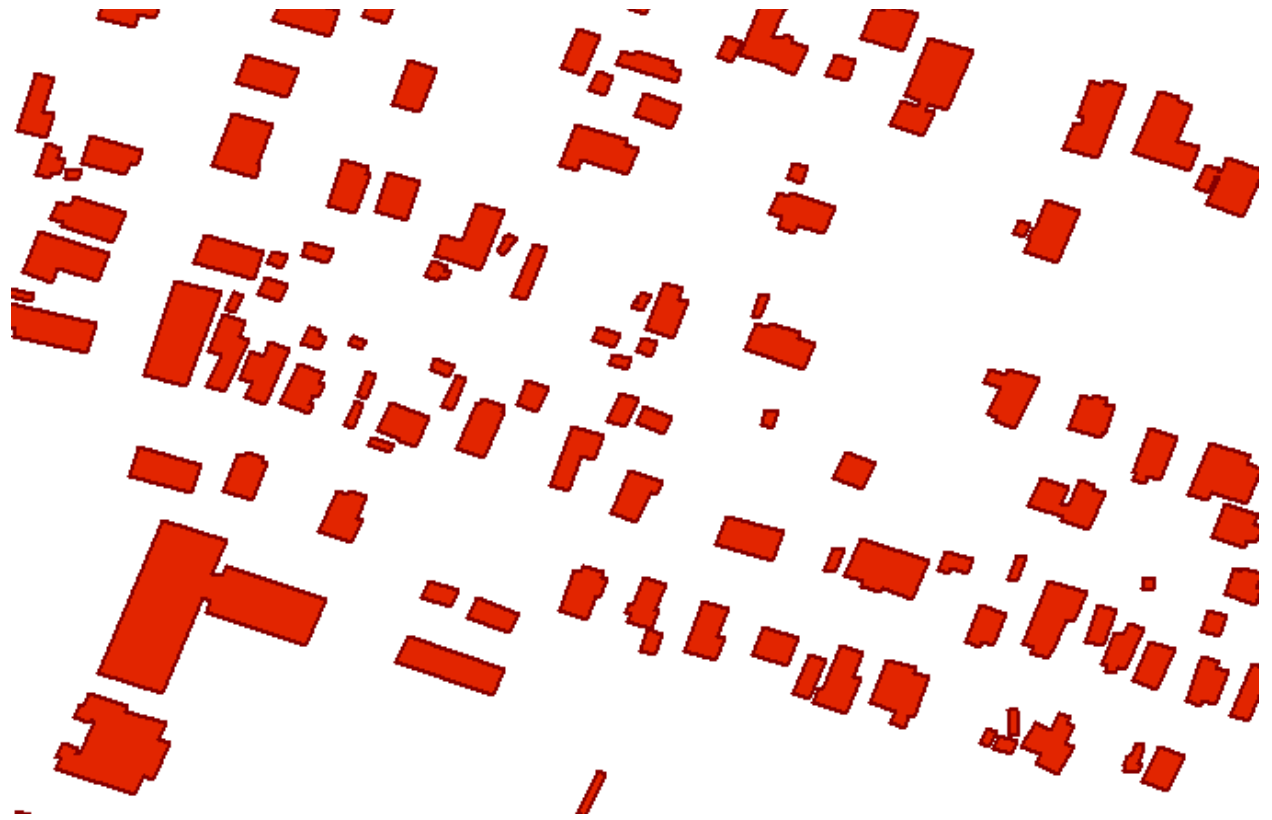


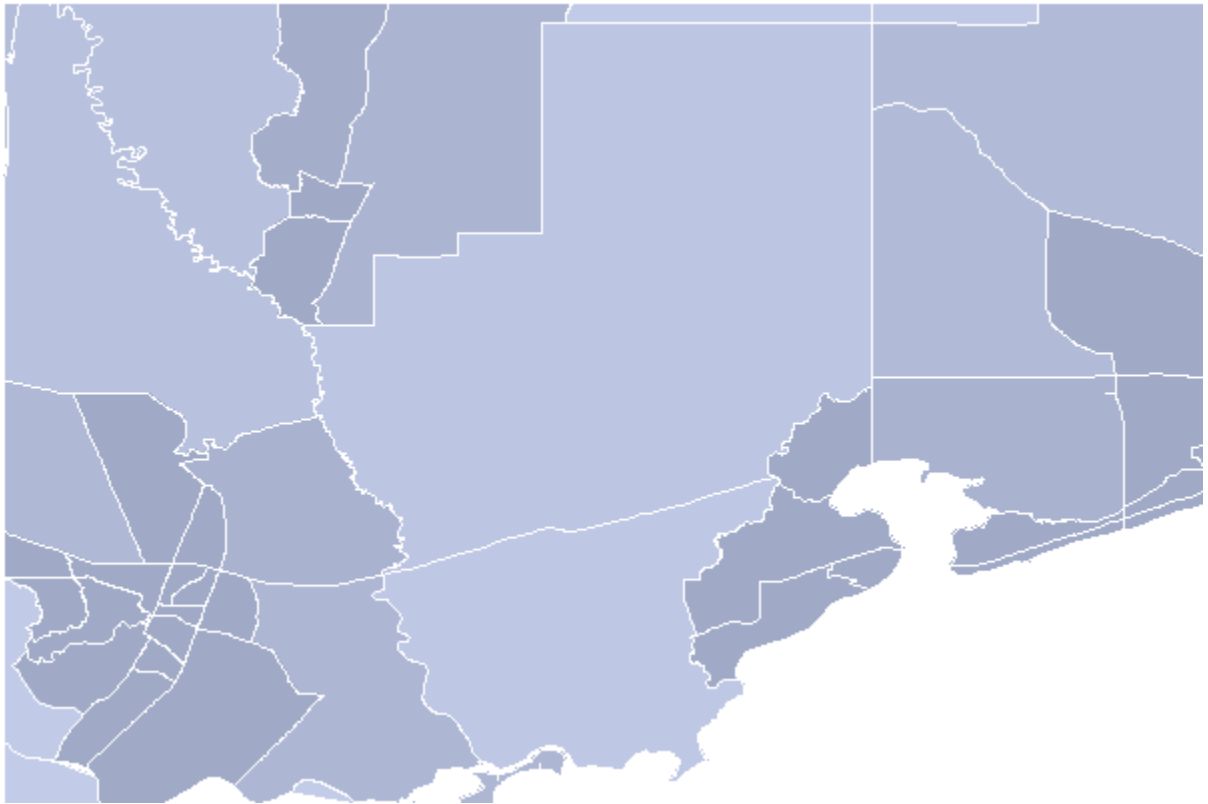
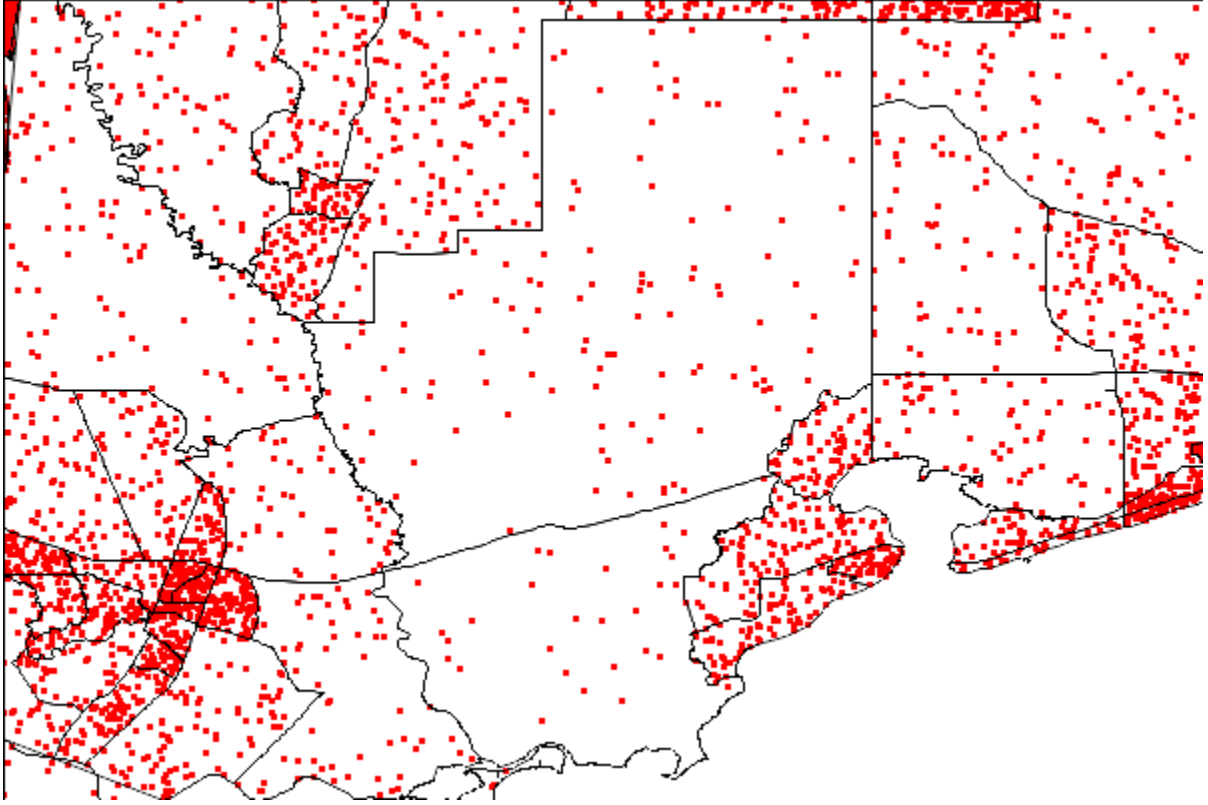












NYC_MUSEUMS_GEO.xls [Compatibility Mode] - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View

Clipboard Font Alignment Number Styles Cells Editing

H1 XCOORD

	A	B	C	D	E	F	G	H	I
1	NAME	TEL	URL	ADRESS1	ADDRESS2	CITY	ZIP	XCOORD	YCOORD
2	Alexander	(212) 514-	http://ww	1 Bowling Grn		New York	10004	-74.0133	40.7038
3	Alice Auste	(718) 816-	http://ww	2 Hy			10305	-74.063	40.6151
4	American	(212) 368-	http://ww	633			10032	-73.9473	40.8339
5	American I	(212) 265-	http://ww	45 V			1001	-73.9781	40.7616
6	American I	(212) 363-	http://ww	Ellis Island		New York	100	-74.0397	40.6991
7	American I	(212) 769-	http://ww	Central Park West at		New York	10024	-73.9736	40.7808
8	American I	(212) 571-	http://ww	75 Varick S	11th Floor	New York	10013	-74.007	40.7235
9	Americas S	(212) 249-	http://as.a	680 Park Ave.		New	10021	-73.966	40.7688
10	Anne Franl	(212) 431-	http://ww	38 Crosb			10012	-73.9996	40.7211
11	Asia Societ	(212) 288-	http://ww	725 Park			10021	-73.9643	40.7698
12	Audubon Terrace		http://ww	Broadwa			10032	-73.9465	40.8336
13	Bartow-Pe	(718) 885-	http://bar	895 Shore Peinam Ba		Bronx	10464	-73.8056	40.8718
14	Bowne Ho	(718) 359-	http://ww	37-01 Bowne Street		Queens	11354	-73.8249	40.7629
15	Bronx Hist	(718) 881-	http://ww	3309 Bainbridge Ave		Bronx	10467	-73.8797	40.8782
16	Bronx Mus	(718) 681-	http://ww	1040 Grand Concourse		Bronx	10456	-73.9198	40.831

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X Coordinate Column

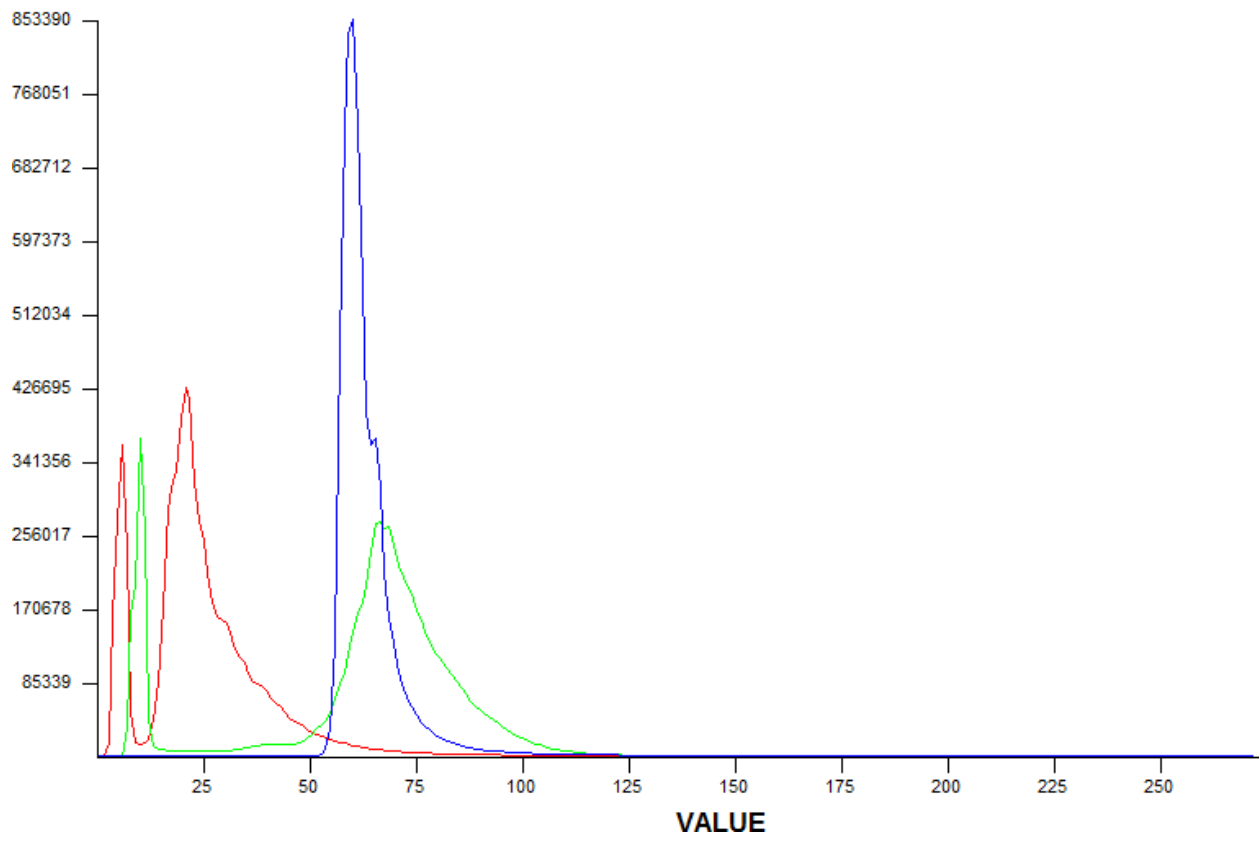
Y Coordinate Column

Chapter 6: Python and Remote Sensing

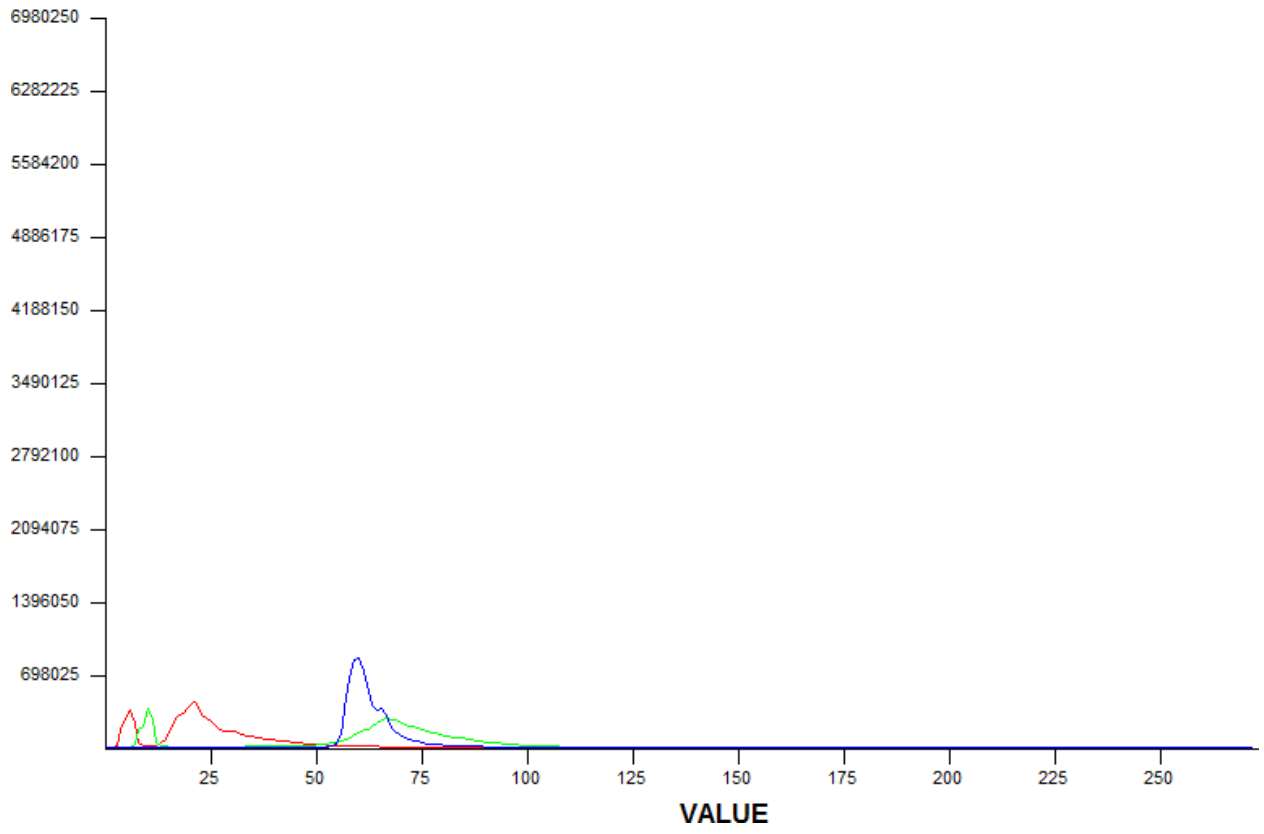


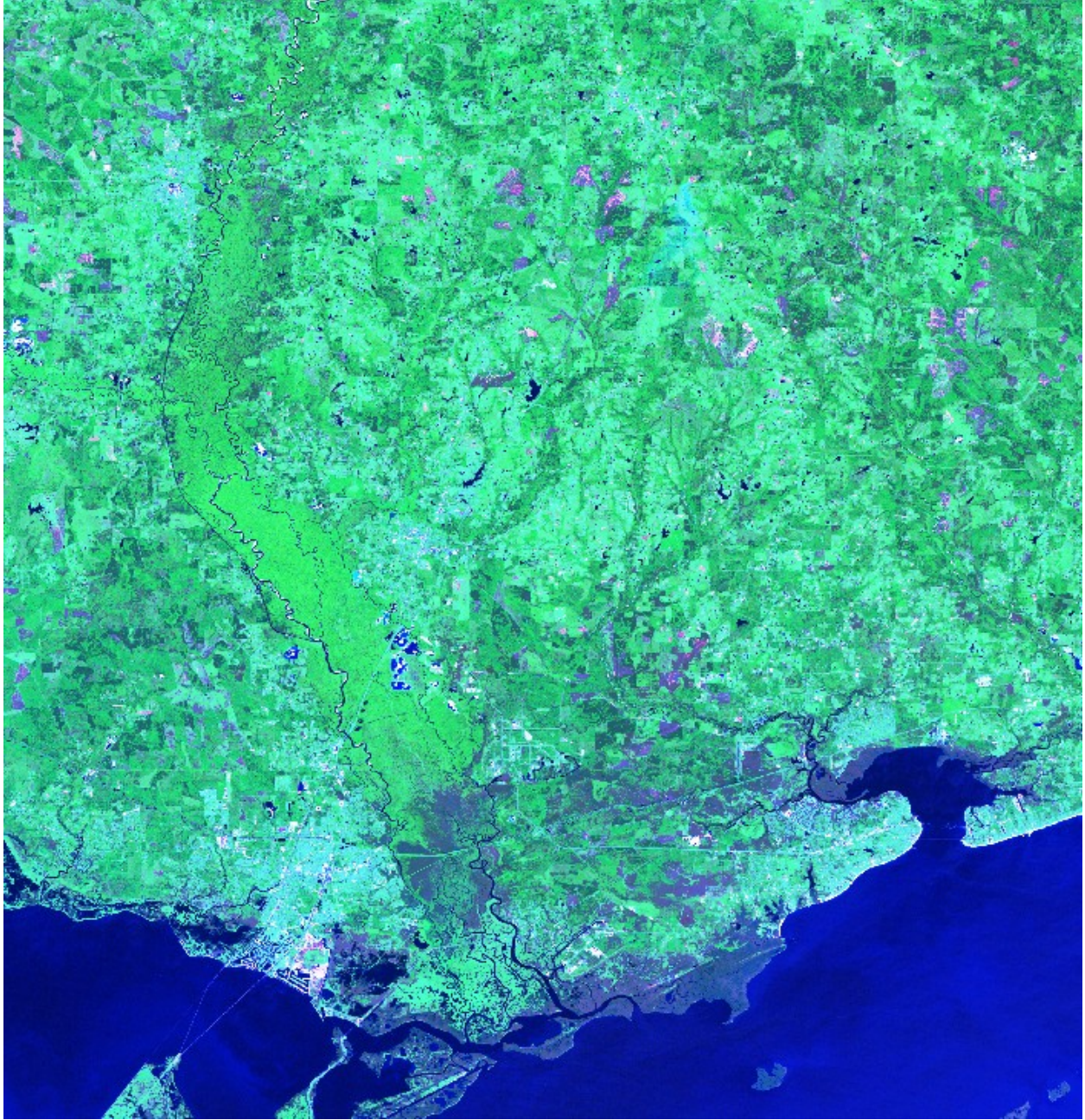


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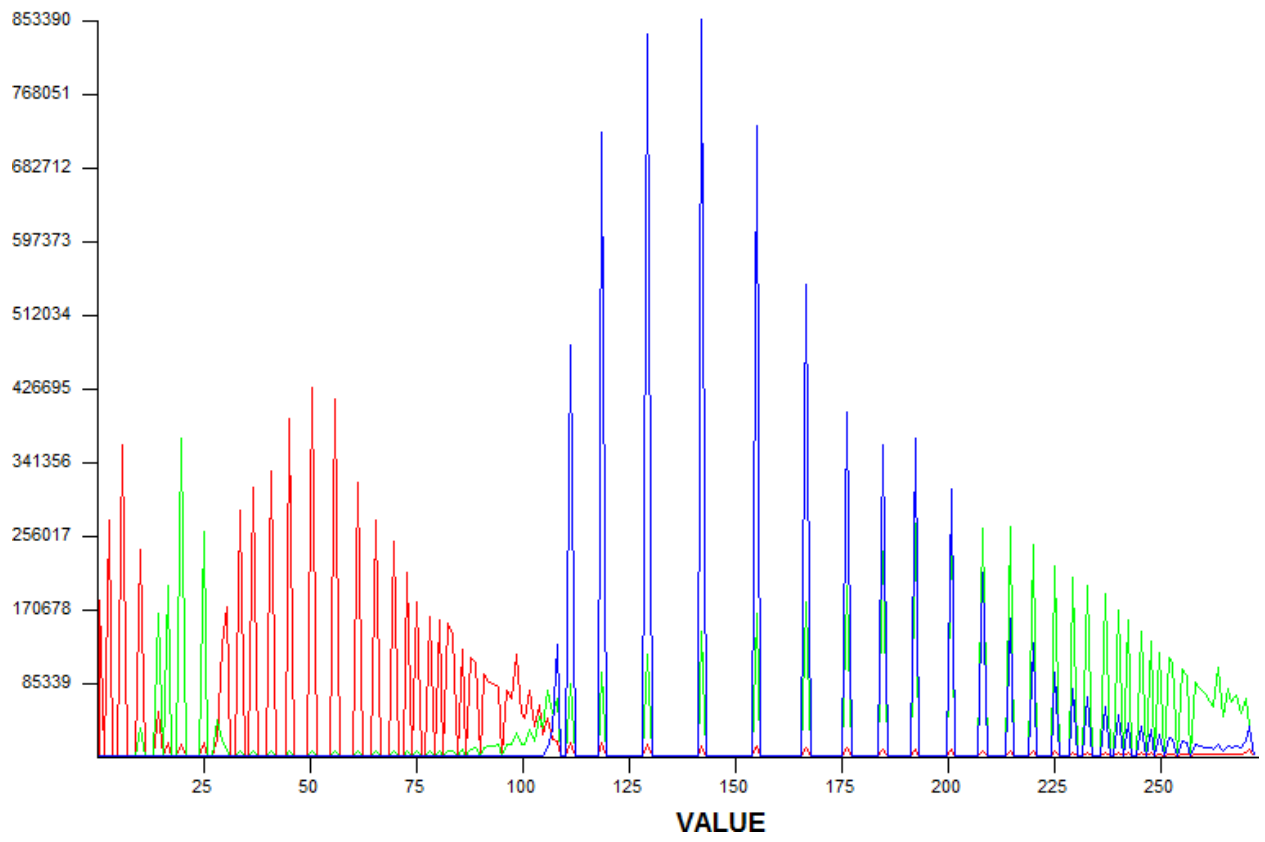


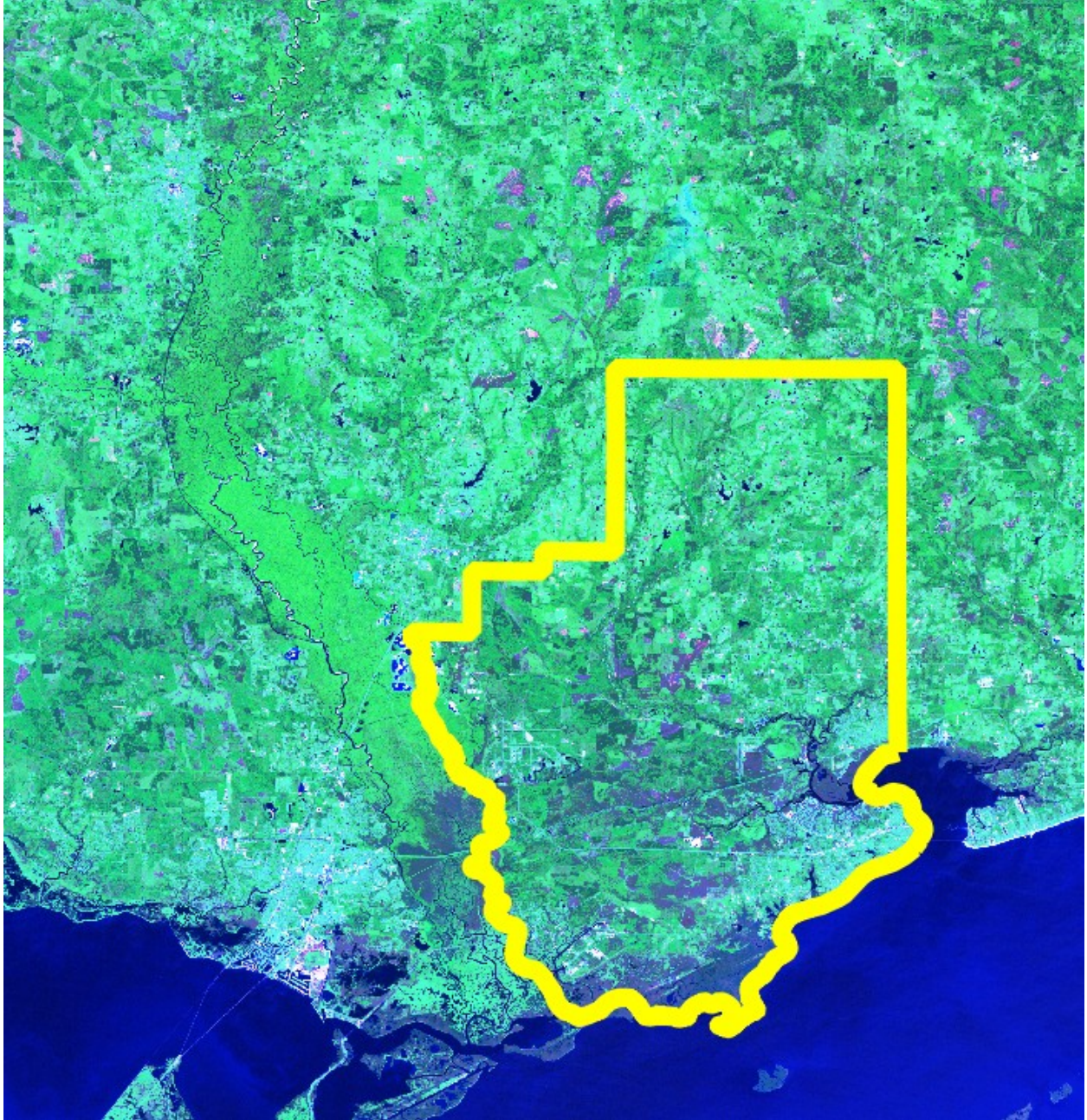
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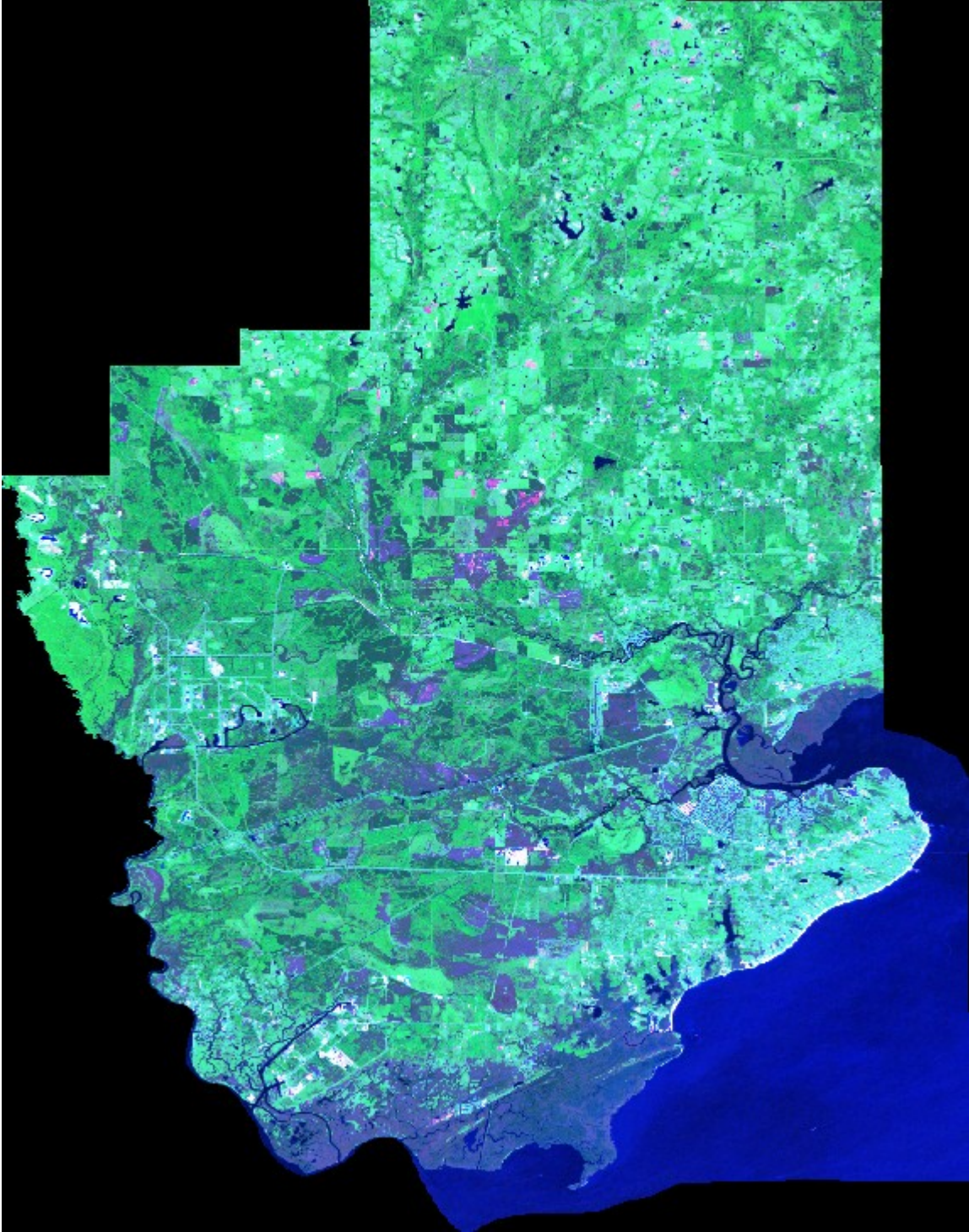


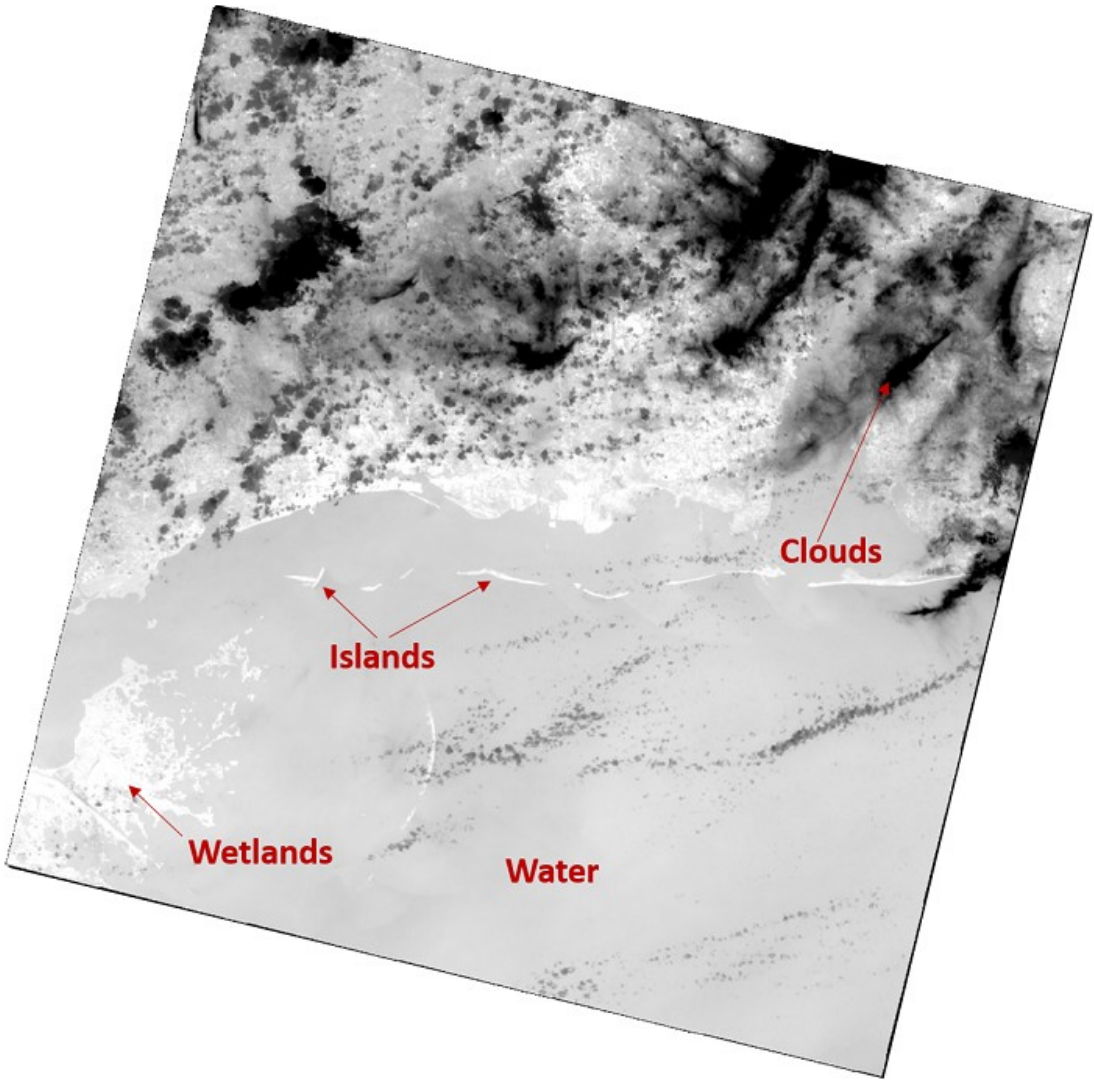


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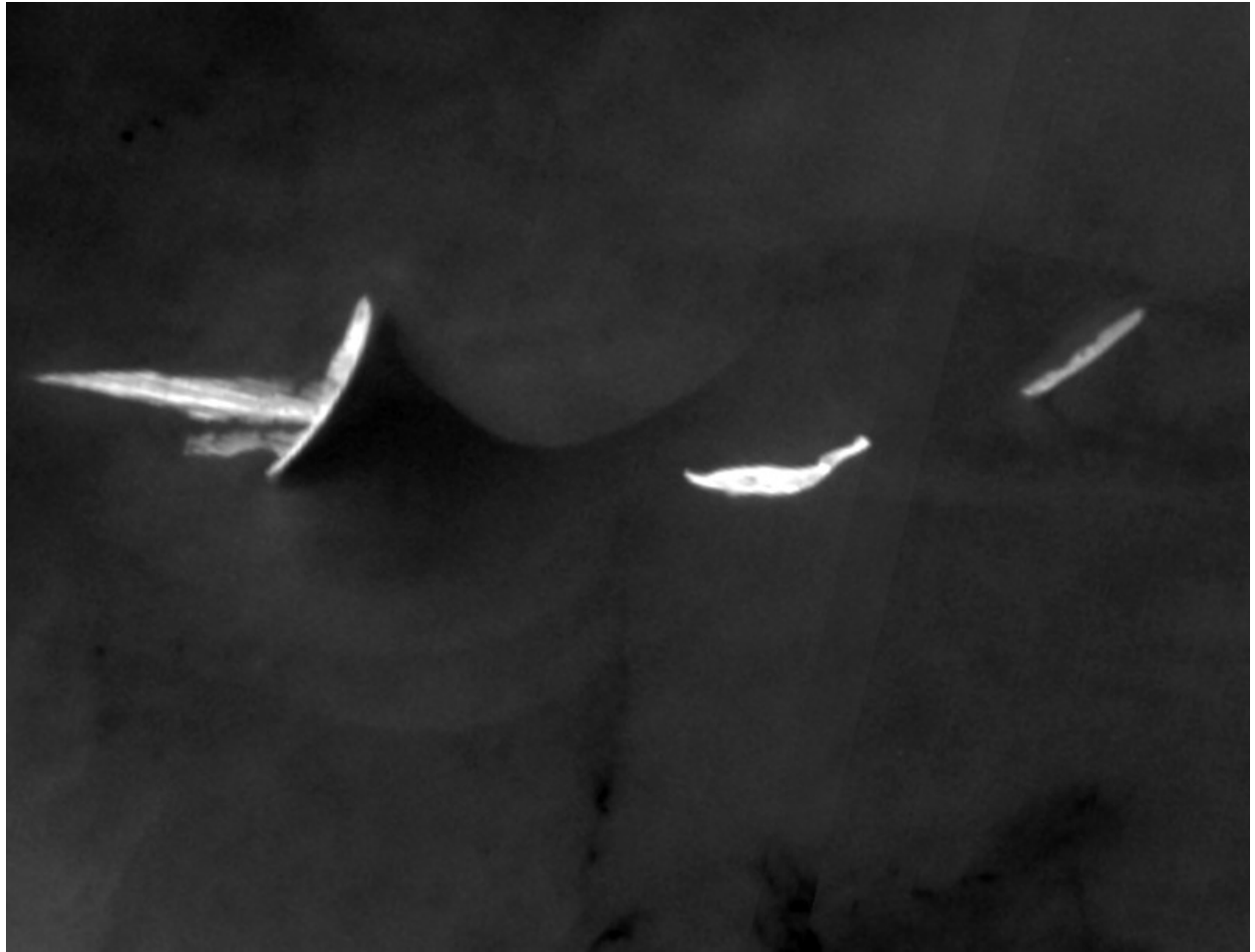








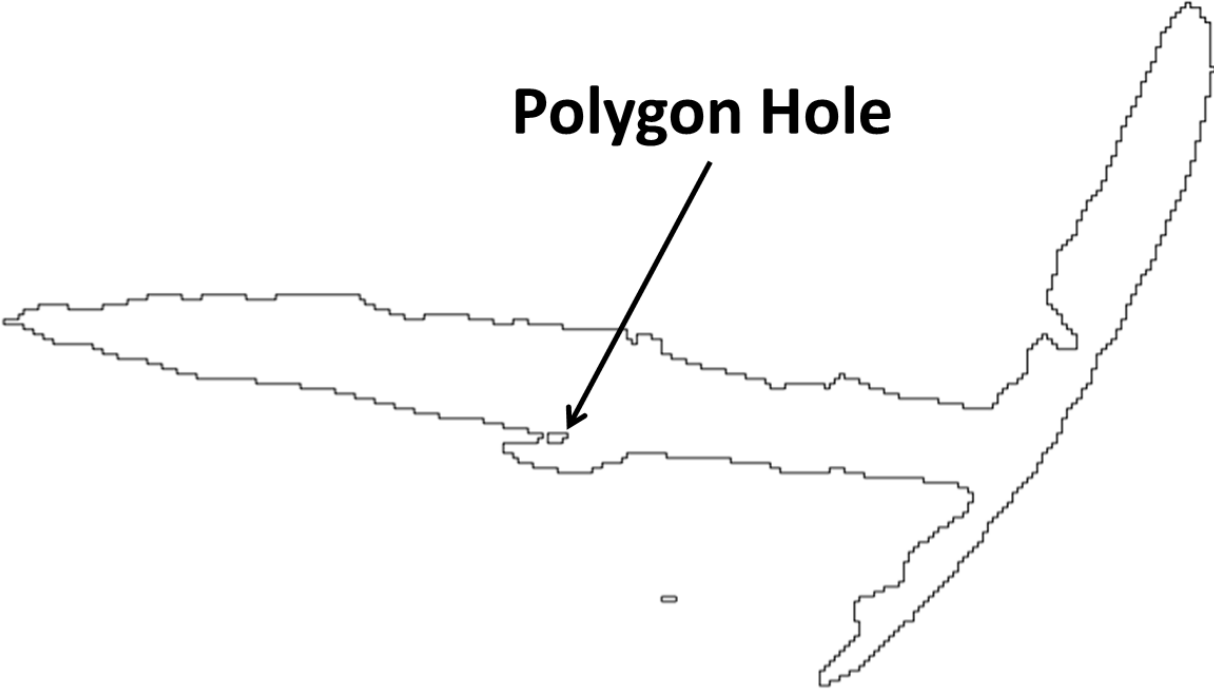




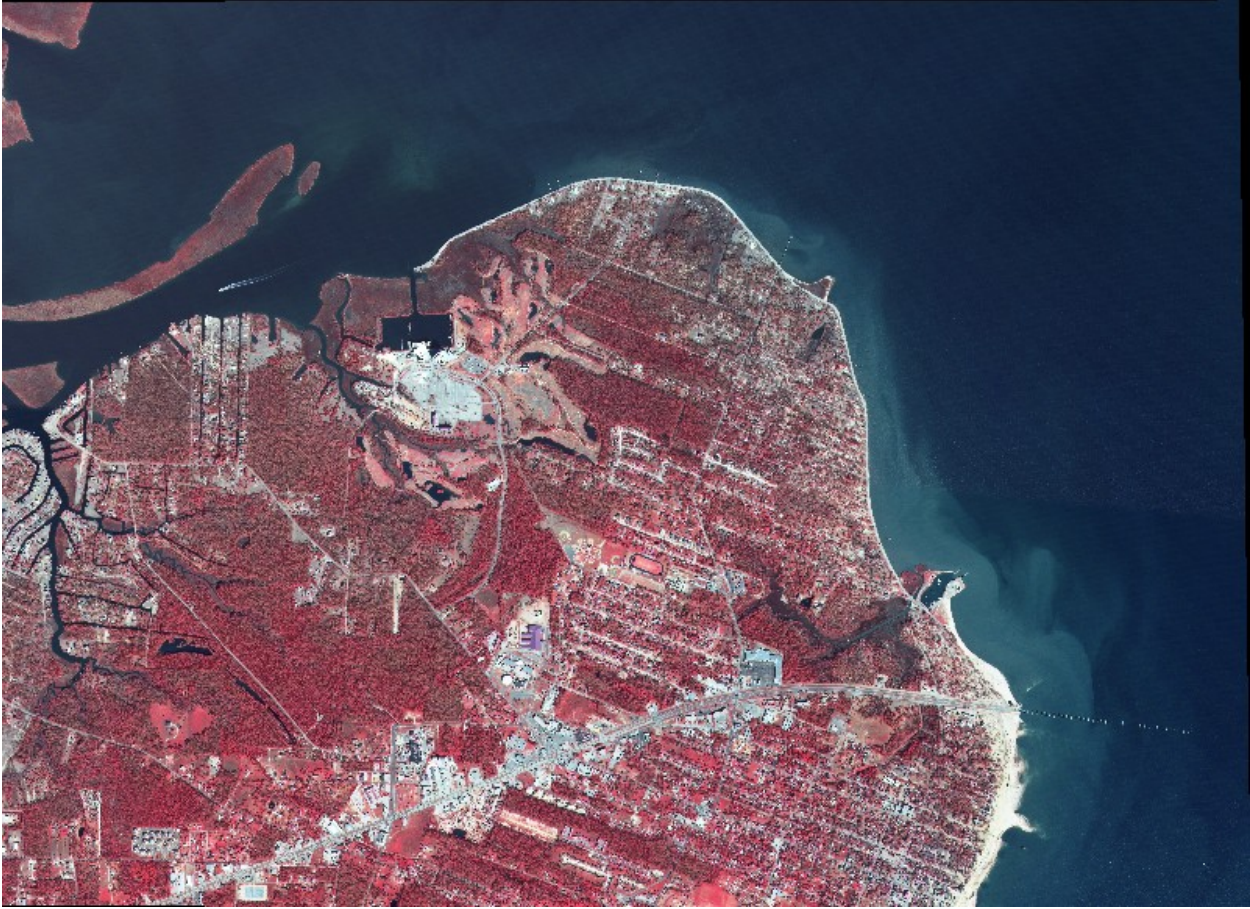


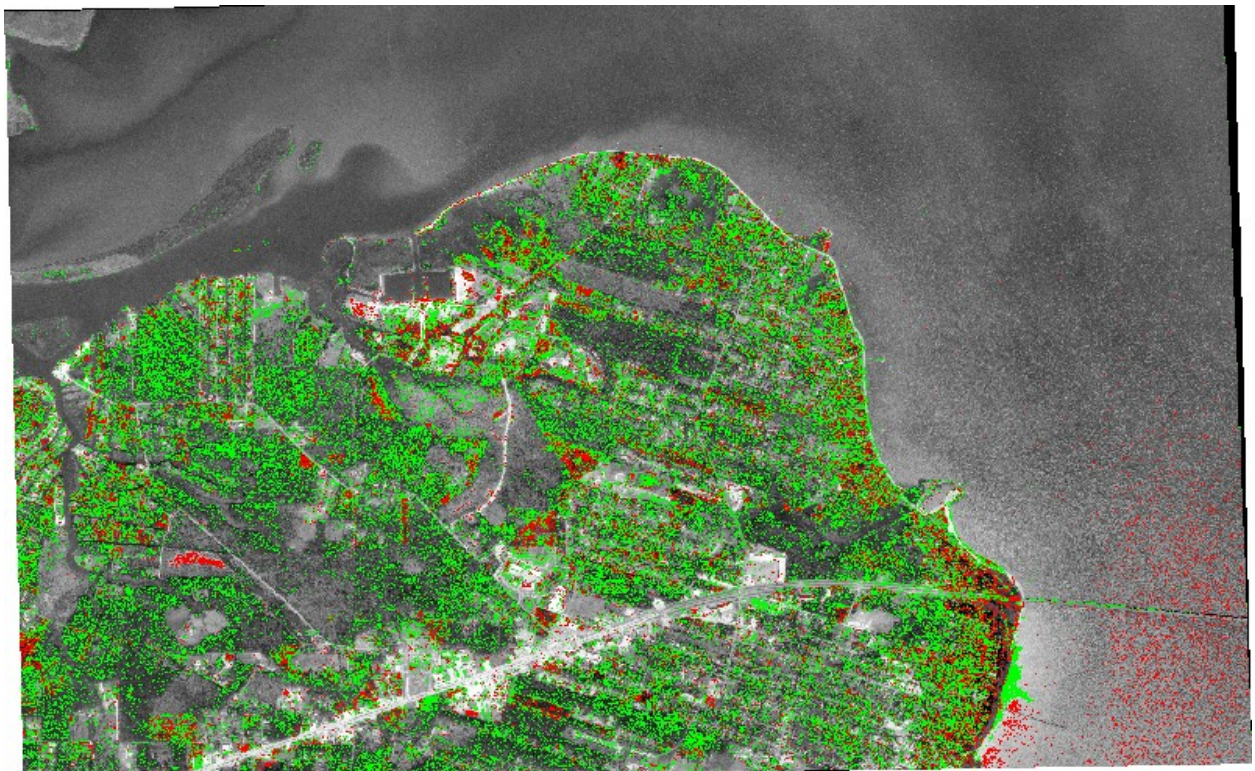
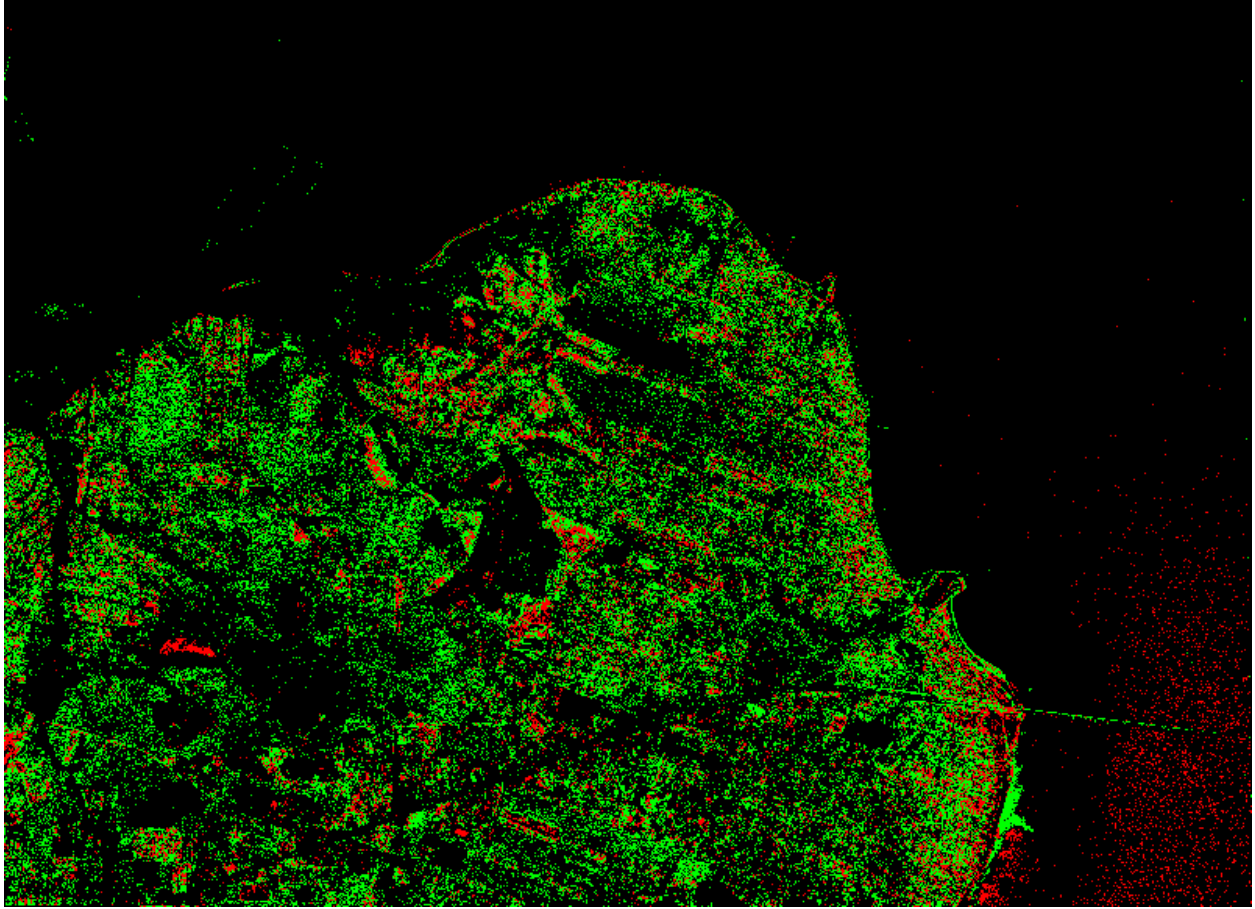


Polygon Hole

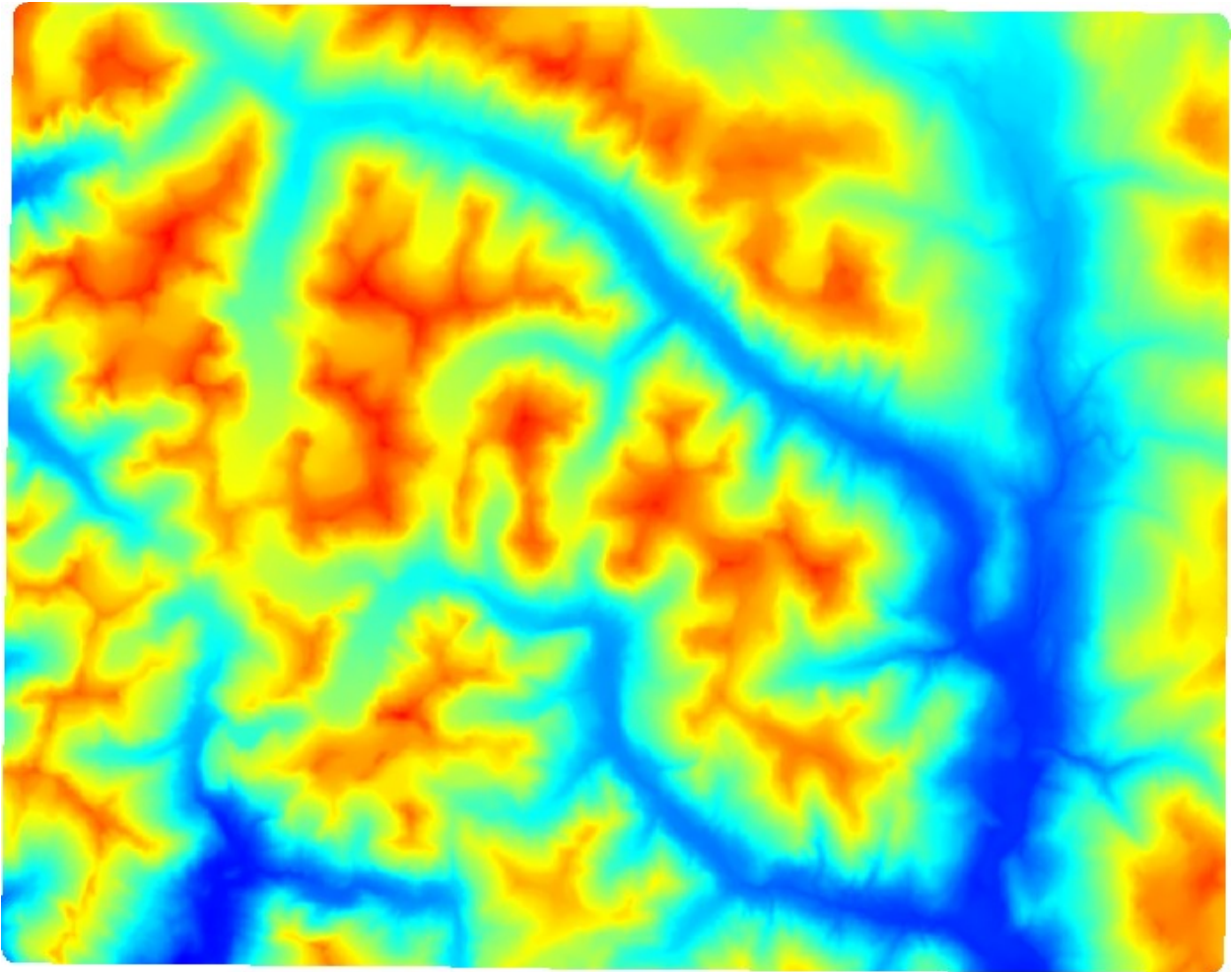


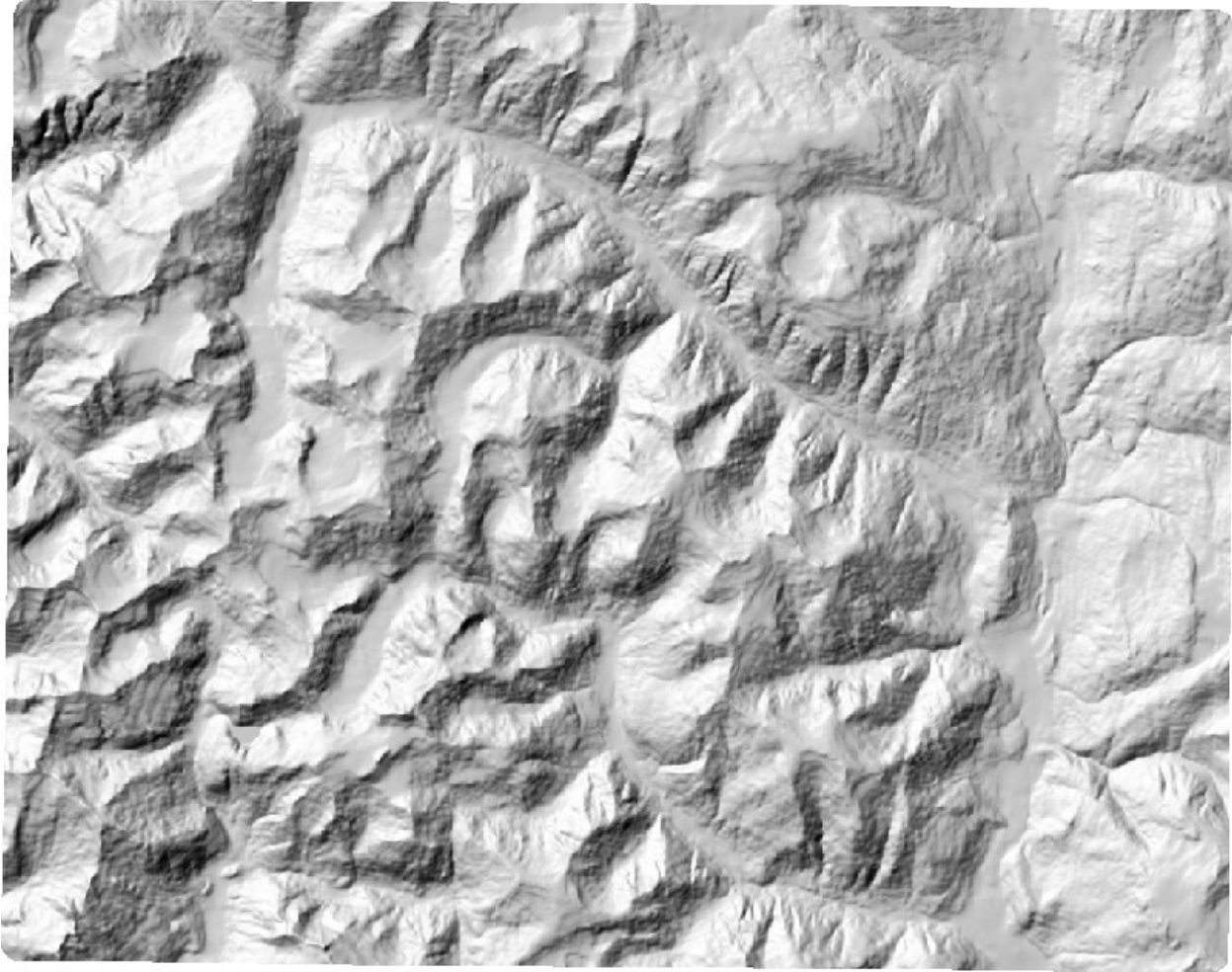




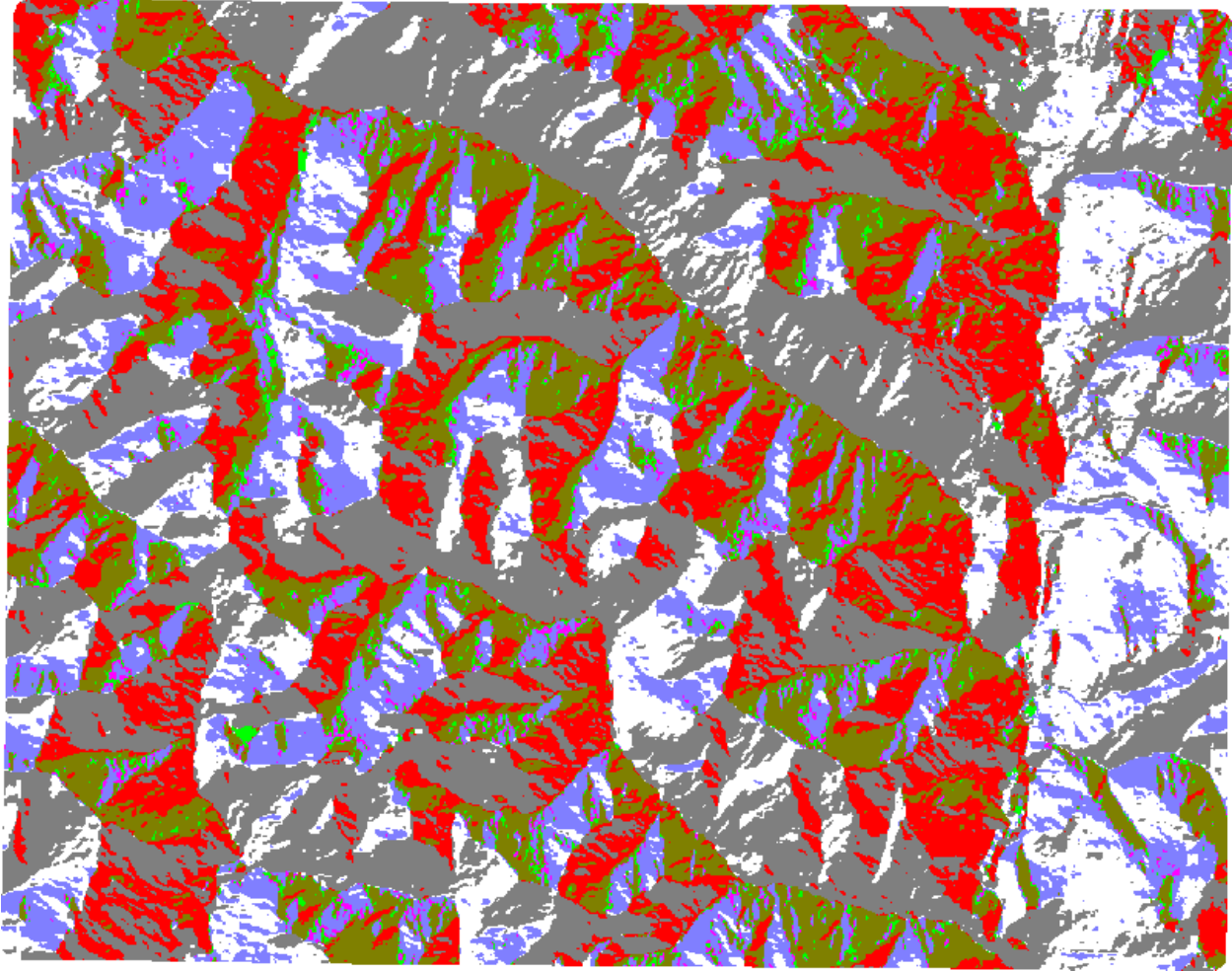


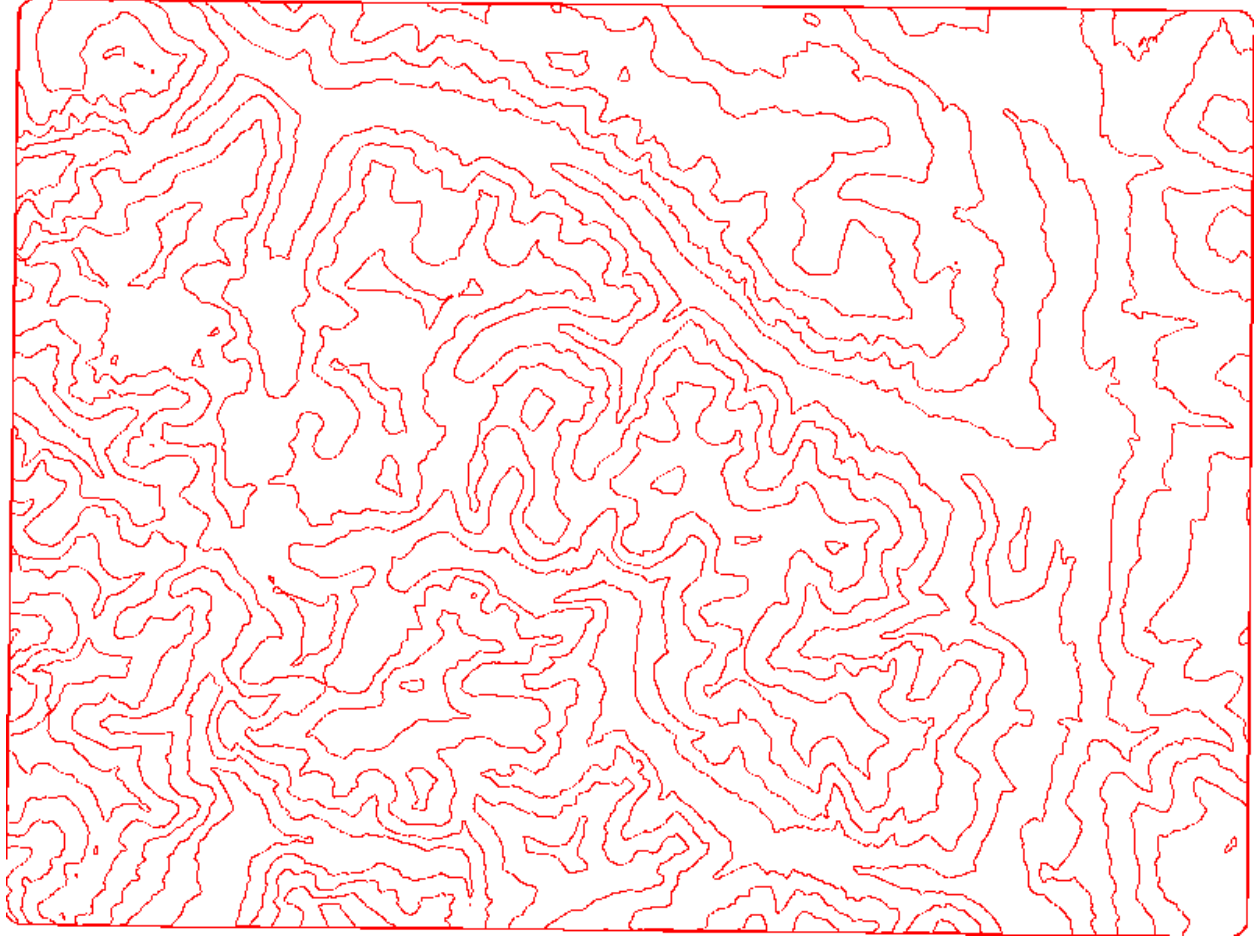
Chapter 7: Python and Elevation Data

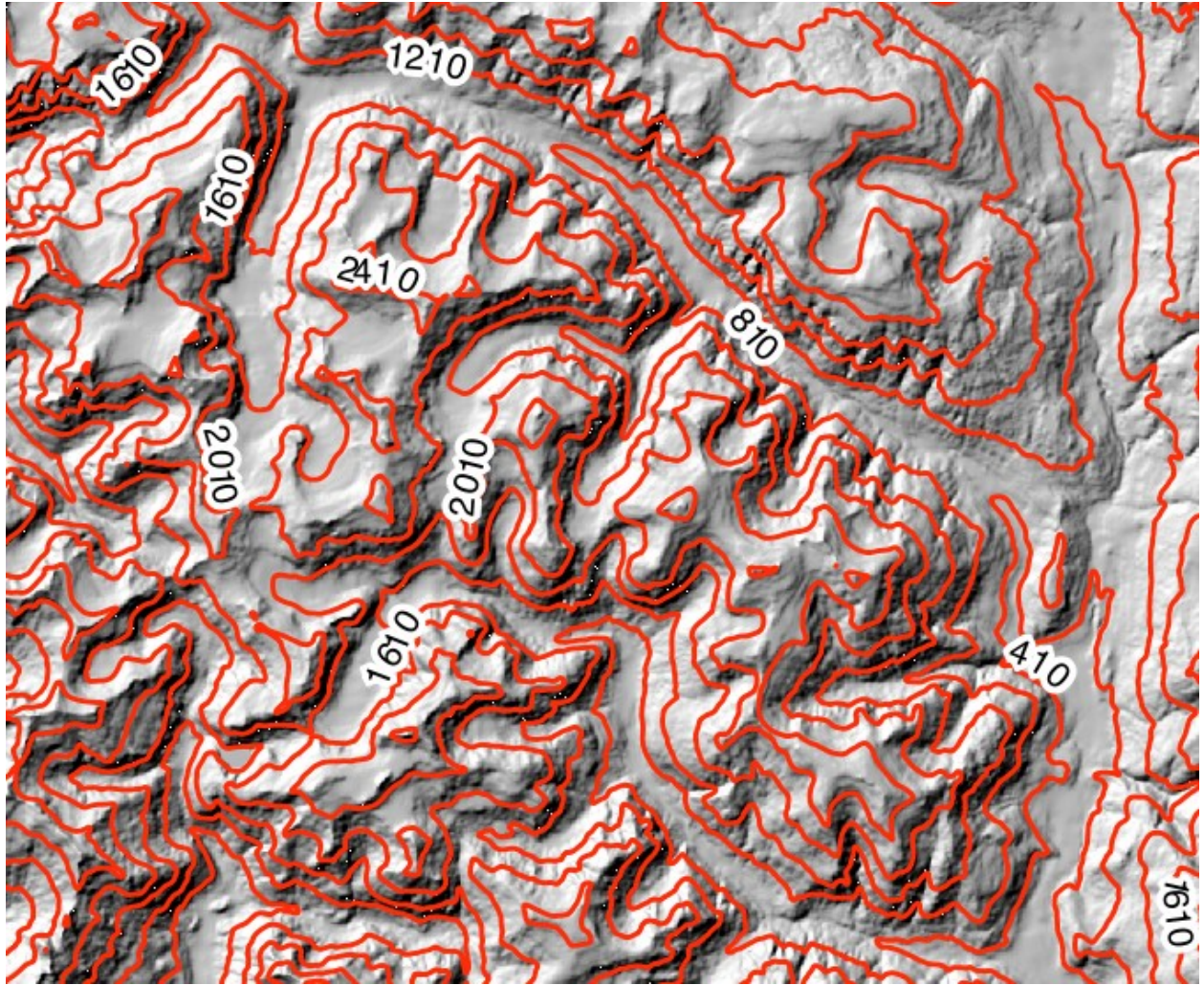


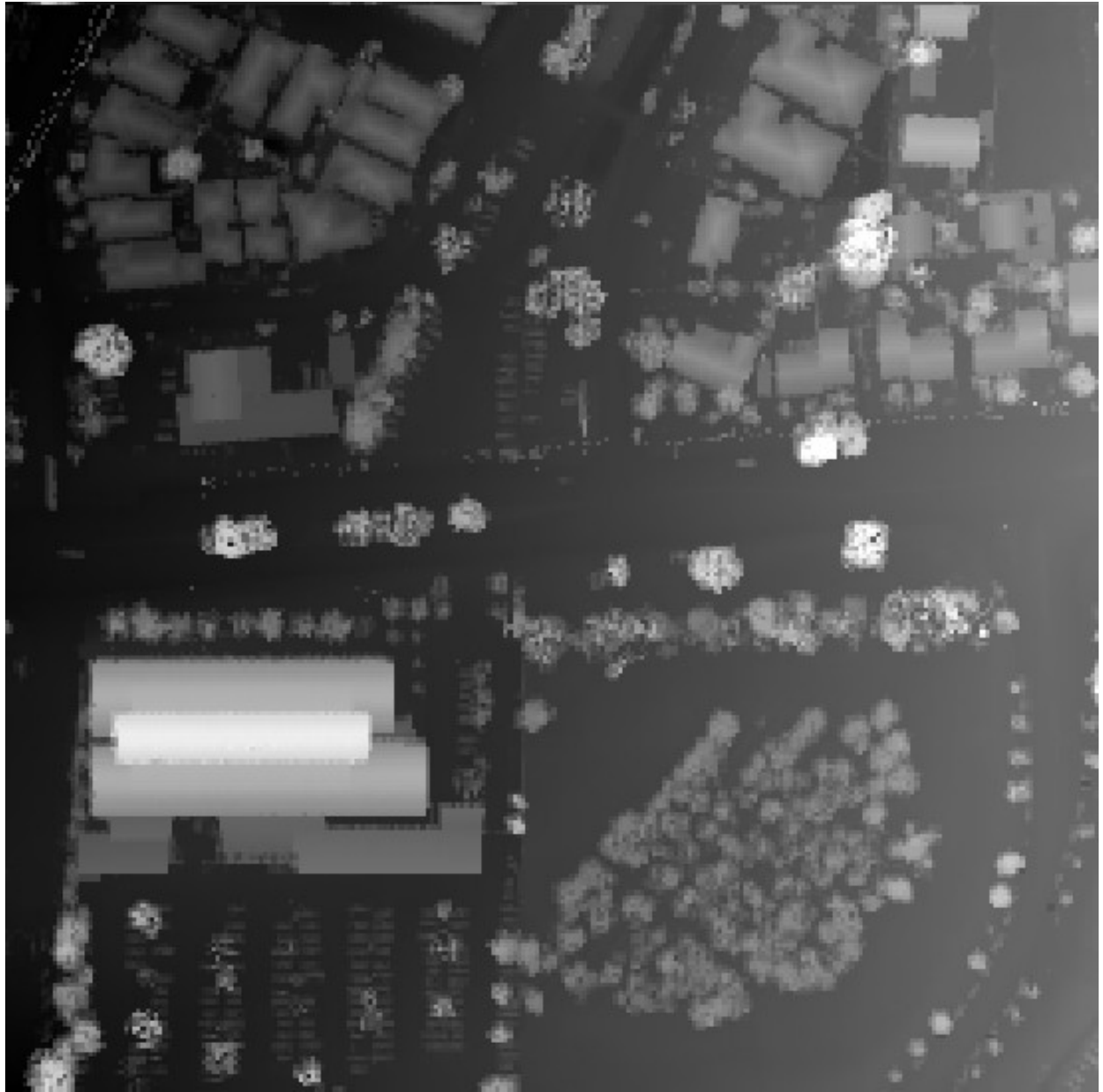


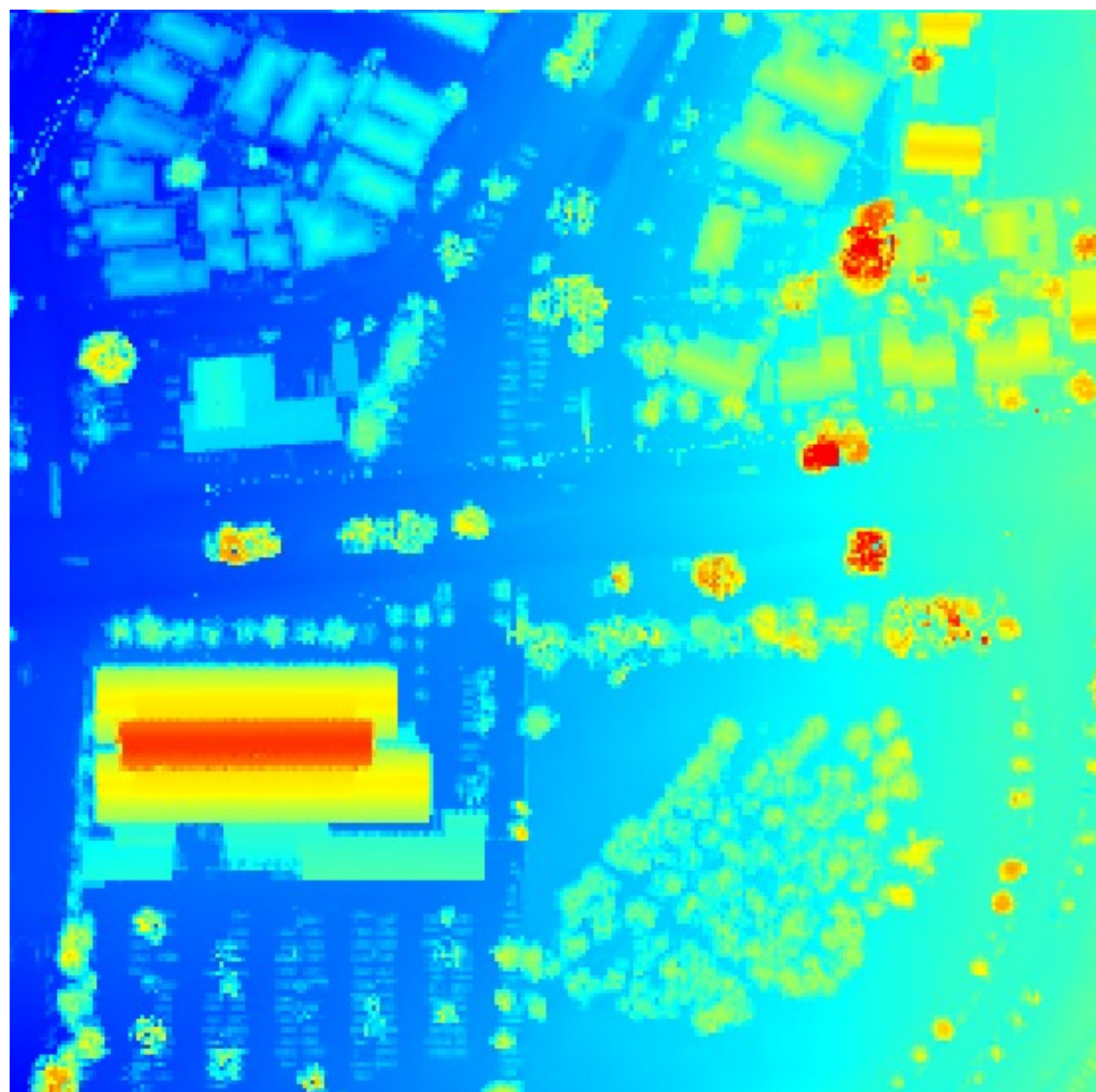




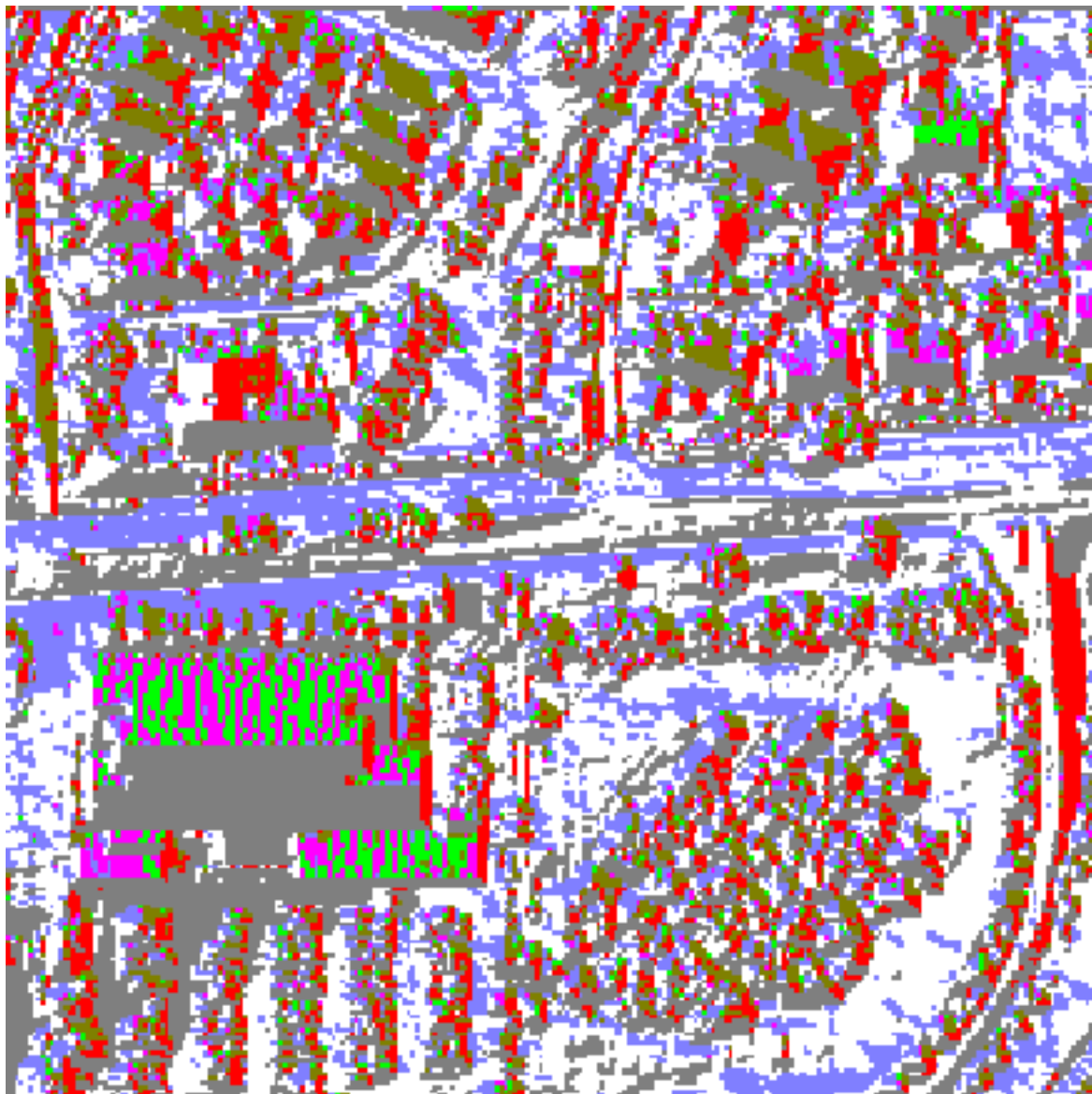


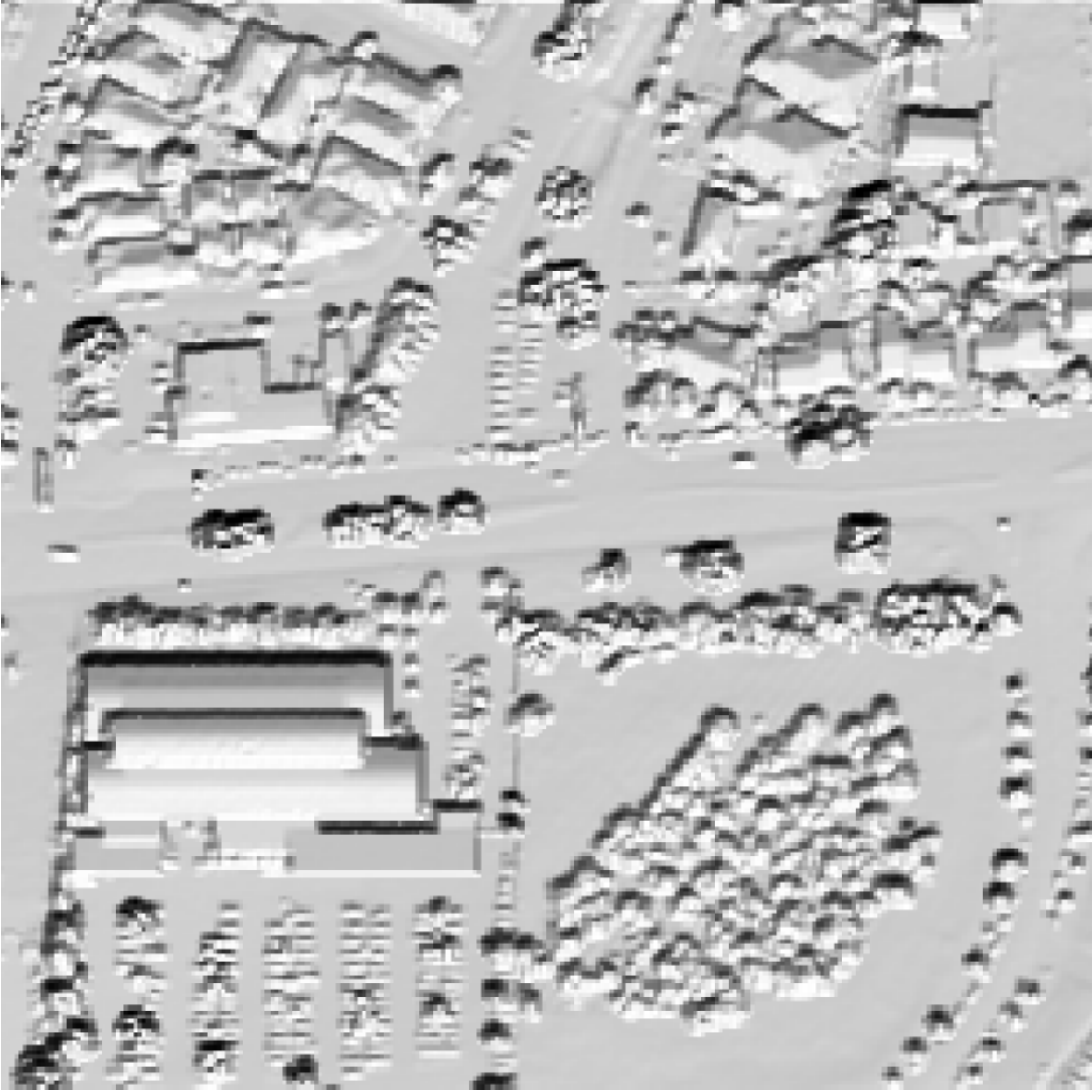




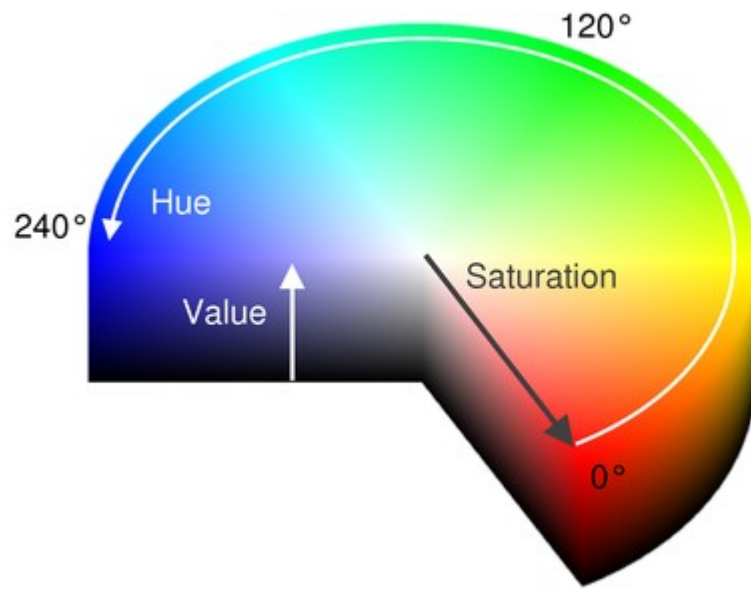


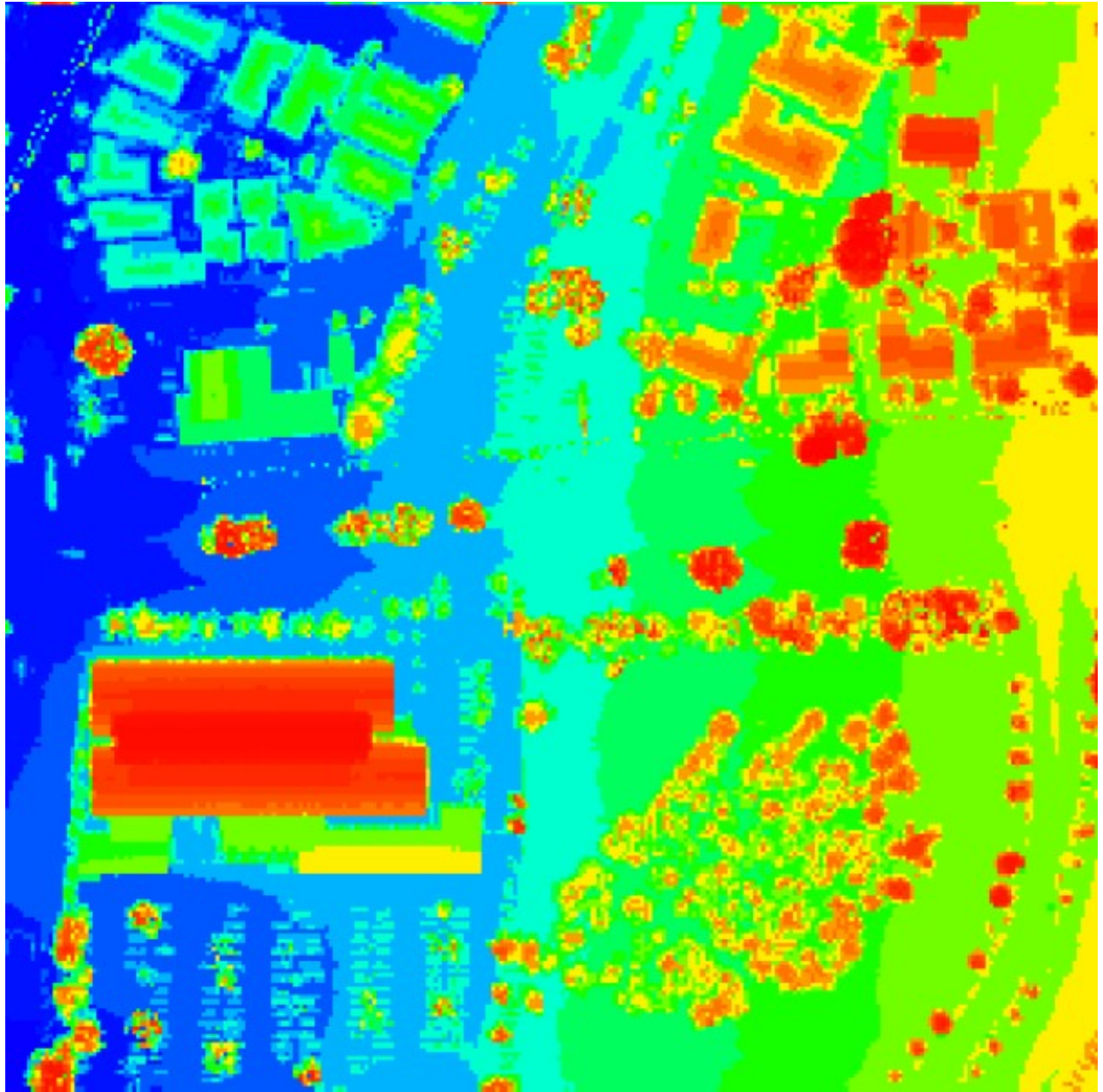


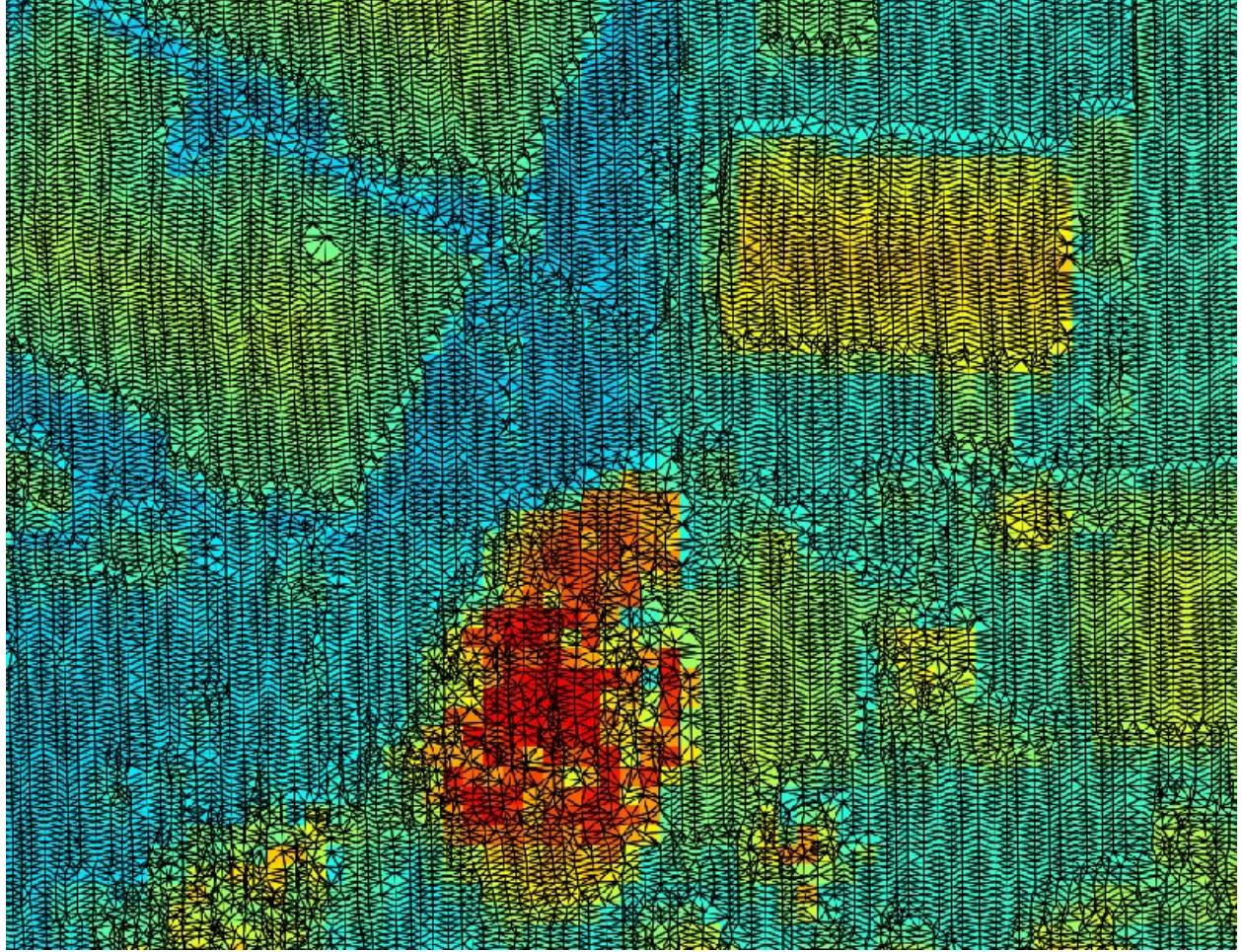




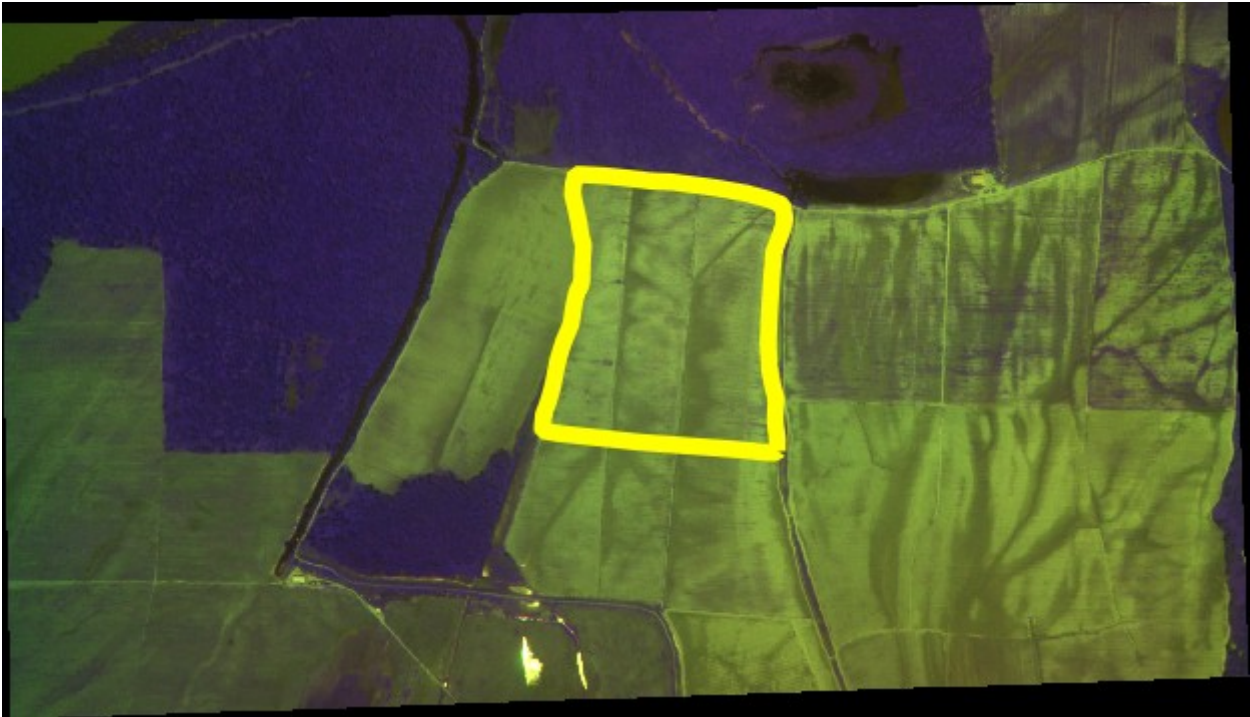


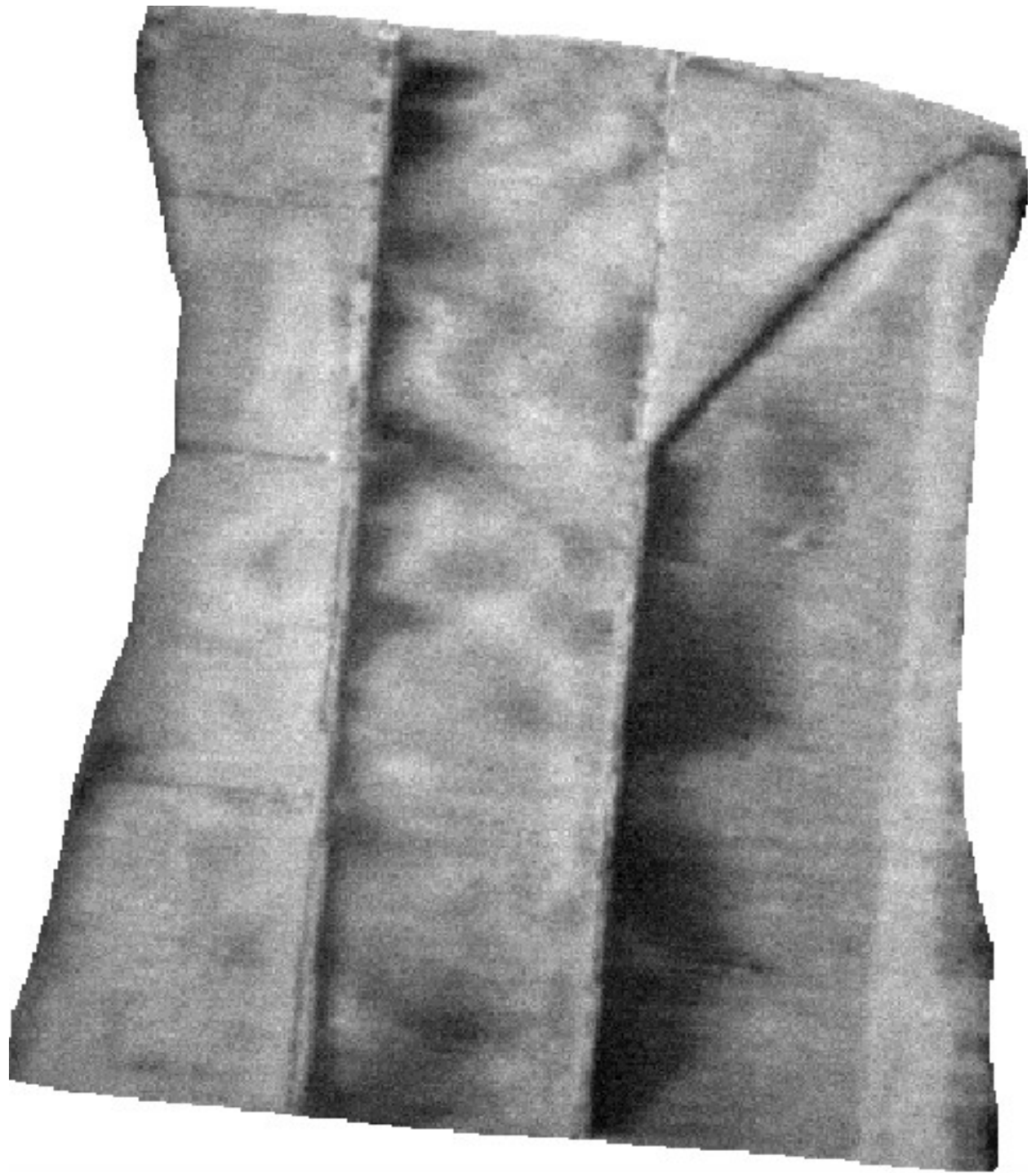


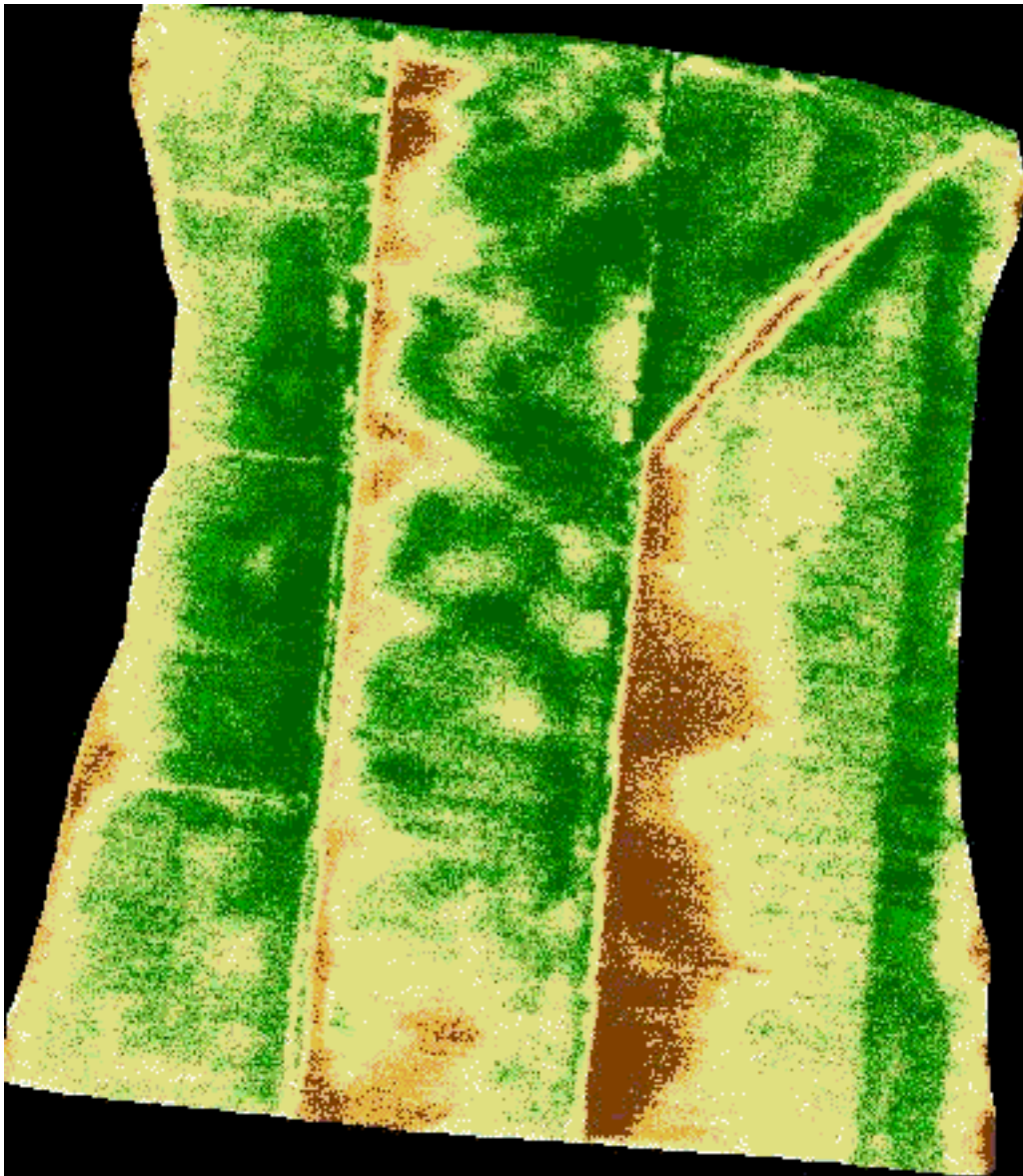


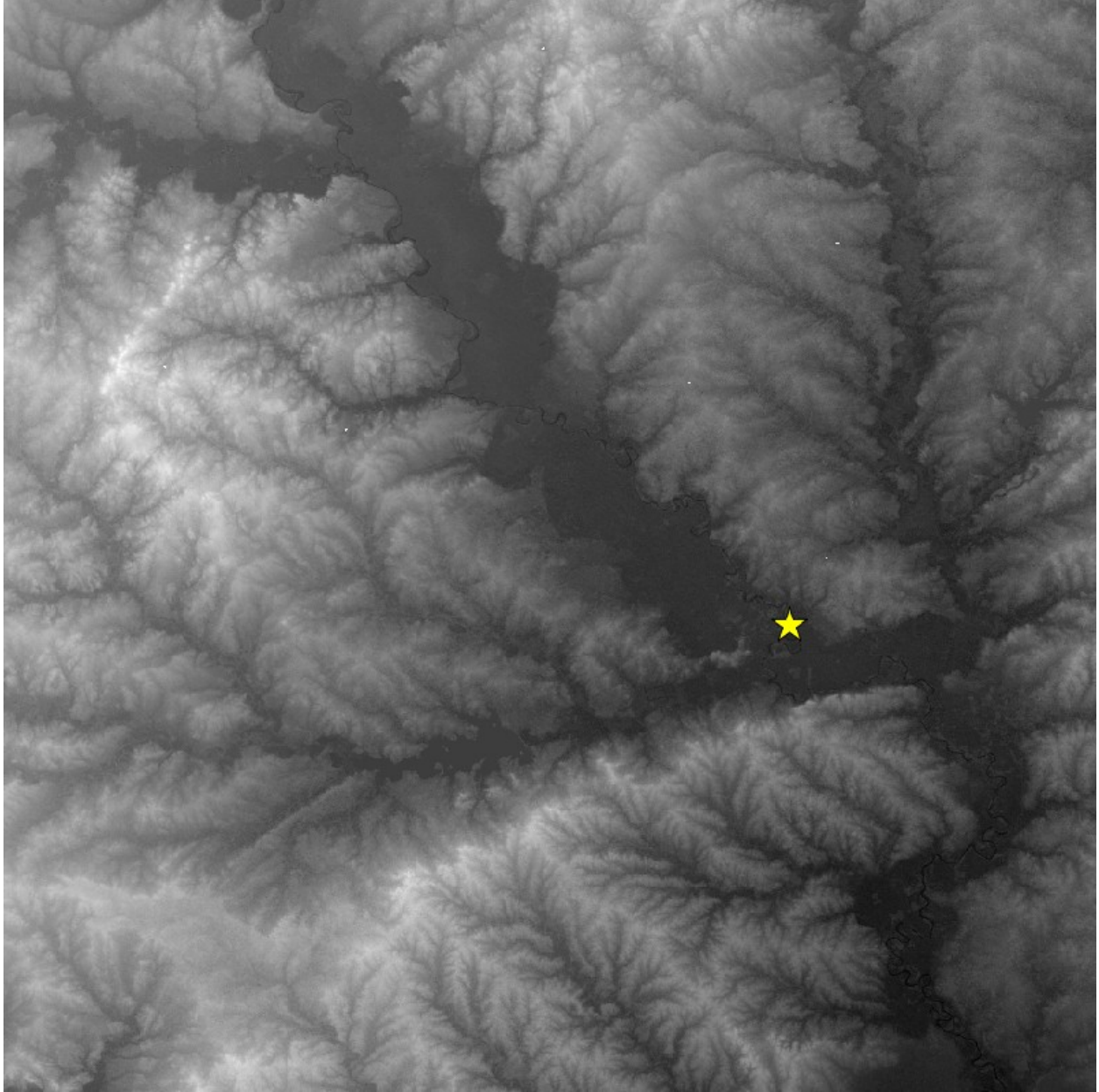


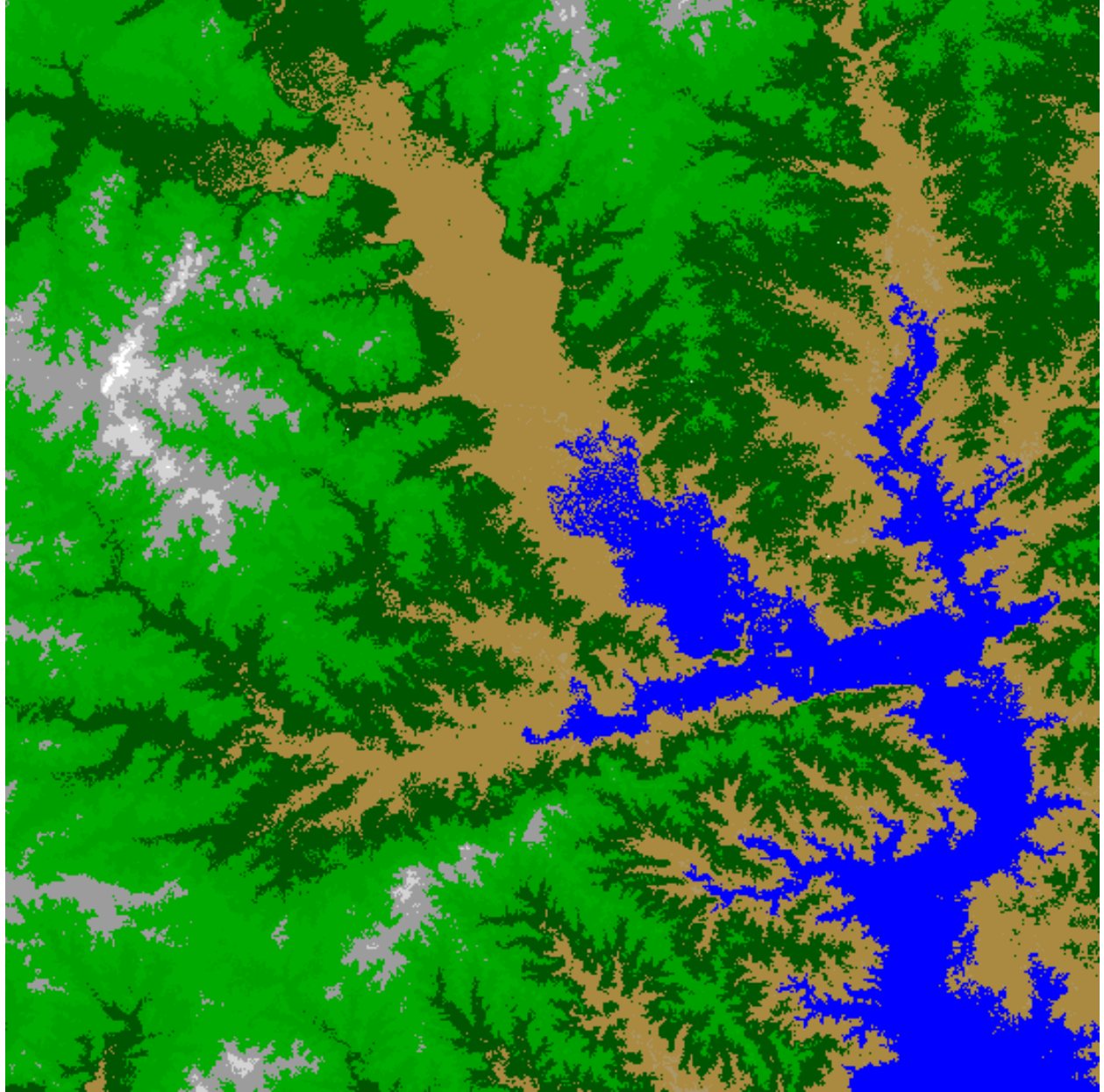
Chapter 8: Advanced Geospatial Python Modeling

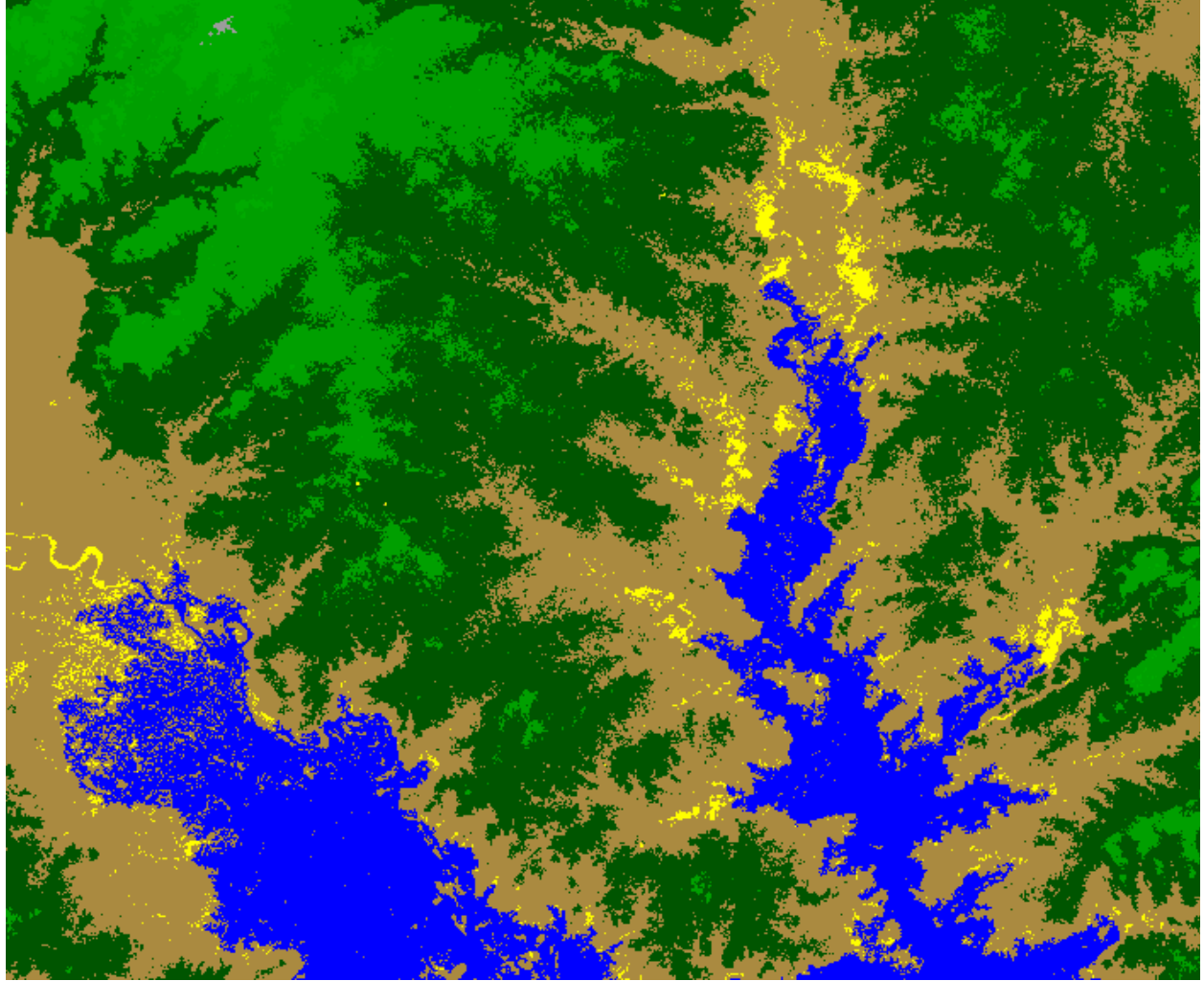


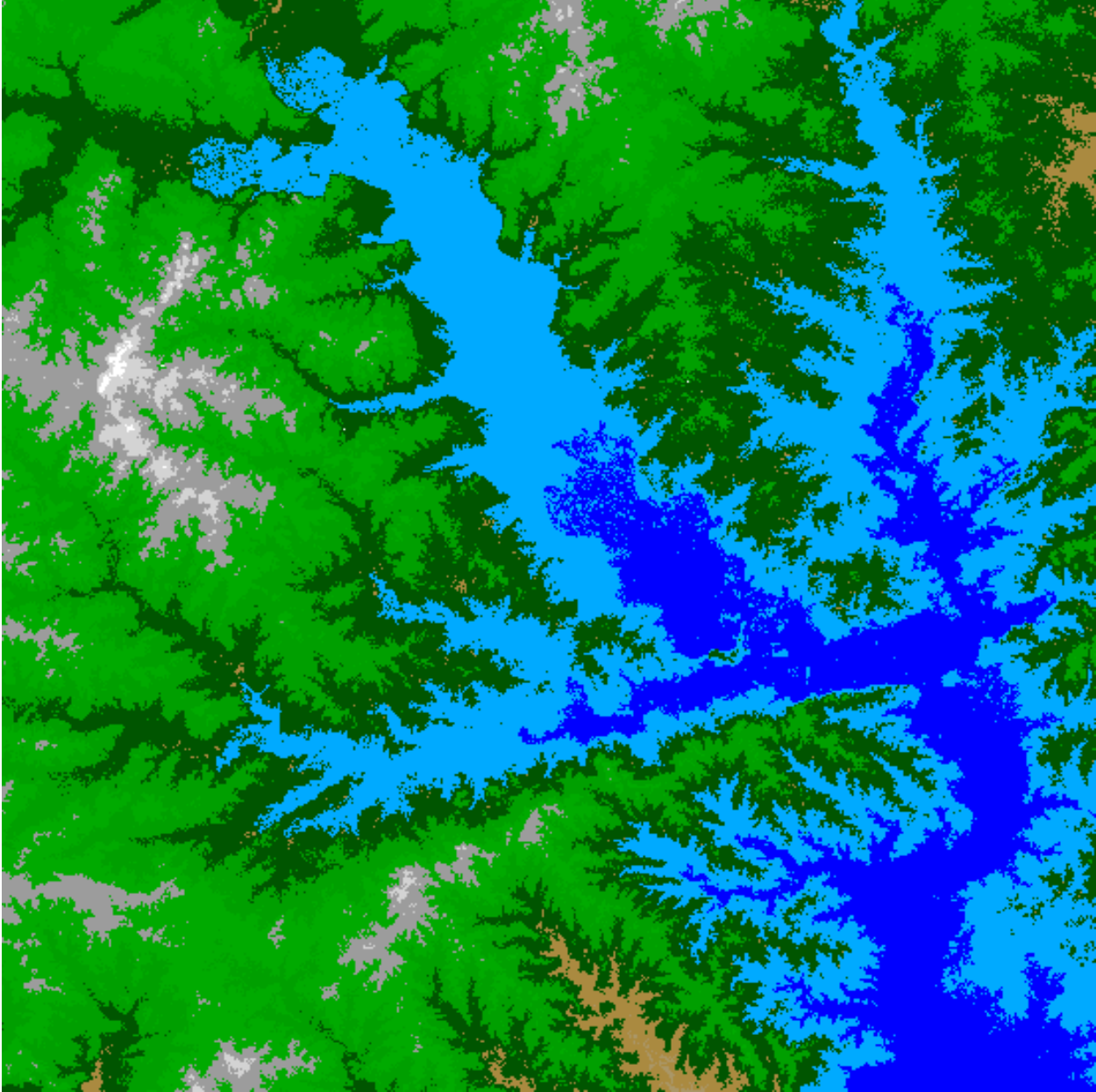


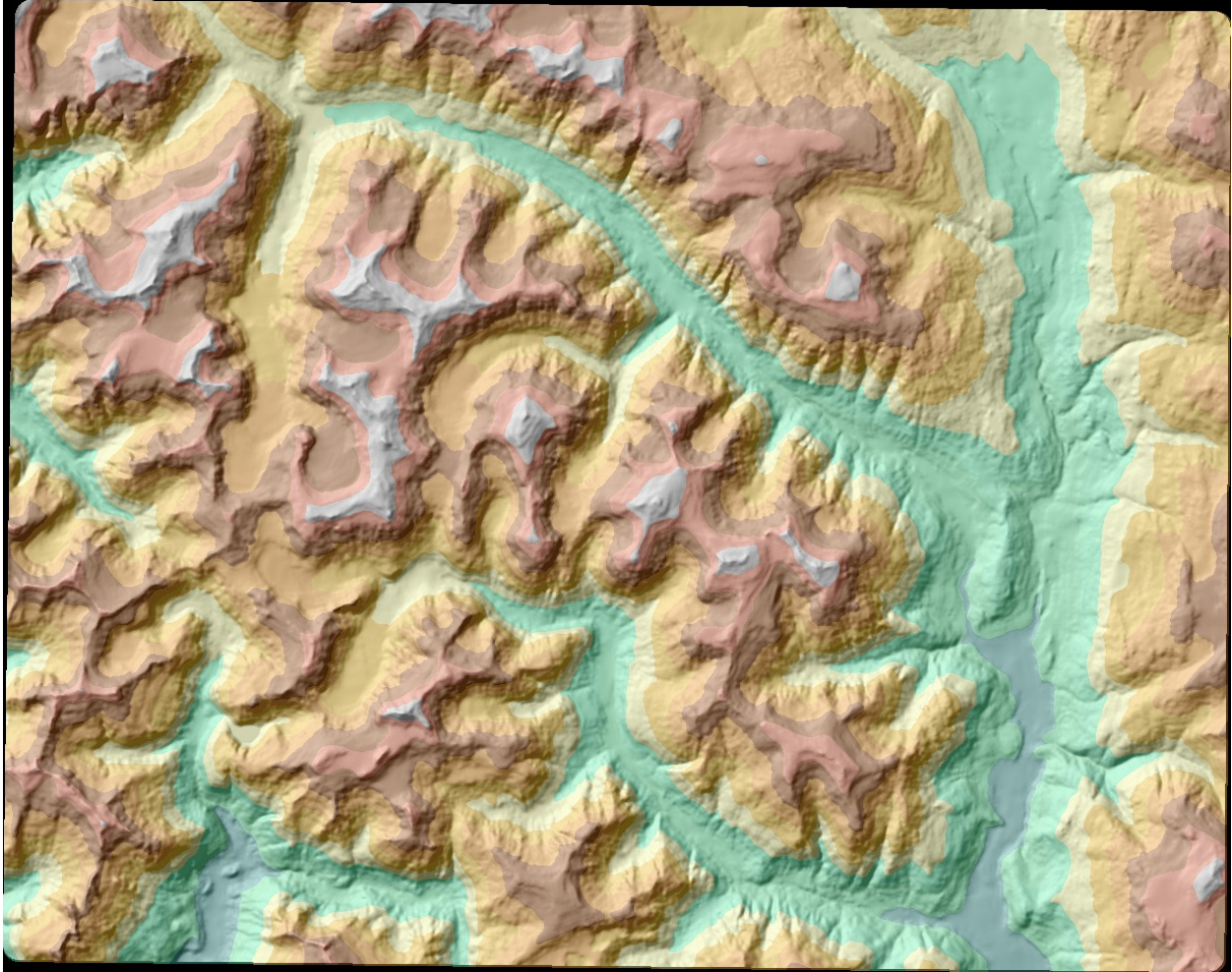


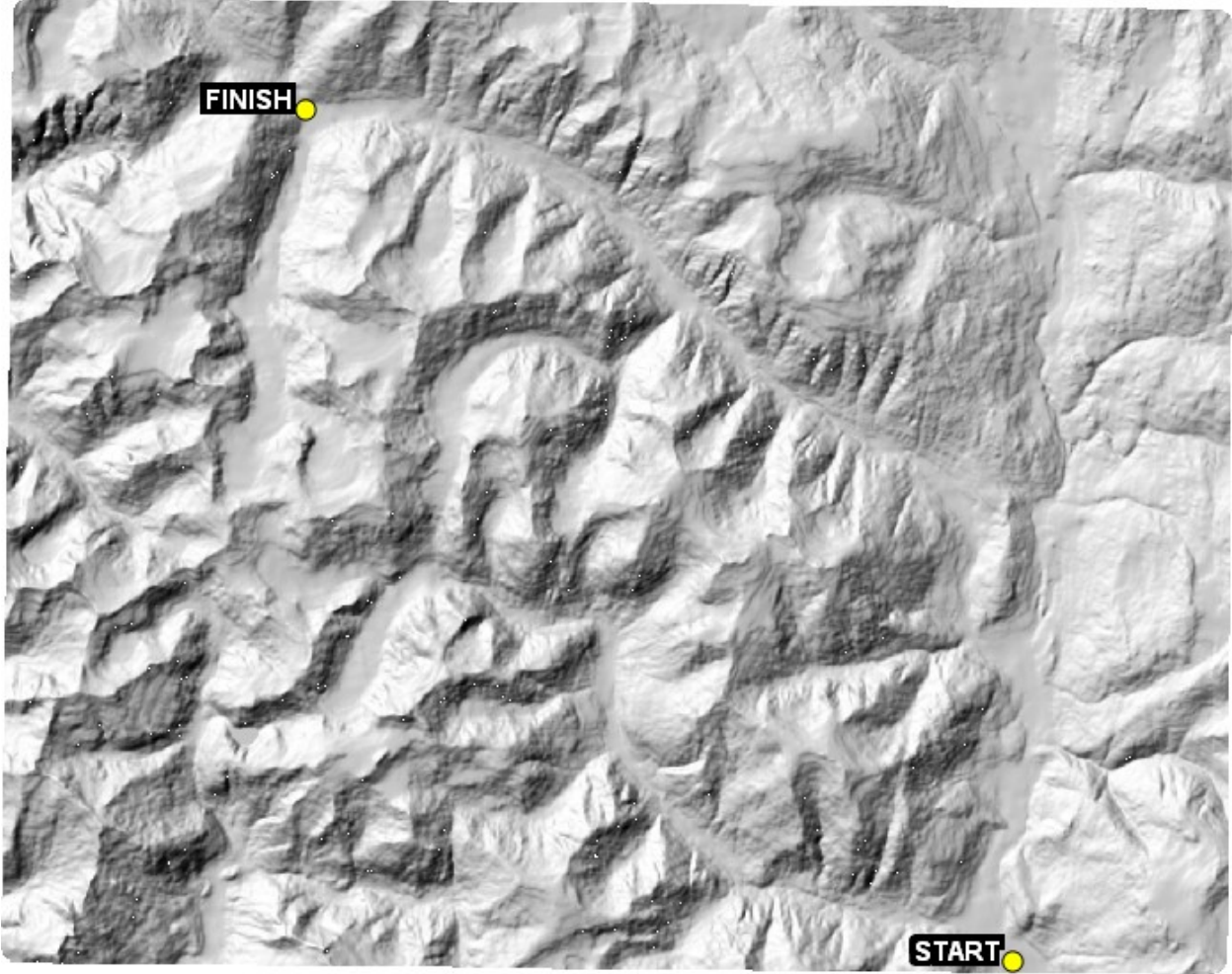


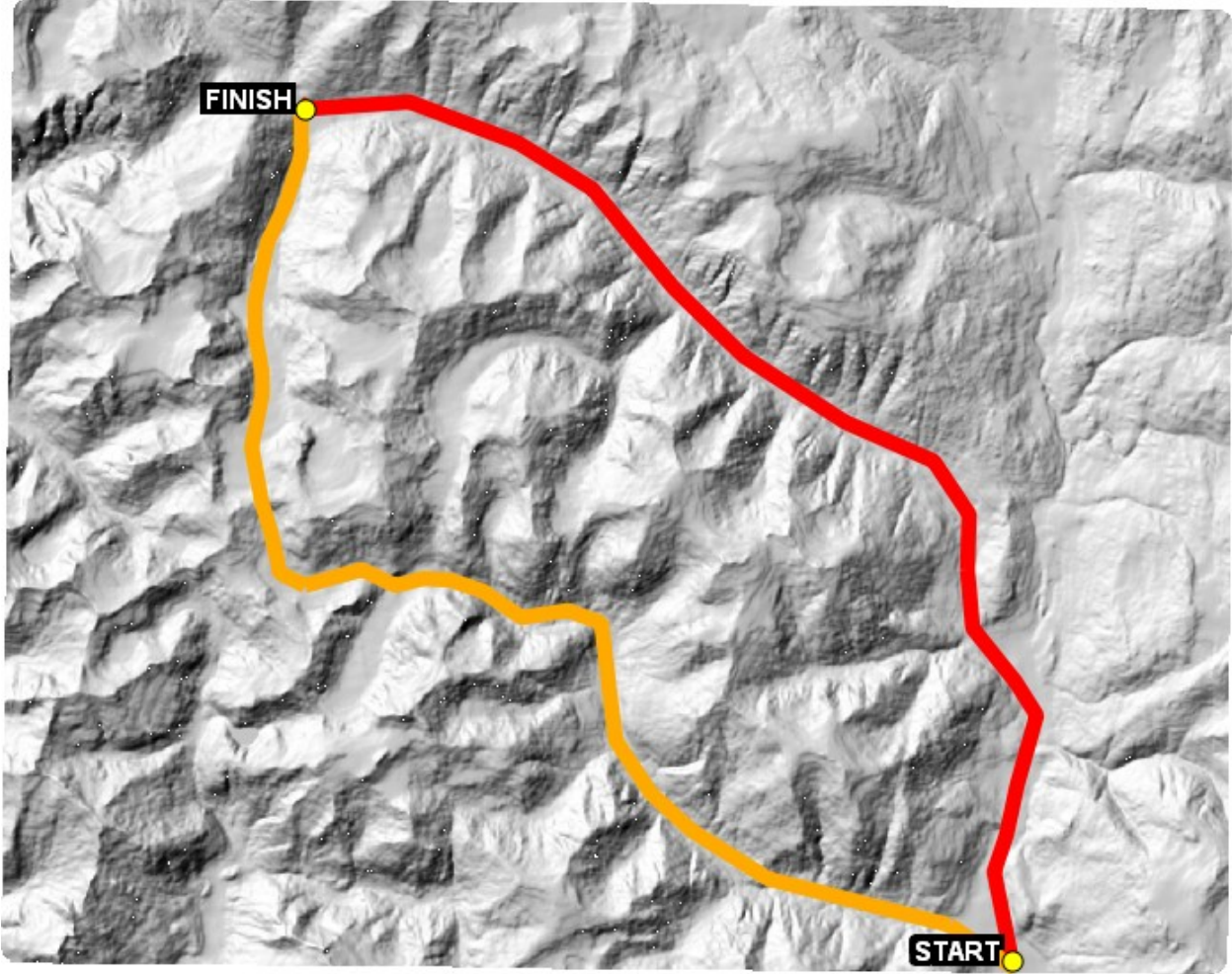


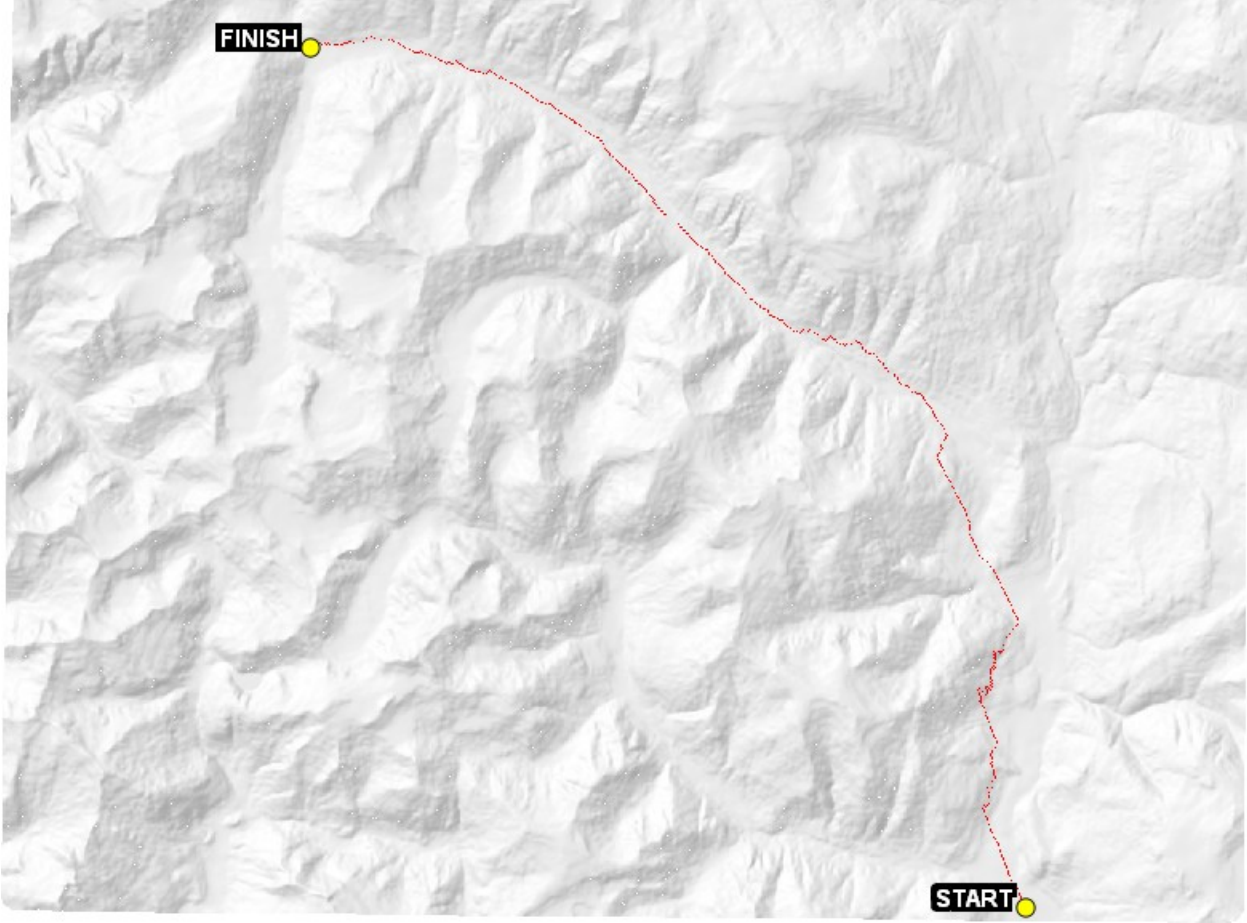


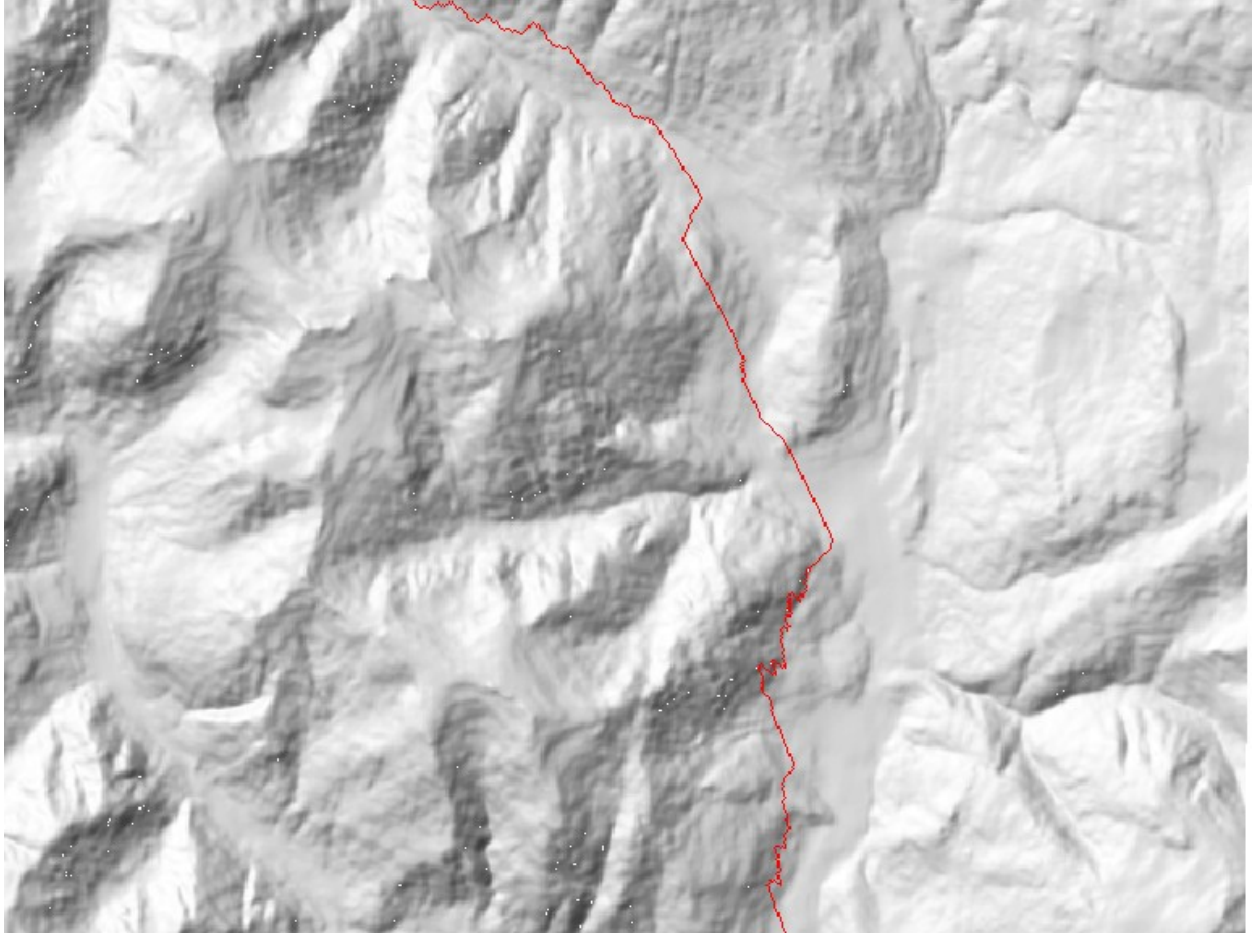


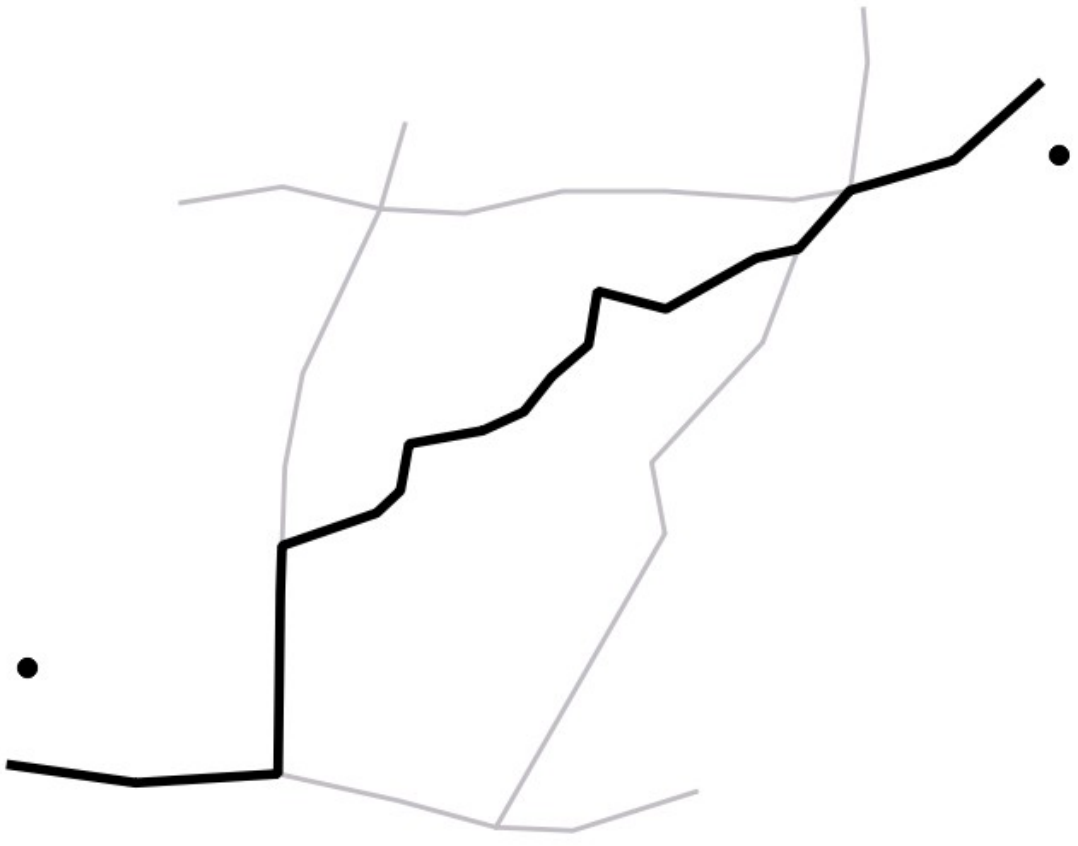


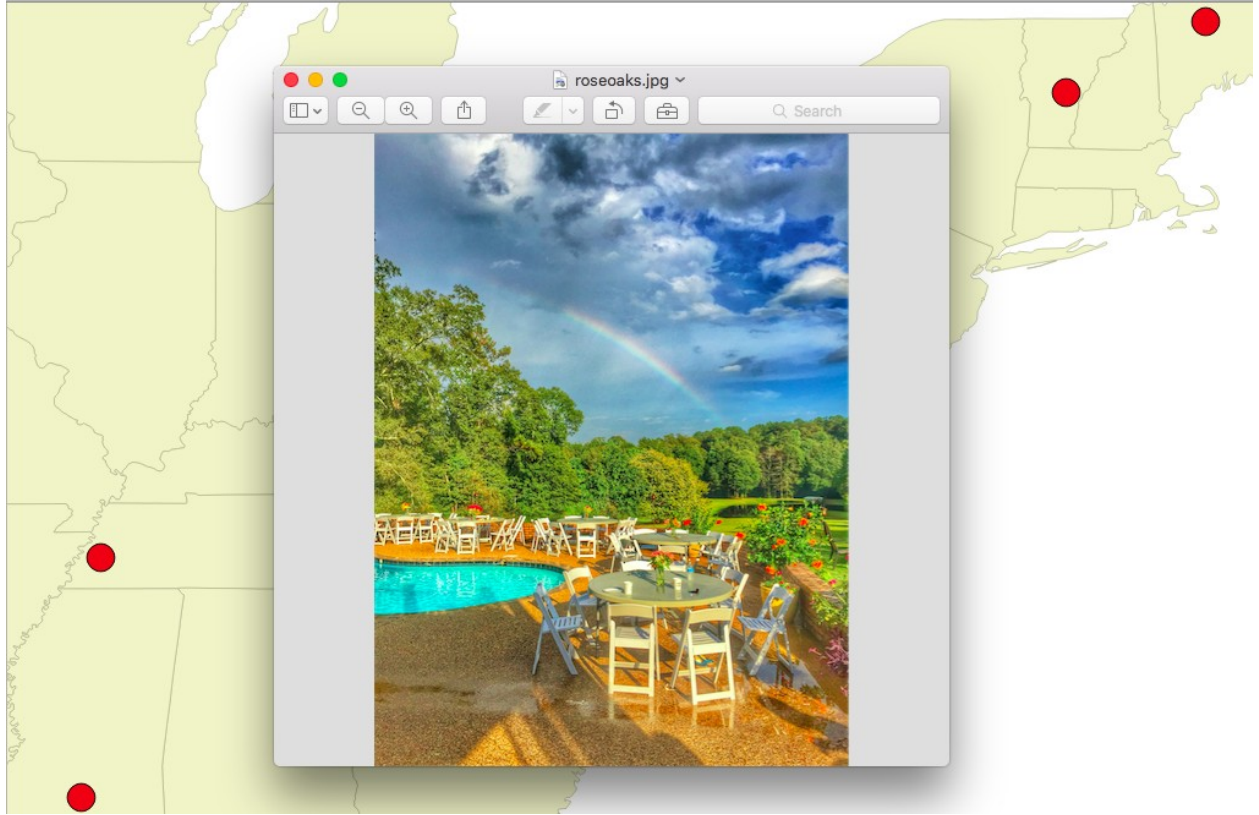












Chapter 9: Real-Time Data

nextbus

Settings | ADA Site | Agency Admin

Los Angeles Metro Change

Enter Stop No.

... Or select your route, direction, and stop to obtain GPS-based arrival and departure times.

Route:

Direction:

Stop:

Destination optional:

54 min*
114 min*

[Show Map](#)

Valid as of Sunday, November 01, 2015 9:24 PM
*Vehicle has not yet departed terminal. Actual departure time is subject to change.

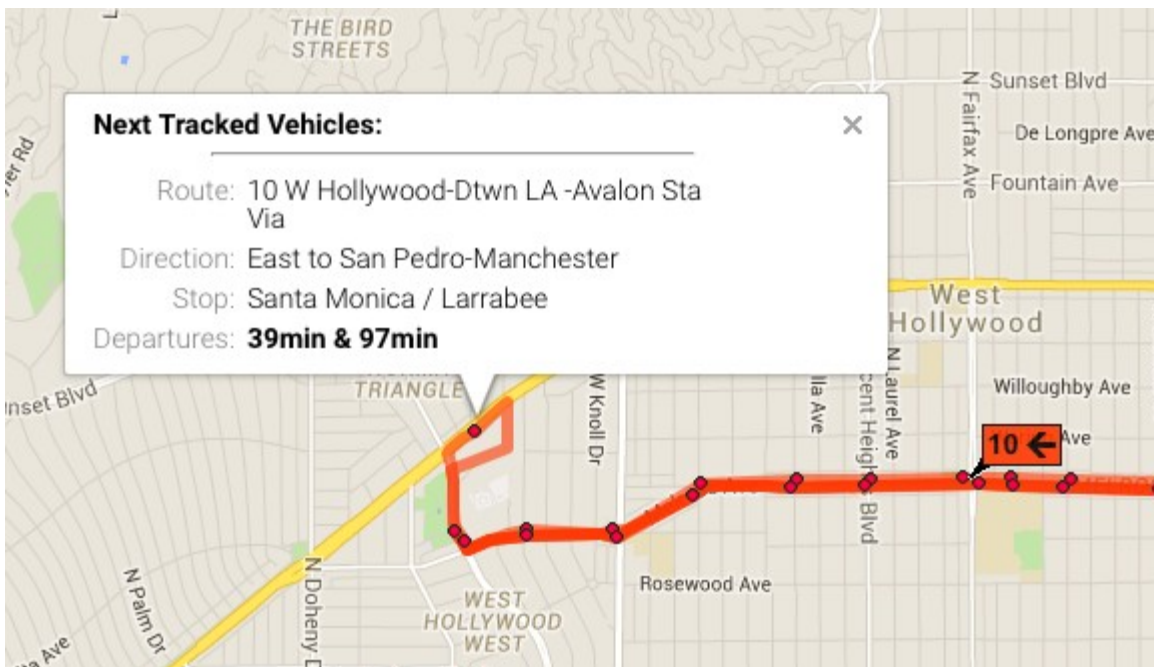
About NextBus | How It Works | Contact | Feedback

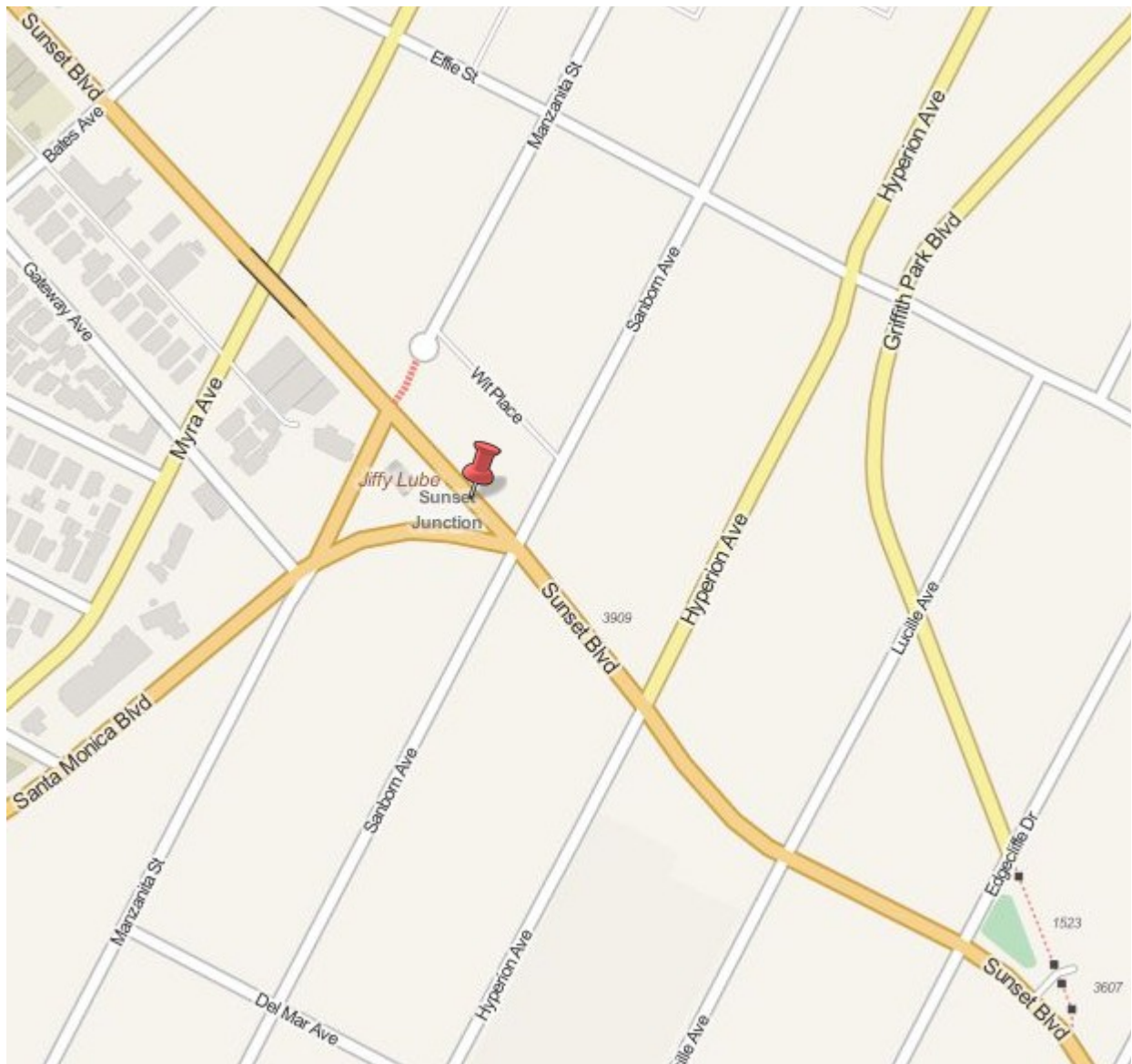
© 2015 NextBus Inc. All rights reserved.
Covered by one or more of US Patent Nos 6,006,159; 6,374,176; 5,623,260; 6,411,891; 6,317,060; 6,415,207; 6,313,760 and 6,278,936.

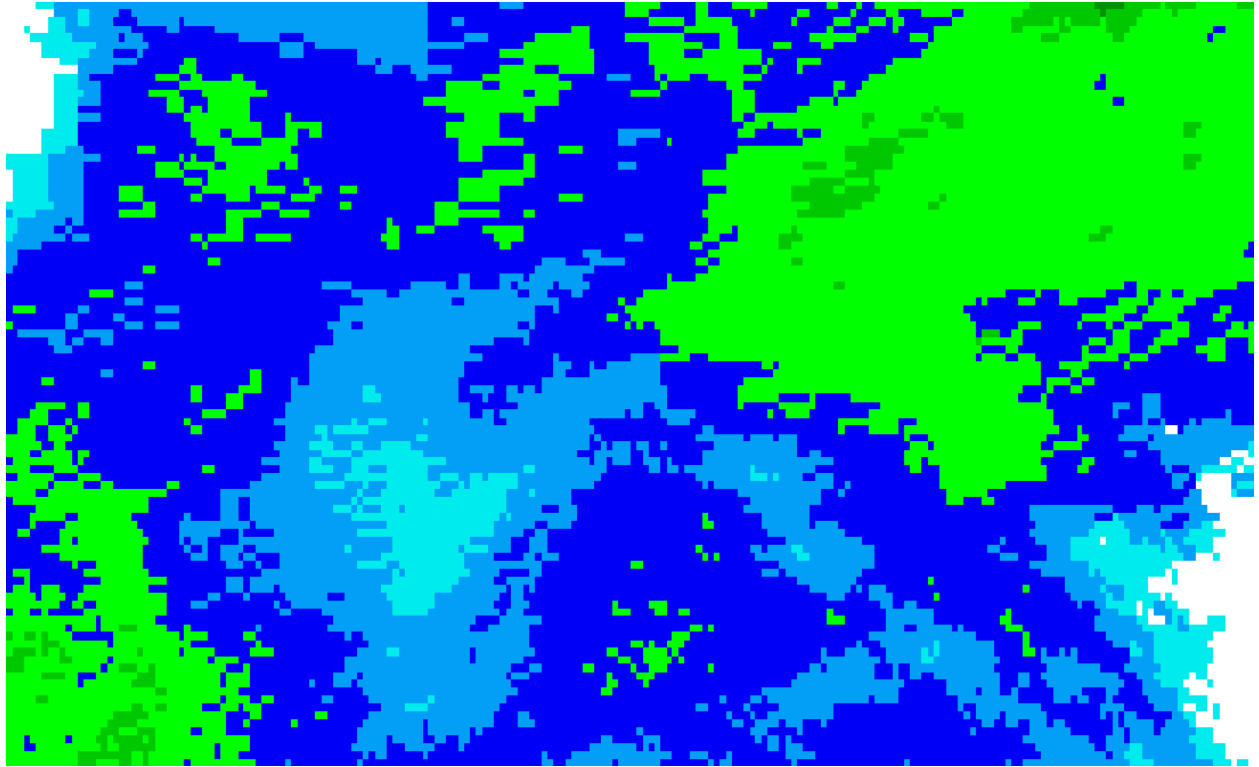
M Metro
Website | Schedule

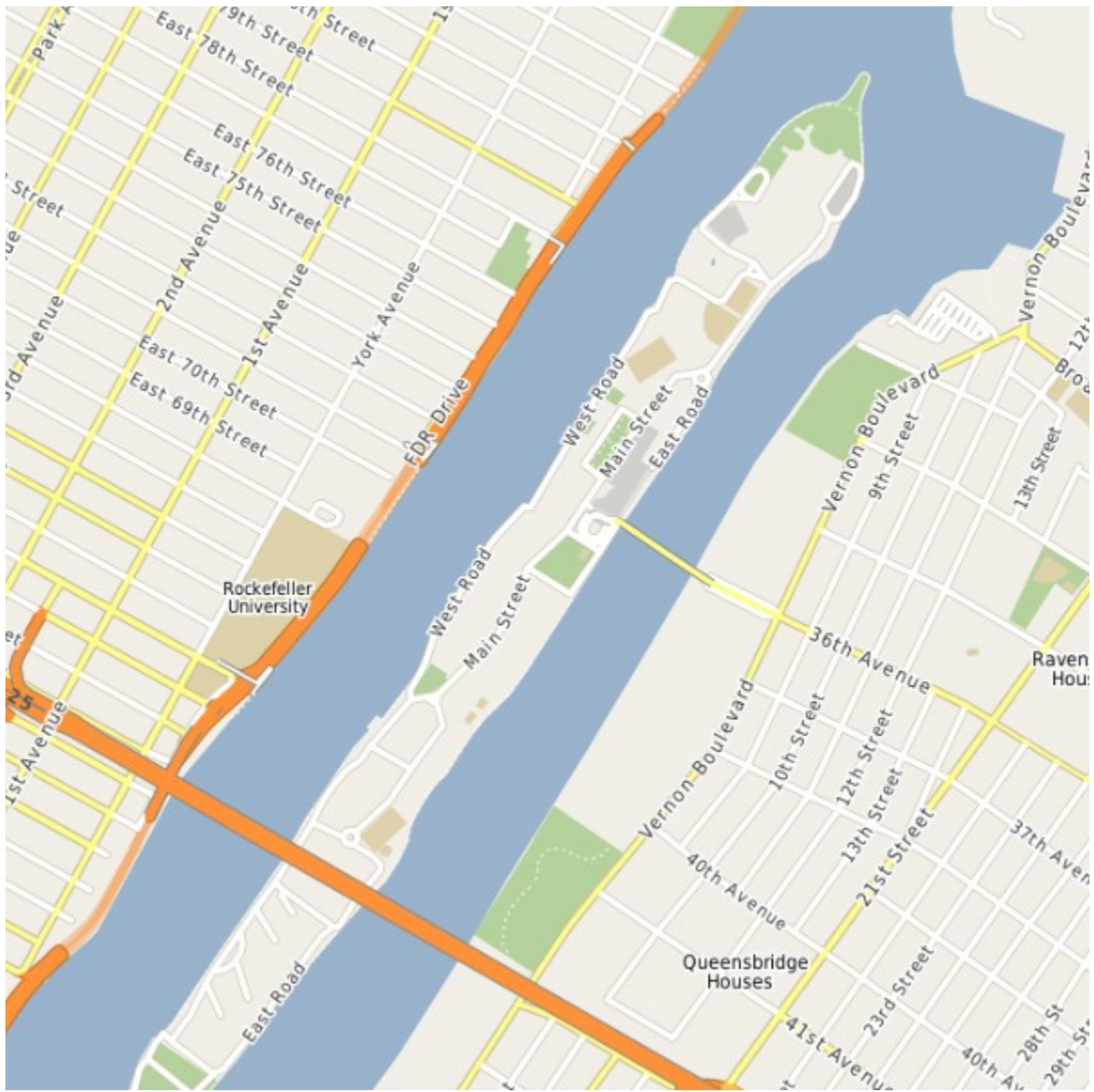
Call 511 and say "Nextrip" Stop No. 06000
Text 41411 metro 06000

High: 78
Current: 68
Low: 61
Partly Cloudy

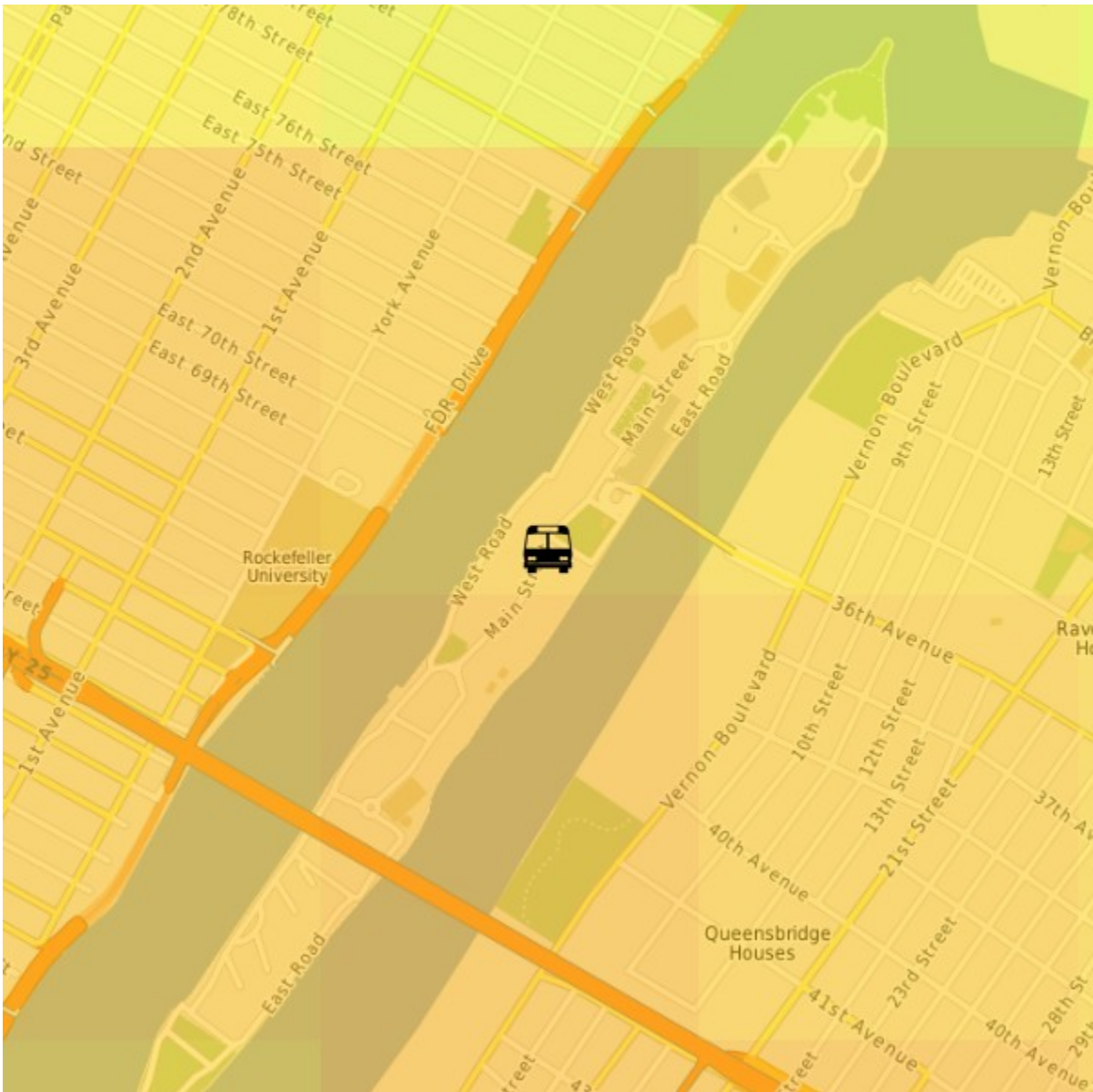






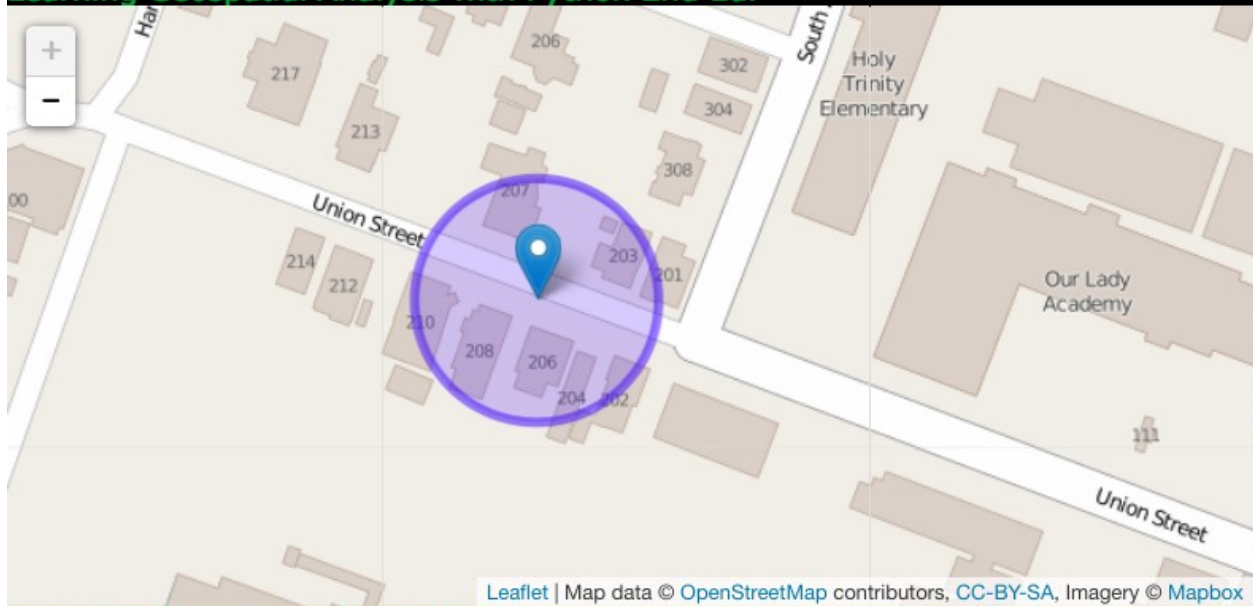






Field Data Collection Example

Learning Geospatial Analysis with Python 2nd Ed.



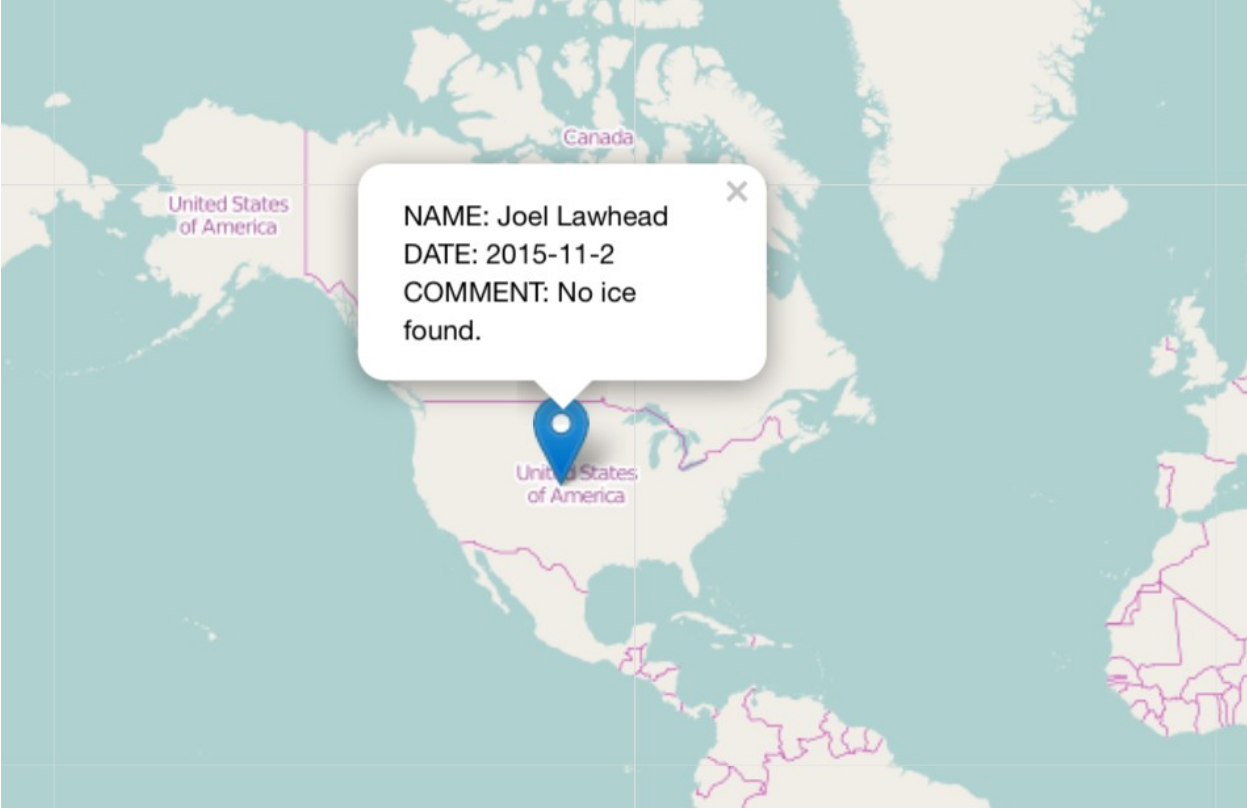
Fill out the form below and click "Send" to post your location and data to QGIS.

Name:

Date:

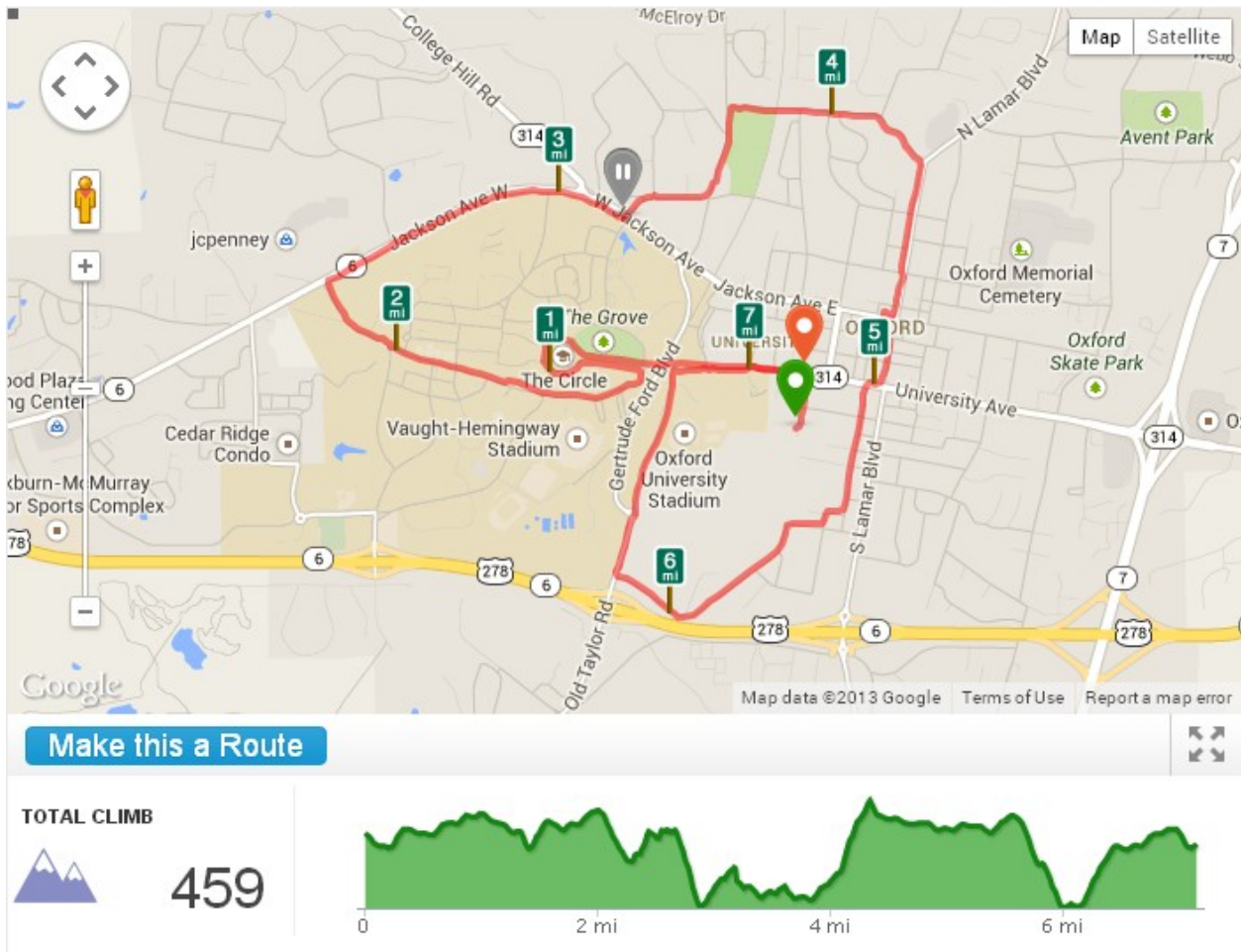
Comment:

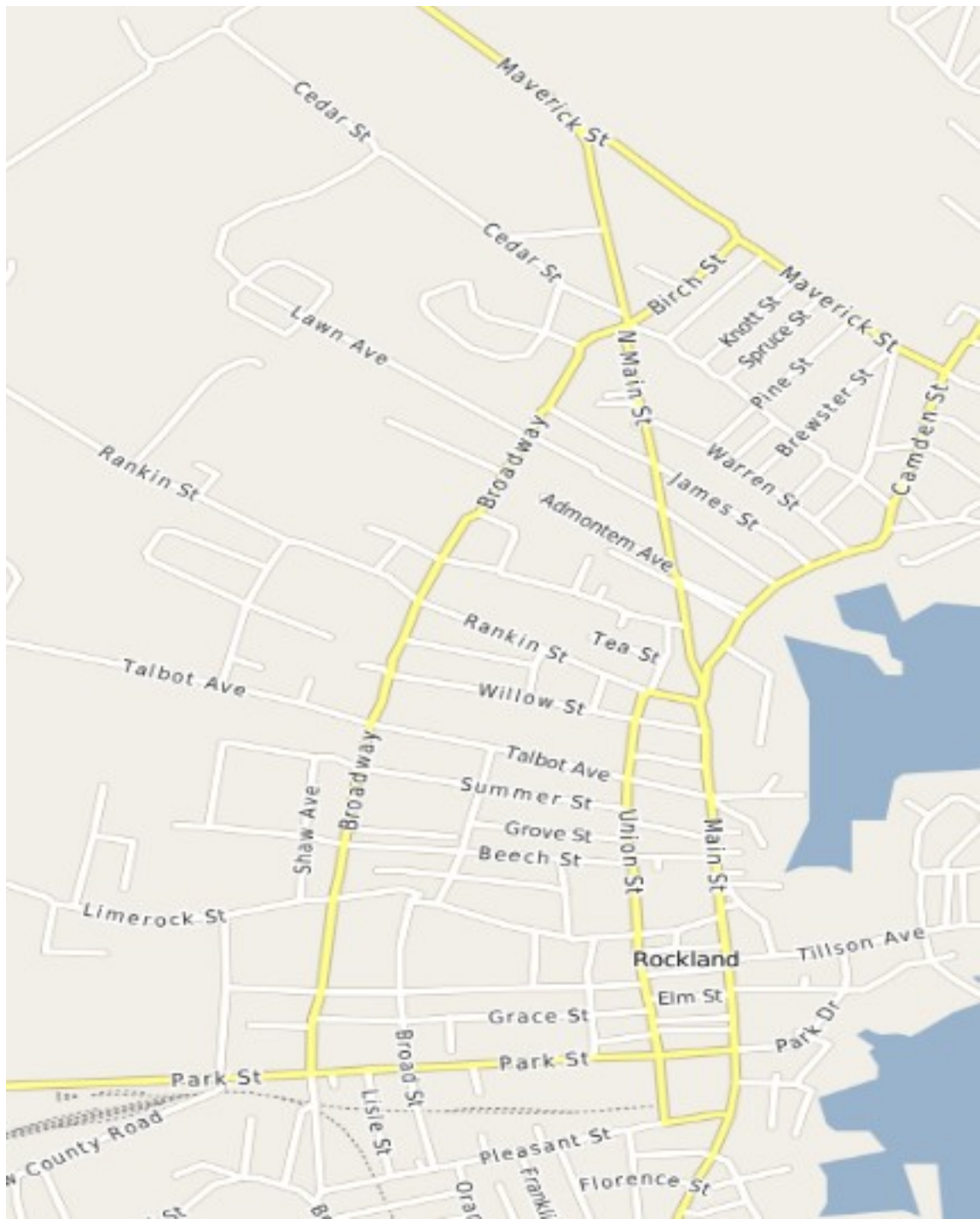
SEND



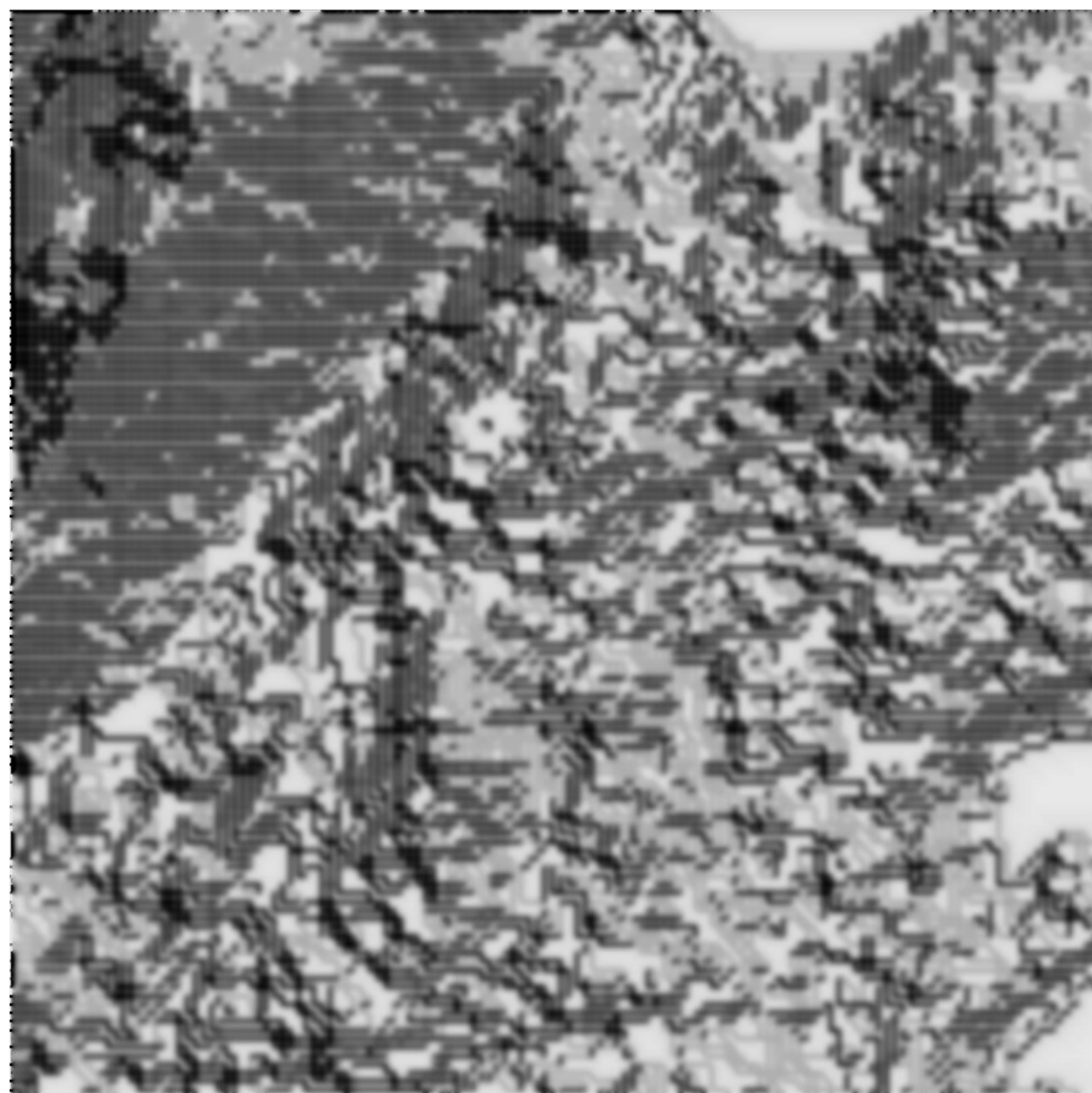
NAME: Joel Lawhead
DATE: 2015-11-2
COMMENT: No ice found.

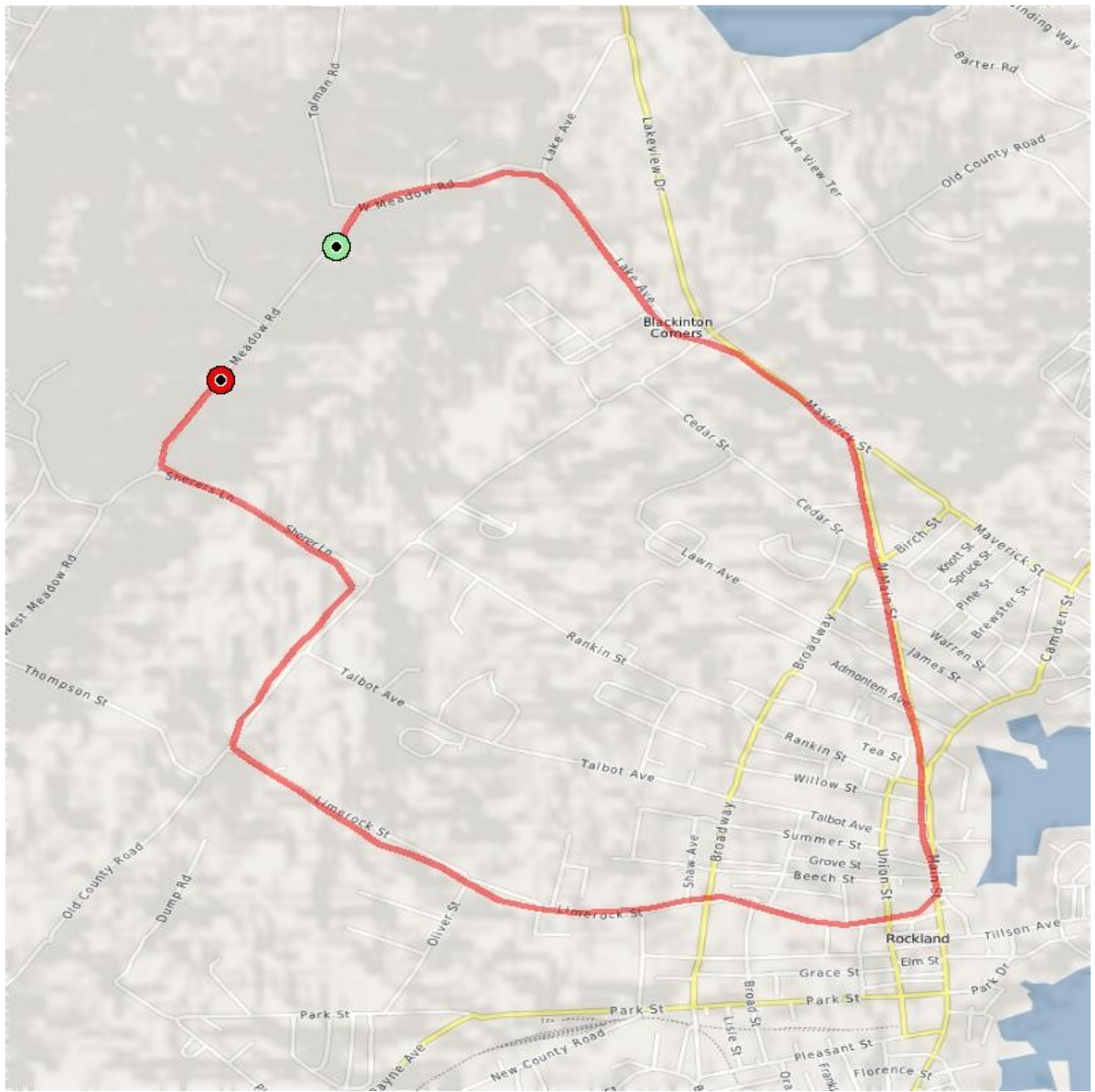
Chapter 10: Putting It All Together

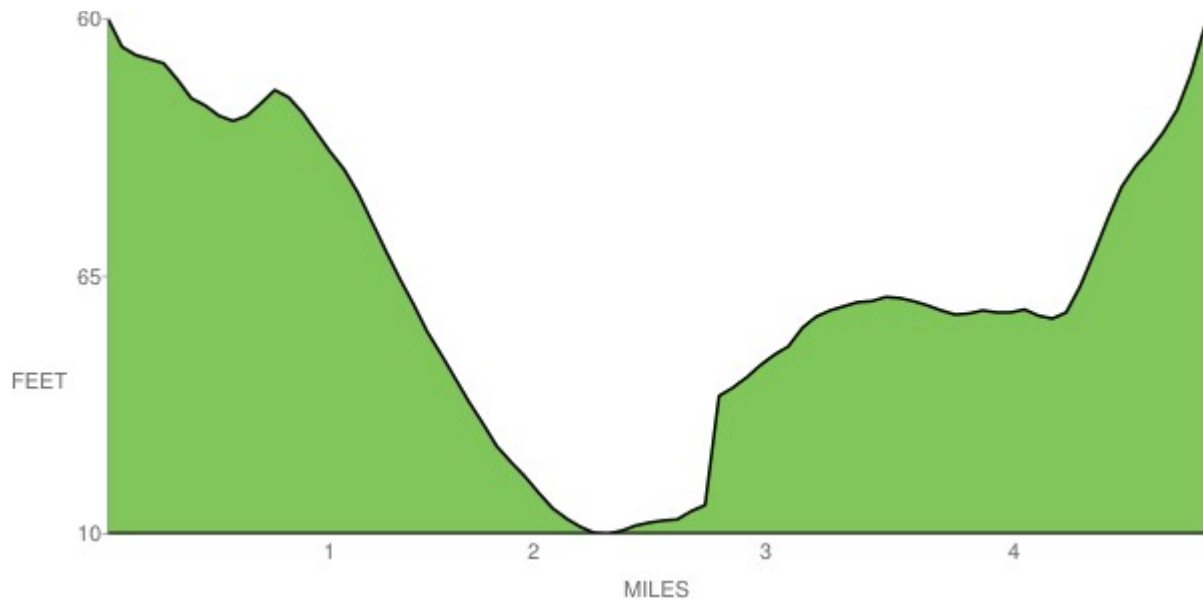






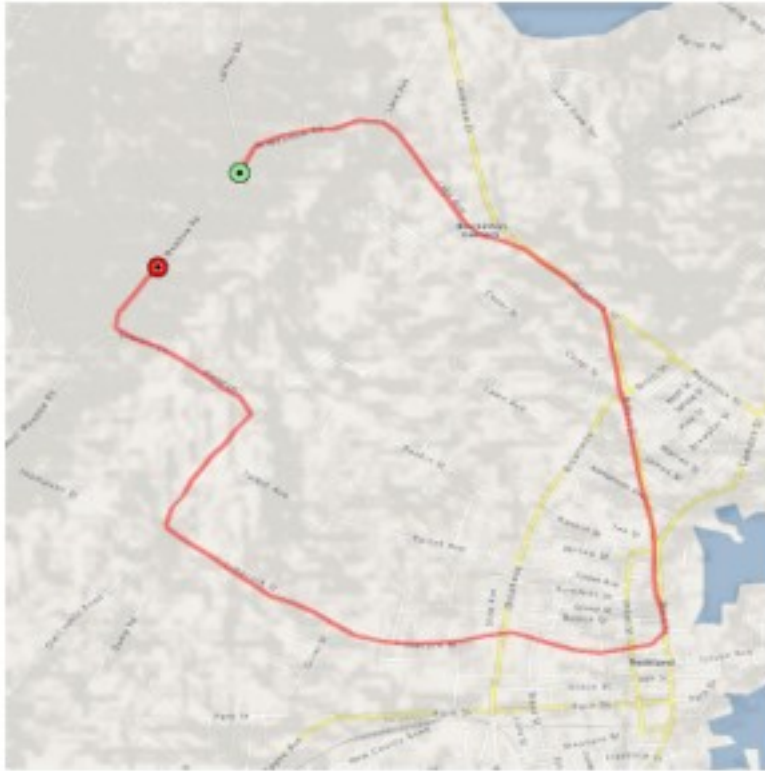




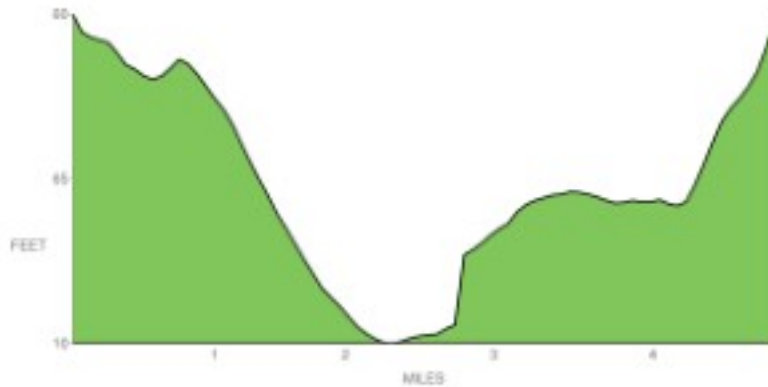


GPX Report

Route Map



Elevation Profile



Weather Summary

Min. Temp.: 60 Max. Hum.: 94

Max. Temp.: 66 Precip.: 0.00

Min. Hum : 82



