

QGIS 2.4 Chugiak has been released!

EDUCATING 21ST CENTURY GEOSPATIAL TECHNOLOGY WORKERS

Phillip Davis | Kurt Menke | John Van Hosen | Richard Smith

WHAT YOU WILL LEARN TODAY

- Overview of the new QGIS Academy Curriculum
- Background on curriculum development
- Curriculum alignment with national standards
- Description of the five GIS courses
- Details of the course content
- Demonstration of the curriculum lecture, lab and videos
- Plans for future development and distribution
- **The Academy does not represent the official QGIS project**

ACADEMY BY THE NUMBERS

- One complete curriculum, based on national standard (GTCM)
- Four highly-qualified subject matter experts)
- Five complete courses (lecture, labs, data, assessments)
- 40 complete labs in two formats (Esri ArcGIS 10.1 and QGIS)
- 100 instructional videos mapped to lab exercise tasks
- 200 FTE students enrolled in first Academy cohort (fall 2014)
- 2300+ beta testers during summer 2014
- Proposed “Mastering QGIS” book by PACKT under production

QGIS Academy

Open GIS: No Boundaries

HOME

ABOUT

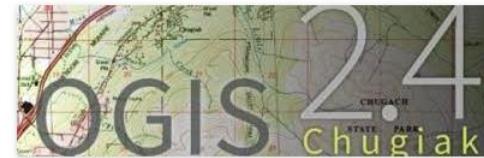
GST 101 INTRODUCTION TO GEOSPATIAL TECHNOLOGY USING QGIS

GST 102 SPATIAL ANALYSIS USING QGIS

GST 103 DATA MANAGEMENT USING QGIS

GST 104 CARTOGRAPHY USING QGIS

GST 105 REMOTE SENSING USING QGIS



FOSS4G Academy

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What is the QGIS Academy?

The Academy is a series of five GIS courses, all based on the US Department of Labor [Geospatial Technology Competency Model](#) (GTCM), that represents the essential curriculum needed to teach entry-level GIS Technician education. The courses provide both the background theory of geospatial science as well as the hands-on application using the QGIS application software. **The QGIS Academy has no affiliation with the official [QGIS project](#) and does not speak for or represent the QGIS project.**



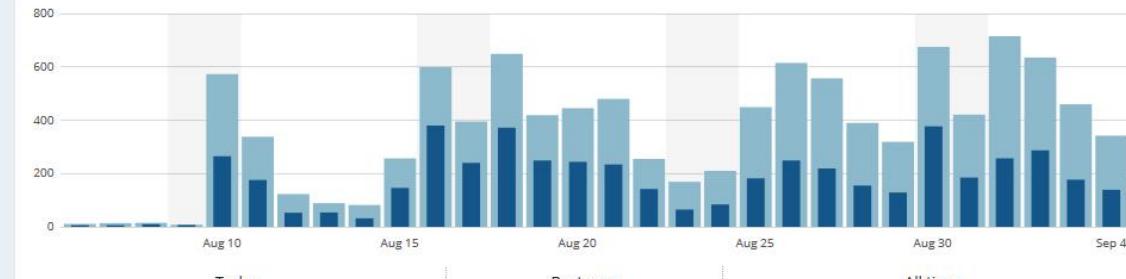
September 4, 2014, 9:04 pm

Days Weeks Months

Views

Visitors

Summaries →



Today

139
Visitors

342
Views

Best ever

715
views

All time

10,976
views

2
comments

VIEWS BY COUNTRY

Today Yesterday

Summaries →

Country Views

United States	128
Finland	59
Canada	41
United Kingdom	19
Spain	15
Portugal	14
Greece	10
Germany	10
Thailand	8
Italy	6
Trinidad and...	4
India	3
Bosnia and ...	3



TOP POSTS & PAGES

Today Yesterday

Summaries →

Title

Views

Home page / Archives	142
GST 101 Introduction to Geospatial Technology Using ...	67
GST 102 Spatial Analysis Using QGIS	35
FOSS4G Academy	26
GST 104 Cartography Using QGIS	25
GST 103 Data Management Using QGIS	21
GST 105 Remote Sensing Using QGIS	19
About	7
Total views of posts on your blog	342

CLICKS

Today Yesterday

Summaries →

URL

Clicks

WordPress.com Media	75
youtube.com	70
mybridge.delmar.edu/WAPROD/WAPROD?TYPE=M&PID=C...	7
qgis.org	2
careeronestop.org/competencymodel/competency-model...	2
birdseyeviewgis.com/kurt-menke/	1



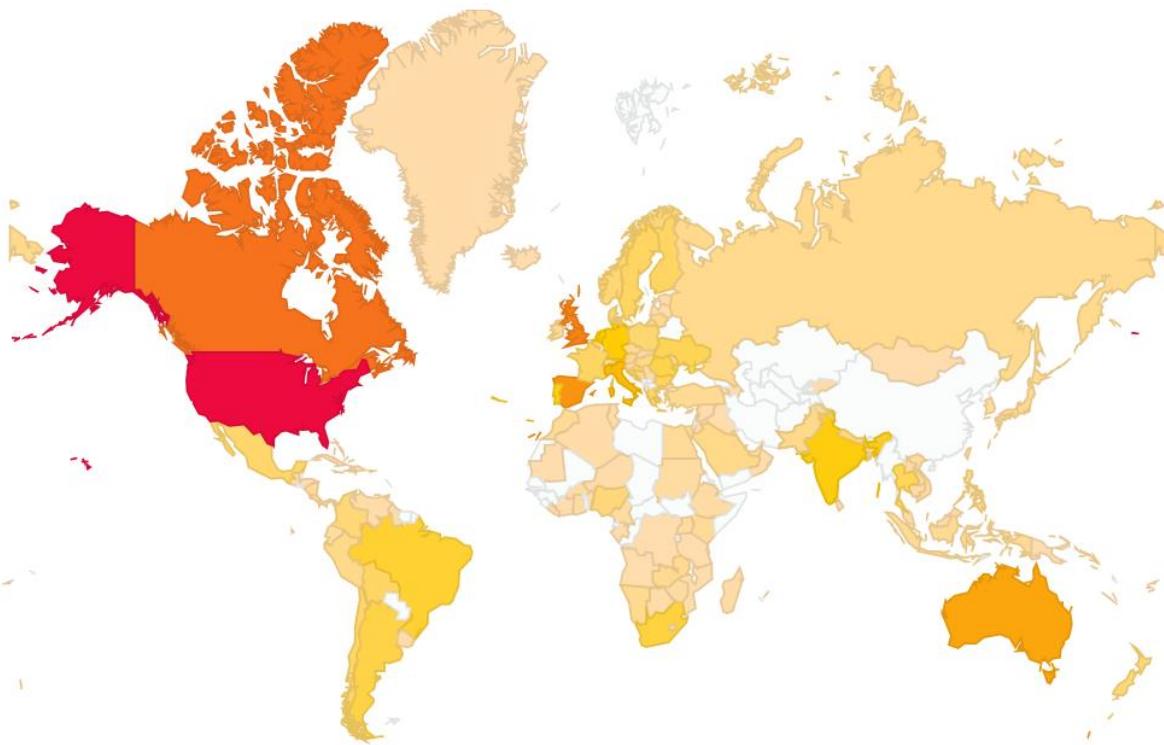
Reader My Sites Stats

[« Return to Stats](#)

Top Views by Country for all days ending 2014-09-04 (Summarized)

[7 Days](#) | [30 Days](#) | [All time](#)

Country	Views
United States	4,582
Canada	599
United Kingdom	544
Spain	467
Australia	435
Italy	227
Netherlands	193
Germany	188
India	177
Portugal	166
Brazil	137
South Africa	123
Argentina	114
Romania	108
Ukraine	96
Thailand	94
Bulgaria	90
Croatia	85
France	83





MAIN MENU

CONT. ED. MENU

CONTACT US

CONTINUING EDUCATION

Welcome Guest!

Select Classes

Note that this does not reflect our complete course catalog. Only classes available for enrollment by non-degree students appear here.

If you have already selected a class/classes and do not wish to add any more, please click the "SUBMIT" to proceed to checkout process.

If this is your first time to search and you do not find anything to select at all, please go back and modify your search.

You are not enrolled in any selected classes until you are shown a Class/Payment Confirmation form listing the classes in which you successfully enrolled.

Select	Course Name and Title	Meeting Information	Location	Start Date	End Date	Faculty	Credits	CEUs	Capacity / Available Seats
<input type="checkbox"/>	GISC-1091-97001 (43451) Intro to Geosptl Tech GST 101	09/08/2014-10/03/2014 Internet Days to be Announced, Times to be Announced,, Room to be Announced	Off Campus	09/08/14	10/03/14	K. Menke	<input type="text"/>	4.80	25 / 0
<input type="checkbox"/>	GISC-1091-97005 (43452) Intro to Geosptl Tech GST 101	09/08/2014-10/03/2014 Internet Days to be Announced, Times to be Announced,, Room to be Announced	Off Campus	09/08/14	10/03/14	P. Davis	<input type="text"/>	4.80	25 / 0
<input type="checkbox"/>	GISC-1091-97009 (43453) Intro to Geosptl Tech GST 101	10/06/2014-10/31/2014 Internet Monday, Tuesday, Wednesday, Thursday, Friday Times to be Announced,, Room to be Announced	Off Campus	10/06/14	10/31/14	To be Announced	<input type="text"/>	4.80	25 / 22
<input type="checkbox"/>	GISC-1091-97021 (43476) Spatial Analysis GST 102	10/06/2014-10/31/2014 Internet Days to be Announced, Times to be Announced,, Room to be Announced	Off Campus	10/06/14	10/31/14	To be Announced	<input type="text"/>	4.80	25 / 0
<input type="checkbox"/>	GISC-1091-97025 (43477) Spatial Analysis GST 102	10/06/2014-10/31/2014 Internet Days to be Announced, Times to be Announced,, Room to be Announced	Off Campus	10/06/14	10/31/14	To be Announced	<input type="text"/>	4.80	25 / 20
<input type="checkbox"/>	GISC-1091-97029 (43478) Spatial Analysis GST 102	11/03/2014-11/28/2014 Internet Days to be Announced, Times to be Announced,, Room to be Announced	Off Campus	11/03/14	11/28/14	To be Announced	<input type="text"/>	4.80	25 / 25
<input type="checkbox"/>	GISC-1091-97041 (43481) Data Aquisition/Mgmt_ GST 103	11/03/2014-11/28/2014	Off Campus			To be Announced	<input type="text"/>	4.80	25 / 0
<input type="checkbox"/>	GISC-1091-97045 (43482) Data Aquisition/Mgmt_ GST 103	11/03/2014-11/28/2014	Off Campus			To be Announced	<input type="text"/>	4.80	25 / 19
<input type="checkbox"/>	GISC-1091-97061 (43503) Cartographic Design GST 104	11/03/2014-11/28/2014	Off Campus			To be Announced	<input type="text"/>	4.80	25 / 1
<input type="checkbox"/>	GISC-1091-97065 (43504) Cartographic Design GST 104	11/03/2014-11/28/2014	Off Campus			To be Announced	<input type="text"/>	4.80	25 / 21
<input type="checkbox"/>	GISC-1091-97081 (43512) Intro Remote Sensing GST105	11/03/2014-11/28/2014	Off Campus			To be Announced	<input type="text"/>	4.80	25 / 4
<input type="checkbox"/>	GISC-1091-97085 (43513) Intro Remote Sensing GST105	11/03/2014-11/28/2014	Off Campus			To be Announced	<input type="text"/>	4.80	25 / 21

SUBMIT

MOVING BEYOND SINGLE PROPRIETARY CURRICULUM

- 95% of US-based colleges use a single vendor's software
- Only 5% US-based colleges report using FOSS4G
- Shortchanging our graduates in terms of technology skills and abilities
- US Dept of Labor Competency Model recognizes value of open source knowledge & skills



THE QGIS ACADEMY

- First national attempt at a completely open-based GIS curriculum
- Curriculum infrastructure for academics and trainers
- Complete course packs aligned with national standard (GTCM)
- Contains theory, lecture, labs, data and videos



GOALS OF THE QGIS ACADEMY

- Provide educational resources infrastructure for educators and trainers
- Promote the adoption of open source for undergraduate programs
- Prepare graduates for lifelong earning skills
- Increase the use of open source tools in college GIS programs



TARGETED AUDIENCE FOR QGIS ACADEMY

- Secondary school educators and students
- Two and four year college educators and students
- Students in need of GIS skills
- Workers seeking to broaden technology skills
- Anyone desiring QGIS and open source knowledge and skills



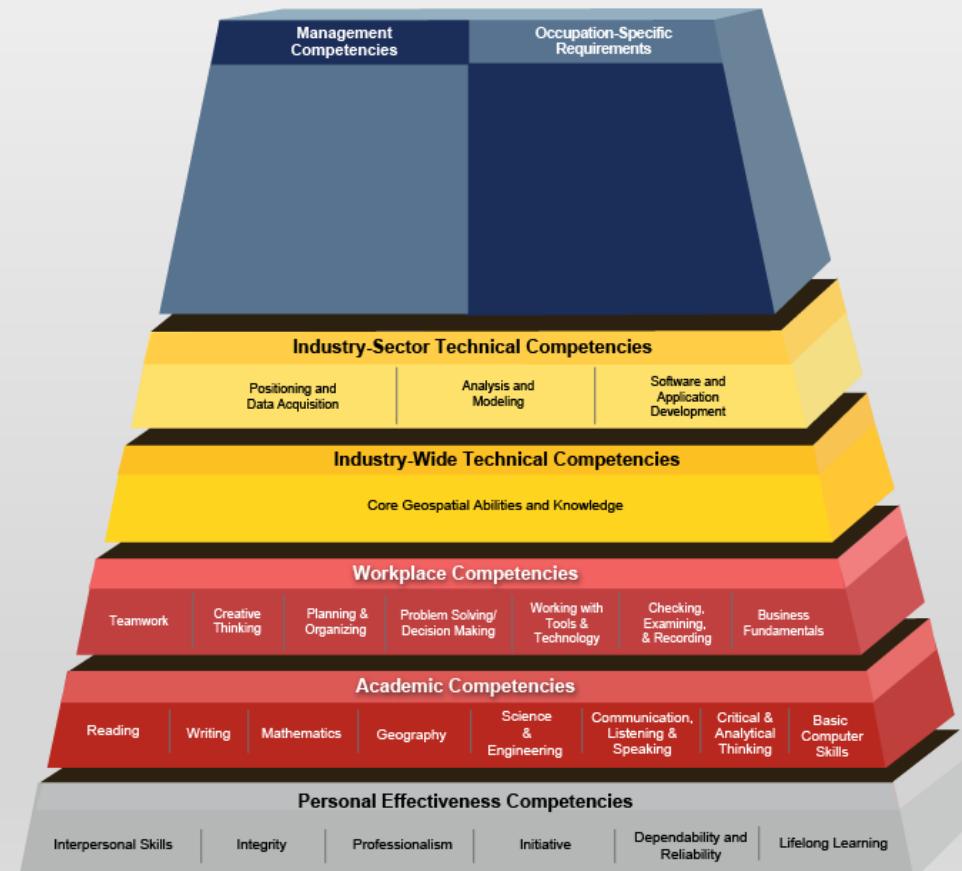
WHAT DOES THE ACADEMY OFFER?

- Curriculum materials
- Multimedia theory presentations
- QGIS laboratory documents with screen shots and data
- Task-oriented how-to videos that match lab documents
- Objective assessment database of 200+ questions



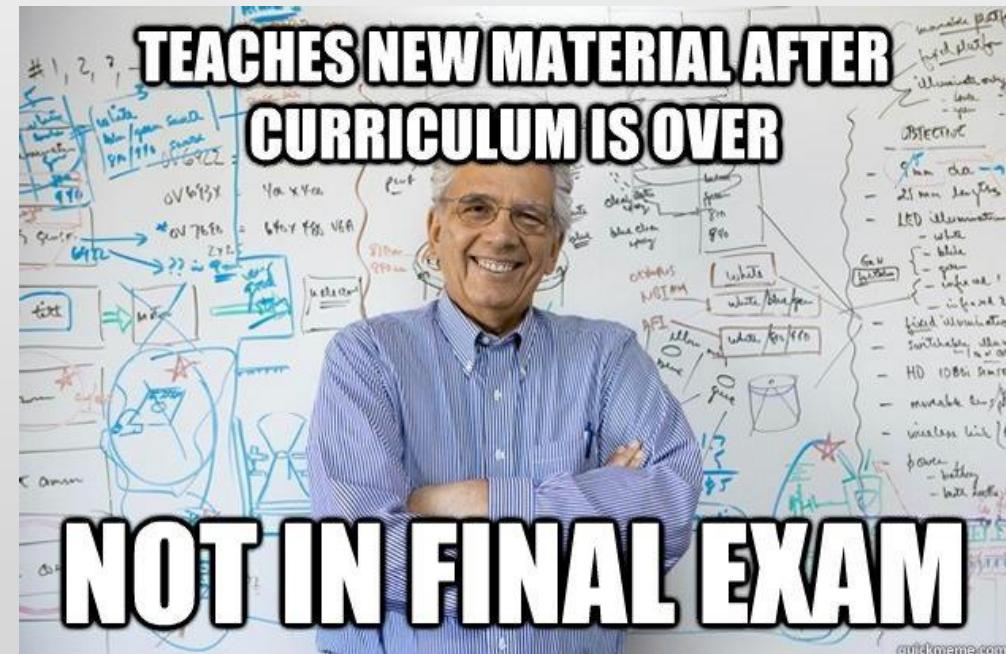
GEOSPATIAL TECHNOLOGY COMPETENCY MODEL (GTCM)

- US Dept. of Labor national clearinghouse model
- Published in 2010, revised in 2015
- Describes the complete set of knowledge, skills, and abilities required by industry workers
- Built on hierarchical tiered model of knowledge
- Promotes use of open source technology



CORE COURSES DESIGNED BY NATIONAL CONSENSUS

- Used GTCM as Standard
- Ranked the 660 KSAs in GTCM into 330 essentials ones to be taught across the curriculum
- Vetted by 40 college GIS educators in four workshops across the US (2010-2012)
- Provides a “model” curriculum to adopt



SUBJECT MATTER EXPERT (SME)

- Richard Smith, PhD
- Assistant Professor of GIS at Texas A&M University - Corpus Christi
- Geographer, Cartographer, Computer Scientist
- Coordinator of TAMUCC:
- ICA-OSGeo Lab
- Esri Development Center



SUBJECT MATTER EXPERT (SME)

- Kurt Menke
- GISP
- Private GIS consultant Owner,
Bird's Eye View
- Spatial Analyst, Cartographer
and Instructor
- Adjunct faculty Central New
Mexico Community College
and University of New Mexico



SUBJECT MATTER EXPERT (SME)

- Nate Jennings
- Adjunct Professor at UC Davis Extension
- GIS/IT Supervisor City of Sacramento
- Professor of GIS American River College/Sacramento City College
- Author, A Python Primer for ArcGIS



SUBJECT MATTER EXPERT (SME)

- John Van Hosen, PhD
- Associate Professor of Geology & Environmental Studies
- Community Mapping Lab Director (MapLab)
- Associate Editor - The Journal of Geoscience Education
- J. William Fulbright Scholar



QGIS ACADEMY CURRICULUM

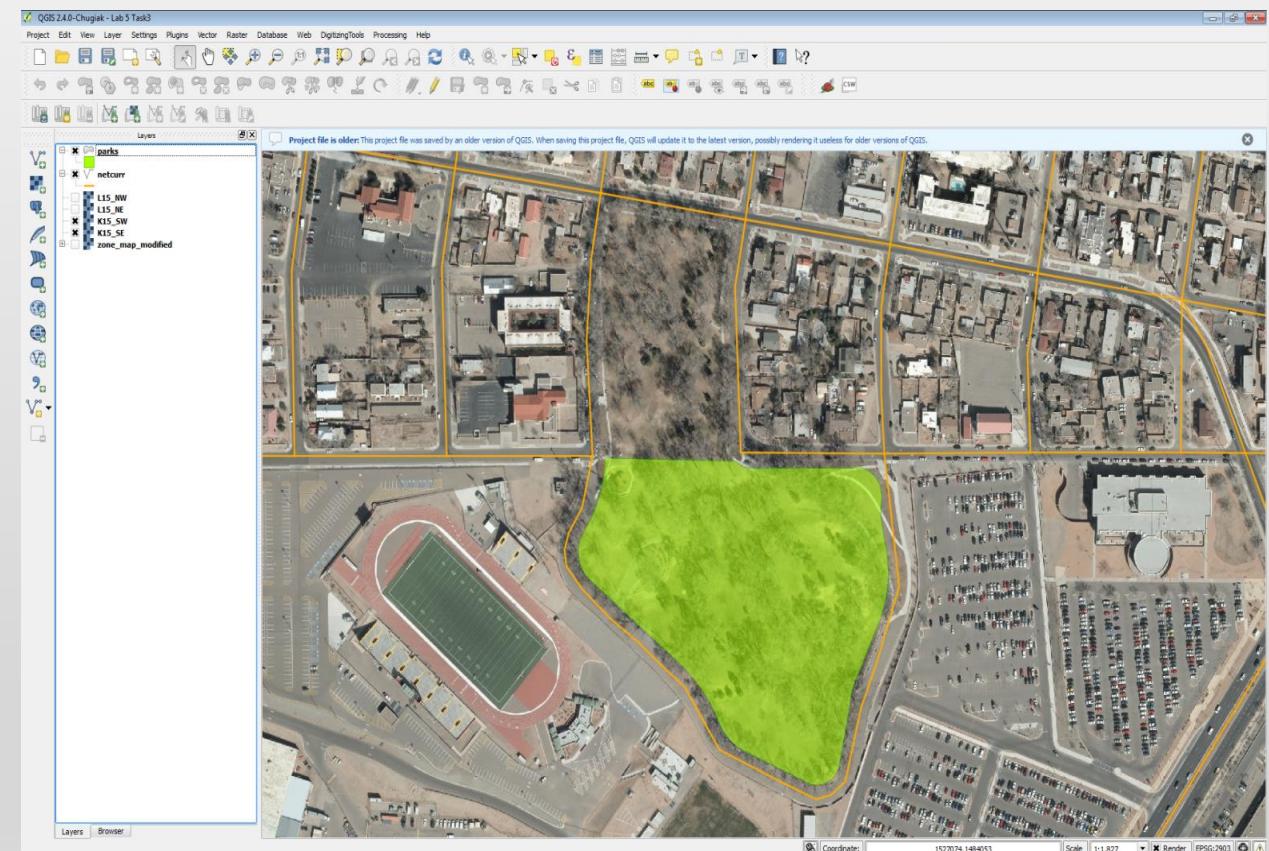
Consist of 5 Core Courses:

- GST 101 Introduction GIS
- GST 102 Spatial Analysis
- GST 103 Data Management
- GST 104 Cartography
- GST 105 Remote Sensing



GST 101 INTRODUCTION TO GEOSPATIAL TECHNOLOGY USING QGIS

- Fundamental overview of GIS theory and practice
- Geospatial data types and formats (vector, raster, etc)
- Elements of geography
- Fundamentals of cartography
- Introduction to remote sensing



DMC_GST105 - Dropbox Inbox (2) - goliadranger@gmail.com GST 101 Introduction to Geospa... +

http://foss4geo.wordpress.com/gst-101/ Google 0.00K

Google Gmail Facebook Links Links for United States Clayton Christensen ... imincik/gis-lab · Git... Producing Open Sou... EMSI | Economic Mo... YR3 Q2 Quarterly Pro... The Clymb | The Ge... Donald Clark Plan B: ... Clint Lalonde (BCca... HIGHER EDUCATIO...

GST 101 Introduction to Geospatial Technology Using QGIS

The following tutorial videos are intended to be used as supplements to the QGIS Academy lab document. They provide a short step-by-step instruction on performing lab tasks with QGIS. Watch this overview of GST 101 [Introduction to Geospatial Technology Using QGIS](#) before you begin.

[Lab Instructions for Lab_2_Spatial_Data_Models](#)

- Lab 2 Task 1 [Learning to Work with the QGIS Browser](#)
- Lab 2 Task 2 [Becoming Familiar with Geospatial Data Models](#)
- Lab 2 Task 3 [Viewing Geospatial Data in the QGIS Browser](#)

[Lab Instructions for Lab_3_Understanding_Coordinate_Systems](#)

- Lab 3 Task 1 [Setting Map Projections and Coordinate Systems in QGIS](#)
- Lab 3 Task 2 [Exploring World Map Projections](#)
- Lab 3 Task 3 [Exploring National Map Projections](#)
- Lab 3 Task 4 [Exploring State Map Projections](#)
- Lab 3 Task 5 [Exploring the Universal Transverse Mercator \(UTM\) Coordinate System](#)

[Lab Instructions for Lab_4_Displaying_Spatial_Data](#)

- Lab 4 Task 1 [Organize Map Layers & Set CRS](#)
- Lab 4 Task 2 [Style Data Layers](#)
- Lab 4 Task 3 [Composing the Map Deliverable](#)

[Lab Instructions for Lab_5_Creating_Geospatial_Data](#)

- Lab 5 Task 1 [Create a New Shapefile](#)
- Lab 5 Task 2 [Transforming the Coordinate System of Source Data](#)
- Lab 5 Task 3 [Heads-up Digitizing from Transformed Source Data](#)
- Lab 5 Task 4 [Editing Existing Geospatial Data](#)

[Lab Instructions for Lab_6_Understanding_Remote_Sensing_and_Analysis](#)

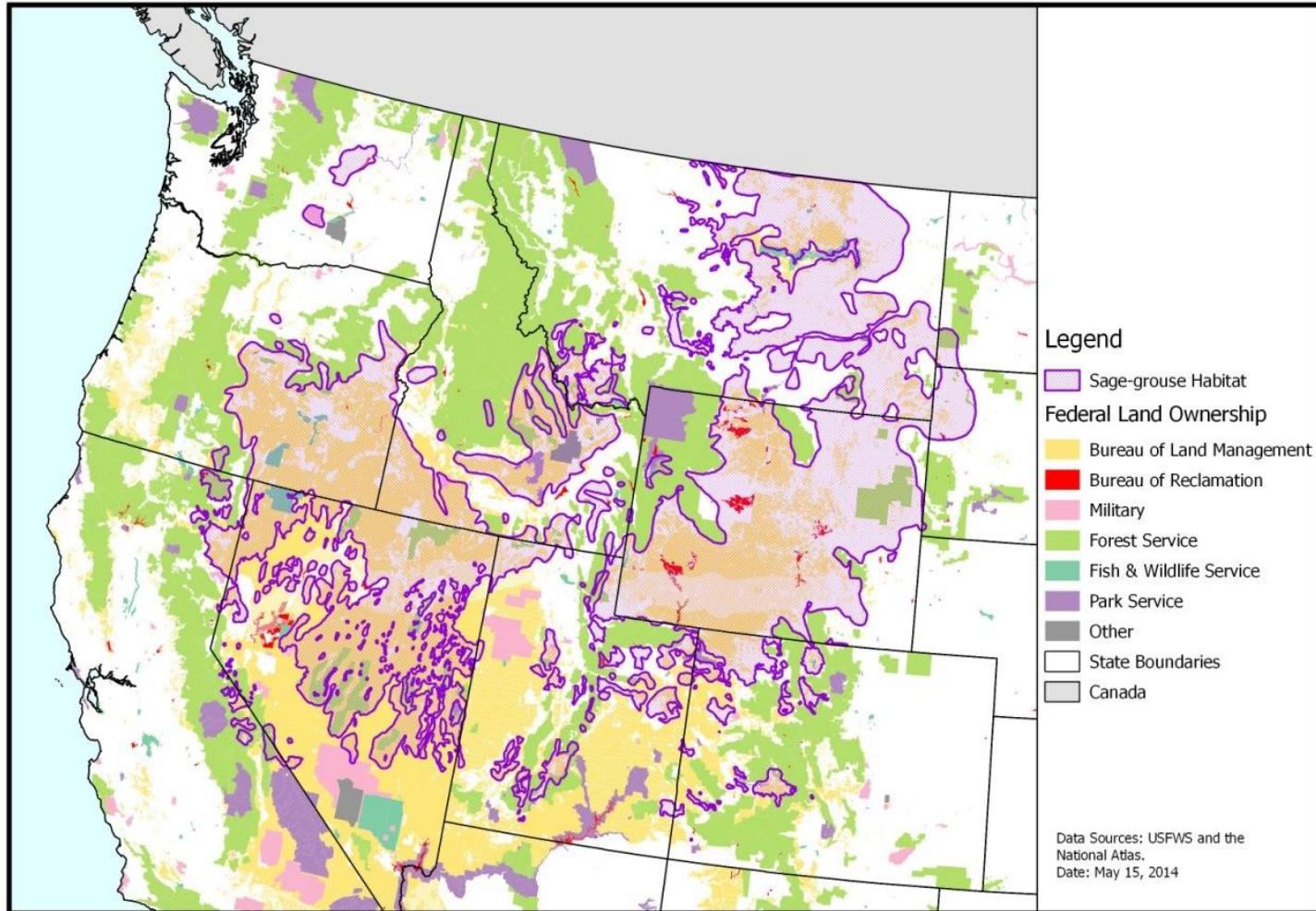
- Lab 6 Task 1 [Displaying and Inspection of Image Data](#)
- Lab 6 Task 2 [Unsupervised Classification \(Cluster Analysis\)](#)
- Lab 6 Task 3 [Supervised Classification](#)

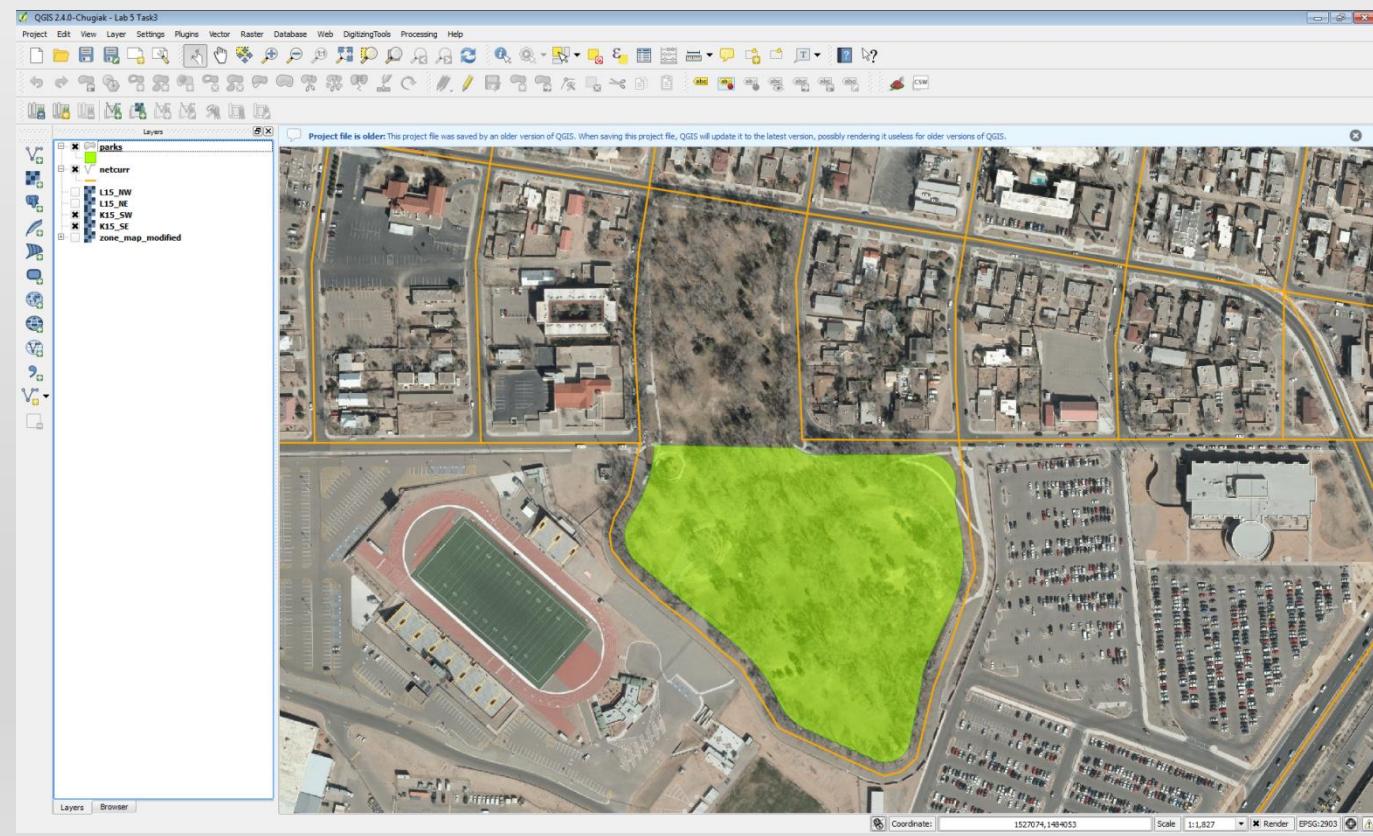
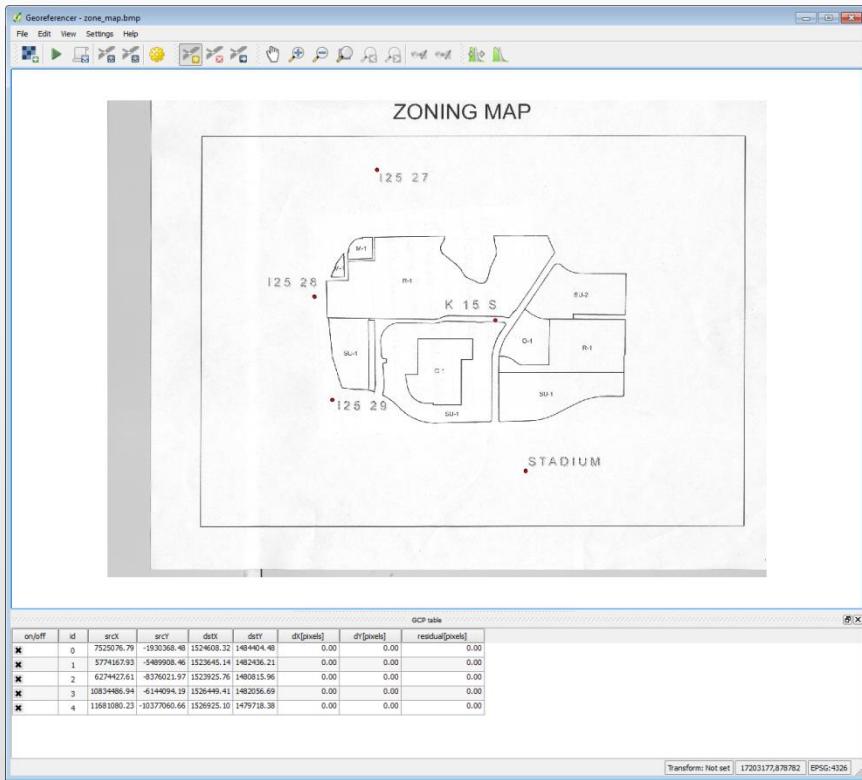
[Lab Instructions for Lab_7_Basic_Geospatial_Analysis_Techniques](#)

- Lab 7 Task 2 [Querying and Extracting Subsets of Data](#)
- Lab 7 Task 3 [Buffering and Clipping Data](#)
- Lab 7 Task 4 [Preparing a Map](#)

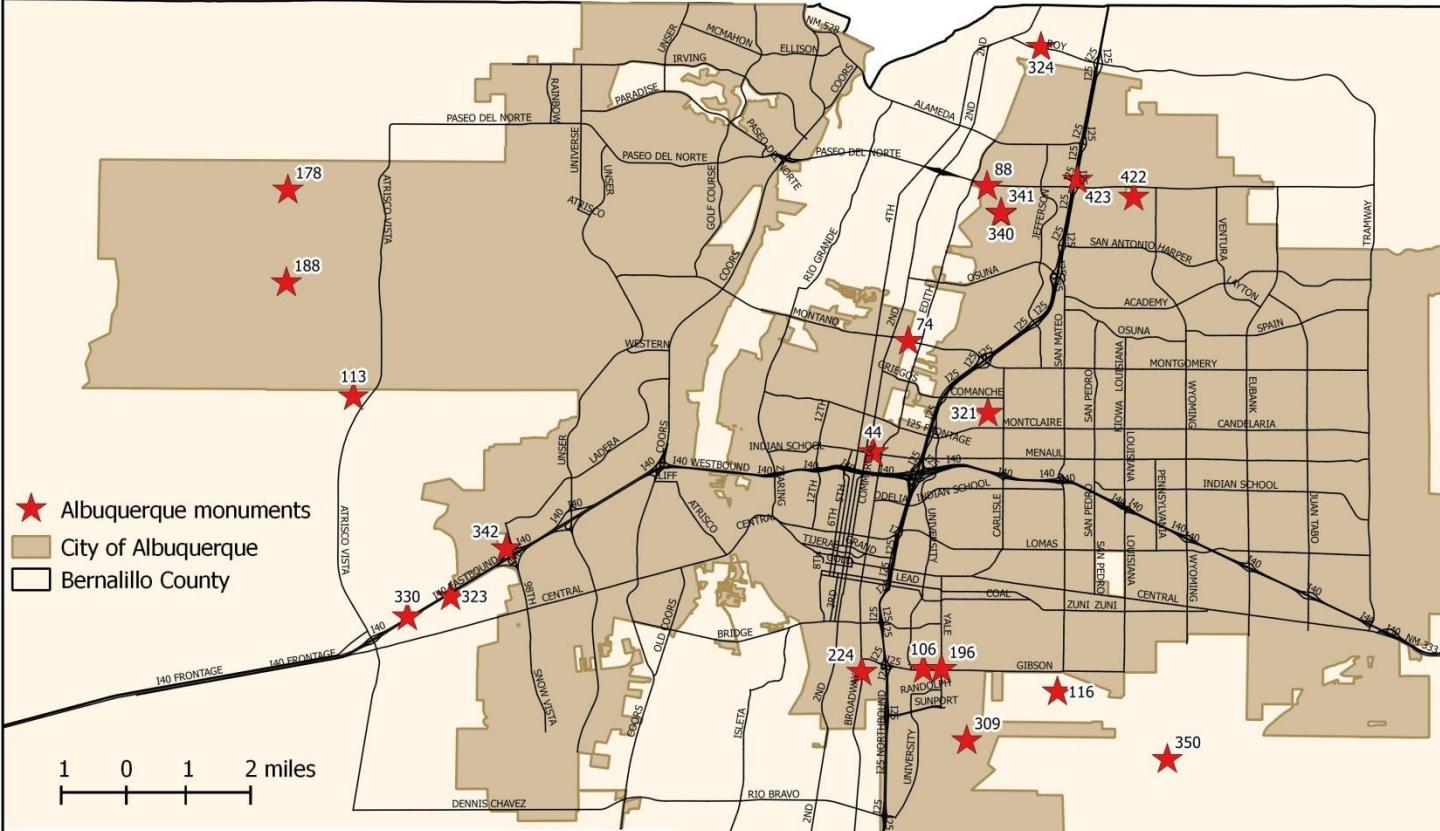
Follow 2% 4:17 PM 8/6/2014

Greater sage-grouse Current Distribution



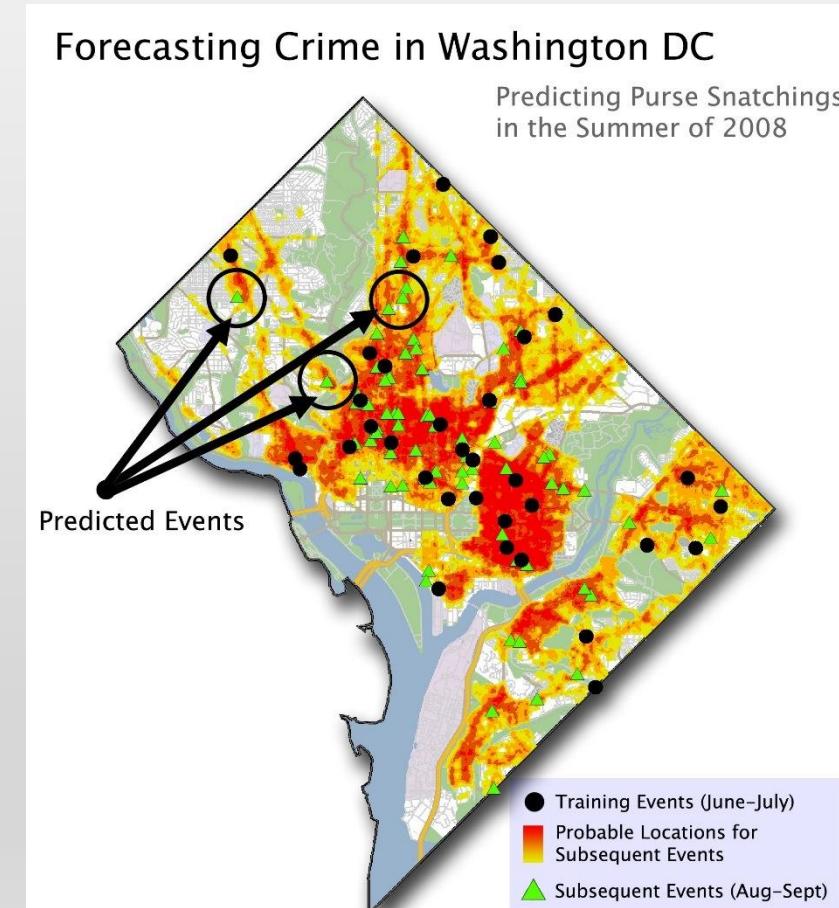


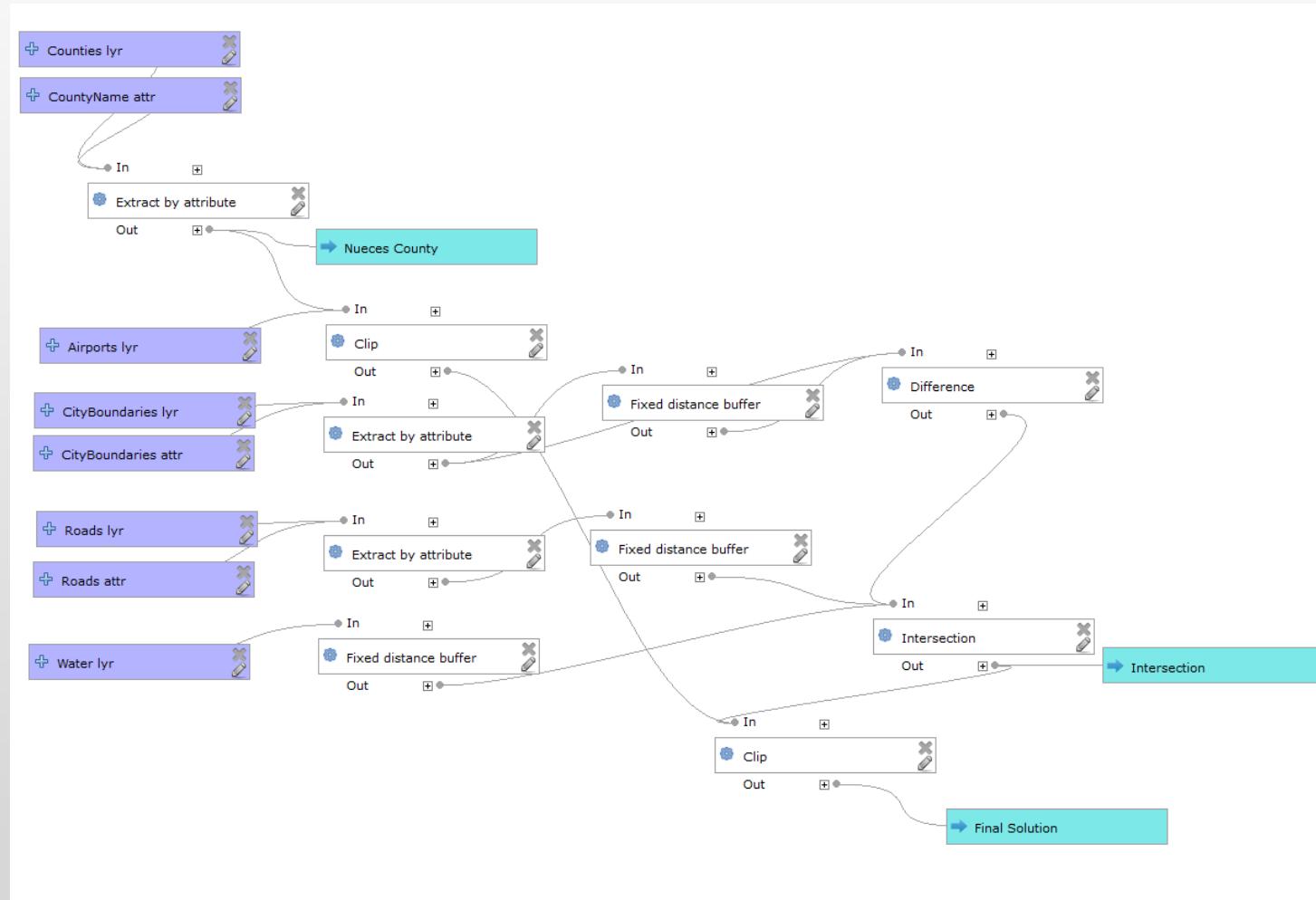
Albuquerque Vertical Control Monuments

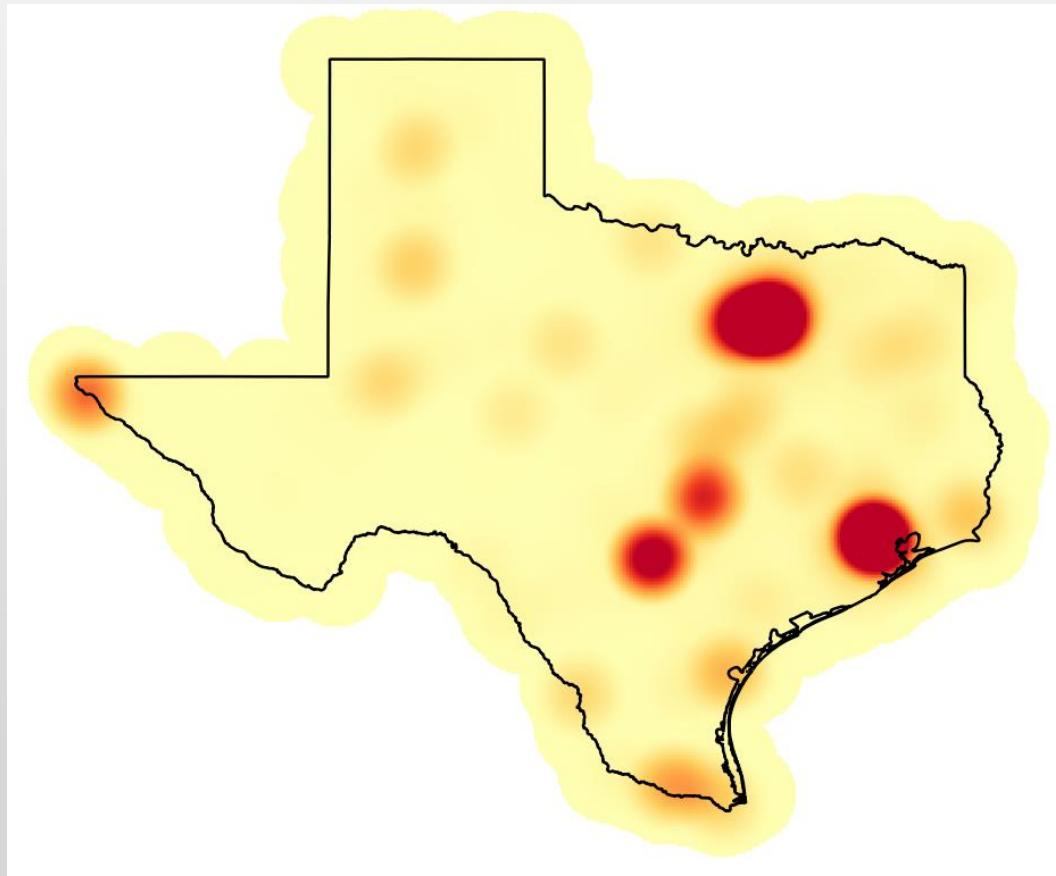


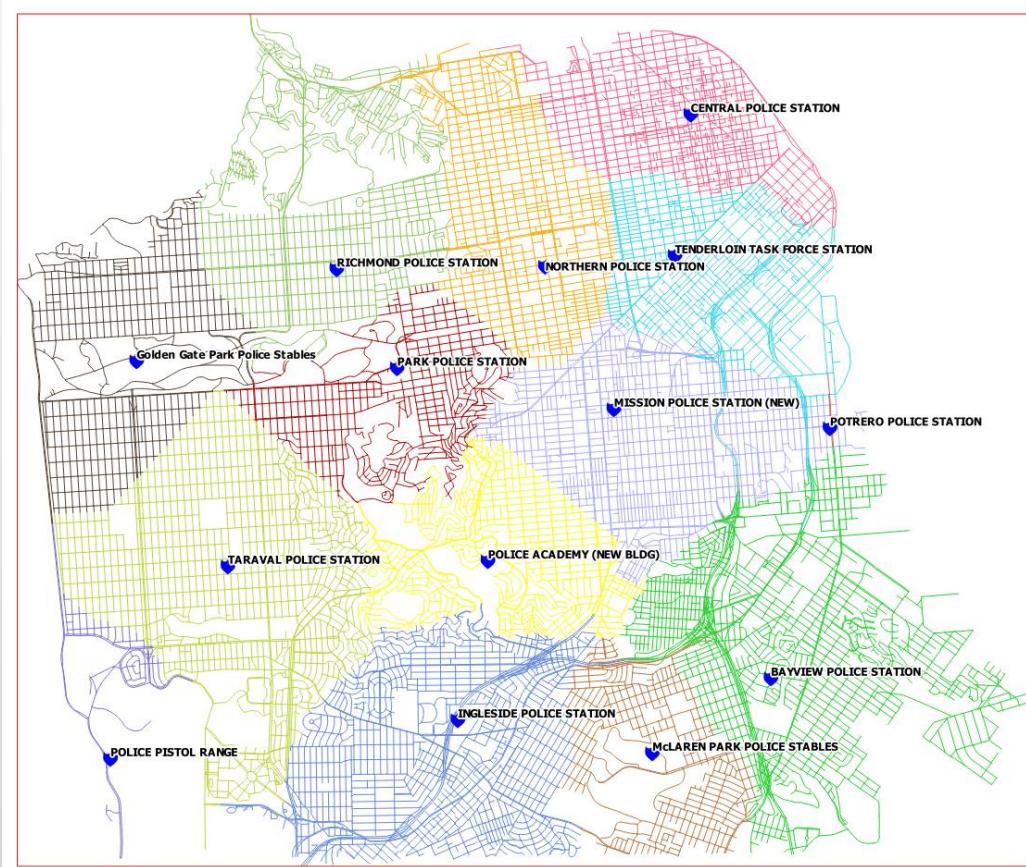
GST 102—SPATIAL ANALYSIS USING QGIS

- Prepare data for use in analysis
- Solving a problem using geospatial tools and methods
- Run geoprocessing tools implement a model to run several tools in sequence
- Organize the data sets resulting from analysis
- Present the results of a using terminology and visualizations





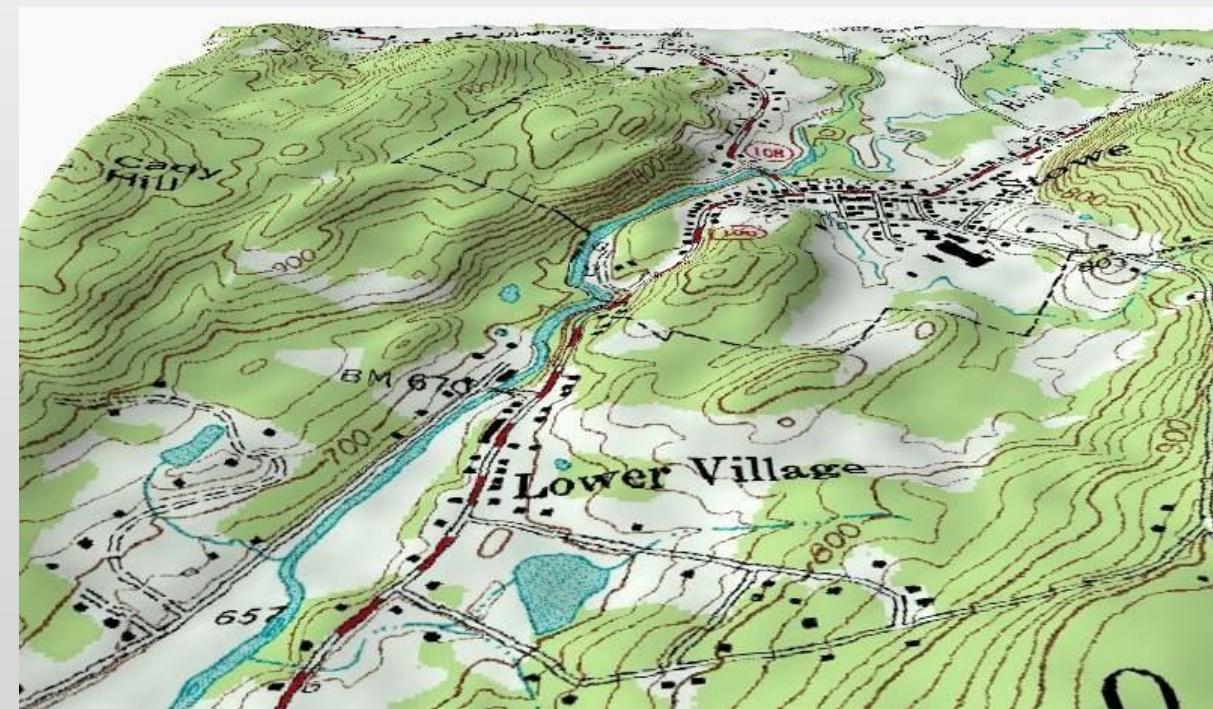


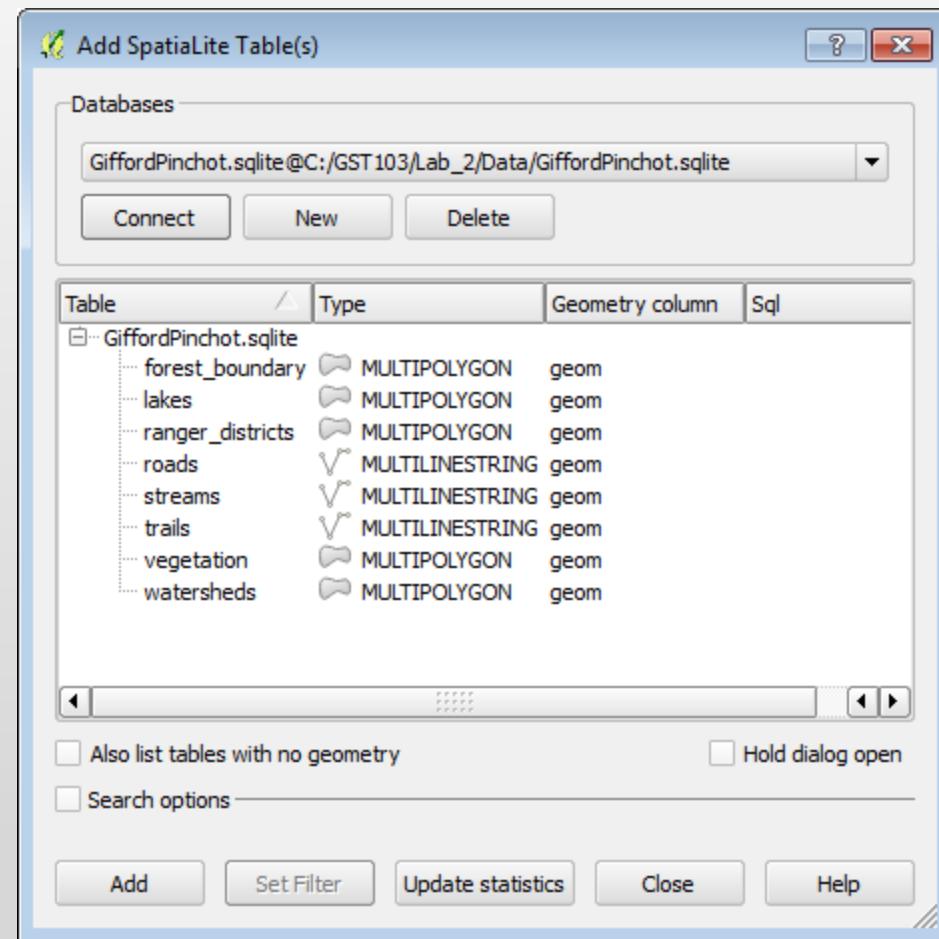


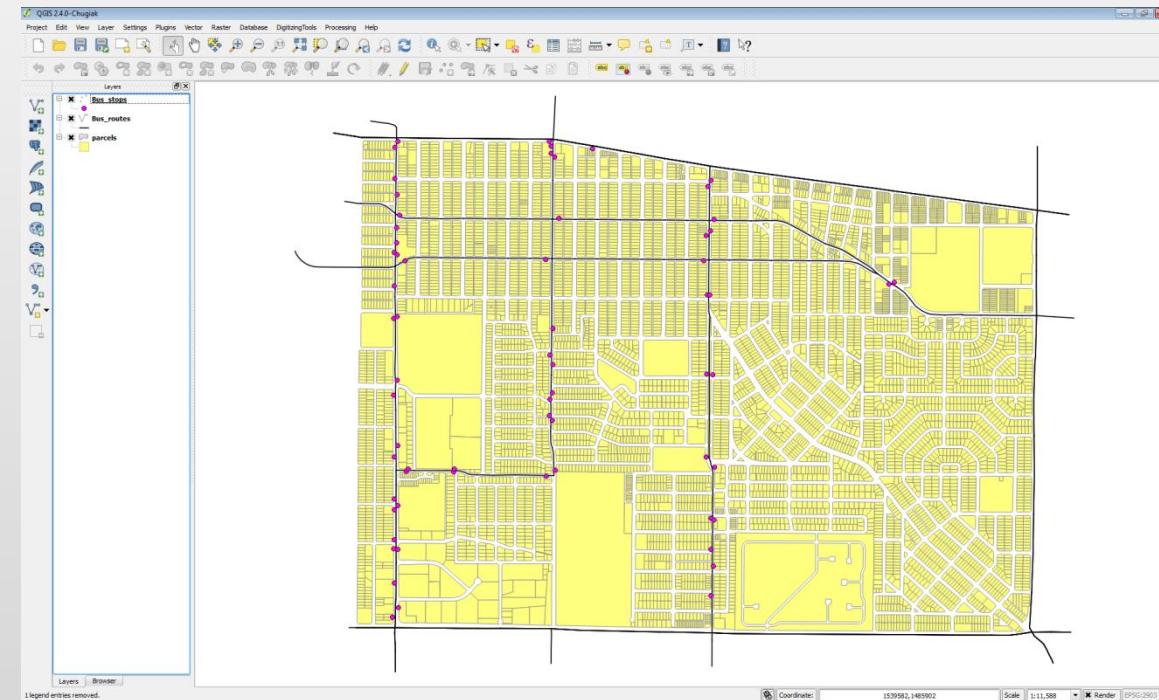


GST 103—DATA ACQUISITION AND MANAGEMENTS USING QGIS

- Describe the collection of field data, digital conversion of existing hardcopy maps, and the construction of spatial data from known locations
- Demonstrate basic proficiency to collect, record, and utilize spatial data and databases
- Demonstrate an ability to collect, create, and process spatial data within a variety of environments
- Describe and explain the similarities and differences between data models as well as how data is treated differently within each format, to include the conversion of data between different formats
- Demonstrate an understanding of the fundamentals of GIS data storage and interoperability







Metadata viewer

New Mexico, 2010 Census Place

FGDC Metadata
Show Definitions

Description | Spatial | Data Structure | Data Quality | Data Source | Data Distribution | Metadata | + Resource Description

+ Resource Description

Citation

Title: New Mexico, 2010 Census Place

Originators: U.S. Department of Commerce, U.S. Census Bureau, Geography Division

Publication date: 20110606

Edition: 2010

Data type: vector digital data

Data location: <http://www.census.gov/geo/www/tiger>, [http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/services/ogc/wfs?SERVICE=wfs&REQUEST=GetCapabilities&VERSION=1.0.0](http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/services/ogc/wms?SERVICE=wms&REQUEST=GetCapabilities&VERSION=1.1.1), http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/tl_2010_35_place10_derived.shp, http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/tl_2010_35_place10_derived.kml, [http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/tl_2010_35_place10_derived.json](http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/tl_2010_35_place10_derived.geojson), http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/tl_2010_35_place10_derived.csv, http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/tl_2010_35_place10_derived.xls, <http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/metadata/FGDC-STD-001-1998.xml>, <http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/metadata/ISO-19115-2003.xml>, <http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/metadata/ISO-19119-2003.html>, <http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/metadata/ISO-19119-WMS.xml>, <http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/metadata/ISO-19119-WFS.xml>, <http://gstore.unm.edu/apps/gis/datasets/02eddccb-bd3a-4751-9346-19a69c6421f3/metadata/ISO-19110.xml>

Description
Point Of Contact
Data Type
Time Period of Data
Status
Key Words

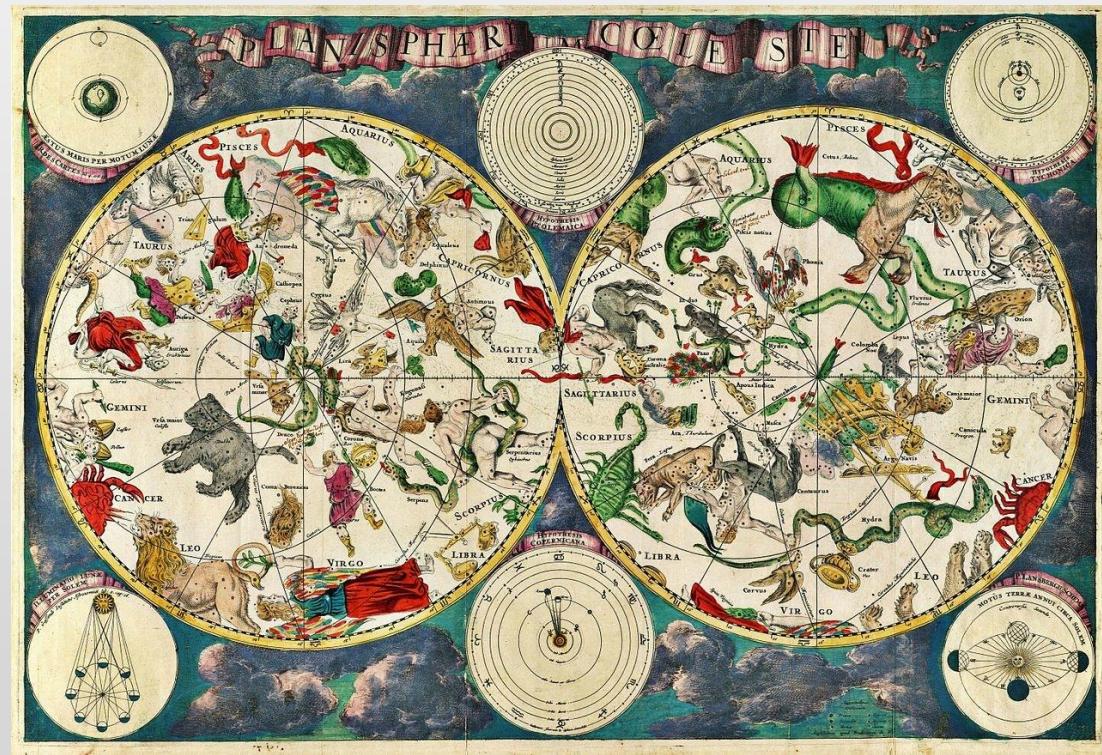
+ Spatial Reference Information
Spatial Domain

+ Data Structure and Attribute Information
Overview
Attributes of PLACE10.shp

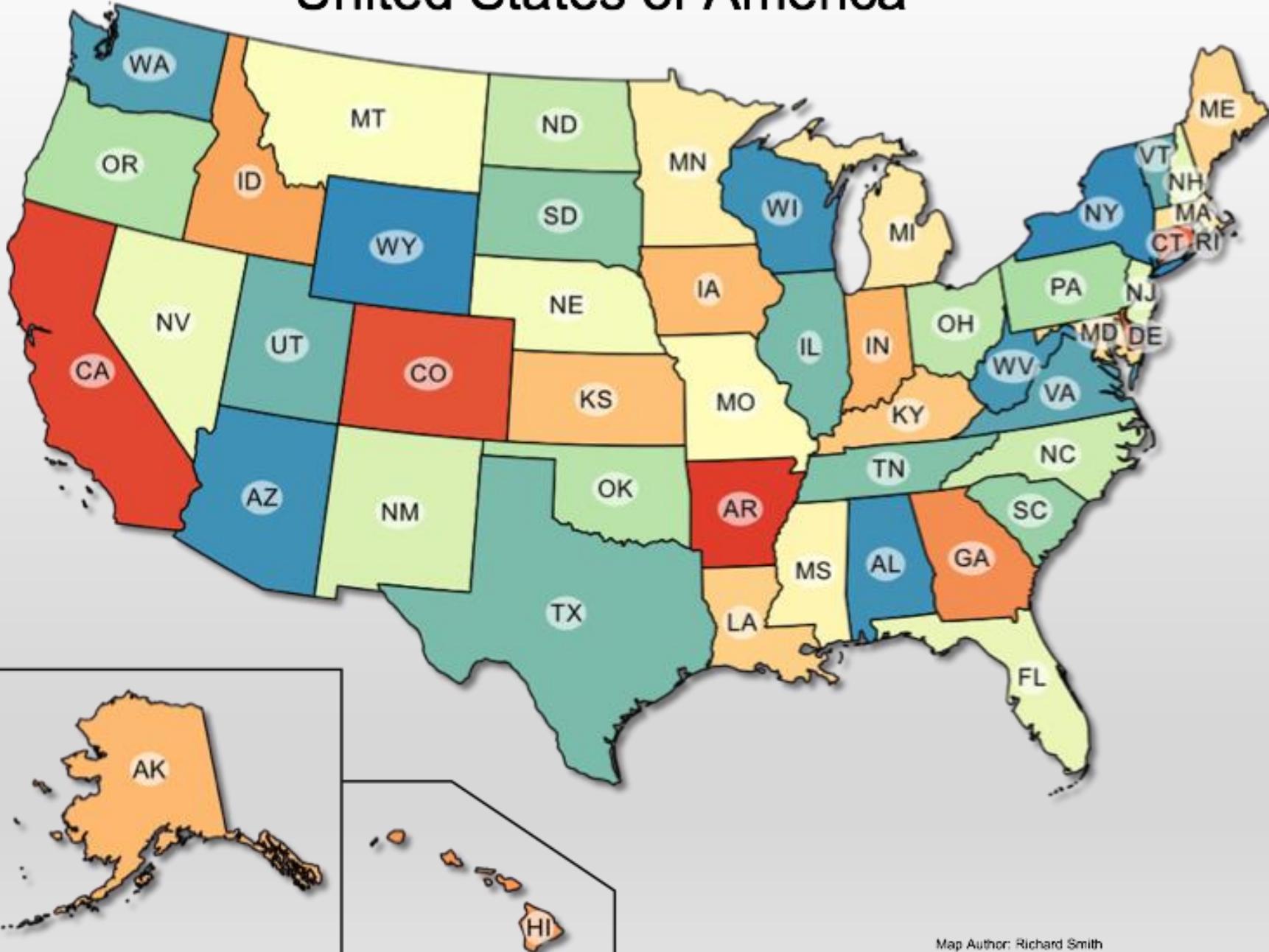
Close

GST 104—INTRODUCTION TO CARTOGRAPHY USING QGIS

- Categorize and describe different types of maps (thematic, reference, etc.)
- Describe the components of a map (map elements)
- Employ an appropriate geographic referencing system (datum, projection, coordinate system)
- Select and apply ethical and appropriate data model, map scale, map elements, symbolization and color
- Design professional quality maps employing cartographic principles
- Critique maps for appropriate use of cartographic design principles



United States of America



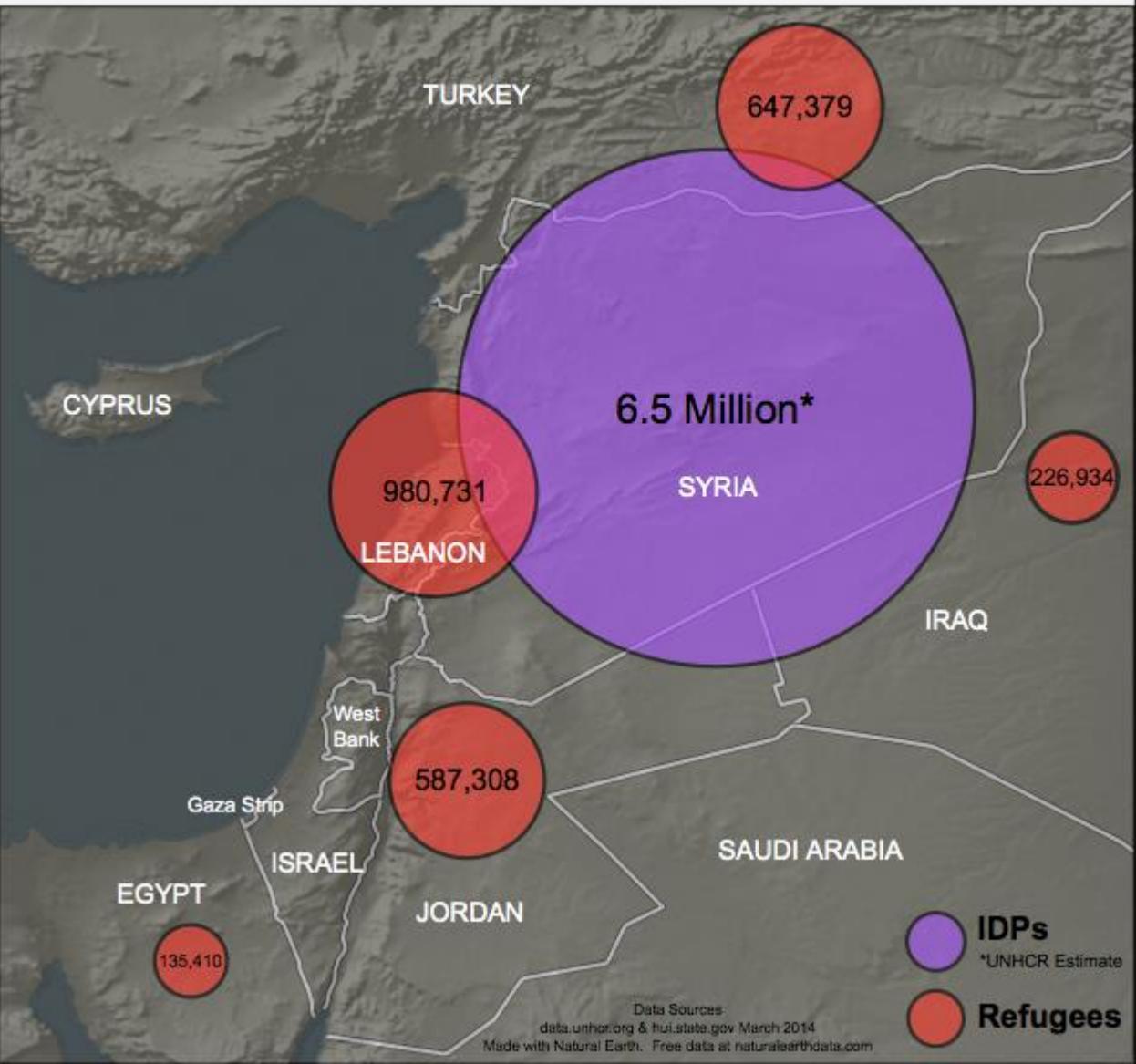
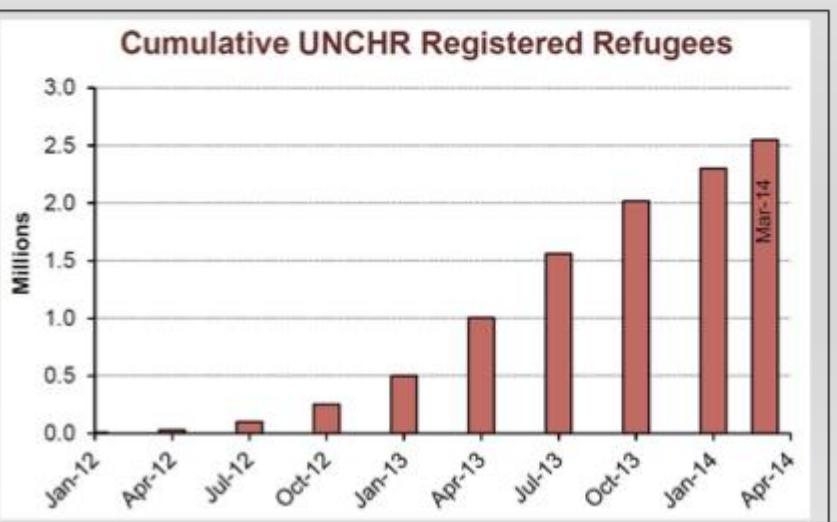


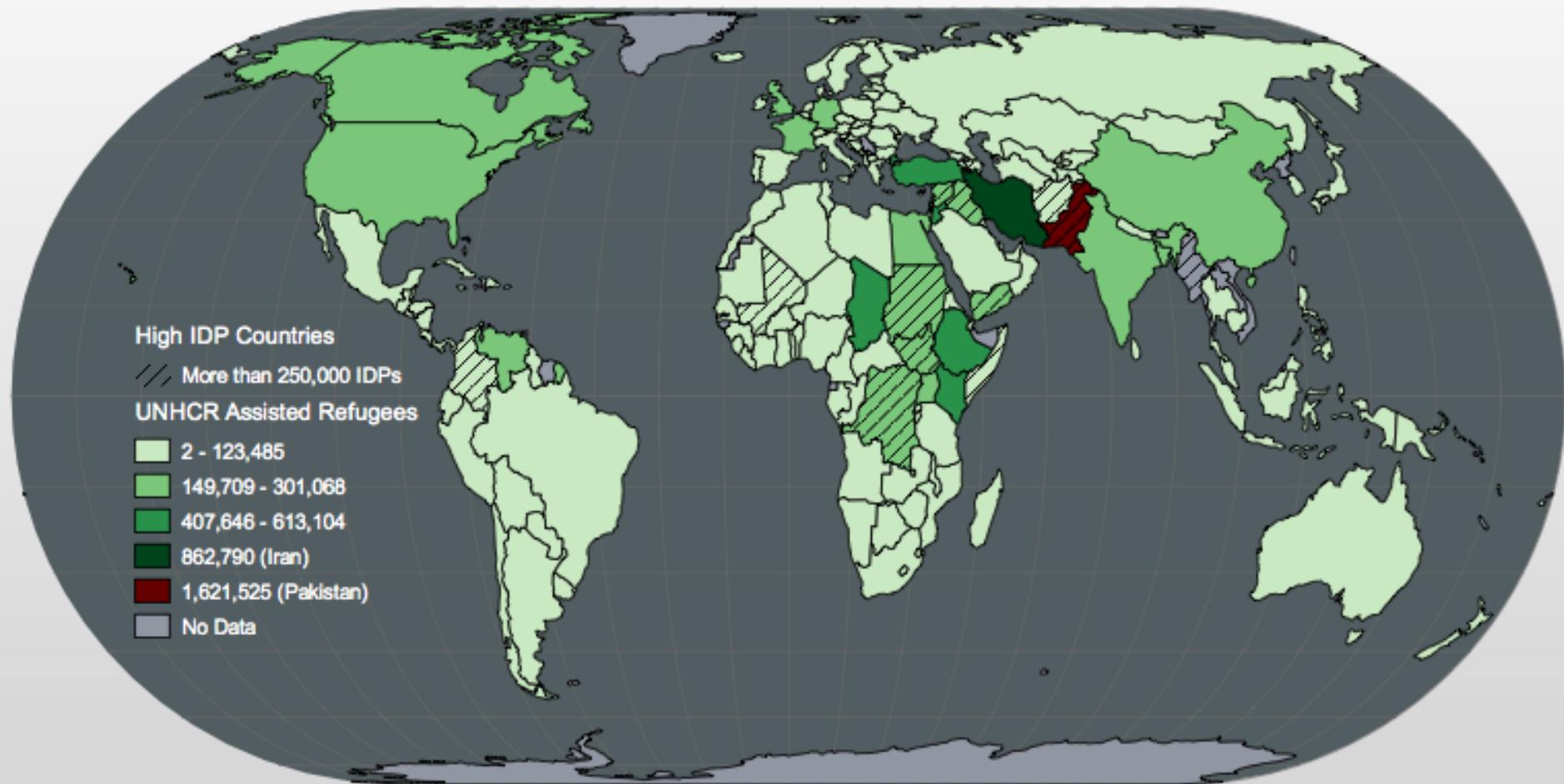
Syrian Refugees & Internally Displaced Persons

2011 - 2014

The United Nations High Commissioner for Refugees (UNHCR) defines refugees as individuals who are outside their country of nationality or habitual residence because of persecution, war, or violence. Internally displaced persons (IDPs) are defined as persons who have been forced to flee their home for the same reason as a refugee, but remain in their own country and have not crossed an international border.

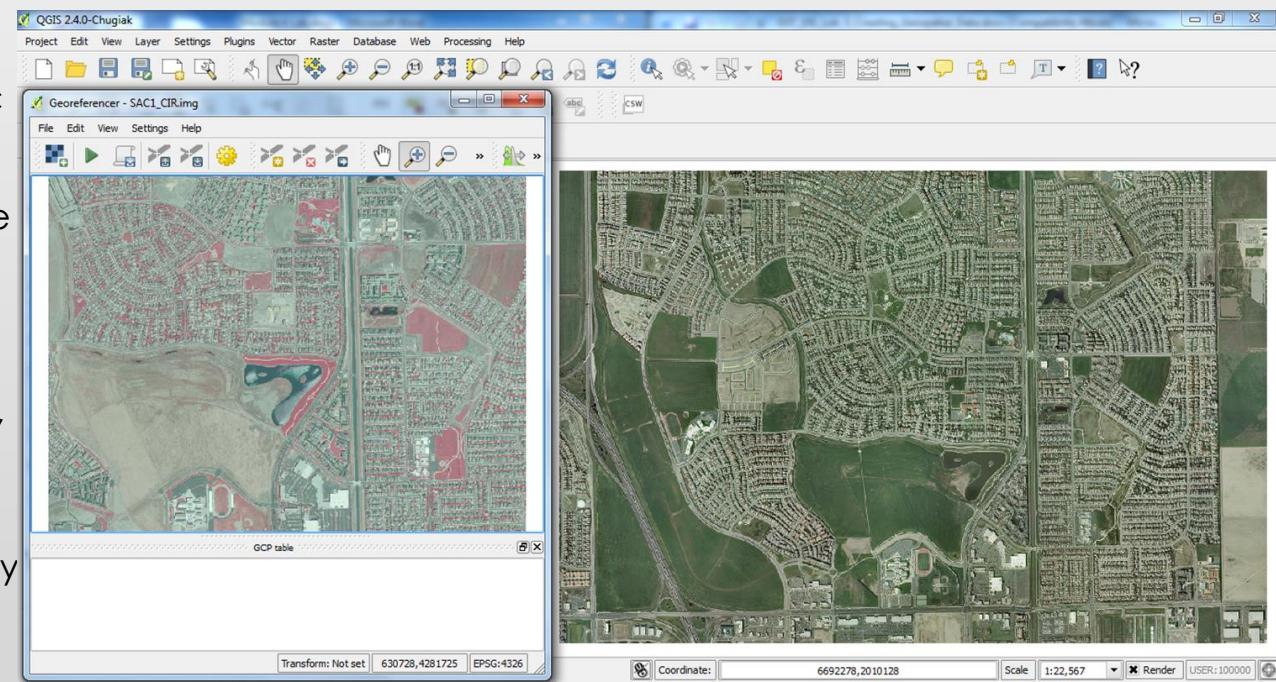
Total Persons of Concern: 9.36 Million

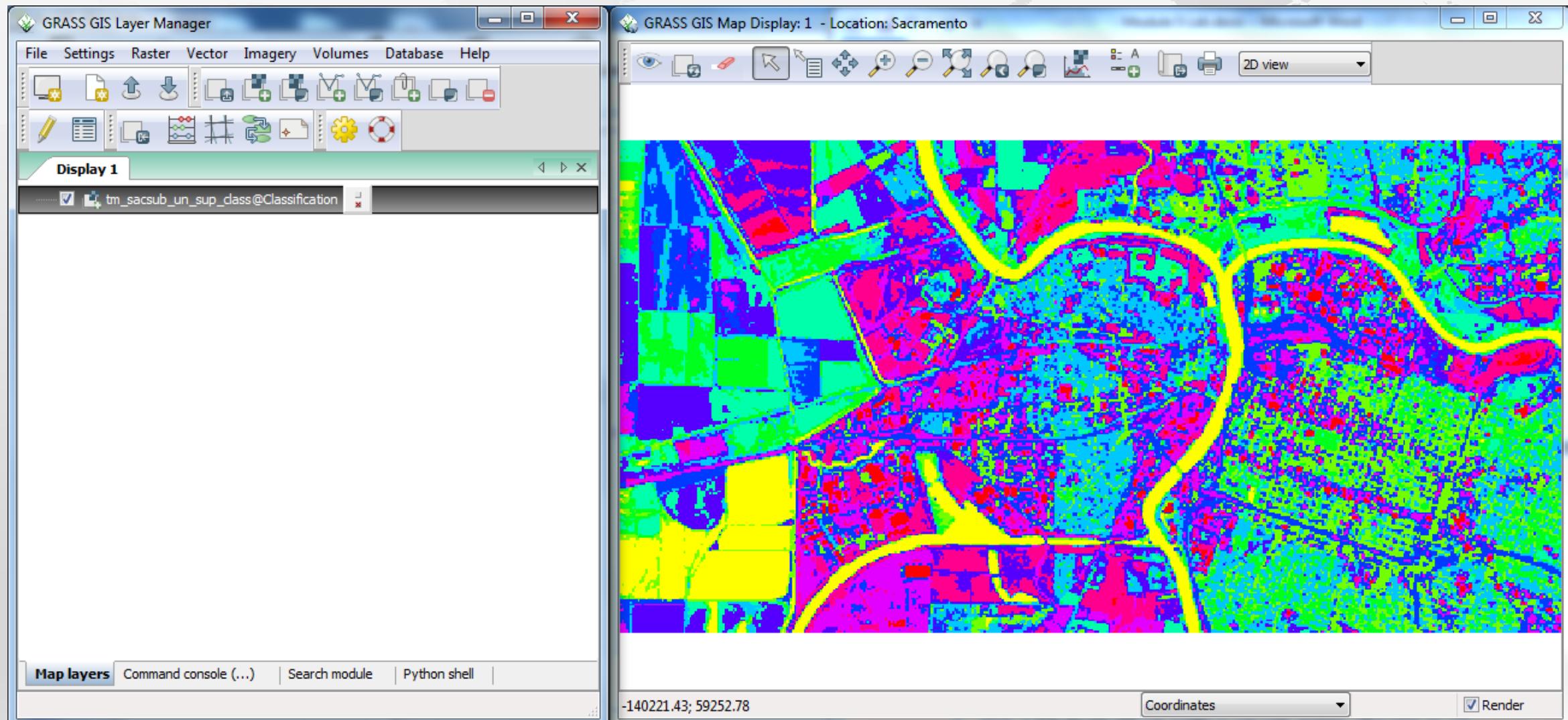


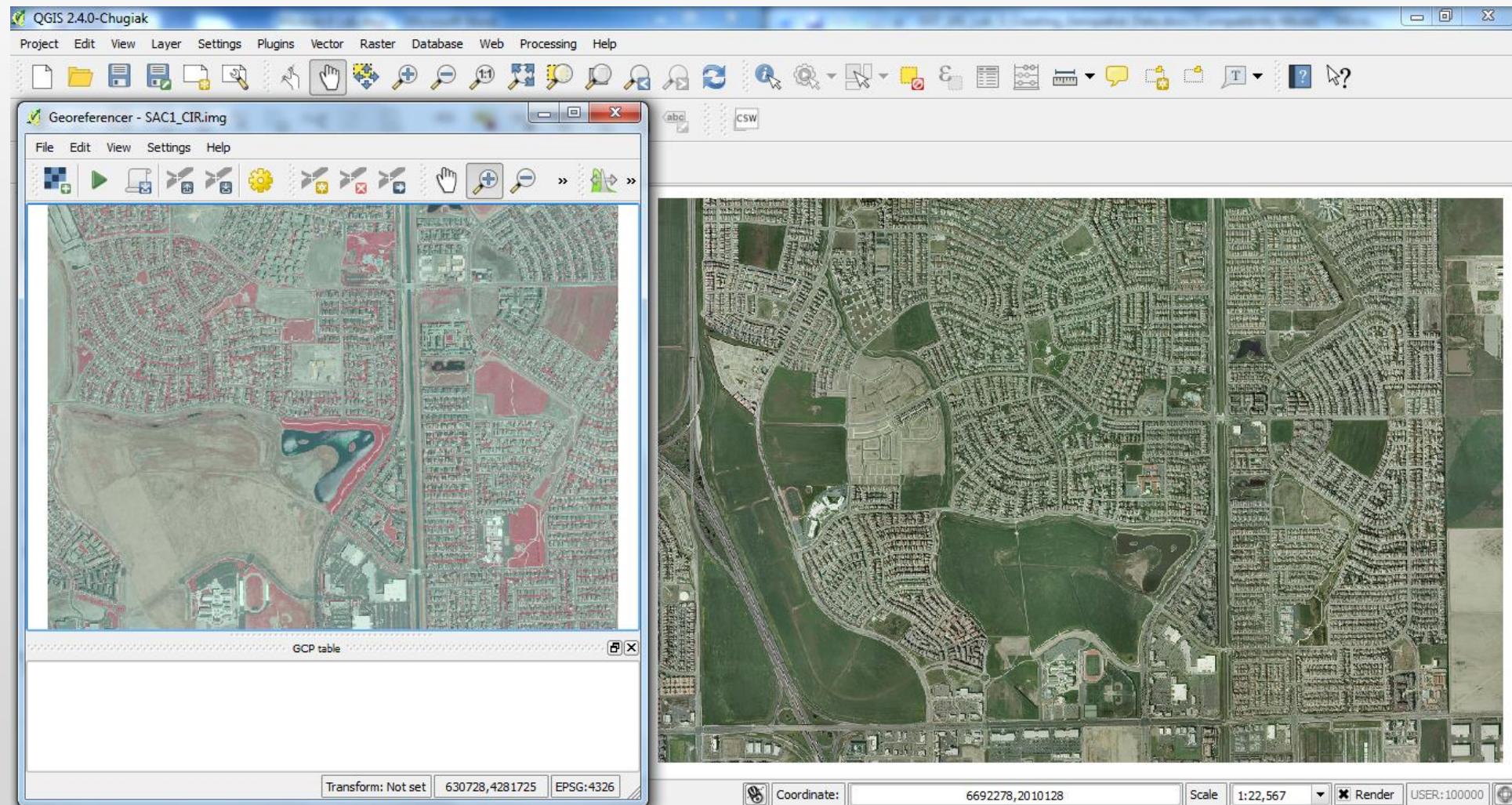


GST 105 - INTRODUCTION TO REMOTE SENSING USING QGIS AND GRASS GIS

- Describe basic physics concepts on which remote sensing is based (i.e. Electromagnetic Spectrum, etc.)
- Select appropriate data set for remote sensing application based on spectral, temporal, radiometric and spatial resolution
- Describe characteristics of passive and active remote sensing systems (such as multispectral, LiDAR and Radar)
- Perform basic remote sensing workflows to solve problems (such as acquiring data, feature extraction, change detection, pre- and post-processing, create composite images and image classification)
- Apply basic concepts, methods and uses of accuracy assessment and ground truthing to the results of remote sensing workflows
- Interpret, analyze and summarize results of a remote sensing workflow







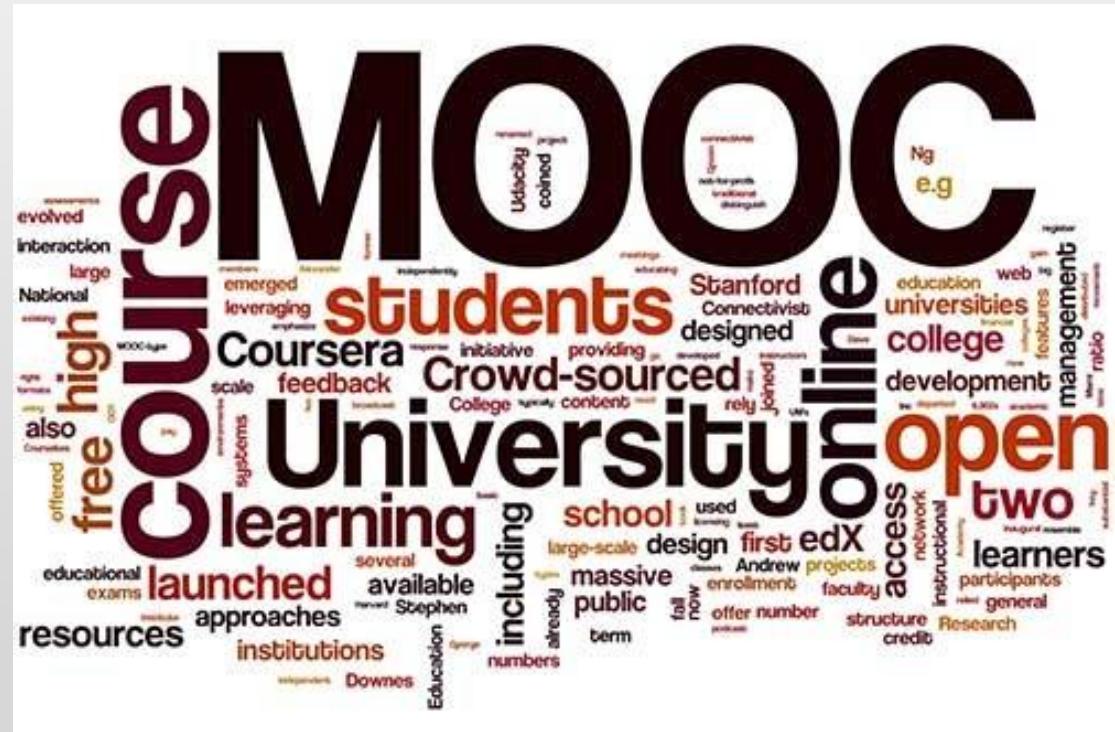
RESULTS OF QGIS ACADEMY BETA

- Beta launched June 2014
- 2,325 students enrolled (as of 8/6/2014) in beta
- Every continent has participants (except Antarctica)
- Five complete course packages
- 100+ QGIS how-to videos



FUTURE PLANS

- Digital badges for completion using Open Badges by Mozilla
- Course offerings through Continuing Education (CE)
- \$25 per instructor-led course
- Courses will be 4 weeks long
- CE Certificate of Completion for each course
- CE Skills degree for passing 5 course curriculum
- CE can be converted to undergraduate credit hour courses one for one
- Partnership with Canvas Networks for MOOC offering in October 2014



CONTACTS

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Richard Smith

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FOSS4G ACADEMY WEBSITES

Access to free Canvas courses:

<http://foss4geo.org>

Access to paid Canvas courses:

<http://foss4geo.wordpress.org>

Access to Esri version source:

<http://nterlearning.org>

Access to QGIS source:

<https://github.com/FOSS4GAcademy>