

**Session Title:** Mapping and Geospatial Visualization with QGIS

**Instructor(s) Name:** David Percy ("Percy")

**Instructor(s) Information:** **David Percy** has a B.S. in Geology, with a minor in Economics, MS in Systems Science, and has been the Geospatial Data Manager at Portland State University in the Geology Department since 1998. From 1984 to 1997 he worked in medical research at OHSU and other medical facilities as a data manager and analyst.

**Audience:** Librarians and researchers new to data science, specifically spatial data in the GIS domain

**Audience level:** Beginner to Intermediate

**Session Day/Time:** Wednesday, November 08, 2017, 1:30pm-3pm.

**Session Description:** We will explore the most common spatial data types, Raster and Vector, and how to use Free and Open Source Software (FOSS) to manipulate and analyze these data. We will traverse the history of GIS from Snow's analysis of cholera to scraping the Twitter-verse for geolocated data in the modern era.

Please plan to work in pairs to enhance the learning experience. Sitting together with two laptops is fine.

### Session Learning Objectives

A participant in this course will at the end of the course be able to:

- Obtain the most current FOSS GIS
- Distinguish between the uses of Raster and Vector data
- Symbolize data to enhance underlying patterns
- Project data from one coordinate system to another
- Make a density map of cholera outbreaks in 1850s London
- Find useful data online
- Explore geotags from tweets
- Spatial interpolation for creating surfaces from scattered data so that disparate data can be modelled using map algebra
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### Course Materials and Supplies

**Research papers (may be added later, depending on class interests)**

#### Required

Students are expected to bring, and have installed the following material before the course begins. Allow at least 30 minutes on reasonably fast Wi-Fi to install QGIS and sample data, and verify the installation.

- QGIS stable version 2.18 on their own laptop, including the sample data
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#### Resources

- [QGIS Download](#)
- [Sample Data](#)
- [Documentation for QGIS](#)
- [GIS Tutorial using QGIS](#)
- [More QGIS tutorials!](#)
- [That famous Snow/Cholera data set](#)

- Geo

### Other Helpful Information

- <https://xkcd.com/977/>
- <http://onemilliontweetmap.com/>
- [Map Awards](#)
- [Occasionally useful stream of geo-goodness, tilted toward open source, open data, etc](#)
- Downloadable data sets

### Modules to engage with

- [Main documentation](#)
- QGIS Tutorials
- **DO THIS:**
- [http://docs.qgis.org/2.18/en/docs/training\\_manual/introduction/index.html](http://docs.qgis.org/2.18/en/docs/training_manual/introduction/index.html)
- use these data:  
<https://github.com/qgis/QGIS-Training-Data/archive/QGIS-Training-Data-v1.0.zip>
  - Modules 2.2, 2.3
  - Modules 3.1, 3.3.2 through 3.3.2.5
  - Modules 4 The whole module!
  - Modules 8.1, 8.2