**Beyond this class**

Practice! Practice! Practice! Data skills are like a foreign language. You need to keep using them so you don’t get rusty. At minimum, try to keep up your Excel skills – find ways to use a spreadsheet every day.

IRE Conference – June 4-7, 2015, Philadelphia, <https://ire.org/conferences/ire-2015/>

NICAR conference – will be at the beginning of March 2016 in Denver

See IRE’s list of upcoming training: <http://ire.org/events-and-training/>

**What do I learn next?**

* GIS mapping analysis – use either ArcGIS ($$$) or QGIS. This is for analyzing data, not putting it online.
* Improve your skills at putting data online – improve your skills on Tableau or Fusion Tables; learn other tools such as those listed below.
* Web scraping –there are lots of tools that don’t require a programming language or you can learn a programming language (see next bullet) so you can pull data off web pages. See below under “Open Source Software” for various options.
* “Coding” – learn a programming language such as Python or Perl (Python is currently the most popular). This can be used for creating scripts to automatically cleaning or scraping data; can be used for creating automated processes with data; Can be used with various tools for web development
* Web development – learn something like D3 or Javascript (and jQuery) for putting data online

**Open source software:**  
**Excel alternative:** Google spreadsheets -- [tutorials](https://support.google.com/docs#topic=2811806)

**Access alternative:** SQLite. You can run SQLite from within Firefox. Just make sure you have an updated version of Firefox installed, then download the [SQLite Manager Firefox Add-on](https://addons.mozilla.org/en-US/firefox/addon/sqlite-manager/) and that’s all you need. More specific directions and some guidance for getting started are in [this exercise.](http://mjwebster.github.io/DataJ/SQLite/IntroToSQLite_Bridges.docx)

**Cleaning data:** [OpenRefine](http://openrefine.org/). See my data training page for tutorials and exercises.

**Mapping data:** [QGIS](http://www.qgis.org/en/site/). And here’s a [tutorial](http://paldhous.github.io/NICAR/2015/qgis.html) for QGIS

**Statistical analysis:** [The R Project](http://www.r-project.org/) (a.k.a “R”). Here’s a [beginner tutorial](http://cwrld.us/LearnRpdf)

**Online data mapping:** [Google Fusion Tables](https://support.google.com/fusiontables/answer/2571232?hl=en) or [CartoDB](http://cartodb.com/)

**Interactive graphics:** [Tableau Public](https://public.tableau.com/s/) or [Silk](https://www.silk.co/)

**Getting data tables out of PDFs**: [Tabula](http://tabula.technology/), [CometDocs](http://www.cometdocs.com/)

[U.S. address parser](https://parserator.datamade.us/usaddress/bulk/)

[Name parser](https://parserator.datamade.us/probablepeople/bulk/)

**Web scraping (various tools):** See this [beginner tutorial.](https://github.com/veltman/learninglunches/tree/master/scraping) (see “other free tools” list below for options)

[Other free tools](https://docs.google.com/spreadsheets/d/1xI9UZnuzuH1dV6iYGH3UWyDuRvXNvCxz3c4mo9TAuxk/edit#gid=0)

MaryJo’s training materials and useful links: <http://mjwebster.github.io/DataJ/>