

Meeting Mapnik



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Cascade Users of Open Source GeoSpatial
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First, Mapnik is not...

- An application with a easy admin interface or configuration panel.
- A tool for editing or querying spatial data.
- A datasource or format converter.
- A server (although you can use it with one)
- A library which other open source tools depend upon (yet).

Then what is Mapnik?

- Mapnik is a free mapping toolkit for desktop and web.
- Mapnik strives for high quality cartography above standards and easy-entry.
- An alternative to the venerable MapServer for tile generation.

a renderer

png, jpeg, svg, pdf, ps

(fact)

next - gen

Anti - OGC, in response to gmmaps, closed data

(rumor)

and hip

modern graphics (AGG & Cairo), fully unicode, Scons build
process, boost libs, python bindings.
runs on mac, linux, and win

(obvious)

neogeo-view of mapping

GIS > OGC Web Services > Gmaps > OSM

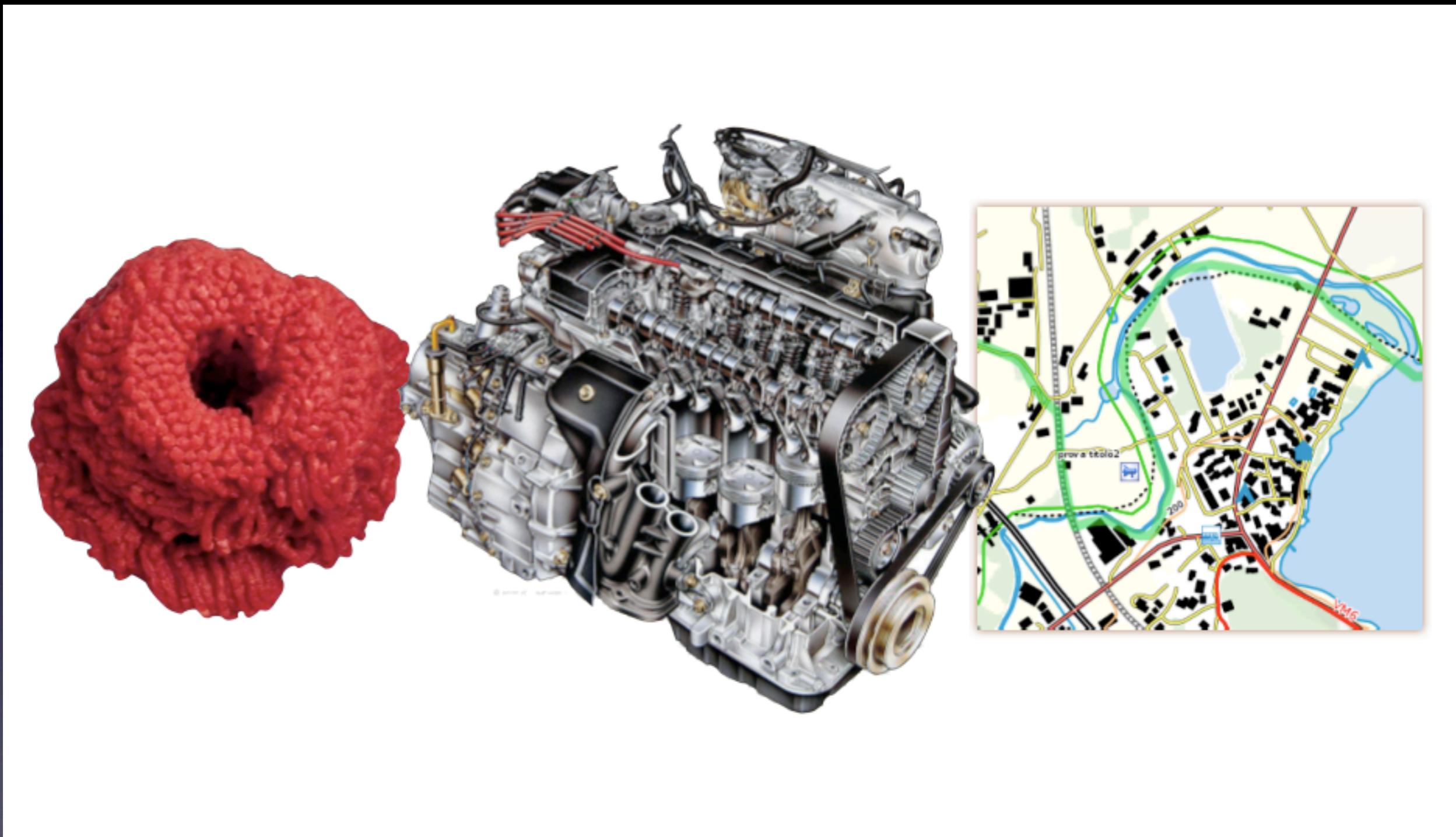
OpenStreetMap is...

- a wiki
- flexible
- open
- localized
- tiled

So, MapServer is an engine...

Check out:

<http://blog.cleverelephant.ca/2008/07/strong-like-ox.html>



credit: <http://s3.cleverelephant.ca/geoweb-mapserver.pdf>

Mapnik is on the engine side of things too...

MapServer



MapServer is an engine! A rendering engine!
Geoserver, MapGuide, these are cars!
Cars, with comfy bucket seats to hold lazy people's bums!

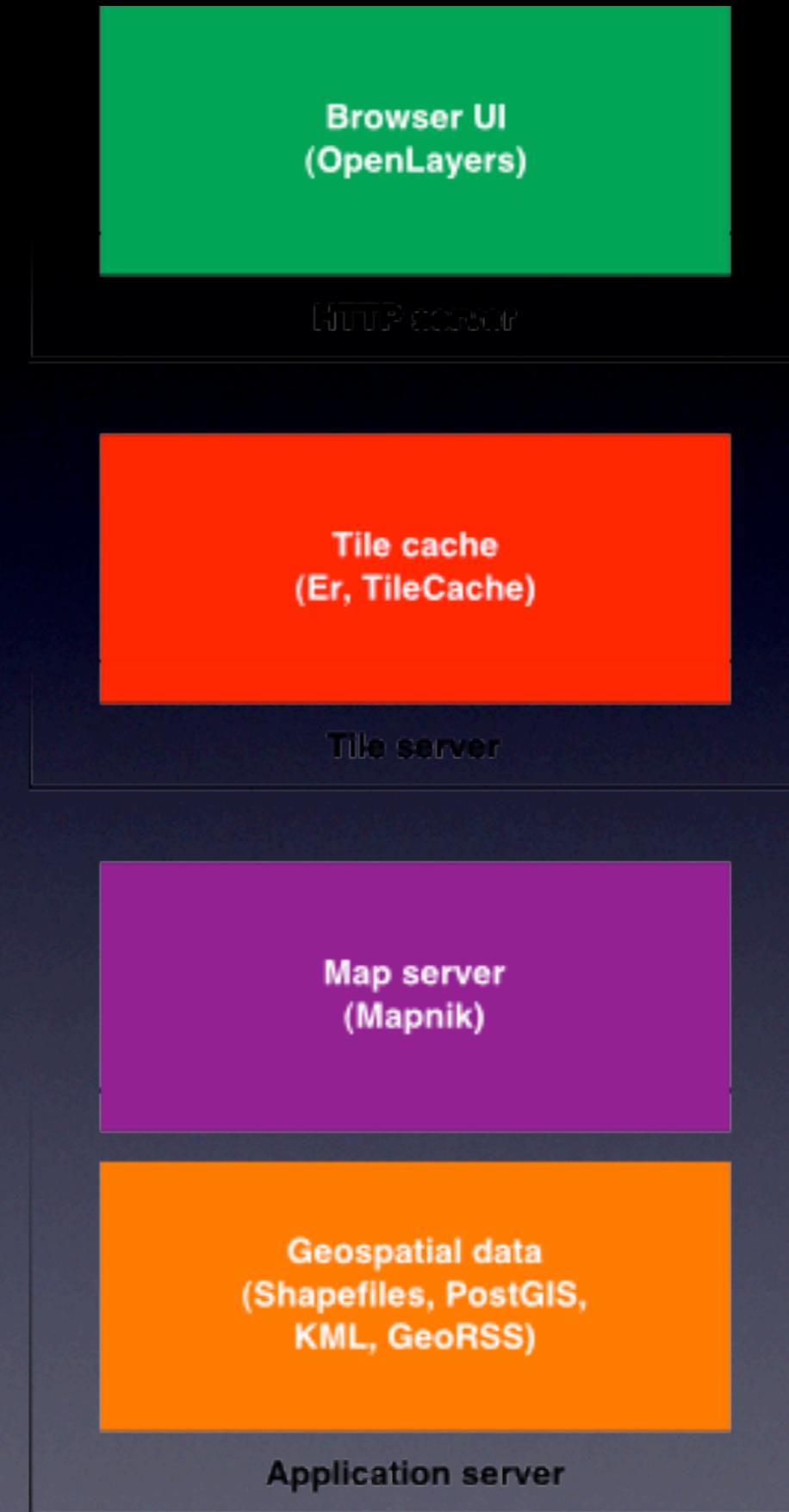
mapguide



geoserver

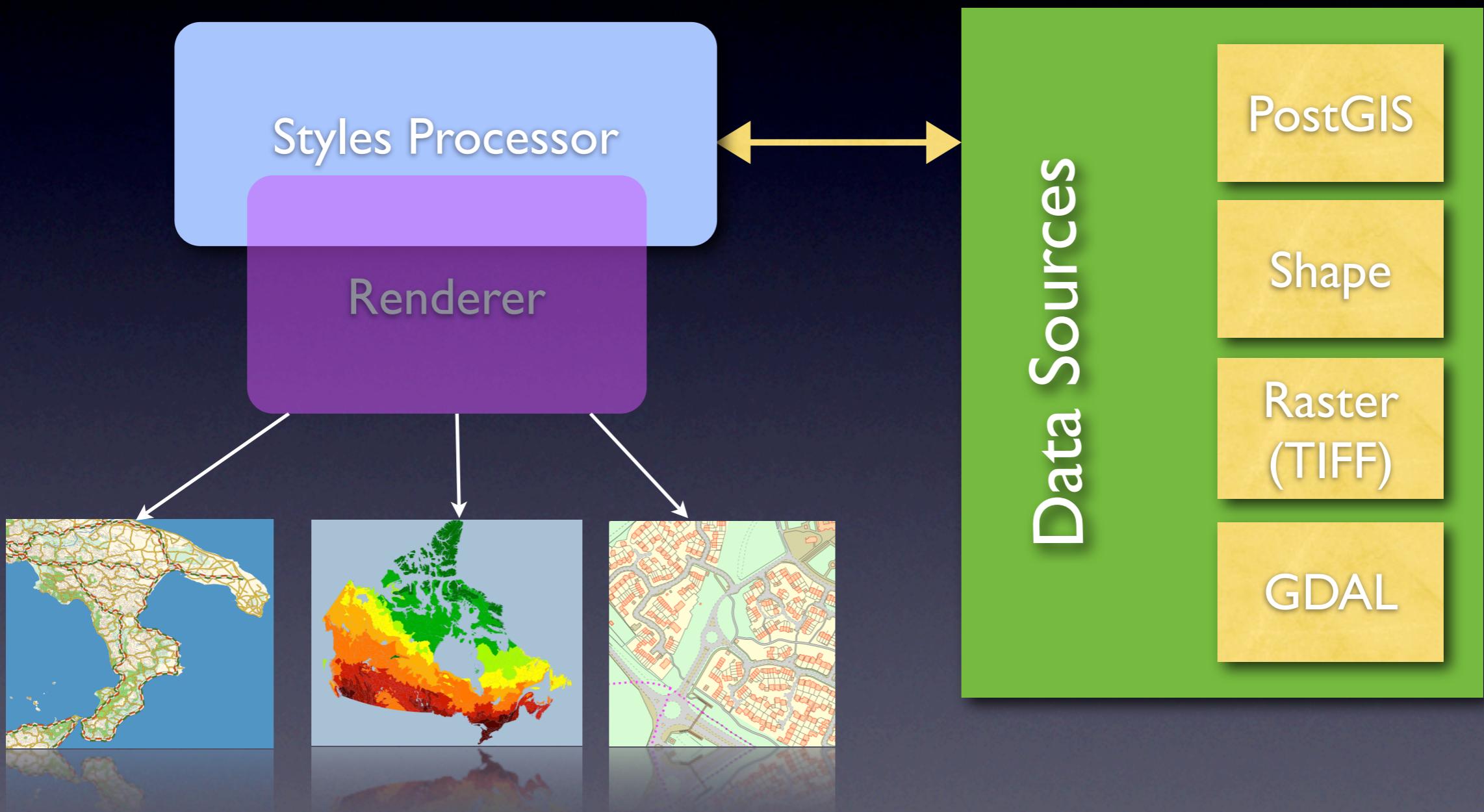
credit: <http://s3.cleverelephant.ca/geoweb-mapserver.pdf>

Mapnik in the Everyblock.com Web Stack



credit: <http://www.alistapart.com/articles/takecontrolofyourmaps/>

Mapnik architecture



credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

Mapnik

- High-quality rendering with AGG (<http://www.antigrain.com>)
- Labels placement algorithms - room for improvement but already produce good results
- Fast but we can make it faster

credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

Making maps is easy (with Python)

```
from mapnik import *
m = Map(800,600)
load_map(m,'/Users/artem/map.xml')
m.zoom_to_box(Envelope(-180,-90,180,90))
render_to_file(m,'world.jpg','jpeg')
```

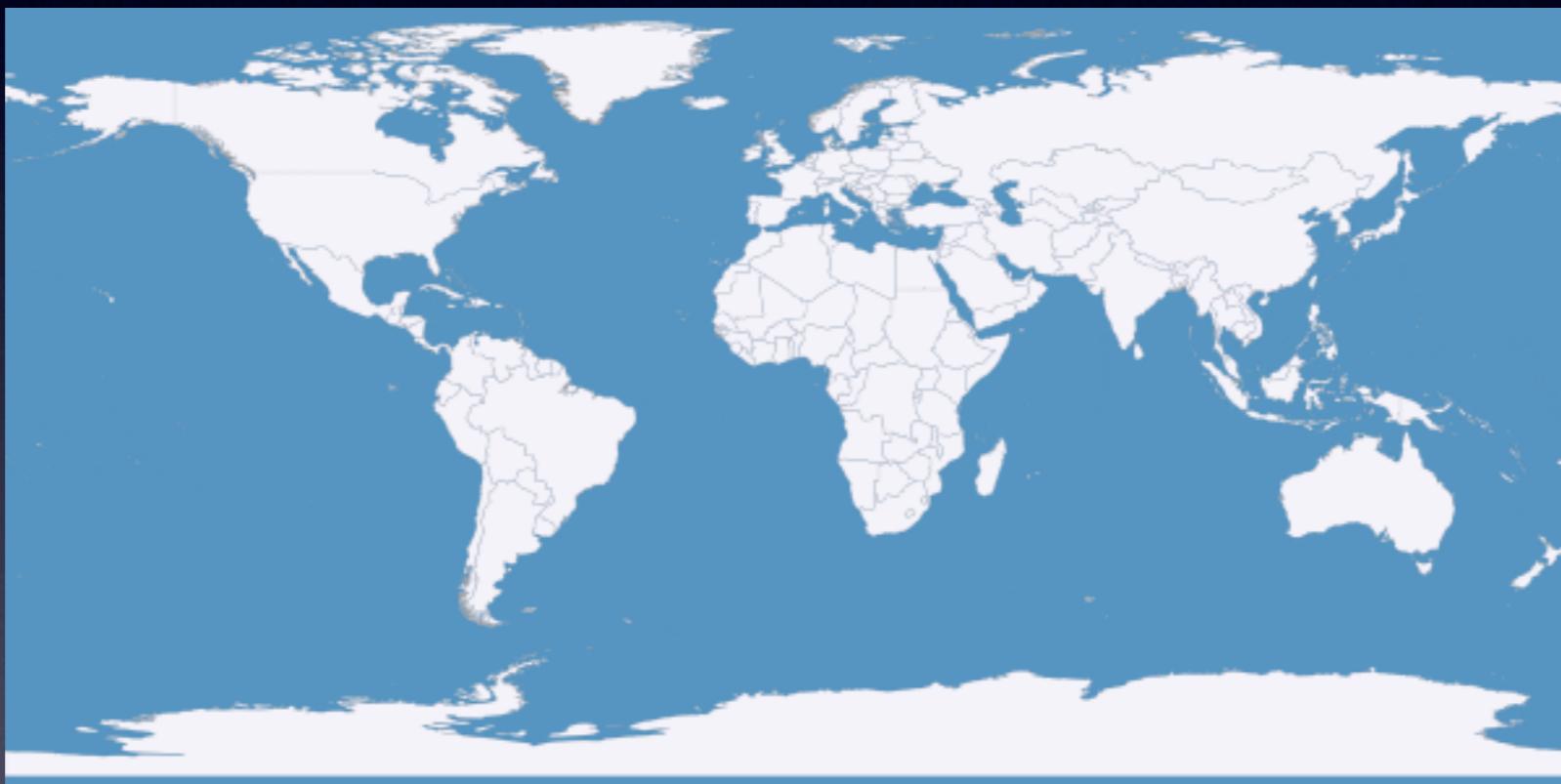
credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

Making a map

```
<Map bgcolor='steelblue'>
  <Layer name='World boundaries'>
    <Datasource type='shape' file='/tmp/world'/>
  </Layer>
</Map>
```

credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

Making maps is easy (with Python)

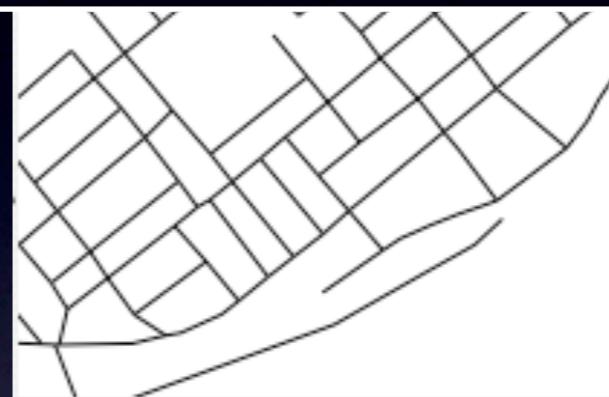


Download this tutorial from here: <http://code.google.com/p/mapnik-utils/>

credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

LineSymbolizer

`stroke : black
stroke-width: 1.0`



`stroke : #0000ff
stroke-width: 4.0
stroke-opacity: 0.5`

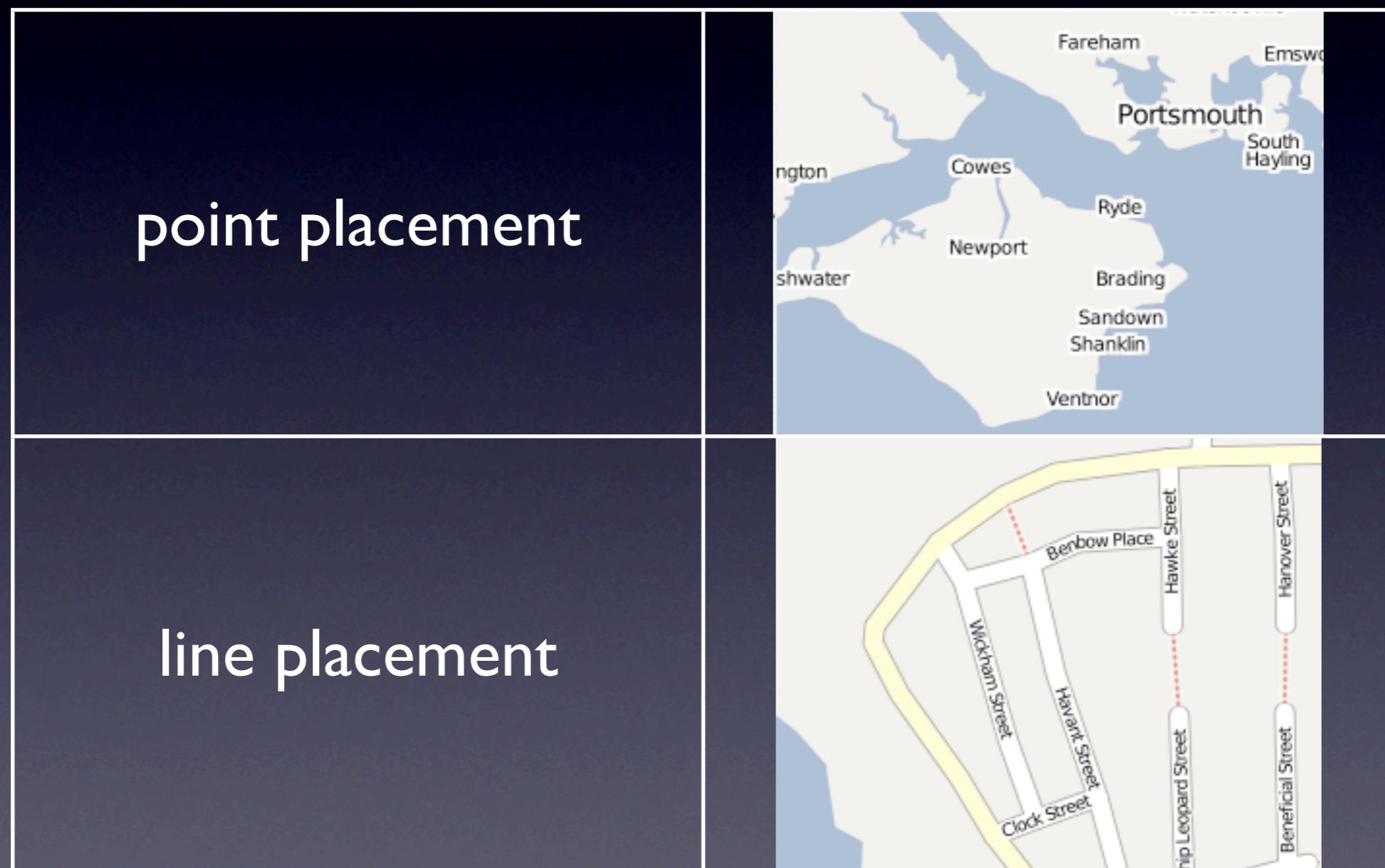


`stroke: rgb(255,0,0)
stroke-width: 0.8
stroke-dasharray:4,2`



credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

TextSymbolizer



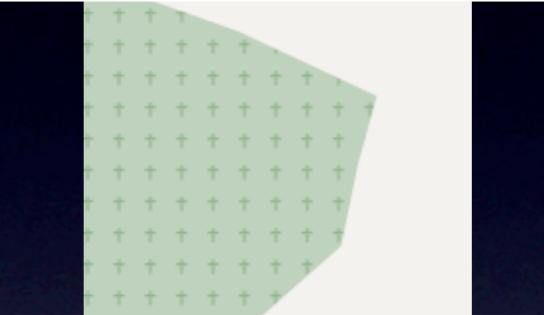
credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

More symbolizers...

ShieldSymbolizer



PolygonPatternSymbolizer



LinePatternSymbolizer

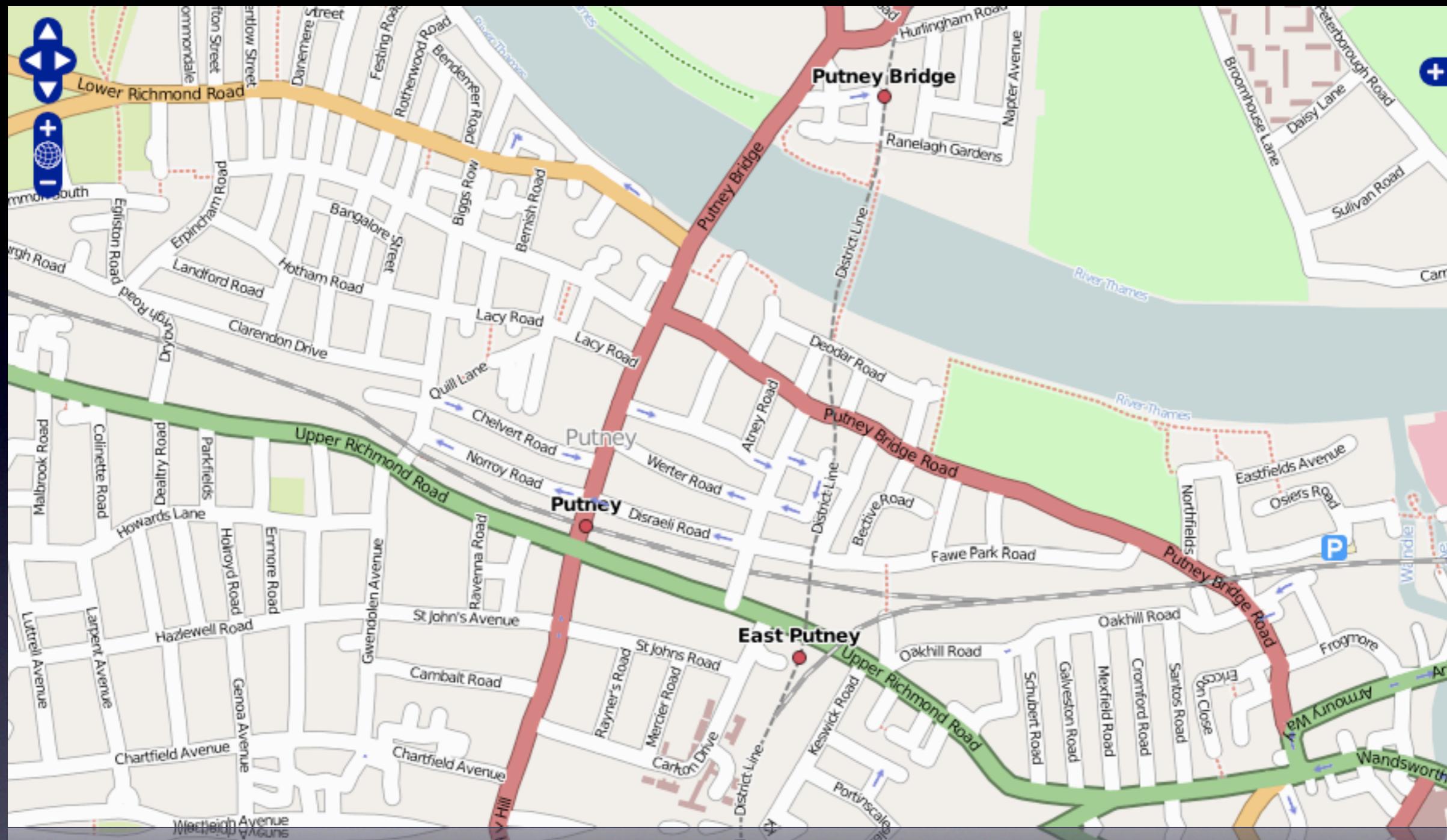


RasterSymbolizer



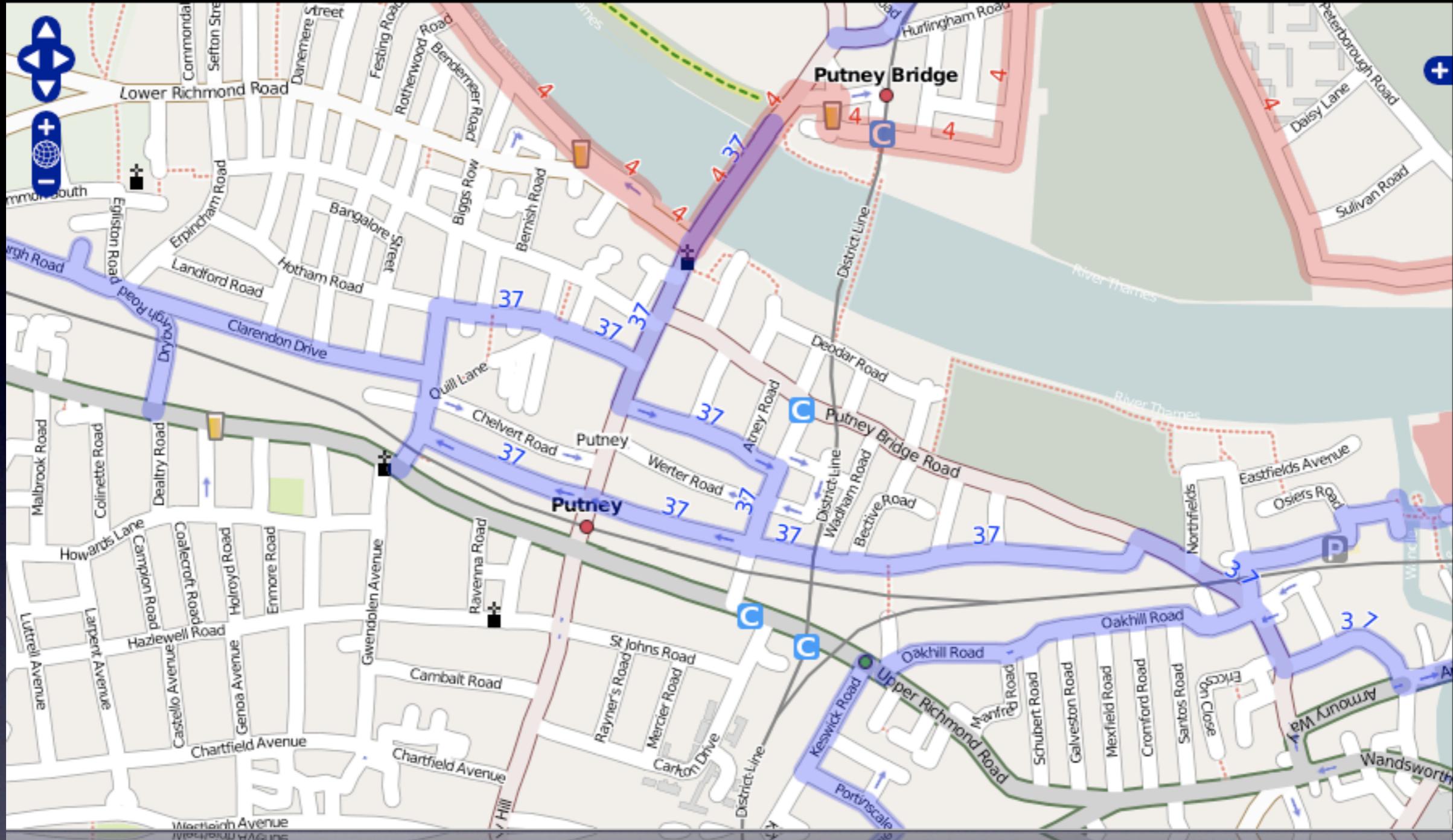
credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

a few mapnik
maps...



OSM - standard style

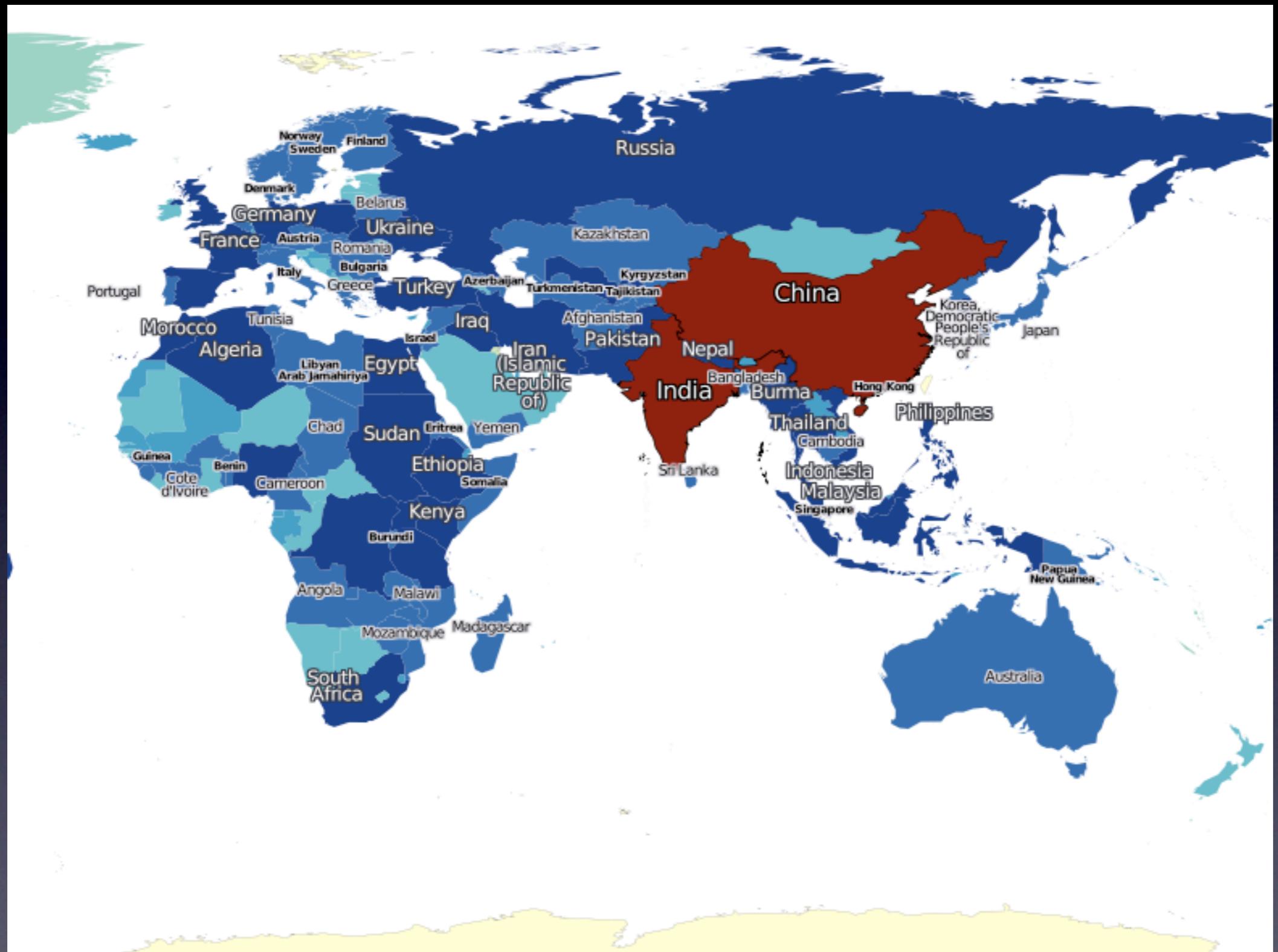
credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>



OSM - cycle style

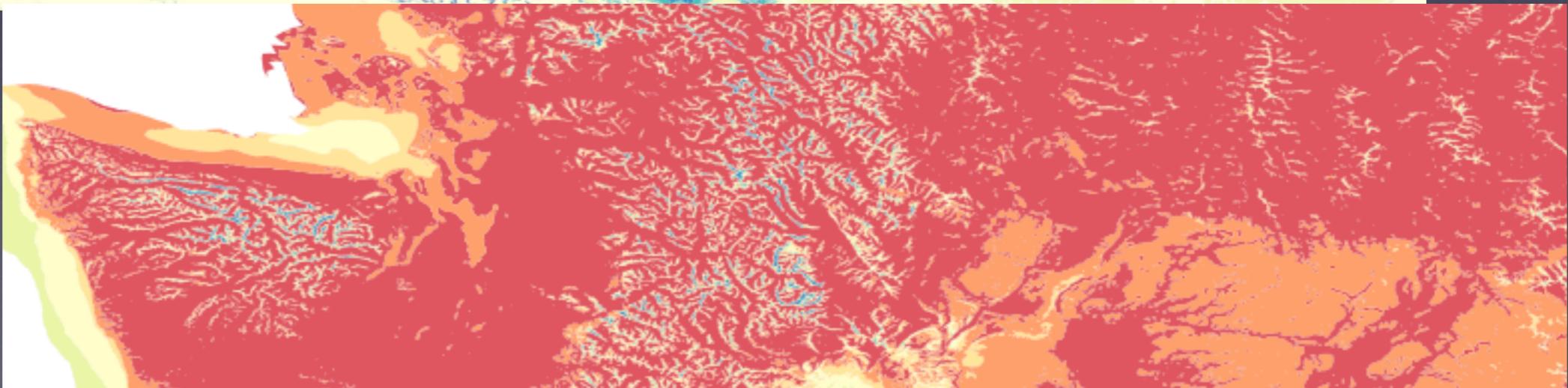
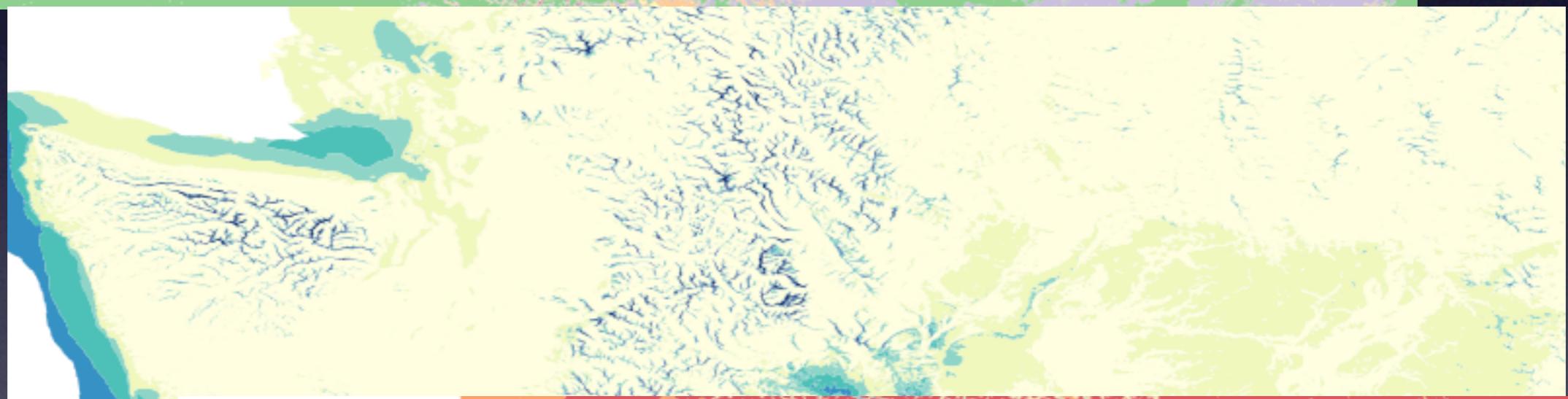
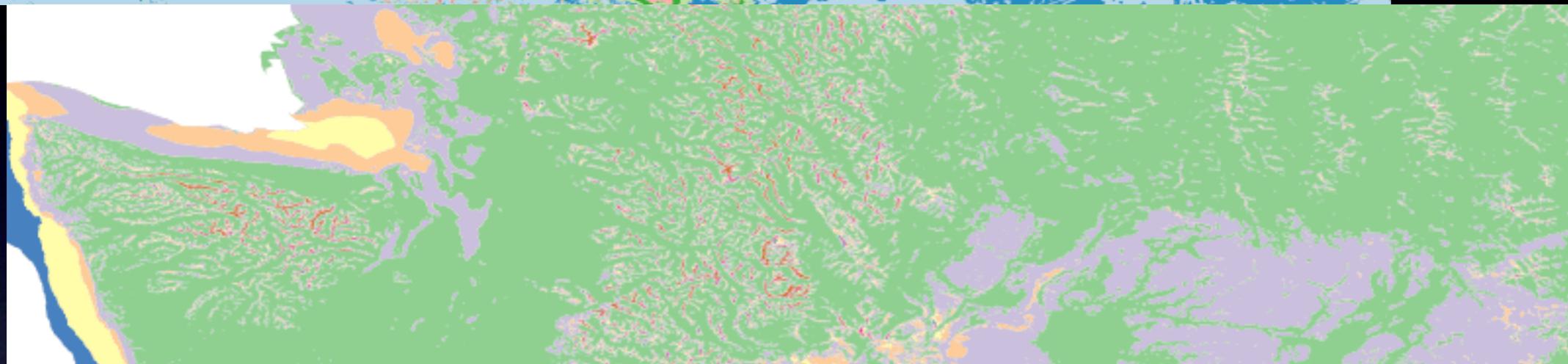
credit: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>

World Population Tutorial map

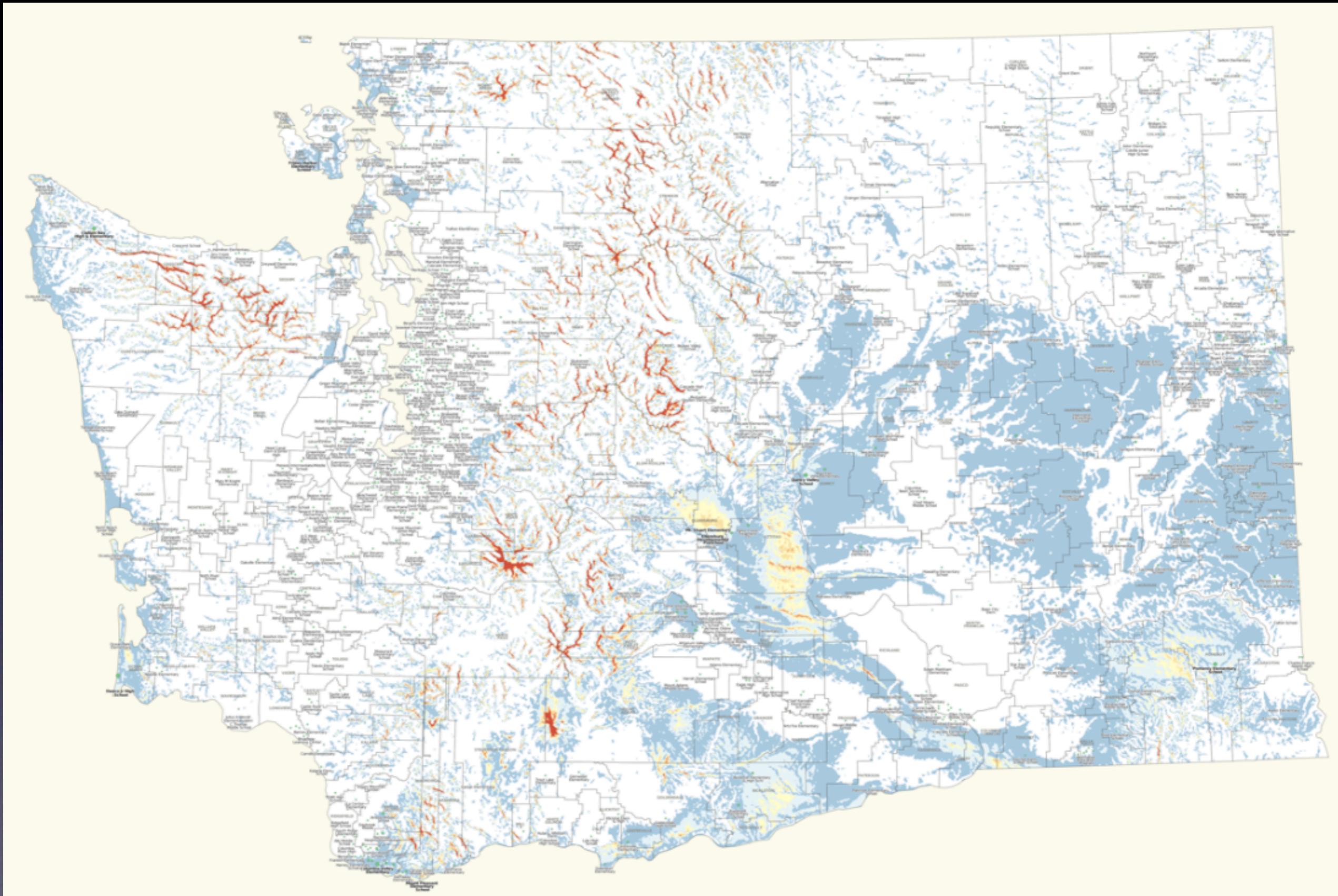


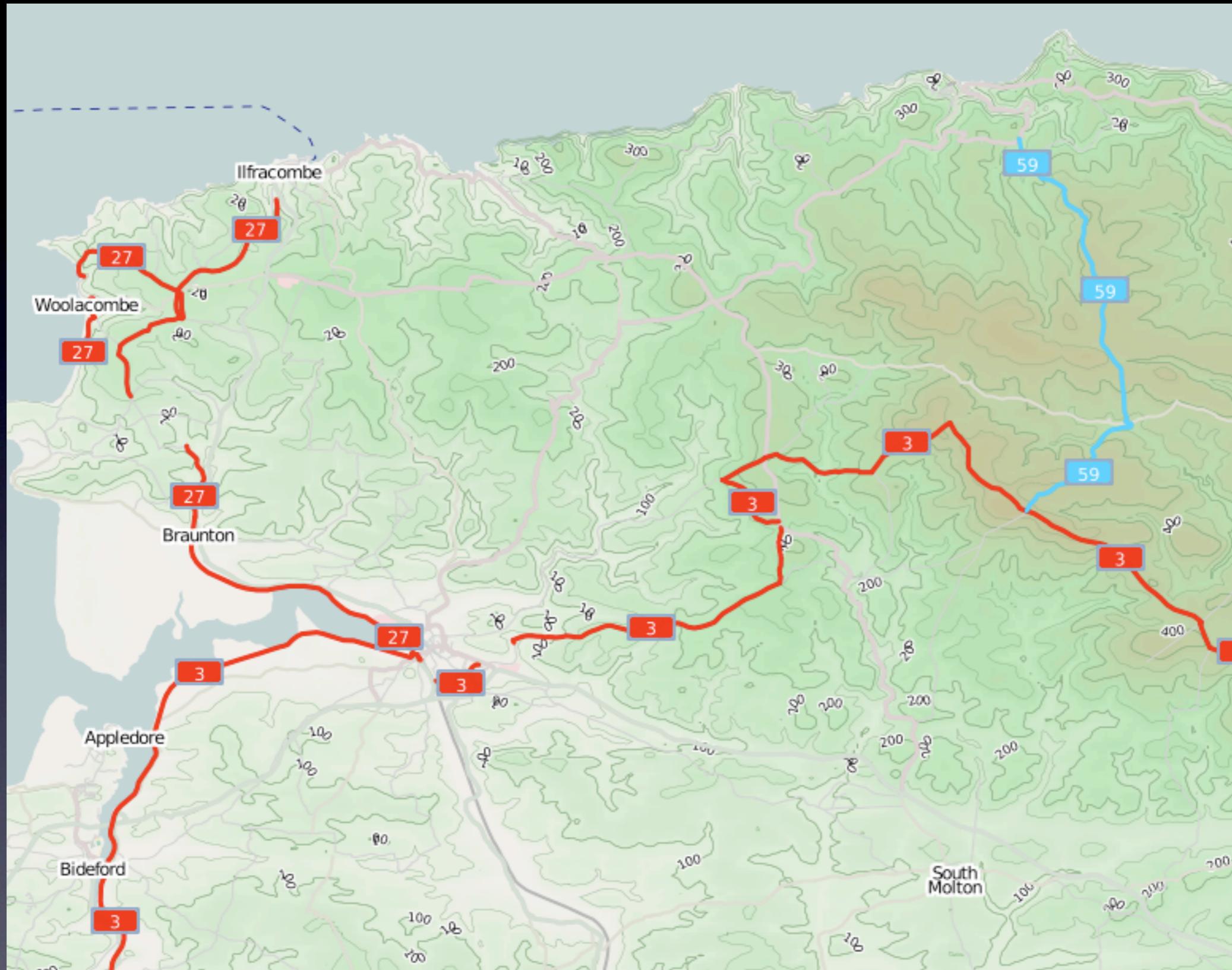
Download this tutorial from here: <http://code.google.com/p/mapnik-utils/>

Colorbrewer.org Schemes

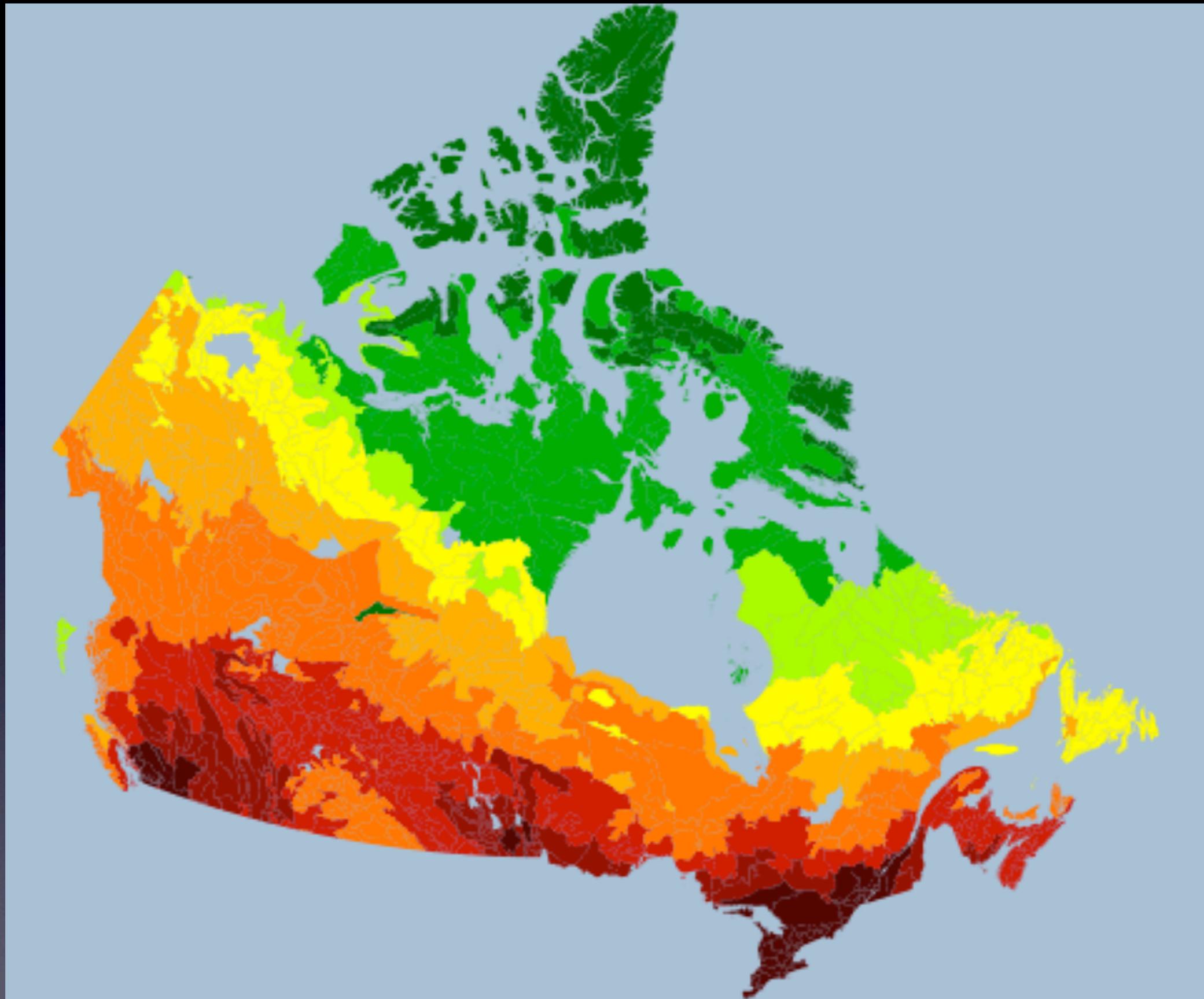


Generating Poster/Wall Map Output

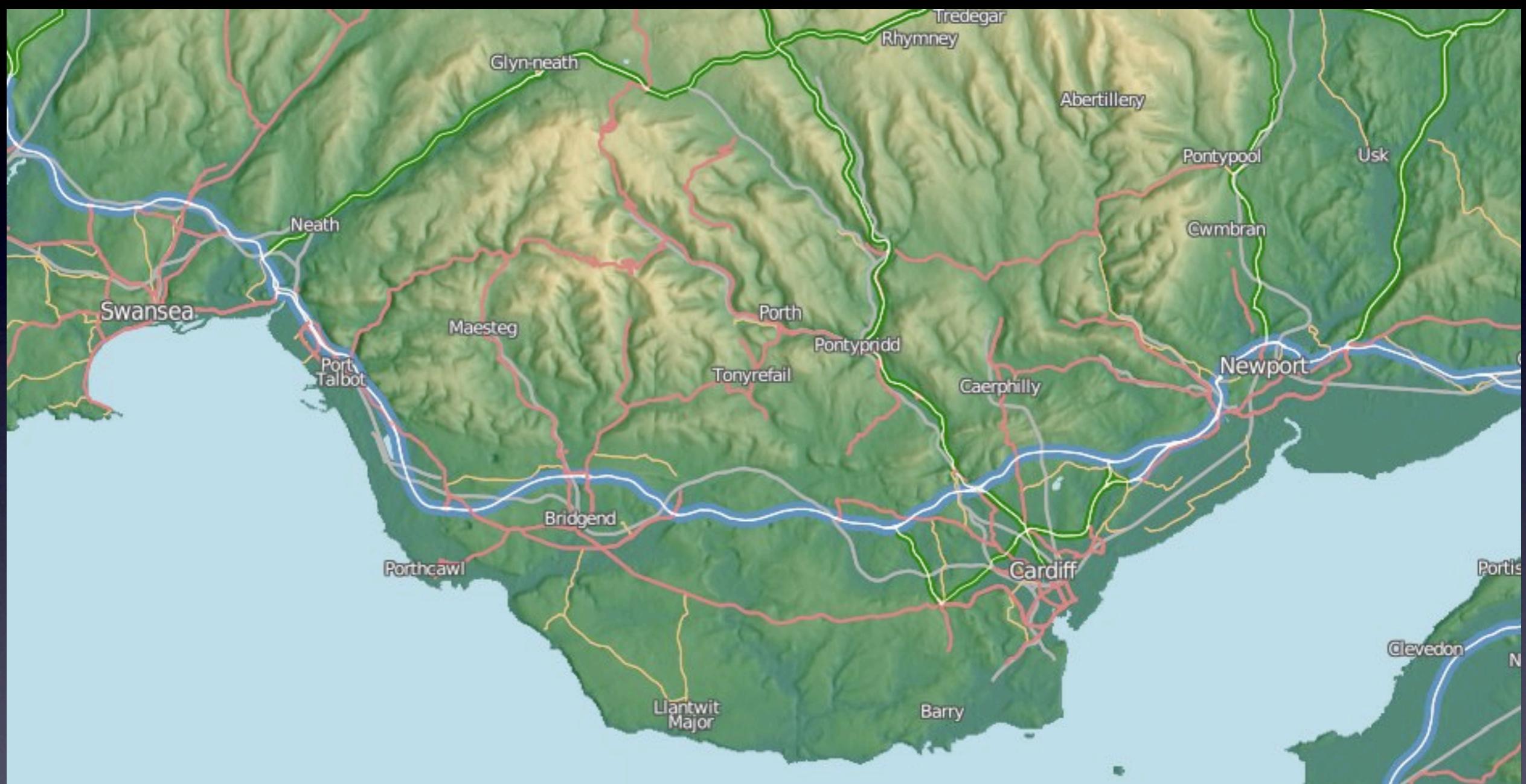




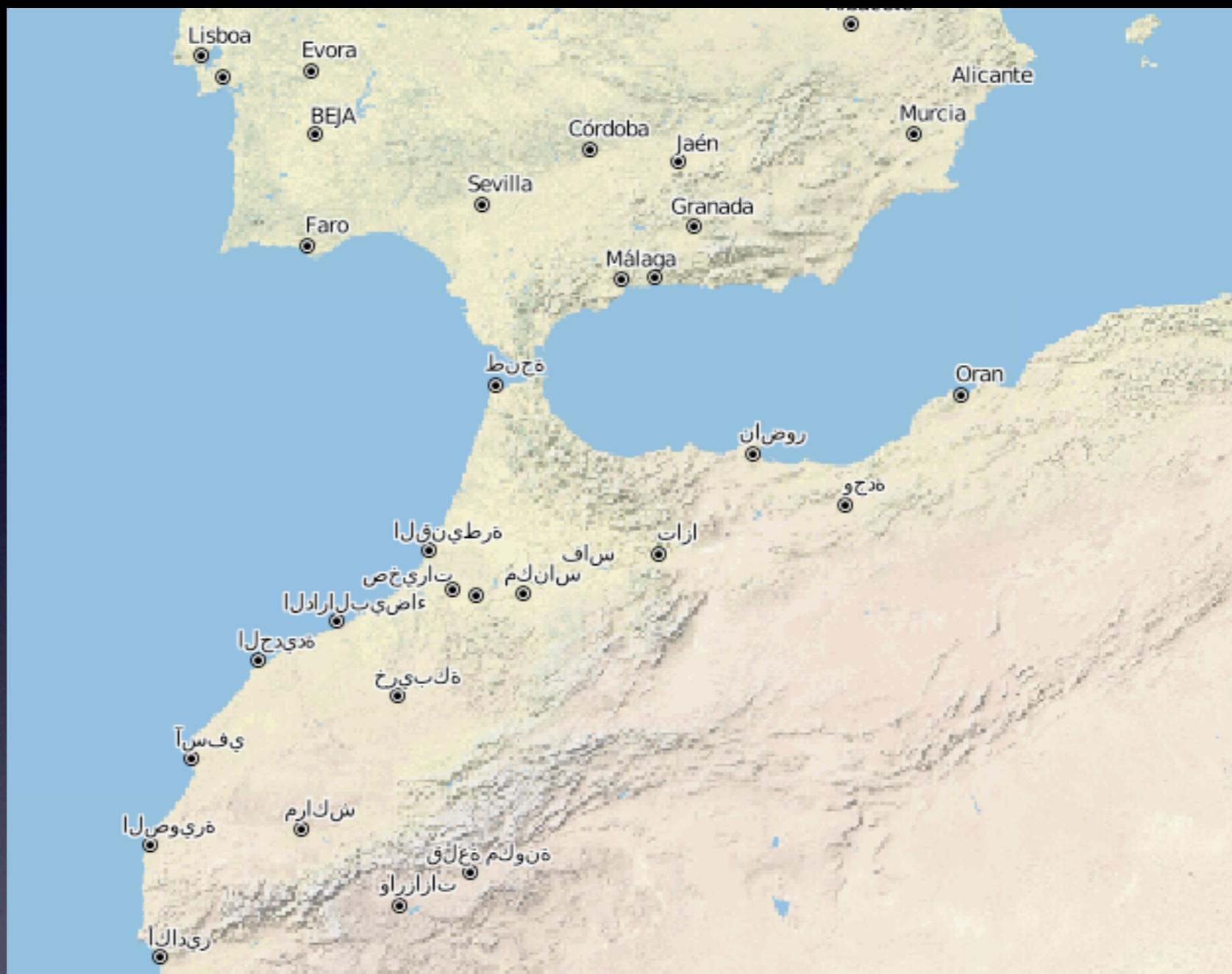
<http://www.gravitystorm.co.uk/osm/>



Mapnik.org



Mapnik.org - SRTM Hillshade



Mapnik.org - Natural Earth, Arabic type

Thanks!

Next Steps:
mapnik-users list
#mapnik on irc.freenode.net

Learn More

- Interview with Artem, the creator: <http://blog.nestoria.co.uk/2007/09/11/nestoria-interview-artem-pavlenko-mapnik/>
- Artem's Talk at 'State of the Map': <http://sotm2007recordings.blogspot.com/2007/07/artem-pavlenko-putting-map-into-osm.html>
- Many Slides for this talk came from: <http://www.port.ac.uk/special/soc/programme/presentations/filetownload,70851,en.pdf>
- Documentation: <http://mapnik.org/> | <http://trac.mapnik.org/>
- Great 'Making Sense of Mapnik' article: <http://mike.teczno.com/notes/mapnik.html>
- Everyblock Feature: <http://www.alistapart.com/articles/takecontrolofyourmaps/>
- Tutorials, Code Resources: <http://code.google.com/p/mapnik-utils/>

See More Maps

- <http://openstreetmap.org/?lat=47.608&lon=-122.3429&zoom=14&layers=B00FTF>
- <http://www.everyblock.com/>
- <http://new.kosmosnimki.ru/>
- <http://www.placebase.com/>
- <http://www.gravitystorm.co.uk/osm/>
- <http://preparedness.interaction.org/>