Map Cubes

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Outline

- What are map cubes?
- Where to find them?
- How to make them?
- How do you make your own?
- What did we learn?

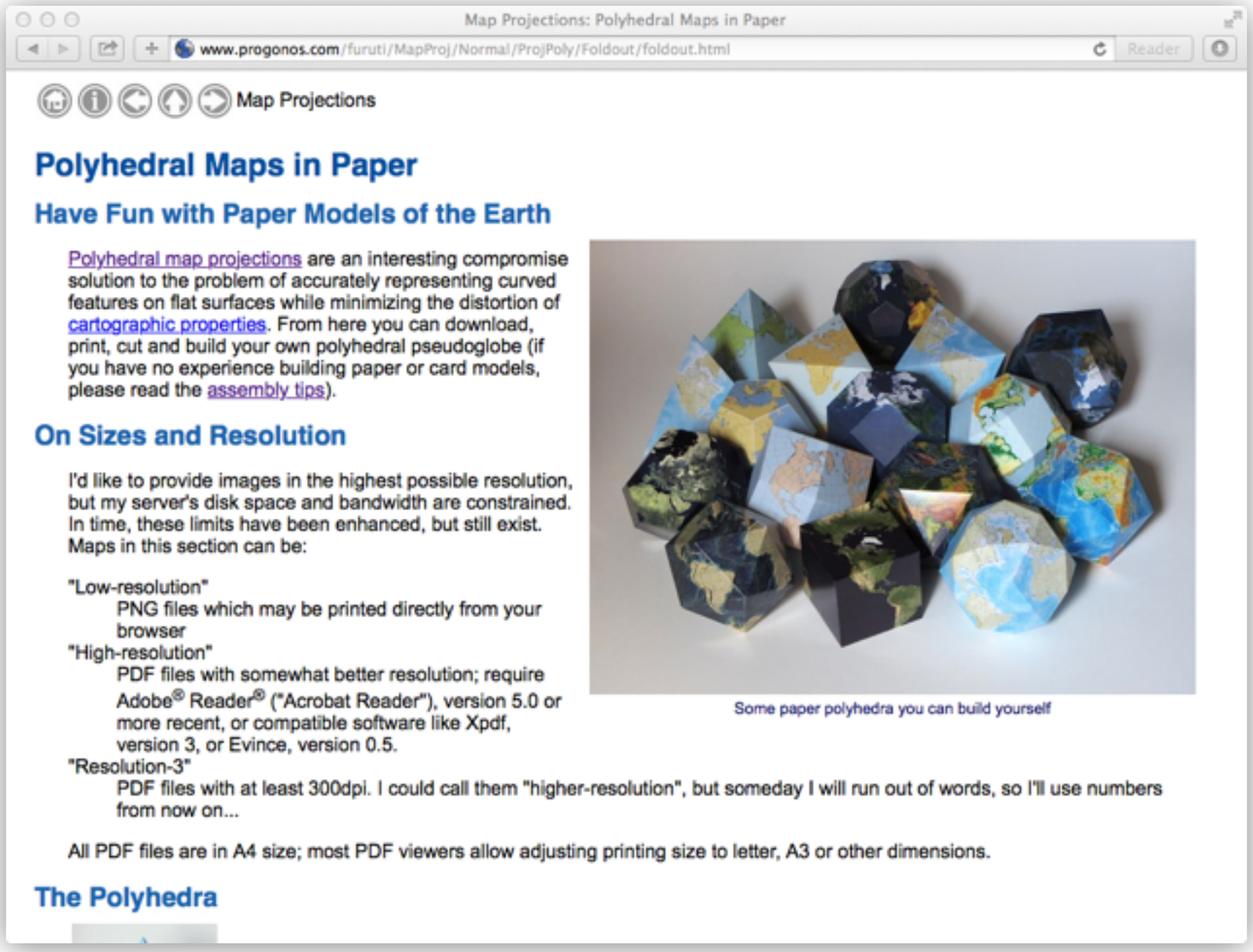
What are Map Cubes?

- Paper craft that you can cut out and assemble
- Map on a box
- Gnomonic Projection
  - Displays all great circles as straight lines
  - http://en.wikipedia.org/wiki/Gnomonic_projection

How do you make them?

- Find a map cube
- Print map cube out on card stock
- Cut it out
- Fold it
- Glue it
- Done!

Find a map cube



http://www.progonos.com/furuti/MapProj/Normal/ProjPoly/Foldout/foldout.html

Different Shapes

Cubes

Dodecahedron

Truncated Icosahedron

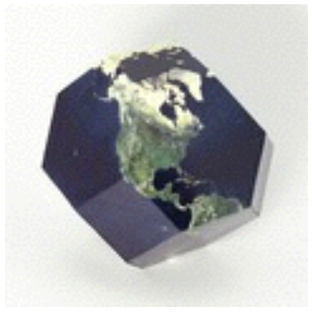
Tetrahedron

Icosahedron

Cuboctahedron

Octahedron

Truncated Octahedron



Rhombicuboctahedron

Rhombic Dodecahedron

Print it

Cut it out

Fold it

Glue it

Done!

Coloring

http://www.progonos.com/furuti/MapProj/Normal/ProjPoly/Foldout/Cube/Files/cbGn_pof-bw.pdf

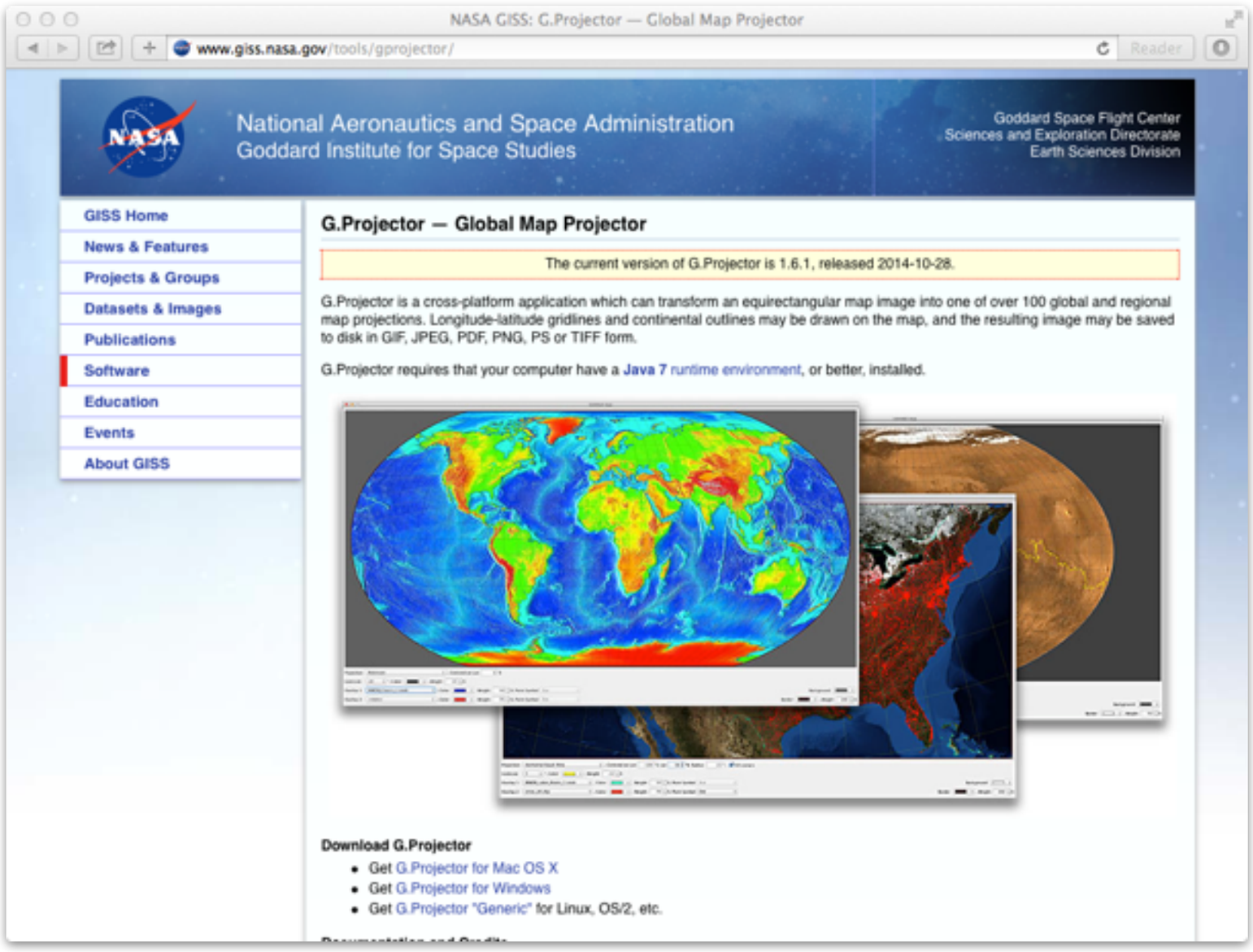
Create your own world

Blank Template

http://www.progonos.com/furuti/MapProj/Normal/ProjPoly/Foldout/Cube/Files/Res3/cbBl.pdf

How do you make your own?

G.Projector



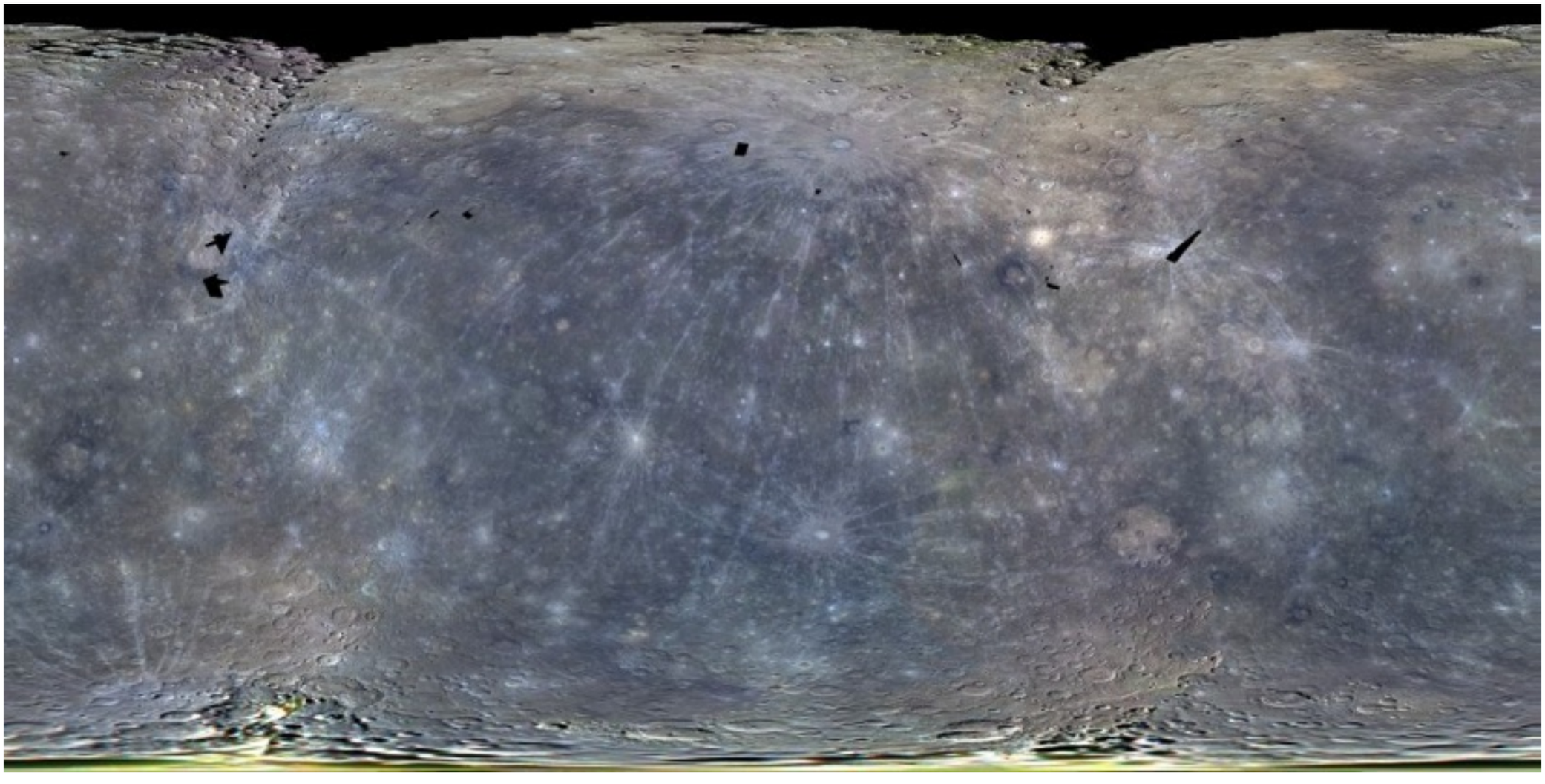
http://www.giss.nasa.gov/tools/gprojector/

Astrogeology Map Cubes

http://astrogeology.usgs.gov/tools/map

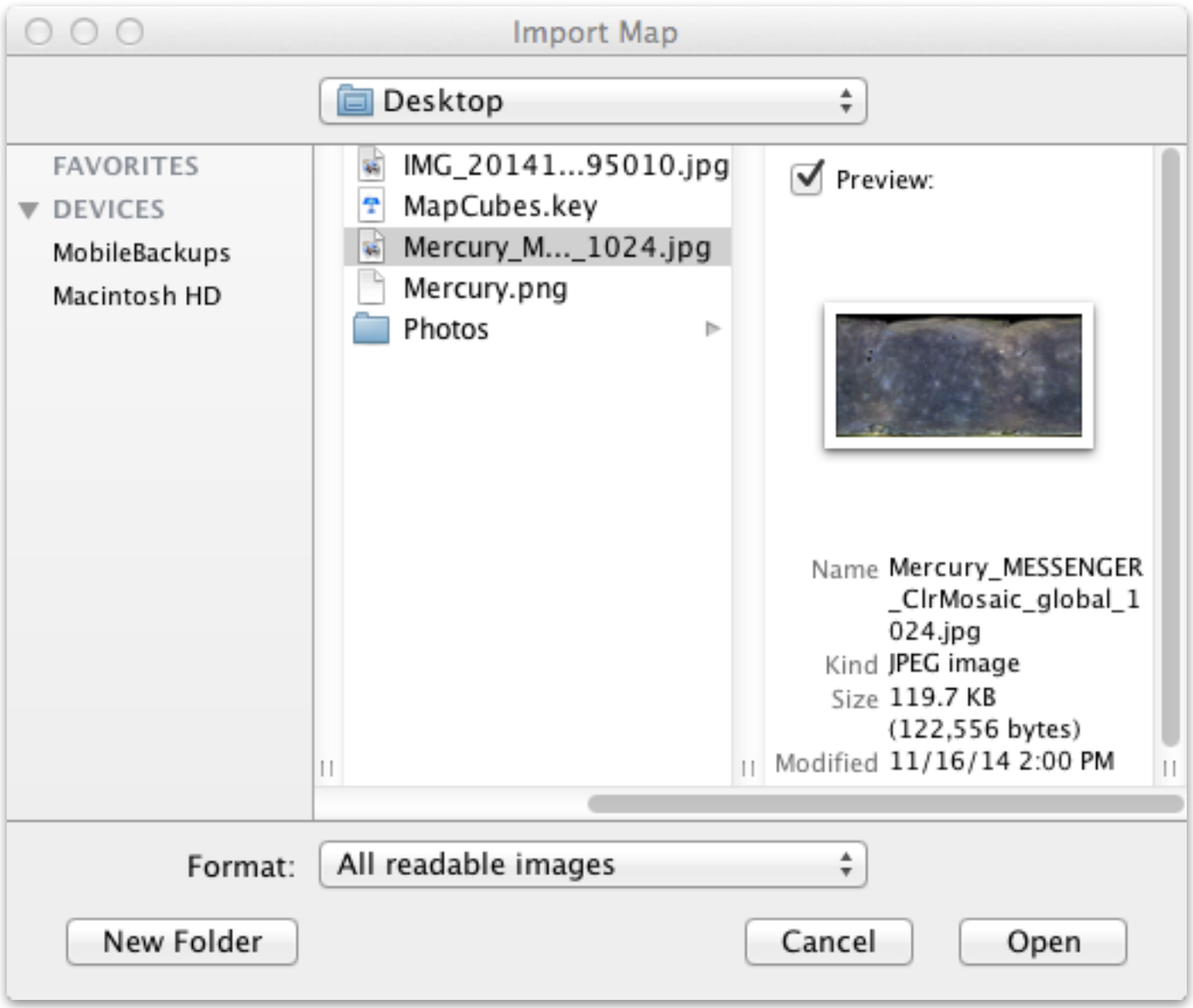
Find or Create a World Map

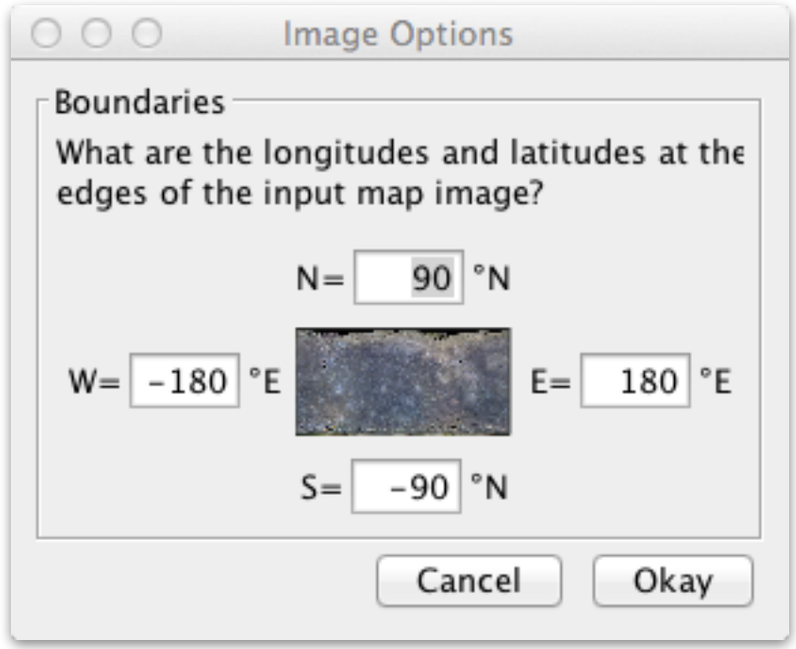
Projection: EPSG:4326
Bounds: -180, -90, 180, 90



Mercury

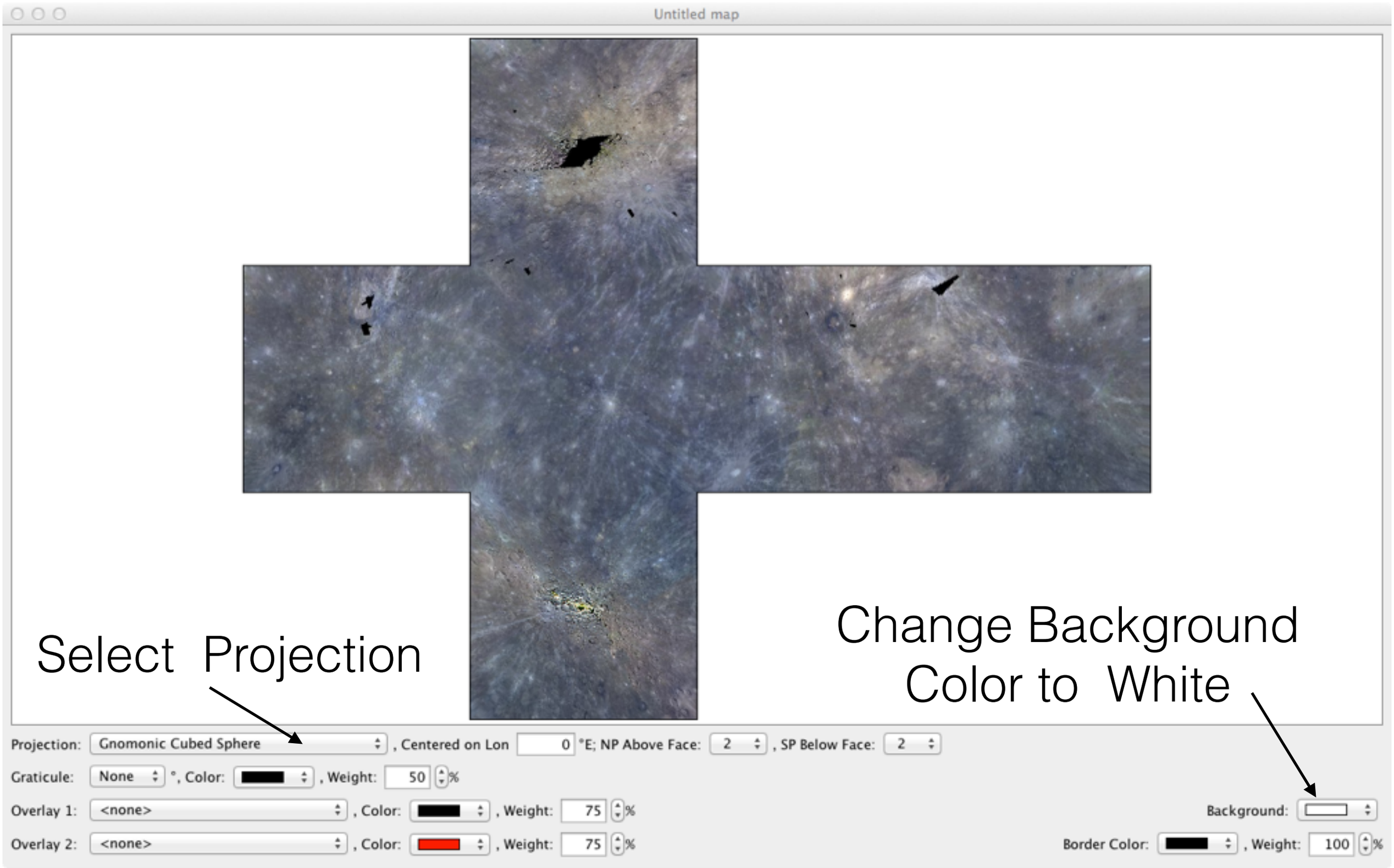
Open Map in G.Projector





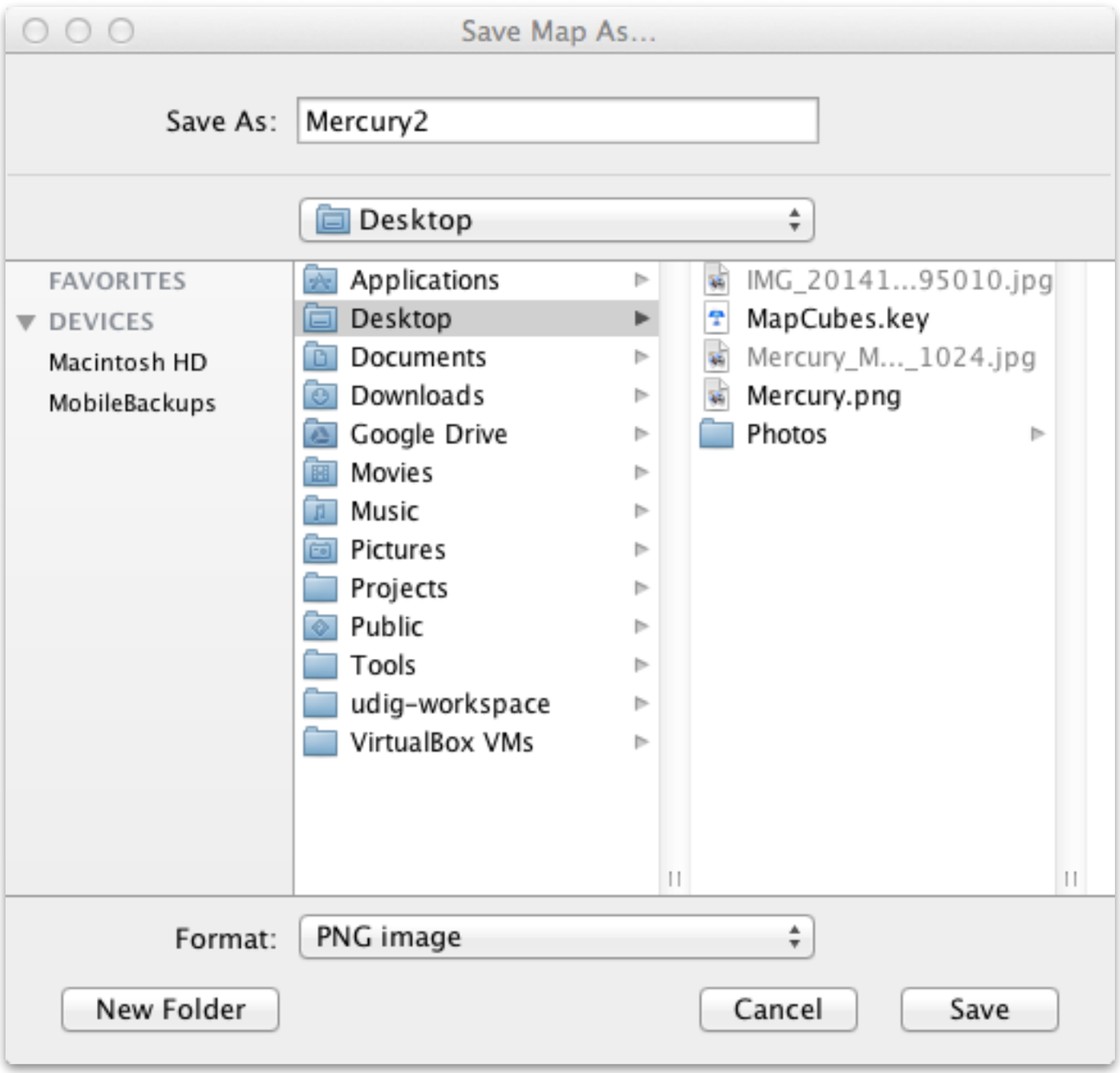
File New With Import

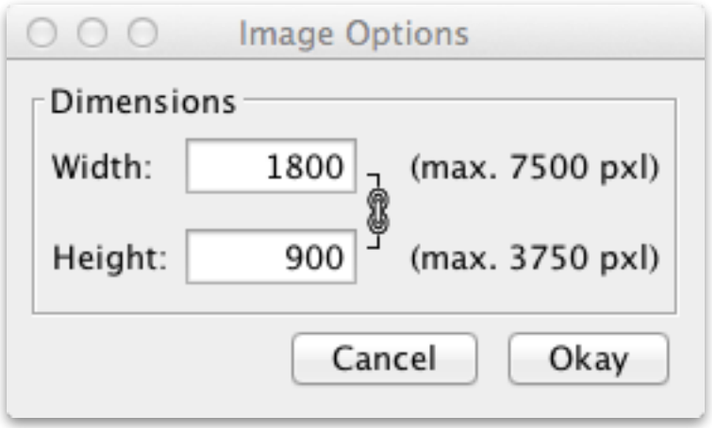
Create Map


Untitled map
Select Projection
Change Background Color to White
Projection: Gnomonic Cubed Sphere , Centered on Lon 0 °E; NP Above Face: 2 , SP Below Face: 2
Graticule: None °, Color: , Weight: 50 %
Overlay 1: <none> , Color: , Weight: 75 %
Overlay 2: <none> , Color: , Weight: 75 %
Background:
Border Color: , Weight: 100 %

Save Map

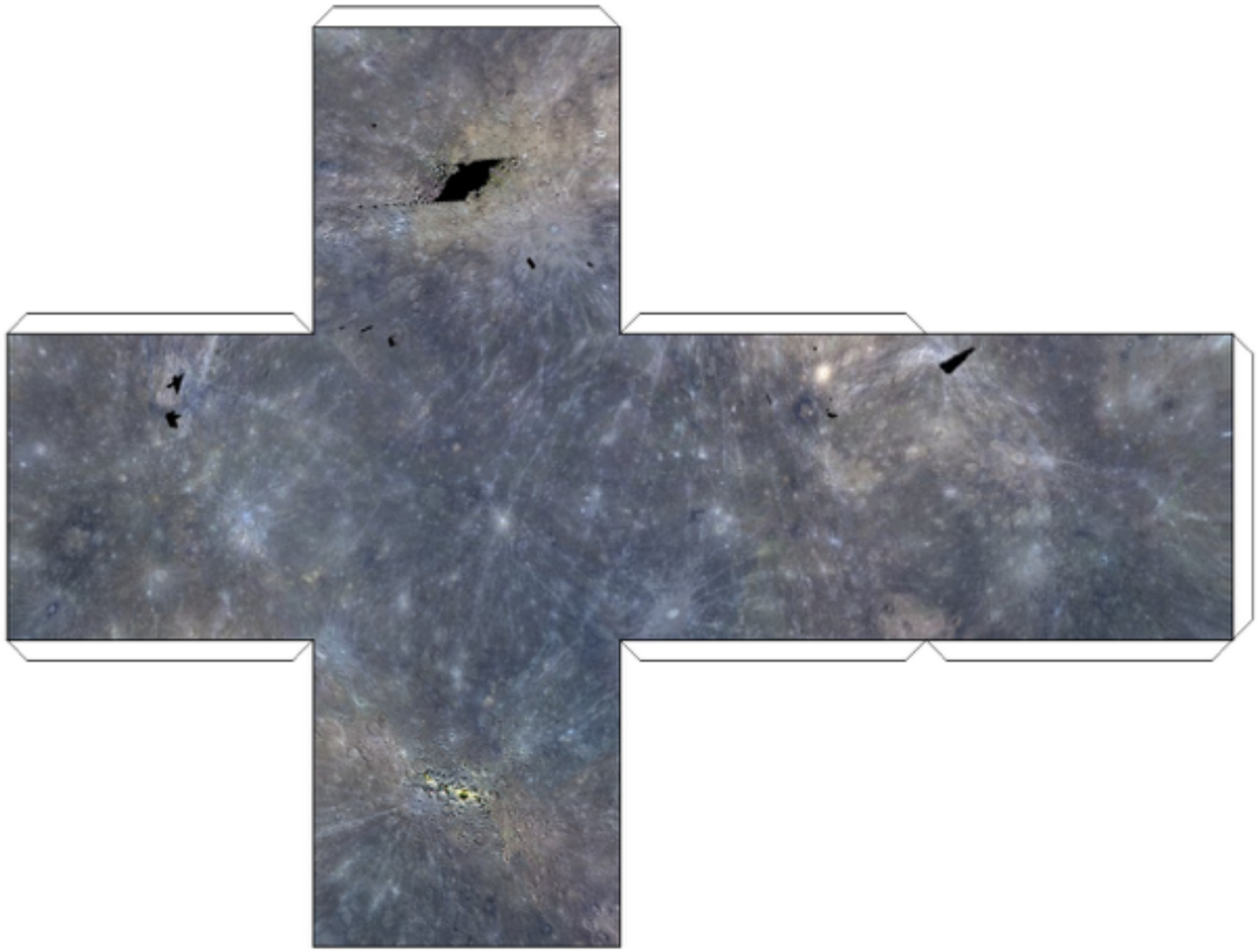
File/Save/Map





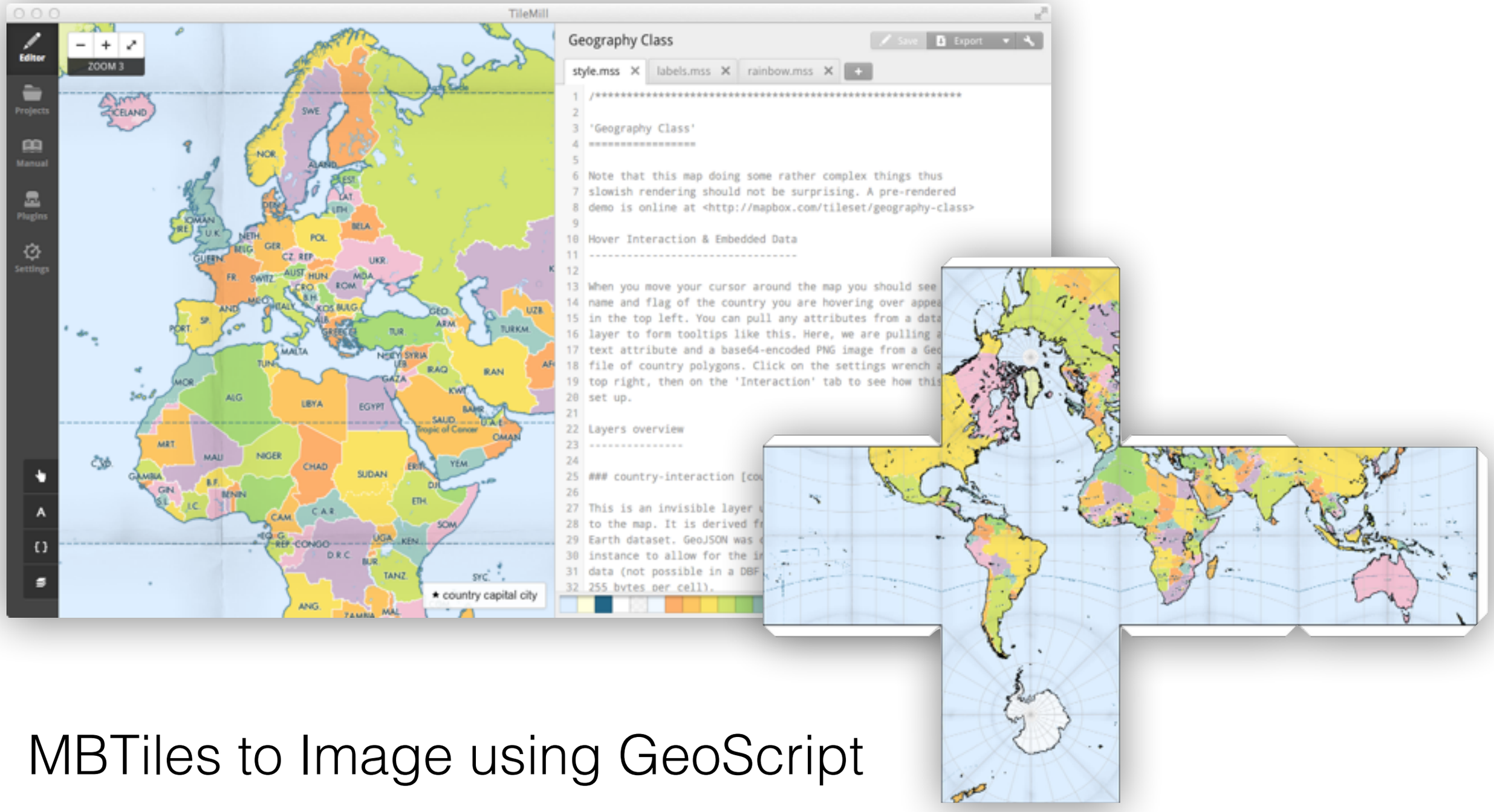
Add Tabs

groovy tabs.groovy Mercury.png MercuryTabs.png



https://gist.github.com/jericks/fce52336bb9132ca084f

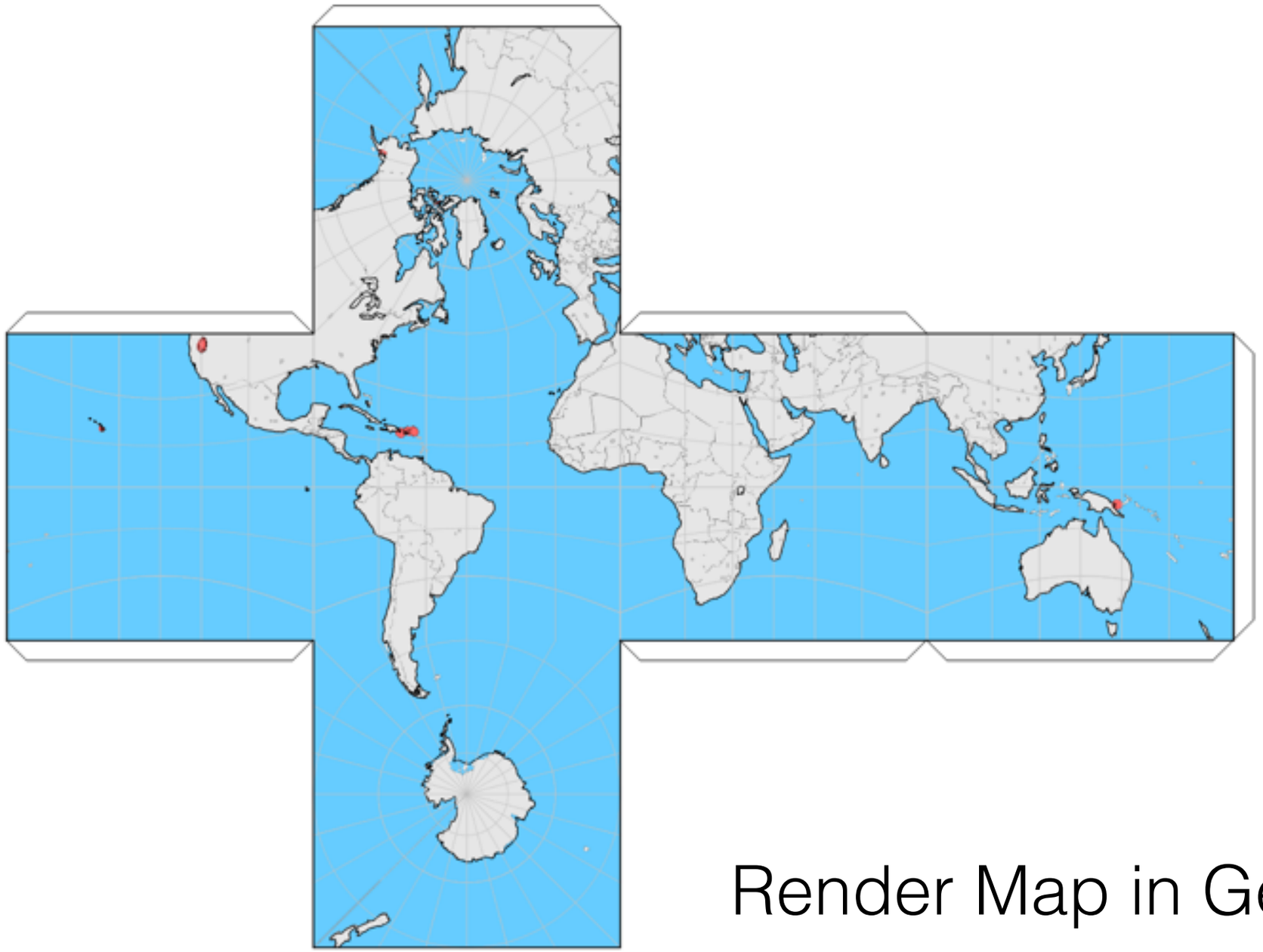
Tile Mill



MBTiles to Image using GeoScript

https://gist.github.com/jericks/57ea9e7a8ba5ad1f43a0

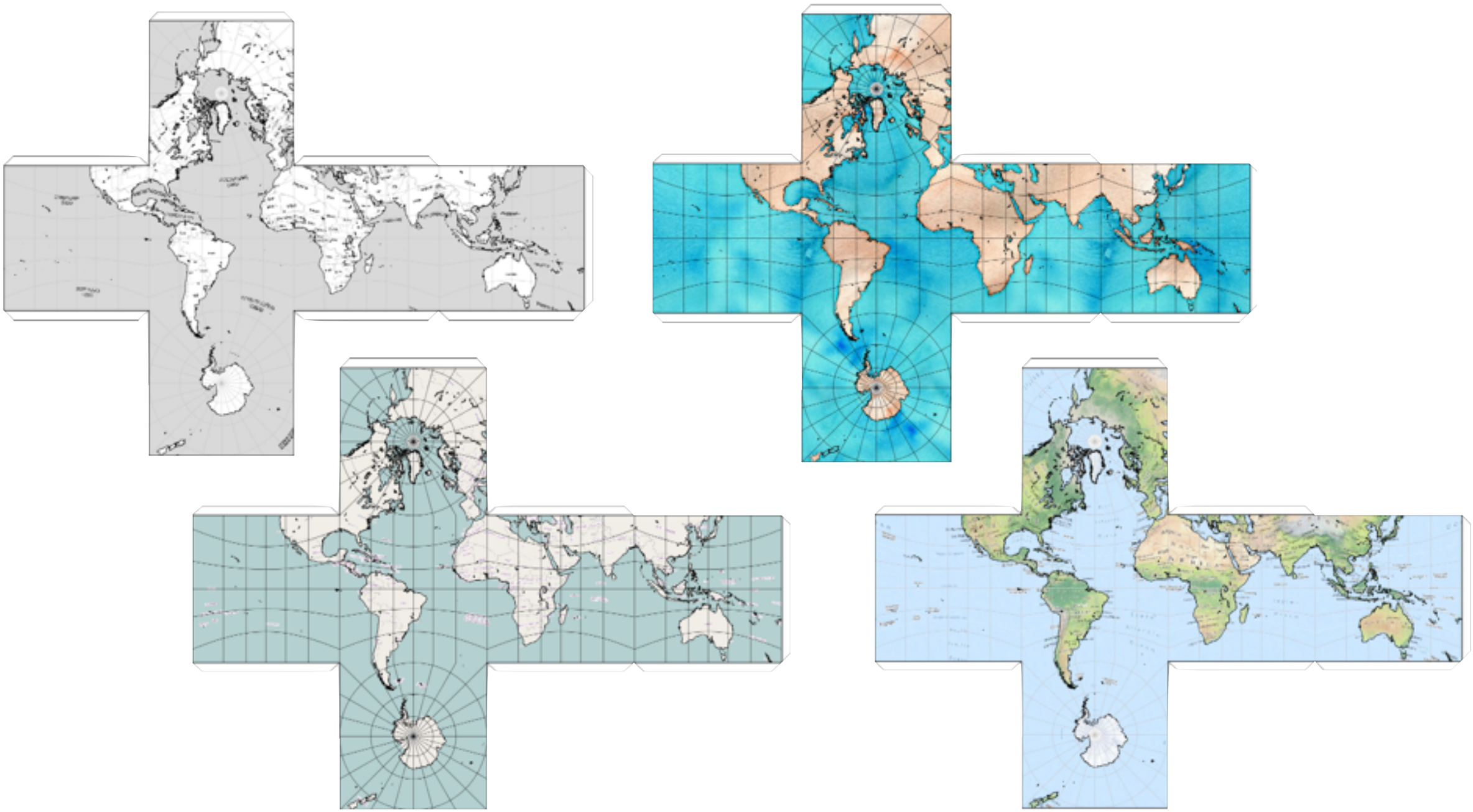
Earthquakes



Render Map in GeoScript

https://gist.github.com/jericks/6a88422bcea5129f927e

Stamen / OSM / MapQuest



https://gist.github.com/jericks/530a973f44af3947c04e

What did we learn?

- Making maps is fun!
- Projections
- Computers
- Coding
- Cartography
- Color Ramps

Thank you!