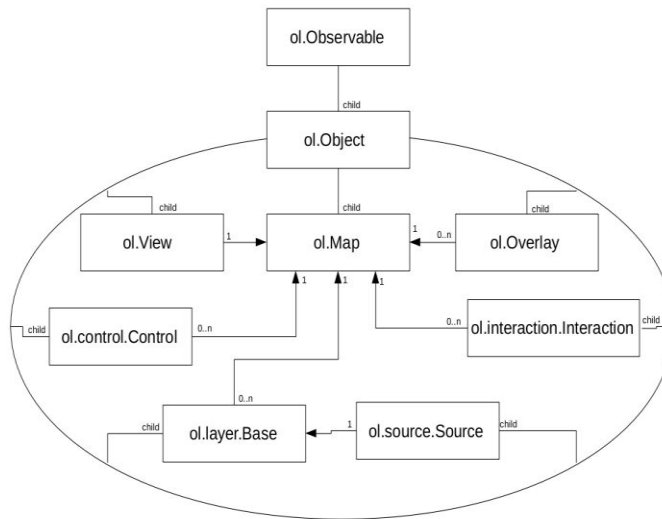
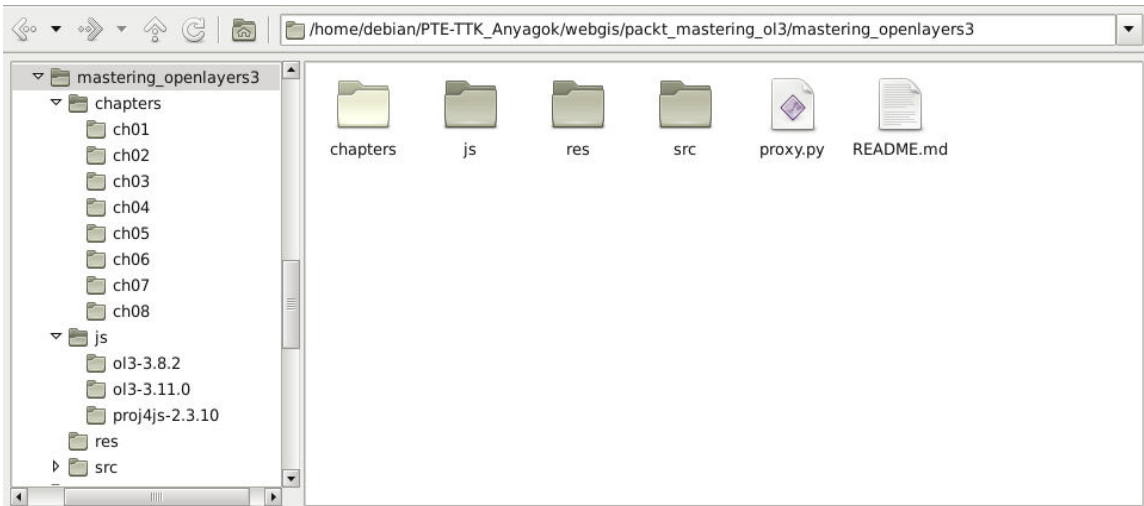
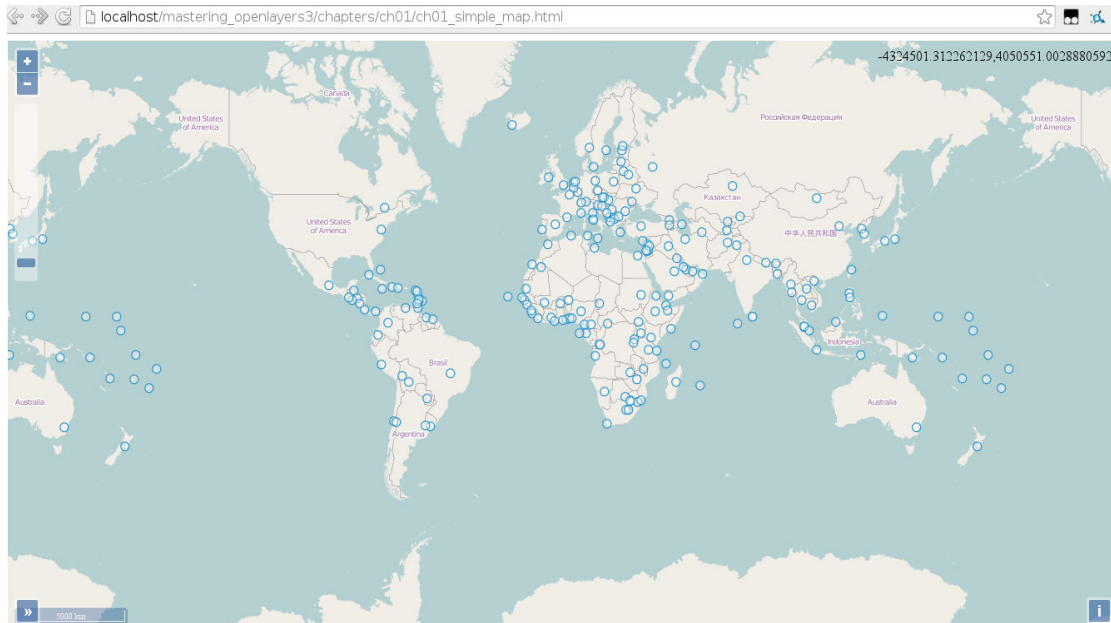


Chapter 1: Creating Simple Maps with OpenLayers

3





OpenLayers 3 Stable Only Docs Examples

Search Documentation

ol.interaction

Types

- DrawGeometryFunctionType
- SelectFilterFunction

Methods

- defaults

ol

- ol.Attribution
- ol.Collection
- ol.CollectionEvent
- ol.DeviceOrientation
- ol.DragBoxEvent
- ol.Feature
- ol.FeatureOverlay
- ol.Geolocation
- ol.Graticule
- ol.Image

ol.interaction.defaults (opt_options) [ol.Collection.<ol.interaction.Interaction>] src/ol/Int

Set of interactions included in maps by default. Specific interactions can be excluded by setting the appropriate option to false in the constructor opti interactions is fixed. If you want to specify a different order for interactions, you will need to create your own `ol.interaction.Interaction` ins `ol.Collection` in the order you want before creating your `ol.Map` instance. The default set of interactions, in sequence, is:

- `ol.interaction.DragRotate`
- `ol.interaction.DoubleClickZoom`
- `ol.interaction.DragPan`
- `ol.interaction.PinchRotate`
- `ol.interaction.PinchZoom`
- `ol.interaction.KeyboardPan`
- `ol.interaction.KeyboardZoom`
- `ol.interaction.MouseWheelZoom`
- `ol.interaction.DragZoom`

Note that DragZoom renders a box as a vector polygon, so this interaction should be excluded if you want a build with no vector support.

Name	Type	Description
<code>options</code>	Defaults options.	
<code>altShiftDragRotate</code>	boolean undefined	experimental Whether Alt-Shift-drag rotate is desired. Default is <code>true</code> .
<code>doubleClickZoom</code>	boolean undefined	experimental Whether double click zoom is desired. Default is <code>true</code> .
<code>keyboard</code>	boolean undefined	experimental Whether keyboard interaction is desired. Default is <code>true</code> .
<code>mouseWheelZoom</code>	boolean undefined	experimental Whether mousewheel zoom is desired. Default is <code>true</code> .
<code>shiftDragZoom</code>	boolean undefined	experimental Whether Shift-drag zoom is desired. Default is <code>true</code> .
<code>dragPan</code>	boolean undefined	experimental Whether drag pan is desired. Default is <code>true</code> .

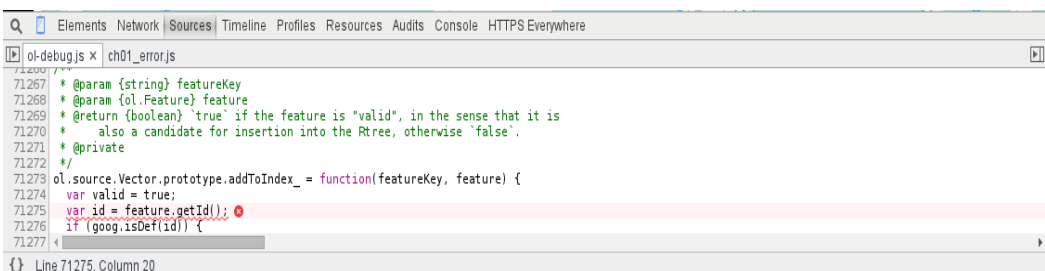
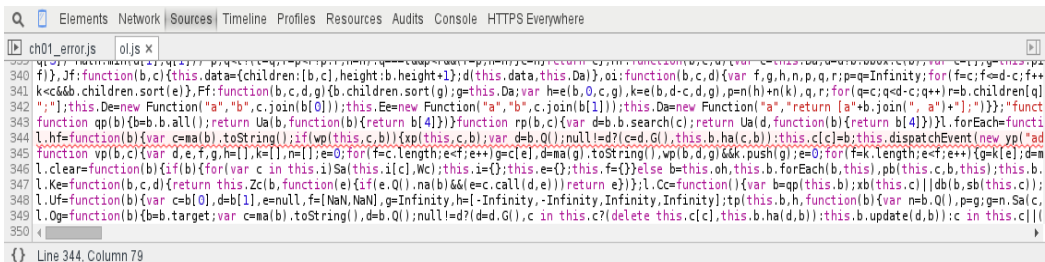
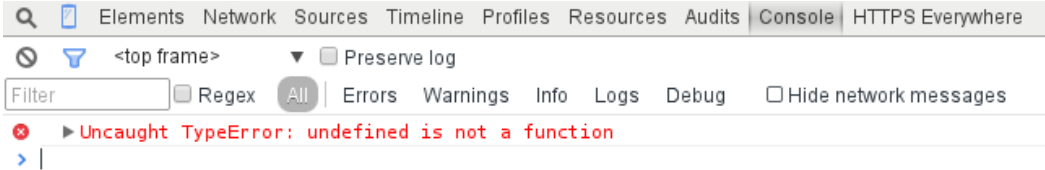
ol.proj.fromLonLat(*coordinate*, *opt_projection*) → *ol.Coordinate*

Transforms a coordinate from longitude/latitude to a different projection.

Name	Type	Description
<code>coordinate</code>	<code>ol.Coordinate</code>	Coordinate as longitude and latitude, i.e. an array with longitude as 1st and latitude as 2nd element.
<code>projection</code>	<code>ol.proj.ProjectionLike</code>	Target projection. The default is Web Mercator, i.e. 'EPSG:3857'.

Returns:

Coordinate projected to the target projection.



Chapter 02: Applying Custom Styles

```
<div id="map" class="map">
  <div class="ol-viewport" style="position: relative; overflow: hidden; width: 100%; height: 100%;">
    <canvas class="ol-unselectable" width="1332" height="274" style="width: 100%; height: 100%;">
      <div class="ol-overlaycontainer"></div>
      <div class="ol-overlaycontainer-stopevent">
        <div class="ol-zoom ol-unselectable ol-control">
          <button class="ol-zoom-in" type="button" title="Zoom in"></button>
          <button class="ol-zoom-out" type="button" title="Zoom out"></button>
        </div>
        <div class="ol-rotate ol-unselectable ol-control ol-hidden"></div>
        <div class="ol-attribution ol-unselectable ol-control ol-collapsed"></div>
        <div class="ol-zoomslider ol-unselectable ol-control"></div>
        <div class="ol-mouse-position"> 8883817.175416324, -2504688.542848656</div>
        <div class="ol-scale-line ol-unselectable"></div>
        <div class="ol-overviewmap ol-unselectable ol-control ol-collapsed"></div>
      </div>
    </div>
  </div>
</div>
```

Styles Computed EventListeners

```
element.style {
}

.ol-zoom .ol-zoom-in {
  border-radius: 50%;
}

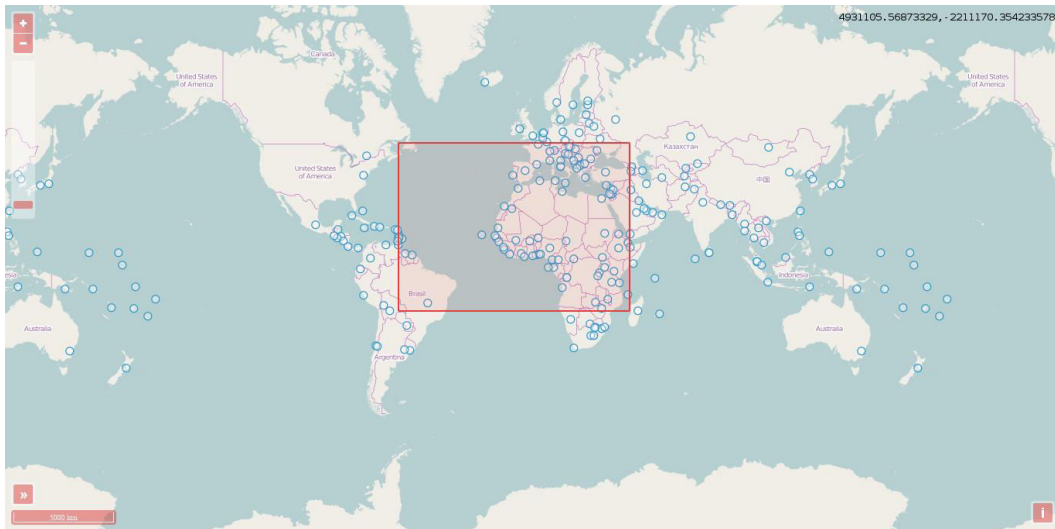
.ol-zoom .ol-zoom-in {
  border-radius: 2px 2px 0 0;
}

.ol-zoom button {
  background-color: rgba(219, 63, 63, .5);
}

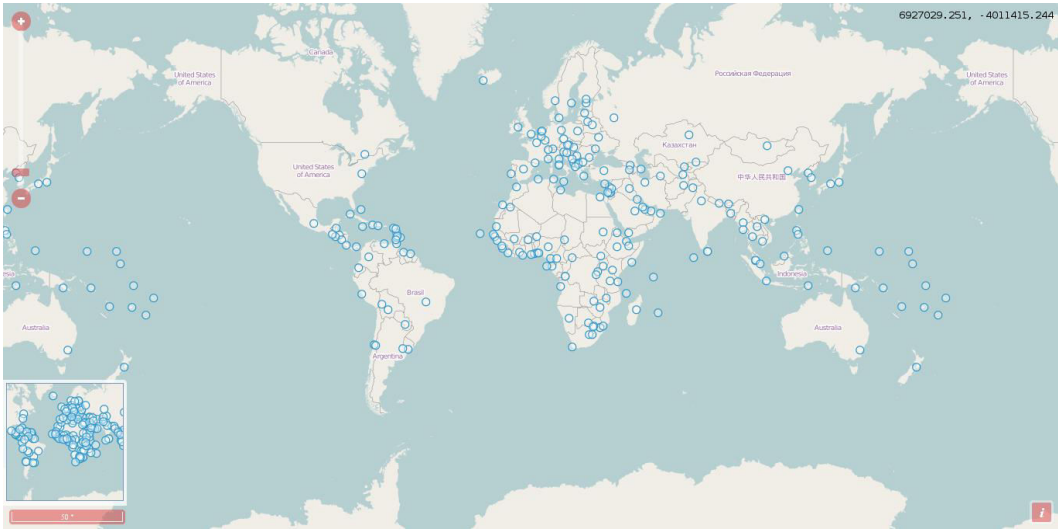
.ol-control button {
  display: block;
  margin: 1px;
  padding: 0;
}
```

html > body > div#map > map > div.ol-viewport > div.ol-overlaycontainer-stopevent > div.ol-zoom.ol-unselectable.ol-control > button.ol-zoom-in

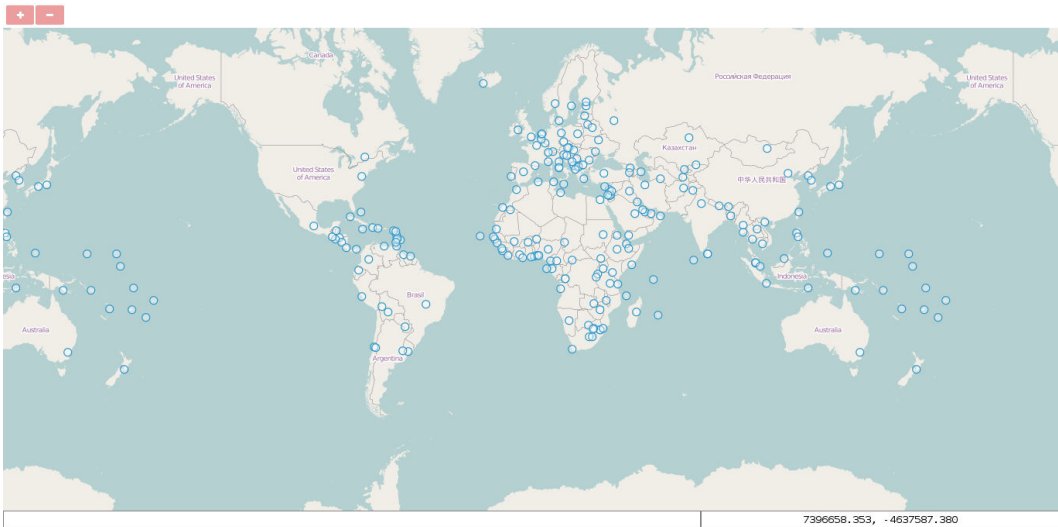
Find in Styles



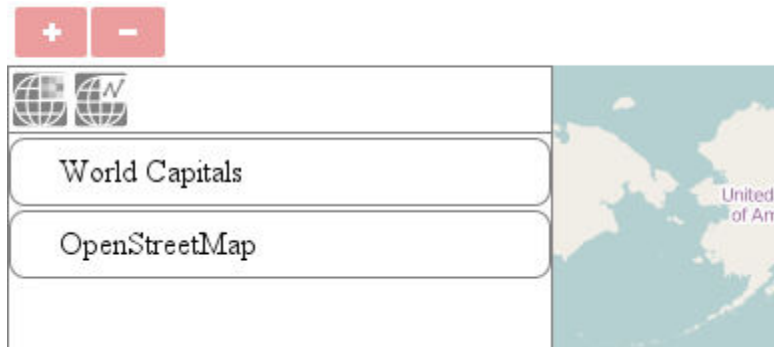
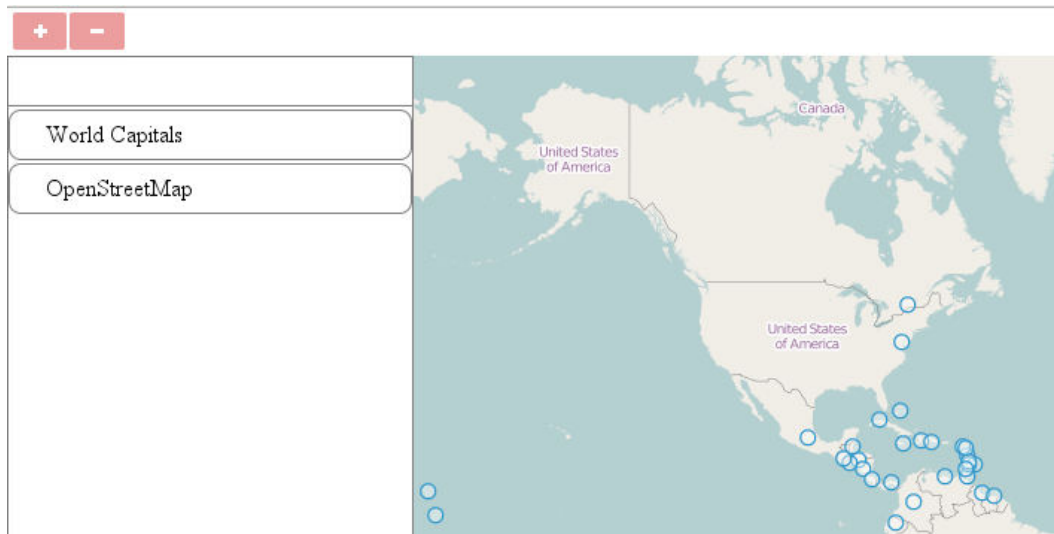




World Capitals © Natural Earth © [OpenStreetMap](#) contributors.



Chapter 3: Working with Layers



Add WMS layer

Server URL:

Layer name:

Display name:

Format:

Tiled:

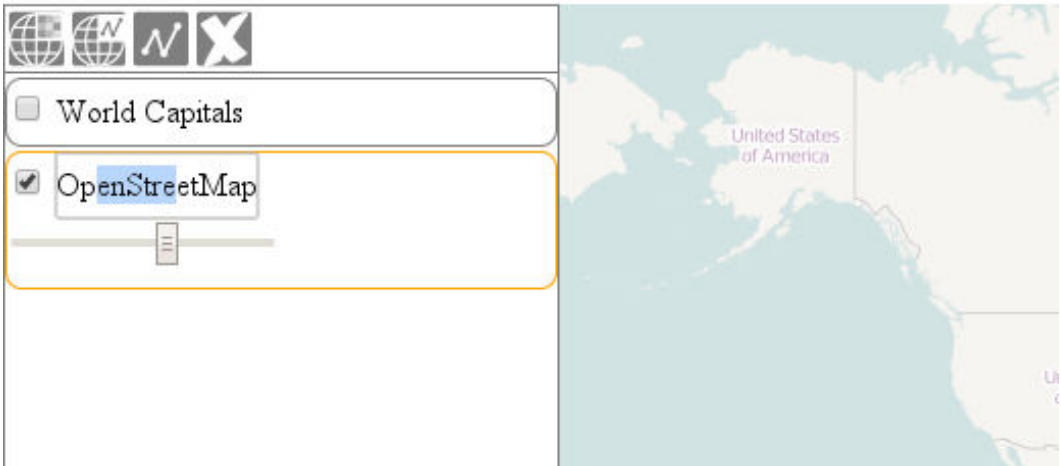
Layers read successfully.

World Capitals

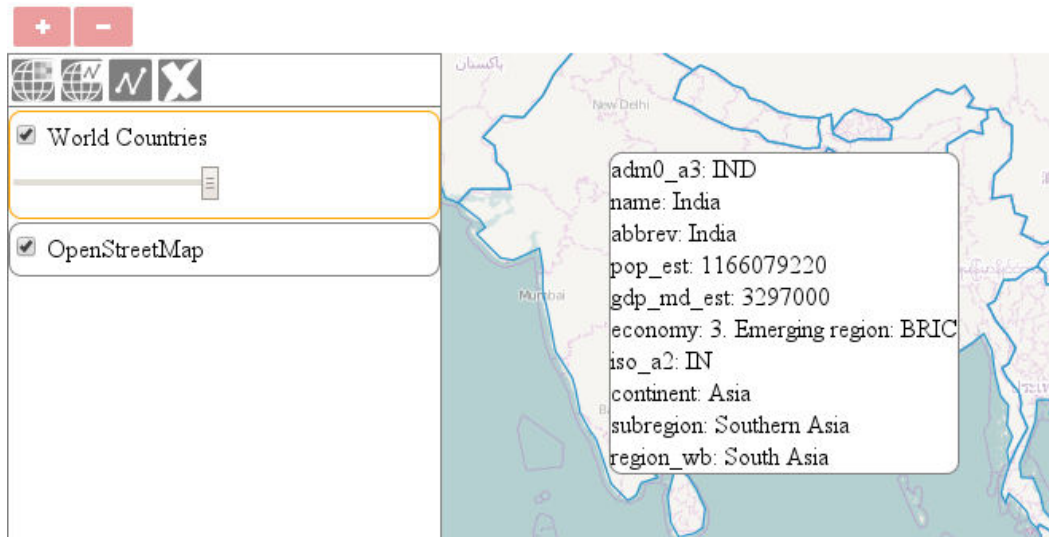
World Capitals

OpenStreetMap

United States of America



Chapter 4: Using Vector Data



World Countries

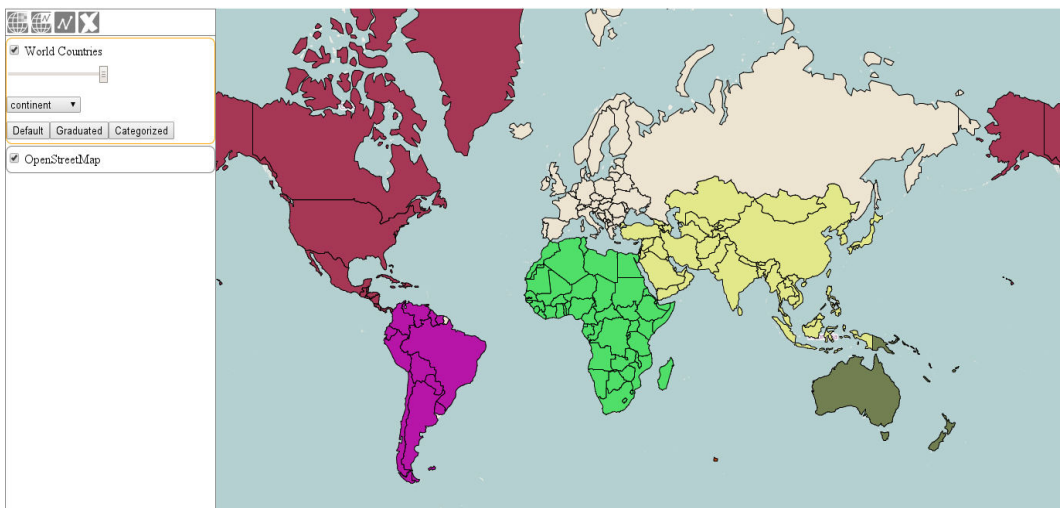
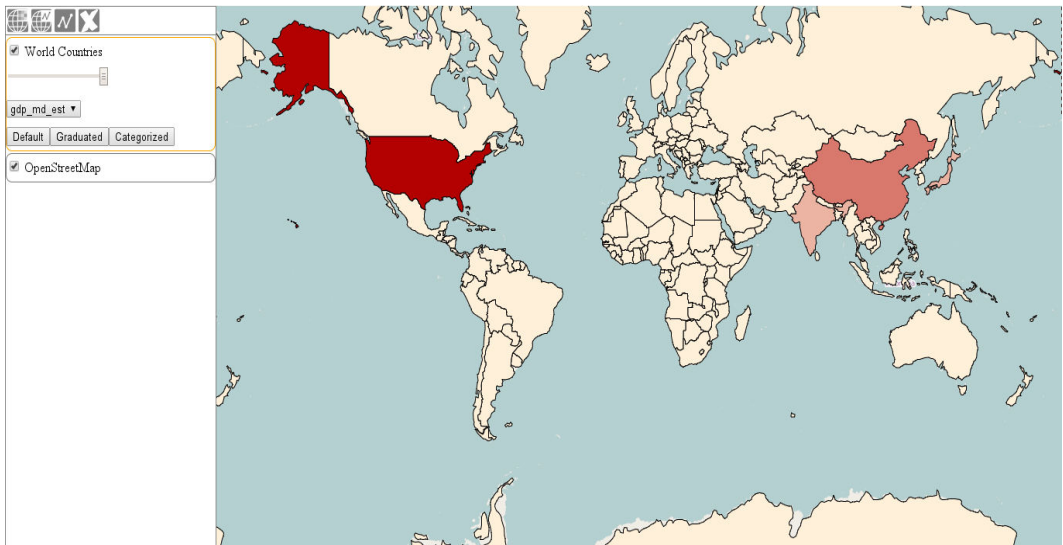
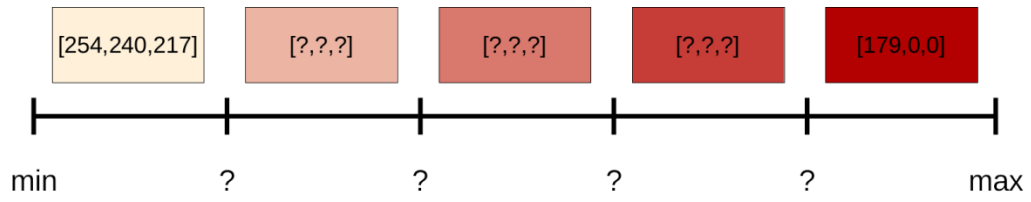
OpenStreetMap

name:	Canada	X
pop_est:	33487208	X
gdp_md_est:	1300000	X
economy:	1. Developed region: G7	X
iso_a2:	CA	X
continent:	North America	X
capital:	Ottawa	X
pop_2011:	33476688	X
avg_pop_density:	3.41	X
top_export:	cars	X

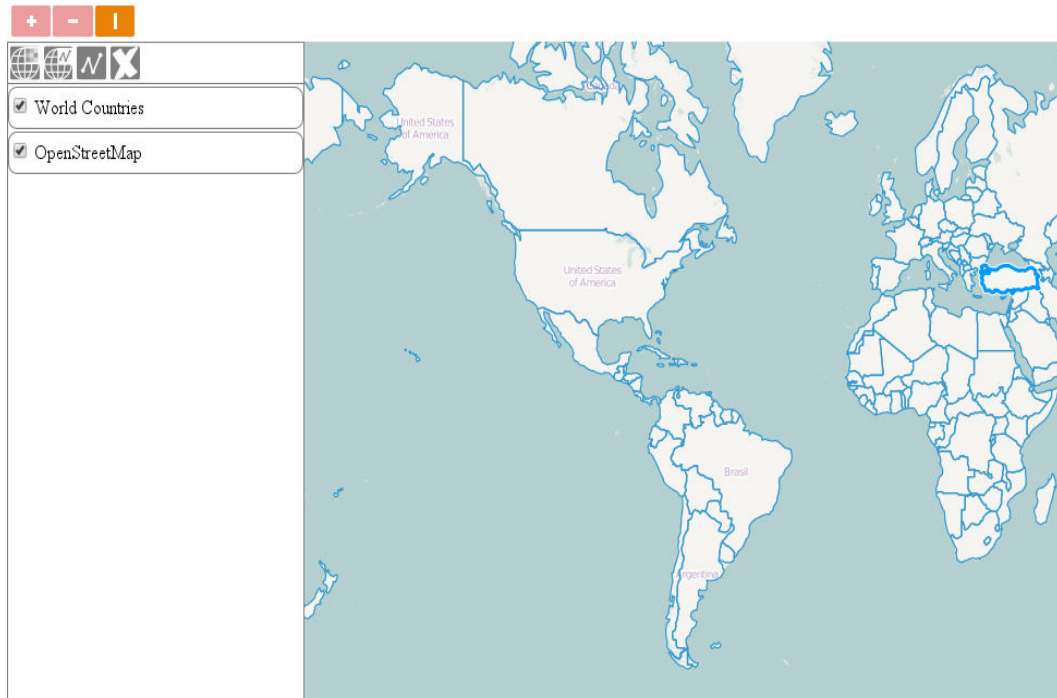
World Countries

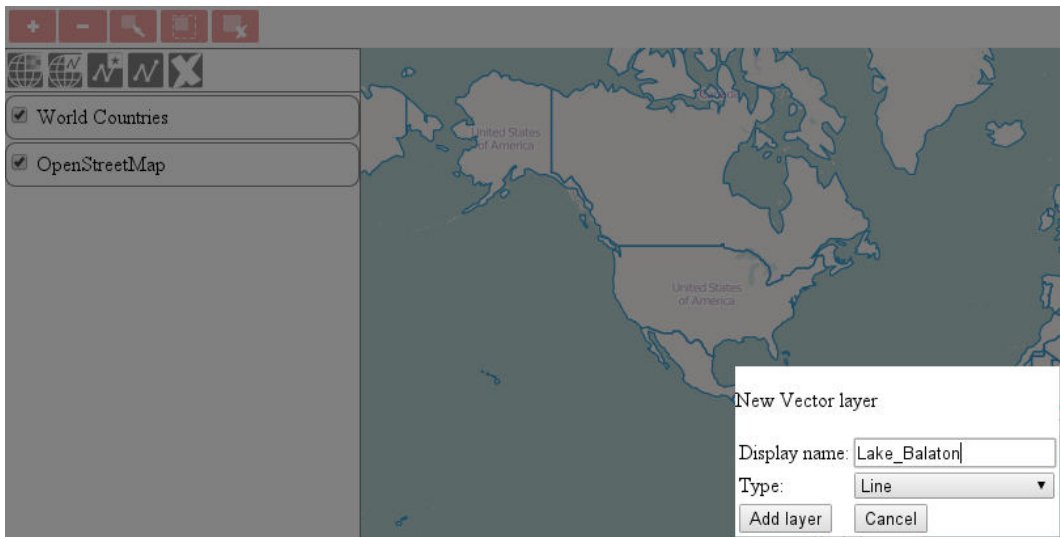
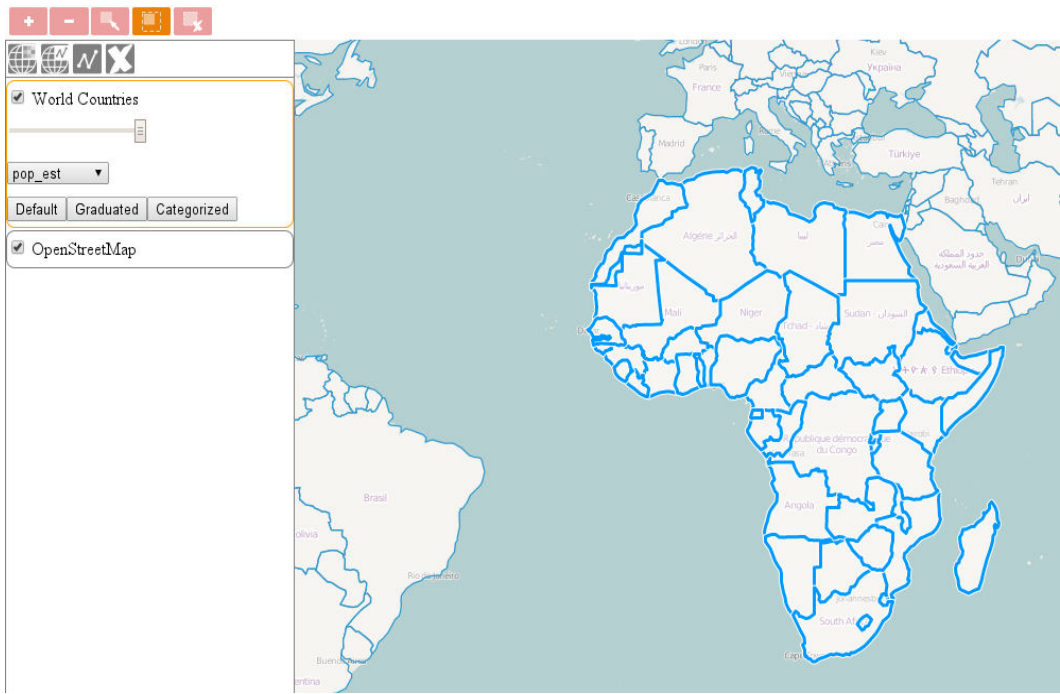
OpenStreetMap

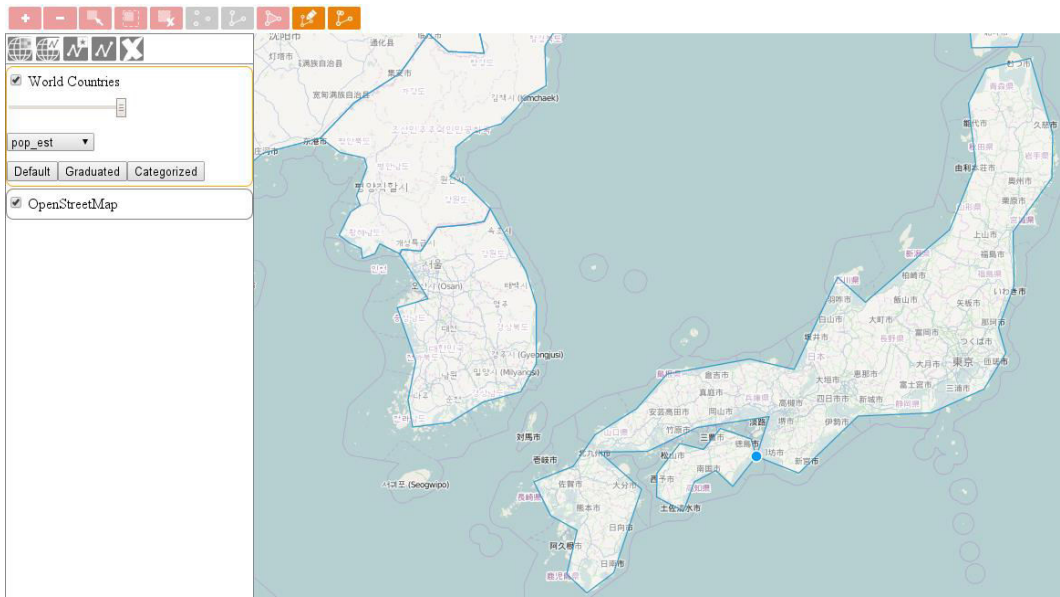
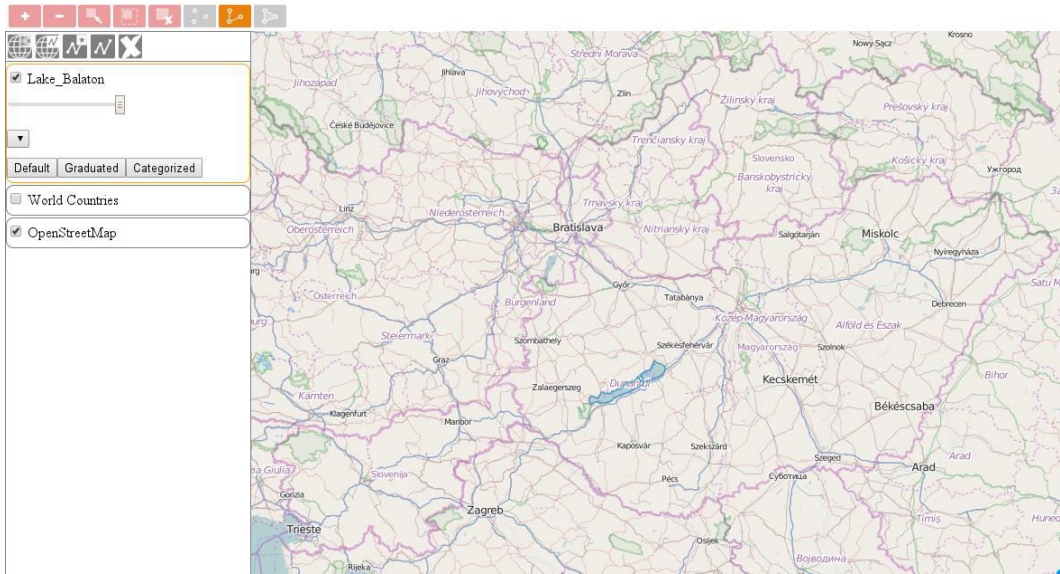
adm0_a3:	BRA
name:	Brazil
abbrev:	Brazil
pop_est:	198.7 million
gdp_md_est:	1993000
economy:	3. Emerg ! Please enter a number.
iso_a2:	BR
continent:	South America
subregion:	South America
region_wb:	Latin America & Caribb

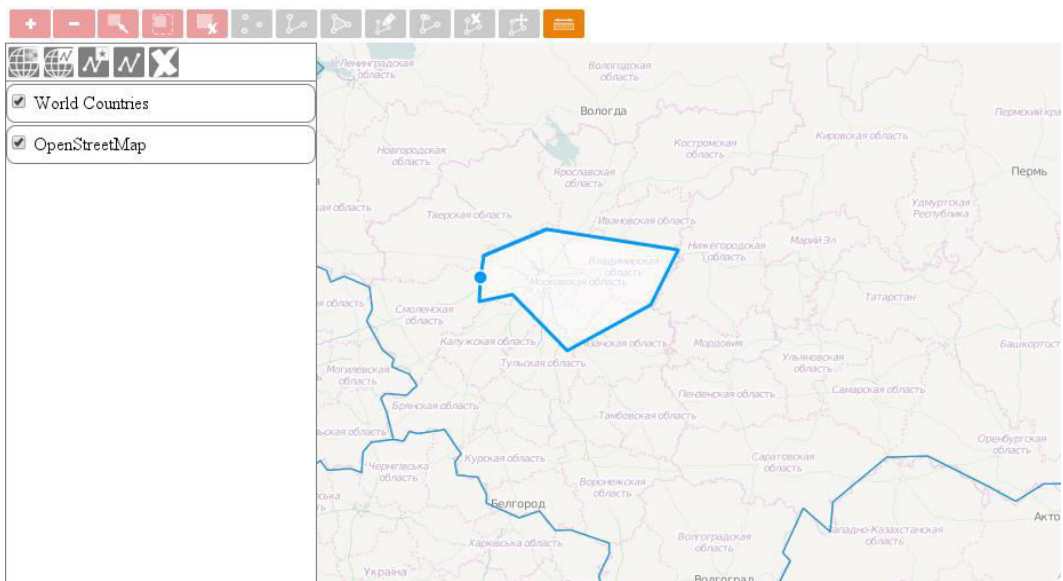
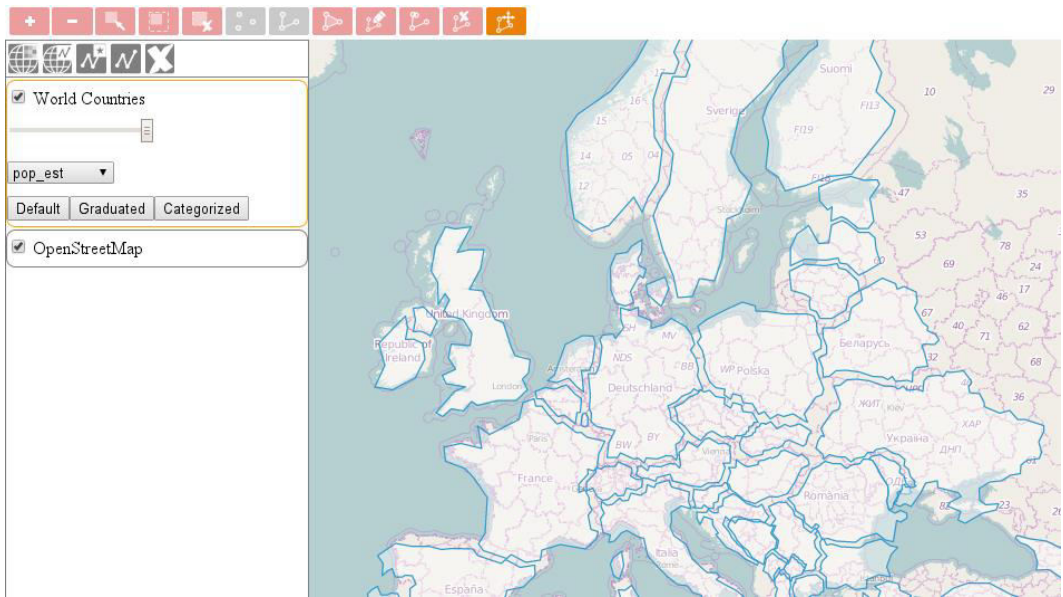


Chapter 5: Creating Responsive Applications with Interactions and Controls

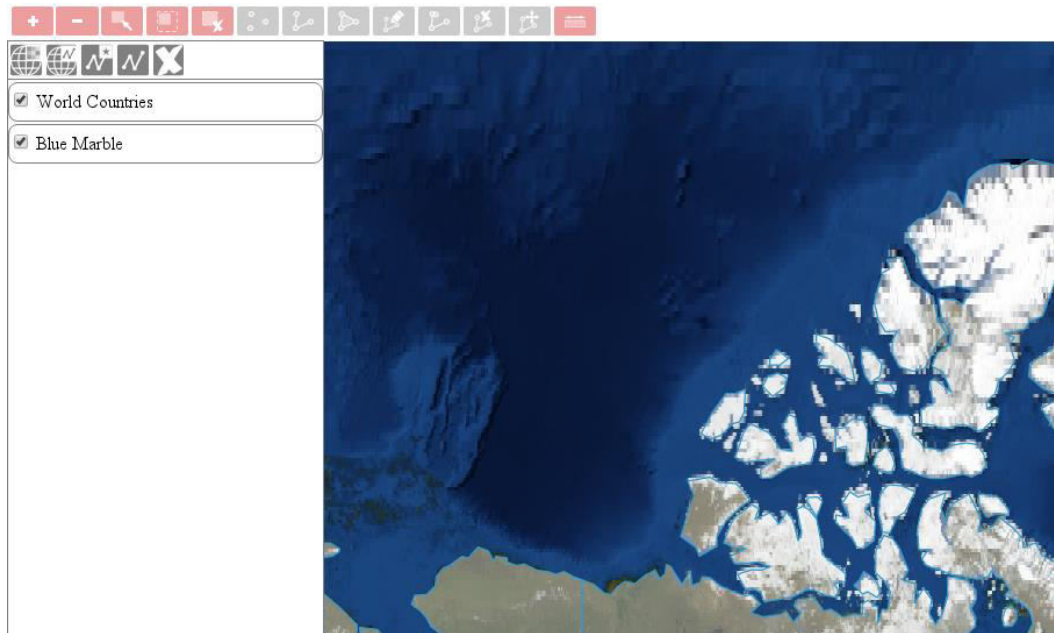


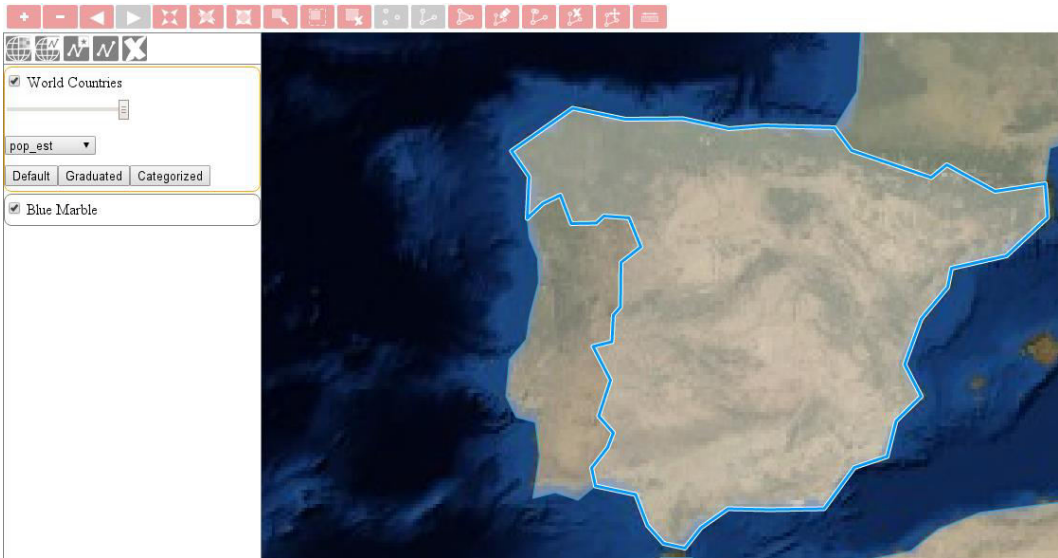
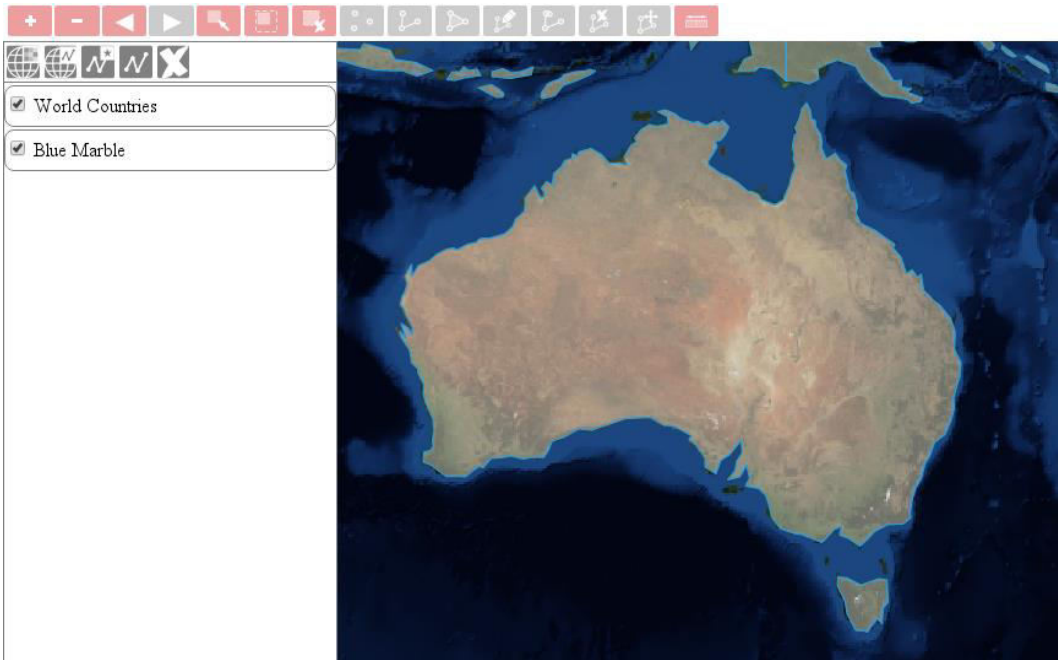


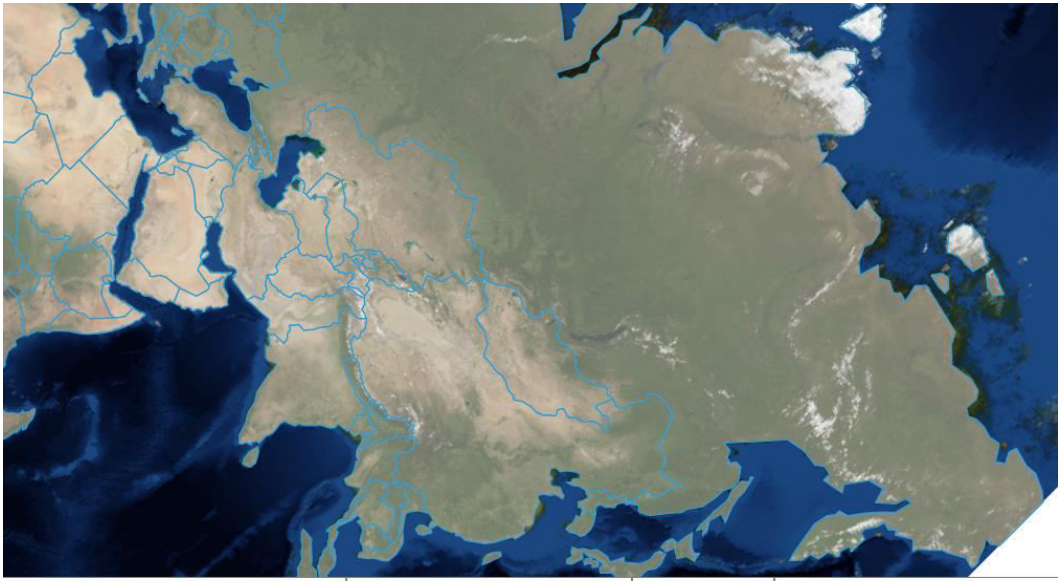




Chapter 6: Controlling the Map – View and Projection

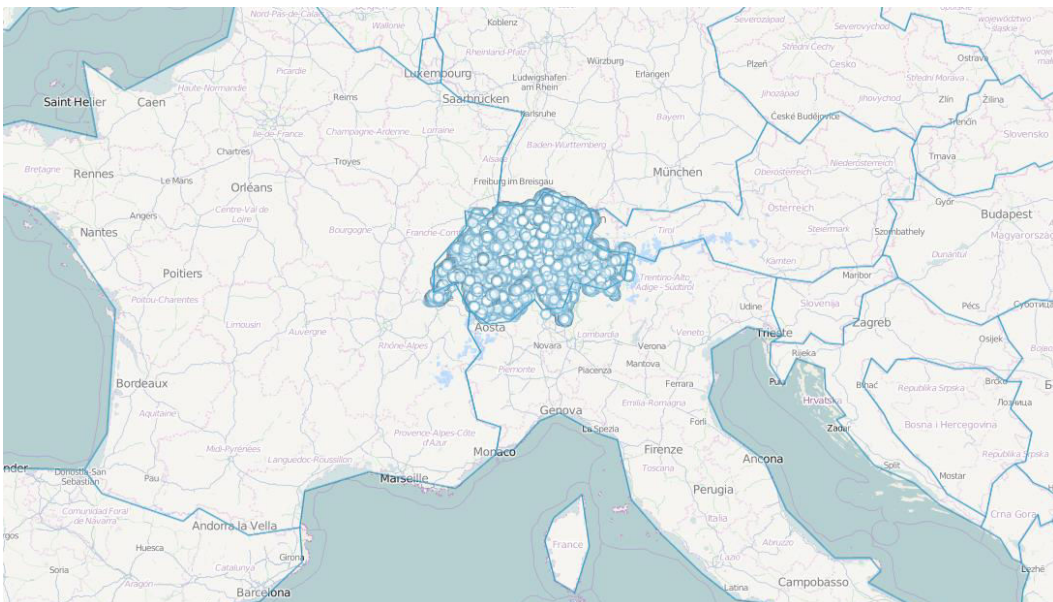
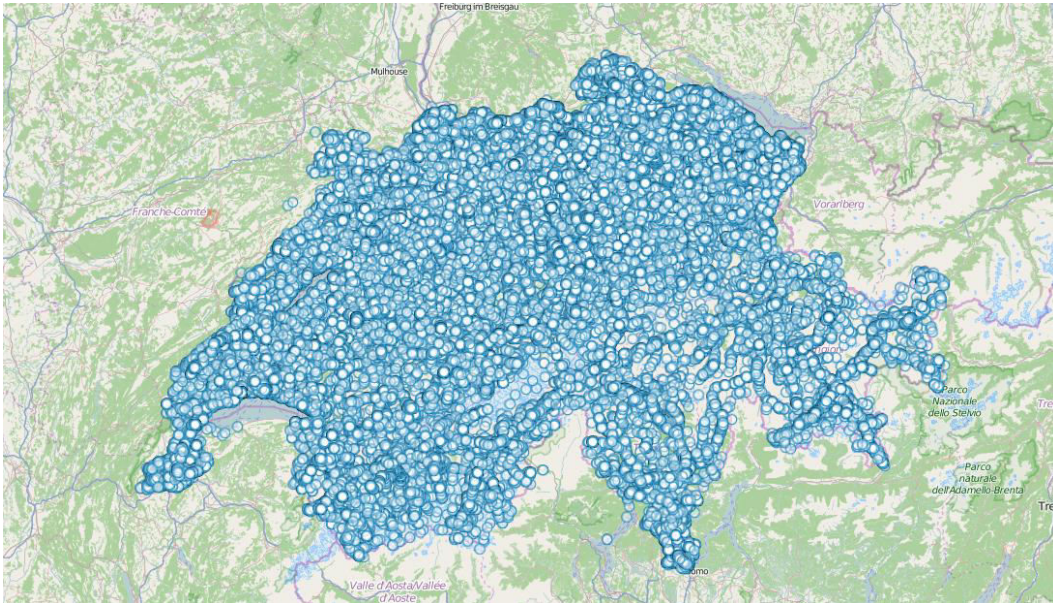


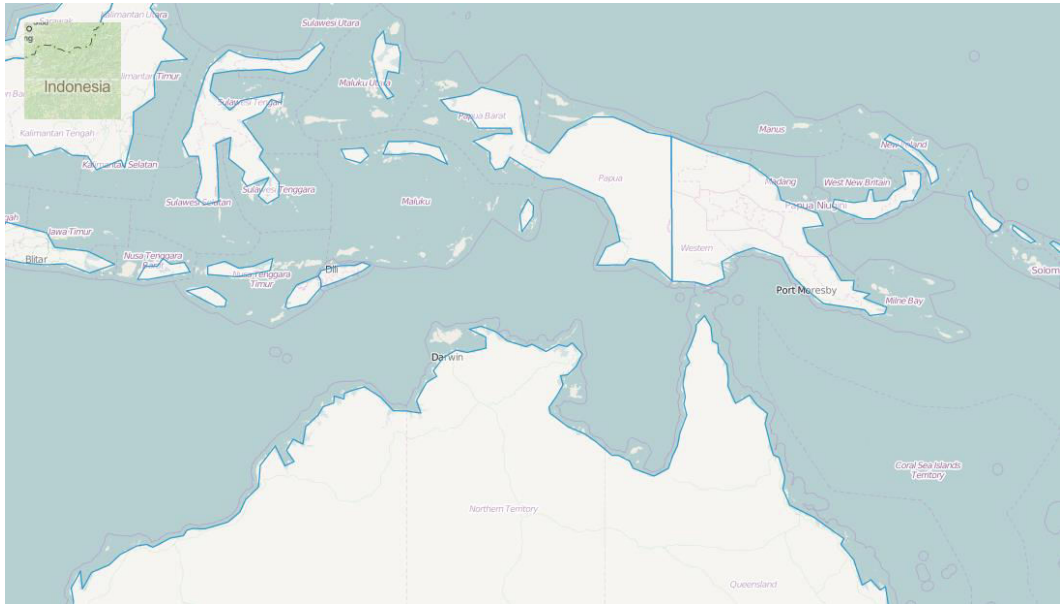
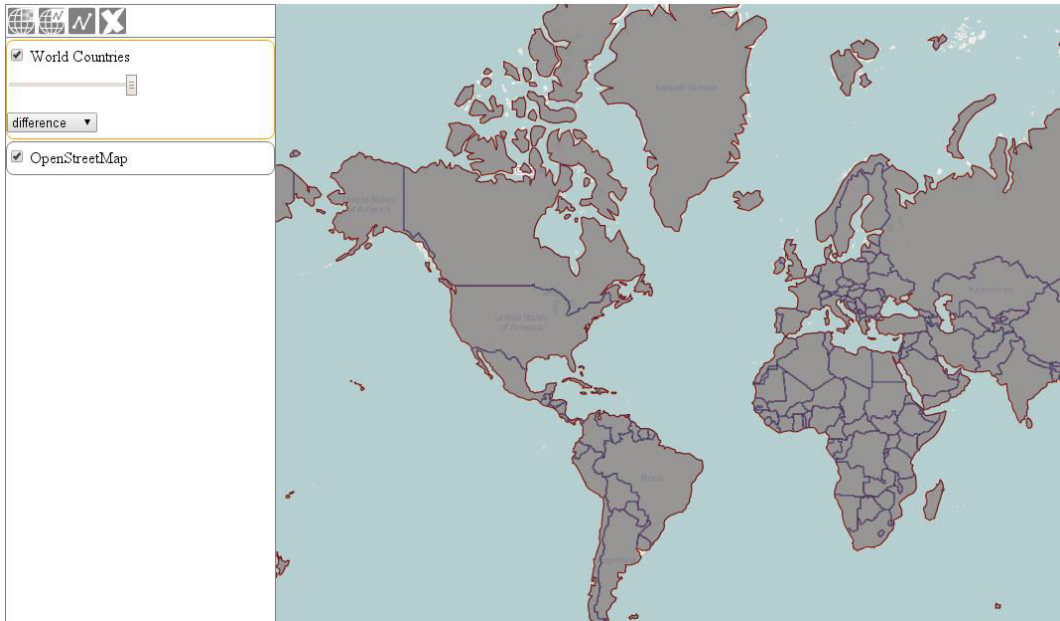






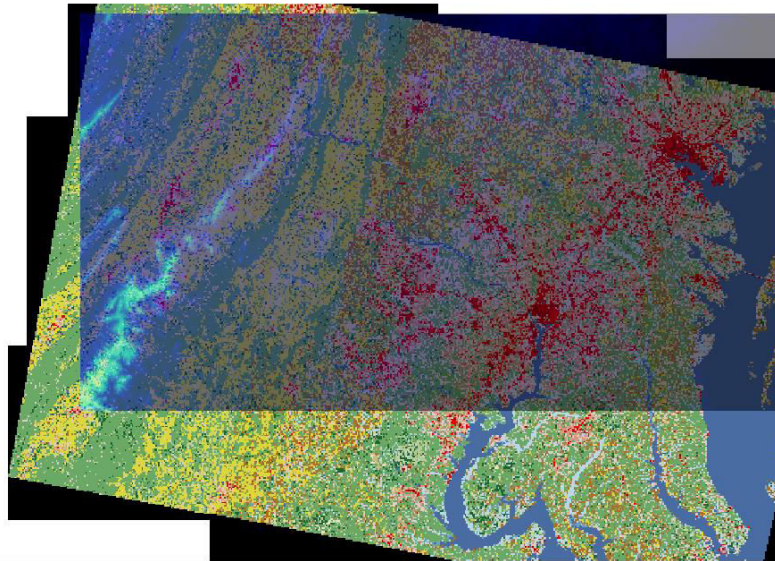
Chapter 7: Mastering Renderers





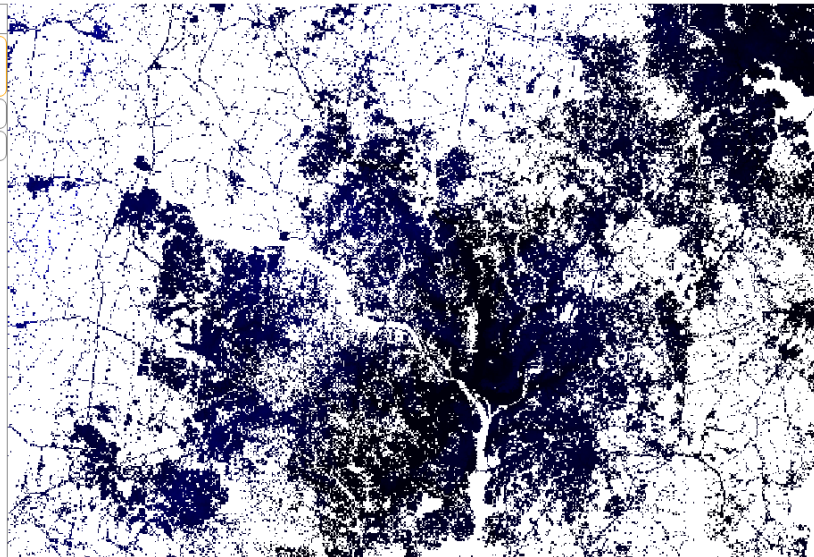
Map interface controls:

- Buttons: +, -, P
- Map navigation icons: Home, Previous, Next, Refresh
- Layer list:
 - Elevation
 - Land Cover



Map interface controls:

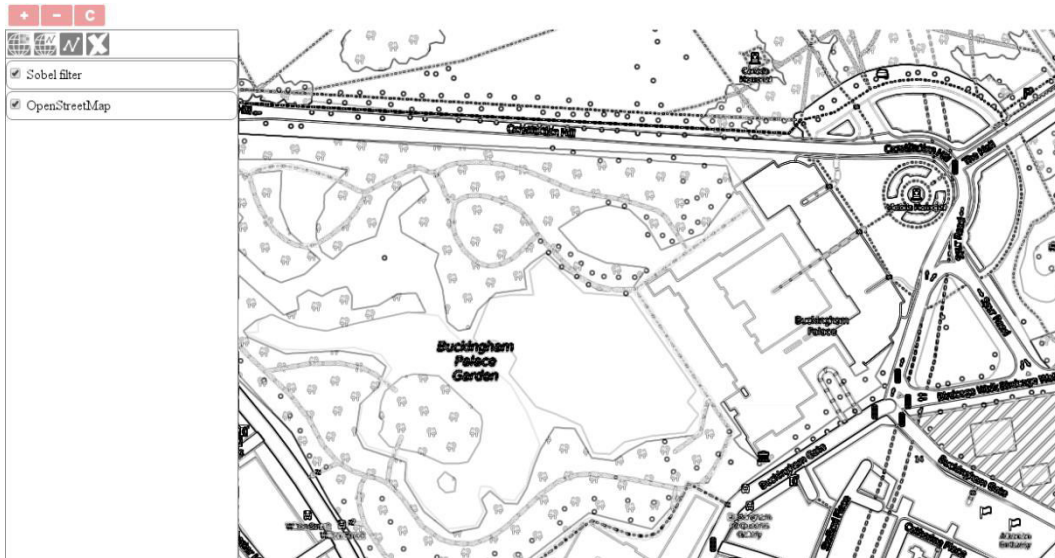
- Buttons: +, -, R
- Map navigation icons: Home, Previous, Next, Refresh
- Layer list:
 - Urban elevation
 - Land Cover
 - Elevation

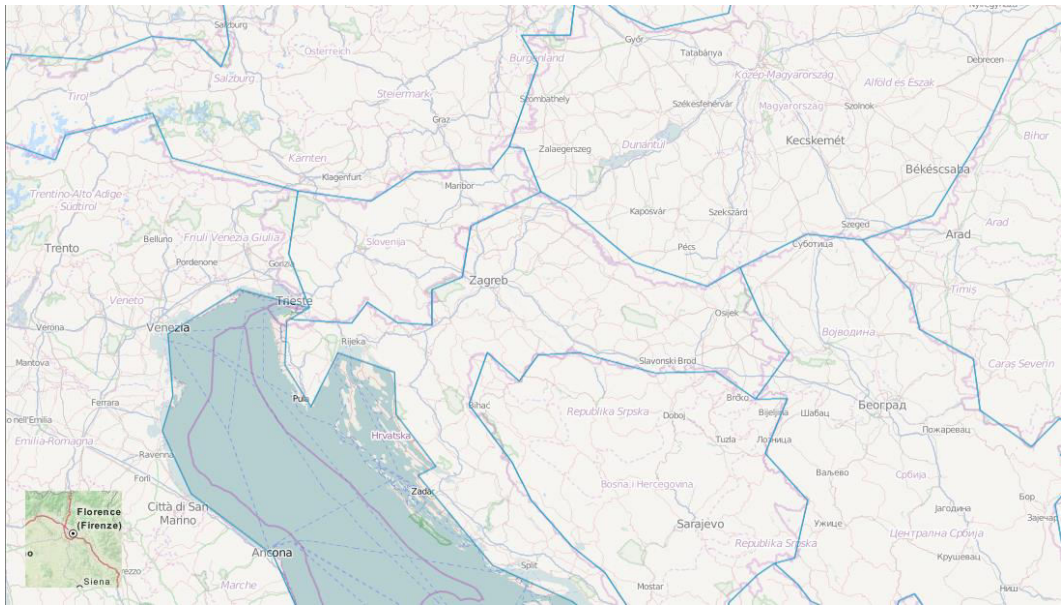


$\begin{bmatrix} -1 & 0 & +1 \\ -2 & 0 & +2 \\ -1 & 0 & +1 \end{bmatrix}$	1	1	1	3	2
	1	2	2	3	2
	2	3	2	3	3
	2	3	3	4	4
	2	3	4	4	5

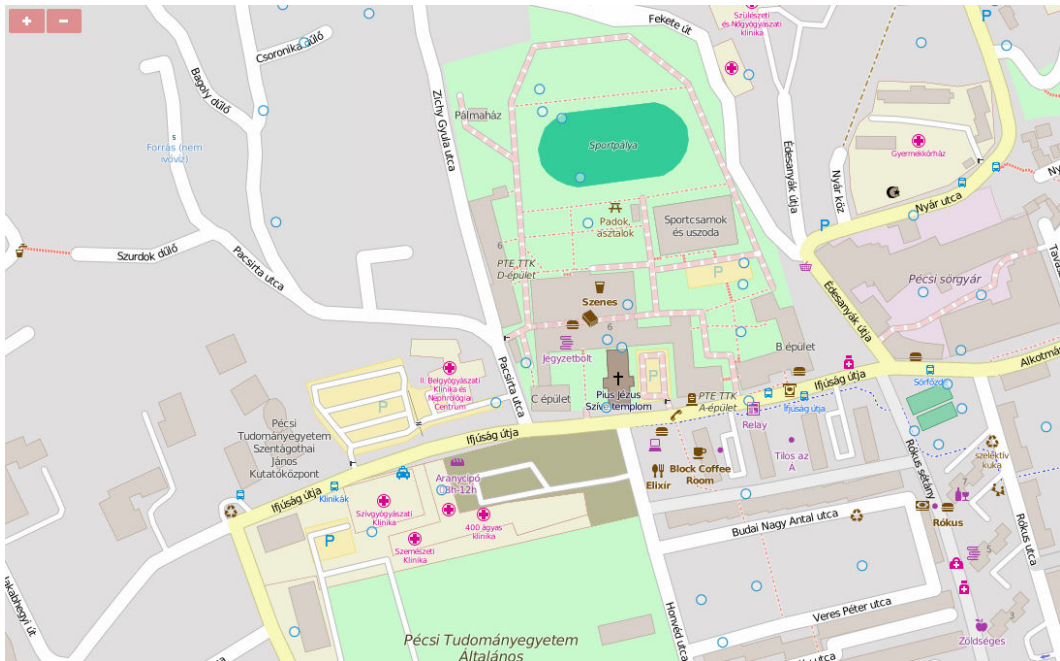
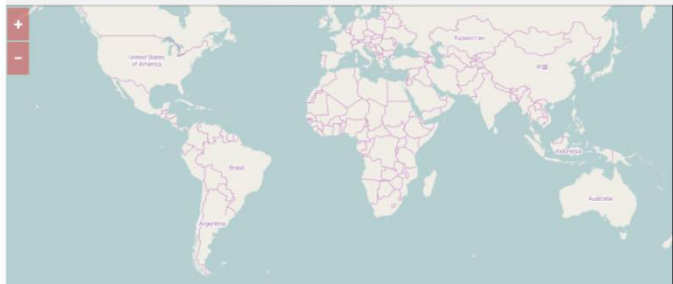
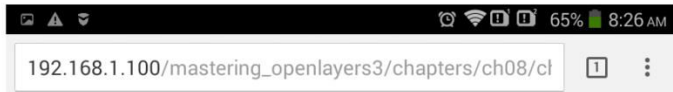
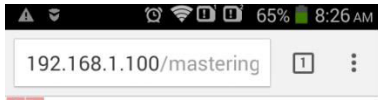
-1	0	+1
-2	0	+4
-2	0	+2

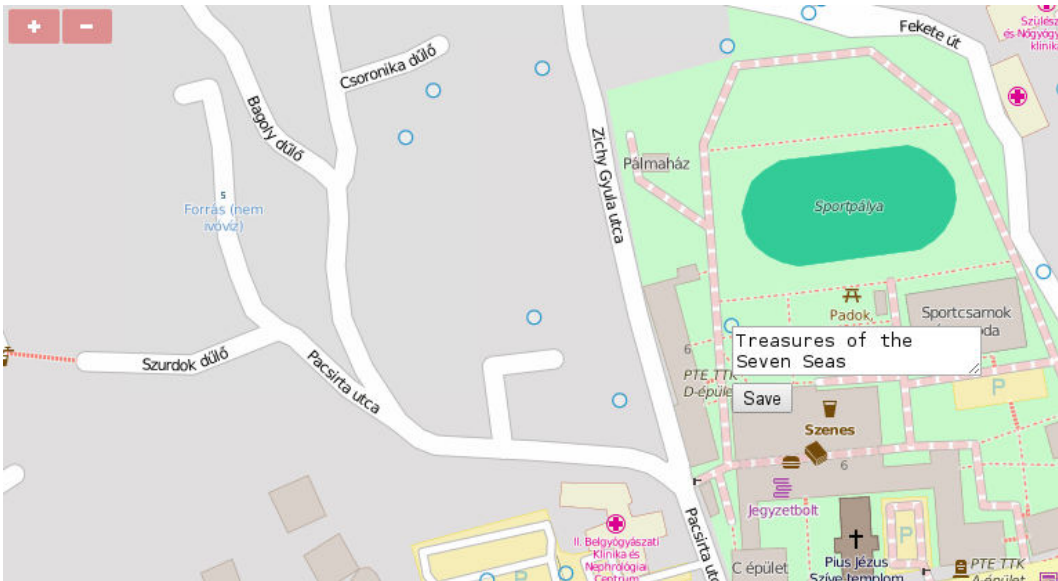
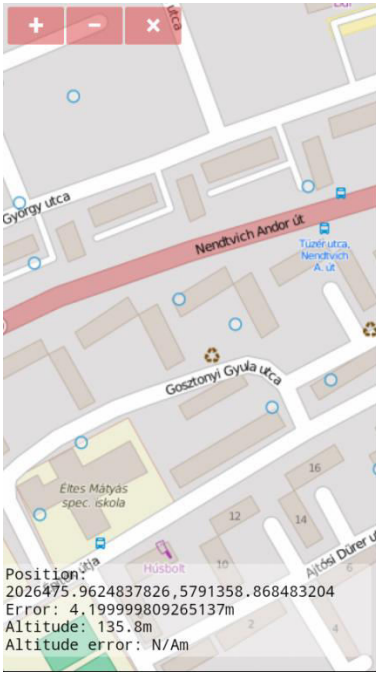
$$G_x = (-1) + 0 + (+1) + (-2) + 0 + (+4) + (-2) + 0 + (+2) = 2$$

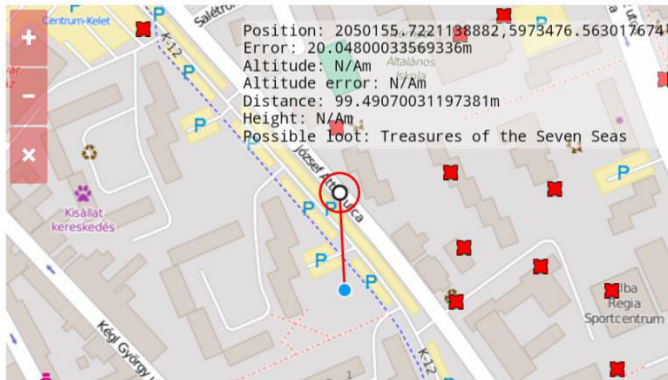
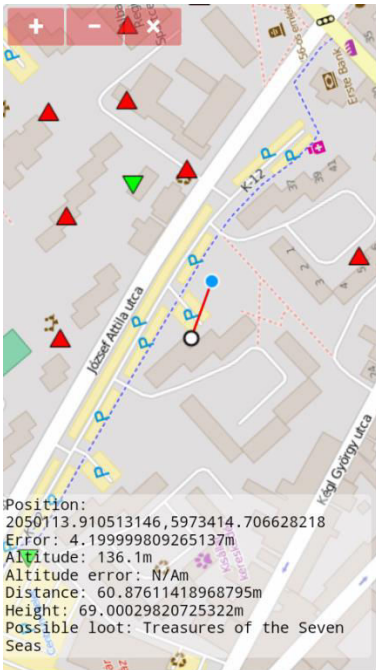
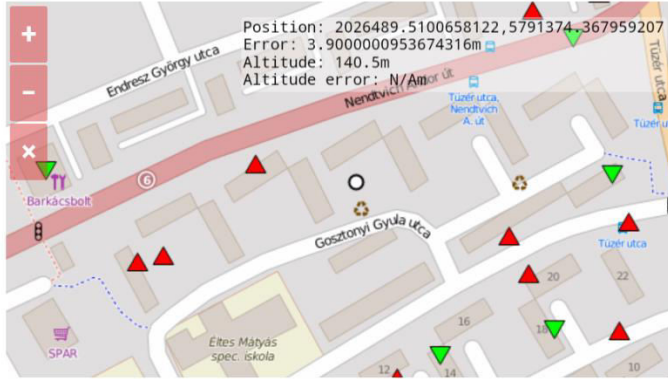
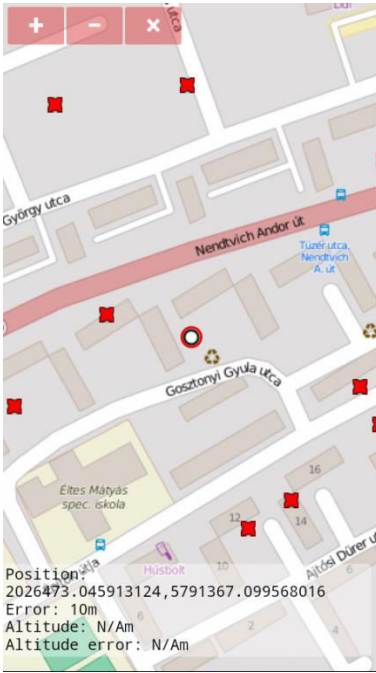




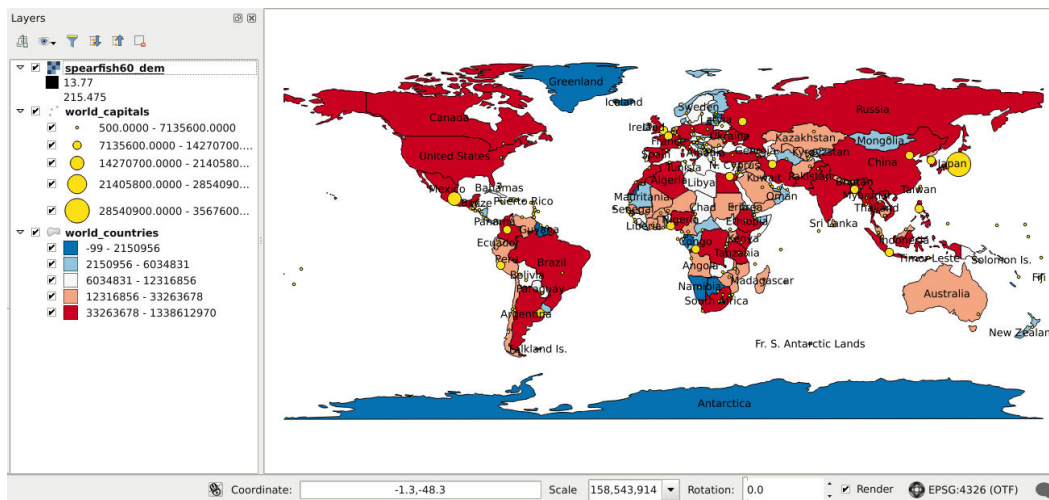
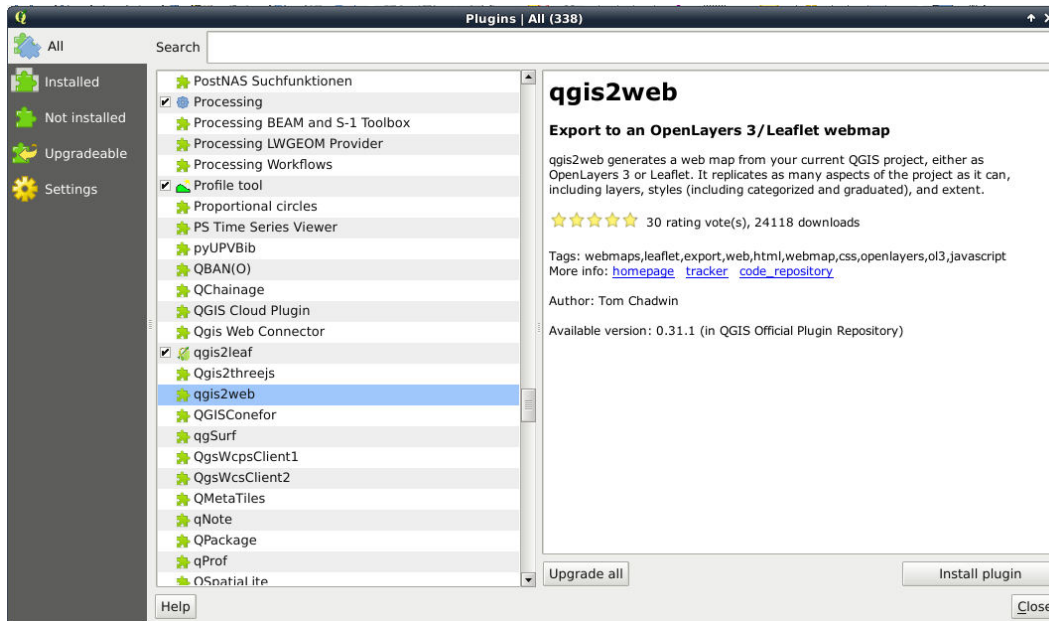
Chapter 8: OpenLayers 3 for Mobile

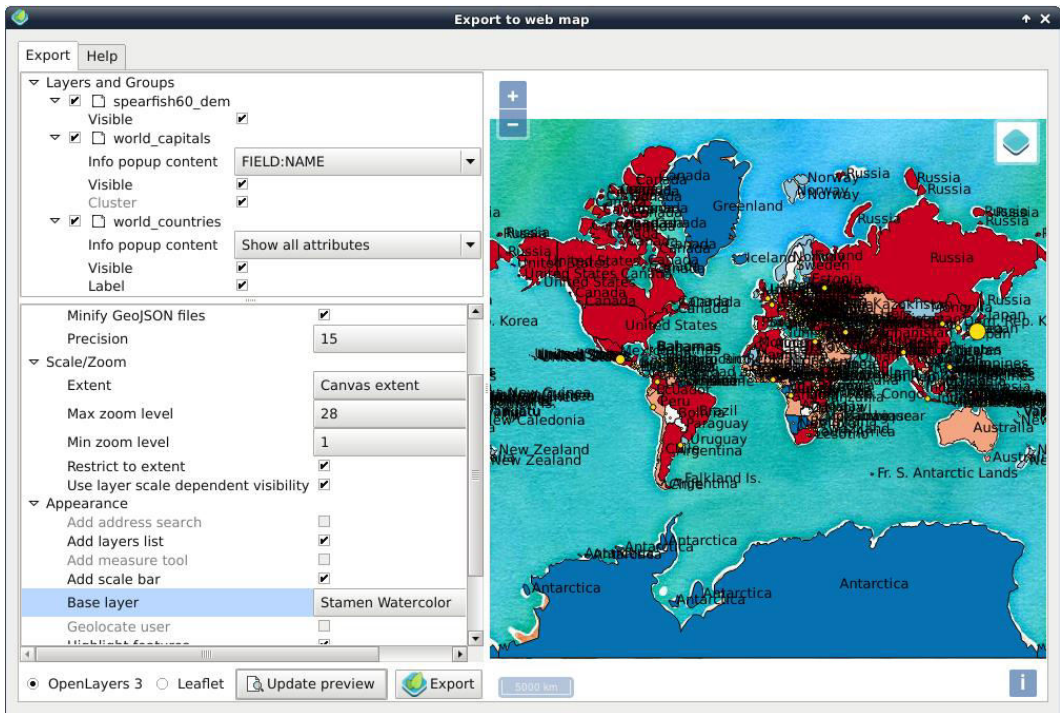


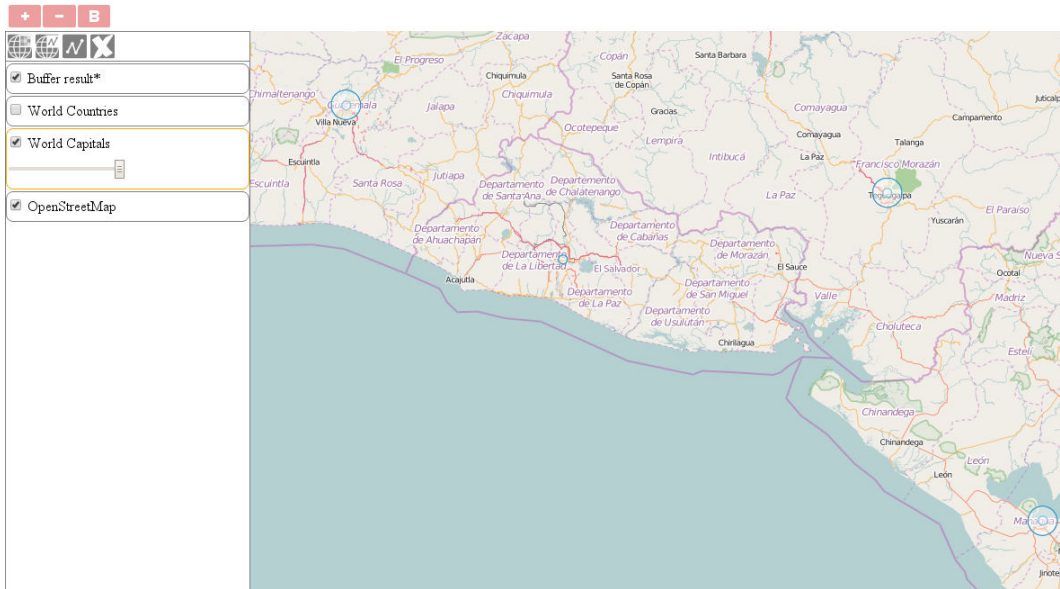
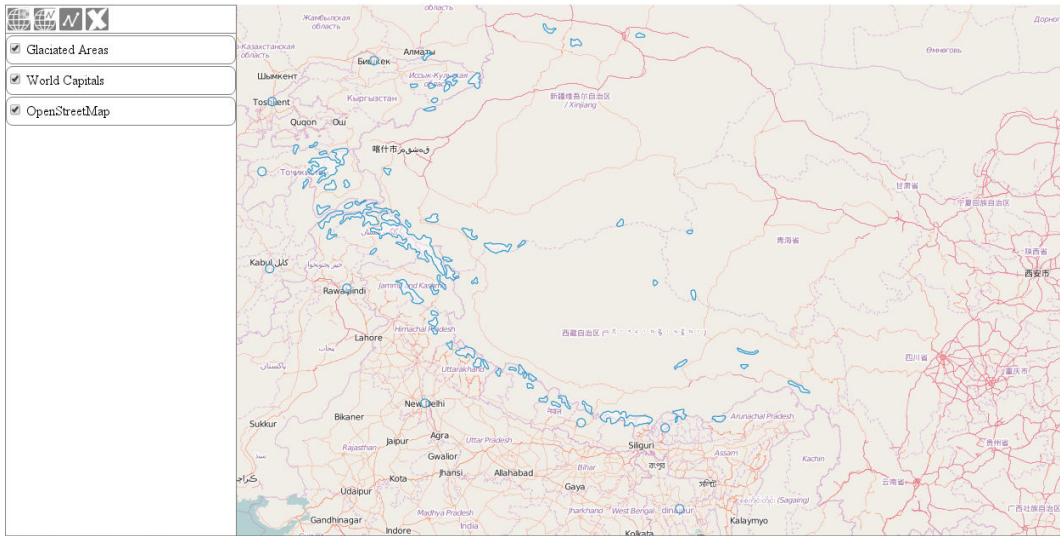


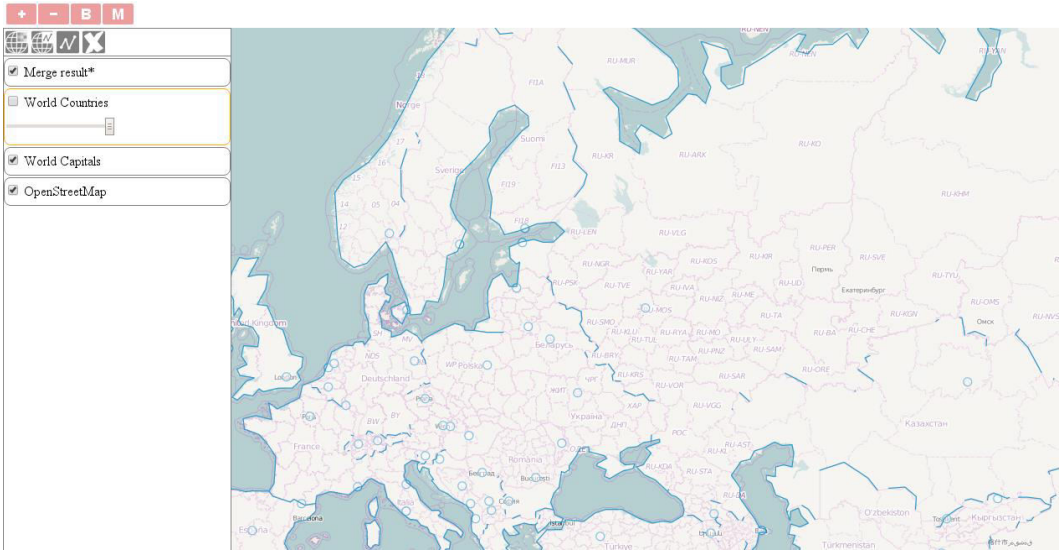


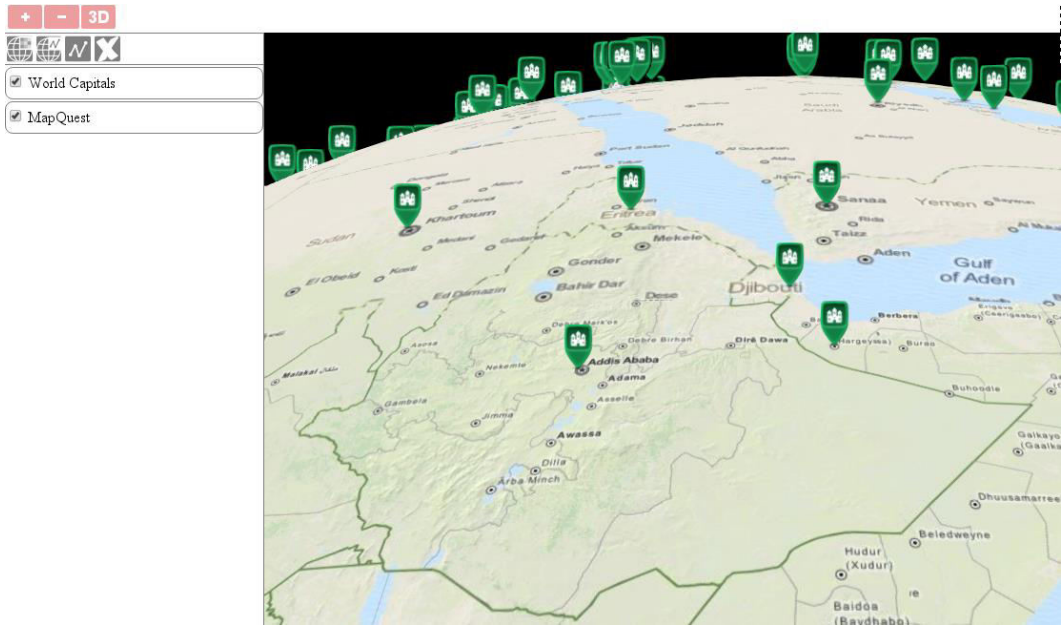
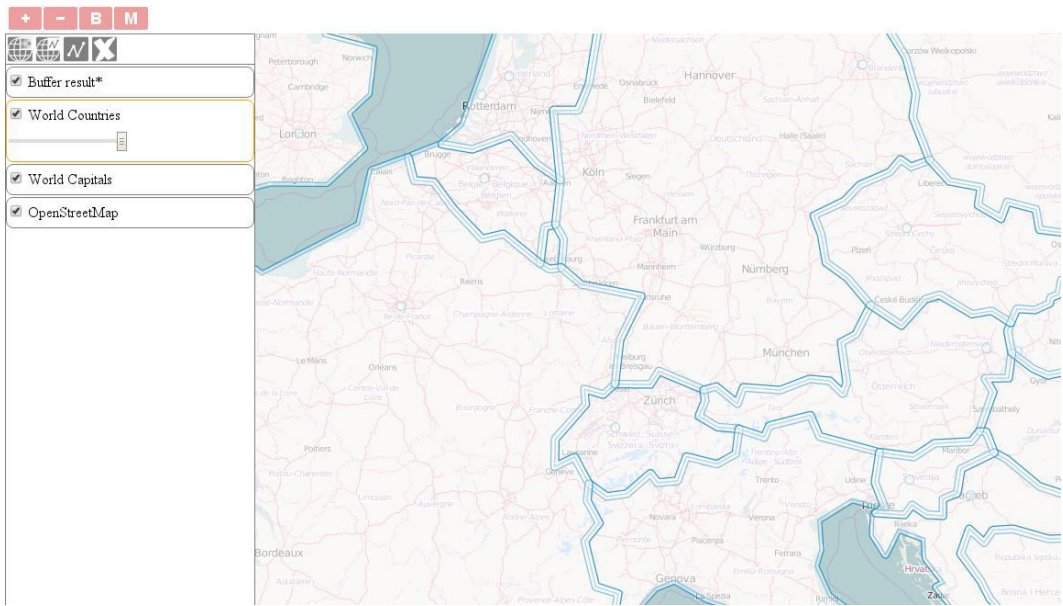
Chapter 9: Tools of the Trade – Integrating Third-Party Applications

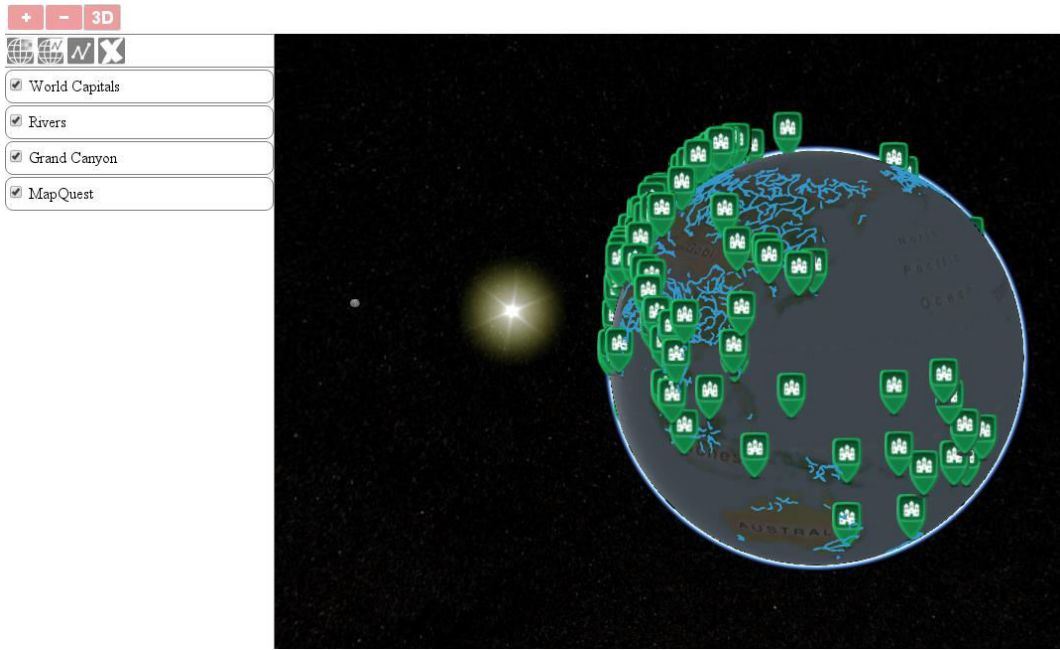




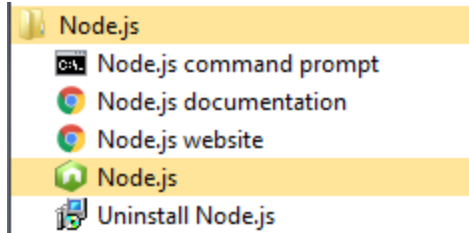








Chapter 10: Compiling Custom Builds with Closure



```
Terminal - debian@mapserver: ~/ol3-3.11.1
File Edit View Terminal Go Help
debian@mapserver:~/ol3-3.11.1$ node tasks/build.js config/ol.json ol.js
info ol Parsing dependencies
info ol Compiling 365 sources
debian@mapserver:~/ol3-3.11.1$ node tasks/build.js config/ol-debug.json ol-debug.js
info ol Parsing dependencies
info ol No compile options found. Concatenating 365 sources
debian@mapserver:~/ol3-3.11.1$
```



```

Terminal - debian@mapserver: ~/ol3-3.11.1
File Edit View Terminal Go Help
tFeatures()[2].getGeometry().getLength() + 'm\nHeight: ' + height + 'm\nPossible
loot: ' + selectedFeat.get('loot');
ERR! compile
ERR! compile
ERR! compile /home/debian/ol3-3.11.1/app/ch10_geocaching_reworked.js:141: WARNIN
G - Property getCoordinates never defined on (null|ol.geom.Geometry|ol.render.Fe
ature|undefined)
ERR! compile var zCoord = feature.getGeometry().getCoordinates()
[2];
ERR! compile
ERR! compile
ERR! compile /home/debian/ol3-3.11.1/app/ch10_geocaching_reworked.js:192: WARNIN
G - actual parameter 1 of ol.Collection does not match formal parameter
ERR! compile found : (Array<(null|ol.Feature)>|null)
ERR! compile required: (Array<(null|ol.Feature)>|undefined)
ERR! compile features: new ol.Collection(geoCaching.getSource().
getFeatures())
ERR! compile
ERR! compile
ERR! compile
ERR! compile 0 error(s), 7 warning(s), 97.4% typed
ERR! compile
debian@mapserver:~/ol3-3.11.1$ █

```

```

1 goog.provide('geocaching');
2
3 goog.require('ol.Map');
4 goog.require('ol.layer.Tile');
5 goog.require('ol.source.OSM');
6 goog.require('ol.control.Zoom');
7 goog.require('ol.View');
8 goog.require('ol.Geolocation');
9 goog.require('ol.layer.Vector');
10 goog.require('ol.source.Vector');
11 goog.require('ol.Feature');
12 //goog.require('ol.geom.Point');
13 goog.require('ol.has');
14 goog.require('ol.control.FullScreen');
15 goog.require('ol.style.Style');
16 goog.require('ol.style.Circle');
17 goog.require('ol.style.Fill');
18 goog.require('ol.style.Stroke');
19 goog.require('ol.geom.Circle');
20 goog.require('ol.geom.LineString');
21 goog.require('ol.interaction.Select');
22 goog.require('ol.control.Control');
23 goog.require('ol.style.RegularShape');
24 goog.require('ol.interaction.Modify');
25 goog.require('ol.Collection');
26 goog.require('ol.Overlay');
27
28 function init() {

```

```

Terminal - debian@mapserver: ~/ol3-3.11.1
File Edit View Terminal Go Help
debian@mapserver:~/ol3-3.11.1$ node tasks/build.js ch10_geocaching_reworked_conf
.json ol_geocaching_rw.js
info ol Parsing dependencies
info ol Compiling 366 sources
ERR! compile /home/debian/ol3-3.11.1/app/ch10_geocaching_reworked.js:108: ERROR
- 'ol.geom.Point' used but not goog.require'd
ERR! compile geometry: new ol.geom.Point(evt.target.getPosit
ion())
ERR! compile
ERR! compile
ERR! compile
ERR! compile 1
ERR! compile error(s), 0 warning(s)
ERR! compile
ERR! compile Process exited with non-zero status, see log for more detail: 1
debian@mapserver:~/ol3-3.11.1$ █

```

```
Terminal - debian@mapserver: ~/ol3-3.11.1
File Edit View Terminal Go Help
debian@mapserver:~/ol3-3.11.1$ node tasks/build.js config/ol.json ol_ellipsoid.js
info ol Parsing dependencies
info ol Compiling 366 sources
debian@mapserver:~/ol3-3.11.1$ node tasks/build.js config/ol.json ol.js
info ol Parsing dependencies
info ol Compiling 365 sources
ERR! compile /tmp/exports1151017-6248-l0lzhs.js:17: ERROR - required "ol.Ellipsoid"
namespace never provided
ERR! compile goog.require('ol.Ellipsoid');
ERR! compile ^
ERR! compile
ERR! compile
ERR! compile 1 error(s),
ERR! compile 0 warning(s)
ERR! compile
ERR! Process exited with non-zero status, see log for more detail: 1
debian@mapserver:~/ol3-3.11.1$
```

World Countries
OpenStreetMap

17438305 249695513 km²

```
> ol.Ellipsoid
< function NA(b, c) {this.a=b; this.b=c; this.c=this.a*(1-this.b)}
> new ol.Ellipsoid().vincentyDistance
< function (b, c, d, e) {var f:a:={d:ca(d)?d:1E-12;var g=this.b,h=(c[0]-b[0])*Math.PI/180,k=Math.atan((1-g)*Math.tan(b[1]*Math.PI/180));b=Math.cos(k);var k=Math.sin(k),m=Math.atan((1-g)*Math.tan(c[1]*Math.PI/180));var n=Math.tan(c[1]*Math.PI/180);return d*Math.sqrt(b*b+h*h)/m}
```

Search Documentation

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 - vincentyDistance
- ol
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- ol.Collection
- ol.CollectionEvent
- ol.DeviceOrientation
- ol.DragBoxEvent
- ol.Feature
- ol.Geolocation
- ol.Graticule
- ol.Image
- ol.ImageBase

ol.Ellipsoid

new ol.Ellipsoid(a, flattening) **experimental**

Name	Type	Description
a	number	Major radius.
flattening	number	Flattening

Methods

vincentyDistance(c1, c2, opt_minDeltaLambda, opt_maxIterations) **experimental**

Returns the distance from c1 to c2 using Vincenty.

Name	Type	Description
c1	ol.Coordinate	Coordinate 1.
c2	ol.Coordinate	Coordinate 1.
minDeltaLambda	number	Minimum delta lambda for convergence.
maxIterations	number	Maximum iterations.

Returns:
Vincenty distance.

OL3 with Ellipsoid

Search Documentation

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- ol.Graticule
- ol.Image
- ol.ImageBase
- ol.ImageTile
- ol.Kinetic

ol.Ellipsoid

Class to create an ellipsoid to measure accurate geodesic distances, where accuracy is more important, than performance.

To create the WGS84 ellipsoid:

```
var ellipsoid = new ol.Ellipsoid(6378137, 1 / 298.257223563);
```

new ol.Ellipsoid(a, flattening) **experimental**

Name	Type	Description
a	number	Major radius.
flattening	number	Flattening

Methods

vincentyDistance(c1, c2, opt_minDeltaLambda, opt_maxIterations) **experimental**

Returns the distance from c1 to c2 using Vincenty.

Name	Type	Description
c1	ol.Coordinate	Coordinate 1.
c2	ol.Coordinate	Coordinate 1.
minDeltaLambda	number	Minimum delta lambda for convergence.
maxIterations	number	Maximum iterations.

Returns:
Vincenty distance.