

# Wrap Up



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# Geolocation API



`getCurrentPosition`

`watchPosition`

`clearWatch`

`position.coordinates:`

latitude, longitude, accuracy, speed,  
heading, altitude, altitudeAccuracy

# Google Maps API



Google Maps

Maps

Markers

Geometry Library

Compute distance between points

Places Library

Places search

# Going Further with Google Maps

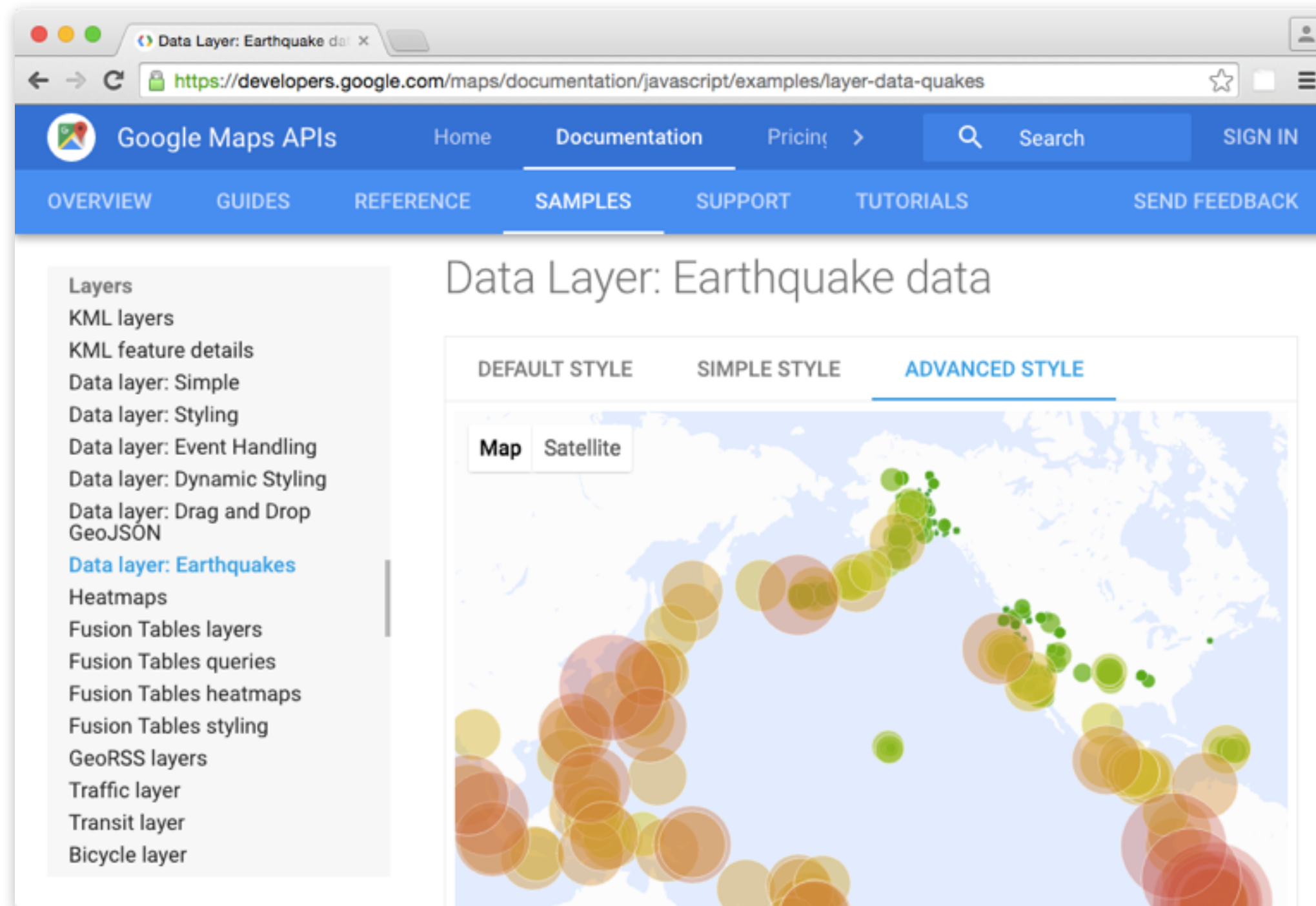
The screenshot shows a web browser window with the URL `https://developers.google.com/maps/documentation/javascript/examples/overlay-simple`. The page title is "Adding a Custom Overlay". The navigation bar includes "Google Maps APIs", "Home", "Documentation" (active), "Pricing", "Search", and "SIGN IN". Below the navigation bar are links for "OVERVIEW", "GUIDES", "REFERENCE", "SAMPLES" (active), "SUPPORT", "TUTORIALS", and "SEND FEEDBACK".

On the left side, there is a list of topics under the heading "Drawing on the Map":

- Simple markers
- Marker labels
- Removing markers
- Simple marker icons
- Complex marker icons
- Marker animations
- Marker animations with `setTimeout()`
- Info windows
- Info windows with `maxWidth`
- Simple polylines
- Removing polylines
- Deleting a vertex
- Complex polylines
- Simple polygons
- Polygon arrays
- Polygon auto-completion
- Circles

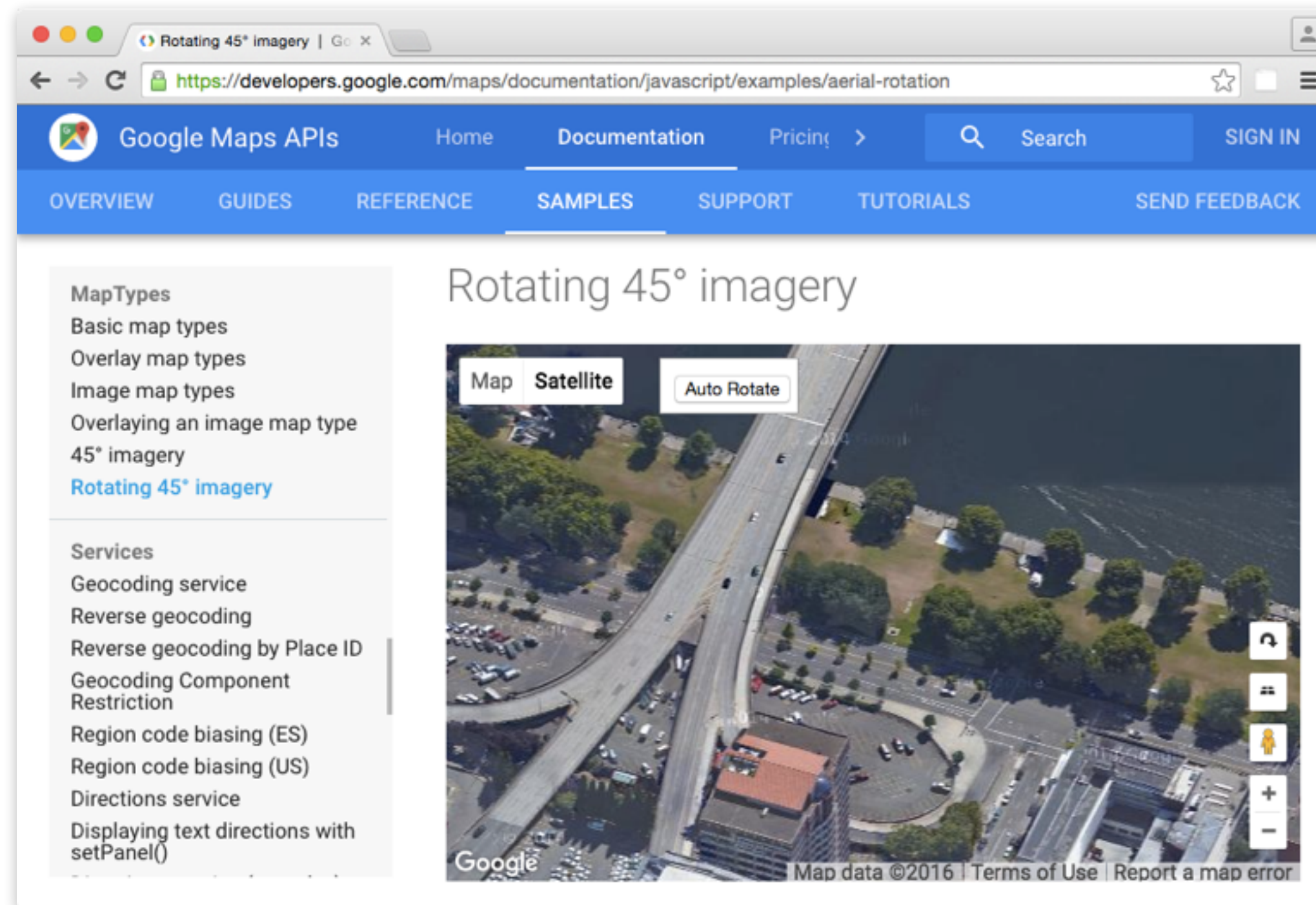
The main content area shows a map titled "Adding a Custom Overlay". The map displays a satellite view of a region with a custom overlay. The overlay is a rectangular area with a grid pattern, overlaid on the satellite imagery. The map includes a "Map" and "Satellite" toggle at the top left, a person icon at the bottom right, and a zoom control with a "+" and "-" button. The Google logo is visible in the bottom left corner of the map area, and the footer text reads "Imagery ©2016 TerraMetrics | Terms of Use | Report a map error".

# Going Further with Google Maps

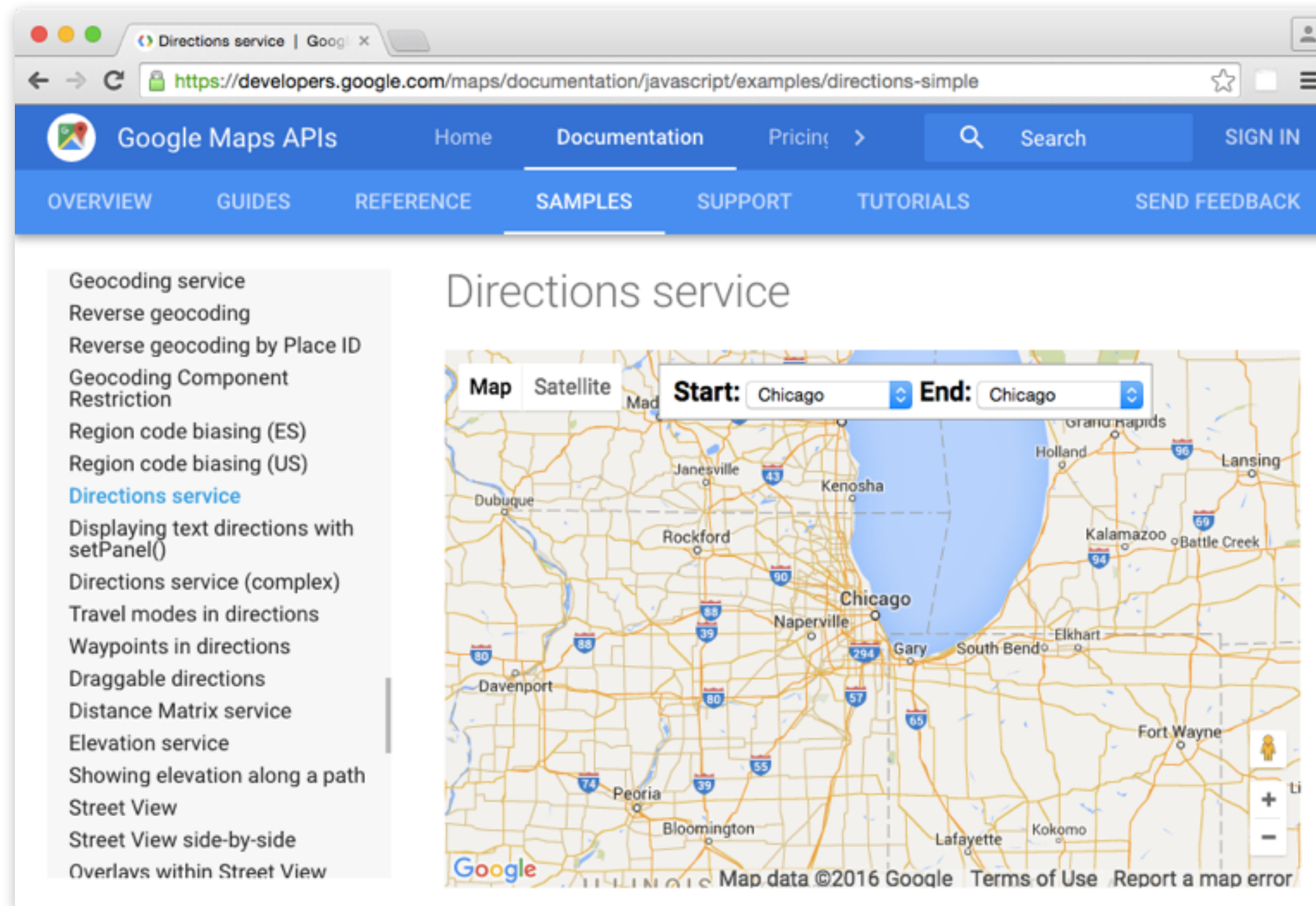




# Going Further with Google Maps



# Going Further with Google Maps



The screenshot shows a web browser window displaying the Google Maps APIs documentation page for the Directions service. The browser's address bar shows the URL `https://developers.google.com/maps/documentation/javascript/examples/directions-simple`. The page has a blue header with the Google Maps APIs logo and navigation links: Home, Documentation (active), Pricing, and Search. Below the header is a secondary navigation bar with links: OVERVIEW, GUIDES, REFERENCE, SAMPLES (active), SUPPORT, TUTORIALS, and SEND FEEDBACK. On the left side, there is a sidebar menu listing various services and examples, with 'Directions service' highlighted in blue. The main content area is titled 'Directions service' and features a map of the Chicago area. The map has a search bar at the top with 'Start: Chicago' and 'End: Chicago'. The map shows major highways and city names. At the bottom of the map, there is a Google logo and a copyright notice: 'Map data ©2016 Google Terms of Use Report a map error'.

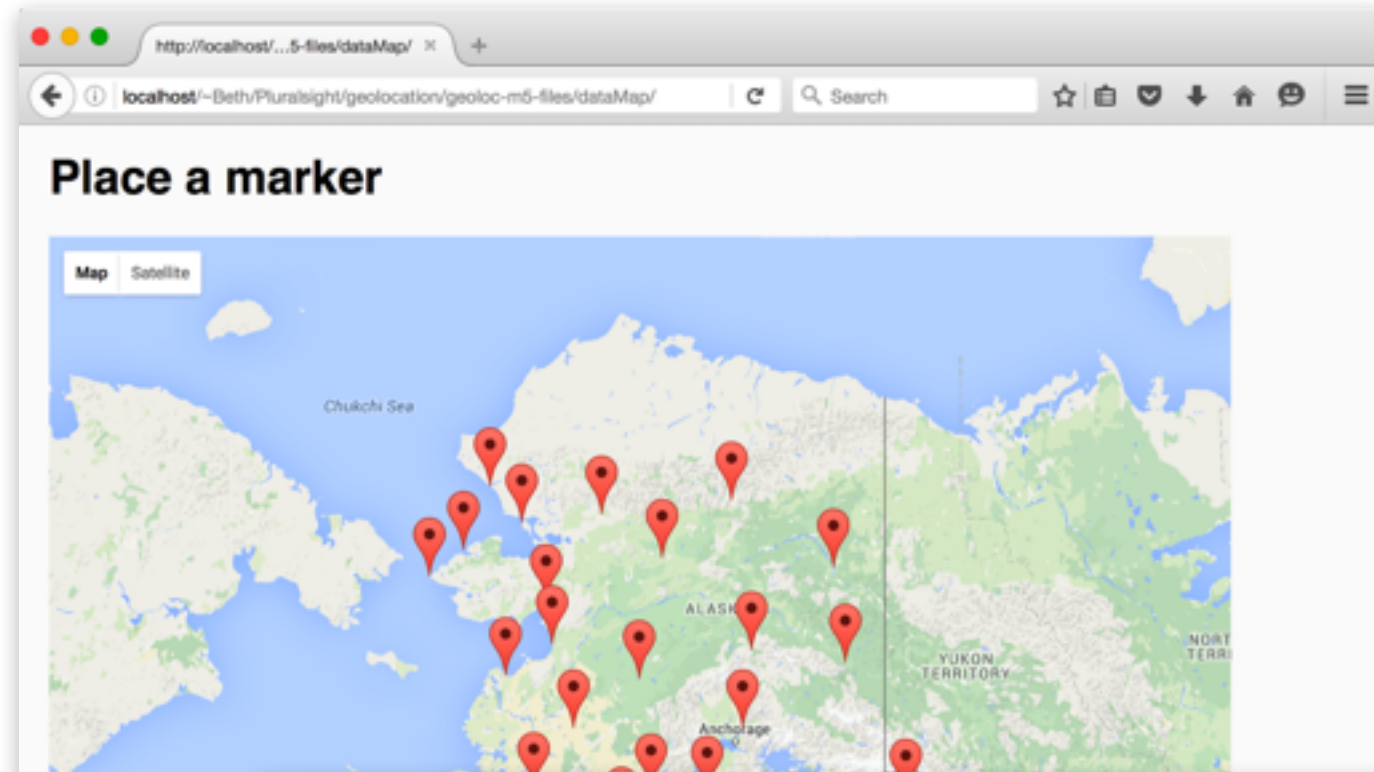
Directions service

Map Satellite Start: Chicago End: Chicago

Map data ©2016 Google Terms of Use Report a map error



# Going Further with Google Maps



A screenshot of a Google Sheet titled "Alaska". The sheet contains a table with columns A through I. The data includes names of locations in Alaska, their coordinates, and other information.

|    | A           | B           | C            | D      | E            | F  | G   | H      | I |
|----|-------------|-------------|--------------|--------|--------------|----|-----|--------|---|
| 1  | Wrangell    | 56.47126752 | -132.3715949 | 1658.5 | United State | US | USA | Alaska |   |
| 2  | Shishmaref  | 66.25697512 | -166.0718893 | 254    | United State | US | USA | Alaska |   |
| 3  | Hoonah      | 58.11540489 | -135.438617  | 361    | United State | US | USA | Alaska |   |
| 4  | Atka        | 52.19648968 | -174.2004887 | 61     | United State | US | USA | Alaska |   |
| 5  | Nikolski    | 52.93843406 | -168.8676876 | 18     | United State | US | USA | Alaska |   |
| 6  | Karluk      | 57.57228558 | -154.4550273 | 96     | United State | US | USA | Alaska |   |
| 7  | False Pass  | 54.85121136 | -163.415023  | 35     | United State | US | USA | Alaska |   |
| 8  | Kivalina    | 67.73149224 | -164.4859034 | 374    | United State | US | USA | Alaska |   |
| 9  | Newhalen    | 59.72034568 | -154.8971967 | 160    | United State | US | USA | Alaska |   |
| 10 | Pilot Point | 57.56455996 | -157.5691266 | 68     | United State | US | USA | Alaska |   |
| 11 | Chignik     | 56.295671   | -158.4022282 | 118    | United State | US | USA | Alaska |   |
| 12 | King Salmon | 58.68870323 | -156.6613784 | 292    | United State | US | USA | Alaska |   |
| 13 | Quinhagak   | 59.74923281 | -161.9157864 | 250    | United State | US | USA | Alaska |   |
| 14 | Aniak       | 61.5787077  | -159.5221857 | 501    | United State | US | USA | Alaska |   |
| 15 | Kotlit      | 63.03458783 | -163.5532833 | 1002   | United State | US | USA | Alaska |   |
| 16 | Unalakleet  | 63.87342552 | -160.7880516 | 741    | United State | US | USA | Alaska |   |
| 17 | Koyuk       | 64.94026874 | -161.1574717 | 254    | United State | US | USA | Alaska |   |
| 18 | McGrath     | 62.9568148  | -155.5957845 | 138    | United State | US | USA | Alaska |   |
| 19 | Hughes      | 66.04918418 | -154.2549878 | 78     | United State | US | USA | Alaska |   |
| 20 | Ambler      | 67.08648521 | -157.8514091 | 258    | United State | US | USA | Alaska |   |
| 21 | Wales       | 65.60959861 | -168.0875027 | 99     | United State | US | USA | Alaska |   |
| 22 | Kotzebue    | 66.89869305 | -162.5965975 | 2873.5 | United State | US | USA | Alaska |   |
| 23 | Wasilla     | 61.58173077 | -149.439442  | 8521   | United State | US | USA | Alaska |   |
| 24 | Circle      | 65.82589032 | -144.0605197 | 100    | United State | US | USA | Alaska |   |
| 25 | Denali Park | 63.73309816 | -148.9140994 | 1063   | United State | US | USA | Alaska |   |
| 26 | Yakutat     | 59.54730715 | -139.7272183 | 109    | United State | US | USA | Alaska |   |
| 27 | Homer       | 59.64293439 | -151.5482797 | 5021.5 | United State | US | USA | Alaska |   |
| 28 | Tanacross   | 63.38570335 | -143.346403  | 136    | United State | US | USA | Alaska |   |
| 29 | Wiseman     | 67.4104706  | -150.1074891 | 14     | United State | US | USA | Alaska |   |
| 30 |             |             |              |        |              |    |     |        |   |
| 31 |             |             |              |        |              |    |     |        |   |
| 32 |             |             |              |        |              |    |     |        |   |
| 33 |             |             |              |        |              |    |     |        |   |

```
MapTest.gs
1 var SPREADSHEET_ID = "SPREADSHEET_ID";
2 var SHEET_NAME = "Data";
3
4 function doGet(request) {
5   var callback = request.parameters.jsonp;
6   var range = SpreadsheetApp.openById(SPREADSHEET_ID).getSheetByName(SHEET_NAME).getDataRange();
7   var json = callback + "(" + JSON.stringify(range.getValues()) + ")";
8
9   return ContentService.createTextOutput(json).setMimeType(ContentService.MimeType.JAVASCRIPT);
10 }
11
12 function testDoGet() {
13   var request = {parameters: {jsonp: "callback"}};
14   var results = doGet(request);
15   Logger.log(results.getContent());
16 }
```

```
map: map,
clickable: true
});

var marker = new google.maps.Marker(markerOptions);

google.maps.event.addListener(marker, "click", function(name, population) {
  return function(event) {
    infoWindow.setContent("Name: " + name + "<br>Population: " + population +
      "<br>Location: " + event.latLng.lat().toFixed(2) +
        ", " + event.latLng.lng().toFixed(2));
    infoWindow.open(map, marker);
  }
});
```



# Bing Maps

The screenshot shows a web browser window with the URL <https://msdn.microsoft.com/en-us/library/gg427624.aspx>. The page is from the Microsoft Developer Network (MSDN) and features a navigation bar with links to Technologies, Downloads, Programs, Community, Documentation, and Samples. The main content area is titled 'Loading the AJAX Map Control' and is part of a series of articles under the 'Bing Maps AJAX Control, Version 7..' category. The left sidebar lists other articles in the series, including 'Setting Map Control Parameters', 'Changing the Map View', 'Adding Entities to the Map', 'Customizing Your Pushpins', 'Working with Tile Layers', and 'Using Events'. The main text describes how to load the Bing Maps AJAX Control 7.0 into a web page to display a map, which is the first step for any page using the map control. It also mentions displaying the default map, which includes navigation functionality, and lists the steps for doing so.

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... > Maps > Bing Maps AJAX Control, Version 7.. > Developing with the Map Control ▾

**Loading the AJAX Map Control**

**Bing**

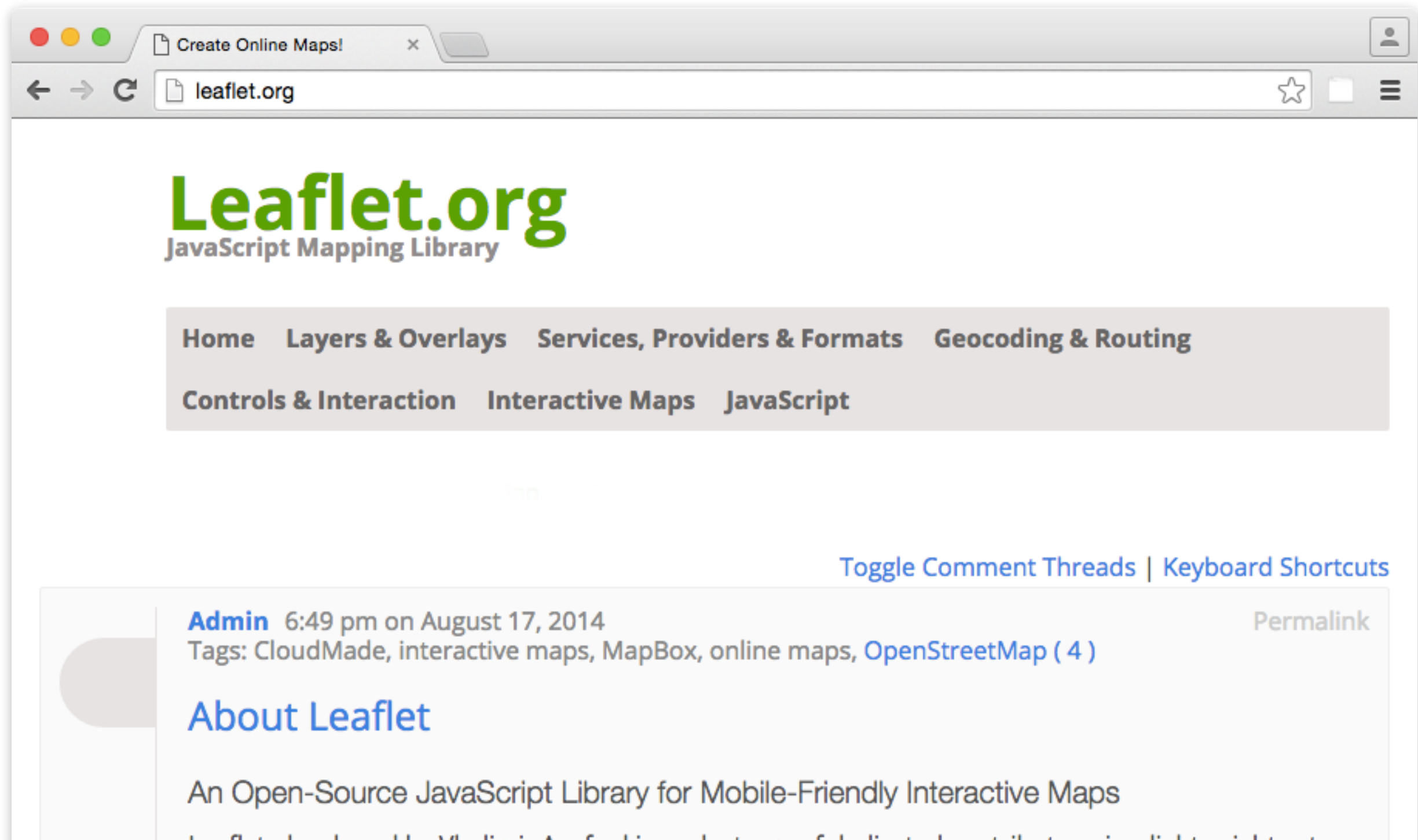
This topic describes how to load the Bing Maps AJAX Control 7.0 into your Web page to display a map. This is the first step you need to take for any page that uses the map control.

**Displaying the Default Map**

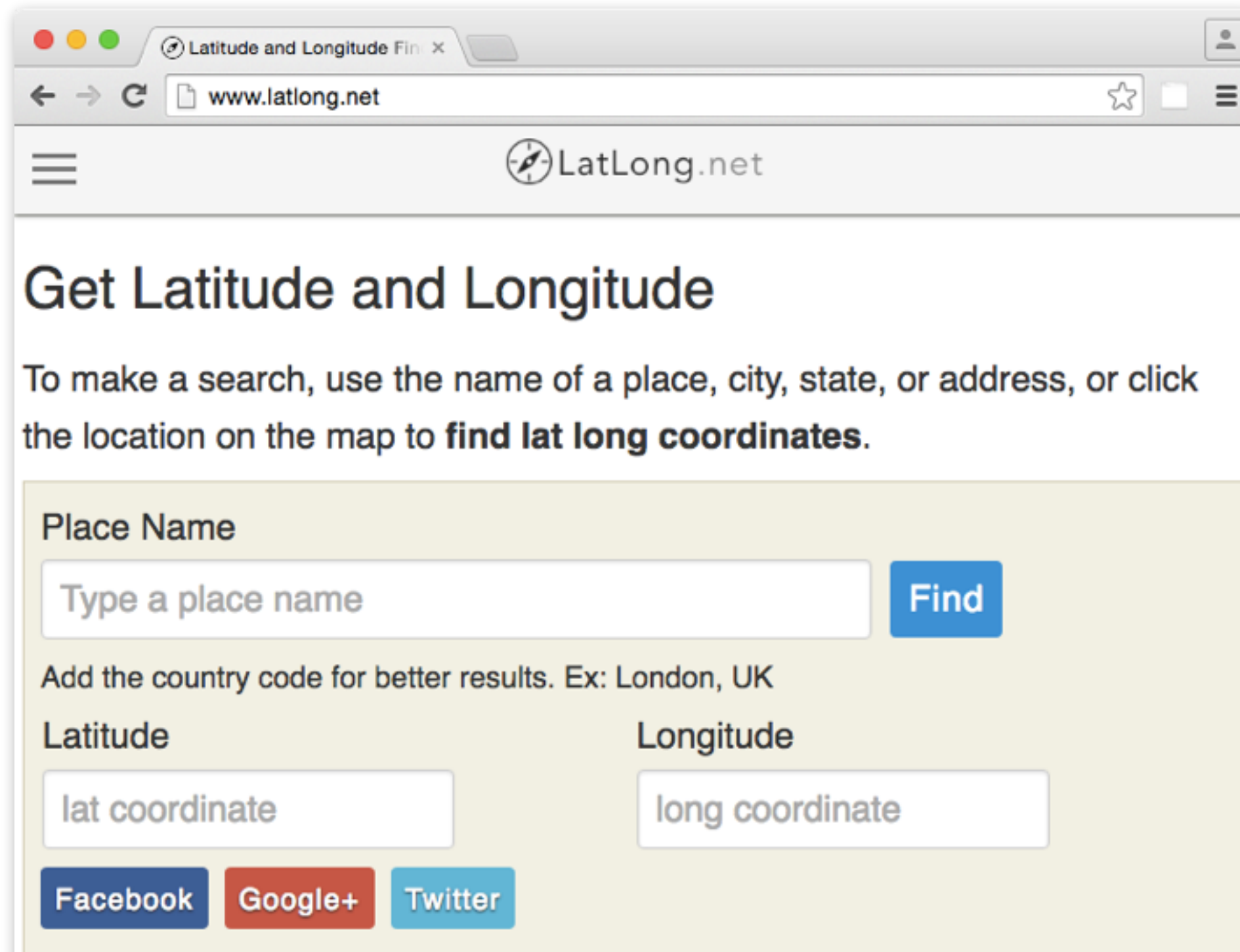
Displaying the default map, which includes all of the navigation functionality, consists of the following steps:

1. At the top of the HTML page add the following DOCTYPE declaration.

# Leaflet



# LatLong.net



A screenshot of a web browser displaying the LatLong.net website. The browser's address bar shows 'www.latlong.net'. The website's header includes a menu icon and the 'LatLong.net' logo. The main heading is 'Get Latitude and Longitude'. Below this, a text block explains how to use the site: 'To make a search, use the name of a place, city, state, or address, or click the location on the map to **find lat long coordinates**.' The search area is a light beige box containing a 'Place Name' label, a text input field with the placeholder 'Type a place name', and a blue 'Find' button. Below the input field, it says 'Add the country code for better results. Ex: London, UK'. There are two more input fields: 'Latitude' with the placeholder 'lat coordinate' and 'Longitude' with the placeholder 'long coordinate'. At the bottom of the beige box are three social media buttons: 'Facebook', 'Google+', and 'Twitter'.

Latitude and Longitude Find

← → ↻ www.latlong.net

☰ LatLong.net

## Get Latitude and Longitude

To make a search, use the name of a place, city, state, or address, or click the location on the map to **find lat long coordinates**.

Place Name

Type a place name Find

Add the country code for better results. Ex: London, UK

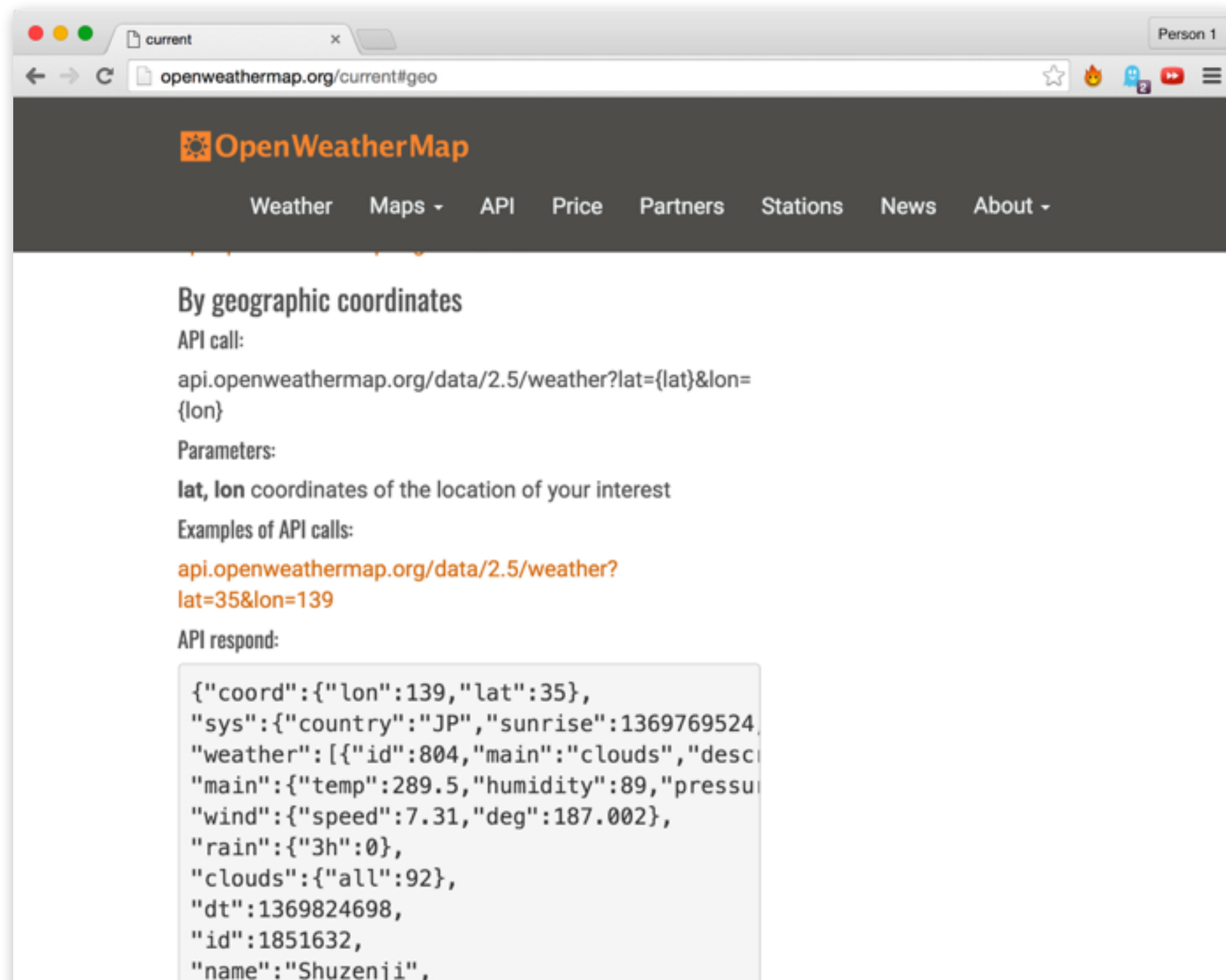
Latitude Longitude

lat coordinate long coordinate

Facebook Google+ Twitter



# OpenWeatherMap API



The screenshot shows a web browser window with the OpenWeatherMap API documentation page. The browser's address bar shows the URL `openweathermap.org/current#geo`. The page has a dark header with the OpenWeatherMap logo and a navigation menu with links for Weather, Maps, API, Price, Partners, Stations, News, and About. The main content area is titled "By geographic coordinates" and provides information on how to use the API. It includes the API call format, parameters, examples of API calls, and a sample API response in JSON format.

**By geographic coordinates**

API call:

`api.openweathermap.org/data/2.5/weather?lat={lat}&lon={lon}`

Parameters:

**lat, lon** coordinates of the location of your interest

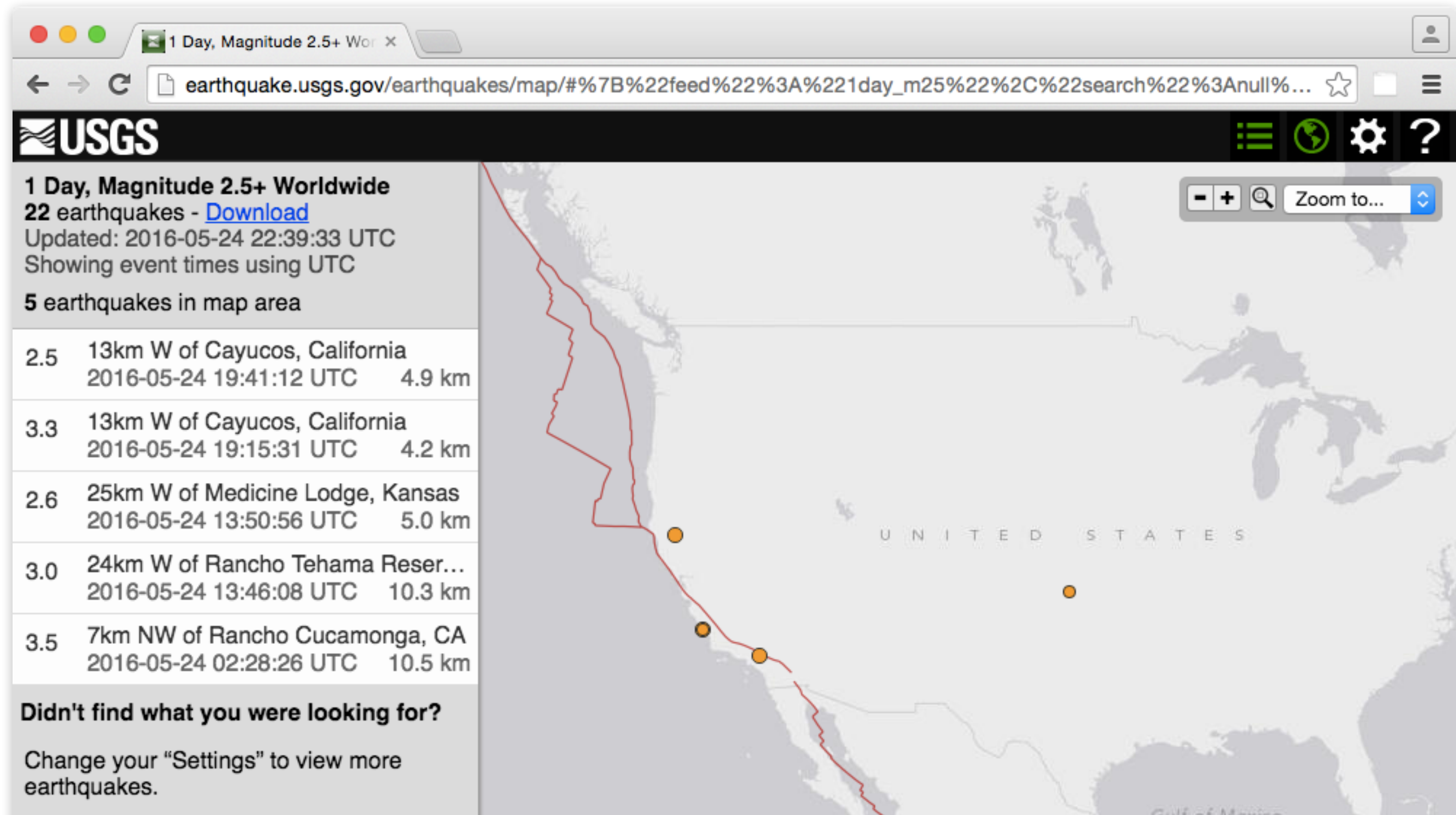
Examples of API calls:

`api.openweathermap.org/data/2.5/weather?lat=35&lon=139`

API respond:

```
{"coord":{"lon":139,"lat":35},
"sys":{"country":"JP","sunrise":1369769524,
"weather":[{"id":804,"main":"clouds","desc":
"main":{"temp":289.5,"humidity":89,"pressu
"wind":{"speed":7.31,"deg":187.002},
"rain":{"3h":0},
"clouds":{"all":92},
"dt":1369824698,
"id":1851632,
"name":"Shuzenji",
```

# USGS Earthquake Data



# Other Pluralsight Courses

- Google Maps API: Get Started
- Android Location-Based Apps
- HTML5 Fundamentals
- HTML5 Advanced Topics
- Front End Web Development: Get Started
- Introduction to Web Development



# Congratulations, You're Done!



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