

# MapsAlive® Tutorial

---

# Population Map

Last updated March 22, 2016

This tutorial uses advanced and professional features of MapsAlive. It will work with the Free Trial and with the Pro Plan versions of MapsAlive, but not with the Personal or Plus Plans.

## What this Tutorial Demonstrates

This tutorial and the resulting map demonstrate the following MapsAlive features:

- Ready Maps
- Importing data from an Excel spreadsheet
- Using Custom HTML to display checkboxes
- Dynamically changing the appearance of markers

## Level of Skill Required

This tutorial is appropriate for beginner to advanced users. You do not need to know HTML or have working knowledge of Excel to follow along, but advanced users will quickly be able to understand how to take this example and make modifications.

## Resources

<http://samples.mapsalive.com/20003> - a working version of this map. Click the link or type it into the address bar of your browser.

[http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAliveArchive\\_PopulationMap.zip](http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAliveArchive_PopulationMap.zip) - an archived version of the map created in this tutorial. You can import this directly into your account following the instruction in Appendix A.

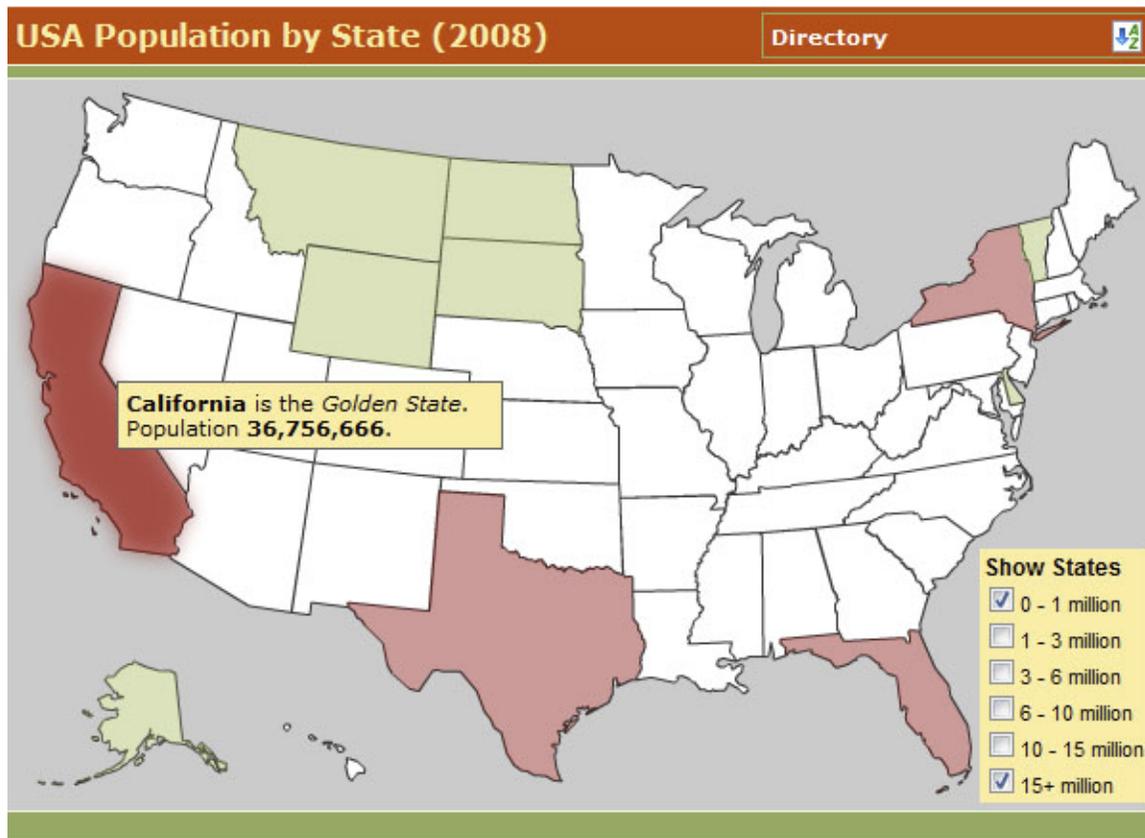
[http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAlive\\_Population.xls](http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAlive_Population.xls) - the Excel spreadsheet containing the import data.

<https://www.census.gov/library/publications/2011/compendia/statab/131ed.html> - additional U.S. Census Bureau data.

## 1 Introduction

This tutorial explains how to create the USA Population Map shown below.

When you move your mouse over a state, a small popup appears telling you the state's nickname and its population. By checking a box in the "Show States" section, you can highlight states having a population within a given range. The states are also shown in the directory grouped by population range.



To try a working version of this map click this link <http://samples.mapsalive.com/20022> or type it into the address bar of your browser.

### Overview of the Steps Involved

Below are the steps necessary to create the map. Each step is explained in the sections that follow.

1. Create a tour using a Ready Map of the United States
2. Import population data from an Excel spreadsheet
3. Use Custom HTML to display population range check boxes

## 2 Step 1 – Create the Tour using a Ready Map of the United States

Follow the instructions below to create the tour and map.

1. Choose **New > Tour** in the menu.
2. On the Create New Tour screen click **Continue**.
3. On the New Tour Setup screen:
  - a. Type "USA Population by State (2008)" as the **Tour Name**.
  - b. Choose **Small** for the tour size.
  - c. Choose **Orange** for the Color Scheme.
  - d. Click **Continue to Map Setup**.
4. On the New Map Setup screen:
  - a. Choose **Popup** for how the content will appear.
  - b. Click **Continue**.
5. On the Choose Map Image screen:
  - a. Choose **I want to use a Ready Map**.
  - b. In the Ready Maps Navigator click **United States > USA > Outline map with Gray Background**.
  - c. Click **OK** when the confirmation dialog appears
6. On the Import Marker Shapes screen:
  - a. Choose **Fill: None/Gold** for the Marker Style.
  - b. Click **State shapes** in the Ready Maps Navigator.
  - c. Click **OK** when the confirmation dialog appears.

At this point you should be on the Import Marker Shapes screen. Click the **Tour Preview** button to see what your tour looks like so far. When you mouse over a state, it will turn gold and a tooltip will appear displaying the state name. The directory will list the states in alphabetical order.

### 2.1 Step 2 – Import Population Data from an Excel Spreadsheet

The next set of instructions will import data from an Excel spreadsheet that we have prepared for you. Before you do the import, let's look at the data. The first few rows of the spreadsheet appear below.

	A	B	C	D	E	F	G	H	I
1	Instructions	TourId	MapId	HotspotId	Title	Text	Categories	[Population]	[Nickname]
2	Use Template	*	*		[HotspotId]	<b>[HotspotId]</b> is the <i>[Nickname]</i>. Population <b>[Population]</b>.			
3				Alabama			pop3	4,661,900	Yellowhammer State
4				Alaska			pop1	686,293	Last Frontier
5				Arizona			pop3	6,500,180	Grand Canyon State
6				Arkansas			pop2	2,855,390	Natural State
7				California			pop6	36,756,666	Golden State
8				Colorado			pop3	4,939,456	Centennial State

Row 1 of the spreadsheet contains headers that tell MapsAlive what you are importing. The headers in columns A – G are MapsAlive keywords. The ones in square brackets (Population and Nickname) identify user-provided data columns.

Row 2 serves as a template that tells MapsAlive how to process the data in the remaining rows. For instance, cell F2 describes how the hotspot text will be constructed (this is the text that will appear in the popup when you mouse over a state on the USA map). F2 is telling MapsAlive that the text for each hotspot is some HTML that displays the state name in bold (<b>[HostpotId]</b>), the state’s nickname in italics (<i>[Nickname]</i>) and its population in bold (<b>[Population]</b>). The names in square brackets are macros that tell MapsAlive to get the data from the column whose header contains the macro name.

If you are not familiar with HTML or macros, this may seem a little confusing, but it’s basically just text substitution. For example, the hotspot text for Alaska will become “<b>Alaska</b> is the <i>Last Frontier</i>. Population <b>686,293</b>.” and will be formatted like this in the popup:

**Alaska** is the *Last Frontier*. Population **686,293**.

Rows 3 and beyond contain the data for each state.

For detailed information about importing data into MapsAlive from Excel, see the [MapsAlive User Guide for Content Management](#).

### Categories

Column G of the spreadsheet contains a category code that indicates which population range the state is in. Category pop1 means 0 – 1 million, pop2 means 1 – 3 million, and so on. We’ll discuss categories more in a little while. Before we import the spreadsheet, you’ll need to add these categories to your MapsAlive account so that MapsAlive will recognize them when it imports the spreadsheet. Do this as follows:

1. Choose **New > Resource > Category** in the menu.
2. Type “0 – 1 Million” for the Category Title.
3. Type “pop1” for the Category Code.
4. Enter 1 for the Directory Position.

Repeat instructions 1 – 4 above for the other categories using the values in the table below.

Category Title	Category Code	Directory Position
0 – 1 Million	pop1	1
1 – 3 Million	pop2	2
3 – 6 Million	pop3	3
6 – 10 Million	pop4	4
10 – 15 Million	pop5	5
Over 15 Million	pop6	6

## Importing the Spreadsheet

Now you are ready to import the spreadsheet data into your tour.

1. Click this link (or type it into your browser's address bar) to download the spreadsheet to your computer: [http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAlive\\_Population.xls](http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAlive_Population.xls).
2. On the Import Content screen:
  - a. Click the **Browse** button and locate the file you downloaded.
  - b. Click the **Import** button.
  - c. Click **Tour Preview**.

When you mouse over a state in Tour Preview, the popup will display the state's name, its name again along with the nickname, and its population. The directory will still list the states in alphabetical order and the list drops down past the bottom of the map.

Before moving on, let's make some adjustments so that the state name won't appear twice in the popup and so that the directory will group the states by population and not drop down so far. Return to the Tour Builder and follow these instructions:

1. Choose **Map > Advanced Map Options** in the menu.
2. On the Advanced Map Options screen:
  - a. Uncheck the box labeled **Show Hotspot Title**.
3. Choose **Tour > Directory Options** in the menu.
4. On the Directory Options screen:
  - a. Choose **By category** in the Grouping dropdown list.
  - b. In the Size Option section, type **220** for the Dropdown Max Height.
5. Click **Tour Preview**.

In Tour Preview you will notice that the popup text no longer shows the state name twice and the directory shows the states grouped by population range. To see the states in alphabetical order you can click the little A-Z icon in the directory header. The directory dropdown stops near the top of Georgia so that it won't cover up the check boxes we are going to add next.

The reason you had to uncheck the Show Hotspot Title box on the Advanced Map Options screen is because by default, MapsAlive automatically displays the hotspot title as the first line in the popup. That's fine most of the time, but in this demo we don't want that behavior because the imported spreadsheet is telling MapsAlive to include the state name in a sentence with the nickname.

## 2.2 Step 3 – Use Custom HTML to Display Population Range Check Boxes

The last step is to display six check boxes, one for each of the six population categories. While adding the checkboxes is not built-in functionality, you can add your own code to create check boxes right within the MapsAlive Tour Builder.

What we are going to do now is add some HTML, CSS, and JavaScript to the map to make it display check boxes and to make the check boxes show or hide states when you check and uncheck them.

Be very careful to copy all of the code that is shown in the gray areas on the next page. If you accidentally omit any of it, your map will not work and may not display properly.

1. Choose **Tour > Custom HTML** in the menu.
2. Paste the CSS below into the **CSS** text area:

```
#maCustomHtmlAbsolute
{
  left:508px;
  top:284px;
  background-color:#ffeea5;
  font-family:arial;
  font-size:11px;
  padding:2px;
}
```

3. Paste the JavaScript below into the **JavaScript** text area:

```
function showStates(checkbox, code, color)
{
  var states = mapsalive.getHotspotIdsForCategory(code);
  if (checkbox.checked)
  {
    mapsalive.changeMarkerNormalShapeAppearance(states, color, 0, color, 40, "");
    mapsalive.changeMarkerSelectedShapeAppearance(states, color, 0, color, 50, "glow");
  }
  else
  {
    mapsalive.restoreMarkerNormalShapeAppearance(states);
    mapsalive.restoreMarkerSelectedShapeAppearance(states);
  }
}
```

4. Paste the HTML below into the **Absolute** text area:

```
<div style='font-size:12px;font-weight:bold;'>Show States</div>
<input type="checkbox" onclick="showStates(this, 'pop1', 0x9bbb59);">0 - 1 million</input><br/>
<input type="checkbox" onclick="showStates(this, 'pop2', 0xffff66);">1 - 3 million</input><br/>
<input type="checkbox" onclick="showStates(this, 'pop3', 0xFF9900);">3 - 6 million</input><br/>
<input type="checkbox" onclick="showStates(this, 'pop4', 0x7c4f28);">6 - 10 million</input><br/>
<input type="checkbox" onclick="showStates(this, 'pop5', 0x770077);">10 - 15 million</input><br/>
<input type="checkbox" onclick="showStates(this, 'pop6', 0xaa0000);">15+ million</input>
```

#### 4. Click Tour Preview.

On the Tour Preview screen, try checking and unchecking the population check boxes.

If your check boxes are not appearing in the right place, you might not have chosen the small map size back in Step 1. If that's the case, adjust the left and top values in the CSS to get the checkboxes in the right place.

If your map is no longer working or is not displaying correctly, verify that you pasted all of the code in exactly the right places.

#### What the Code Does

The HTML that you pasted into the Absolute area is what displays the check boxes. The position and appearance of the rectangle containing them (just east of Florida) is controlled by the CSS.

The JavaScript contains a single function named `showStates` that gets called by the check boxes. Each check box passes three parameters. The first identifies the check box. The second is the population category. The third is the color to use when highlighting the states for a category.

The `showStates` function does its work by making calls to the MapsAlive JavaScript API. It first calls the `getHotspotIdsForCategory` API to get a list of hotspot IDs for all the states that belong to a category. It then passes the list to `change` and `restore` functions that affect the appearance of the state markers.

For a detailed explanation of the JavaScript API functions, see the [MapsAlive User Guide for the JavaScript API](#).

#### Conclusion

This tutorial has provided the steps for creating an interactive map utilizing imported data and some simple web programming. Hopefully it gives you an idea of how you might create the interactive map that you need.

## Appendix A

### Getting a Working Version of the Map

If you have followed this tutorial you will have a working version of this map in your account. However, if you don't want to recreate the map following the steps in the tutorial you can import a complete working version of this map into your MapsAlive account. Choose: **Tour > Import > Tour from Archive** in the Tour Builder menu. Then choose the **At a URL on the web** radio button and paste in this URL:

[http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAliveArchive\\_PopulationMap.zip](http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAliveArchive_PopulationMap.zip)

Once you have the map in your account, you can look at the Custom HTML and try making changes to it. You can also try changing the Excel data (download

[http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAlive\\_Population.xls](http://docs.mapsalive.com/Tutorials/PopulationMap/MapsAlive_Population.xls)) and reimport it.

Note that the tour uses 51 hotspots, so when you are done learning from it, you might want to delete it from your account.