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Mapping API's: Leaflet - Custom Div Markers

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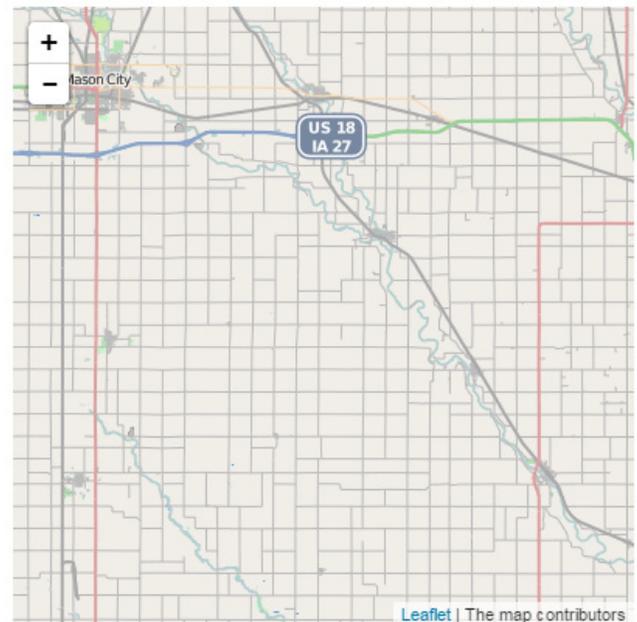**Geospatial Technology
Training Program**

Mapping API's: Leaflet - Custom Div Markers

Welcome to the Essential ArcGIS Task Sheet Series. This series supplements the Iowa State University GIS Geospatial Technology Training Program short course series. The task sheets are designed to provide quick, easy instructions for performing mapping tasks.

This task sheet builds upon the previous task sheet: *Mapping API's: Leaflet - Getting Started* **PM2082-14r** and *Mapping API's: Leaflet - Adding Markers* **PM2082-14s**. Please refer to those documents for the initial Leaflet map setup. The code for this task sheet (**customDivMarkersLeaflet.html**) and the previous task sheets can be found on the ISU Geospatial Technology Program GitHub page at https://github.com/ISUEOGTP/GISTaskSheets. This task sheet will take you through the steps of customizing div icon markers with Leaflet.

1. Introduction

a. An alternative option to the default blue teardrop marker icon and custom image marker is to display points using a div maker. This can be done by using the L.divIcon constructor which uses a div element instead of an image. A div is nothing more than a container that encapsulates other page elements and divides an HTML document into sections. They are used to group together HTML elements and apply CSS styles to many elements at once. Div icons are great for making icon boxes and text labels.

b. The image to the right shows the results of the *Mapping API's: Leaflet - Getting Started* task sheet (**helloLeaflet. html**). In the next steps we will add a custom div marker icon with a pop-up to the map.
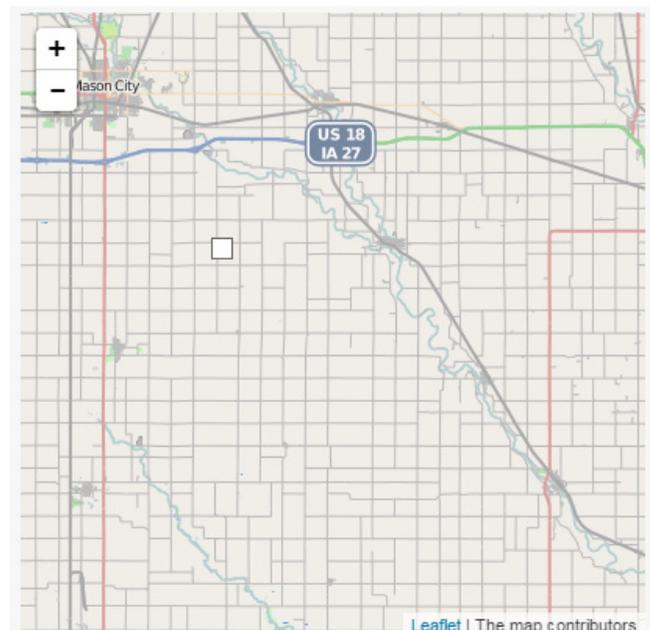

2. Define Div Icon add Add to Map

a. First, create your div icon by creating a new variable, **myDivIcon1** and setting it equal to **L.divIcon**.

```
var myDivIcon1 = L.divIcon({
});
```

b. At this point, no icon will appear on your map because we haven't defined a marker, location or added it to the map. To do this, add a new variable **marker1** and set it equal to **L.marker** make sure to include the latitude and longitude as well as the **icon: myDivIcon1** option. Include the **addTo(map)** and **bindPopup()** method in order to add the marker to the map and include a pop-up with text.
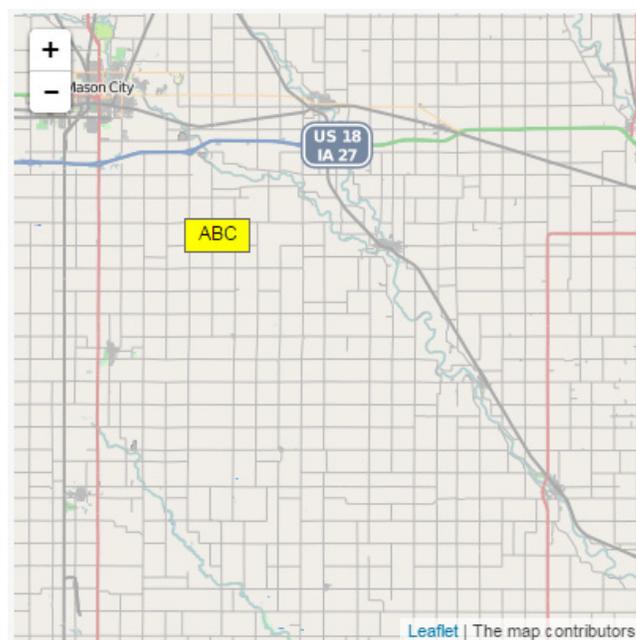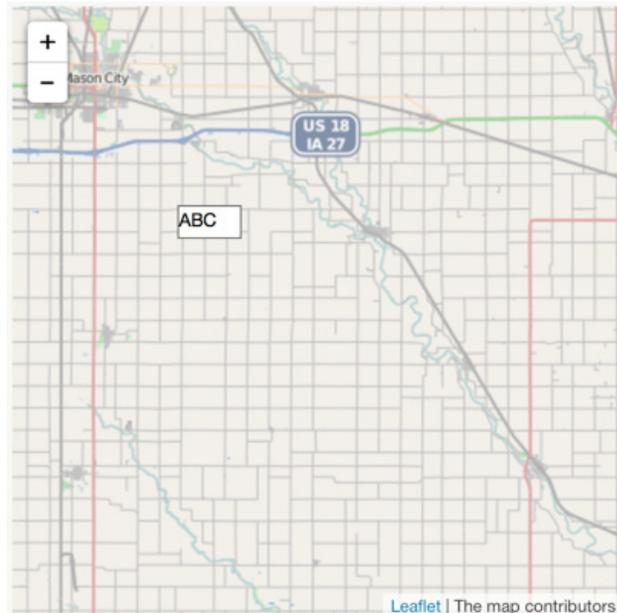
```
var marker1 = L.marker ([43.05, -93.1],{
    icon: myDivIcon1,
}).addTo(map).bindPopup('I am marker 1.');
```

c. After you have created the div icon variable and the marker variable. You will see a small white box added to the map at the latitude and longitude you provided the marker variable.

d. Five options can be used to customize a divIcon. Add the following options to **myDivIcon1**.

```
var myDivIcon1 = L.divIcon({
    iconSize: new L.Point(40, 20),
    iconAnchor: new L.Point(20, 20),
    html: 'ABC',
    className: 'leaflet-div-icon'
});
```

e. The **iconSize** option defines the width and height of the div icon in pixels, the **iconAnchor** option defines the coordinates of the tip of the icon relative to the top left corner (aligned so this point is at the markers lat/long location), the **html** option is where custom HTML code can be put inside the div element (it's empty by default) and the **className** option is where you can change the class name property for styling the icon with CSS. *Note: 'leaflet-div-icon' is the default class name and is styled as a little white square with a shadow.*

3. Style Div Icon with CSS

a. You can modify the appearance of the icon using CSS. In this example just two CSS properties are used to set the background color and center the text.

```
.leaflet-div-icon {
    background-color: yellow;
    text-align: center;
}
```

b. Many other options are available with Div icons so let your imagination go wild. *Note: you can combine div markers with custom image markers. For more information visit task sheet Mapping API's: Leaflet - Custom Image Markers PM2082-15e.*

Contact: