

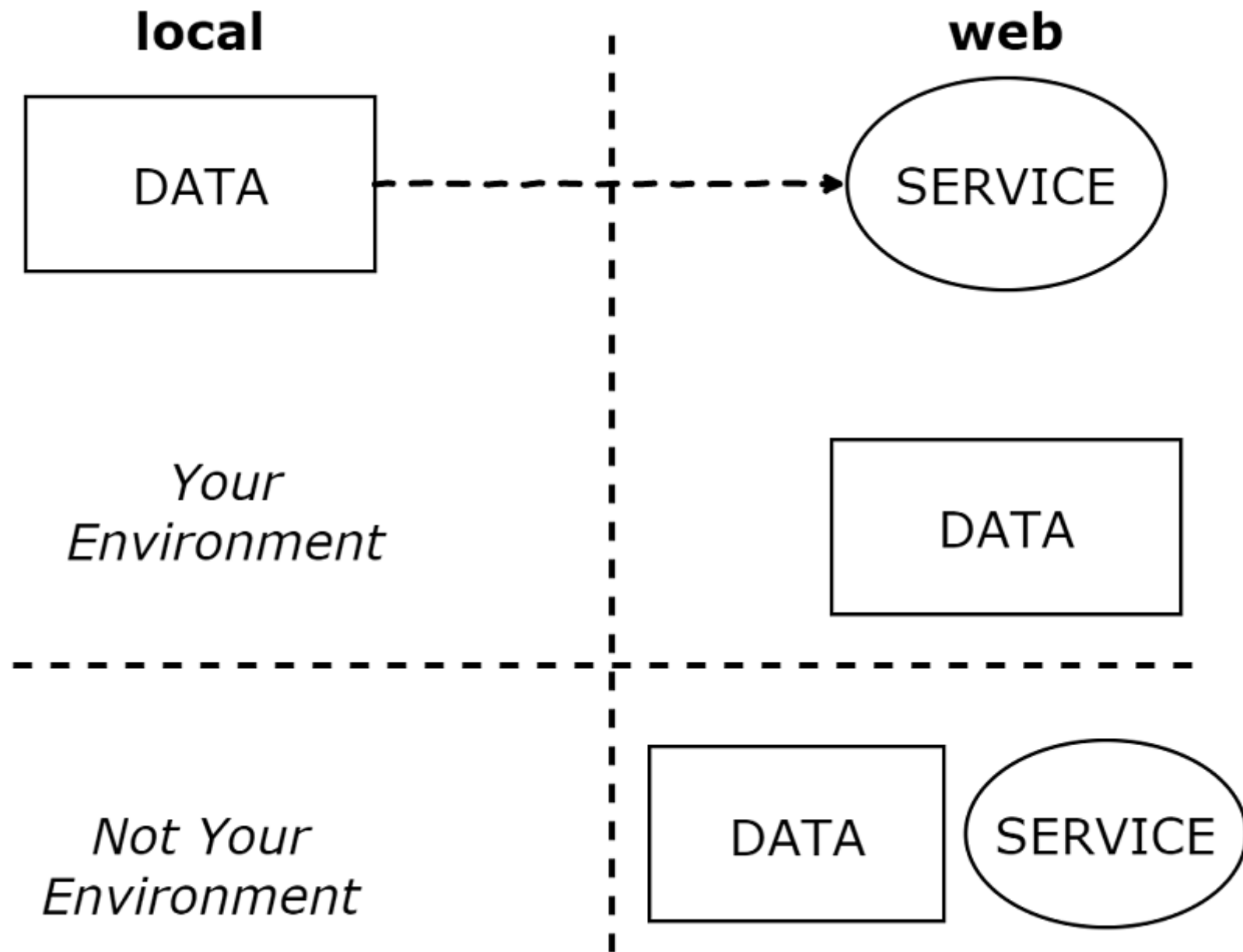
THE WEB MAP

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APP DEVELOPMENT in the world of Web GIS

DATA



MAP

Create Map

```
require(["esri/Map", "esri/views/MapView", "dojo/domReady!"], function(Map, MapView) {  
  // Create a Map instance  
  var myMap = new Map({  
    basemap: 'streets'  
  });  
  // Create a MapView instance (for 2D viewing) and reference the map instance  
  var view = new MapView({  
    map: myMap  
  });  
});
```

Add Layer

```
require(["esri/layers/FeatureLayer"], function(FeatureLayer){
  // points to the states layer in a service storing U.S. census data
  var citiesLyr = new FeatureLayer({
    url: "https://sampleserver6.arcgisonline.com/arcgis/rest/services/Census/MapServer/3"
  });
  map.add(citiesLyr); // adds the layer to the map
});
```

Define Renderer with Symbol

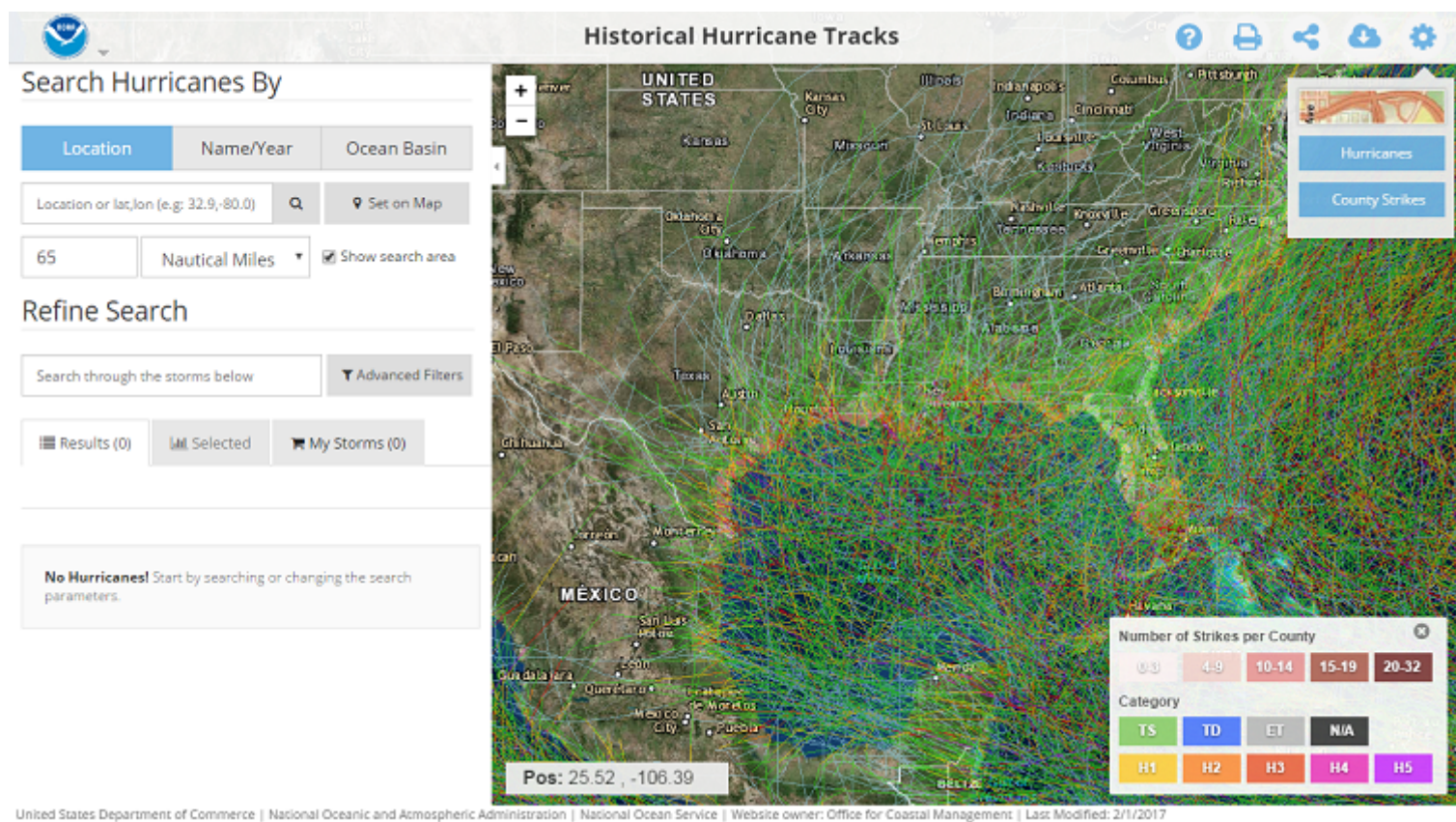
```
var citiesRenderer = new SimpleRenderer({  
  symbol: new SimpleMarkerSymbol({  
    size: 10,  
    color: "#FF4000",  
    outline: { // autocasts as new SimpleLineSymbol()  
      color: [255, 64, 0, 0.4], // autocasts as new Color()  
      width: 7  
    }  
  })  
});
```


Define Popup

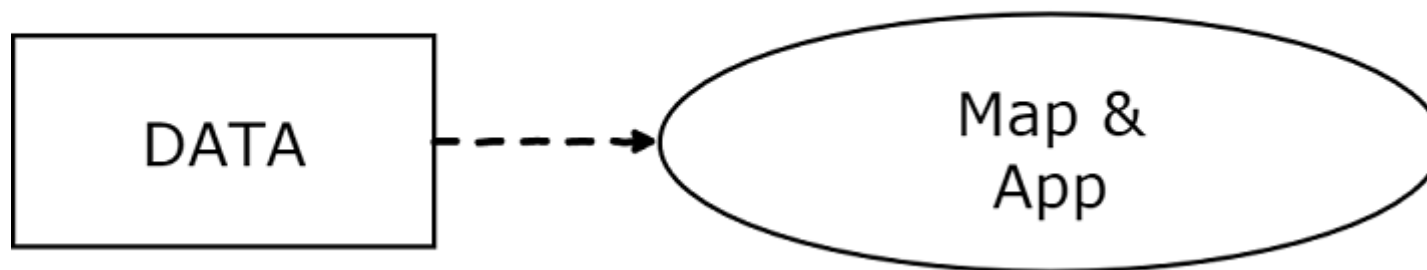
```
var template = {
  title: "Marriage in NY, Zip Code: {ZIP}",
  content: "<p>As of 2015, <b>{MARRIEDRATE}%</b> of the population in this zip code is married.</p>" +
    "<ul><li>{MARRIED_CY} people are married</li>" +
    "<li>{NEVMARR_CY} have never married</li>" +
    "<li>{DIVORCD_CY} are divorced</li></ul>",
  fieldInfos: [{
    fieldName: "MARRIED_CY",
    format: {
      digitSeparator: true,
      places: 0
    }
  }, {
    fieldName: "NEVMARR_CY",
    format: {
      digitSeparator: true,
      places: 0
    }
  }, {
    fieldName: "DIVORCD_CY",
    format: {
      digitSeparator: true,
      places: 0
    }
  }
]}
```

MORE LAYERS
layer visibility
add icons
add different service protocols...
rinse. repeat.

APP



Traditional Workflow



Decoupling of Web Map and App



WHAT IS A Web Map

A STANDARD Specification

JSON


```
{
  "authoringApp": "WebMapView",
  "authoringAppVersion": "4.1",
  "version": "2.4",
  "baseMap": { ... },
  "spatialReference": { ... },
  "operationalLayers": [ {
    "id": "USGS_Seismic_Data_5353",
    "layerType": "ArcGISMapServiceLayer",
    "url": "http://utility.arcgis.com/...",
    "visibility": true,
    "opacity": 1,
    "title": "Earthquakes",
    "itemId": "0d1793bd6b2c438996fd4d3aed46219f",
    "layers": [ ... ] } ],
  "bookmarks": [ ... ],
  "applicationProperties": { ... }
}
```

basemap

```
{
  "baseMap": {
    "baseMapLayers": [
      {
        "id": "BingMapsRoad",
        "layerType": "BingMapsRoad",
        "opacity": 1,
        "portalUrl": "https://webmaps.maps.arcgis.com/sharing/rest/portals/1Vkj5PB0w7tRmIPU",
        "title": "Bing Maps Road",
        "type": "BingMapsRoad",
        "visibility": true
      }
    ],
    "title": "Imagery with Labels"
  }
}
```

OPERATIONAL LAYERS

CSV, FeatureLayer, GeoRSS, KML, WMS, WMTS, WFS, Tiled Layer, etc.

```
{
  "id": "DamageAssessment_2445",
  "layerDefinition": {
    "definitionExpression": "inspdate BETWEEN timestamp '2015-04-20 04:00:00' AND timestamp '2016-04-21 03:59:59'"
  },
  "layerType": "ArcGISFeatureLayer",
  "mode": 1,
  "opacity": 1,
  "popupInfo": {
    "description": null,
    "fieldInfos": [],
    "mediaInfos": [],
    "showAttachments": true,
    "title": "Damage to Residential Buildings: {firstname}"
  },
  "title": "Feature Service",
  "url": "http://sampleserver6.arcgisonline.com/arcgis/rest/services/DamageAssessment/FeatureServer/0",
  "visibility": true
}
```

```
...},  
"layerType": "CSV",  
  "locationInfo": {  
    "latitudeFieldName": "latitude",  
    "locationType": "coordinates",  
    "longitudeFieldName": "longitude"  
  },  
  "opacity": 1,  
  "popupInfo": {},  
  "title": "Earthquakes",  
  "type": "CSV",  
  "url": "http://earthquake.usgs.gov/earthquakes/feed/v1.0/summary/2.5_month.csv",  
  "visibility": true  
}
```

```
{
  "popupInfo": {
    "fieldInfos": [
      {
        "fieldName": "ID",
        "format": {
          "digitSeparator": true,
          "places": 0
        },
        "label": "ID",
        "stringFieldOption": "textbox",
        "tooltip": "Identifier",
        "visible": true
      },
      ...
    ],
    "mediaInfos": [
      {
        "caption": "For a better idea...",
        "title": "Chart stats",
        "type": "barchart",
        "value": {
          "fields": [
            "relationships/0/Pledge"
          ],
          "tooltipField": "relationships/2/Official"
        }
      }
    ]
  }
}
```

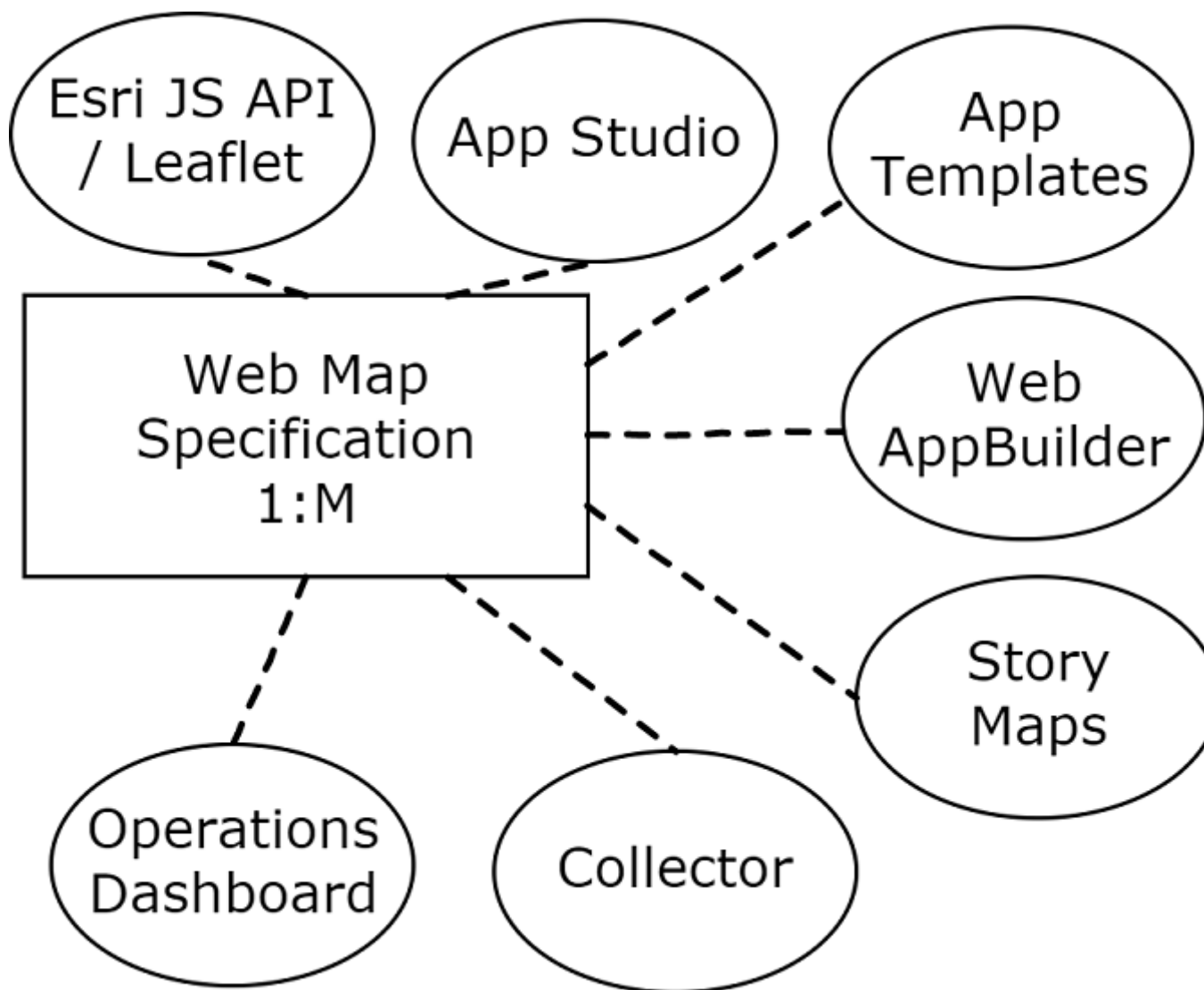
```
{
  "drawingInfo": {
    "labelingInfo": [
      {
        "labelExpression": "[Name]",
        "labelExpressionInfo": {
          "value": "{Name}"
        },
        "labelPlacement": "esriServerLinePlacementCenterAlong",
        "maxScale": 0,
        "minScale": 0,
        "font": {
          ...
        },
      },
    ],
  },
  "renderer": {
    "symbol": {
      ...
    },
    "style": "esriSLSSolid",
    "type": "esriSLS",
    "width": 6.75
  },
},
}
```

```
{
  "renderer": {
    "blurRadius": 10,
    "colorStops": [
      {
        "color": [
          133,
          193,
          200,
          0
        ],
        "ratio": 0
      },
      ...
    ],
    "maxPixelIntensity": 1249.2897582229123,
    "minPixelIntensity": 0,
    "type": "heatmap"
  }
}
```


WHY IS THIS
Important

DEFINE ONCE

USE MANY

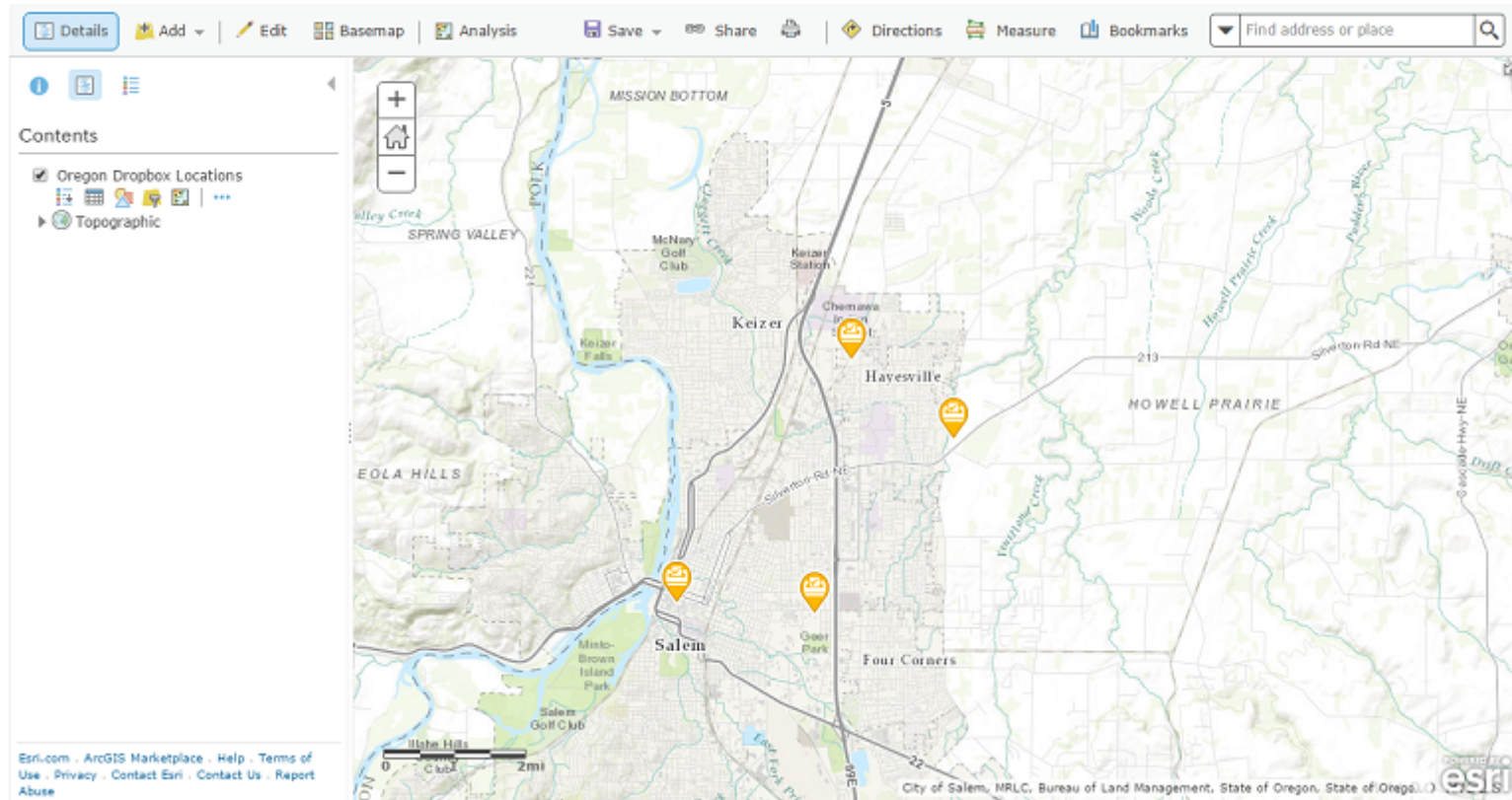


HOW DO I

Edit Web Map JSON

Home ▾ Oregon Voter Dropbox Location Map 2.0

New Map ▾ Create Presentation Joshua ▾



ArcGIS Online Assistant

Search My Content

Q

I want to...

joshua.oreg

Cascadia4

city of mosier0

Data Layers5

Dropbox6

Dropboxv2.08

Dropbox App 2

Dropbox App 2

Oregon Voter Dropbox Location Map 2.0

OregonDropboxLocations

Data

```
{  "operationalLayers": [    {      "id": "OregonDropboxLocations_1515",      "layerType": "ArcGISFeatureLayer",      "url": "http://services.arcgis.com/uUvqNpGPM7axC2dD/arcgis/rest/services/OregonDropboxLocations/FeatureServer/1515",      "visibility": true,      "opacity": 1,      "title": "Oregon Dropbox Locations",      "itemId": "442d076ea051476c80af5dd20ecea1e5",      "layerDefinition": {        "definitionExpression": "active = 'TRUE'"      },      "popupInfo": {        "title": "Voter Dropbox Locations: {name}",        "fieldInfos": [          {            "fieldName": "OBJECTID",            "label": "OBJECTID",            "isEditable": false,            "tooltip": "",            "visible": false,            "stringFieldOption": "textbox",            "isEditableOnLayer": false          }        ]      }    }  ]}
```

Life Before Web Maps

