

Webinar

# ArcGIS API for JavaScript und Web AppBuilder



# Herzlich Willkommen!



Lars Schmitz, Esri Deutschland  
Leiter Developer und Startup Program

 [l.schmitz@esri.de](mailto:l.schmitz@esri.de)

 [de.linkedin.com/in/larsschmitz](https://de.linkedin.com/in/larsschmitz)


 @pilukinum

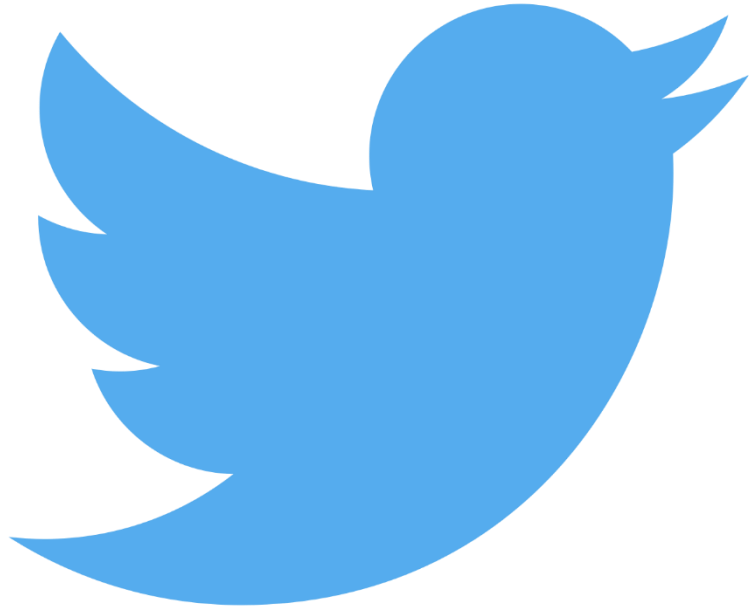


Stephan Künster, Esri Deutschland  
Startup Account Manager

 [s.kuenster@esri.de](mailto:s.kuenster@esri.de)

 [de.linkedin.com/in/skuenster](https://de.linkedin.com/in/skuenster)

 @skuenster



**@GeoDevGermany**  
**#geodev**

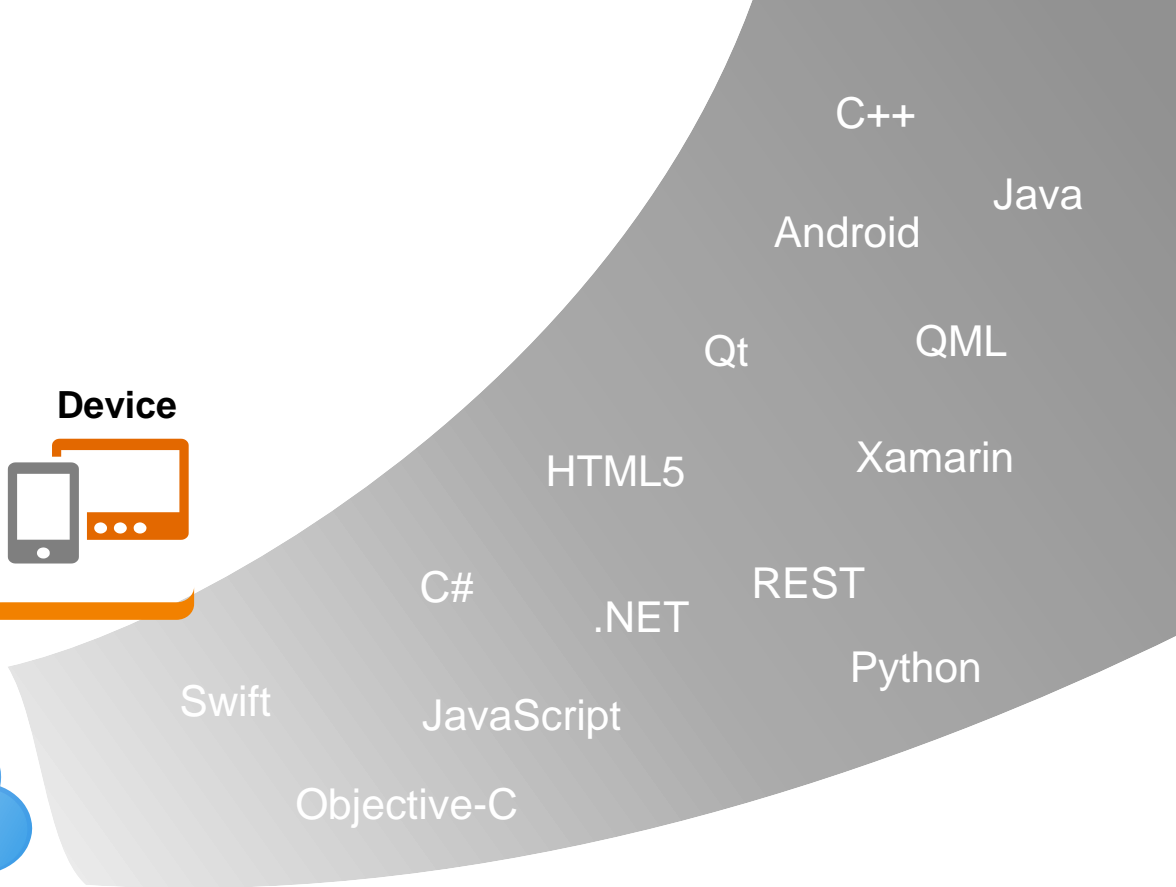
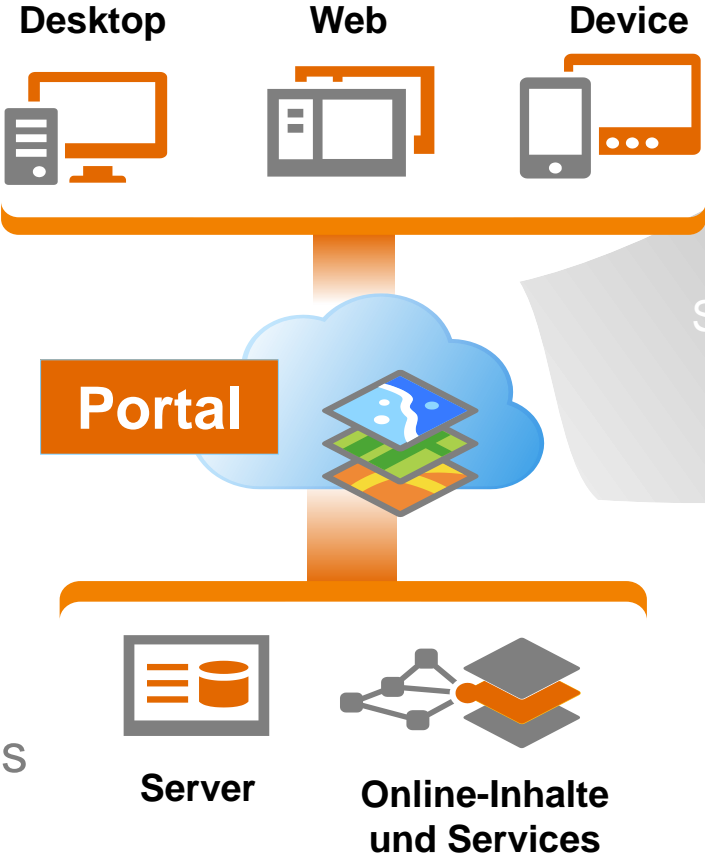
The background features a dark gray field with a network of thin, light gray lines. Scattered throughout are several hexagonal shapes, some outlined in blue and others in green. Small dots in blue and green are also placed at various points along the lines and near the hexagons, creating a complex, interconnected geometric pattern.

# ArcGIS für Entwickler

# ArcGIS für Entwickler



Building Apps  
Client APIs

Extending ArcGIS  
Server and Desktop APIs





# Entwickler können ...



**Apps erstellen**



FEATUREID	SUBJECT	CHECKTITLE	SPRACHEN	RELEVANTIA	RELEVANTIA	RELEVANTIA
100	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
101	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
102	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
103	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
104	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
105	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
106	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
107	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
108	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
109	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	
110	Check Station	Check Station	Compass Check Point	5	Thursday, October 27	

**ArcGIS erweitern**



```
lat: 45.5169068,  
long: -122.6806534
```

**ArcGIS automatisieren**

The background features a dark gray field with a network of thin, light gray lines connecting various points. Some of these points are represented by small, hollow hexagons in light blue and light green. The overall aesthetic is clean and technical, suggesting a digital or network theme.

# ArcGIS API for JavaScript

# ArcGIS API for JavaScript

- + Basiert auf HTML, CSS und JavaScript
- + Kein Plug-In erforderlich
- + Für Desktop- und mobile Browser
- + **Aktuell in zwei parallelen Versionen erhältlich: 3.x und 4.x**
- + Technologische Basis: Dojo Toolkit
  - > Dojo ist integriert in das ArcGIS API for JavaScript
  - > Andere JS Frameworks können problemlos eingebunden werden





# ArcGIS API for JavaScript

- + **3.x ≠ 4.x**
- + Es gilt weiterhin: nicht alle 3.x Funktionen sind in 4.x enthalten!
- + Kernfrage:
  - > Braucht die App 3D Visualisierung? Dann verwende 4.x.
  - > Braucht die App eine bestimmte Funktion von 3.x, die nicht in 4.x enthalten ist (Beispiel Zeitdaten)? Dann verwende 3.x.
- + **Ziel:** bis Ende 2017 (Dezember Release ArcGIS Online) *sollen* beide APIs funktional identisch sein

# Aktueller Stand

Capability	3.20	4.2	4.3
3D	X	✓	✓
2D	✓	✓ (partial support)	✓ (partial support)
Vector Tile Layer	✓	✓	✓
Raster Tile Layer	✓	✓	✓
Imagery Layer	✓	✓	✓
Map Image Layer	✓	✓	✓
Feature Layer	✓	✓ (currently supports query and visualization)	✓ (currently supports query and visualization)
Geometry Engine	✓	✓	✓
Web Scene	X	✓	✓
Web Map	✓	✓ (partial support)	✓ (partial support)
Directly consume layers from your portal items	X	✓ (partial support)	✓ (partial support)
Editing and Sketching	✓	Coming soon	✓ (partial support)
Time	✓	Coming soon	Coming soon
OGC Layers (WMS, WMTS, WFS, KML)	✓	Coming soon	Coming soon
Printing	✓	✓	✓
More GIS functionality widgets (Analysis, Directions, Measurement)	✓	Coming soon	Coming soon

(Eine detaillierte Matrix gibt es [hier](#))

# Migration von 3.x auf 4.x

- + „**Consider rewriting applications instead of simply trying to update them**“
- + Warum? Weil sich viele Dinge verändert haben, z.B.
  - > Zugriff auf properties
  - > Überwachung von property changes
  - > Unterscheidung zw. Map und MapView(2D) / SceneView (3D)
  - > Spezifikation von Map und Layer
  - > Update von Modulen und Packages
  - > WebMap Support
  - > Ausschließlich AMD unterstützt
  - > Search Widget ersetzt Geocoder Widget

→ siehe [Entdecke 4.x](#)

→ siehe [Migration von 3.x zu 4.x](#)



**What's new?**

# What's new?

## Seit 3.19 (Dez `16) und 3.20 (März `16):

- + Arcade Expressions und Labeling
- + Sicherheit:
  - > „browsers are starting to block Geolocation API on insecure pages“, z.B. Locate Me
  - > Chrome 50 (April 16), Safari 10 (Sept 16), weitere folgen
- + Bugfixing

→ Release Notes: [Klick!](#)

# What's new?

Seit 4.2 (Dezember `16):

**Live!**

- + Neue Widgets

- > LayerList Widget (custom actions)
- > Print Widget

- + Arcade Expressions zur Visualisierung

- + Elevation Query API

- + Kartendarstellung mit „smart defaults“

→ Release Notes: [Klick!](#)

- + Entwicklung eigener Widgets

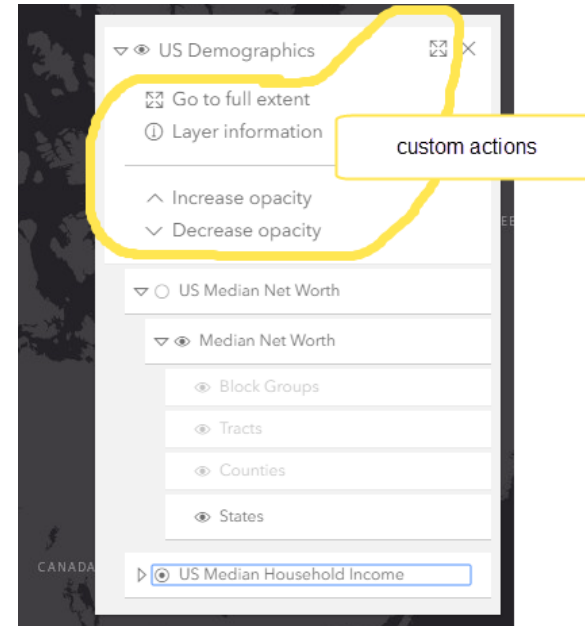
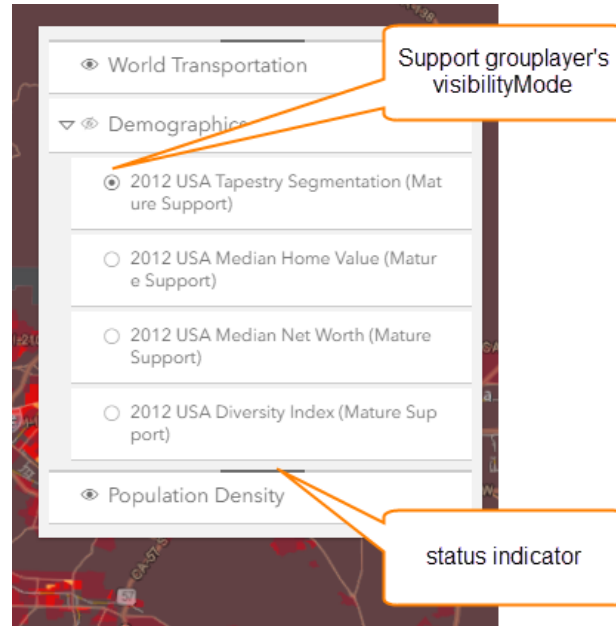
- + Sonstiges:

- > Verbesserungen im Event Handling
- > Unterstützung von Point Clouds (siehe 4.3)
- > Überarbeiteter VectorTileLayer Support
  - > 3D, Labeling, Raumbezugssysteme
- > Eigene goTo() Animationen
- > Neu: Workers Framework
  - > Auslagern von rechenintensiven Prozessen

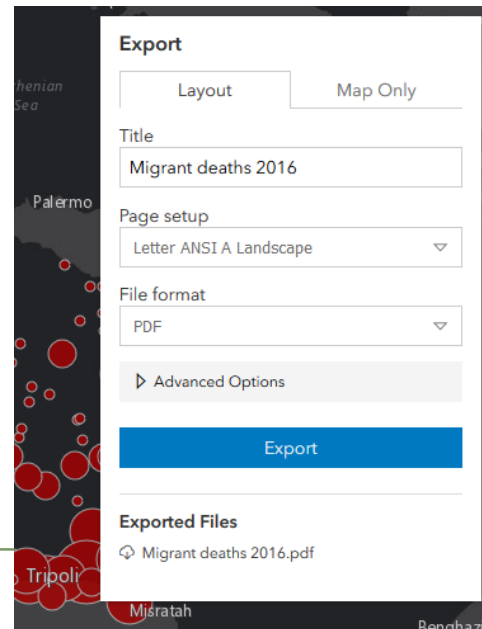


# Neue Widgets

## + LayerList Widget



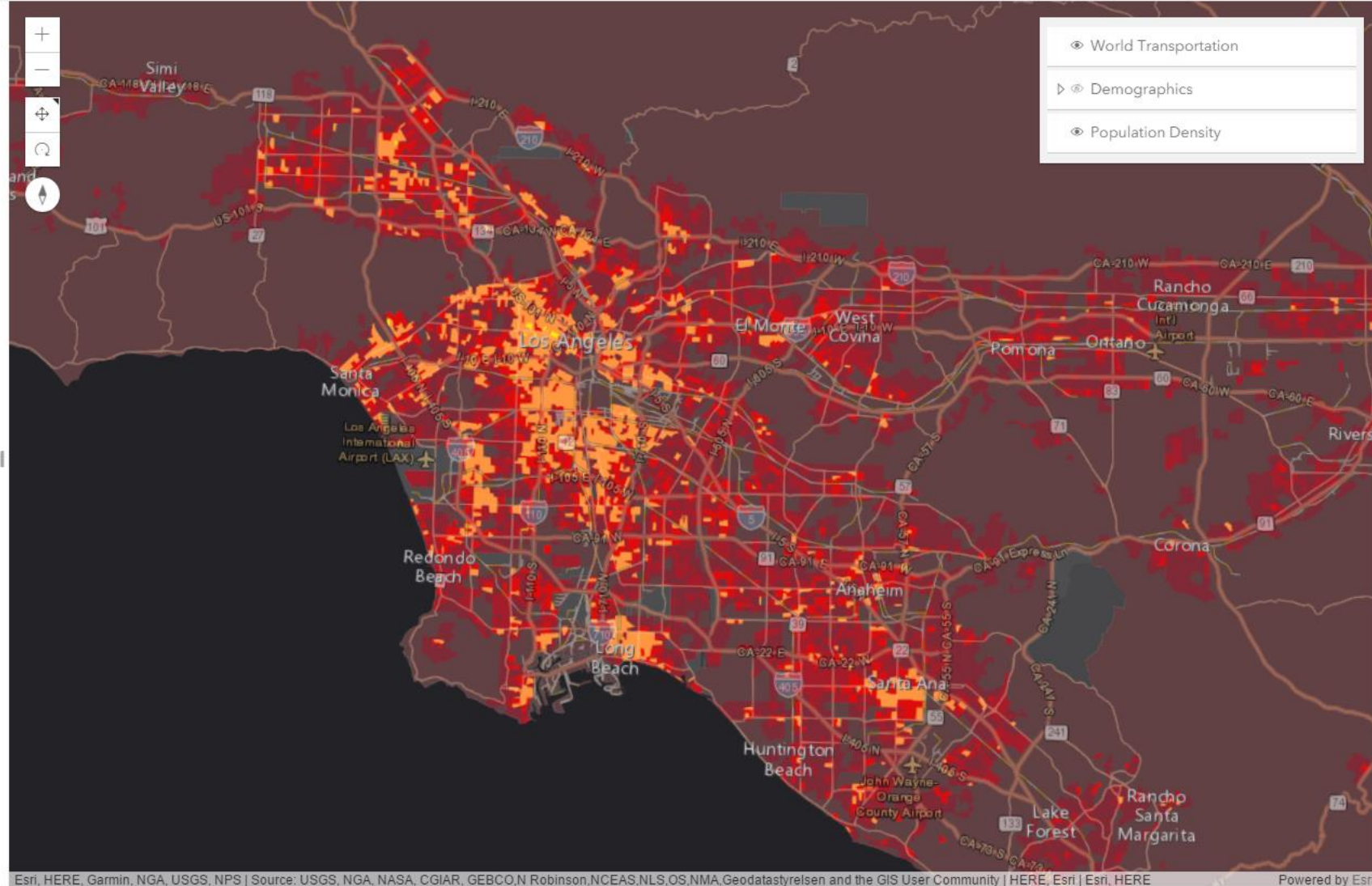
## + Print Widget



```

23 <script src="https://js.arcgis.com/4.3/"></script>
24
25 <script>
26 require([
27   "esri/views/SceneView",
28   "esri/widgets/LayerList",
29   "esri/WebScene",
30
31   "dojo/domReady!"
32 ], function(
33   SceneView, LayerList, WebScene
34 ) {
35
36   var scene = new WebScene({
37     portalItem: { // autocasts as new PortalItem()
38       id: "66adfe99eeaf40fc82ad1e94751cff0b"
39     }
40   });
41
42   var view = new SceneView({
43     container: "viewDiv",
44     map: scene
45   });
46
47   view.then(function() {
48     var layerList = new LayerList({
49       view: view
50     });
51
52     // Add widget to the top right corner of the view
53     view.ui.add(layerList, "top-right");
54   });
55 });
56 </script>
57
58 </head>
59
60 <body class="calcite">
61   <div id="viewDiv"></div>
62 </body>
63 </html>

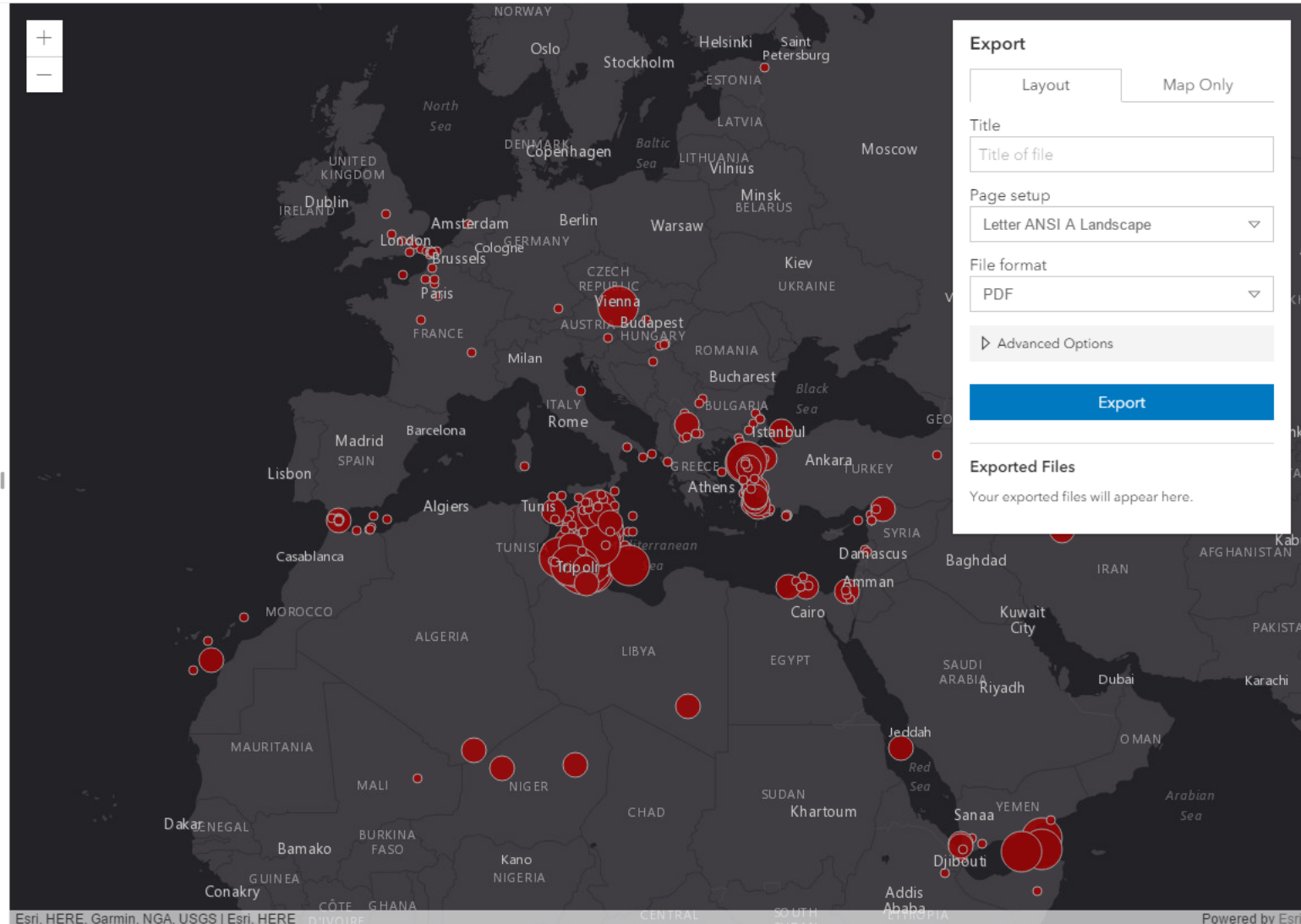
```



```

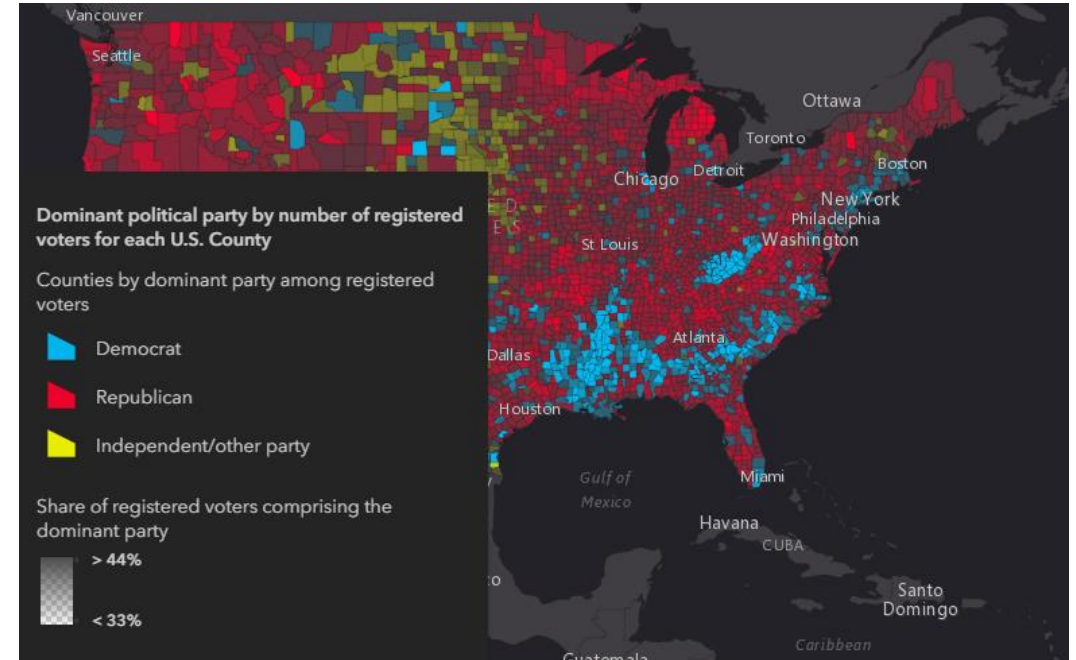
23 require([
24   "esri/views/MapView",
25   "esri/widgets/Print",
26   "esri/WebMap",
27
28   "dojo/domReady!"
29 ],
30 function(
31   MapView, Print, WebMap
32 ) {
33
34   var webmap = new WebMap({
35     portalItem: { // autocasts as new PortalItem()
36       id: "d6d830a7184f4971b8a2f42cd774d9a7"
37     }
38   });
39
40   var view = new MapView({
41     container: "viewDiv",
42     map: webmap
43   });
44
45   view.then(function() {
46     var print = new Print({
47       view: view,
48       // specify your own print service
49       printServiceUrl: "https://utility.arcgisonline.com/arcgis/rest/services/Utilities/PrintingTools/GPServer/Export%20Web%20Map%20Task"
50     });
51
52     // Add widget to the top right corner of the view
53     view.ui.add(print, "top-right");
54   });
55 });
56 </script>
57 </head>
58
59 <body class="calcite">
60   <div id="viewDiv"></div>
61 </body>
62 </html>

```



# Arcade Expressions zur Visualisierung

- + Arcade is a lightweight expression language
- + Designed for creating custom content, visualizations, and labels across the ArcGIS platform
- + save expressions to layer items and web maps in ArcGIS Online or Portal for ArcGIS
  - > expressions can be authored in apps and persisted in webmaps throughout the ArcGIS platform
- + In future releases, users will have the ability to use it in other contexts, such as labeling.

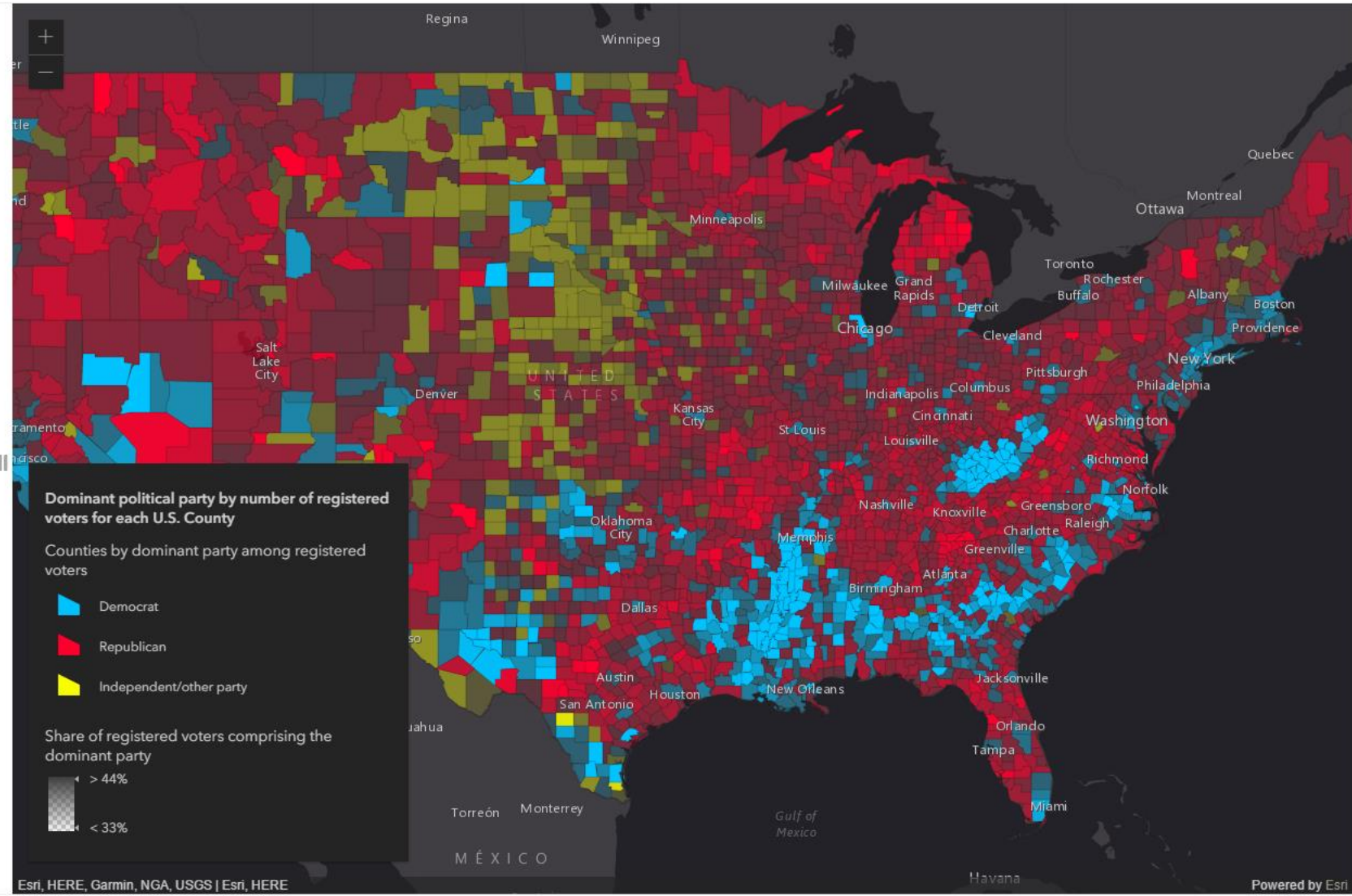




```

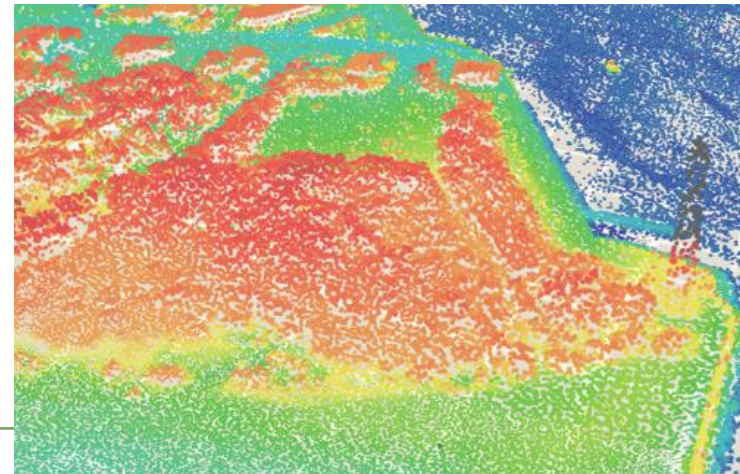
43- <script type="text/plain" id="winning-party">
44   // store field values in variables with
45   // meaningful names. Each is the total count
46   // of votes for the respective party
47
48   var republican = $feature.MP06025a_B;
49   var democrat = $feature.MP06024a_B;
50   var independent = $feature.MP06026a_B;
51   var parties = [republican, democrat, independent];
52
53   // Match the maximum value with the label
54   // of the respective field and return it for
55   // use in a UniqueValueRenderer
56
57   return Decode( Max(parties),
58     republican, 'republican',
59     democrat, 'democrat',
60     independent, 'independent',
61     'n/a' );
62 </script>
63
64 <!--STRENGTH OF WIN-->
65
66 <!--
67 <- Arcade expression determining the strength of the predominant party
68 <- in each feature based on the proportion of that party to all others.
69 <- A simple percentage is calculated and returned for the max value.
70 -->
71
72 <script type="text/plain" id="strength">
73   var republican = $feature.MP06025a_B;
74   var democrat = $feature.MP06024a_B;
75   var independent = $feature.MP06026a_B;
76   var parties = [republican, democrat, independent];
77   var total = Sum(parties);
78   var max = Max(parties);
79
80   return (max / total) * 100;
81 </script>
82
83 <script>

```



# Unterstützung von Point Clouds

- + Point cloud data can be visualized using the new **PointCloudLayer**
  - > based on the original scan colors using **PointCloudRGBRenderer**
  - > based on nominal unique values using **PointCloudUniqueValueRenderer**,
  - > based on a numerical attribute mapped to a continuous color scale using **PointCloudStretchRenderer**
  - > based on classes extracted from a numerical attribute using **PointCloudClassBreaksRenderer**.

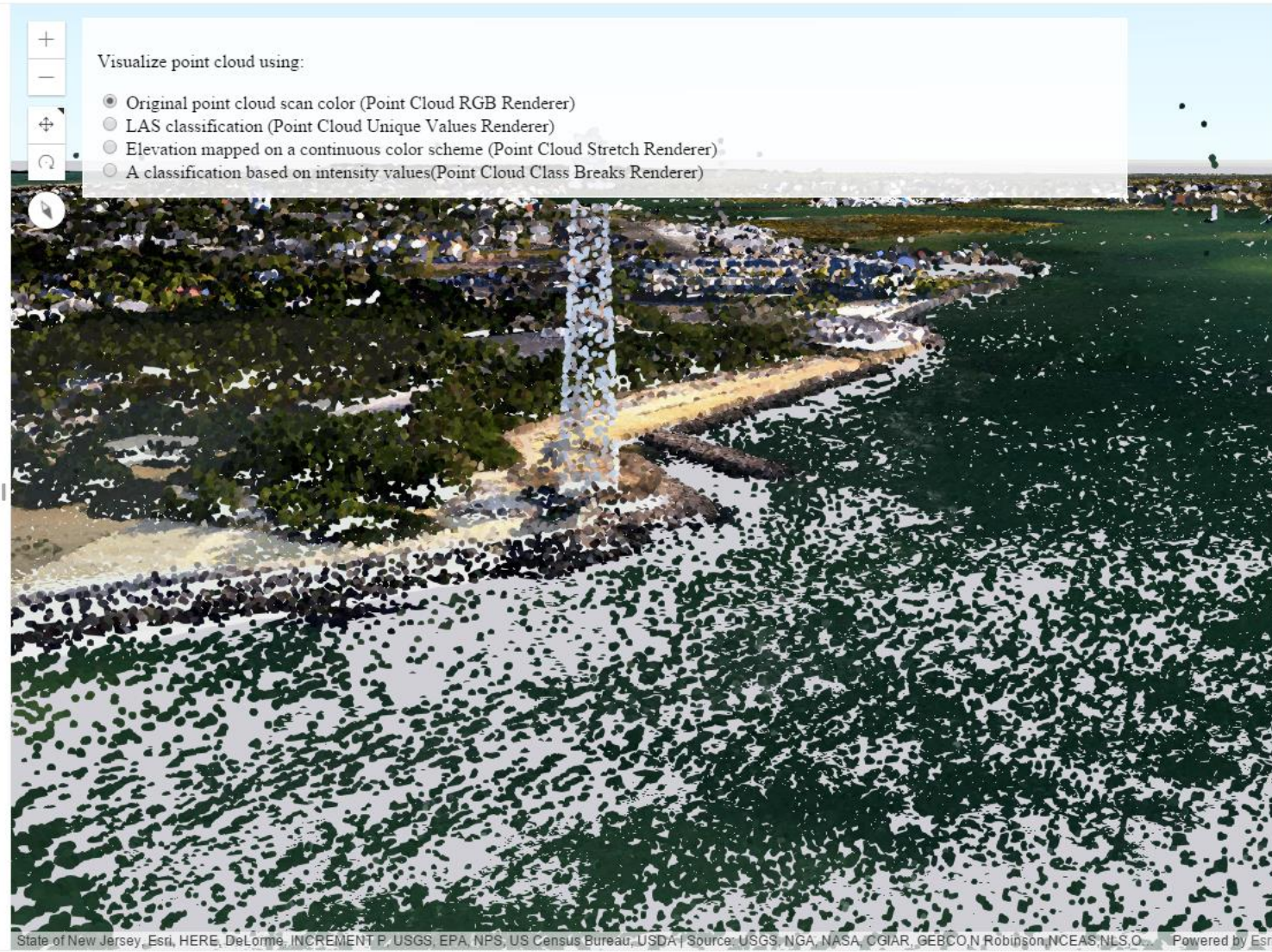




```

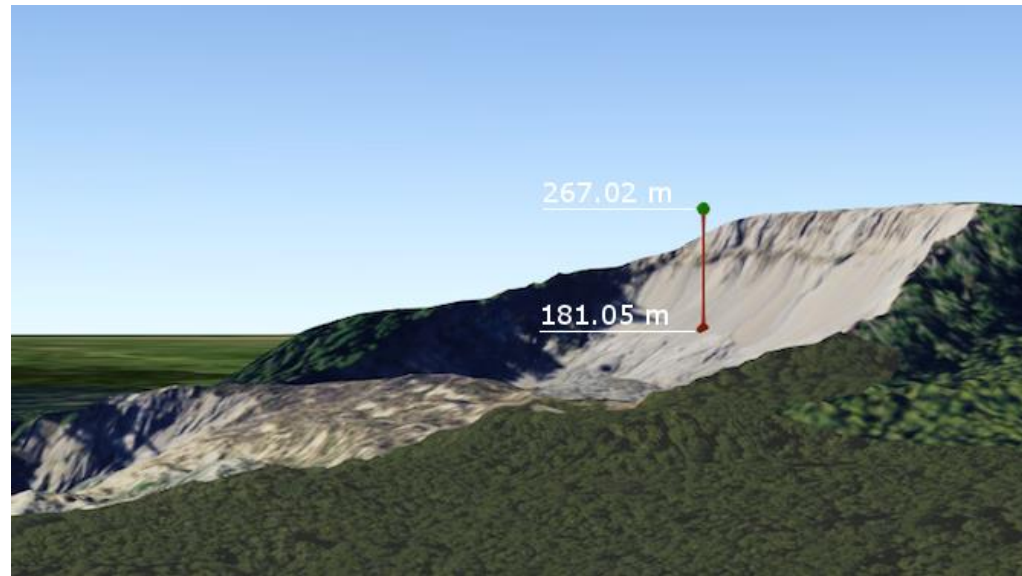
84
85 //*****
86 *
87 * Display point cloud layer using different renderers
88 *
89 //*****
90
91 // Display point cloud based on original scan colors/using the RGB values
92
93 var pointCloudRGBRenderer = new PointCloudRGBRenderer({
94   field: "RGB"
95 });
96
97 // Display point cloud based on unique values in an attribute
98 // Instead of using a constructor you can also create the renderer from a JSON file
99
100 var pointCloudUniqueValueRenderer = new PointCloudUniqueValueRenderer({
101   field: "CLASS_CODE", // field containing data for standard LAS classification
102   colorUniqueValueInfos: [
103     {
104       values: ["1"],
105       label: "Unassigned",
106       color: [180, 180, 180]
107     },
108     {
109       values: ["2"],
110       label: "Ground",
111       color: [222, 184, 135]
112     },
113     {
114       values: ["3"],
115       label: "Low vegetation",
116       color: [200, 232, 171]
117     },
118     {
119       values: ["4"],
120       label: "Medium vegetation",
121       color: [76, 112, 43]
122     },
123     {
124       values: ["5"]

```

Keyboard shortcuts: `Ctrl + 2` Toggle OutputCopyright © 2017 Esri. All rights reserved. | [Privacy](#) | [Terms of use](#)

# Elevation Query API

- + Elevation values for a given point can be obtained in a couple of ways
  - > hitTest() method, which provides an approximate elevation for a given ScreenPoint
  - > from an ElevationLayer with the queryElevation() method.

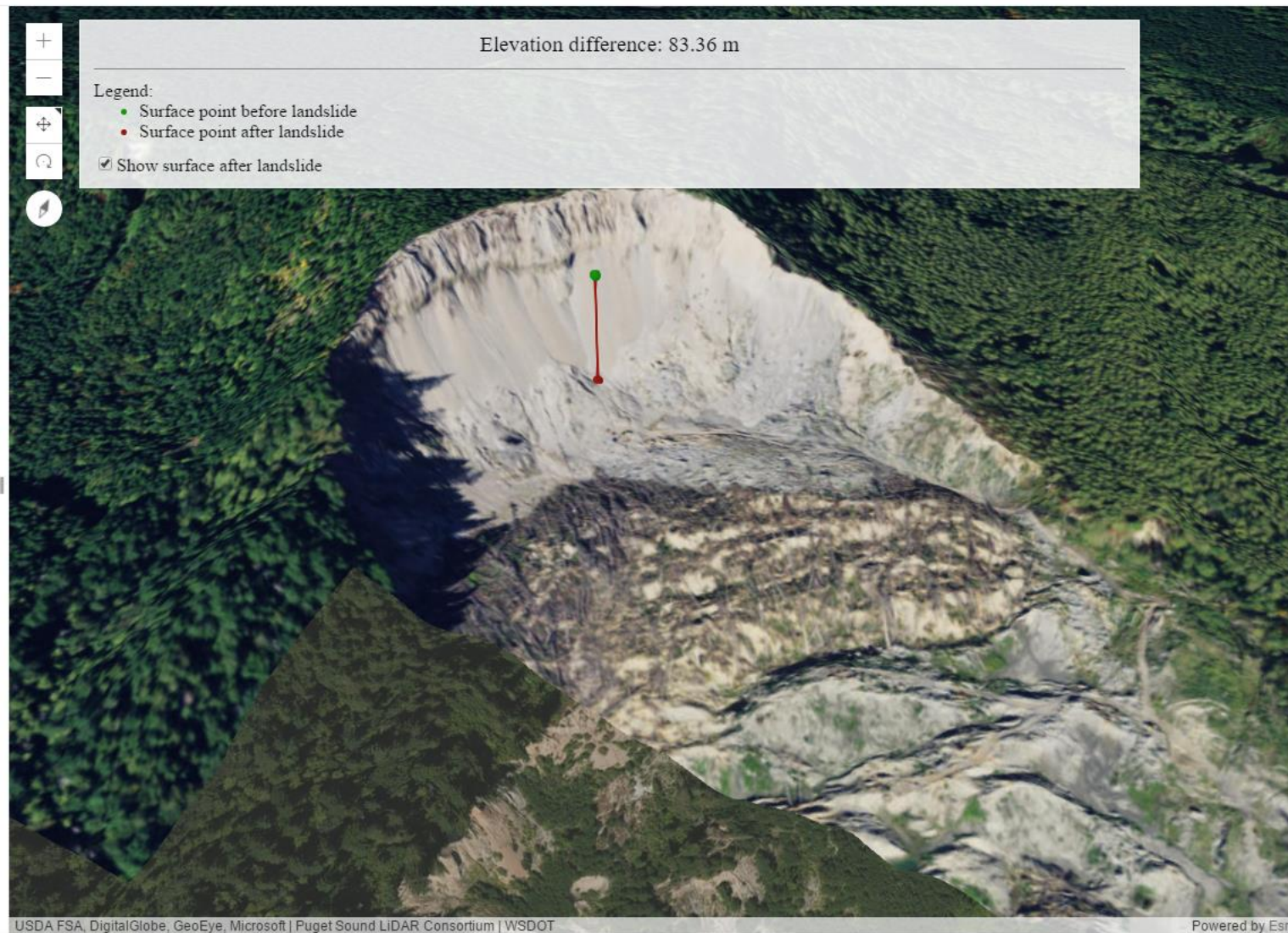




```

154 resultsContainer.innerHTML = "Querying elevation...";
155
156 // Query both elevation layers for the elevation at the clicked map position
157 var position = event.mapPoint;
158 var queryBeforeLandslide = beforeLandslideLayer.queryElevation(
159     position);
160 var queryAfterLandslide = afterLandslideLayer.queryElevation(
161     position);
162
163 // When both query promises resolve execute the following code
164 all([queryBeforeLandslide, queryAfterLandslide])
165     .then(function(results) {
166         var posBeforeLandslide = results[0].geometry;
167         var posAfterLandslide = results[1].geometry;
168
169         // Clear graphics from previous result (if applicable)
170         view.graphics.removeAll();
171
172         // Draw a point graphic for position before Landslide
173         view.graphics.add(new Graphic({
174             geometry: posBeforeLandslide,
175             symbol: beforePointSymbol
176         }));
177
178         // Draw a point graphic for position after Landslide
179         view.graphics.add(new Graphic({
180             geometry: posAfterLandslide,
181             symbol: afterPointSymbol
182         }));
183
184         // Draw a vertical line that illustrates the elevation difference
185         var lineGeometry = new Polyline({
186             spatialReference: posBeforeLandslide.spatialReference
187         });
188         lineGeometry.addPath([posBeforeLandslide,
189             posAfterLandslide
190         ]);
191         view.graphics.add(new Graphic({
192             geometry: lineGeometry,
193             symbol: lineSymbol
194         }));

```



# Kartendarstellung mit „smart defaults“

- + generating renderers with smart default symbols
  - > location - generates a single symbol for all features in a layer.
  - > color - generates data-driven visualizations with continuous color based on a numeric field.
  - > size - generates data-driven visualizations with continuous size based on a numeric field.
  - > univariateColorSize - generates visualizations with continuous color and size ramps based on a single numeric field. This type was designed specifically for visualizations using 3D symbols.



```

111
112 // Generate a renderer visualizing a single variable
113 // with continuous color and size based on the
114 // statistics of the data in the provided layer
115 // and field name.
116 //
117 // This resolves to an object containing several helpful
118 // properties, including size/color schemes, statistics,
119 // the renderer, and visual variables
120
121 colorAndSizeRendererCreator.createContinuousRenderer(params)
122 .then(function(response) {
123
124 // set generated renderer on the layer and add it to the map
125
126 povLyr.renderer = response.renderer;
127 map.add(povLyr);
128
129 // set the queried statistics and generated visual variable
130 // to the slider parameters
131
132 var sizeVVs = lang.clone(response.size.visualVariables);
133 var colorVW = lang.clone(response.color.visualVariable);
134
135 var sliderVisualVariables = sizeVVs;
136 sliderVisualVariables.push(colorVW);
137
138 sliderParams.statistics = response.statistics;
139 sliderParams.visualVariables = sliderVisualVariables;
140
141 // generate a histogram for use in the slider. Input the layer
142 // and field name to generate it.
143 // You can also use an arcade expression instead of
144 // a field and normalization field
145
146 return histogram({
147   layer: povLyr,
148   field: params.field
149 });
150
151 .then(function(histogram) {

```



Esri, HERE, Garmin, FAO, NOAA, USGS

Powered by Esri

# Entwicklung eigener Widgets

## + Neues Widget Framework

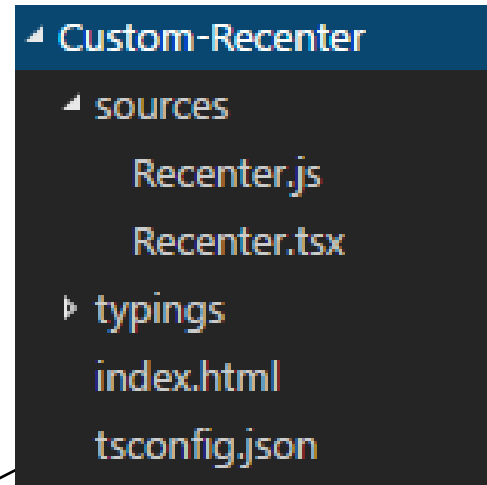
- > esri/widgets/Widget vs. Dijit

## + Development Requirements

- > TypeScript (decorators)
- > JSX
- > Verständnis von esri/core/Accessor

## + Widget Life Cycle

- > constructor (params)
- > postInitialize()
- > render()
- > destroy()



```
render() {
  return (
    <div>John Smith</div>
  );
}
```

```
@property()
name: string;
```

(Accessor property:  
get/set/watch)

```
@subclass("esri.widgets.Recenter")
class Recenter extends declared(Widget) {
  + postInitialize() { ...
  }
  + render() { ...
  }
```



# Überarbeiteter VectorTileLayer Support

- + Vector Tile Layer werden **auch in 3D** unterstützt
- + Die **Label Engine** wurde überarbeitet, um die Darstellung zu optimieren
- + Vector Tiles können **in allen von ArcGIS unterstützten Raumbezugssystemen** dargestellt werden
- + Voller Support für Indexed Vector Tiles

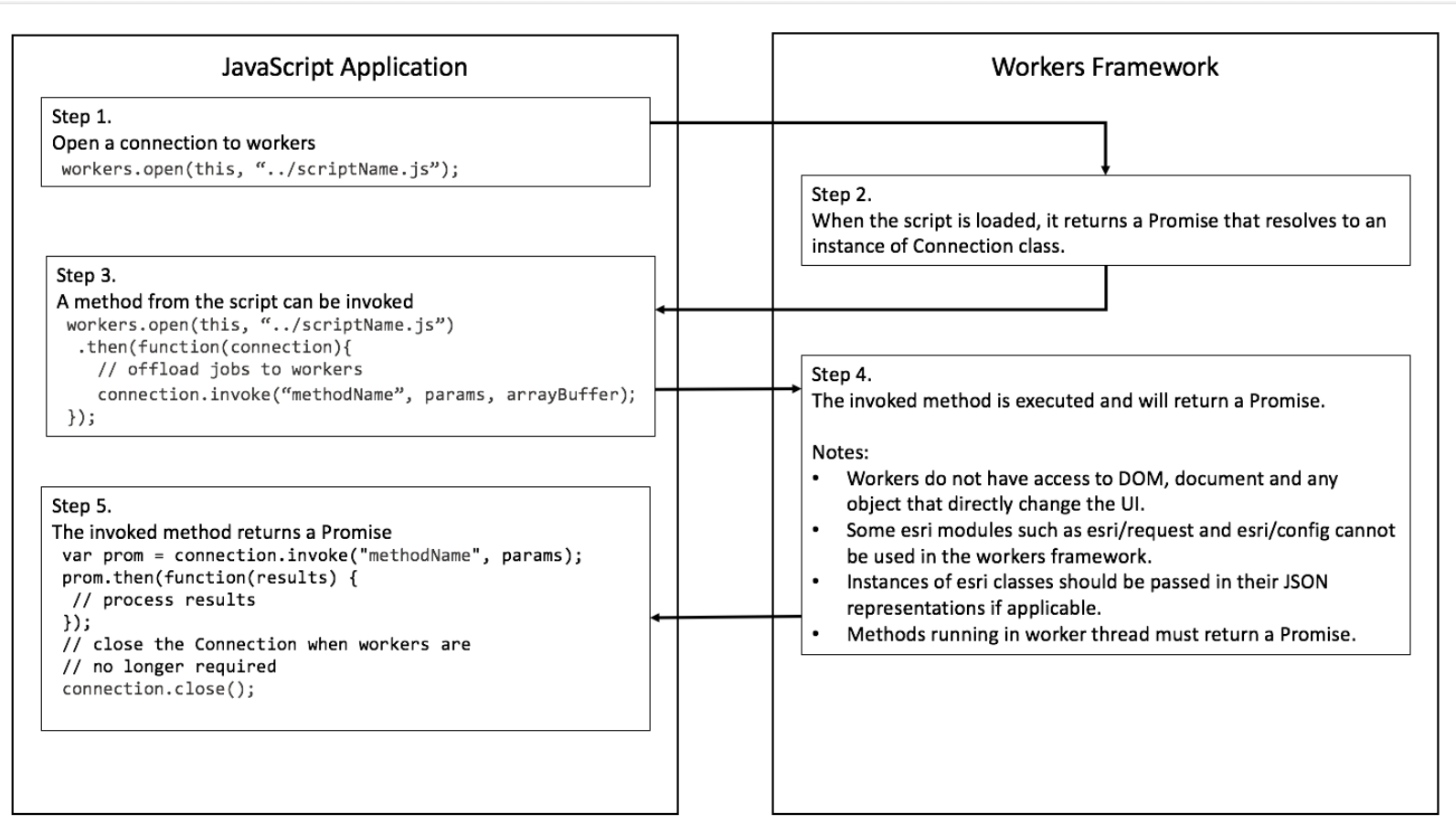
## Eigene goTo() Animationen

- + Der Standort der `Camera` kann nun mit weichen Übergängen verändert werden
- + Zeit und Geschwindigkeit können ebenfalls angepasst werden

```
on(dojo.query("#linearSlow"), "click", function() {
    view.goTo(shiftCamera(60),
        // Animation options for a slow linear camera flight
        {
            speedFactor: 0.1,
            easing: "linear"
        });
});
```

# Workers Framework

- + Erhöht die Performanz der Anwendung durch das Ausladen von rechenintensiven Prozessen in Hintergrund-Threads, ohne dabei das User Interface zu blockieren



# What's new?

## Seit 4.3 (März `17):

- + Bessere Performance bei Abfrage und Darstellung von 2D Feature Layer
- + Editierung von Feature Layer
- + Neue Widgets
- + Abfragen und Filter auf Scene Layer
- + Anpassen von Punktgröße und -dichte in PointCloudLayer (inkl. Renderer, 4.2)

**Live!**

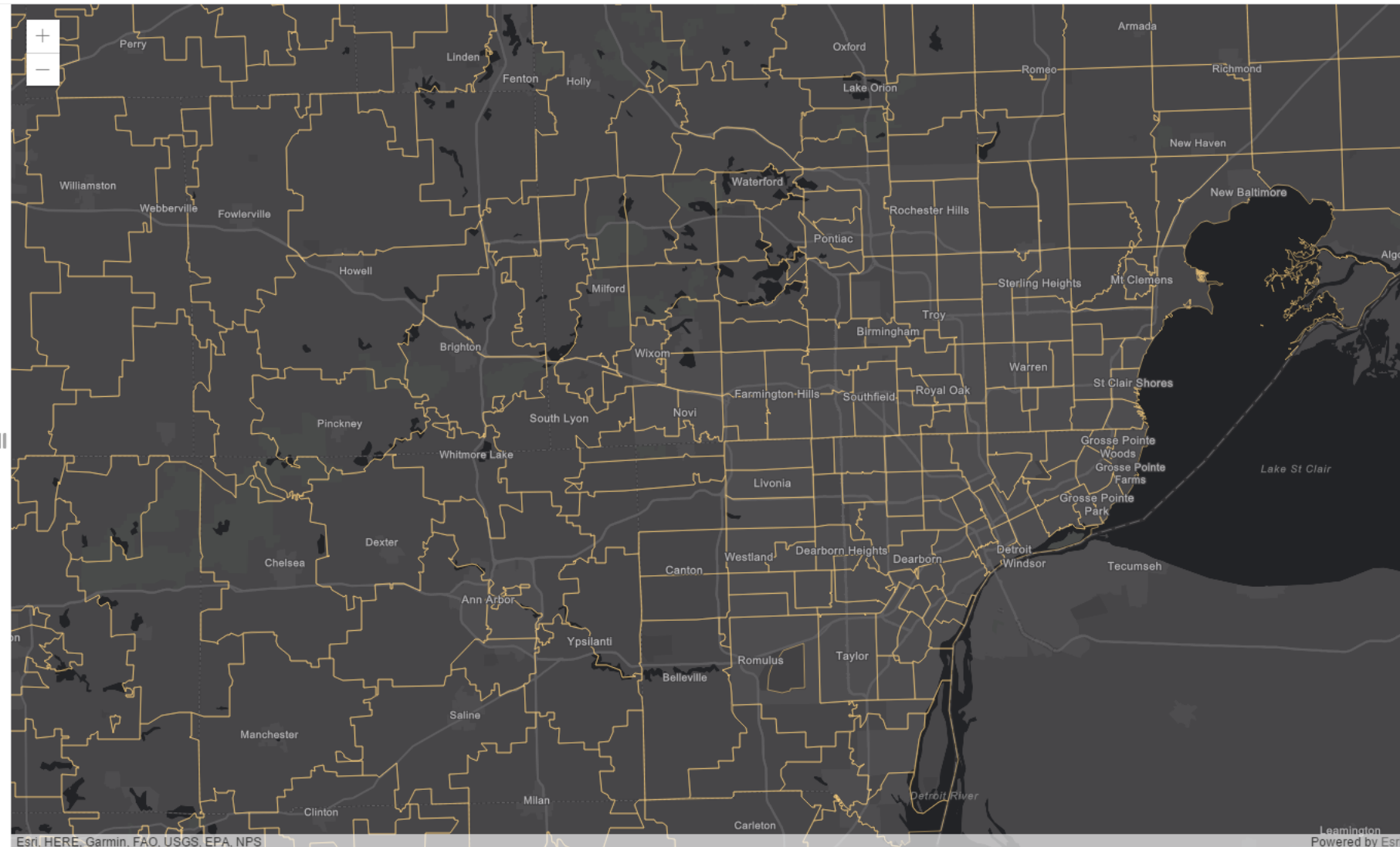
→ Release Notes: [Klick!](#)

- + Sonstiges
  - > Touch Navigation
  - > GeoRSS Layer in 2D
  - > Neue WebStyleSymbol Dokumentation und Beispiele
  - > Symbol Playground
  - > Workflow Manager Funktionalität
  - > Weitere Widgets auf Basis des neuen Widget Frameworks

```

13 <style>
14   html,
15   body,
16   #viewDiv {
17     padding: 0;
18     margin: 0;
19     height: 100%;
20     width: 100%;
21   }
22 </style>
23
24 <script>
25   require([
26     "esri/WebMap",
27     "esri/views/MapView",
28
29     "dojo/domReady!"
30   ], function(
31     WebMap, MapView
32   ) {
33
34     var map = new WebMap({
35       portalItem: {
36         id: "7963429ef51a44be9f2ff27abaded25a"
37       }
38     });
39
40     var view = new MapView({
41       container: "viewDiv",
42       map: map
43     });
44
45   });
46 </script>
47 </head>
48
49 <body>
50   <div id="viewDiv"></div>
51 </body>
52
53 </html>

```

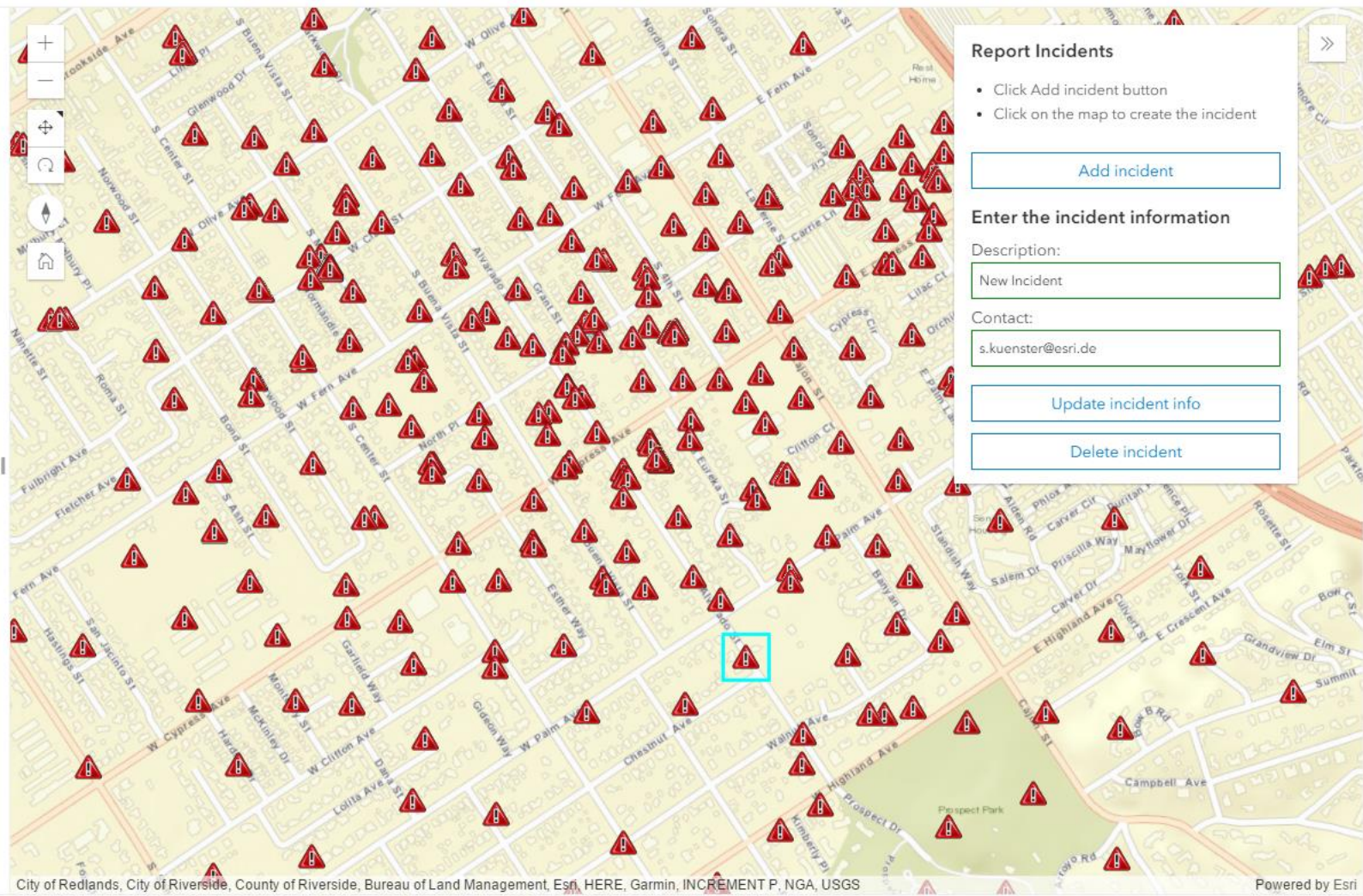




```

153 // *****
154 // applyEdits promise resolved successfully
155 // query the newly created feature from the featurelayer
156 // set the editFeature object so that it can be used
157 // to update its features.
158 // *****
159 function editResultsHandler(promise) {
160     promise
161     .then(function(editsResult) {
162         var extractObjectId = function(result) {
163             return result.objectId;
164         };
165
166         // get the objectId of the newly added feature
167         if (editsResult.addFeatureResults.length > 0) {
168             var adds = editsResult.addFeatureResults.map(
169                 extractObjectId);
170             newIncidentId = adds[0];
171
172             selectFeature(newIncidentId);
173         }
174     })
175     .otherwise(function(error) {
176         console.log("-----");
177         console.error("[ applyEdits ] FAILURE: ", error.code, error.name,
178             error.message);
179         console.log("error = ", error);
180     });
181 }
182
183 // *****
184 // listen to click event on the view
185 // 1. select if there is an intersecting feature
186 // 2. set the instance of editFeature
187 // 3. editFeature is the feature to update or delete
188 // *****
189 view.on("click", function(evt) {
190     unselectFeature();
191     view.hitTest(out spatialPoint).then(function(response) {

```



Keyboard shortcuts: Ctrl + Shift + L Beautify sandbox code

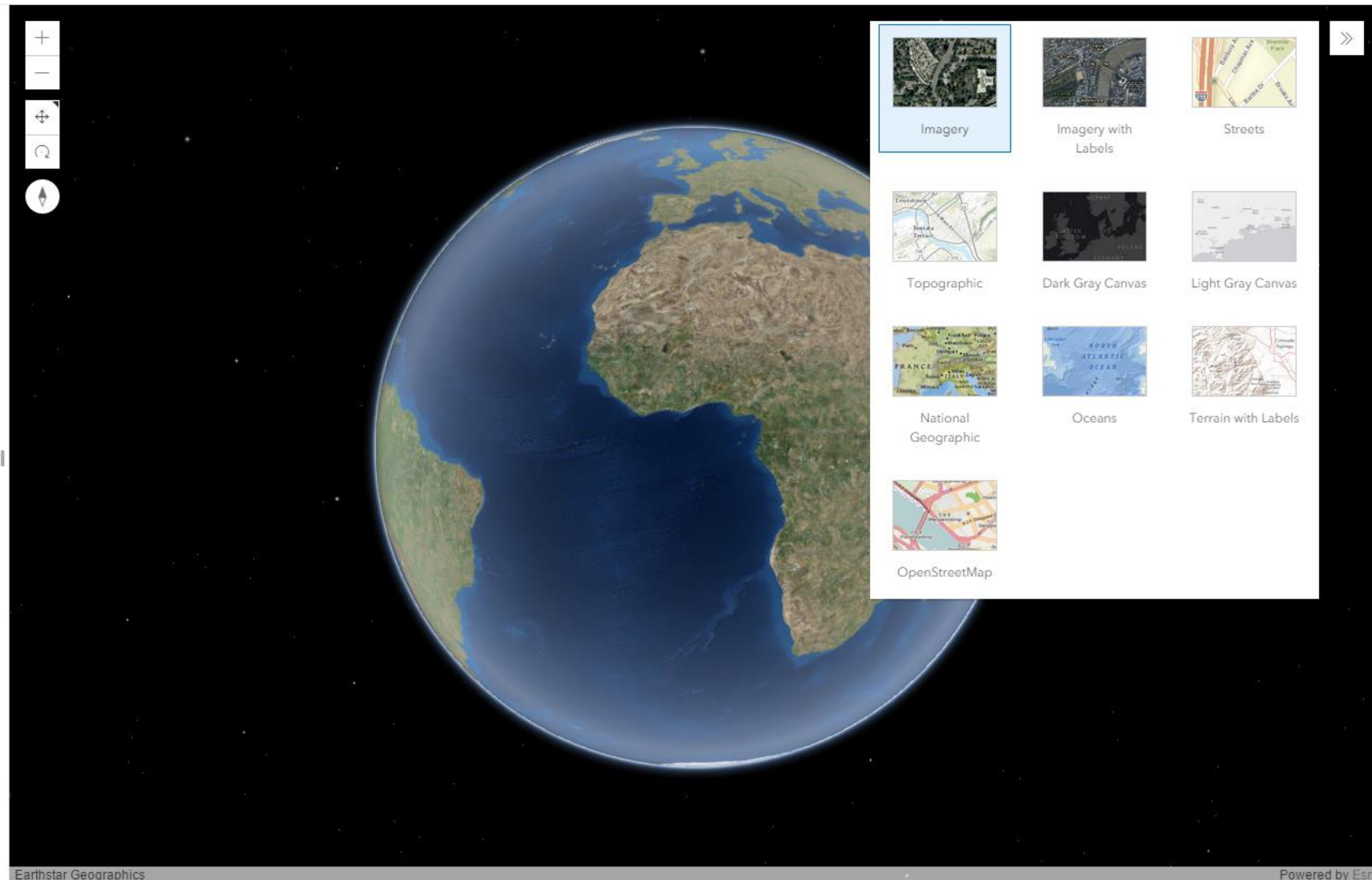
Copyright © 2017 Esri. All rights reserved. | Privacy | Terms of use



```

31 } {
32
33 var map = new Map({
34   basemap: "satellite"
35 });
36
37 var view = new SceneView({
38   container: "viewDiv",
39   map: map
40 });
41
42 // Create a BasemapGallery widget instance and set
43 // its container to a div element
44
45 var basemapGallery = new BasemapGallery({
46   view: view,
47   container: document.createElement("div")
48 });
49
50 // Create an Expand instance and set the content
51 // property to the DOM node of the basemap gallery widget
52 // Use an Esri icon font to represent the content inside
53 // of the Expand widget
54
55 var bgExpand = new Expand({
56   view: view,
57   content: basemapGallery.domNode,
58   expandIconClass: "esri-icon-basemap"
59 });
60
61 // Add the expand instance to the ui
62
63 view.ui.add(bgExpand, "top-right");
64 });
65 </script>
66 </head>
67
68 <body>
69   <div id="viewDiv"></div>
70 </body>
71 </html>

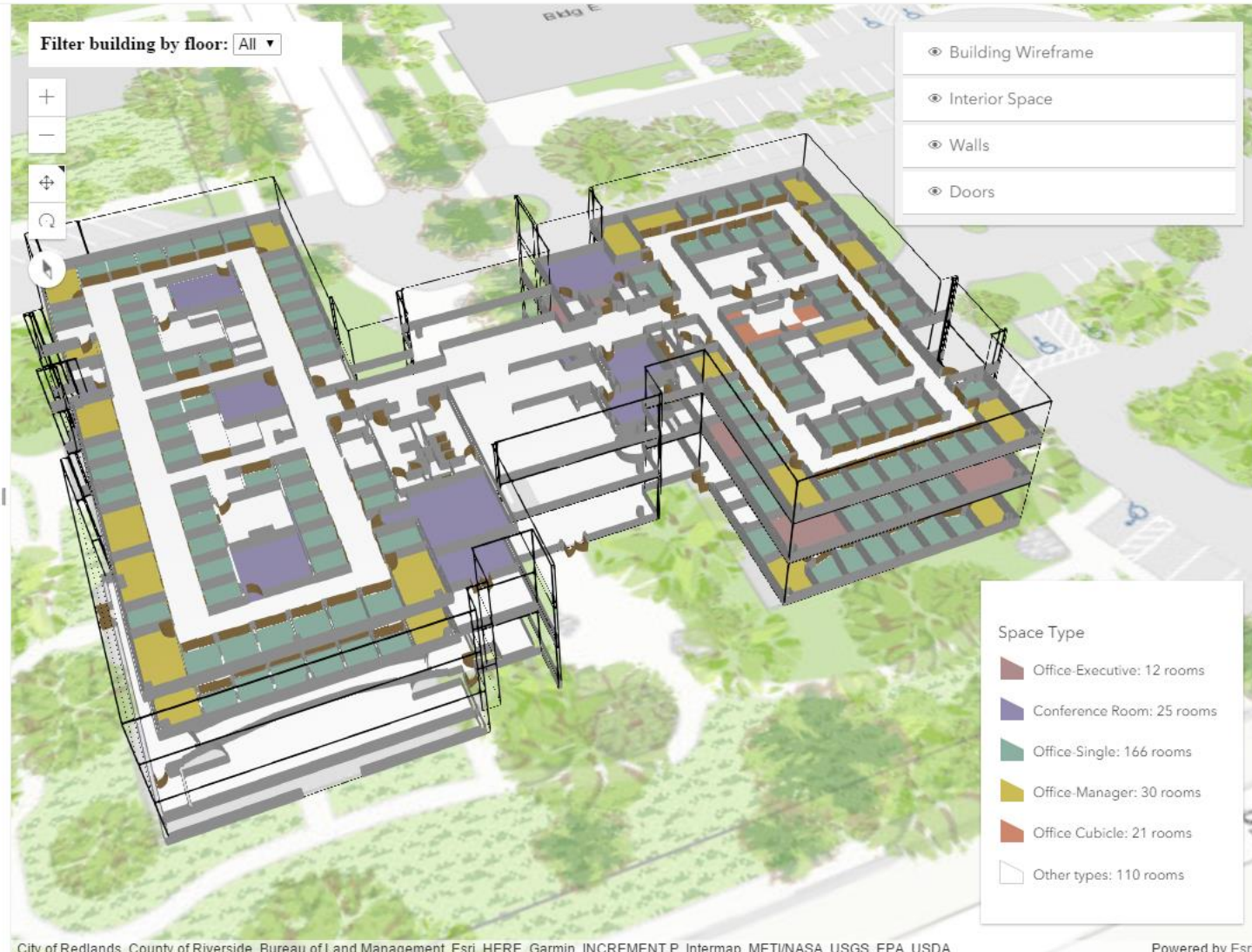
```



```

90
91 // function that calculates how many office types are currently shown and displays
  // this in the legend
92 function displayOfficeTypes() {
93
94 // create the query on the officeLayer so that it respects its definitionExpression
95 var query = officeLayer.createQuery();
96 query.outFields = ["SPACETYPE"];
97
98 // query the officeLayer to calculate how many offices are from each type
99 officeLayer.queryFeatures(query)
100 .then(function(results) {
101
102 // var typesCounter = {}; // counter for the office types defined in the
  // officeTypes array
103 // var othersCounter = 0; // counter for all the other office types
104
105 // count the types of all the features returned from the query
106 results.features.forEach(function(feature) {
107   var spaceType = feature.attributes.SPACETYPE;
108
109   if (typesCounter[spaceType]) {
110     typesCounter[spaceType]++;
111   } else {
112     typesCounter[spaceType] = 1;
113   }
114
115   if (officeTypes.indexOf(spaceType) === -1) {
116     othersCounter++;
117   }
118 });
119
120 // to set the results in the legend, we need to modify the labels in the
  // renderer
121 var newRenderer = officeLayer.renderer.clone();
122
123 officeTypes.forEach(function(value, i) {
124   newRenderer.uniqueValueInfos[i].label = value +
125     ": " + (typesCounter[value] || 0) + " rooms";
126 });
127

```



Keyboard shortcuts: **Ctrl** + **Shift** + **>** Increase sandbox code font size

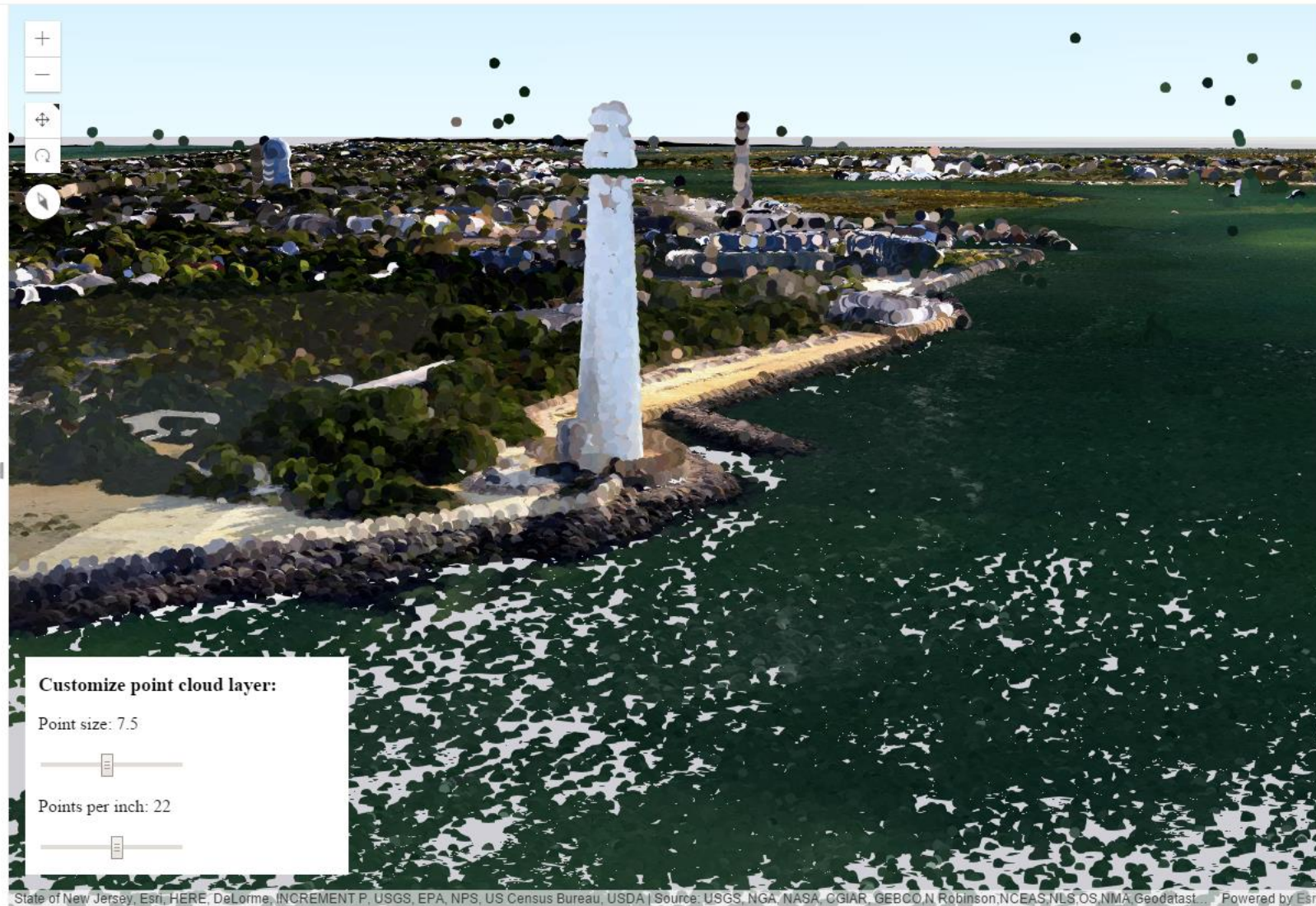
Copyright © 2017 Esri. All rights reserved. | [Privacy](#) | [Terms of use](#)



```

77
78 // create Point Cloud Layer
79 var pclayer = new PointCloudLayer({
80   url: "http://tiles.arcgis.com/tiles/V6ZHFr6zdgNZuVG0/arcgis/rest
      /services/BARNEGAT_BAY_LiDAR_UTM/SceneServer"
81 });
82
83 //initial values for pointsPerInch and pointSize
84 var pointsPerInch = 5;
85 var pointSize = 5;
86
87 // updateRenderer will create a new point cloud renderer with the new
      values for point size and point density
88 function updateRenderer() {
89   pclayer.renderer = new PointCloudRGBRenderer({
90     field: "RGB",
91     pointSizeAlgorithm: {
92       type: "fixed-size",
93       useRealWorldSymbolSizes: false,
94       size: pointSize
95     },
96     pointsPerInch: pointsPerInch
97   })
98 }
99
100 // apply the renderer to the layer
101 updateRenderer();
102
103 // add layer to the map
104 map.add(pclayer);
105
106 // watch for changes on the sliders and update the renderer according to
      the new values
107 on(dom.byId("point-size-slider"), "input", function(evt) {
108   dom.byId("point-size").innerHTML = evt.target.value;
109   pointSize = evt.target.value;
110   updateRenderer();
111 })
112
113 on(dom.byId("points-per-inch-slider"), "input", function(evt) {
114   dom.byId("points-per-inch").innerHTML = evt.target.value;

```





# Web AppBuilder for ArcGIS



# Web AppBuilder for ArcGIS



Five minutes to your first app



Easy configuration



Build widgets & themes

# Web AppBuilder for ArcGIS

- + Erzeugen von Web Apps und Templates
- + Konfigurierung per Drag & Drop
- + HTML5 und JavaScript
- + Responsive Design, eine Anwendung für
  - > Desktop
  - > Tablet
  - > Smartphone
- + Fertige Werkzeuge (Widgets) → Übersicht
- + Verschiedene Layouts (Themes)
- + Durch eigene Widgets und Themes erweiterbar





Design Szene Widget Attribut

Billboard-Design Box-Design Dart-Design

Foldable-Design Jewelry Box-Design Launchpad-Design

Tab-Design

Style

Layout

Starten | Gespeichert

Berlin in 3D with Web AppBuilder for ArcGIS ArcGIS Online

Adresse oder Ort suchen

Maus zum Abrufen von Koordinaten auf der Karte bewegen Betrachterhöhe 675,27 Meter

Geoportal Berlin, Esri, HERE, Garmin, INCREMENT P, USGS | Source: USGS, NSA, NASA, CGIAR, GEBCO, NCEAS, NLS, OS, NMA, Geodastyleisen and the GIS User Community | City of Berlin, ESRI Germany | Esri, Esri Community Maps Contributors

Powered by Esri

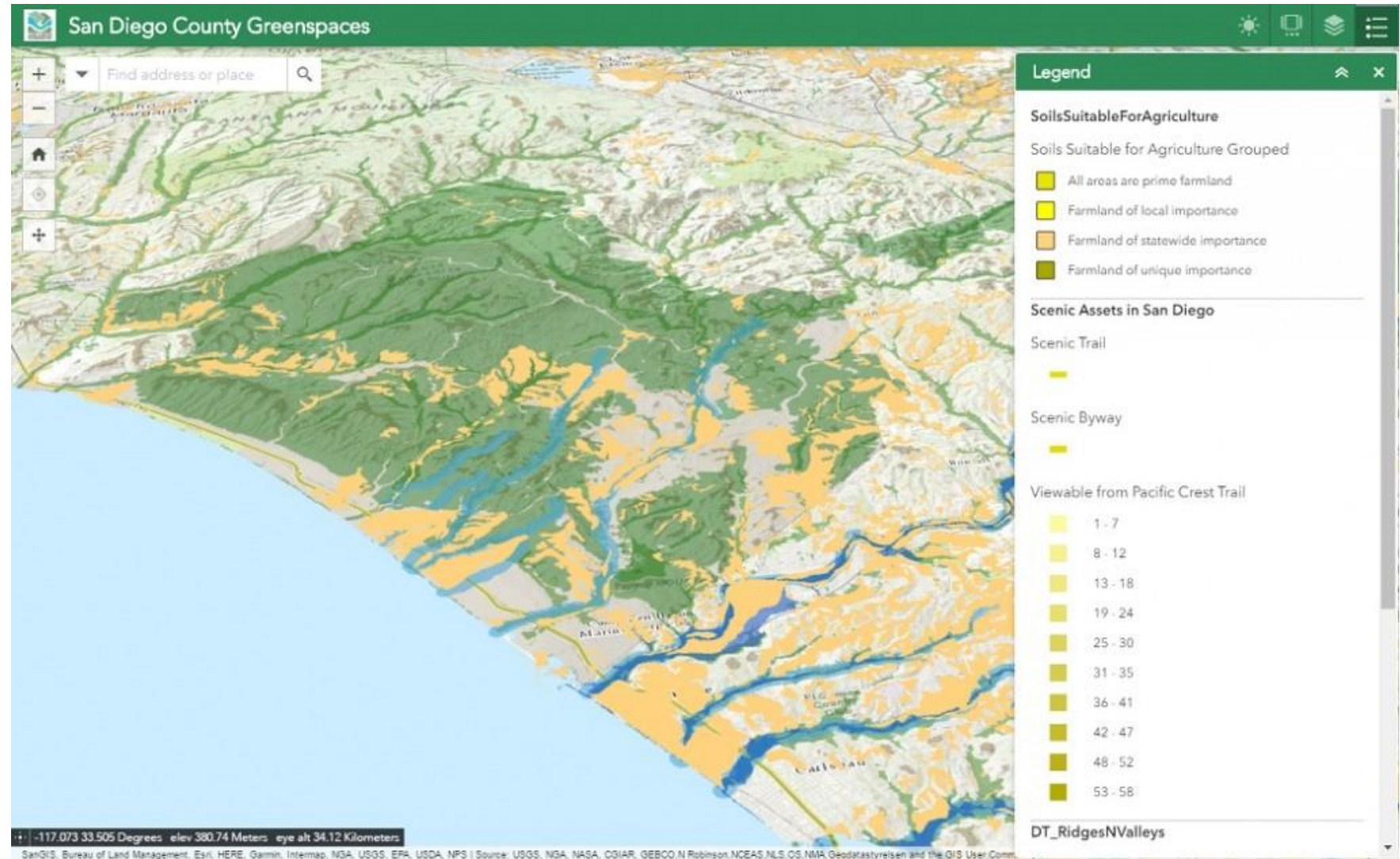


# What's New in Web AppBuilder for ArcGIS (März 2017)

- + Basemap Gallery Widget
  - > Basemaps, die ein anderes Tiling Schema als die vorhandenen Basemaps , werden ausgeschlossen
- + Group Filter Widget
  - > Neue Filteroptionen für Datumsfelder: „Is on of before“, „Is on or after“
- + Info Summery Widget
  - > Verbesserte Unterstützung von CSV-Layern
- + LayerList (3D) Widget
  - > Unterstützt die Darstellung von Layer Hierarchien und Terrain Layer
- + Near Me Widget
  - > Maximale Anzahl der Ergebnisse kann festgelegt werden

# Legend Widget

+ Neues Widget für 3D Apps



# Analysis Widget

## + „Find Outliers“ und „Join Features“ Tools

Configure Analysis




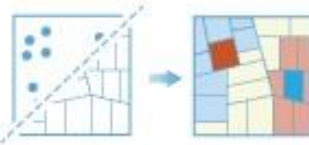

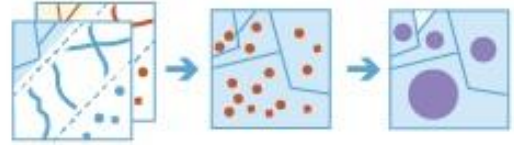
Analysis

change widget icon

[Learn more about this widget](#)

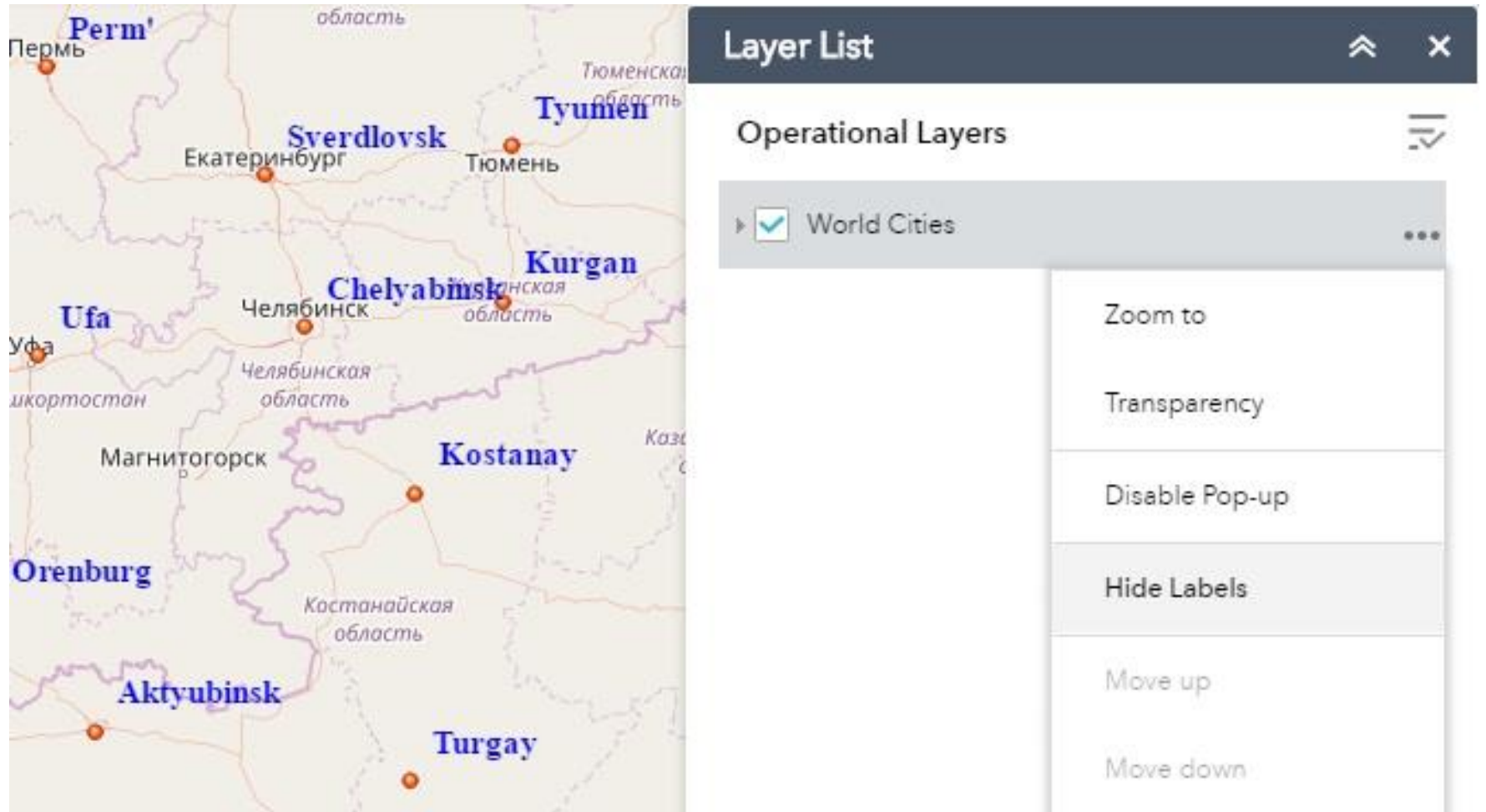
Select analysis tools to use in the widget.

0/25

<input type="checkbox"/> Name	Settings	Usage	
<input type="checkbox"/> Find Outliers			The Find Outliers tool will determine if there are any statistically significant outliers in the spatial pattern of your data.
<input type="checkbox"/> Join Features			The Join Features tool will transfer attributes from one layer or table to another based on spatial and attribute relationships. Optionally, statistics can be calculated for the joined features.

# LayerList Widget

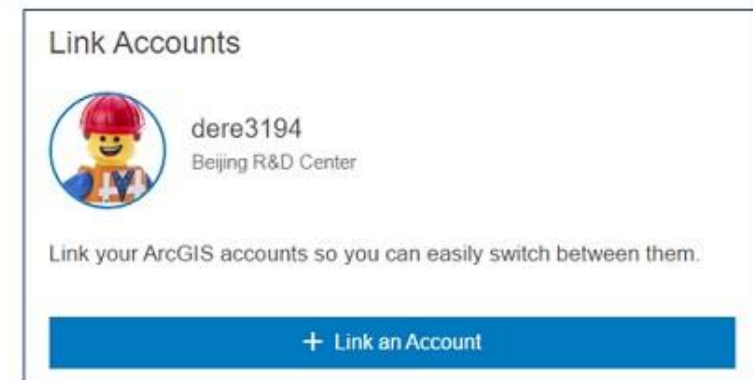
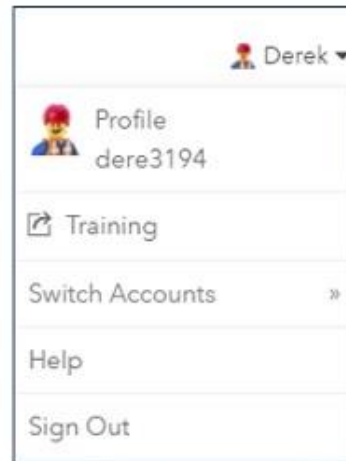
- + Kontextmenü zum Anzeigen/Verbergen von Labels





# General Enhancements

- + „Save to My Content“ verfügbar für Feature Sets:
  - > Query Ergebnisse, Geoprocessing Ergebnisse, Selections, ...
- + Konfigurierte Labels eines Layer werden in Apps übertragen
- + In Pop-Ups wird für Related Records der Titel verwendet, der in der Map View festgelegt wurde und kann vom Nutzer verändert werden
- + Web AppBuilder Developer Edition bietet die Möglichkeit Account zu wechseln





## Einführung

Widgets versorgen Web AppBuilder Apps mit Funktionalität, wie dem Drucken, einer Übersichtskarte oder Analysen.

Ziel dieser Story Map: Es werden folgende Fragen beantwortet:

1. Welche Widgets gibt es überhaupt?
2. Was kann man mit Widget XY machen?

Online Dokumentation: <http://doc.arcgis.com/de/web-appbuilder/create-apps/widgets-tab.htm>

## Basis-Widgets (teilweise aktualisiert März 2017)

## Widgets ohne Konfiguration (teilweise aktualisiert März 2017)

## Abfrage/Query (aktualisiert Juni 2016)

## Analyse/Analysis (aktualisiert März 2017)

## Auswählen/Select (aktualisiert September 2016)

## Bearbeiten/Edit (aktualisiert September 2016)

# Web AppBuilder for ArcGIS

Web AppBuilder durchsuchen

- Startseite
- Erstellen von Apps
- Verwalten von Apps
- Erweitern von Apps

Erstellen von Apps / Konfigurieren von Apps

- > Erste Schritte
- ▼ Konfigurieren von Apps
  - Design
  - Karte und Szene
  - Widget
  - Attribut
  - Vorschau
- > Konfigurieren von 2D-Widgets
- > Konfigurieren von 3D-Widgets

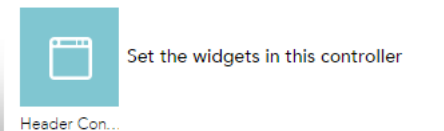
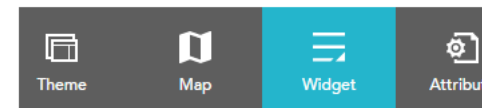
## Widget

In diesem Thema

[offPanel- und inPanel-Widgets](#)

[Widgets auf dem Bildschirm](#)

Auf der Registerkarte **Widget** können Sie die Funktionen einer App konfigurieren. Da Widgets speziell für die Verwendung mit 2D- oder 3D-Dateninhalt konzipiert sind, unterscheiden sich Widgets für 2D-Apps von denen aus 3D-Apps. Welche Widgets anfangs vorhanden sind, hängt außerdem vom Design ab, da jedes Design über einen eigenen vorkonfigurierten Satz an Widgets verfügt. Nachfolgend sind die Widgets für die Option "Foldable-Design" zum Erstellen von 2D-Apps aufgeführt.





# Ressourcen für Entwickler

# ArcGIS for Developers

[developers.arcgis.com](https://developers.arcgis.com)

ArcGIS for Developers | [Get Started](#) | [Documentation](#) | [Features](#) | [Pricing](#) | [Support](#)

## ArcGIS for Developers

Bring the power of location to your apps with ArcGIS – a complete geospatial platform for developers. Regardless of your developer experience, you can create and manage apps that include mapping, visualization, analysis, and more. Build web, mobile, and desktop apps for any industry and any device.

[Sign Up for Free](#)

[Get Started in 15 minutes](#)

[APIs & SDKs](#) ▾

[ArcGIS DevLabs](#)

[Documentation](#)



# Developer Labs

[developers.arcgis.com/labs](https://developers.arcgis.com/labs)



Learn how to build an app in 15 minutes.

ArcGIS DevLabs guide you through the three phases of building geospatial apps:  
Data, Design, Develop

Introduction Data Design Develop

## Data

- ▶ Explore ArcGIS Open Data
- ▶ Create or import new datasets
- ▶ Share content or keep it private
- ▶ Prep data for offline use

[View All 5 Data DevLabs](#)



### Import data

Load your data into the cloud (xls, gpx, GeoJSON, shapefiles).

[Start Lab \(10 minutes\)](#)



### Create a new dataset

Define and populate datasets in the cloud for your apps.

[Start Lab \(10 minutes\)](#)

# Online Sign-up

[developers.arcgis.com/sign-up](https://developers.arcgis.com/sign-up)

## Sign up for the ArcGIS Developer Program

First name

Last name

Email

[Send Confirmation Email](#)

Already have an ArcGIS Online account or are a member of the ArcGIS Developer Program? [Sign in](#) to access developer tools and downloads.

Membership in the ArcGIS Developer Program gives you access to:



Basic online app builders



Web and native client SDKs



Credits for developing and testing your apps



A large developer community to communicate and collaborate



Documentation including a vast library of developer samples




Beta software and the Esri Early Adopter Community (EAC)

# Developer Dashboard

[developers.arcgis.com/dashboard](https://developers.arcgis.com/dashboard)

ArcGIS for Developers [Dashboard](#) + [Get Started](#) [Documentation](#) [Pricing](#) [Support](#) 🔍 Lars Isc4devprog



**Lars Schmitz**  
Lars Isc4devprog  
GeoDev Germany, Admin  
ArcGIS Organization Account  
2452.3184 credits available


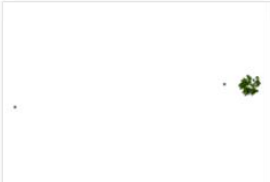
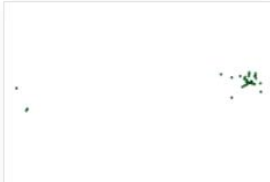

### Applications

[View all 12 Applications](#)

- Netze BW  
🕒 February 13, 2017
- Startups 2016  
🕒 January 23, 2017
- StartupPortfolio2016-Setup-x64.exe.zip (1.0.5)  
🕒 October 26, 2016

### Layers

[View all 9 Layers](#) [Create New Layer](#)

-   
Startups\_2016  
🕒 October 25, 2016
-   
Developer Community 2016  
🕒 April 25, 2016  
Community
-   
Events 2014  
🕒 April 25, 2016  
Conferences
-   
Startups 2014  
🕒 April 25, 2016  
Startups

### APIs & SDKs

Download APIs and SDKs, such as the ArcGIS API for JavaScript or ArcGIS Runtime SDKs.

[Download APIs and SDKs](#)

### Professional GIS Software

Download and license GIS software such as ArcGIS Pro and ArcGIS Enterprise.

[Download On My Esri](#)

### ArcGIS Online Organization

- Password and Profile
- Redeem Voucher
- Support
- Feedback
- Switch Accounts
- Sign Out

# GeoDev Germany auf GeoNet

[geonet.esri.com/groups/geodev-germany](http://geonet.esri.com/groups/geodev-germany)

**GeoDev Germany** Following Actions ⓘ ⚙

Overview Activity Content People Reports Calendar

**ANNOUNCEMENT: Webinar: Das neue ArcGIS Runtime (German)** Show Details

**Welcome!**

Welcome to the German geodev community! Follow us for all things geo development and startups. You can leave your comments and questions, too.

**HELPFUL LINKS**

- GeoDev Germany on Twitter
- GeoDev Germany on Meetup
- Esri Startup Program
- Esri on GitHub
- GIS IQ Blog (D)
- ArcGIS Produkt Blog (D)

**GROUP ADMINS**

- Alexander Erbe
- Lars Schmitz

**FEATURED CONTENT**

- Entwickler Webinare (German) - Lars Schmitz 4 days ago
- Meetup 1.2017 - GeoIntelligence - Lars Schmitz 4 days ago
- Webinar ArcGIS Developer Program (Deutsch) - Lars Schmitz 1 day ago
- European Geo Business Seminar - Lars Schmitz 1 day ago

All Content in GeoDev Germany

**ARCGIS DEVELOPER EXPERIENCE**

ArcGIS Developer Experience

**UPCOMING EVENTS**

- MAR 28** Webinar: Das neue ArcGIS Runtime (German) - Online
- MAR 29** 1st BMVI Startup-Pitch - Bundesministerium für Verkehr und digitale Infrastruktur
- APR 4** Webinar: Die neue ArcGIS API for JavaScript (Deutsch) - Online Webinar
- APR 7** Startup Camp - Humboldt Universität zur Berlin
- APR 11** Webinar: ArcGIS API for Python (Deutsch) - Online Webinar

**#geodev Tweets**


**#GeoDev**

theatre sessions, did you? More to come soon!  
#DevSummit #geodev arcgis/2nb95GC




# GeoDev Meetups

meetup.com/GeoDev-Germany



Home Members Sponsors Photos Pages Discussions More Group tools My profile



Change photo

München, Germany  
Founded Feb 13, 2014

### Mapping, Location und GIS - von Entwicklern für Entwickler

+ Schedule a new Meetup

Upcoming (2) Past Calendar

#### Webinar: Das neue ArcGIS Developer Program



ONLINE  
ONLINE, München (map) Tue Mar 21  
4:00 PM

I'm going

5 days left

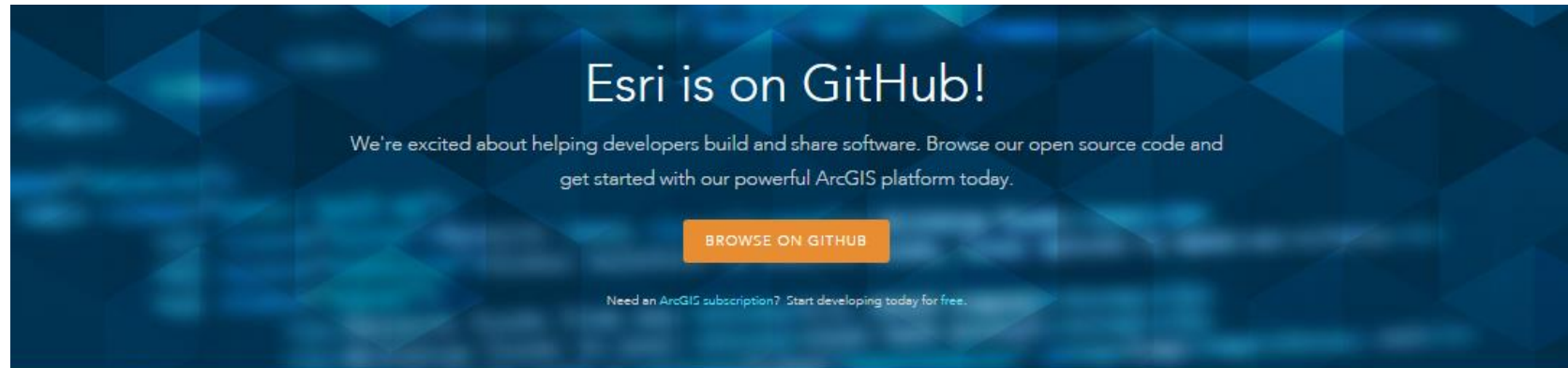
Das neue ArcGIS Developer Program Für

### What's new



# Esri @ GitHub

[esri.github.io](https://esri.github.io)



Filter by language or keyword:

Search/Select

esri-leaflet  
JavaScript

A lightweight set of tools for working with ArcGIS services with Leaflet.

🔼 274 ★ 339

terraformer  
JavaScript

A geometric toolkit for dealing with geometry, geography, formats, and building geo databases

🔼 61 ★ 227

koop  
JavaScript

Expose GeoJSON services as Feature Services

🔼 48 ★ 155

gis-tools-for-hadoop  
Python

arcgis-viewer-flex  
ActionScript

bootstrap-map-js  
JavaScript

A light-weight JS/CSS extension for building

# Key Take-Aways

- + Die Version 4.x der JavaScript API macht sich!
- + Eure Arbeit wird mit 4.x leichter.
- + Ihr findet auf [developers.arcgis.com](https://developers.arcgis.com) umfangreiche Unterstützung.
- + Vernetzt euch auf GeoNet, es lohnt sich.

# Webinare für Entwickler

[esri.de/entwickler-und-start-ups/webinare](https://esri.de/entwickler-und-start-ups/webinare)

21.03. - Das neue ArcGIS Developer Programm

28.03. - Native Apps entwickeln mit ArcGIS Runtime Version 100

04.04. - Web Apps entwickeln mit ArcGIS API for JavaScript und Web AppBuilder

11.04. - Web GIS automatisieren mit der neuen ArcGIS Python API

**Online-Anmeldung auf [esri.de](https://esri.de)!**



The background features a dark gray field with a network of thin, light gray lines. Scattered throughout are several hexagons and small dots. Some hexagons are outlined in blue, while others are outlined in light green. The dots are also colored, with some in blue and others in light green. The overall aesthetic is clean and modern, suggesting a technical or scientific theme.

# Eure Fragen

# Die Unternehmen der Esri Deutschland Group GmbH



**Esri Deutschland Group GmbH Kranzberg**

Esri Deutschland GmbH Kranzberg

Niederlassung Berlin

Niederlassung Bonn

Niederlassung Hannover

Niederlassung Köln

Niederlassung Leipzig

Niederlassung Münster



**Esri Rwanda Ltd. Kigali**



**Esri Rwanda Ltd. Kigali**



**Geocom Informatik AG Burgdorf**

Standort Nyon

Standort Zürich

**Geocom Informatik GmbH Kranzberg**

Standort Berlin

Standort Hamburg

Standort Köln



**Esri Schweiz AG Zürich**

Niederlassung Nyon



**con terra GmbH Münster**

Standort Berlin

# Esri Deutschland, Esri Schweiz, Esri Rwanda, Esri Burundi



## **Esri Deutschland GmbH**

Ringstraße 7  
85402 Kranzberg  
Telefon +49 89 207 005 1200  
info@esri.de

## **Niederlassung Berlin**

Karl-Liebknecht-Str. 5  
10178 Berlin  
Telefon +49 89 207 005 1560  
info@berlin.esri.de

## **Niederlassung Bonn**

Rheinallee 24  
53173 Bonn  
Telefon +49 89 207 005 1720  
info@bonn.esri.de

## **Niederlassung Hannover**

Schiffgraben 11  
30159 Hannover  
Telefon +49 89 207 005 1520  
info@hannover.esri.de

## **Niederlassung Köln**

Konrad-Adenauer-Ufer 41-45  
50668 Köln  
Telefon +49 89 207 005 1760  
info@koeln.esri.de

## **Niederlassung Leipzig**

Fechnerstraße 8  
04155 Leipzig  
Telefon +49 89 207 005 1420  
info@leipzig.esri.de

## **Niederlassung Münster**

Martin-Luther-King-Weg 24  
48155 Münster  
Telefon +49 89 207 005 1460  
info@muenster.esri.de



## **Esri Schweiz AG Zürich**

Josefstrasse 218  
8005 Zürich  
Telefon +41 58 267 18 00  
info@esri.ch

## **Esri Suisse SA Nyon**

Grand-Rue 9  
1260 Nyon  
Telefon +41 58 267 18 60  
info@nyon.esri.ch



## **Esri Rwanda Ltd. Kigali**

KG 5 Ave, Nr 18, Kacyiru  
P.O. Box 6867  
Kigali, Rwanda  
Lat. 1°56'46.9" S; Long. 30°5'24.8" E  
Telefon +250 788 38 19 00  
info@esri.rw



## **Esri Rwanda Ltd. Kigali**

KG 5 Ave, Nr 18, Kacyiru  
P.O. Box 6867  
Kigali, Rwanda  
Lat. 1°56'46.9" S; Long. 30°5'24.8" E  
Telefon +250 788 38 19 00  
info@esri.rw