



# Getting Started with Web AppBuilder for ArcGIS

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Wednesday July 29th, 2015

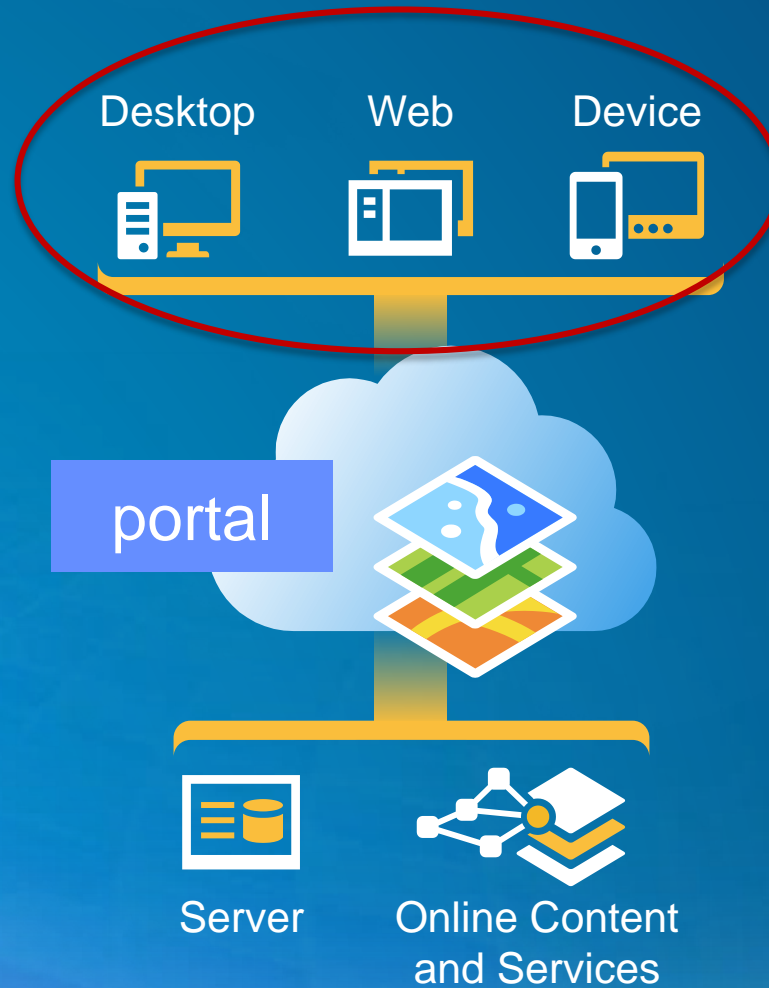
# Agenda

- **Eamonn**
  - Introduction to Web AppBuilder
  - What's New - July 2015 ArcGIS Online update
  - Example App - The Wind Farm App
- **Mikie**
  - Building The Wind Farm App
  - WebApp Builder Developer Edition
  - Integrating 3rd Party Widgets
  - Deploying and Hosting Options
- **Community and Resources**
- **Q&A**
- **Next Webinar**
- **Slides available at <http://esri-ireland.azurewebsites.net/Webinars/WebAppBuilder.pdf>**

# The ArcGIS Platform enables Web GIS

Enabling GIS Everywhere

Simple  
Integrated  
Open



Available in the Cloud . . .  
. . . and On-Premises

# ArcGIS Web Application Templates

ArcGIS Online and Portal for ArcGIS



Web Map



### Make a Web Application

Configurable Apps | Web AppBuilder

Click a template's thumbnail to preview it or click its links to download it to your computer or publish it to the web.

<b>Basic Viewer</b>  Publish ▼	<b>Chrome - Twitter</b>  Publish ▼	<b>Classic Viewer</b>  Publish ▼	<b>Compare Analysis</b>  Publish ▼
<b>Directions</b>  Publish ▼	<b>Edit</b>  Publish ▼	<b>Elevation Profile</b>  Publish ▼	<b>Filter</b>  Publish ▼

1 2 3 4

<b>Find, Edit, and Filter</b>  Publish ▼	<b>Finder</b>  Publish ▼	<b>GeoForm</b>  Publish ▼	<b>Impact Summary</b>  Publish ▼
<b>Information Lookup</b>  Publish ▼	<b>Legend</b>  Publish ▼	<b>Local Perspective</b>  Publish ▼	<b>Map Tools</b>  Publish ▼

1 2 3 4

<b>Public Information</b>  Publish ▼	<b>Simple Map Viewer</b>  Publish ▼	<b>Story Map Basic</b>  Publish ▼	<b>Story Map Journal</b>  Publish ▼
<b>Story Map Series</b>  Publish ▼	<b>Story Map Swipe and Spyglass</b>  Publish ▼	<b>Story Map Tour</b>  Publish ▼	<b>Summary Viewer</b>  Publish ▼

1 2 3 4

# ArcGIS WebApp Builder



Web Map



Home Web AppBuilder for ArcGIS Water Leak Manager App Derek

Width 1024 Px Height 768 Px

iPhone6	iPhone6 plus	iPhone5/5C/5S	iPhone4/4S
iPad Air	iPad with Retina Display	The New iPad	iPad Mini
Samsung Galaxy S4	Samsung Note 3	Nexus 5	Nexus 4
Nexus 7	HTC One	Xiaomi 3	LG G2

Scan QR code to view application on your mobile device

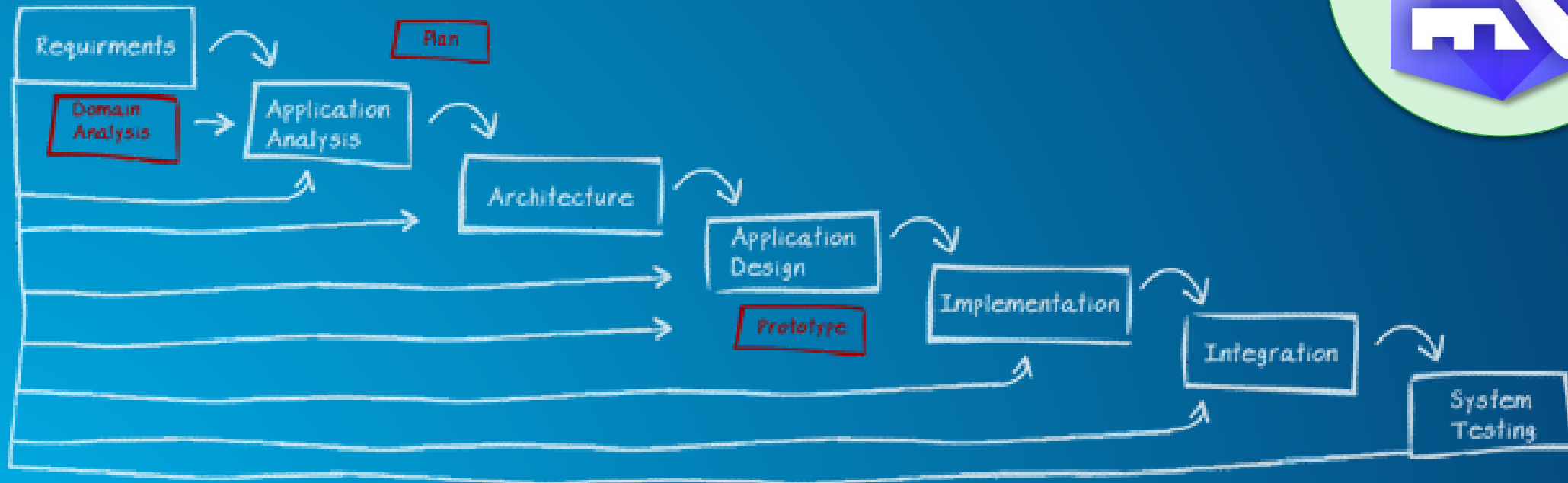
Launch | < Configure | Save

# What is Web AppBuilder for ArcGIS?

- **Functionality within ArcGIS Online and Portal for ArcGIS**
  - ArcGIS Online since Dec 2014
  - Portal for ArcGIS in 10.3 and later
- **Enables new apps to be created without coding**
  - Interactive WYSIWYG user experience
  - Runs on any device, in a web browser
- **Fully integrated with the ArcGIS Platform**
- **Built with ArcGIS API for JavaScript and HTML 5 technology**
- **Extensible**



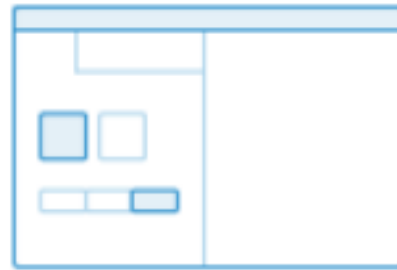
# Typical App Development Process



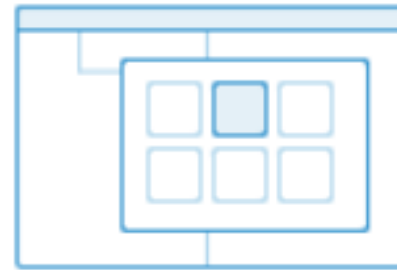
# WebApp Builder App Development Process



**1** Create new app



**2** Pick style



**3** Select map



**4** Add widgets



**5** Configure attributes

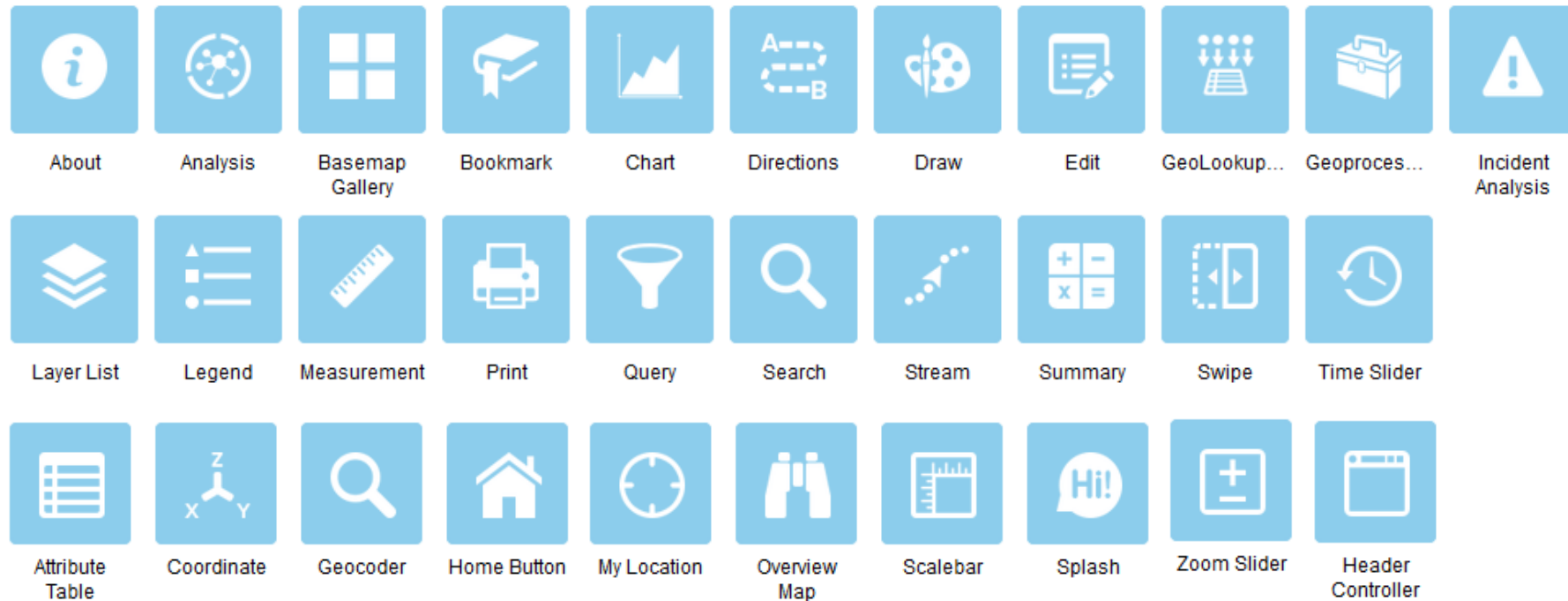


**6** Preview and publish



# Available Widgets

- **Widget:** a chunk of code that can be added in a modular fashion; provides functionality
- **30+ available;** enable core web mapping application capabilities



## Some Notable Widgets

- **Navigation**
- **Query**
- **Search**
- **Geocoding**
- **Editing**
- **Geoprocessing**
- **Printing**
- **Legend**
- **Layer List**
- **Overview Map**
- **Attribute**
- **HeaderController**



# Developing with Web AppBuilder for ArcGIS

- **Responsive UI**
  - Cross Device Support
  - CSS3 Styles and Layouts
- **WebMap enabled**
- **Builder Application**
- **Framework or “stem” application**
- **Functional Widgets**
- **Extensible by Developer**
- **SaaS or Hosted Apps**

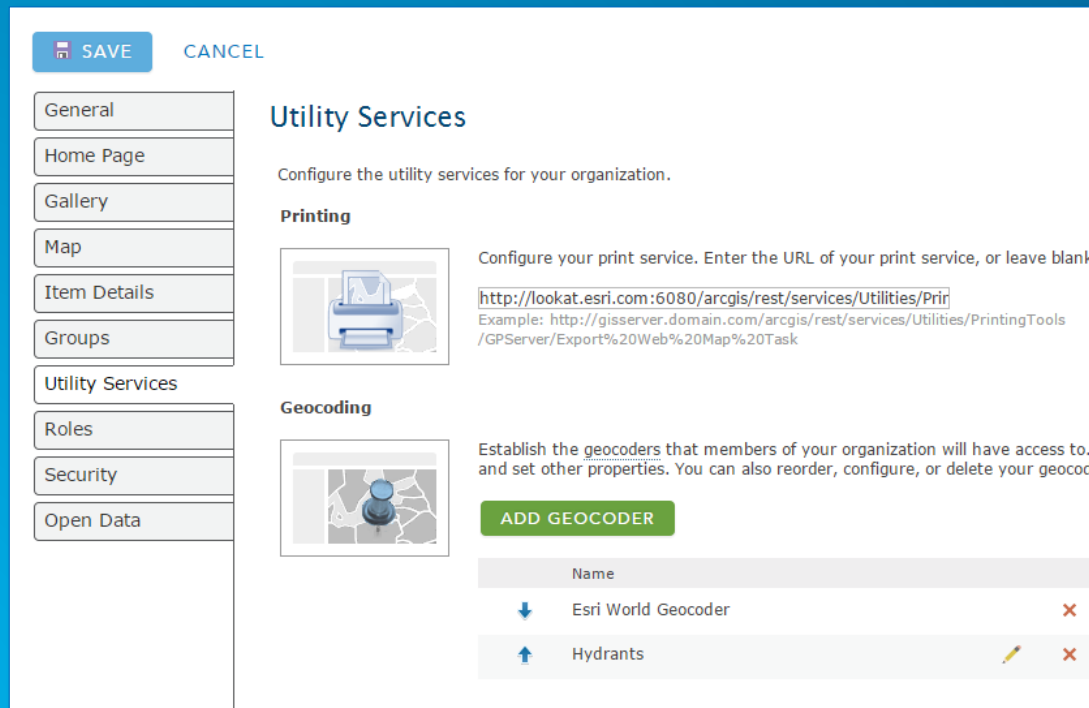


## By the Numbers ...

- # of apps made in ArcGIS Online: **10,000+**
- # of Developer Edition downloads: **v1.0 → 9700+, v1.1 → 7400+** (early June 2015)
- Pre-UC Survey: **70% are using it now**
  
- Very active user community on GeoNet
  - **Web AppBuilder for ArcGIS**
    - 8<sup>th</sup> most active
  - **Web AppBuilder Custom Widgets**
    - 6<sup>th</sup> most active
  
  - Custom widgets by the community: **over 2000+ downloads**

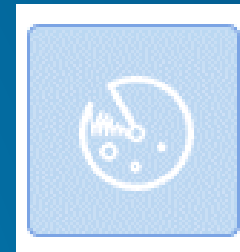
# Leverage your organization's Utility Services

- ArcGIS Online or Portal for ArcGIS
- Organization settings panel



The screenshot shows the 'Utility Services' configuration page in ArcGIS. On the left is a navigation menu with options: General, Home Page, Gallery, Map, Item Details, Groups, Utility Services (selected), Roles, Security, and Open Data. The main content area is titled 'Utility Services' and includes a 'SAVE' button and a 'CANCEL' button. Below the title is a description: 'Configure the utility services for your organization.' There are two sections: 'Printing' and 'Geocoding'. The 'Printing' section has a printer icon and a text input field for a URL, with an example: 'http://lookat.esri.com:6080/arcgis/rest/services/Utilities/PrintingTools/GPServer/Export%20Web%20Map%20Task'. The 'Geocoding' section has a map icon with a pin and a table of geocoders. A green 'ADD GEOCODER' button is above the table.

Name
Esri World Geocoder
Hydrants



Locators



Basemaps



Print services

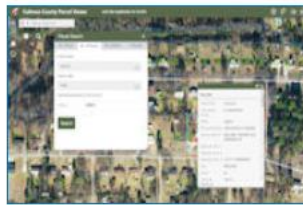


### Web AppBuilder for ArcGIS - Live Sites Showcase

This group contains a collection of live web apps that were built using [Web AppBuilder for ArcGIS](#). The intent is to showcase the many different use cases that Web AppBuilder for ArcGIS can address, as well as More

### Tags

- Accessibility
- ACT Parks and Conservation Service
- Address
- Agriculture
- Airport Runways
- Alabama
- Alaska
- Alberta
- Asset
- Australia
- Belleville
- Birds
- Directive
- Boone County
- Boone County GIS
- Boone County Planning
- Commission
- Bridges
- broken main
- Buildings
- Cadastral
- Calhoun
- California
- Canada
- Canberra
- Capital Improvement Plan
- capital program
- Carnegie
- Museum of Natural History
- ccpa
- Cities
- City of Kitakyushu
- Climate-Smart Cities
- Closures
- CMOM
- Collector
- Commercial
- Trucking
- Conditions de circulation
- consent
- decree
- conservation
- construction
- County
- Cumberland
- County
- Custom
- Widget
- DC
- Demographics
- DEP
- Deshe
- developers
- Dojo
- DOT
- drinking water
- Duncan
- Département de la Corse du Sud
- Economic Development
- ecopeace
- Edmonton
- Engineering
- Facilities
- Farmland
- farms
- First Edition



**Calhoun County Parcel Vie...**  
Web Mapping Application



**In Your Neighborhood**  
Web Mapping Application



**PlanNet**  
Web Mapping Application



**Lisbon's Roadkill Informati...**  
Web Mapping Application



**The University of the West ...**  
Web Mapping Application



**GIS Viewer for Boone Coun...**  
Web Mapping Application



**Muscatine County Iowa Inf...**  
Web Mapping Application



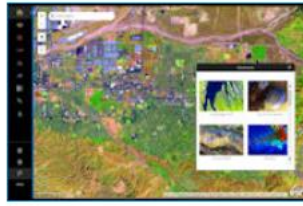
**Hamilton County Indiana M...**  
Web Mapping Application



**Land Status within the Nati...**  
Web Mapping Application



**IWASD Projects**  
Web Mapping Application



**Unlock Earth's Secrets - De...**  
Web Mapping Application



**Urban Heat Risk Explorer A...**  
Web Mapping Application



**Iowa DOT Snowplows**  
Web Mapping Application



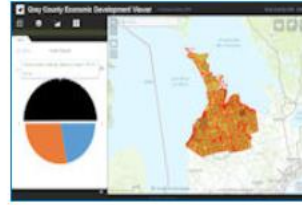
**City of Mountain View Zoni...**  
Web Mapping Application



**Agricultural Resources**  
Web Mapping Application



**Lediga villatomter - Lots fo...**



**Grey County Economic Dev...**



**King County iMap**



**Springs of Judean Hills**



**City of Kitakyushu - Post yo...**

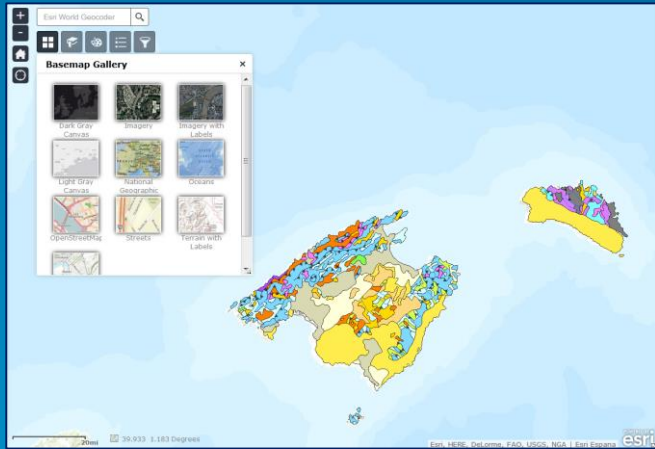
# Web AppBuilder for ArcGIS Live Sites Showcase

ArcGIS Online Public Group

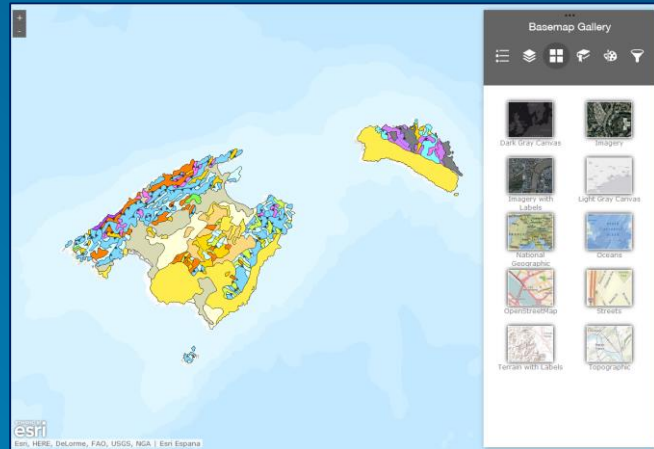


Web AppBuilder for ArcGIS

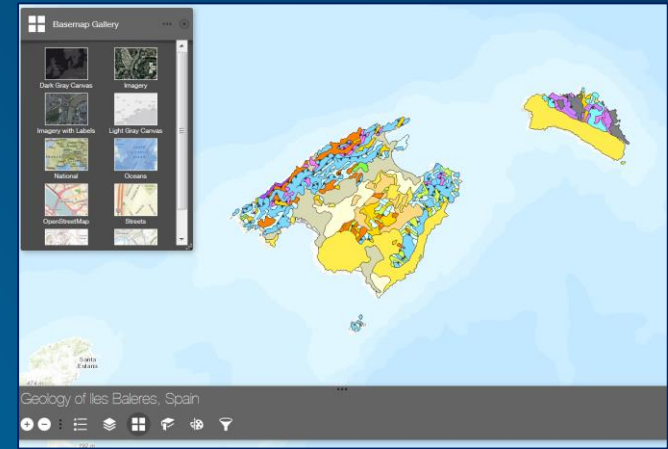
# July 2015 Release



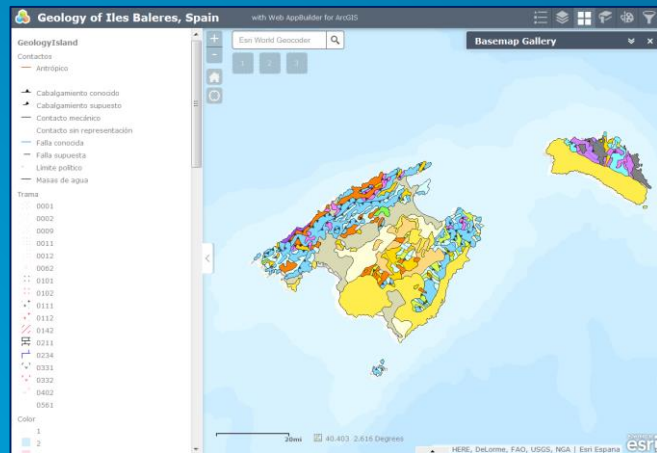
Billboard



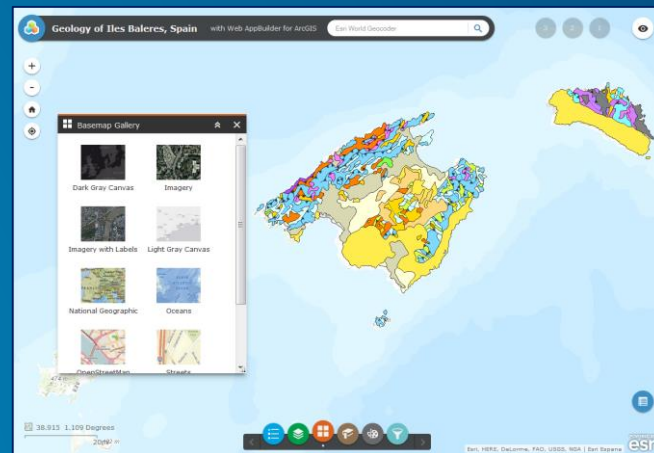
Box



Dart



Jewelry Box



Launchpad

5 New Themes

Custom look and feel





Search widget



Stream widget



Summary widget



Incident  
Analysis widget



GeoLookup widget

**5 New Widgets**

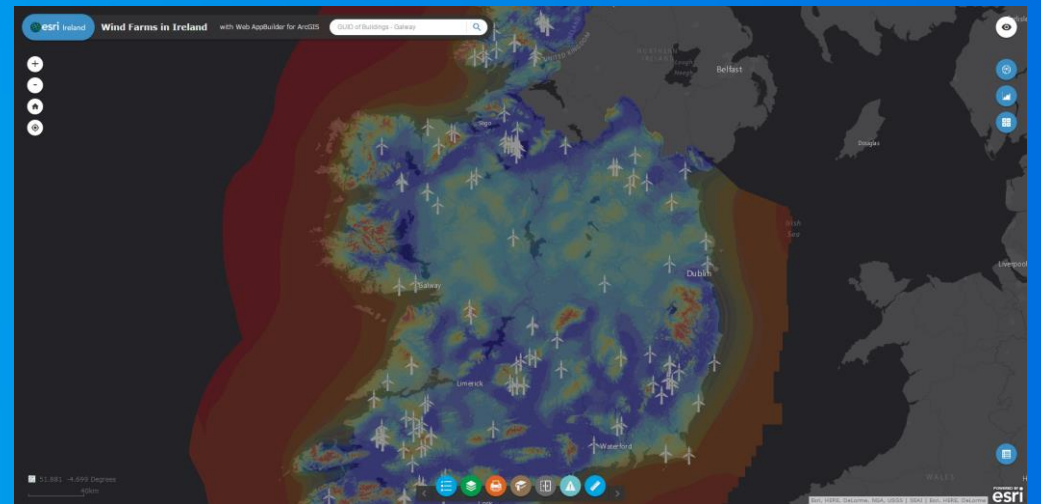
More functionality

## Other enhancements

- **Search Widget supports multiple sources – Locator, feature Layer etc.**
- **Option to have widgets already “opened” when the web app starts up**
- **Support for uploading data for use in a GP service which has upload capability in the Geoprocessing widget**
- **Configurable context menus in the Layer List widget**
- **Interactive +/- zoom control in the map display with Zoom Slider widget**
- **Better responsive support in the Foldable and Tab themes**
- **Configure the sorting rules for query results in the Query widget**
- **Support Image Service Vector Layer and Image Service Layer**

Demo - Eamonn

# The Wind Farm App



Demo - Mikie

# Customisation

Create an App in Web AppBuilder  
Export as Template



## 2 Tiers of Customisation

- **Enabling custom functionality - Configurator**

- Add custom widgets to your apps
- Non-developer



- **Extending custom functionality - Developer**

- Create new widgets from scratch
- Programmer



# Configurator - For GIS Types

- Simple Build
- On ArcGIS Online
- Hosted Apps
- Familiar Templates
- Widget Library
- Responsive



# Developer - For Developers

- For Developers
- Access to the JavaScript API
- Download to IDE
- App Framework
- Extensive Functionality
- Extensible
- Plug-in Model - Widgets
- Skin/UI
- Security
- Responsiveness



# Web AppBuilder Developer Edition

Developers.ArcGIS.com/web-appbuilder



- **Download and install locally**
  - Sign into ArcGIS Online or Portal for ArcGIS
  - Same “builder” user experience as embedded Web AppBuilder
  - Work with custom widgets and themes
- Provides extensibility framework for apps
- Leverages ArcGIS API for JavaScript
- Create web apps on your own computer

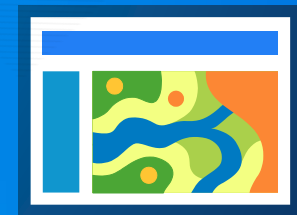
The screenshot displays the 'Web AppBuilder for ArcGIS (Developer Edition)' download page. At the top, there is a navigation bar with 'ArcGIS for Developers' and links for 'FEATURES', 'PLANS', 'DOCUMENTATION', and 'COMMUNITY'. Below this is a purple header with the product name. A secondary navigation bar contains links for 'Home', 'Guide', 'API Reference', 'Sample Code', and 'Forum'. The main content area features a 'Download' section with the text 'Current version 1.0 (December 2014)'. A paragraph describes the benefits of the Developer Edition, such as creating custom widgets and themes. A prominent blue 'DOWNLOAD' button with a download icon is provided. At the bottom of the section, there are links for 'Supported Browsers', 'License', and 'Key Features'.



Demo - Mikie

# Using WAB Developer Edition

Setting up WAB Developer Edition  
Adding Custom Widgets



App

# Deploying & Hosting Options

- ArcGIS Online - default for WebApp Builder Embedded Edition
- Your Own IIS/Apache Instance
- Someone else's IIS/Apache Instance
- Amazon S3 ([Costs Here](#))
- Azure ([Costs Here](#))

WebApps have no server side dependencies they run entirely in the browser and may be deployed anywhere.

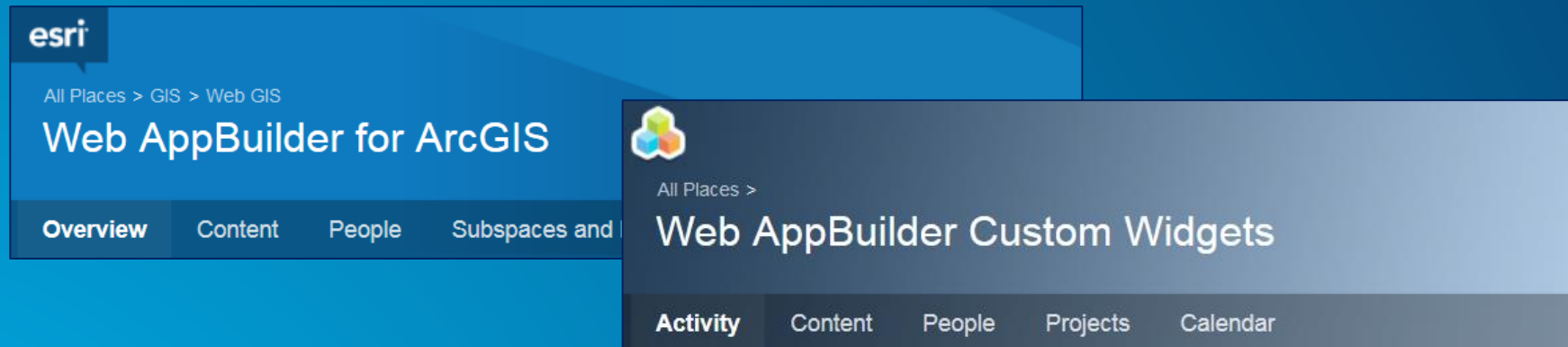
Web AppBuilder for ArcGIS

# Community and Resources

# GeoNet - Esri Community



- 2 places for Web AppBuilder user community

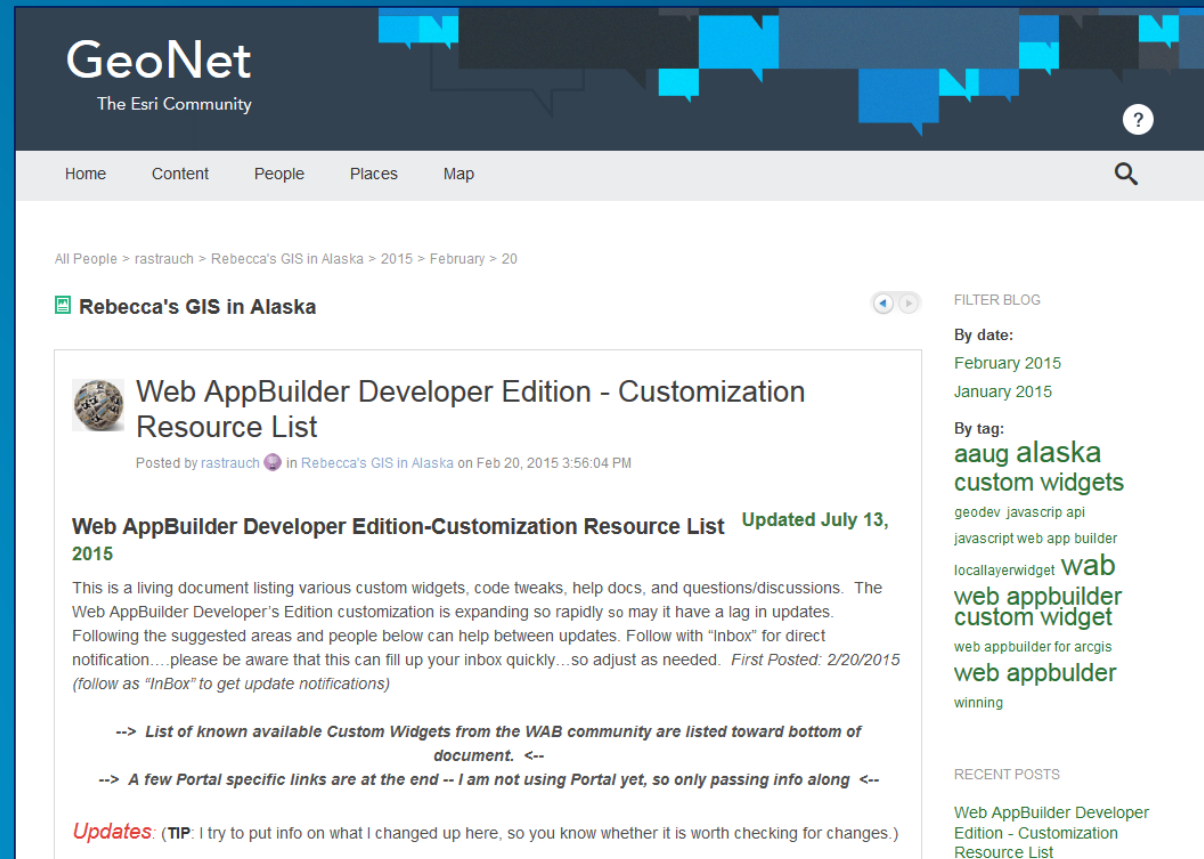


- Both are very active
- Top GeoNet contributors post in these forums/places

# GeoNet: Web AppBuilder Developer Edition - Customisation Resource List

<https://geonet.esri.com/blogs/myAlaskaGIS/2015/02/20/web-appbuilder-developer-edition-customization-resource-list>

- Created, owned, and maintained by the community
- Rebecca Strauch



The screenshot shows a GeoNet blog post. The header includes the GeoNet logo and navigation links: Home, Content, People, Places, Map. The breadcrumb trail is: All People > rastrauch > Rebecca's GIS in Alaska > 2015 > February > 20. The post title is "Web AppBuilder Developer Edition - Customization Resource List" by rastrauch, posted on Feb 20, 2015. The post content includes a paragraph about the resource list being a living document and a note about updates. The right sidebar shows filter options by date (February 2015, January 2015) and by tag (aaug, alaska, custom widgets, geodev, javascript api, javascript web app builder, locallayerwidget, web, web appbuilder custom widget, web appbuilder for arcgis, web appbuilder, winning). Recent posts include "Web AppBuilder Developer Edition - Customization Resource List".

# GeoNet: Custom Widgets shared by Community

<https://geonet.esri.com/groups/web-app-builder-custom-widgets>

- Mixture of enhanced and brand new widgets
- Approx. 20+ widgets
- Some supporting docs

The screenshot shows the GeoNet community interface. At the top, the 'GeoNet The Esri Community' logo is visible. Below it is a navigation bar with 'Home', 'Content', 'People', 'Places', and 'Map'. The main content area features a banner for 'Web AppBuilder Custom Widgets' with a gear-themed background. Below the banner is a 'Log in to follow, share, and participate in this social group.' button. The content list shows 262 items, with filters for 'All documents', 'Type to filter by text', 'Filter by tag', and 'Sort by latest activity: newest first'. The table below lists three documents:

Title	Author	Latest activity	Views	Like	Bookmark	Comment
Enhanced Search Widget Version 1.1.9 - 7/2/15	rscheitlin	July 14, 2015 8:40:18 AM	12283	25	33	492
Enhanced Draw Widget	timw1984	July 14, 2015 5:16:31 AM	1642	1	3	23
Print Plus Widget Version 1.1.6 July 12, 2015	Larry_Stout	July 12, 2015 5:43:59 PM	2685	4	7	85

# GitHub: Esri Solutions Team - Custom Widgets

<https://github.com/Esri/solutions-webappbuilder-widgets>

- Widgets for specific workflows
- Samples

The screenshot shows the GitHub repository page for `Esri / solutions-webappbuilder-widgets`. The repository is described as "Web App Builder created and managed by the Esri Solutions teams." It has 280 commits, 6 branches, 2 releases, and 11 contributors. The current branch is `master`. The commit history shows a recent commit by `MikeMillerGIS` titled "new icons and again a manifest.json fix" from 25 minutes ago. Below the commit list, there are buttons for "Clone in Desktop" and "Download ZIP". On the right side, there are links for "Code", "Issues" (17), "Pull requests" (0), "Pulse", and "Graphs". The "HTTPS clone URL" is `https://github.com/Esri/`.

Commit	Author	Message	Time
new icons and again a manifest.json fix	MikeMillerGIS	Batcheditor renamed to BatchAttributeEditor	a month ago
		fixes #170 and #172	22 days ago
		Updating Description in manifest.json	4 months ago
		new icons and again a manifest.json fix	25 minutes ago
		update README.md	5 months ago
		Updating Description in manifest.json	4 months ago
		added busy cursor for LOS operation	a month ago
		Latest GeoLookup to match Devtopia	16 days ago

# Web AppBuilder for ArcGIS Resources

- **Online help documentation**  
<http://doc.arcgis.com/en/web-appbuilder/>
- **Developer Edition help documentation**  
<https://developers.arcgis.com/web-appbuilder/guide/xt-welcome.htm>
- **ArcGIS Resources (search 'JavaScript Web AppBuilder')**  
<http://resources.arcgis.com/en/home/>
- **Esri Live Training Seminar: *Get Started with Web AppBuilder for ArcGIS (60 mins)***
- **Esri Web course: *Creating Web Applications Using Templates and Web AppBuilder for ArcGIS (2-4 hours)***



## Web AppBuilder for ArcGIS Resources

- **The ArcGIS Book** <http://learn.arcgis.com/en/arcgis-book/>
  - **Interactive PDF available** <http://downloads.esri.com/LearnArcGIS/pdf/The-ArcGIS-Book.pdf>
- **US EPA GitHub** [https://github.com/USEPA/Public\\_Web\\_AppBuilder](https://github.com/USEPA/Public_Web_AppBuilder)
- **Robert Scheitlin Custom Widgets** <https://geonet.esri.com/thread/119278>
- **Esri Community GitHub** <https://github.com/Esri/arcgis-webappbuilder-widgets-themes>
- **Web AppBuilder Live Sites Showcase**  
<http://www.arcgis.com/apps/MapAndAppGallery/index.html?appid=1e3085af6e1a48c8908fa624bdfef768>

## Example Open Source Widgets

- **eMeasure** <https://gis.yakimawa.gov/measure/>
- **eSearch**  
<http://gis.calhouncounty.org/WAB/V1.1.1/widgets/eSearch/index.html?esearch=I-71&slayer=1&exprnum=0>
- **ePrint** <http://gis.hamiltoncounty.in.gov/mapviewer/index.html>
- **Elevation Profile**  
<http://gis.calhouncounty.org/WAB/V1.1.1/widgets/ElevationProfile/index.html>
- **Location** <http://timw1984.github.io/WebApp-Location/>

# Road Ahead

- **Web AppBuilder Developer Edition v1.2 - Aug 2015**
  - Will have the July update functionality
- **Support for 3D web scenes**
- **Support saving app state**
- **Enable client-side workflows**
  - E.g., result from one widget can be input into another widget

**\*Not final - Content subject to change**

# Thanks...

- **Next Webinar...AppStudio for ArcGIS**
  - Provisionally Wednesday 9<sup>th</sup> September 2015
- **Feedback Form**
  - What would you like in future webinars?
- **Webinar video will be on our YouTube channel**
  - <https://www.youtube.com/user/EsriIreland>



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Understanding our world.