



Esri International Developer Summit  
Palm Springs, CA

# What's New in the ArcGIS API for Flex and Flex Viewer

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# Agenda

- Roadmap for 2014 and beyond
- API Improvements & Updates
- Viewer Improvements & Updates
- Additional resources
- Questions

# Roadmap for 2014 and beyond

ArcGIS for Flex



# Flex Roadmap

- [Blog article: Esri Roadmap for Web Developers](#)
- Important to have transparency
- Allows for proper planning
- Support for API and Viewer continues
- Couple of maintenance releases for 2014
  - Bug fixes
  - Critical enhancement requests
- Reevaluate if additional updates are necessary beyond 2014

# Esri Web Development

- **ArcGIS Web App Builder**
  - Built using HTML5 and JavaScript
- **Templates**
- **Encourage use of ArcGIS API for JavaScript**
- **Questions?**

## API updates



**GeoEnrichment**



**Customizable draw tips**



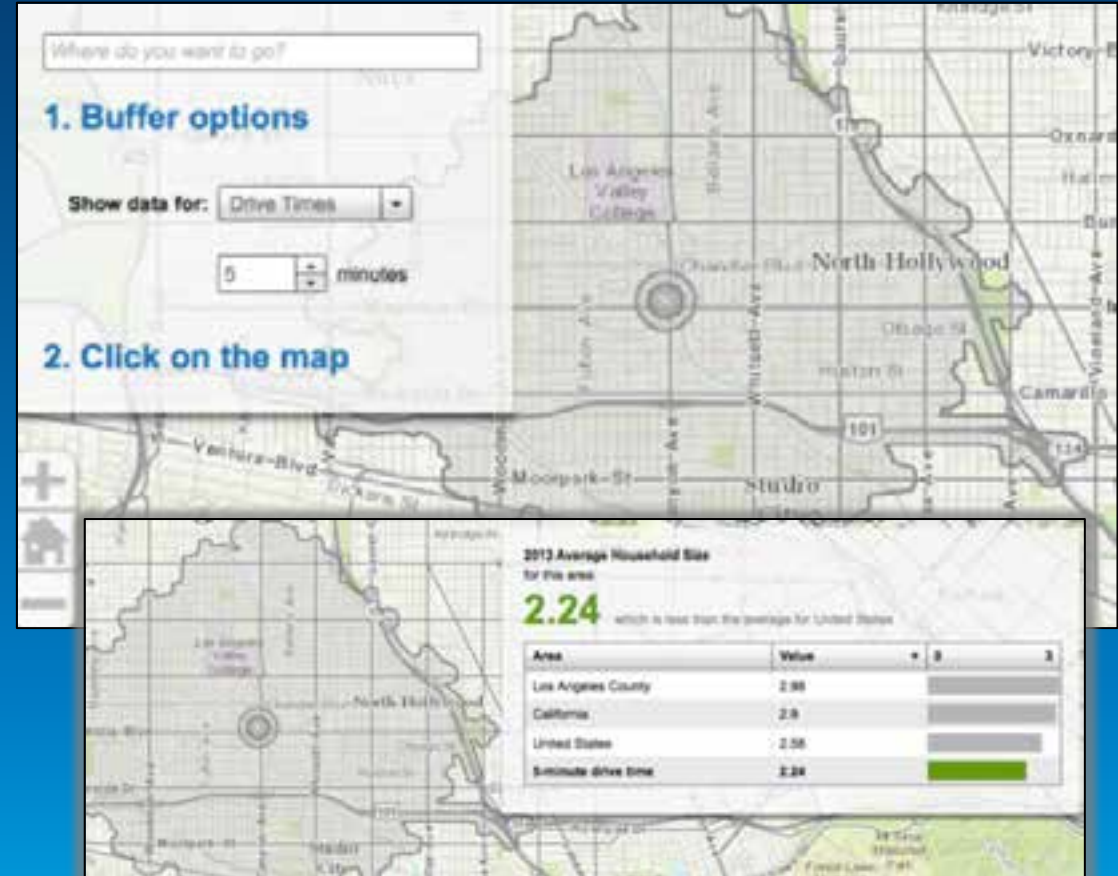
**Attribute Inspector  
hyperlinks**



**OAuth 2.0 built into  
Identity Manager**

# API addition: GeoEnrichment (3.5)

- Provides information about people, places, and businesses
  - In a specific area (aka study area)
  - Within a certain distance or drive time from given location
- GeoEnrichment service
  - AGO subscription to Org or Dev plan
- GeoEnrichment components
  - Infographic
  - InfographicsCarousel



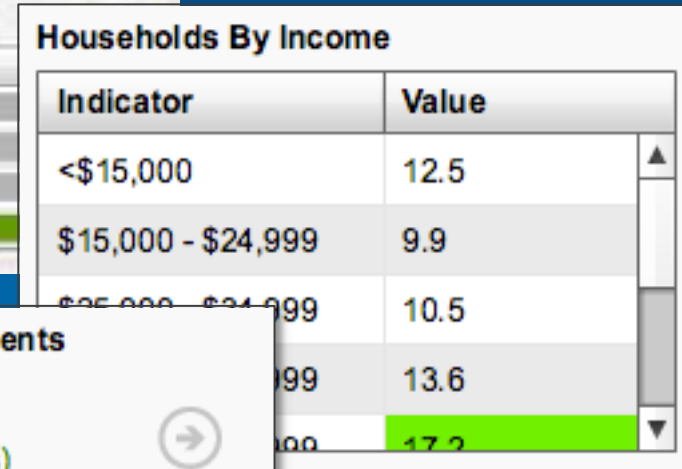
# GeoEnrichment: Infographics

- Three types
  - One variable
  - Related variables
  - Tapestry
- Variables, e.g.
  - Household income
  - Family size
  - Average home value
  - Tapestry classification

One variable



Related variables

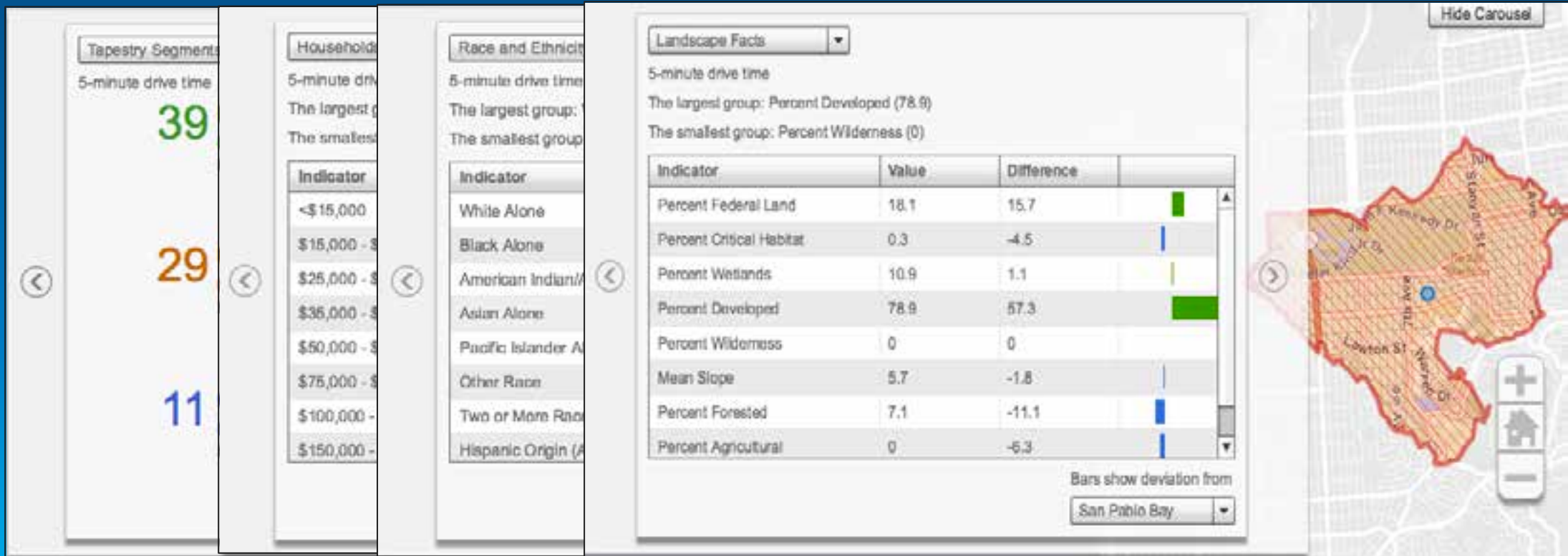


Tapestry



# GeoEnrichment: InfographicsCarousel

- Collection of Infographics



## GeoEnrichment: More information

- **Esri Maps for Office:**

- <http://www.esri.com/software/arcgis/arcgisonline/apps/esri-maps-for-office>

- <https://developers.arcgis.com/flex/guide/geoenrichment.htm>

- **Flex documentation:**

- <https://developers.arcgis.com/flex/guide/geoenrichment.htm>

- **JavaScript documentation:**

- [https://developers.arcgis.com/javascript/jshelp/intro\\_geoenrichment.html](https://developers.arcgis.com/javascript/jshelp/intro_geoenrichment.html)

# API addition: OAuth 2.0 support in Identity Manager (3.5)

- Identity Manager supports both OAuth 2.0 and token-based security
- Two types of OAuth 2.0 logins
  - User logins
    - supported by Identity Manager
  - App logins
    - no user login needed
- Works with registered applications of the ArcGIS platform

**Add Item**

Add an item from your computer or reference an item on the Web.

The item is: An application

Web Mapping  Mobile  Desktop  Application

URL: http://localhost/~heather/Demos/DevSummit/2014/OAuth\_AppLogin-deb

Supported Items

Purpose: Ready To Use API: Flex

Title: OAuth App Login App

Tags: OAuth App login X

ADD

**Register**

App Type: Browser

Redirect URI: http://<server>[:port]

ADD DELETE

http://heatherg

REGISTER CANCEL

App Registration	
App ID:	i3GEwDN2AL0JLc6S
App Secret:	Show Secret
App Type:	browser
Redirect URI's:	http://heatherg

# OAuth 2.0: User logins

- Login prompt for username and password
- Works with valid user credentials to the platform
- Login via a page hosted on the server
- Identity Manager handles the work
  - Enter platform username/password credentials

```
IdentityManager.instance.enabled = true;  
  
// Pass in App ID of registered app on ArcGIS.com  
var oAuthInfo:OAuthInfo = new OAuthInfo("esXyhS52NI3XeUmS");  
IdentityManager.instance.registerOAuthInfos([ oAuthInfo ]);
```



OAuth User Login App wants to access your account information

Sign In esri

Username

Password

Keep me signed in

[Forgot Username or Password?](#)

# OAuth 2.0: App logins

- No prompt for username/password
- Must contain valid app ID and secret
- Developer is responsible for keeping the app secret secure
  - Browser-based apps need server-side component, e.g. proxy file

```
<!--Proxy config file-->
<serverUrl
  url="https://route.arcgis.com"
  matchAll="true"
  oauth2Endpoint="https://www.arcgis.com/sharing/oauth2"
  clientId="midtc8wpEv1WiV5B"
  clientSecret="app client secret goes here"
  rateLimit="120"
  rateLimitPeriod="60"/>
```

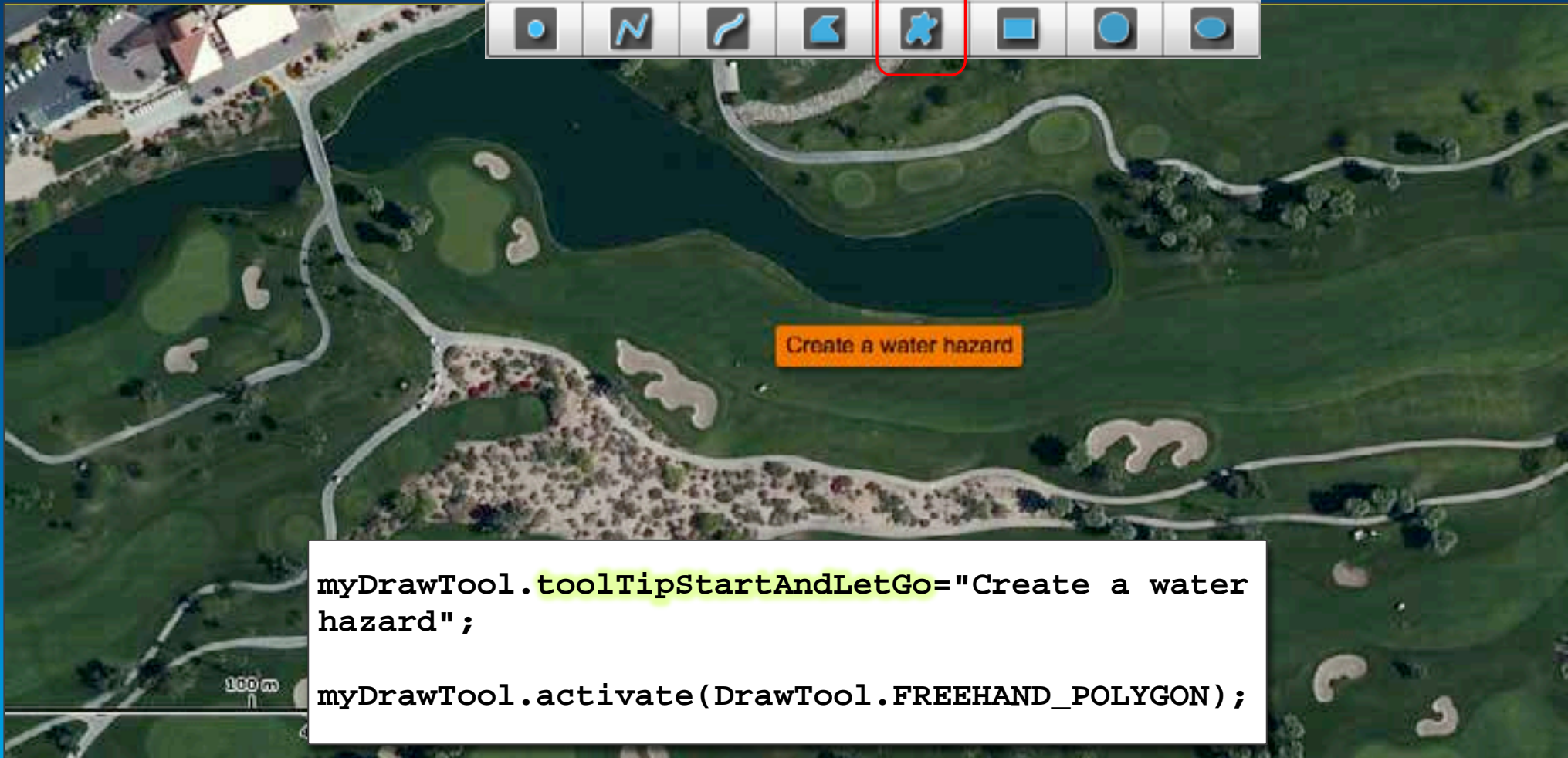
# Sample Proxy configuration file

```
<ProxyConfig
  allowedReferers="*"
  mustMatch="true">
<serverUrls>
  <serverUrl
    url="https://route.arcgis.com"
    oauth2Endpoint="https://www.arcgis.com/sharing/oauth2"
    clientId="i3GEwDN2AL0JLc6S"
    clientSecret="Put the secret in here"
    rateLimit="120"
    rateLimitPeriod="60"
    matchAll="true"/>
</serverUrls>
</ProxyConfig>
```

## OAuth 2.0 and security: Additional information

- **Security and ArcGIS Web Development**
  - **Wednesday 3/12; 4:00-5:00pm – Primrose A**
  - **Thursday 3/13; 2:30-3:30pm – Smoketree A-E**
- **Developers.arcgis.com: Authentication**
  - <https://developers.arcgis.com/authentication/index.html>
- **ArcGIS API for Flex: Working with Secure Services**
  - <https://developers.arcgis.com/flex/guide/secured-services.htm>
- **ArcGIS API for JavaScript: Working with Secure Services**
  - [https://developers.arcgis.com/javascript/jshelp/ags\\_secureservices.html](https://developers.arcgis.com/javascript/jshelp/ags_secureservices.html)
- **ArcGIS Online documentation: Adding and registering items**
  - <http://resources.arcgis.com/en/help/arcgisonline/index.html#//010q00000076000000>

## API improvement: Customize draw tips (3.6)





# Updated proxies

The screenshot shows the GitHub interface for the repository 'Esri / resource-proxy'. At the top, there are navigation elements including the GitHub logo, a search bar, and a dropdown menu for 'This repository'. Below this, the repository name 'Esri / resource-proxy' is displayed with a 'PUBLIC' label. The main heading reads 'Proxy files for DotNet, Java and PHP.' Below the heading, there are statistics for '9 commits' and '1 branch'. A green 'Refresh' button is visible next to a dropdown menu showing 'branch: master'. The central focus is a 'Merge pull request #6 from esoekianto/master' notification. Below this, the pull request is attributed to 'kellyhutchins' and dated '18 days ago'. A list of changes is shown, including folders for 'DotNet', '.Java', and 'PHP', and files for 'CHANGELOG.md', 'CONTRIBUTING.md', 'README.md', and 'license.txt', each with a brief description of the change.

9 commits 1 branch

branch: master resource-proxy /

Merge pull request #6 from esoekianto/master

kellyhutchins authored 18 days ago

DotNet	Add DotNet proxy, fix #1
.Java	Java: update mustMatch
PHP	Add PHP proxy, fix #1
CHANGELOG.md	Add changelog
CONTRIBUTING.md	Issue #1: Add license, re
README.md	Issue #1: Add license, re
license.txt	Change file name

## Updated proxies

- <https://github.com/Esri/resource-proxy>
  - DotNet
  - JSP
  - PHP
- Access resources secured with token-based authentication
  - Direction
  - Geoenrichment
- Resource rate limiting
- Referrer-based rate limiting
- Access cross domain resources without crossdomain.xml

# Proxies

- <https://github.com/Esri/resource-proxy>
- Install proxy based on README.md file
- OAuth 2.0 is not a requirement for user/app logins
  - Can also use token based authentication
- Locking it down by referrer: Only requests coming from listed referrers are proxies
- Rate limits
  - `rateLimitPeriod`: The time period (in minutes) which the `rateLimit` is tracked.
  - `rateLimit`: Maximum number of requests for a specific referer over the given `rateLimitPeriod`.

## Viewer updates

- Attribute Table updates
- Query/Search widget symbology updates
- Search results popup
- Data Extract and Email
- Proxy support for print widget in App Builder
- App Builder source available on GitHub

## Viewer updates: Attribute Table (3.5)

- Application Builder: Turn on/off related records and attachments

```
<showattachments>>false<showattachments/>  
<showrelatedrecords>>true<showrelatedrecords/>
```

**Attribute Table**  
On   
**Edit**

**Configure in App Builder**

**Attribute Table**  
Initial state  Open  
Select which layers to show in the Attribute Table

**Configure Layer Fields**

Fields	Name	Alias	Actions
<input checked="" type="checkbox"/>	rec_id	Request ID	<input type="checkbox"/>
<input checked="" type="checkbox"/>	rec_type	Request Type	<input type="checkbox"/>
<input checked="" type="checkbox"/>	rec_date	Request Date	<input type="checkbox"/>
<input checked="" type="checkbox"/>	rec_time	Request Time	<input type="checkbox"/>
<input checked="" type="checkbox"/>	address	Address	<input type="checkbox"/>
<input checked="" type="checkbox"/>	x_coord	X Coordinate	<input type="checkbox"/>
<input checked="" type="checkbox"/>	y_coord	Y Coordinate	<input type="checkbox"/>
<input checked="" type="checkbox"/>	district	District	<input type="checkbox"/>
<input checked="" type="checkbox"/>	status	Status	<input type="checkbox"/>

Show attachments  On  
Show related records  On  
OK Cancel




# Viewer updates: Attribute Table (3.5)














- Application Builder: Set date options for Attribute Table
  - Date format
  - useUTC

```
<field name="collection_time"  
  alias="Collection Date"  
  dateformat="EEEE,MMMM D,YYYY"  
  useutc="false"/>
```

**Attribute Table**  
On   
**Edit**

**Attribute Table**  
Initial state  Open  
Select which layers to show in the Attribute Table  


**Configure Layer Fields**

Fields	Name	Alias	Actions
<input checked="" type="checkbox"/>	lifecyclestatus	Lifecycle Status	 
<input checked="" type="checkbox"/>	incident_number	Incident Number	 
<input checked="" type="checkbox"/>	ftype	Category	 
<input checked="" type="checkbox"/>	foode	Sub Category	 
<input checked="" type="checkbox"/>	collection_time	Collection Date	  
<input checked="" type="checkbox"/>	description	Description	 

Show attachments  On

**Configure Field Format**

Date format

Use UTC

**OK** [Cancel](#)

Configure in Application Builder

## Viewer updates: Attribute Table (3.6)



- URLs are now clickable hyperlinks

## Viewer updates: Query/Search widget (3.6)

- Both widgets support line symbology on polygon features
  - Working with overlapping features, line symbol is used if no fill is specified
  - Via configuration files



### Search widget configuration file

```
<layers>
  <layer>
    <name>Cities</name>
    ...
    "
  <symbol>
    <simplemarkersymbol color="0xff66cc"
size="30" style="diamond"/>
  </symbol>
</layer>
<layer>
  <name>Detailed Counties</name>
  ...
  <symbol>
    <simplelinesymbol color="0x0099ff"
width="1.5" style="dash"/>
  </symbol>
</layer>
</layers>
```



## Viewer: Modify search results in popup (3.5)

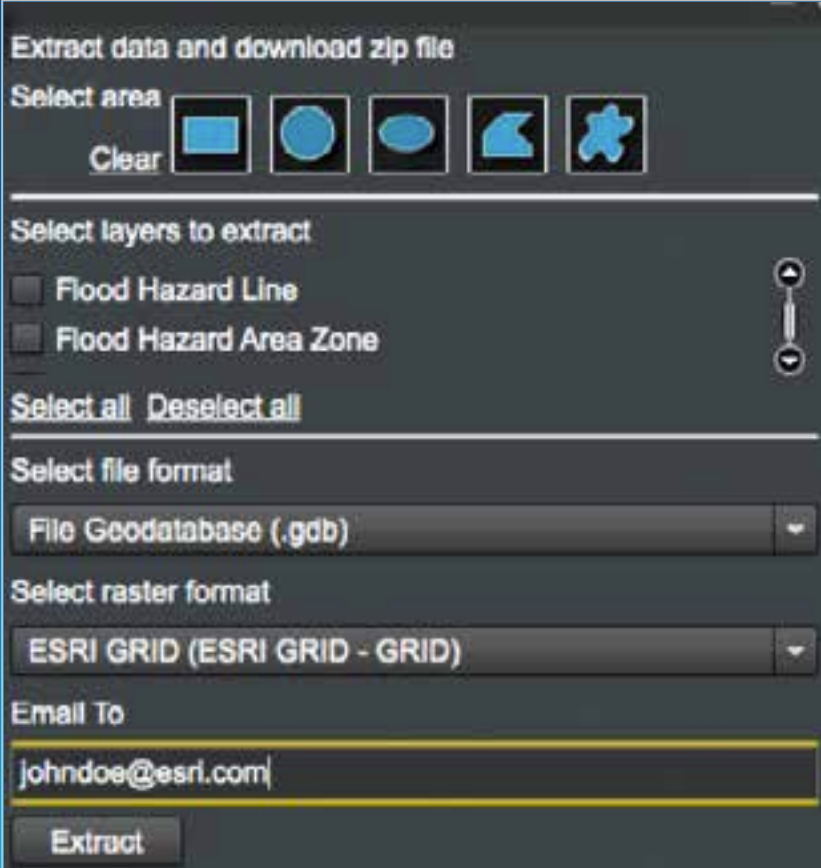
- Via Header Controller widget config file



```
<geocoder>
  <result>
    <title>Search result for
{DESCRIPTION}</title>
    <description>
      <![CDATA[Live traffic feed for
{DESCRIPTION}
      <a
href="{URL}" >
        <br>See Image</a>]]>
    </description>
  </result>
  <mapservices>
    <mapservice>
      <url>...</url>
      <layerids>...</layerids>
      <searchfields>...</searchfields>
    </mapservice>
  </mapservices>
</geocoder>
```






## Viewer updates: Data Extract and Email task (3.6)

- Data Extract and Email task supported in Data Extract widget
- UI will update based on the task




Extract data and download zip file

Select area

Clear     

---

Select layers to extract


Flood Hazard Line 

Flood Hazard Area Zone


Select all Deselect all

---

Select file format

File Geodatabase (.gdb) 

Select raster format

ESRI GRID (ESRI GRID - GRID) 

Email To

Extract

# Application Builder: Proxy support for print widget (3.5)

Print with ArcGIS Server

Task URL    Use proxy

Title  Visible

Author  Visible

Copyright  Visible

Default Format  ▾

Default Layout Template  ▾

DPI  ▾

Heather Gonzago | [Sign Out](#) | [Settings](#) | [Help](#) | [About](#)

[Hide Advanced Settings](#)

HTTP Proxy URL

# Application Builder source is available on GitHub

- <https://github.com/Esri/arcgis-viewer-builder-flex>
- Follow the README.md to get started



The screenshot shows the GitHub repository page for **Esri / arcgis-viewer-builder-flex**. The repository is public and has 23 unwatchers, 12 stars, and 7 forks. The description reads: "Source code for ArcGIS Viewer for Flex - APPLICATION BUILDER. <http://links.esri.com/flexviewer>".

Repository statistics: 462 commits, 2 branches, 3 releases, and 5 contributors.

The current branch is **develop**. The repository contains the following files and folders:

File/Folder	Description	Last Commit
badge	Initial commit.	10 months ago
libs	Initial commit.	10 months ago
locale	Issue #121: Update localized builder files for 3.6	3 months ago
src	Issue #127: Update to version 3.7 (dropping beta labels & app ID).	14 days ago

On the right side, there are links to **Code**, **Issues** (9), **Pull Requests** (0), **Wiki**, **Pulse**, **Graphs**, and **Network**.

## Additional resources

# More information

- **Esri**
  - [developers.arcgis.com/flex](http://developers.arcgis.com/flex)
  - <http://resources.arcgis.com>
    - documentation, forums, samples
  - <http://links.esri.com/flexviewer>
- **GitHub**
  - [esri.github.io](http://esri.github.io)
- **Apache**
  - [flex.apache.org](http://flex.apache.org)
- **Adobe**
  - <http://www.adobe.com/devnet/flex.html>
  - <http://www.adobe.com/devnet/flex/videotraining.html>
  - <http://www.adobe.com/devnet/flex/tourdeflex.html>



# Esri training for web developers

- <http://www.esri.com/training>
- **Instructor-Led Courses**
  - [Building Web Applications Using the ArcGIS API for Flex \(3.x\)](#)
  - [Migrating to ArcGIS 10.2 for Server](#)
  - [ArcGIS for Server: Sharing GIS Content on the Web \(10.1\)](#)
- **Online Training Seminars**
  - [Extending the ArcGIS Viewer for Flex \(3.x\)](#)
  - Free, one-hour presentation and demos by Esri technical experts
  - Live seminar broadcast on a new topic every month



## Check out additional presentations

- **Transitioning to JavaScript: What to Expect and How to Quickly Come Up to Speed**
  - Tuesday 3/11; 5:30-6:30pm – Primrose B
- **Introduction to the ArcGIS Web App Builder: JavaScript Apps Made Easy**
  - Tuesday 3/11; 1:00-2:00 – Primrose C/D
  - Thursday 3/13; 1:00-2:00pm – Primrose B
- **Customizing and Extending the ArcGIS Web App Builder**
  - Wednesday 3/12; 10:30-11:30am - Primrose C/D
  - Thursday 3/13; 2:30-3:30pm – Primrose B



**Questions?**



Understanding our world.