

ArcGIS® Enterprise: Analysis Workflows for Intelligence

Official Esri Training Courseware



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THE
SCIENCE
OF
WHERE®

ArcGIS® Enterprise: Analysis Workflows for Intelligence

STUDENT EDITION

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Esri resources

Take advantage of these resources to develop ArcGIS software skills, discover applications of geospatial technology, and tap into the experience and knowledge of the ArcGIS community.

Instructor-led and e-Learning resources

Esri instructor-led courses and e-Learning resources help you develop and apply ArcGIS skills, recommended workflows, and best practices. View all training options at **esri.com/training/catalog/search**.

Planning for organizations

Esri training consultants partner with organizations to provide course recommendations for job roles, short-term training plans, and workforce development plans. Contact an Esri training consultant at **training@esri.com**.

Esri technical certification

The Esri Technical Certification Program recognizes individuals who are proficient in best practices for using Esri software. Exams cover desktop, developer, and enterprise domains. Learn more at **esri.com/training/certification**.

Social media and publications

Twitter: **[@EsriTraining](https://twitter.com/EsriTraining)** and **[@Esri](https://twitter.com/Esri)**

Esri on LinkedIn: **linkedin.com/company/esri**

Esri training blog: **esri.com/trainingblog**

Esri publications: Access online editions of ArcNews, ArcUser, and ArcWatch at **esri.com/esri-news/publications**

Esri training newsletter: Subscribe at **go.esri.com/training-news**

Other Esri newsletters: Subscribe to industry-specific newsletters at **go.esri.com/subscribe**

Esri Press

Esri Press publishes books on the science and technology of GIS in numerous public and private sectors. **esripress.esri.com**

Esri resources (continued)

GIS bibliography

A comprehensive index of journals, conference proceedings, books, and reports related to GIS, including references and full-text materials. **gis.library.esri.com**

ArcGIS documentation and tutorials

In-depth information, tutorials, and documentation for ArcGIS products.

ArcGIS Online: **arcgis.com**

ArcGIS Desktop: **desktop.arcgis.com**

ArcGIS Enterprise: **enterprise.arcgis.com**

Esri Community

Join the online community of GIS users and experts. **community.esri.com**

Esri events

Esri conferences and user group meetings offer a great way to network and learn how to achieve results with ArcGIS. **esri.com/events**

Esri Videos

View an extensive collection of videos by Esri leaders, event keynote speakers, and product experts. **youtube.com/user/esritv**

ArcGIS for Personal Use

Improve your GIS skills at home and use ArcGIS to enhance your personal projects. The ArcGIS for Personal Use program includes a 12-month term license for ArcGIS Desktop, extension products, and an ArcGIS Online named user account with 100 service credits. **esri.com/personaluse**

GIS Dictionary

This term browser defines and describes thousands of GIS terms. **support.esri.com/en-us/gis-dictionary**

Course introduction

ArcGIS Enterprise provides all the productivity and collaboration benefits of a Web GIS while meeting an organization's requirement for an on-premises, secure cloud infrastructure. *ArcGIS Enterprise: Analysis Workflows for Intelligence* prepares you to work with content in your organization's portal to support intelligence production and dissemination. Through realistic scenarios and hands-on exercises, you will master the essentials of discovering, using, making, and sharing web maps, web apps, and other geospatial content.

In this course, you will learn the fundamentals of ArcGIS Enterprise and how geospatial content can be created and shared between ArcGIS Desktop applications and ArcGIS Enterprise. You will also learn how to create web maps, web apps, stories, dashboards, and web experiences.

Course goals

After completing this course, you will be able to perform the following tasks:

- Understand the types of content that can be shared to your organization's ArcGIS Enterprise portal, how content access is managed, and how to find content that supports your analysis needs.
- Create a web map, add layers to it, and analyze data.
- Configure a web app to share analysis results.
- Create dashboards, immersive digital stories, and rich web experiences to support real-time monitoring of operations and decision-making.

Installing the course data

Some exercises in this workbook require data. Depending on the course format, the data is available on a DVD in the back of a printed workbook or as a data download. To use the data, extract it to your C:\EsriTraining folder.



DISCLAIMER: Some courses use sample scripts or applications that are supplied either on the DVD or on the Internet. These samples are provided "AS IS," without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or noninfringement. Esri shall not be liable for any damages under any theory of law related to the licensee's use of these samples, even if Esri is advised of the possibility of such damage.

Icons used in this workbook



Estimated times provide guidance on approximately how many minutes an exercise will take to complete.



Notes indicate additional information, exceptions, or special circumstances about specific course topics.



Recommended practices improve efficiency and save time.



Esri Academy resources provide more in-depth training on related topics.



Additional resources provide additional information about related topics.



Warnings indicate potential problems or actions that should be avoided.

1

Introduction to ArcGIS Enterprise

ArcGIS Enterprise is a powerful Web GIS that supports geospatial analysis and data management. With ArcGIS Enterprise, users can create and share various geospatial data, including web maps, web apps, individual layers, and tabular data.

In this lesson, you will learn how ArcGIS Enterprise components work together to enable your geospatial analysis, the importance of user types and roles, and the types of content that ArcGIS Enterprise can host.

Topics covered

- ArcGIS Enterprise fundamentals

- Geospatial analysis in ArcGIS Enterprise

What is ArcGIS Enterprise?

ArcGIS Enterprise is the software system for Web GIS, enabling mapping and visualization, analysis, and data management in a cloud environment. An ArcGIS Enterprise base deployment consists of four components: Portal for ArcGIS, ArcGIS Server, ArcGIS Data Store, and ArcGIS Web Adaptors.

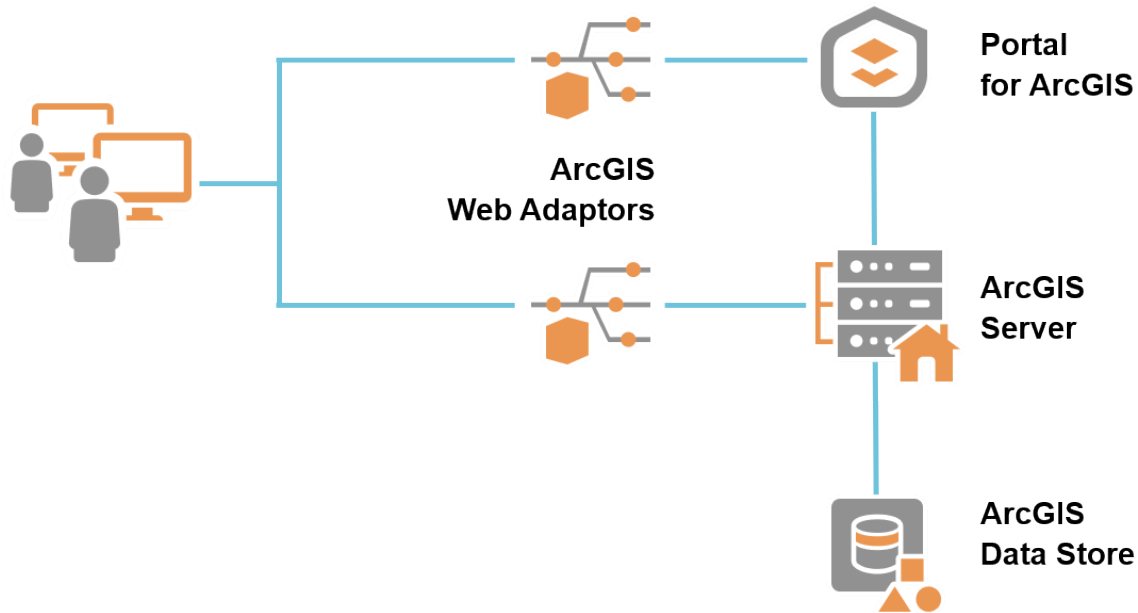


Figure 1.1. Portal for ArcGIS, ArcGIS Server, ArcGIS Data Store, and ArcGIS Web Adaptors are the four components in a base ArcGIS Enterprise deployment.

What is ArcGIS Enterprise? (continued)

Portal for ArcGIS

The ArcGIS Enterprise portal is the front-end component that enables you to perform geospatial analysis on the web that typically requires a desktop GIS application, such as ArcGIS Pro. It is used to create and edit feature layers, create and share web maps and scenes, share and manage content, and create custom web apps.

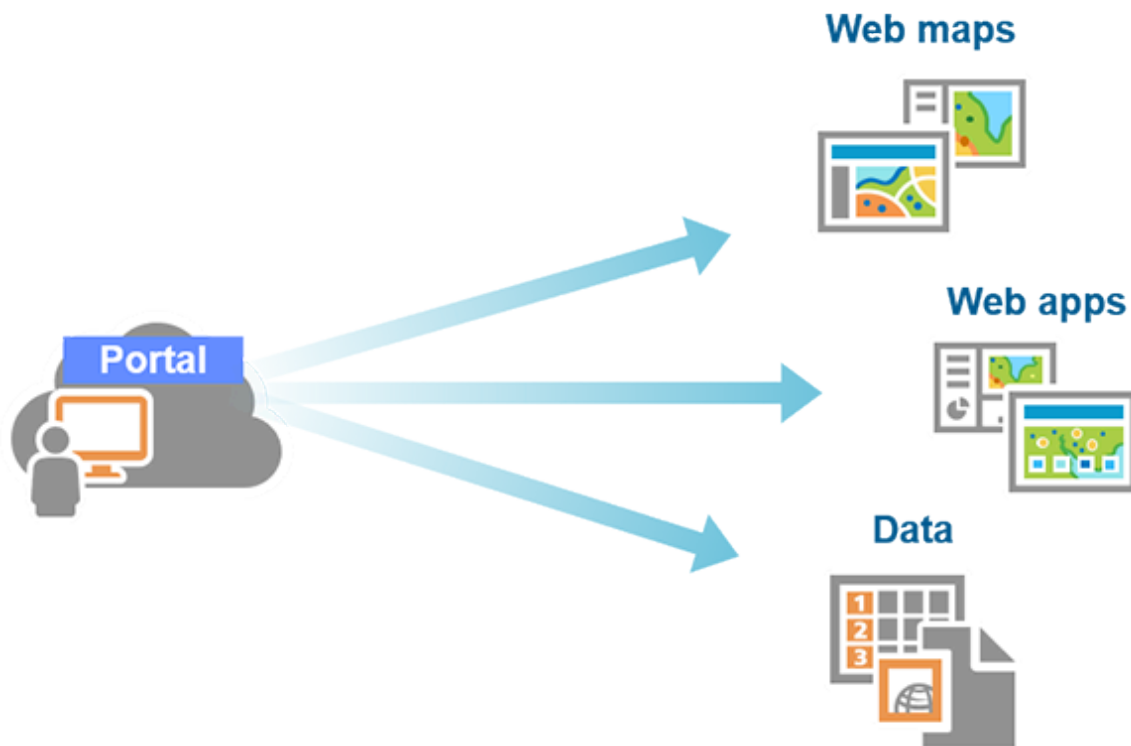


Figure 1.2. ArcGIS Enterprise portals can be used to create web maps and apps and manage data.

What is ArcGIS Enterprise? (continued)

ArcGIS Server

ArcGIS Server is a back-end component that makes your portal content available to other members of your organization and people with access to your organization's portal. ArcGIS Server is used to manage local data from connected enterprise geodatabases and web content created on the portal that the server is associated with.

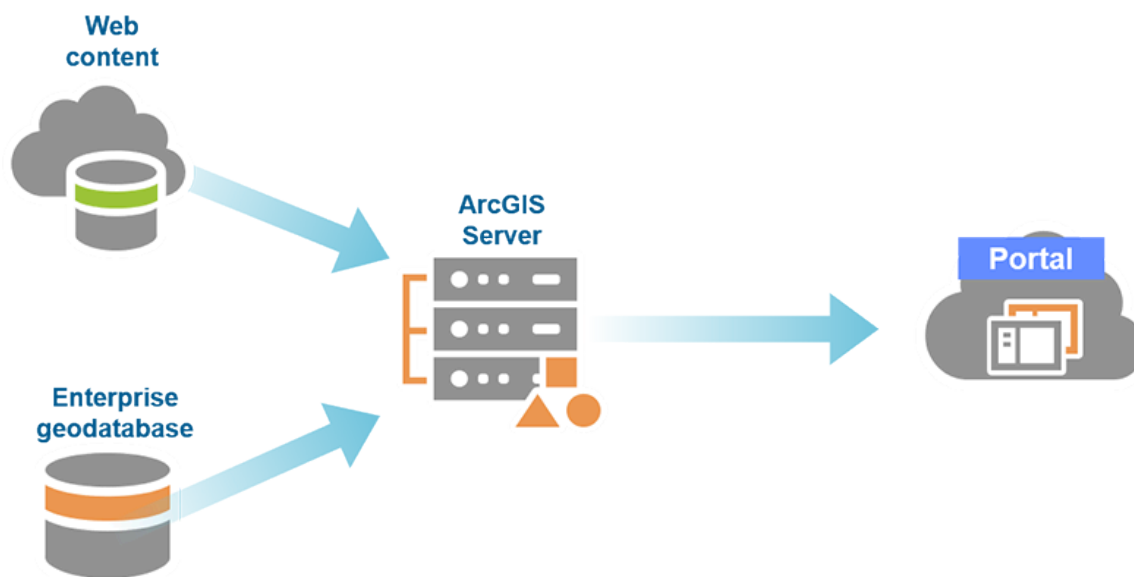


Figure 1.3. ArcGIS Server manages data from an enterprise geodatabase and web content created on the portal that it is associated with.

What is ArcGIS Enterprise? (continued)

ArcGIS Data Store

ArcGIS Data Store allows you to configure data storage for the portal's hosting server to manage content that is created on, or copied to, the portal. The ArcGIS Data Store supports several different configurations that support different types of data.



Relational



Tile cache



Spatiotemporal

Figure 1.4. An ArcGIS Data Store can be configured in multiple ways, some of which are as a relational, tile cache, or spatiotemporal big data store.

- Relational data store: Stores a portal's hosted feature layer data, such as feature layers copied to the portal and feature layers created as output from feature analysis tools in the portal
- Tile cache data store: Stores caches for hosted scene layers
- Spatiotemporal big data store: Archives real-time data from a federated ArcGIS GeoEvent Server.
- Graph store: Stores knowledge graphs for the portal's federated ArcGIS Knowledge Server site.
- Object store: Caches the query responses for layers in hosted feature layers.

ArcGIS Web Adaptor

ArcGIS Web Adaptors integrate with your existing web server to manage traffic to your ArcGIS Enterprise site, supporting both HTTP and HTTPS communication. Web adaptors allow you to set a custom site name and use your organization's identity store and web tier security policies.

What is ArcGIS Enterprise? (continued)

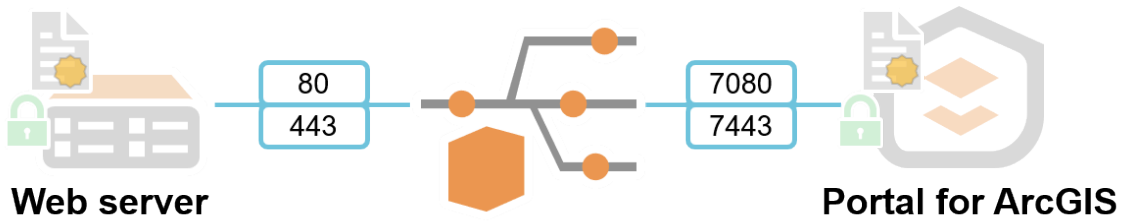


Figure 1.5. ArcGIS Web Adaptors integrate with existing web server security architecture to manage traffic to your ArcGIS Enterprise site.

Portal access and privileges

ArcGIS Enterprise portals are maintained by unique organizations that create and share information through their portal. Access to this information and the functionality of the portal is managed using several different mechanisms, such as user type and role, group membership, and sharing permissions on individual pieces of content.

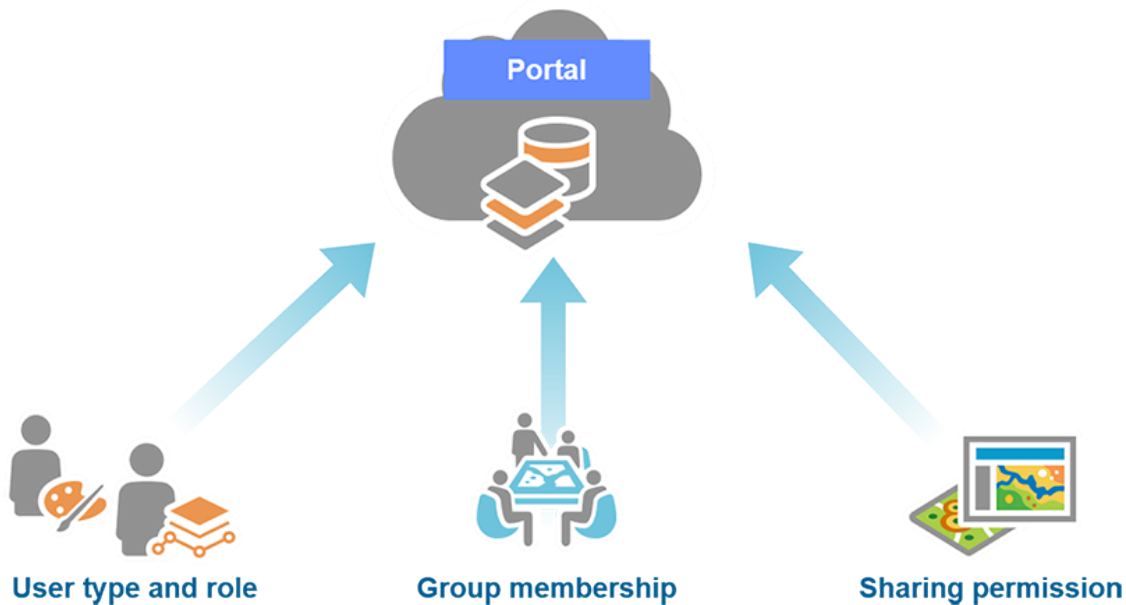


Figure 1.6. Access to portal functionality and content hosted by a portal is controlled through a combination of user types and roles, group membership, and sharing permissions.

User types, roles, and functionality

When you join an organization, you are assigned a user type and associated role that determine which apps and privileges that you can access. An example of this is the GIS Professional user type with associated Publisher role, which would give you access to ArcGIS Pro, ArcGIS Enterprise apps like ArcGIS StoryMaps and ArcGIS Dashboards, and the privileges to create, edit, and share content within the portal.

Portal access and privileges (continued)

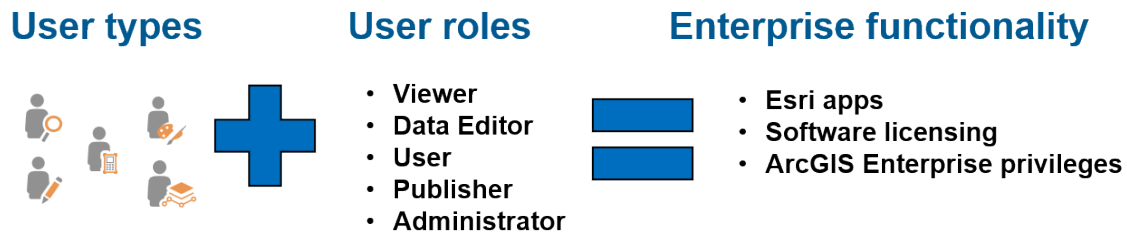


Figure 1.7. User types with an assigned role determine which Enterprise functionality that the associated member has access to.

Sharing permissions

Access to content in ArcGIS Enterprise is controlled through various sharing permissions set by the content creator. Content can be shared with everyone who has access to the portal, people within your organization, and specific groups within your organization, or not shared with anyone but the individual who created it.

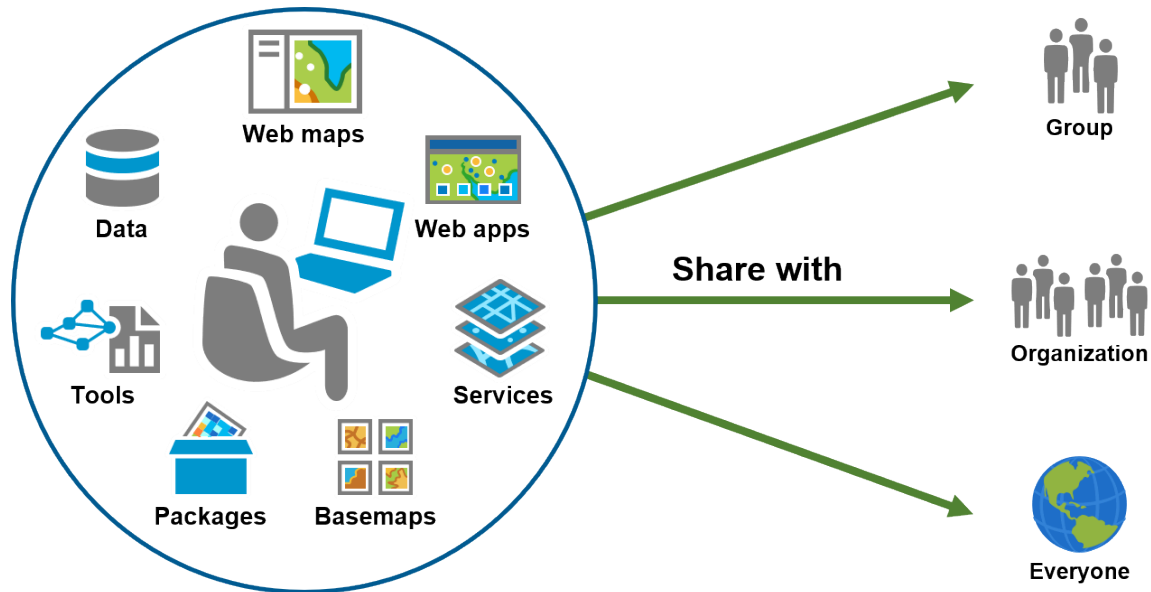


Figure 1.8. Access to content shared to ArcGIS Enterprise is controlled by setting the appropriate sharing permissions.

Explore user types and roles

You have learned about user types and roles and how they affect what you can do in a portal. Now you will explore those privileges in greater detail to determine which combination of user type and role is needed to perform certain tasks.

Instructions

- a In a web browser, browse to **<https://doc.arcgis.com>**.



For this course, you can Accept All Cookies for any web pages, when necessary.

- b Click the ArcGIS Enterprise tile.
 - c In the Search Resources field, type **user types and roles** and press Enter.
 - d Click the first result, *User types, roles, and privileges*.
 - e Use the information in the help documentation to answer the following questions in your workbook.
 - f When you are finished, close the web browser.
1. Which user type is designed for someone who needs the full suite of GIS apps to perform their work, which may involve creating content, performing analysis, and using the advanced tools of ArcGIS Pro?

 2. Which member role is required for someone who needs to use standard feature analysis tools but not manage an organization's members?

Explore user types and roles (continued)

3. Which privileges are reserved for the default administrator role and are not available for custom roles?

Geospatial analysis in ArcGIS Enterprise

ArcGIS Enterprise provides similar functionality to ArcGIS Desktop applications. You can create and edit individual feature layers, create and visualize web maps and 3D scenes, and conduct feature and raster analysis. Scene Viewer is used to visualize 3D scenes and Map Viewer is used to visualize 2D web maps, conduct geospatial analysis, and create and edit feature layers.

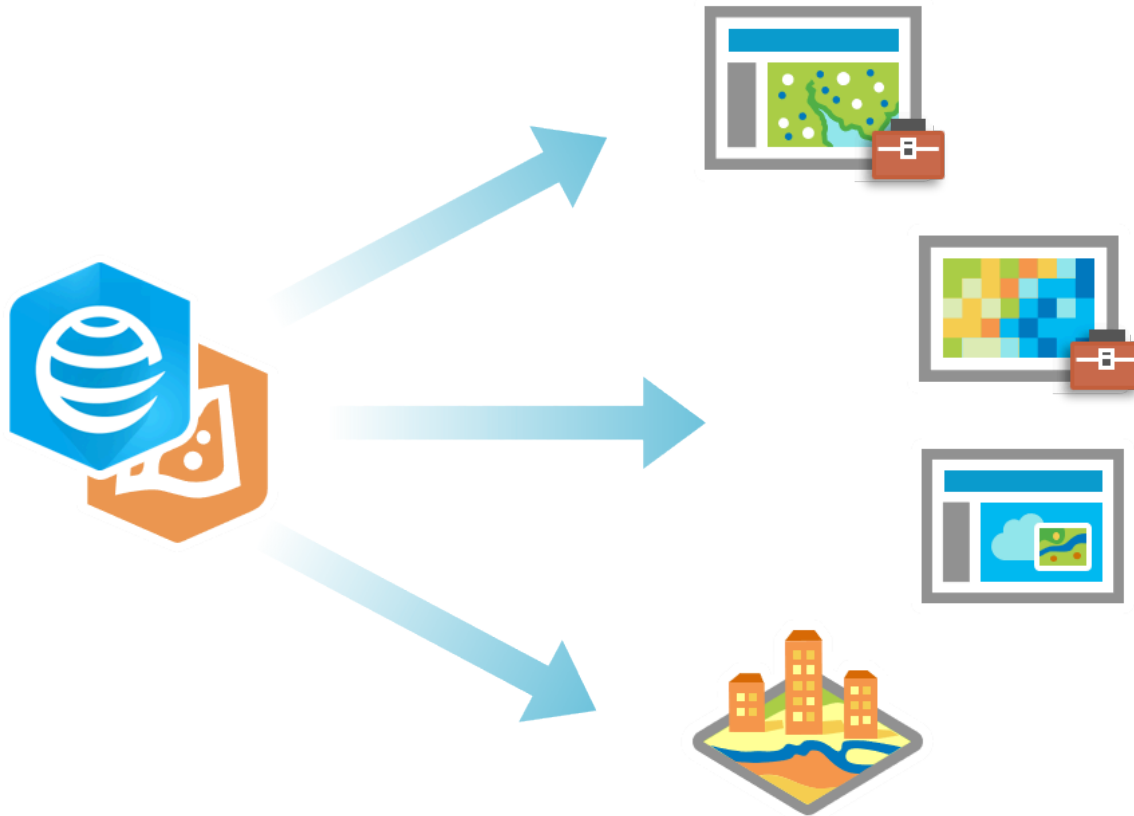


Figure 1.9. Map Viewer and Scene Viewer enable 2D and 3D map visualization and feature and raster analysis.

Exploring the ArcGIS Enterprise portal

The ArcGIS Enterprise portal provides several functions, organized into tabs. Some tabs that you might use in your daily work are the Home, Map, and Content tabs:

- Home tab: Access the portal's landing page that displays featured content and a description of your organization's portal
- Map tab: Access Map Viewer to conduct map visualization and geospatial analysis
- Content tab: Access the Content page to manage and discover portal content that you have created or been granted access to

Content items

Content items viewed on the Content page have several icons and descriptive text to help you quickly identify useful information.

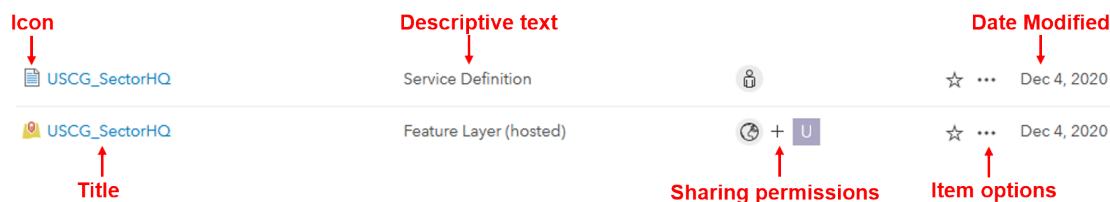


Figure 1.10. Icons and descriptive text on the Content page provide valuable information, such as content type, who it is shared with, and the most recent date that it was modified.

Identify ArcGIS Enterprise content

You have learned about the different types of ArcGIS Enterprise portal content and where you can locate this content. Now you will explore a portal to identify the types of hosted content that it includes.

Instructions

- a Open a web browser to your ArcGIS Enterprise: Analysis Workflows for Intelligence portal.



You can go directly to the portal site with the address <https://ebase.ad.local/portal> or use the ArcGIS Enterprise bookmark.

- b If necessary, in the upper-right corner, click Sign In, and then use **student** and **Esri.4.GIS** to sign in, making sure to check the Keep Me Signed In box before clicking Sign In.
- c At the top of the portal, click the Content tab, and then under Folders, click USCG.
- d Use the contents located in the USCG content folder to answer the following questions in your workbook.
- e When you are finished, close the web browser.

1. How many web feature layers are included?

2. What type of content is the USCG District 8 content item and who is it shared with?

3. How many items are shared to the U.S. Coast Guard - GoM group?

Lesson review

1. What are the components of ArcGIS Enterprise?

2. Map Viewer enables web map visualization and feature analysis.

a. True

b. False

Answers to Lesson 1 questions

Explore user types and roles (page 1-9)

1. Which user type is designed for someone who needs the full suite of GIS apps to perform their work, which may involve creating content, performing analysis, and using the advanced tools of ArcGIS Pro?

GIS Professional

2. Which member role is required for someone who needs to use standard feature analysis tools but not manage an organization's members?

Publisher

3. Which privileges are reserved for the default administrator role and are not available for custom roles?

- **Create and manage administrative reports.**
- **Change member role to or from administrator.**
- **Delete other administrators from the organization.**
- **Reset the passwords of other members of the default administrator role.**
- **Create and own administrative groups.**
- **Create backups of your ArcGIS Enterprise deployment.**
- **Assign custom roles with administrative privileges to new members when -adding them to the organization.**

Identify ArcGIS Enterprise content (page 1-13)

1. How many web feature layers are included?

Seven feature layers are included.

2. What type of content is the USCG District 8 content item and who is it shared with?

It is a web map shared with everyone, and two groups: the Featured Maps And Apps group, and the U.S. Coast Guard - GoM group.

3. How many items are shared to the U.S. Coast Guard - GoM group?

Seven items are shared.

2

Analysis using Map Viewer in ArcGIS Enterprise

Map Viewer is used to conduct geospatial analysis in ArcGIS Enterprise. It is a powerful tool that provides functionality similar to a desktop GIS, such as ArcGIS Pro. With Map Viewer, you can create feature layers, edit existing layers, modify layer symbology, use spatial analysis tools, create web maps, and more.

In this lesson, you will learn how content is created in ArcGIS Enterprise, the types of analytical tools supported by Map Viewer, and how to create a web map.

Topics covered

- Creating content in ArcGIS Enterprise

- Sharing content using ArcGIS Pro

- Conducting geospatial analysis using Map Viewer in ArcGIS Enterprise

Creating and adding content

Creating content in ArcGIS Enterprise

Content is most commonly added to your portal through the Contents page or added directly to a web map that you are working on in Map Viewer. You can add several different types of existing content or create new content by editing existing layers, creating new layers in Map Viewer, creating web maps, or creating web apps.

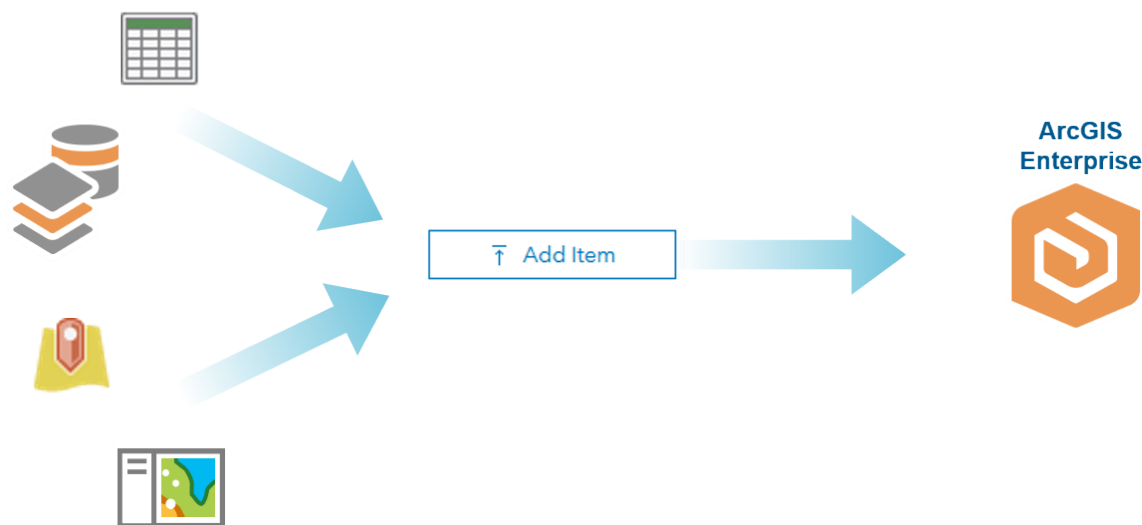


Figure 2.1. Several types of content can be added to ArcGIS Enterprise through the Add Item function on the Contents page.

Creating and adding content (continued)

Creating content in Map Viewer

Content that is not already hosted in your portal, such as a shapefile downloaded from another website or sent to you by a coworker, can be added in Map Viewer to a web map that you are working on. However, it will not be added as an individual content item in the ArcGIS Enterprise environment and will be packaged with the web map when it is saved. Content can also be created in Map Viewer using Map Notes. Map Notes will be saved with the web map.

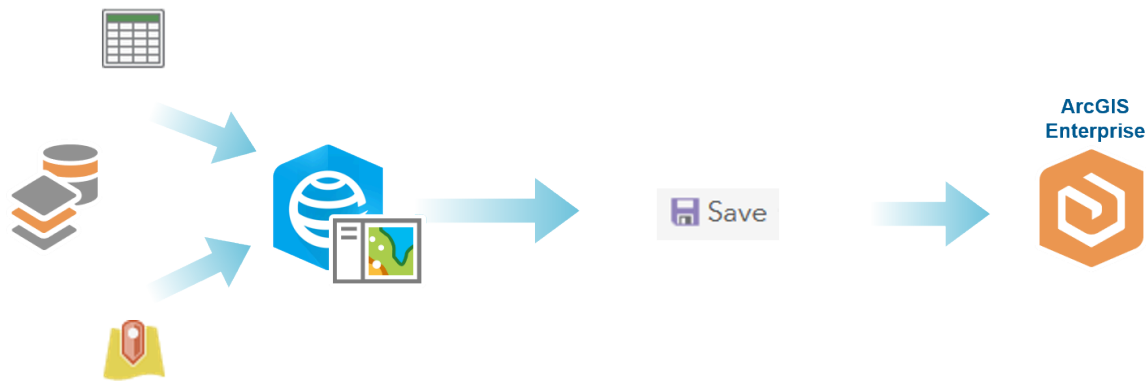


Figure 2.2. Content added in Map Viewer will be packaged with the web map as a consolidated content item when the web map is saved.

Sharing content to ArcGIS Enterprise

ArcGIS Pro can be used to create and share content with ArcGIS Enterprise. Various content types can be shared.

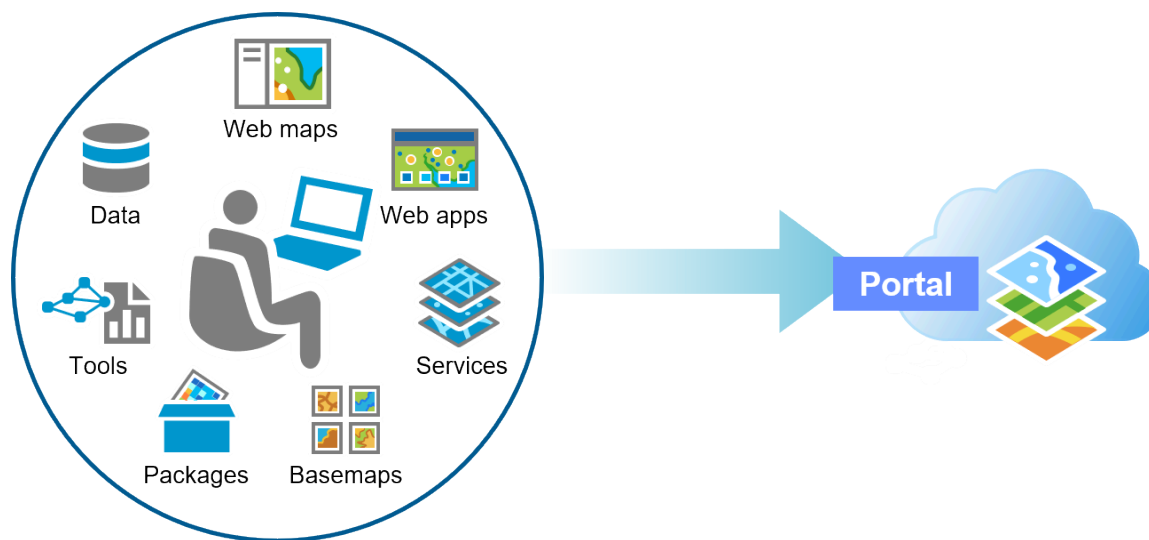


Figure 2.3. Several types of content, such as geospatial data, tools, feature layers, and maps, can be shared from ArcGIS Pro to ArcGIS Enterprise.

What is Map Viewer in ArcGIS Enterprise?

Map Viewer is the primary mechanism within ArcGIS Enterprise for visualizing and analyzing geospatial data. Within Map Viewer, you can add, edit, and create web feature layers, change layer symbology, conduct geospatial analysis using geoprocessing tools, and save and share your completed work as web maps.

You can also use the web map as the foundation for creating a web app, such as an app created with ArcGIS Configurable Apps, ArcGIS StoryMaps, or ArcGIS Dashboards.

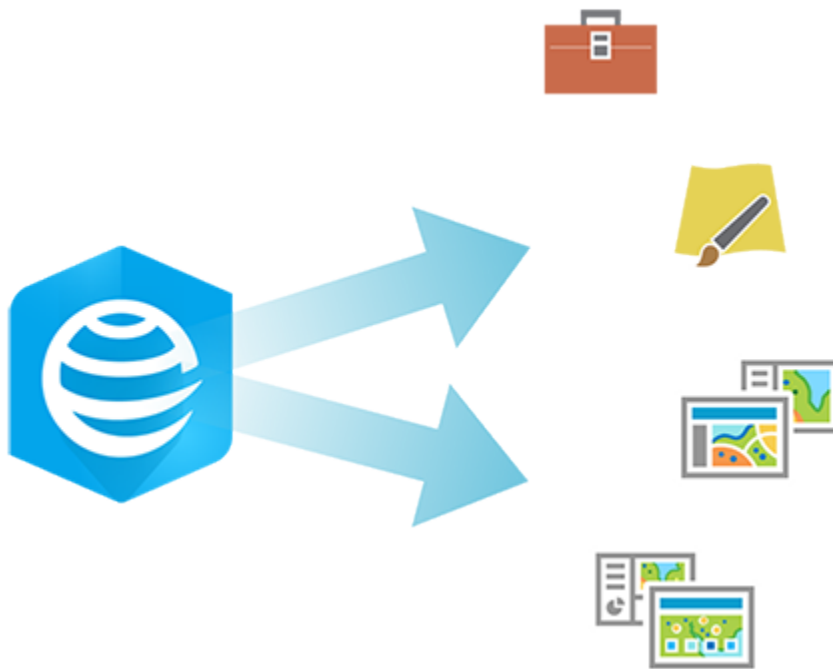


Figure 2.4. With Map Viewer, a user can create and edit geospatial data and create web maps and apps.

Use Map Viewer for geospatial analysis

Map Viewer has several different built-in geoprocessing tools that you can use for analysis. In this activity, you will explore the different tools available in Map Viewer.



Analysis functionality is currently only supported in Map Viewer Classic (formerly known as Map Viewer). It will be available in a future release of the new Map Viewer.

Instructions

- a In a web browser, browse to **<https://enterprise.arcgis.com>**.
- b At the top of the page, click Portal.
- c In the Search Portal For ArcGIS Help field, type **perform analysis** and press Enter.
- d In the search results, click the *Perform analysis* help document, and then use the information provided to answer the following questions in your workbook.
- e When you are finished, close the web browser.

1. What tool categories are available in Map Viewer Classic?

2. What must be configured in your portal for the Create Viewshed tool to be available?

3. Which toolset contains the Calculate Density and Find Hot Spots tools?

Custom geoprocessing tools

Along with the built-in analysis tools available in Map Viewer, ArcGIS Enterprise supports custom geoprocessing tools. Custom tools are geoprocessing workflows, such as tools, models, or scripts. To use custom tools, you must first run the desired tool successfully in ArcGIS Pro and then share it to ArcGIS Enterprise as a web tool. Custom tools can be run from the Analysis pane in Map Viewer or embedded in web apps.

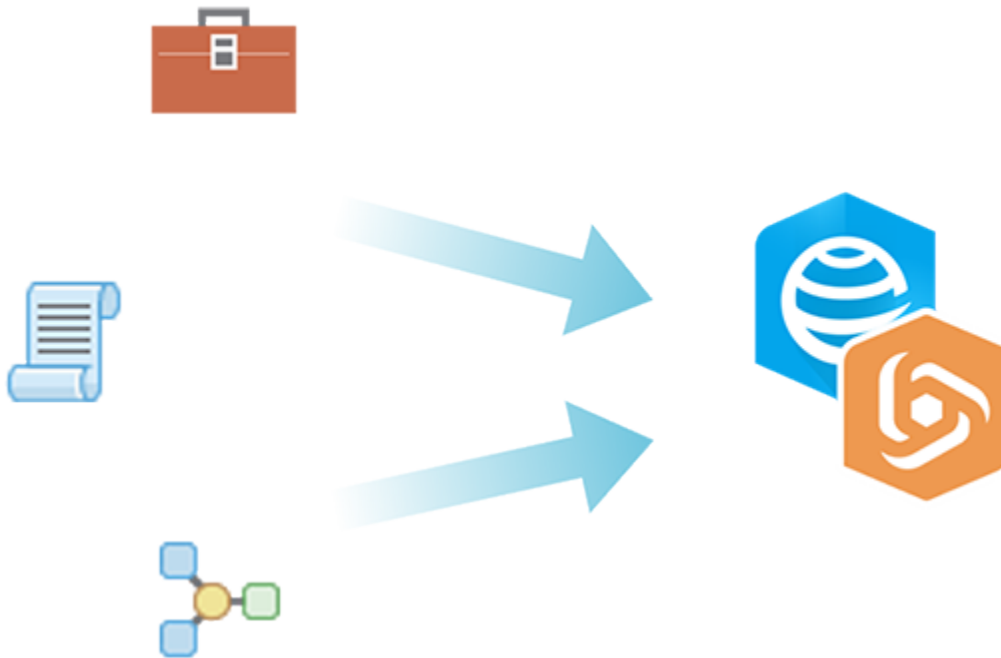


Figure 2.5. Geoprocessing tools, models, and scripts can be shared to ArcGIS Enterprise for use in conducting geospatial analysis in Map Viewer and web apps.

Create a web map

Imagine that you are an analyst at a Joint Task Force (JTF) supporting maritime interdiction operations in the Gulf of Mexico. You have analyzed historical data of smuggling operations and determined the likely time and location of an upcoming transfer between a smuggling mothership from Central America and two courier ships.

You must determine when a ship needs to be dispatched to arrive at the identified transfer location within the transfer time window. You will also need to create a graphic showing which U.S. Coast Guard (USCG) locations can provide air support. You will use Map Viewer, along with content that is hosted on your organization's portal, to find the answers to these intelligence questions.

In this exercise, you will perform the following tasks:

- Publish and add content to a web map.
- Create new content.
- Conduct analysis.

Step 1: Publish a web map

You used ArcGIS Pro to conduct your analysis and identify a likely location for an upcoming transfer between smuggling vessels. You will publish a web map containing the layers that you created in ArcGIS Pro to your portal so that you can continue your work using Map Viewer in ArcGIS Enterprise.

- a Start ArcGIS Pro.
- b In the center of the Start page, click Open Another Project.
- c Browse to **C:\EsriTraining\NTEL>CreateAWebMap\GoM_Smuggling**, if necessary, and then open **GoM_Smuggling.aprx**.

The project opens, displaying the map that you created that contains the result of your efforts in identifying the smuggling transfer location. You will now publish that map to your portal.

- d In the upper-right corner, if you see Not Signed In, perform the following actions:
 1. Click Not Signed In, and then click Sign In and provide the following credentials:
 - Username: **student**
 - Password: **Esri.4.GIS**
 2. In the bottom-left corner of the ArcGIS Sign In dialog box, confirm that the Sign In Automatically box is checked.
 3. Click Sign In.
- e From the Share tab, in the Share As group, click Web Map.
- f In the Share As Web Map pane, set the following parameters:
 - Name: **GoM Smuggling_<your initials>**
 - Summary: **Web map supporting counter-smuggling operations in the Gulf of Mexico.**
 - Tags: **Gulf of Mexico, smuggling, USCG**
 - Select A Configuration: **Copy All Data: Editable**
 - Location - Portal Folder: **Gulf Of Mexico**
 - Share With: **ArcGIS Enterprise: Analysis Workflows for Intelligence**

Share As Web Map

? ∨ 📄 ✕

GoM Smuggling

Map Configuration

Item Details

Name

GoM Smuggling.XX

Summary

Web map supporting counter-smuggling operations in the Gulf of Mexico.

Tags

Gulf of Mexico ✕ smuggling ✕

USCG ✕ Add Tag(s)

Select a Configuration ?

Copy all data: Editable

☐ Use symbol types compatible with all clients ?

Location

Portal Folder

Gulf of Mexico

Share with

☐ Everyone

☒ ArcGIS Enterprise: Analysis Workflows for Intelligence

Groups

Finish Sharing

✓ Analyze

☁ Share

📄 Jobs

- g Click Analyze.

You receive an error indicating that unique numerical IDs are not assigned.

- h Right-click the error and choose Auto-Assign IDs Sequentially.

- i Click Analyze.

With no errors or warnings, you can publish the map.

- j Click Share.



Sharing your web map may take a few minutes.


You published a web map to your portal that contains the vessel tracks that you will use to help plan the smuggling interdiction operation.

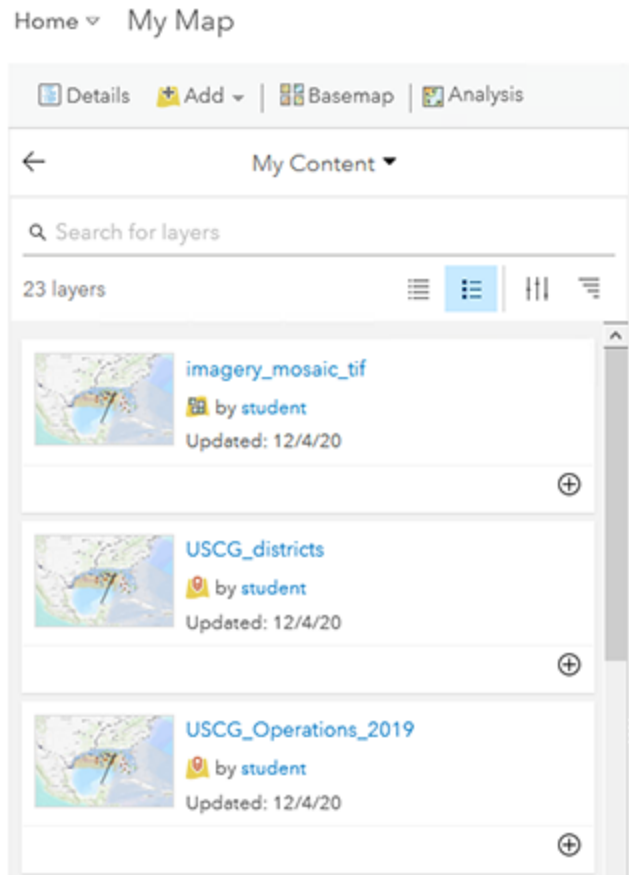
Step 2: Add content to a web map

You will now add content to the web map that you published.

- a At the bottom of the Share As Web Map pane, in the green message box, click Manage The Web Map.
- b If prompted to sign in to ArcGIS Enterprise, sign in using the following credentials:
 - Username: **student**
 - Password: **Esri.4.GIS**


The item page of the web map that you published opens in a web browser. You can see various details about the web map. You already provided some of the information, like the tags and summary, when you published the web map, and then other information was drawn from the item's metadata.

- c Click Open In Map Viewer Classic.
- d Above the left pane, on the toolbar, click Add  and choose Search For Layers.





Your results might include different layers.

The default search location opens, allowing you to search your content for supported layers that can be added to your web map.

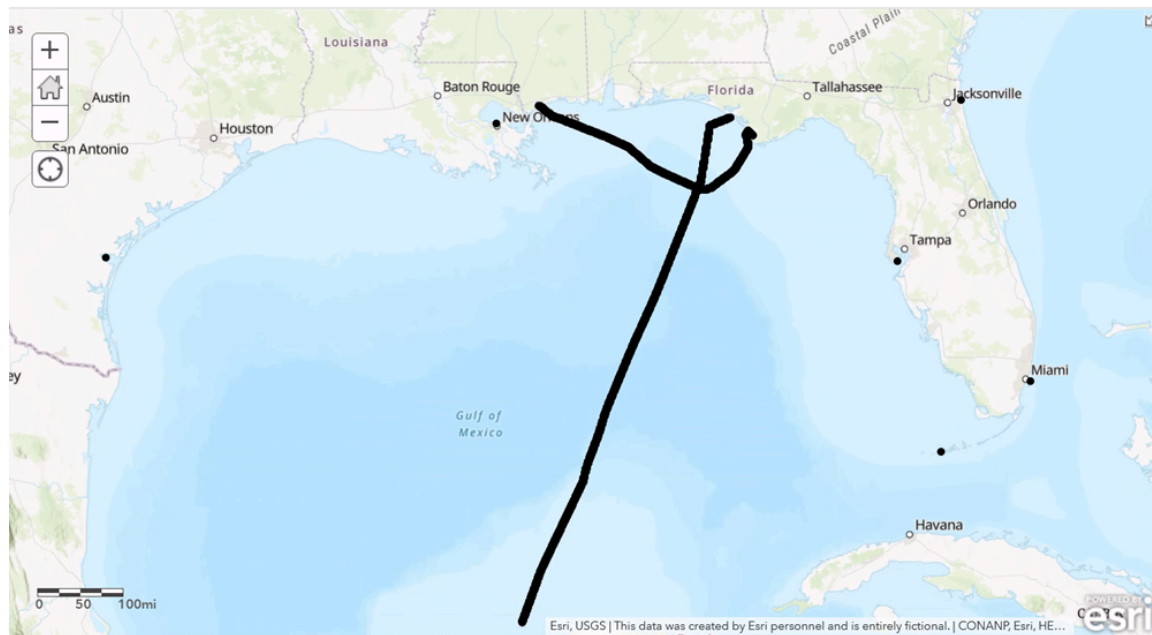
- e Using the Search For Layers field or scrolling through the list of available layers, add the USCG_SectorHQ layer by clicking the Add button  in the lower-right corner of the item.
- f On the toolbar, click Details, and then click Content, if necessary, to view the Contents pane of your web map.
- g

Contents

- ☒ USCG SectorHQ
- ☒ smuggler la track
- ☒ smuggler fl track
- ☒ MS track
- ▶  World Hillshade

Point to the USCG SectorHQ layer to make the layer options visible, if necessary, and then click the More Options button  and choose Zoom To.

- h** If necessary, pan and zoom the map so all USCG SectorHQ features are visible, as shown in the image below.



- i** Above the map, click Save and choose Save.

You added a layer showing the locations of USCG Sector headquarters, an important piece of information for planning operations. In the next steps, you will conduct analysis to determine travel times to the interdiction location.

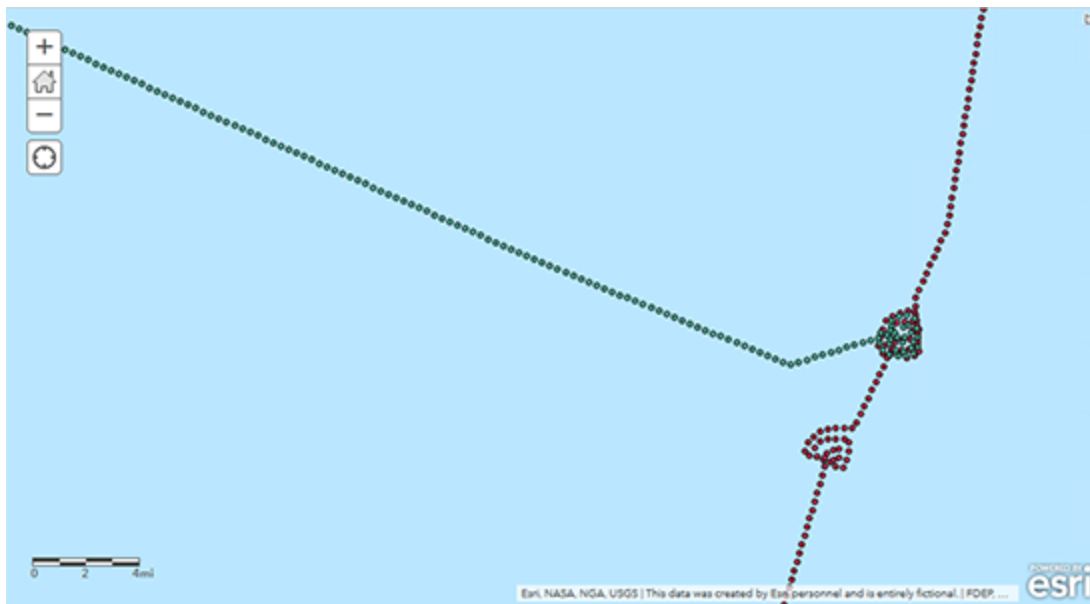
Step 3: Determine departure time

The unit that you are supporting only has one ship to send out for this mission and has decided to conduct the interdiction at the transfer location between the mothership and the smuggler from Louisiana, USA. You will now determine when a USCG ship should leave the USCG Sector HQ in New Orleans to arrive at the transfer location on time.


- a In the Contents pane, turn off the Smuggler FL Track layer.

Hint: Uncheck the box next to the layer name.

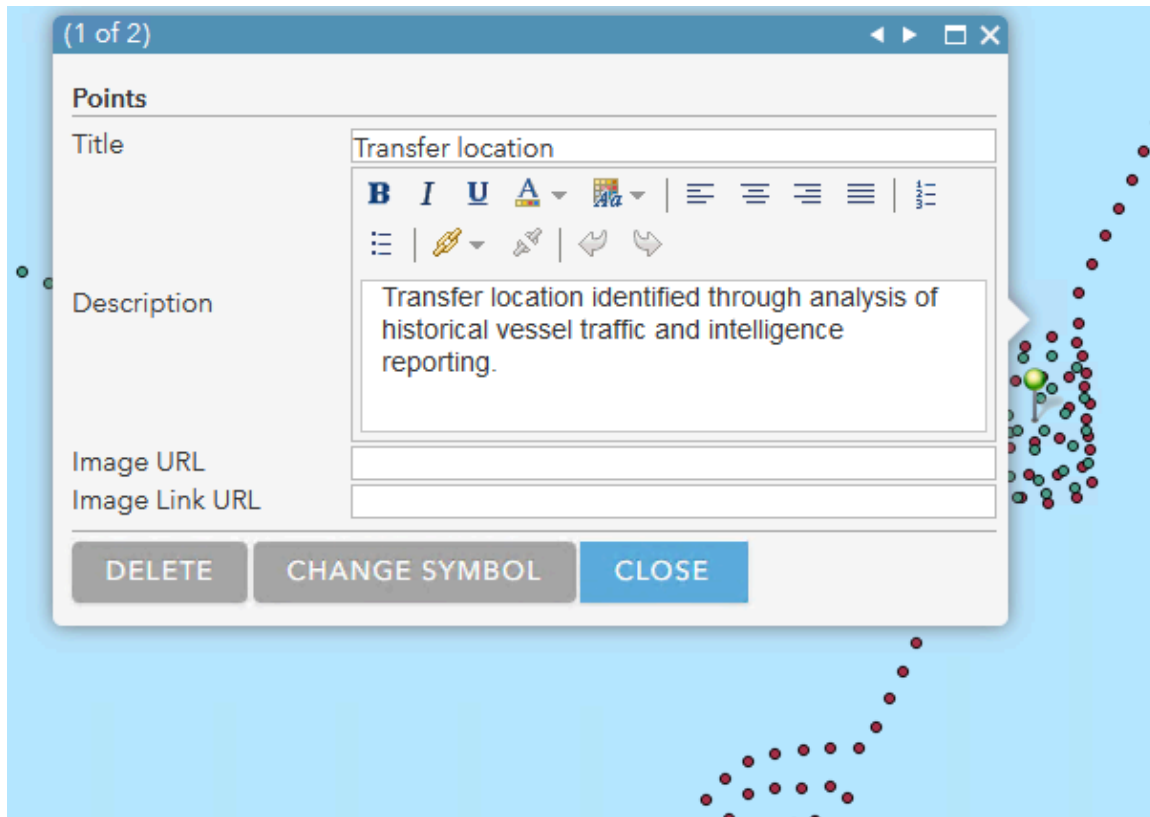
- b In the map, pan and zoom in to where the MS Track and Smuggler LA Track layers intersect, representing the transfer location.



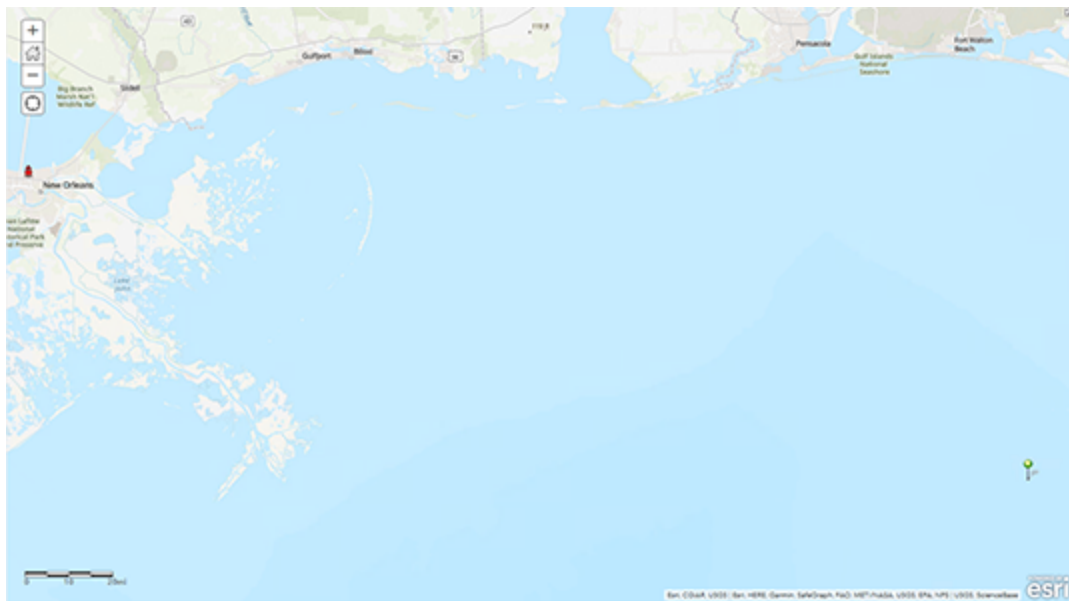
The color of your ship tracks may vary.



- c On the toolbar, click Add  and choose Add Map Notes.
- d In the Add Map Notes dialog box, for Name, type **Transfer Location**, and then click Create.
- e In the Add Features pane, under Transfer Location - Points, click Stickpin.
- f In the map, click the middle of the transfer area indicated by the intersection of the MS Track and Smuggler LA Track layers to place the stickpin.
- g In the Points dialog box, provide the following information:
 - Title: **Transfer location**
 - Description: **Transfer location identified through analysis of historical vessel traffic and**

intelligence reporting.



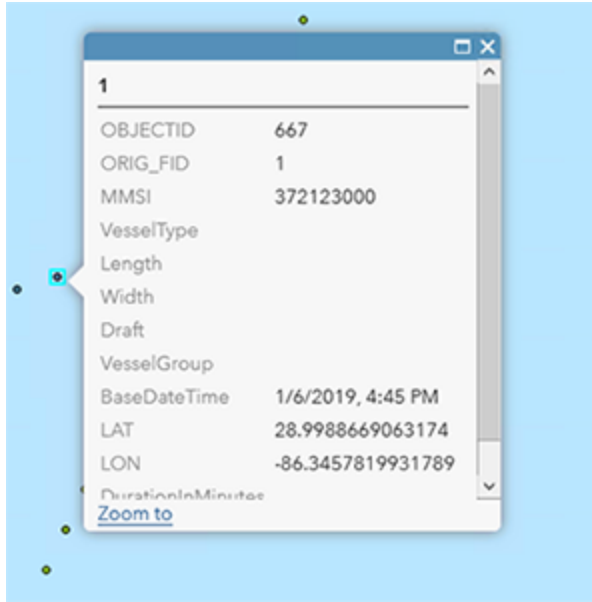
- h Close the map note.
- i On the toolbar, click Details to return to the Contents pane, and then turn off the MS Track and Smuggler LA Track layers.
- j Zoom to the extent of the USCG SectorHQ layer.
- k Pan and zoom until the map view is centered on USCG Sector HQ New Orleans and the stickpin indicating the transfer location, similar to the following graphic.



- l** On the toolbar, click the Measure tool  and select the Distance tool , and then measure the travel distance that a ship would take from USCG Sector HQ New Orleans to the transfer location in nautical miles.

Your measurement should be approximately 220 nautical miles.

- m** Close the measurement tool.
- n** Turn the MS Track and Smuggler LA Track layers back on.
- o** Pan and zoom to the transfer location.
- p** Click the points representing the ship tracks as they enter the transfer area and evaluate the BaseDateTime field to determine when both ships will enter the transfer location area.



Comparing the timestamps for both vessels entering the area, you determine that the USCG ship should arrive on location by 1700L—shortly after the smaller courier vessel arrives to not be noticed as you are both traveling from the same direction but early enough to interdict the transfer if the mothership arrives earlier than expected.

The average speed of the USCG is 25 knots. Knowing the travel distance is 220 nautical miles, you determine that the ship should leave USCG Sector HQ New Orleans at 0815.


q Close the pop-up.

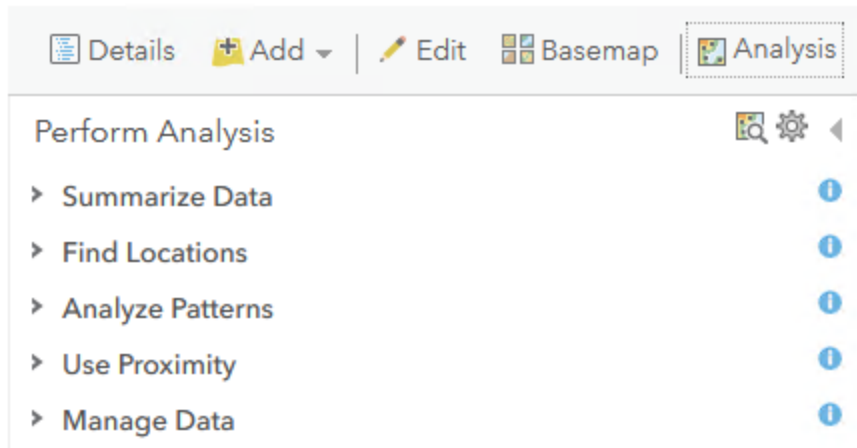
Step 4: Display air support range

Now that you know when a ship should depart from the USCG Sector HQ New Orleans, you will display operational ranges for air support from USCG Sector HQ New Orleans and USCG Sector HQ St. Petersburg to assist with mission planning.




Your unit has HH-60J Jayhawks, which have an operational range of approximately 300 miles and a cruising speed of 160 miles per hour. You will use this information to create buffers around USCG bases that could provide support to the upcoming interdiction operation.


a In the Contents pane, zoom to the USCG SectorHQ layer.

b On the toolbar, click Analysis .





- c Expand the Use Proximity category, and then click Create Buffers.
- d In the Create Buffers tool, set or confirm the following parameters:
 - Choose Layer Containing Features To Buffer: USCG_SectorHQ
 - Enter Buffer Size: **100 200 300** Miles
 - Result Layer Name: **Air support ranges_<your initials>**
 - Save Result In: Gulf Of Mexico
 - Use Current Map Extent: Checked


 **Create Buffers**  

1 Choose layer containing features to buffer 

USCG_SectorHQ

2 Enter buffer size 

 Distance



 Field


Enter buffer size

100 200 300

Miles

To create multiple buffers, enter distances separated by spaces (2 3 5).

 Options 

3 Result layer name 

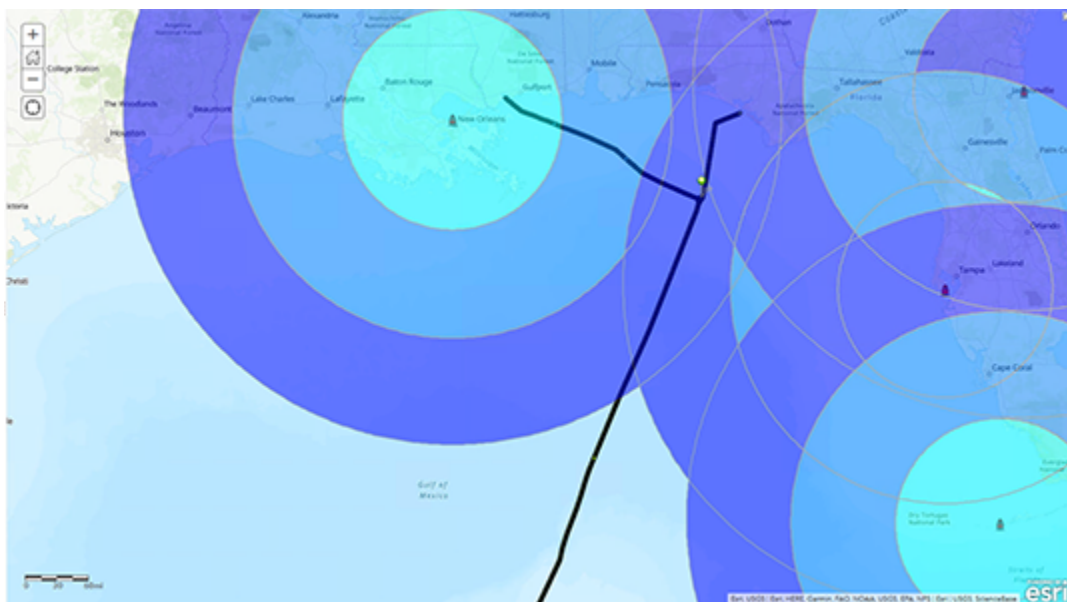
Air support ranges_XX

Save result in Gulf of Mexico

☒ Use current map extent

RUN ANALYSIS

e Click Run Analysis.





It may take a moment for the analysis results to display.

The analysis results are added to your map, displaying 100-, 200-, and 300-mile buffers around each Sector HQ. Examining the map, you realize that only Sector New Orleans and Sector St. Petersburg are within 300 miles of the transfer location. You will now filter the results to only display those two locations.

- f** In the Contents pane, for the Air Support Ranges layer, click the Filter button .



You may need to point to or click the layer to see the available options.

- g** In the Filter dialog box, for the first expression, expand the first drop-down list and choose Unit_name.

- h** Under the third drop-down list, click Unique, and then choose SEC NEW ORLEANS.



You must click Unique to see the specific location names.

- i** Click Add Another Expression, and then create another expression where Unit_name is SEC ST. PETERSBURG.

- j** At the top of the Filter dialog box, expand the drop-down list and choose the second option to Display Features In The Layer That Match Any Of The Following Expressions.

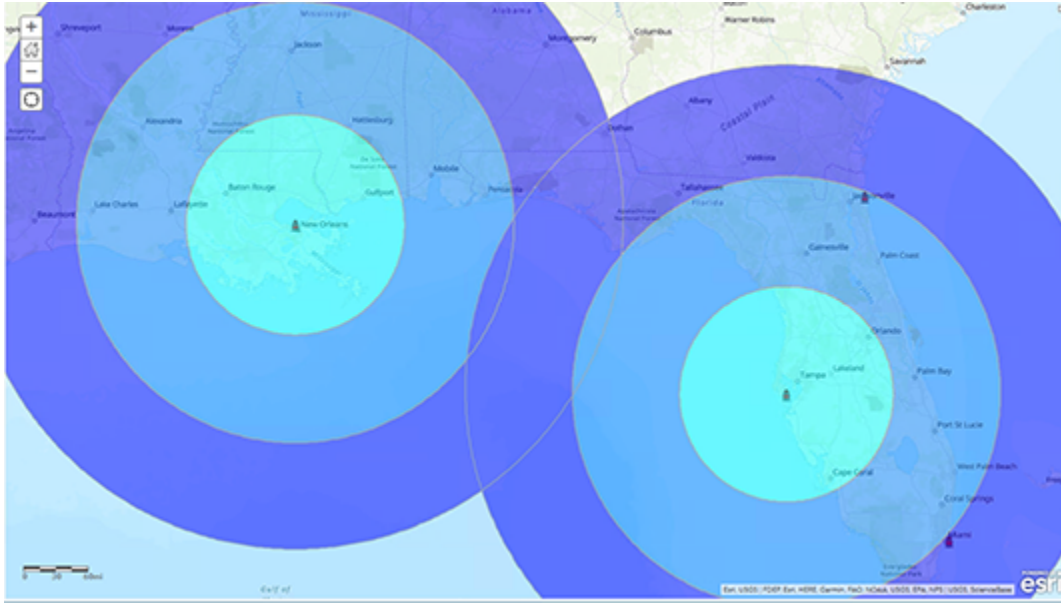
Filter: Air_support_ranges_XXX

The screenshot shows the 'Filter' dialog box for the layer 'Air_support_ranges_XXX'. The dialog has a 'Create' tab and a '+ Add another expression' button. Below the button is a dropdown menu set to 'Display features in the layer that match any of the following expressions'. There are two expression rows. Each row has a dropdown for 'unit_name', a dropdown for 'is', and a dropdown for the value. The first row has 'SEC NEW ORLEANS' and the second row has 'SEC ST. PETERSBURG'. Below each value dropdown are three radio buttons: 'Value', 'Field', and 'Unique'. The 'Unique' radio button is selected for both expressions. There is an 'Ask for values' checkbox and a red 'X' icon next to each expression. At the bottom are three buttons: 'APPLY FILTER', 'APPLY FILTER AND ZOOM TO', and 'CLOSE'.




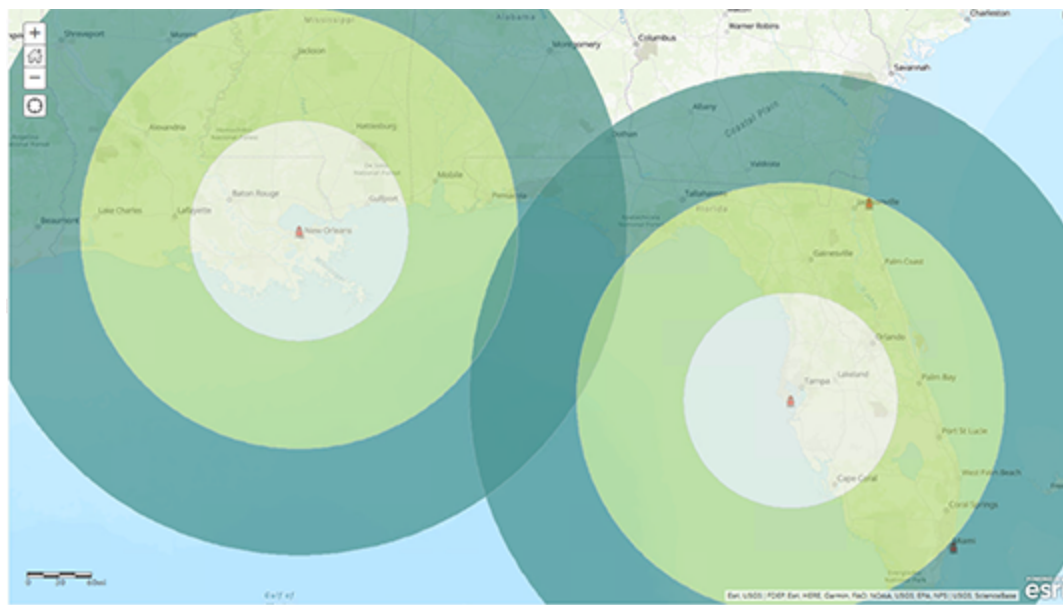
Ensure that you set the correct display option, or you will not see any buffers after applying the filter.

- k Click Apply Filter And Zoom To.
- l In the Contents pane, turn off the Smuggler LA Track, MS Track, and Transfer Location layers.
- m Zoom to the Air Support Ranges layer.



The symbology on your map may differ slightly from the preceding graphic.

- n In the Contents pane, for the Air Support Ranges layer, click the Change Style button .
- o In the Change Style pane, in the (2) Select A Drawing Style section, for Counts And Amounts (Color), click Select, and then click Options.
- p To the right of the color ramp, click Symbols to view the available color ramps.
- q Choose a color ramp and transparency level that you deem appropriate, and then click OK.
- r At the bottom of the Change Style pane, click OK, and then click Done.



Your range rings might look different based on the style options that you chose.

s Save the web map and, if necessary, accept any prompts to update sharing.

t Leave the web map open for the next exercise

You determined the departure time for a ship leaving USCG Sector HQ New Orleans and created a graphic displaying air support ranges from the Sector HQs that can provide air support if needed. You are ready to present these findings to decision makers to support effective mission planning for the smuggling interdiction operation.

Real-time and near-real-time data

Real-time and near-real-time data can be used in several ways in your web maps. Real-time data is provided immediately on collection, such as live tracking of vehicles or vessels through location trackers. Near-real-time data is provided shortly after being collected, allowing for some initial processing and storage before it is viewed by the user. Typically, real-time data is supported by a streaming service from an ArcGIS Server site licensed and configured as an ArcGIS GeoEvent Server, which can be part of your organization's ArcGIS Enterprise deployment or a feed from another organization. Near-real-time data can be any type of layer with content that is updated regularly, such as a weather radar layer updated every few minutes. Near-real-time data can also come from mobile apps, such as ArcGIS Survey123 or ArcGIS Tracker.

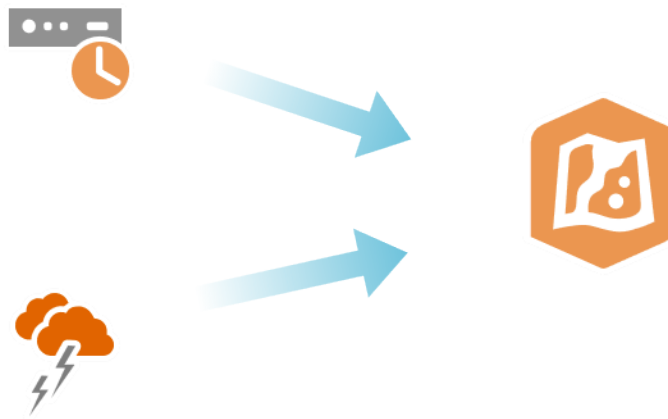


Figure 2.6. Real-time and near-real-time data can be used when creating web maps in Map Viewer.

Add near-real-time data to your map


After presenting your analysis to support the planning of the smuggling interdiction operation, you have been asked to add local weather information to the web map to incorporate projected environmental impacts to personnel and equipment into mission planning. You will add weather data from ArcGIS Online services to your web map.

In this exercise, you will perform the following task:

- Add layers from ArcGIS Online to your web map.

Step 1: Add weather layers

You can discover and add publicly shared services from ArcGIS Online while working in Map Viewer. You will now add weather services for use in mission planning.

- a If necessary, restore the web browser displaying your GoM_Smuggling web map.
- b On the toolbar, click Add  and choose Search For Layers.
- c Click the My Content down arrow and choose ArcGIS Online.
- d In the Search For Layers field, clear the previous search term, if necessary, and then type **weather watches and warnings** and press Enter.
- e In the search results, click the first result, USA Weather Watches And Warnings by Esri, to expand the item details.

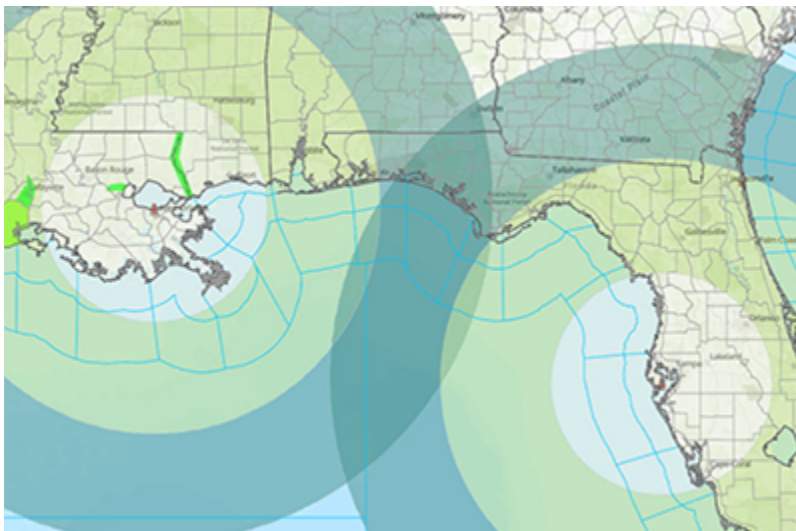
1. What is the Update Frequency of this service?

- f Review the other information about the layer, and then, at the bottom of the pane, click Add To Map.



If you are prompted to open the layer in Map Viewer, click Not Right Now.

- g Close the item details window.

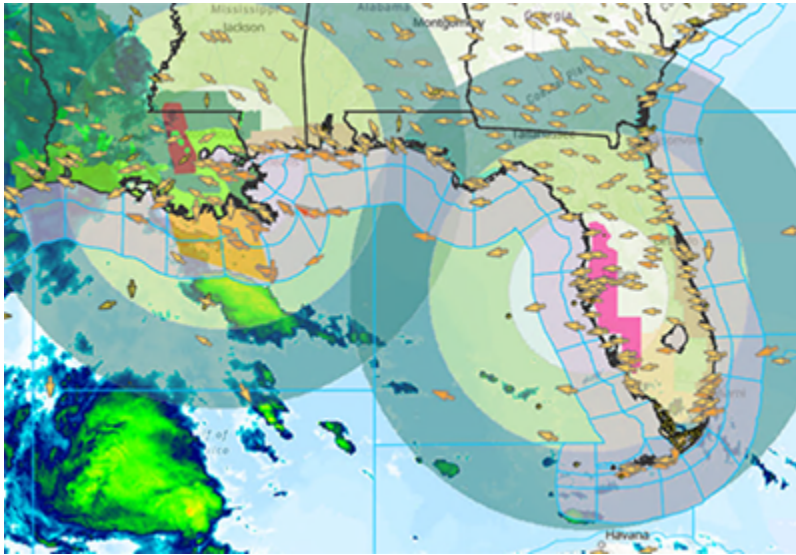




Your results may look different depending on current weather watches and warnings.

- h** Search for the following layers, reviewing the item details before adding both items to the web map:

- **GOES Satellite Imagery Colorized Transparent Background** by NOAA GeoPlatform
- **Current Weather and Wind Station Data** by Esri



You added several weather layers to your web map that will provide valuable information for mission planning efforts.

- i** Return to the Contents pane.

Hint: Click the Back arrow ← or Details.

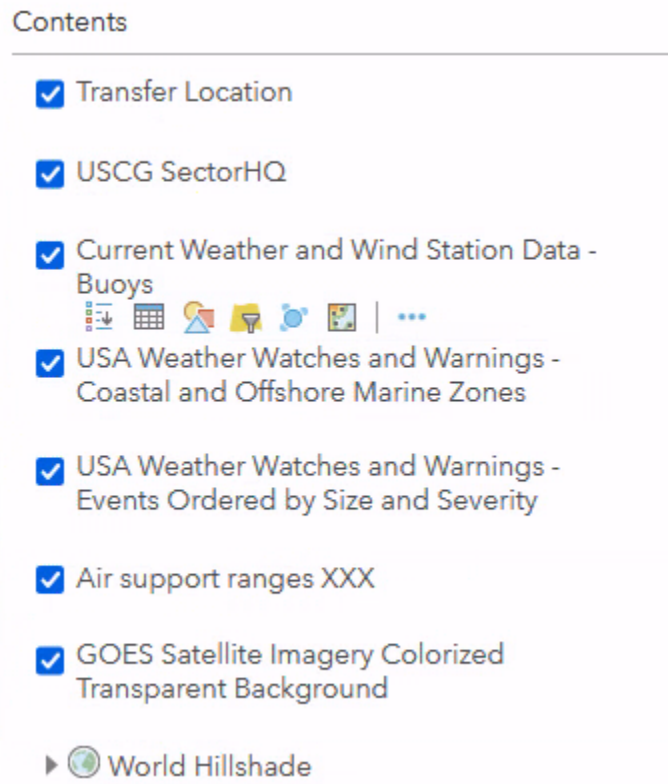
Step 2: Organize layers in your web map

Several existing and newly added layers provide unnecessary information and clutter your web map. You will now remove unnecessary layers and organize the remaining layers in your web map to better display relevant information.

- a** Remove (More Options button ⋮ > Remove) and reorder your layers so that the only layers included in the Contents pane match the following list:

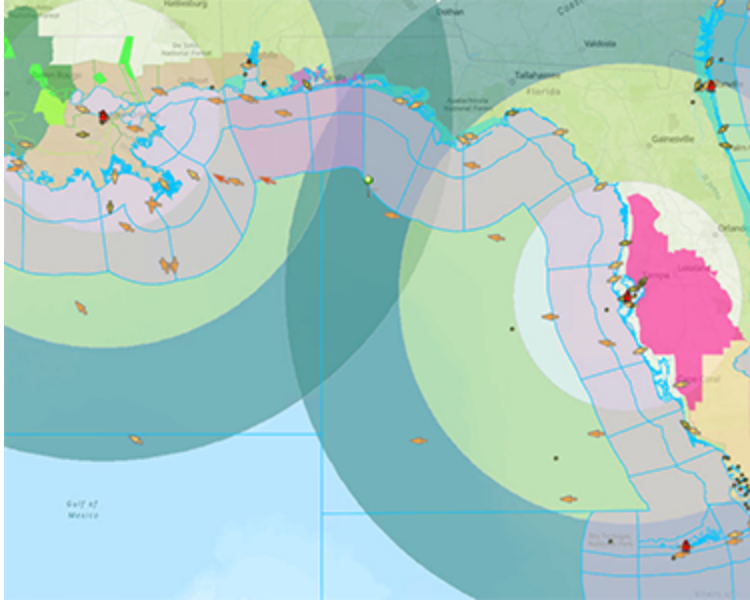
1. Transfer Location
2. USCG SectorHQ
3. Current Weather And Wind Station Data - Buoys
4. USA Weather Watches And Warnings - Coastal And Offshore Marine Zones

5. USA Weather Watches And Warnings - Events Ordered By Size And Severity
6. Air Support Ranges
7. GOES Satellite Imagery Colorized Transparent Background



Hint: Move layers by using the Move Up or Move Down functions in the layer options, or point to the three dots to the left of the layer and drag the layer to a new position.

- b** Zoom to the USCG SectorHQ layer.



- c** Explore the layers that you added around the operation areas.

2. Are there any weather conditions that might affect the planned operation?

You removed unnecessary layers and organized the remaining ones to better understand weather conditions in the area. Next, you will set layer refresh intervals.

Step 3: Set refresh intervals

While the data layers that were added to the map are updated frequently, you must set the refresh intervals. This setting will update the layers at the specified time interval on the layer to support a map display that will not be manually updated frequently.

- a** In the Contents pane, point to Current Weather And Wind Station Data - Buoys and click the More Options button **...**.
- b** Choose Refresh Interval, set it to Refresh Layer Every **60** Minutes, and then click away from the menu to apply the setting.

- c** On your own, set the following Refresh Intervals:

Layer name	Refresh Interval time
USA Weather Watches And Warnings - Coastal And Offshore Marine Zones	5 minutes
USA Weather Watches And Warnings - Events Ordered By Size And Severity	5 minutes
GOES Satellite Imagery Colorized Transparent Background	10 minutes

- d** Save your map and, if necessary, accept any prompts to update sharing.
- e** In the top-left corner of the app, click Home and choose Home to return to the portal home page.
- f** Leave your web browser open.

You configured the near-real-time layers in your map to refresh automatically based on the update intervals from the source data. This map can now be used for mission planning and as an area overview map, such as a dashboard map used by a watchfloor to monitor an area.

Lesson review

1. How do you associate keywords with a content item that you are sharing from ArcGIS Desktop to ArcGIS Enterprise?

2. You are creating a product to display hot spots of crime in your city. Which tool in Map Viewer Classic would you use to conduct this analysis and which category would you find it in?

Answers to Lesson 2 questions

Use Map Viewer for geospatial analysis (page 2-6)

1. What tool categories are available in Map Viewer Classic?
Summarize data, Find Locations, Data enrichment, Analyze patterns, Use proximity, and Manage data are available.
2. What must be configured in your portal for the Create Viewshed tool to be available?
An elevation utility service must be configured.
3. Which toolset contains the Calculate Density and Find Hot Spots tools?
The Analyze Patterns toolset contains these tools.

Exercise 2B: Add near-real-time data to your map (page 2-24)

1. What is the Update Frequency of this service?
This service is updated every 5 minutes.
2. Are there any weather conditions that might affect the planned operation?
Answers will vary depending on current conditions.

3

ArcGIS Web AppBuilder

ArcGIS Enterprise provides several different web apps that can be used to extend your geospatial content. These apps are used to visualize your content in unique and powerful ways.

In this lesson, you will learn about ArcGIS Web AppBuilder. This intuitive app allows you to build 2D and 3D web apps with embedded widgets that enable powerful functionality.

Topics covered

- ArcGIS Enterprise web apps

- ArcGIS Web AppBuilder functionality

- Creating web apps using ArcGIS Web AppBuilder

ArcGIS Enterprise web apps

ArcGIS Enterprise provides several configurable apps that enable you to extend your web content. Most web apps use a web map that you have created as the foundation. These web apps enable you to visualize content that you have created in unique and powerful ways.



Figure 3.1. Web apps use web maps that you have created as the foundation.

What is ArcGIS Web AppBuilder?

You can use ArcGIS Web AppBuilder to build a custom web app. A web app built with Web AppBuilder has four components: a theme, a map or scene, widgets, and attributes. When you create a web app using Web AppBuilder, the creation wizard guides you through configuring each of the four components.



Figure 3.2. An ArcGIS Web AppBuilder web app consists of a theme, map or scene, widgets, and attributes.

Theme

A theme includes a collection of panels, styles, layouts, and preconfigured widgets.

Map or scene

The web app is built from a web map or web scene that you have created or is accessible through your ArcGIS Enterprise portal. If you initiate Web AppBuilder from Map Viewer or Scene Viewer, that map or scene is chosen by default.

Widgets





Widgets give your app functionality, such as the ability to add drawing tools or embed geoprocessing tools. Each theme has its own preconfigured set of widgets and contains widget controllers that you can use to add additional widgets.

Attributes

Configure attributes to customize your app banner with a logo, title, and hyperlinks.

Creating a web app with Web AppBuilder

Web AppBuilder is an intuitive app that allows you to build 2D and 3D web apps. The creation wizard opens as a pane with an organized set of tabs that allows you to step through the workflow to create a web app by choosing a theme, selecting the appropriate web map or scene, adding widgets, and configuring attributes.

 Theme <ul style="list-style-type: none">• Layout• Color scheme• Preconfigured widgets	 Map <ul style="list-style-type: none">• Web map or web scene
 Widget <ul style="list-style-type: none">• Custom widget options• Configure in- and off-panel options	 Attribute <ul style="list-style-type: none">• Title and subtitle• Banner logo• Hyperlink

Explore Web AppBuilder widgets

The core functionality of a web app created using Web AppBuilder is extended through the widgets that you choose to embed in your web app. In this activity, you will examine several widgets that you can choose to include in your web app.

Instructions

- a** Restore your web browser, if necessary, and then open a new web browser tab and browse to <https://doc.arcgis.com/en/web-appbuilder/11.1/create-apps/what-is-web-appbuilder.htm>
- b** From the Contents on the left side of the page, expand Configure Apps, and then click Widgets Overview.
- c** Use this help documentation to answer the following questions in your workbook.
- d** When you are finished, close the web browser tab but leave the portal home page open.

1. Which widget displays an image using an image coordinate system?

2. Which widget enables you to identify safe distances and zones when planning events?

3. What does the Grid Overlay widget do?

Components of a web app

A web app created using ArcGIS Web AppBuilder contains several components. Attributes allow you to add custom branding, the theme controls the layout and colors, and the widgets embed custom functionality to be used in the map.

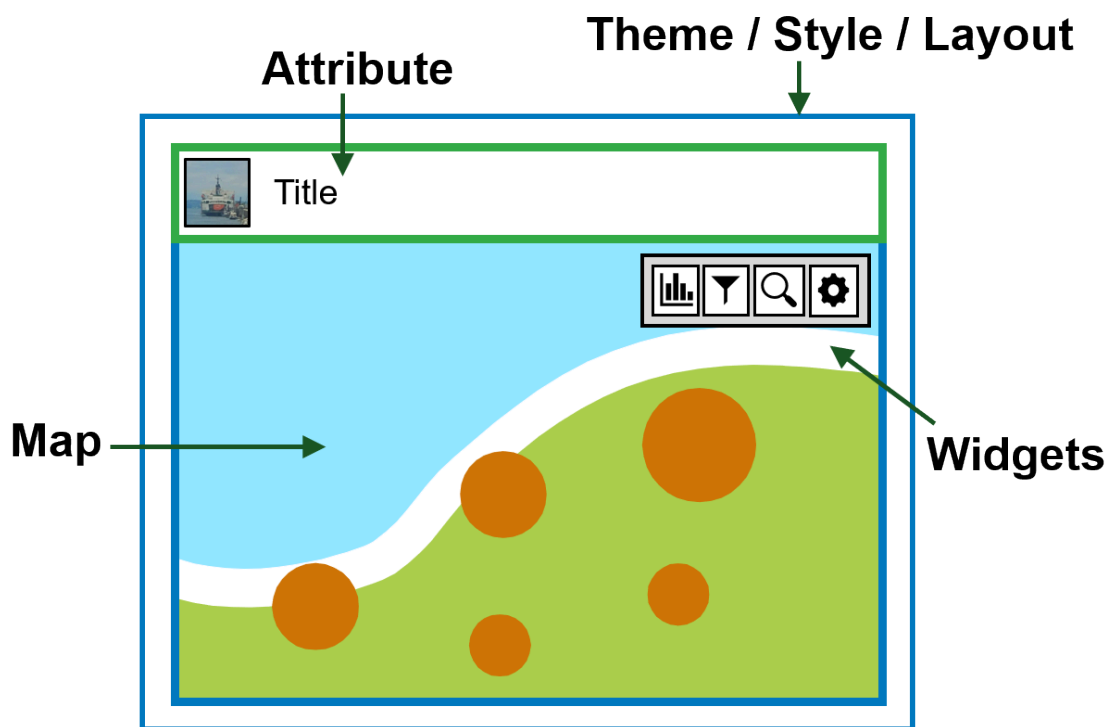


Figure 3.3. A web app consists of several components: the attributes, theme, widgets, and web map.

Create a web app using Web AppBuilder

Continuing your work at the Joint Task Force (JTF), you have analyzed intelligence reporting and determined that the courier vessel that was not interdicted by the U.S. Coast Guard (USCG) has off-loaded its cargo on the western side of Mobile Bay, Alabama, USA. Further analysis of smuggling trends has led you to determine that the shipment will most likely be transported out of the area by a small plane departing from the H L Sonny Callahan airfield.




You have been tasked with creating a custom web app for a Drug Enforcement Agency (DEA) unit to use in mission planning efforts to interdict the shipment at the airfield. You have decided to use Web AppBuilder to build the web app.

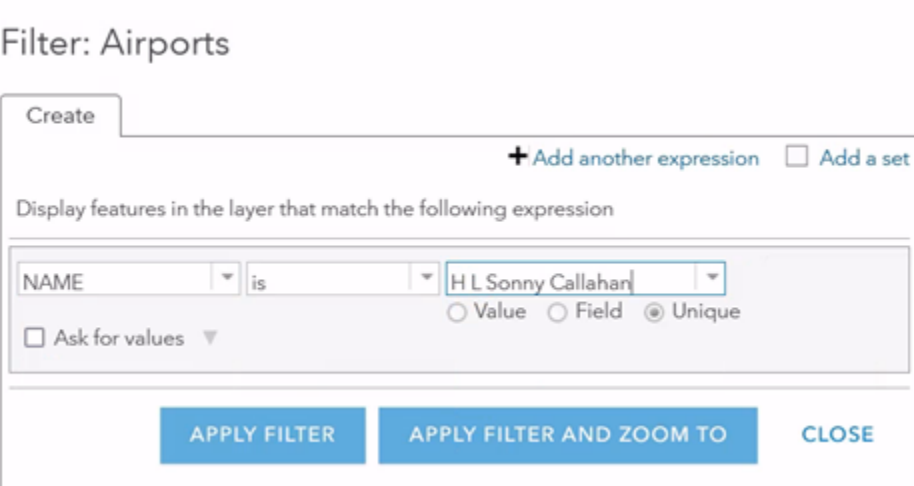
In this exercise, you will perform the following tasks:

- Create a web map.
- Configure and test a web app.

Step 1: Create a web map

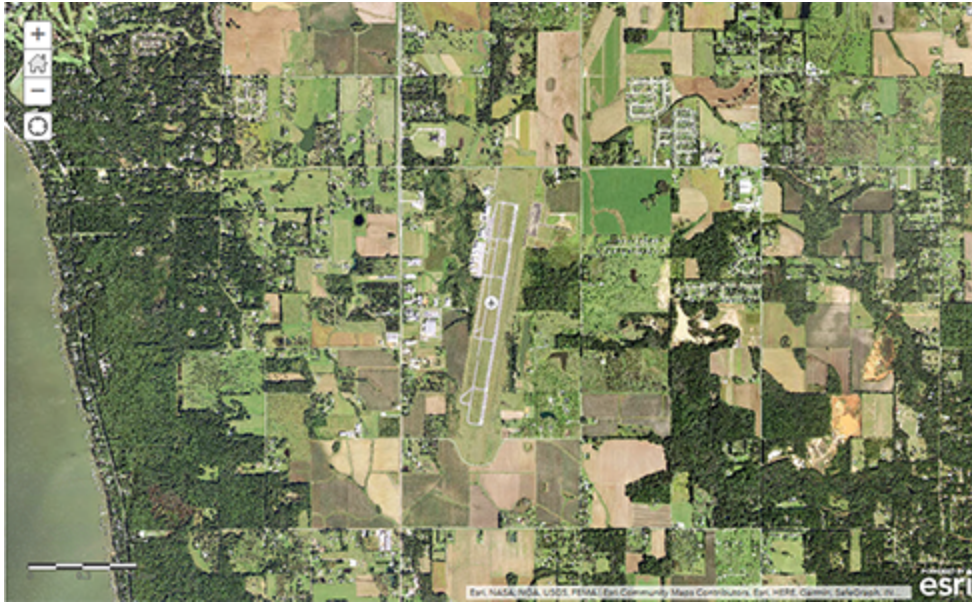
The first step in creating an effective web app is to identify, or create, a web map that provides the necessary foundation. Because this operation is new, there is no existing web map, so you will create one.

- a At the top of your course portal home page, click Map to launch Map Viewer Classic.
- b If necessary, in the upper-right corner, click New Map.
- c Click Add  and choose Search For Layers.
- d From My Content, add the following layers to your web map:
 - **imagery_mosaic_tif**
 - **Airports**
- e From the Contents pane, point to the Airports layer, and then click the Show Table button . The attribute table opens at the bottom of the map.
- f In the upper-right corner of the attribute table, click the Options button  and choose Filter.
- g In the Filter dialog box, create the following expression: NAME Is H L Sonny Callahan.



Hint: Under the third drop-down list, select Unique, and then choose H L Sonny Callahan.


- h Click Apply Filter And Zoom To.
- i Close the attribute table and reposition the map to center on the airport, if necessary.



You created a web map that has the necessary information to serve as the foundation for the web app. In this case, that information is the location of the airport and recent imagery that can be used in mission planning.

Step 2: Create a web app

Now that you have a web map to build the web app from, you will create the web app. This process can be started from Map Viewer.

- a Click Save  and choose Save As.
- b In the Save Map dialog box, type or confirm the following information:
 - Title: **H L Sonny Callahan airfield interdiction_<your initials>**
 - Tags: **H L Sonny Callahan, DEA, smuggling**
 - Summary: **This web map shows the location and recent imagery for the H L Sonny Callahan airfield.**
 - Save In Folder: student

✕

Save Map

Title:


Tags:

✕
 ✕
 ✕

Add tags

Summary:

Save in folder: ▼

- c Click Save Map.
- d Click Share .
- e In the Share dialog box, check the box for Everyone to set the sharing permissions for the web app.

Share

Choose who can view this map.

Your map is currently shared with these people.

- ☒ Everyone
- ☒ ArcGIS Enterprise: Analysis Workflows for Intelligence
- ☐ Members of these groups:

- ☐ Central America
 - ☐ Counter Narcotics
 - ☐ Featured Maps and Apps
 - ☐ Gulf of Mexico
 - ☐ U.S. Coast Guard - GoM

Link to this map

<https://ntel.ad.local/portal/home/webmap/viewer.html?webmap=a366fc4f447840c29f2f344d13e3e23b&extent=-87.9409,30.4307,-87.8142,30.492>

☒ Share current map extent

Embed this map



If an Update Sharing dialog box appears, click Update Sharing.

- f** Click Create A Web App.
- g** In the Create A New Web App dialog box, click the Web AppBuilder tab.
- h** Accept the default input for the Title, Tags, and Save In Folder fields, and then type the following summary:
 - Summary: **This web app is for mission planning purposes for a smuggling interdiction operation at the H L Sonny Callahan airfield.**

Create a New Web App

To create a new app with Web AppBuilder, enter a title, tags and summary.

Title: H L Sonny Callahan airfield interdiction_XXX

Tags: H L Sonny Callahan × DEA × smuggling ×
Add tags

Summary: (Optional) This web app is for mission planning purposes for a smuggling interdiction operation at the H L Sonny Callahan airfield.

Save in folder: student

☒ Share this app in the same way as the map (Everyone, ArcGIS Enterprise: Analysis Workflows for Intelligence)

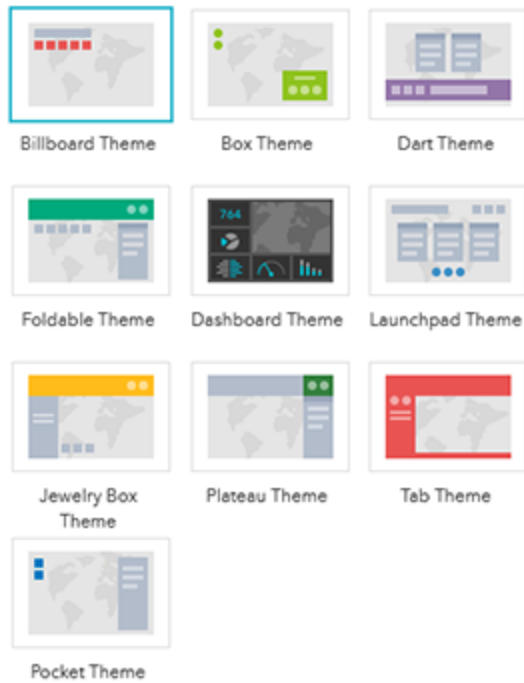
- i** Click Get Started.

You are taken to the ArcGIS Web AppBuilder creation wizard, where you will choose your theme, map, widget, and attribute settings.

Step 3: Choose a theme

The first step in the creation wizard is choosing an appropriate theme. The theme dictates the layout and color style of your web app.

- a** In the Theme pane, click different themes to explore the different layout options, and then choose the Billboard Theme.



- b** Click different Styles and Layouts to explore different options, and then choose the Black style and first layout option with the widgets in the top-left corner.

Style



Layout



- c** At the bottom of the pane, click Save.

Step 4: Choose a web map

The second step in the creation wizard is choosing a web map. Because you have initiated the web app creation from a web map, that web map is chosen by default. However, you can change other settings from this tab.

- a In the map, pan and zoom in to the airfield until it is centered and fills most of the map view.



- b At the top of the creation wizard pane, click the Map tab.
- c In the Map pane, in the Set Initial Extent section, click Use Current Map View.

This setting ensures that the initial extent is centered on the H L Sonny Callahan airfield when a user opens the web app.

Step 5: Choose widgets

The third step is choosing widgets to embed in your web app. These widgets provide users with the tools necessary to use the web app for its intended purpose.

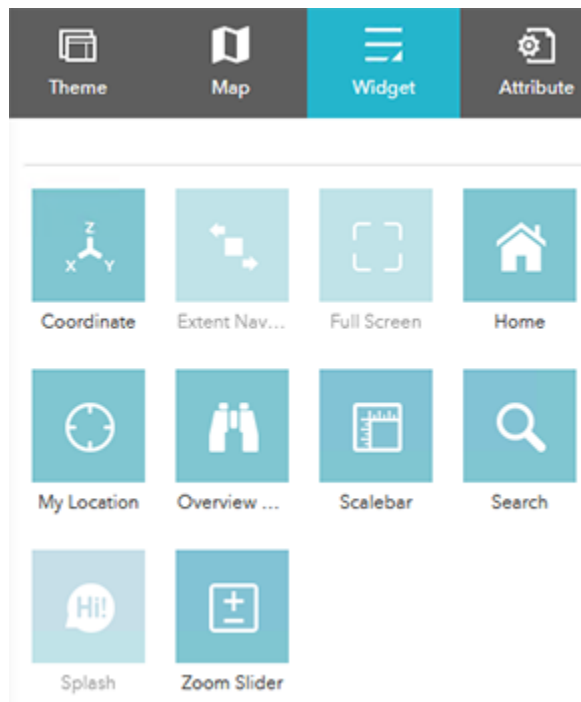
- a At the top of the creation wizard pane, click the Widget tab.

The off-panel widgets are in the top section. These widgets can be enabled or disabled by pointing to a widget and clicking the eye icon, as shown in the upper-right corner of the following graphic.




Extent Nav...

- b** Accept the default settings for the off-panel widgets.



- c** In the lower section with empty widget controllers, click the first gray box.
- d** In the Choose Widget dialog box, click the Coordinate Conversion widget, and then click OK.

Configure Coordinate Conversion ✕




Coordinate Conversion

Change widget icon

[Learn more about this widget](#)

Location symbol

Preview:  Hint: Symbol for current coordinate location

Zoom Scale

1:

<input checked="" type="checkbox"/>	Show	Notation	Default Format	Edit Format
<input checked="" type="checkbox"/>		DD	YN XE	
<input checked="" type="checkbox"/>		DDM	A° B'N X° Y'E	
<input checked="" type="checkbox"/>		DMS	A° B' C"N X° Y' Z"E	
<input checked="" type="checkbox"/>		GARS	XYQK	
<input checked="" type="checkbox"/>		GEOREF	ABCDXY	
<input checked="" type="checkbox"/>		MGRS	ZSXY	
<input checked="" type="checkbox"/>		USNG	ZSXY	
<input checked="" type="checkbox"/>		UTM	ZB X Y	
<input checked="" type="checkbox"/>		UTM_H	ZH X Y	

- e Accept the default settings and click OK.
- f At the bottom of the Widget pane, click Save.

The Coordinate Conversion widget allows you to quickly obtain the coordinates for a desired point in various formats.

- g Click the first empty widget controller, and then in the Choose Widget dialog box, click the Layer List widget and click OK.

Configure Layer List

Layer List

Change widget icon

[Learn more about this widget](#)

☒ Show title
☐ Show Basemap
☒ Show legend
☐ Expand all layers by default

Choose which actions will be shown on the layer context menu

☒ Zoom to
☒ Transparency
☒ Set Visibility Range
☒ Enable / Disable pop-up
☒ Show / Hide labels
☒ Move up / Move down
☒ View in Attribute Table
☒ Description / Show item details / Download

Choose which layers will be shown on the list

☒ H L Sonny Callahan Airport
☒ imagery_mosaic_tif

h Accept the default settings, and then click OK and click Save.

The Layer List widget allows you to control which layers are visible in the web app.

i Click the first empty widget controller, and then add the Gridded Reference Graphic widget, accepting its defaults and saving.

The Gridded Reference Graphic widget allows you to quickly add an alphanumeric reference grid overlay to your web map.

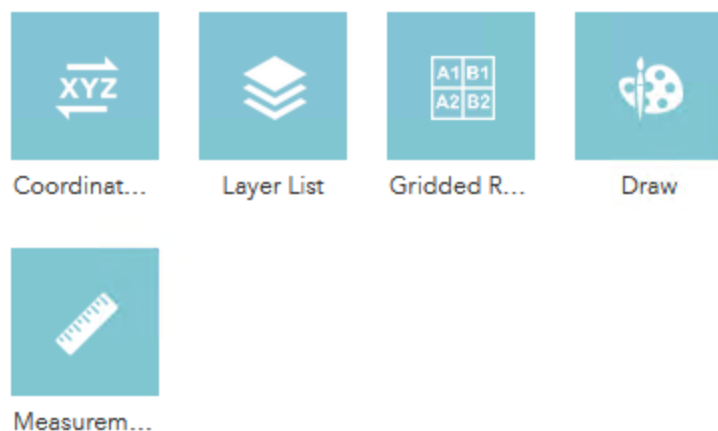
j Add a Draw widget, and then in the Configure Draw dialog box, check the box for Add The Drawing As An Operational Layer Of The Map.

k Click OK and click Save.

l For the remaining empty widget controller, add the Measurement widget, and then set the following parameters:

- Default Area Unit: Sq Kilometers
- Default Length Unit: Meters
- Add The Measure Graphic As An Operational Layer Of The Map: Checked

m Click OK and click Save.

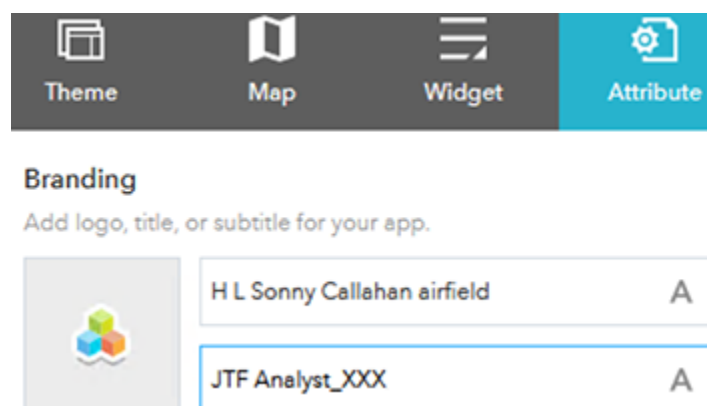


You configured the widgets that will provide the functionality needed for effective mission planning. You can see that they have been added under the Find Address Or Place search field in the top-left corner of the map view.

Step 6: Choose attributes

The final step in the creation wizard is configuring the web app's attributes, where you can change the title, logo, and so on.

- a At the top of the creation wizard pane, click the Attribute tab.
- b In the Branding area, set or confirm the following information:
 Title (first line): **H L Sonny Callahan airfield**
 Subtitle (second line): **JTF Analyst_<your initials>**



- c Click Save.


Your web app is now fully configured. The next step is to test the functionality that you added to the web app.

Step 7: Test the functionality of the web app

The ArcGIS Web AppBuilder creation wizard allows you to test the functionality that you embedded in the web app. This testing is done in the map view with the embedded off-panel and in-panel widgets. Anything added or created in the map while in this view will not be saved to the web app when the app is launched.

- a In the upper-left corner of the map view, click the Gridded Reference Graphic widget.

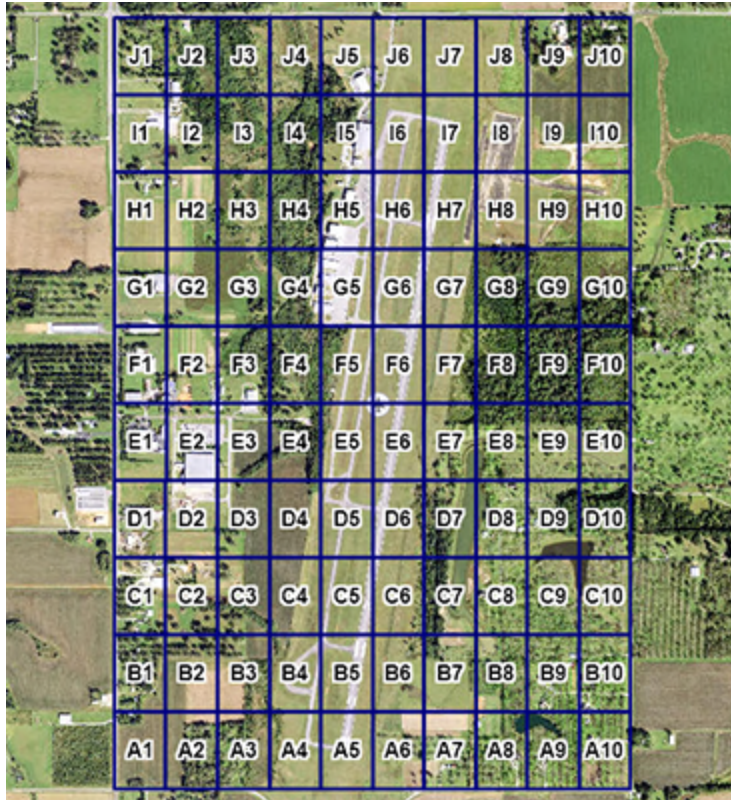
Hint: Point to each widget to see its name.

- b Expand Define A Grid From An Area, and then click the arrow to the right of By Dimension.
- c Next to GRG Area, click the Draw GRG Area Using Extent button .
- d In the map, draw a box around the H L Sonny Callahan Airport using the following graphic as a guide to define the area over which the GRG will be created.

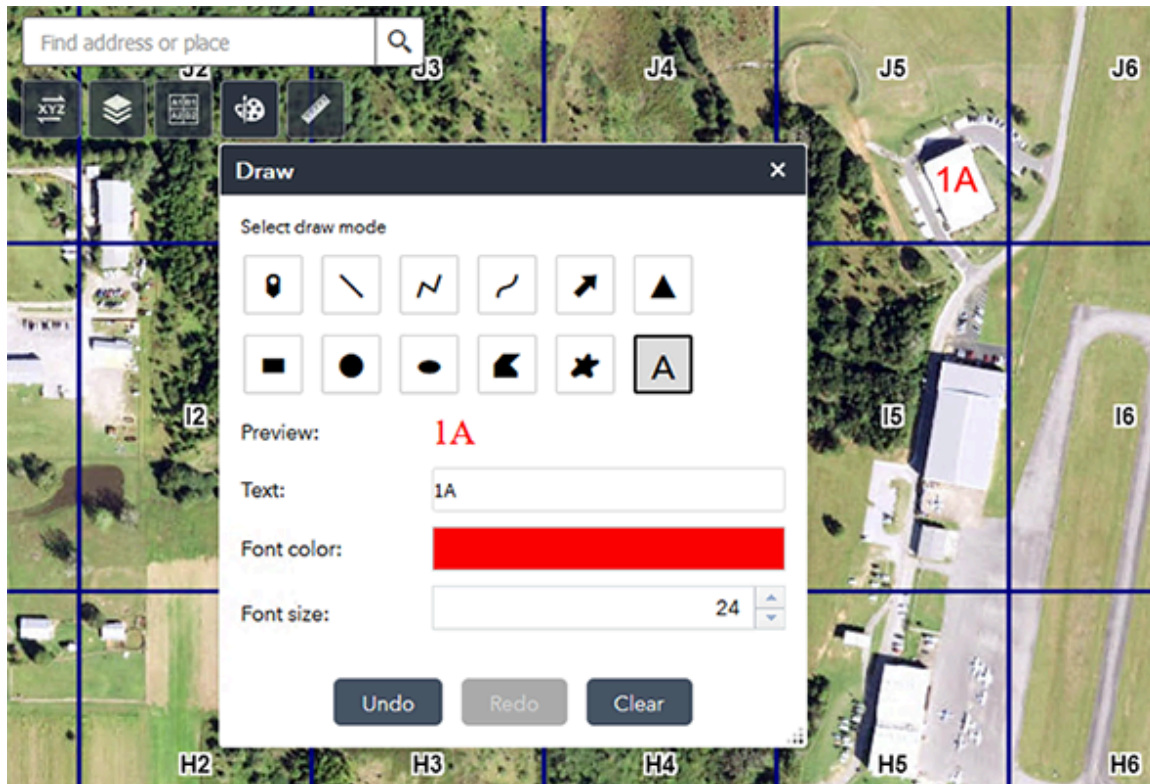


If necessary, move the Gridded Reference Graphic dialog box.

- e In the Gridded Reference Graphic dialog box, click Create GRG.

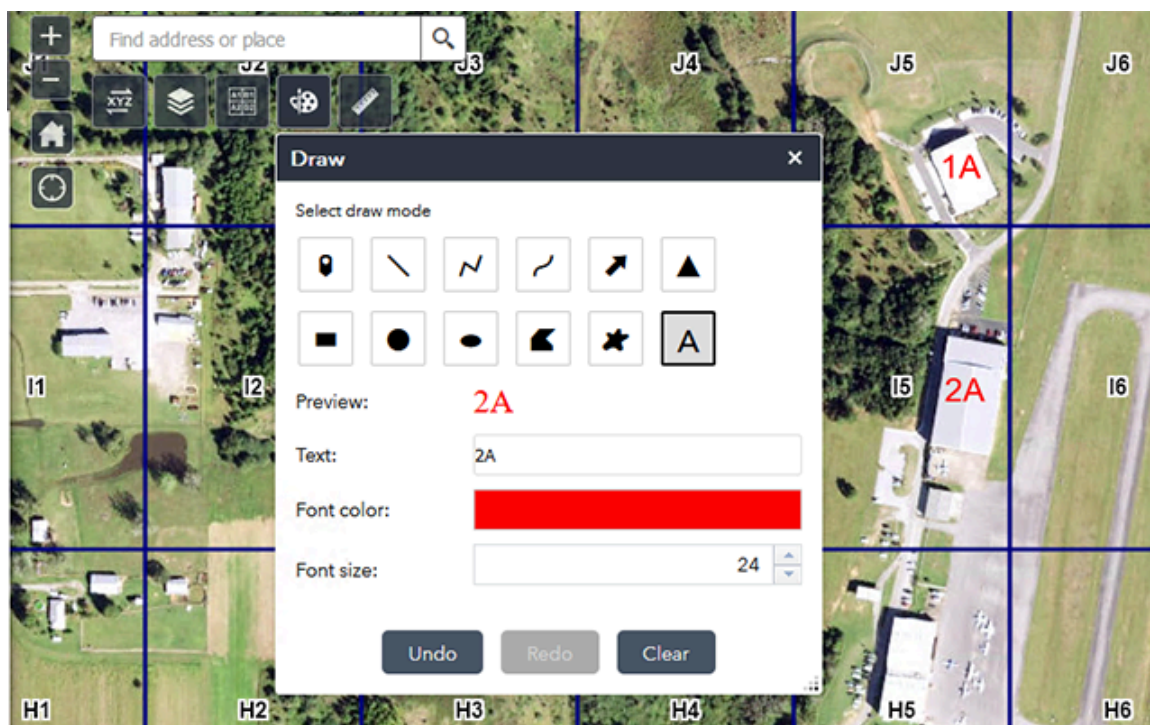



- f Close the Gridded Reference Graphic dialog box without publishing the GRG layer.
- g Zoom in to the airfield buildings, centering your map on zones J5, I5, H5, and G5.
- h Click the Draw widget, and then click the Text button **A**.
- i For Text, type **1A**.
- j Change the font color to a color of your choice.
- k Click the northernmost building of the airfield buildings in J5 to place the text label.




Your text color may differ.

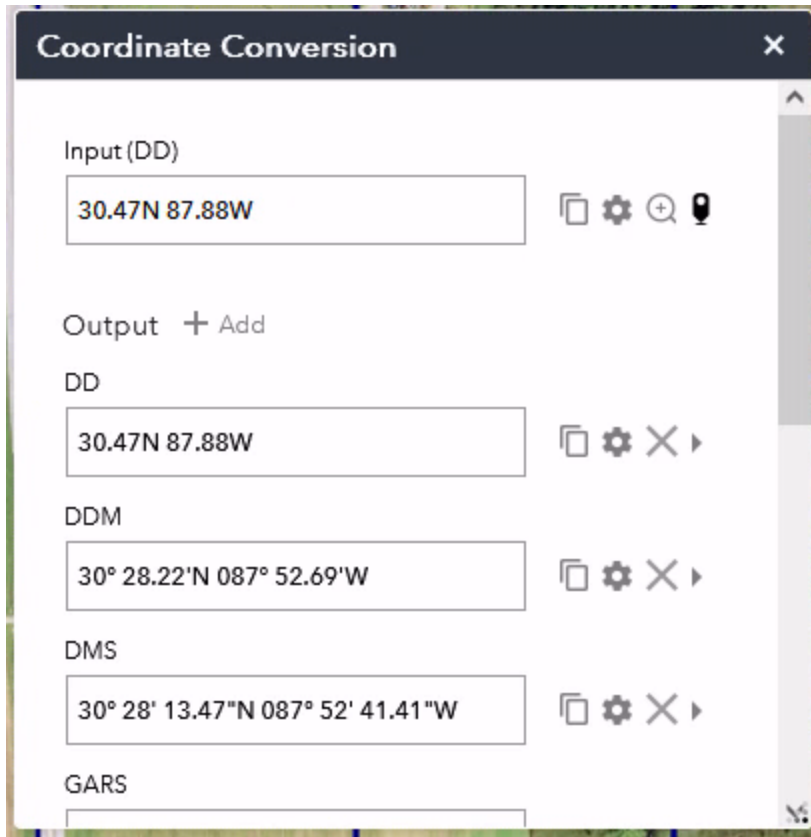
- 1 Create a **2A** label, and then click the closest building to the south of the building labeled 1A to label the next building in the series.



- m Close the Draw dialog box.
- n Click the Measurement widget, and then click the Distance tool .
- o Measure the distance from the northern edge of building 1A to the most southern unlabeled building, double-clicking to finish the measurement, to identify the total length of the built-up area.



- p Close the Measurement dialog box.
- q Click the Coordinate Conversion widget, and then for Input (DD), click the Add Point button .
- r Click the building labeled 1A.



- s** In the Coordinate Conversion dialog box, scroll down to review the different coordinates supported by the widget.
- t** Close the Coordinate Conversion dialog box, and then at the bottom of the creation wizard pane, click Launch.

Your web app launches in a new browser tab.

- u** When you are finished reviewing the app, close it and return to the WebApp Builder tab.
- v** In the upper-left corner, click Home and choose Home to return to your portal home page.
- w** Leave your web browser open.

You created a web app that provides users with recent imagery of the area of interest (AOI) along with embedded functionality supporting creation of GRGs, coordinate conversion for deconflicting troop movements, measuring distances in the AOI, and so on. This web app is ready for use in effective mission planning.

Lesson review

1. What are the two categories of widgets?

2. Which step of the Web AppBuilder creation wizard enables you to embed custom functionality like measurement tools?



Esri Training course: [Creating Web Applications Using Templates and ArcGIS Web AppBuilder](#)

Answers to Lesson 3 questions

Explore Web AppBuilder widgets (page 3-5)

1. Which widget displays an image using an image coordinate system?

Oblique Viewer displays an image using an image coordinate system.

2. Which widget enables you to identify safe distances and zones when planning events?

Threat Analysis enables you to identify safe distances and zones when planning events.

3. What does the Grid Overlay widget do?

It allows you to quickly render a Military Grid Reference System (MGRS) grid using client-side resources.

4

ArcGIS Dashboards

In this lesson, you will learn about ArcGIS Dashboards, which enables users to present location-based analytics on a single screen. Dashboards can be used to visualize trends, monitor status of events in real time, and assist decision makers in making informed decisions.

Topics covered

- ArcGIS Dashboards functionality

- Creating an ArcGIS dashboard

What is ArcGIS Dashboards?

ArcGIS Dashboards provides a visualization of geographic information and data that enables you to monitor events, make decisions, inform others, and see trends. There are many reasons to create dashboards, and each one is customized to address a specific need. Some dashboards are designed for operational support, providing a near-real-time overview of what is occurring with a specific operation, such as ongoing efforts for disaster relief. Other dashboards can be more strategic, showing overarching key indicators and metrics, such as monitoring military capability and activity for a foreign nation.

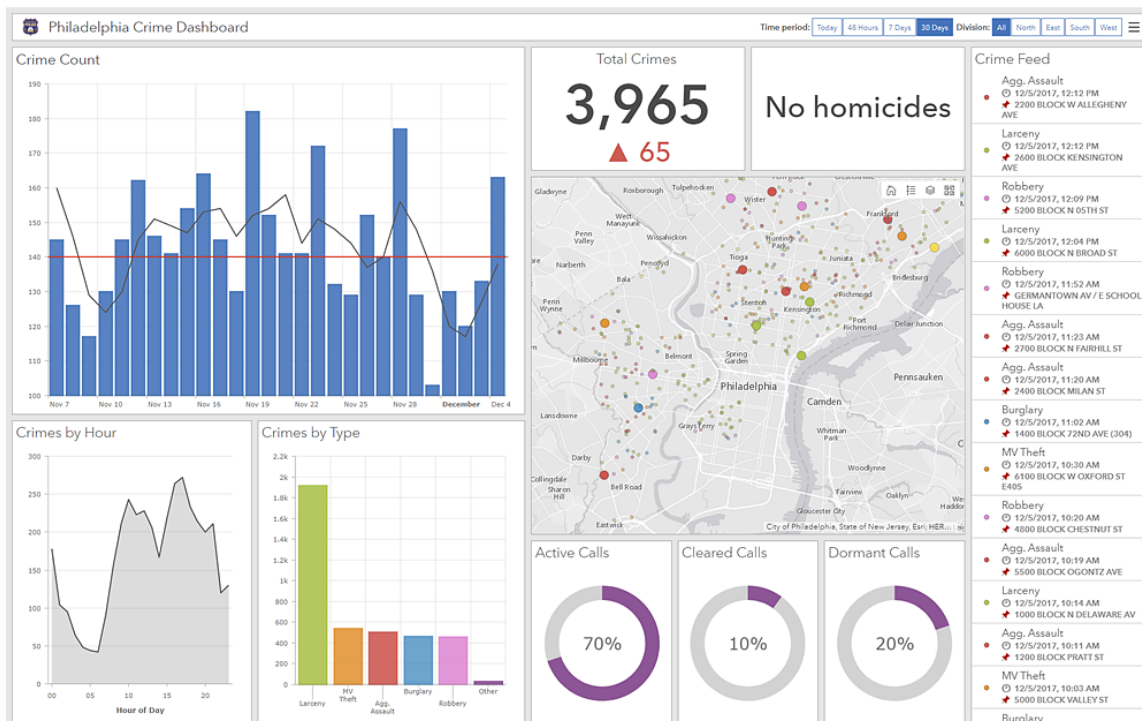


Figure 4.1. ArcGIS Dashboards enables you to display several related pieces of information on a single screen.

ArcGIS Dashboards elements

Dashboards comprise elements that display information related to an operation or project. Most elements are data-driven, which means that they display information derived from a data source like a feature layer. Some examples of configurable elements are maps, lists, charts, gauges, and indicators.

Data-driven elements have several configuration options that allow you to customize the information displayed in the element and how it is displayed, such as flashing or zooming to a point in a map when it is clicked from a list element.

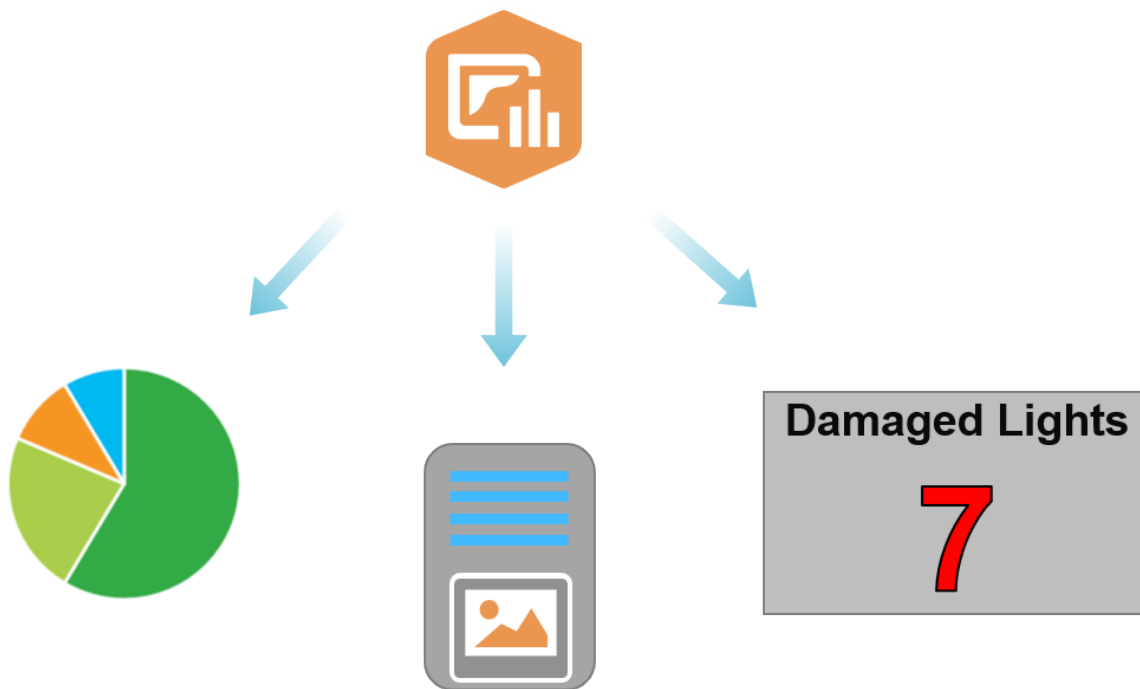


Figure 4.2. You can choose several types of elements when configuring your ArcGIS dashboard. A few examples are pie charts, item details, and indicator elements.

Explore dashboard elements

You have learned how ArcGIS Dashboards can visualize multiple pieces of geographic information and data on a single screen using elements. Now you will explore several different elements and learn about their functionality.

Instructions

- a** Restore your web browser, if necessary, and then open a new web browser tab and browse to **<https://doc.arcgis.com>**.
- b** In the filter field, type **Dashboards**.
- c** In the filtered results, click the ArcGIS Dashboards tile.
- d** On the ArcGIS Dashboards Resources page, in the top-left corner, below the app name, click Get Started.
- e** On the left, expand Dashboard Elements (you may want to collapse the Dashboard Essentials section first) and use the element pages to answer the following questions in your workbook.
- f** When you are finished, close the browser web tab but leave the portal home page open.

1. **What is the maximum number of data points that the pie chart element is intended to show?**

2. **Which settings are included in the map element that can be enabled or disabled during design?**

3. **What does the embedded content element allow you to do?**

Configuring a dashboard

ArcGIS Dashboards provides several different configuration options. These options are split between dashboard-specific configuration options and the configuration options of specific elements. The following information provides some examples of configuration options.

ArcGIS Dashboards configuration options

Dashboard	List element	Serial chart element
<ul style="list-style-type: none">• Theme• Default element colors• Default tab colors	<ul style="list-style-type: none">• List item text• Title text• Description text• Actions	<ul style="list-style-type: none">• Data fields displayed• Data splitting• Statistic shown• Axis title text• Bar symbology• Title text

Create an ArcGIS dashboard

You have been tasked with creating an ArcGIS dashboard that can be used to summarize U.S. Coast Guard (USCG) operations in the Gulf of Mexico. This dashboard will show the types and numbers of operations that the USCG has conducted and provide information about each operation.

You have already created the web map that contains the layers needed to display this operational information. You will use that web map to create an ArcGIS dashboard and configure elements to display the required information.

In this exercise, you will perform the following tasks:

- Create an ArcGIS dashboard.
- Add and configure dashboard elements.
- Update elements.

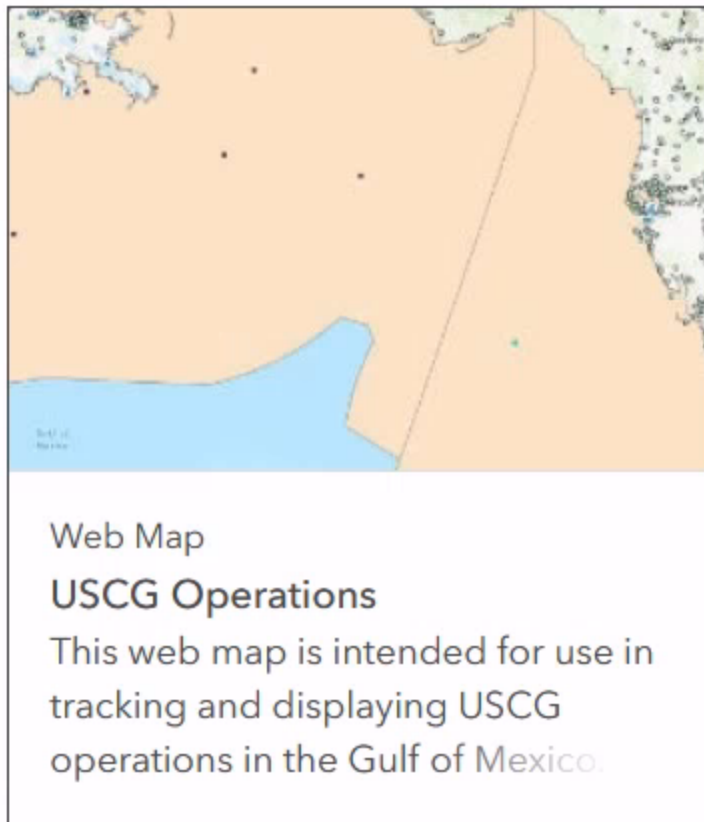


Esri Blog (www.esri.com/arcgis-blog): *Create your first dashboard using ArcGIS Dashboards*


Step 1: Create a dashboard

The first step in creating an ArcGIS dashboard is identifying a web map, whether it be an existing web map or creating a new one.

- a From your course portal home page, under Featured Maps And Apps, click the USCG Operations web map, as shown in the following graphic.



The map opens in Map Viewer, showing the layers and symbology as they were configured when the map was created and shared.

- b On the toolbar above the map, click Share .
- c In the Share dialog box, click Create A Web App.
- d At the top of the Create A New Web App dialog box, click the ArcGIS Dashboards tab and type or confirm the following information:
 - Title: USCG Operations
 - Tags: Esri Training Services, NTEL, USCG, operations

- Summary: **This ArcGIS dashboard is intended for use in tracking and displaying USCG operations in the Gulf of Mexico.**
- Save In Folder: student

Create a New Web App

Configurable Apps Web AppBuilder ArcGIS Dashboards

To create a new dashboard, enter a title, tags, and summary.

Title:

Tags:
Add tags

Summary: (Optional)

Save in folder:

☒ Share this app in the same way as the map (Everyone, ArcGIS Enterprise: Analysis Workflows for Intelligence, Featured Maps and Apps, U.S. Coast Guard - GoM)

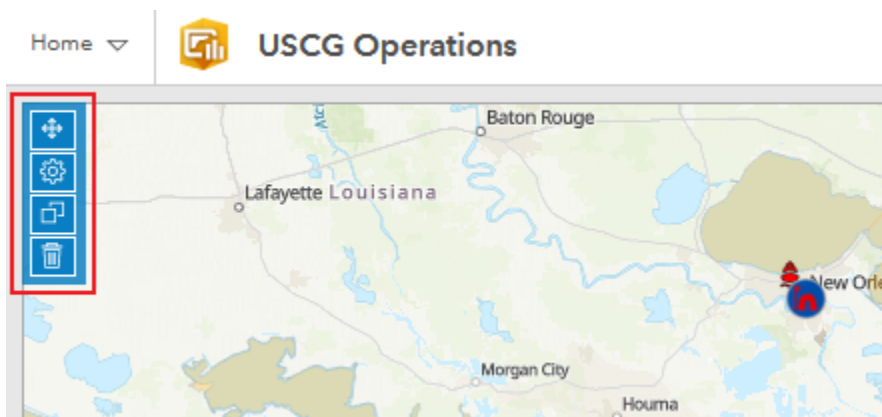
- e Click Done.


You created an ArcGIS dashboard using the USCG Operations map. In the next steps, you will add and configure dashboard elements.

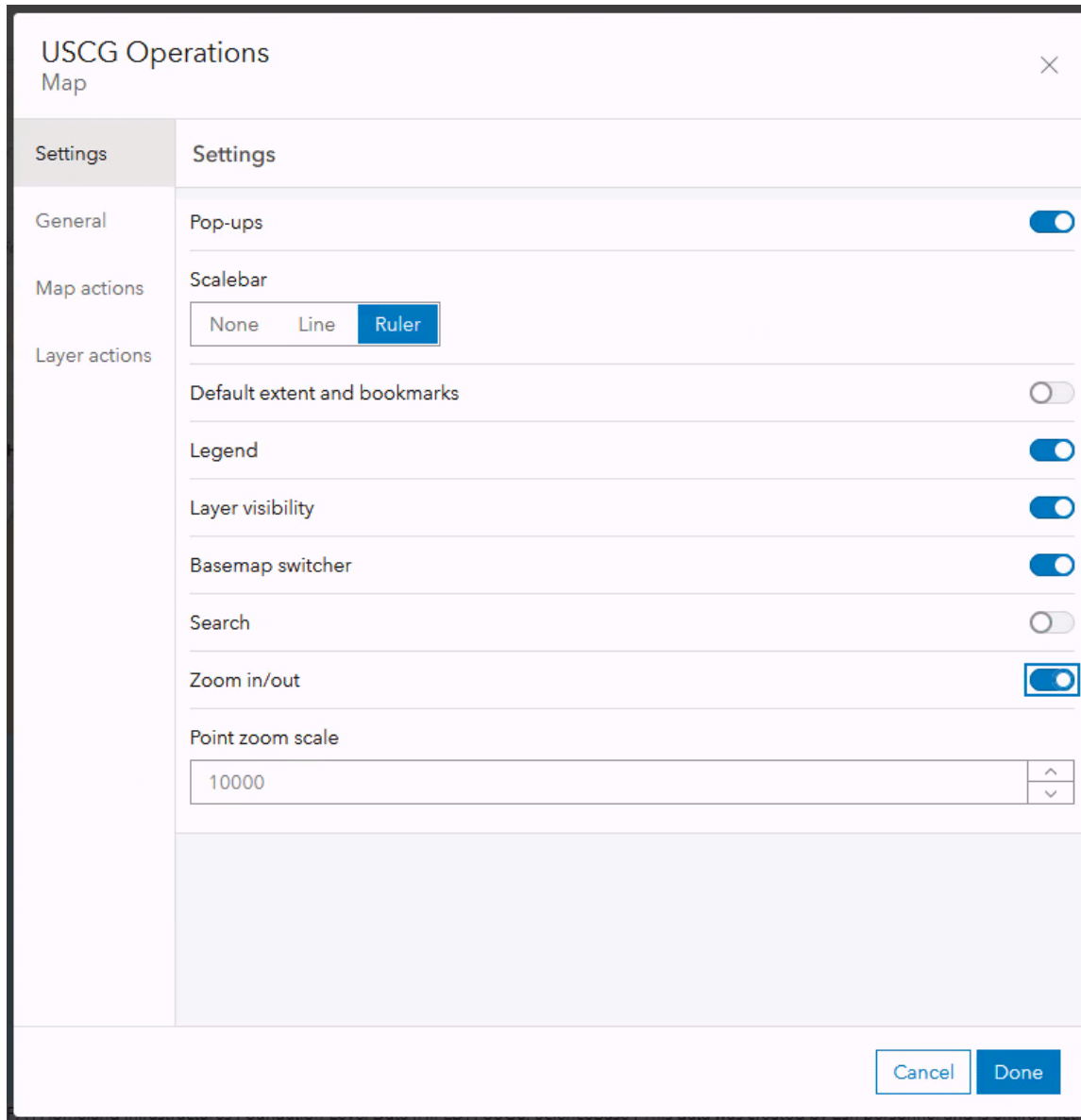
Step 2: Configure a map element


Because you created the dashboard from an existing web map, the map element is automatically added. The first step in configuring your dashboard will be configuring the map element.

- a Point anywhere in the map, and then in the top-left corner of the map, point to the blue box to expand the element options, as indicated in the following graphic.



- b Click the Configure button .
- c In the Map configuration dialog box, ensure that you are on the Settings tab, and then set or confirm the following configuration options:
- Pop-ups: Enabled
 - Scalebar: Ruler
 - Default Extent And Bookmarks: Disabled
 - Legend: Enabled
 - Layer Visibility: Enabled
 - Basemap Switcher: Enabled
 - Search: Disabled
 - Zoom In/Out: Enabled
 - Point Zoom Scale: Default setting



- d Click Done.
- e On the left side of the dashboard configuration window, click the Save button  and choose Save.

The specified options have been enabled in the map. Users can now turn layers on and off, estimate distances using the scale bar, zoom in and out using the zoom function, and use the map legend to identify the symbology used in the map.

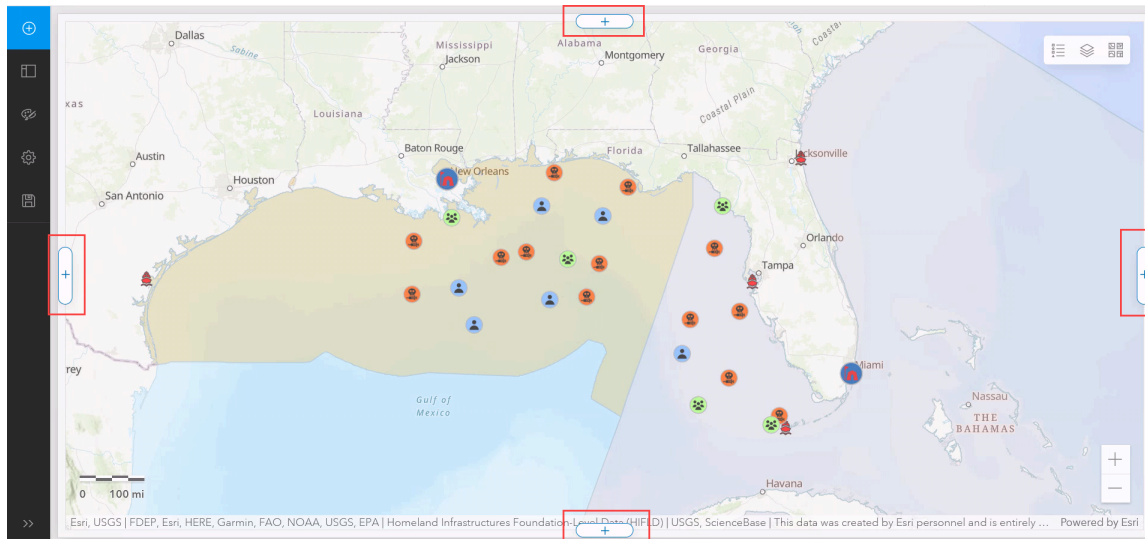
Step 3: Add a serial chart


Now that you have configured the map element, you will add a serial chart showing the number

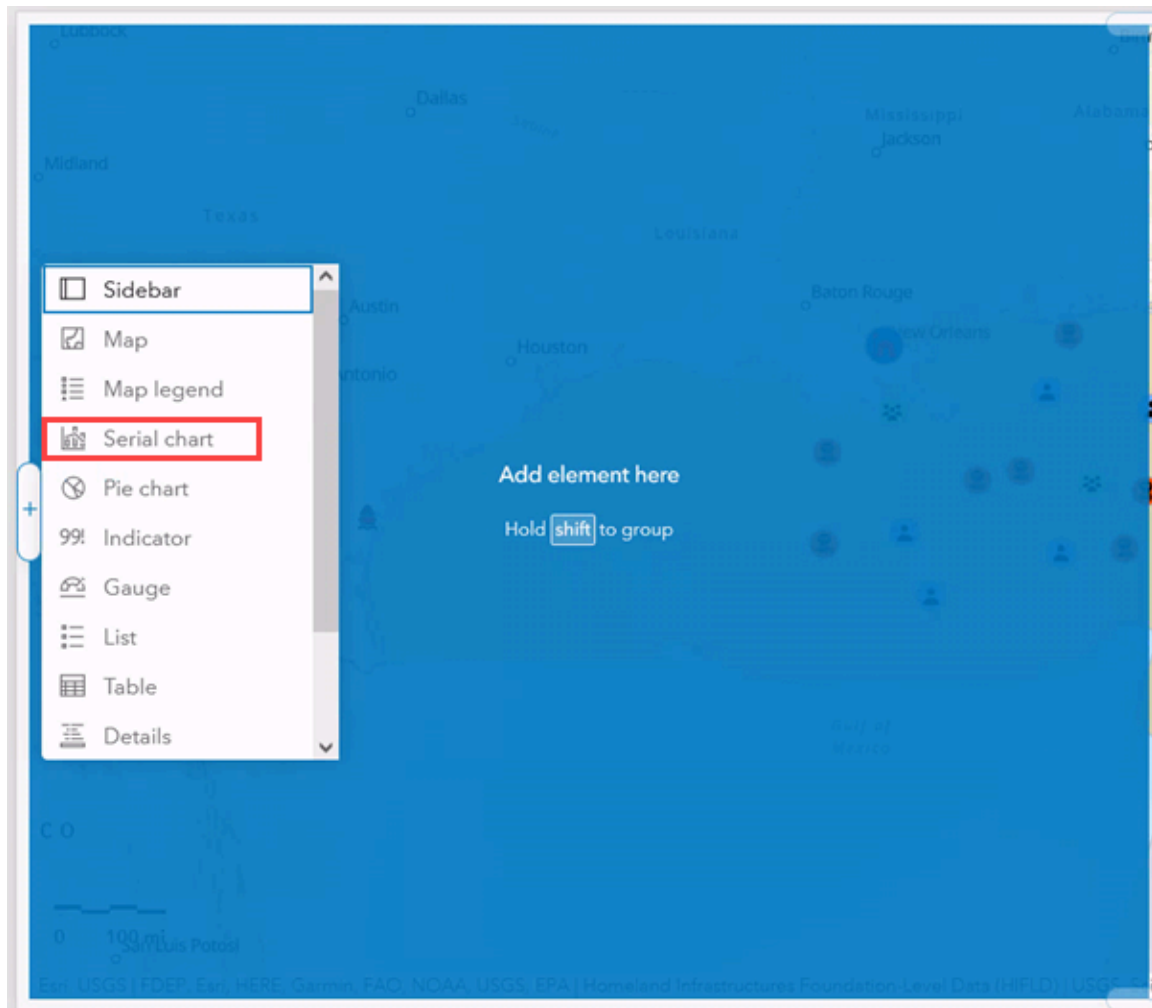
and types of operations that have been conducted in the Gulf of Mexico. When adding new elements to your dashboard, you will first select where you wish to place the new element and then select the element type. When the element type is selected, you can configure the element details.

- a** In the top-left corner of the dashboard, click the Add Element button .

This action activates the element positioning options, as indicated in the following graphic.



- b** In the dashboard view, click the Add  button on the left side of the map frame to add the new element in this location.
- c** From the list, choose Serial Chart, as indicated in the following graphic.



- d On the Serial Chart - Select A Layer page, click `USCG_Operations_2019`.

This action activates additional configuration settings.

- e In the Serial Chart configuration window, on the left, confirm that the Data tab is selected.
- f Under Data Options, for Category Field, expand the drop-down list and choose Mission.
- g For Split By Field, choose District.

Serial chart

Data	Data options
Chart	Layer: USCG_Operations_2019 Change
Category axis	Filter + Filter
Value axis	Categories from
Guides	Grouped values Features Fields
Series	Category field
General	mission ▼
Actions	Parse dates <input type="checkbox"/>
	Split by field
	district ▼ ×
	Statistic
	Count ▼
	Field
	OBJECTID 🔑 ▼
	Sort by Add field ▼

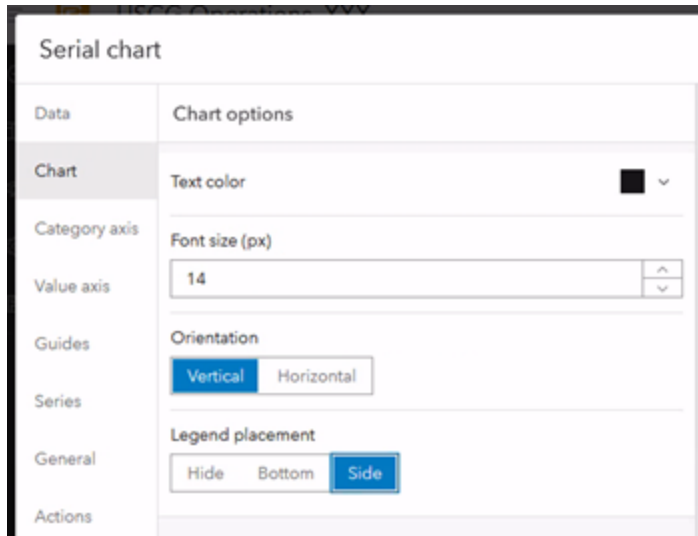


You can see a preview of the configuration changes as you make them in the preview pane to the right of the configuration options.

These configuration settings will create two separate bars that show the number of missions conducted in each district. This information could assist decision makers in understanding where to emphasize training and resources for each district.

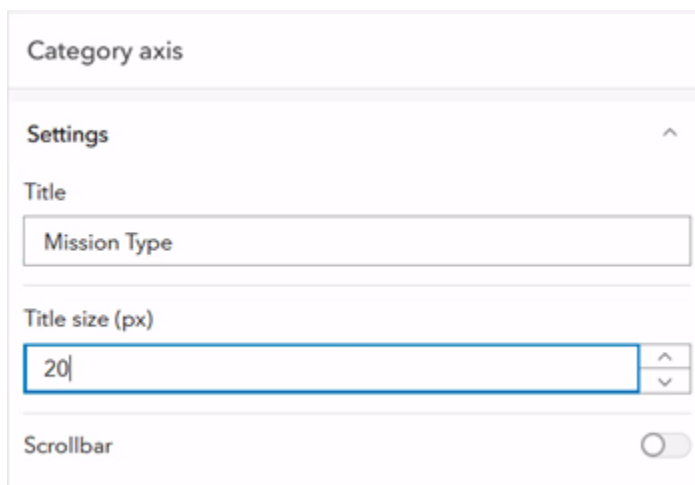
h Click the Chart tab, and then set the following parameters:

- Font Size (px): **14**
- Legend Placement: Side



i Click the Category Axis tab, and then set the following parameters:

- Title: **Mission Type**
- Title Size (px): **20**



j Expand Labels, Axis, and Grid sections to review these configuration options.

k Accept the default values for these settings.

l Click the Value Axis tab, and then set the following parameters:

- Title: **Number of Operations**
- Title Size (px): **20**

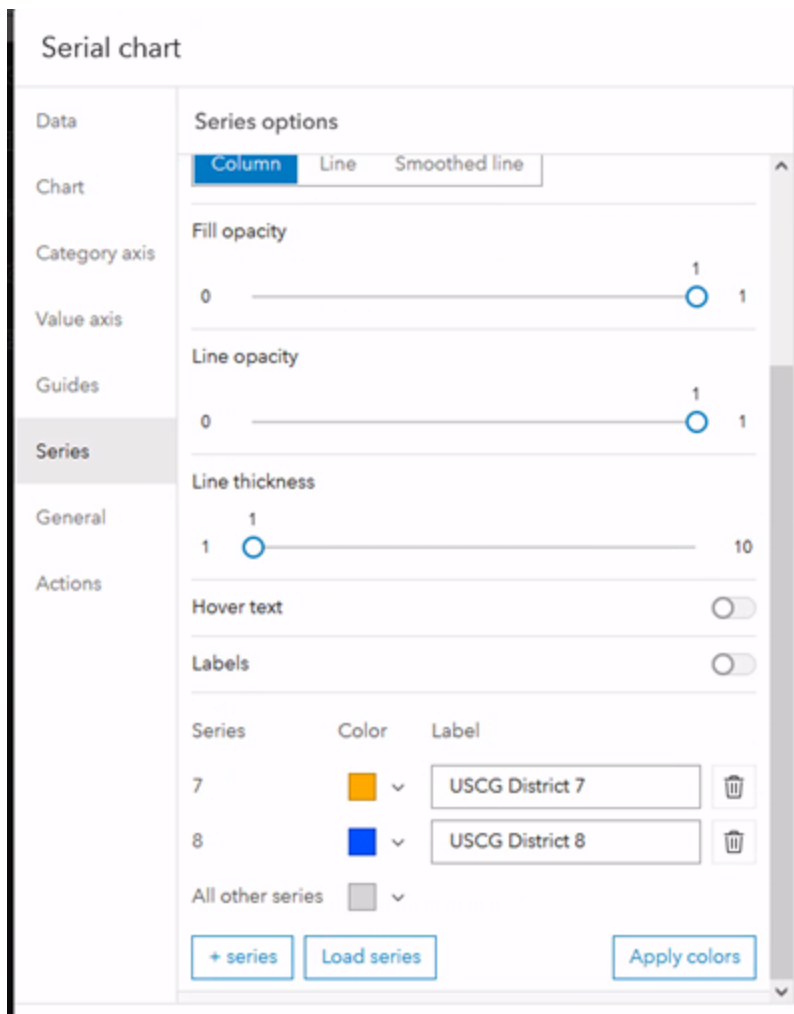
m Review the remaining configuration options and accept the default values.

Now that you have configured titles for the values displayed on the axes, you will configure the

Series legend so users can easily differentiate between the two bars.

n Click the Series tab, and then set the following parameters:

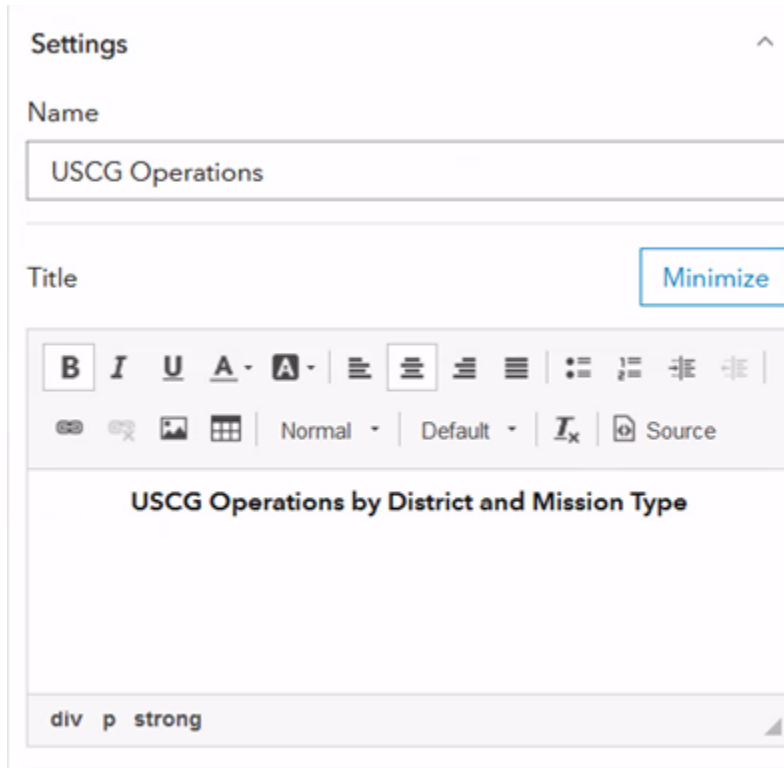
- Hover Text: Disabled
- Series 7:
 - Label: **USCG District 7**
- Series 8:
 - Label: **USCG District 8**
 - Color: Choose a dark blue color of your choice.



The final step in configuring the serial chart is to add a title describing the purpose of the chart.


o Click the General tab, and then update the Name to **USCG Operations**.

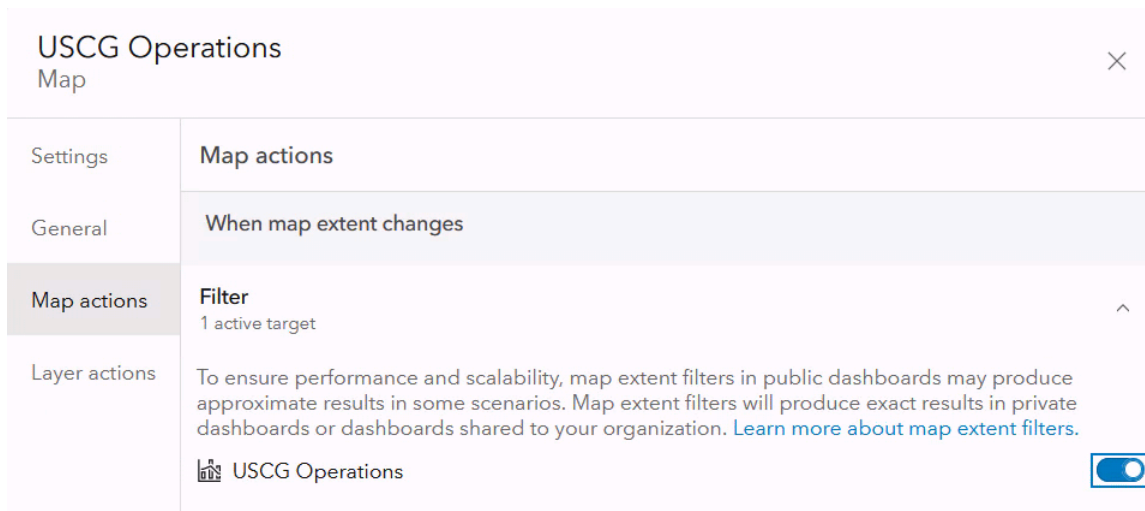
- p For Title, click Edit, and then type **USCG Operations by District and Mission Type** and make the title text centered and bold.



- q Review the remaining configuration options and accept the default values.
- r In the bottom-right corner of the dashboard, click Done.

You will now update a setting so that the serial chart will update dynamically to summarize the number and type of operations conducted in the area displayed by the current map extent.

- s Point to the map element, and then in the upper-left corner of the map, point to the blue bar to expand the element options and click the Configure button .
- t In the Map configuration dialog box, click the Map Actions tab.
- u Under When Map Extent Changes, expand Filter and enable the USCG Operations layer.




- v** Click Done.
- w** Pan around the map view and notice that the serial chart updates dynamically.
- x** Save your dashboard.

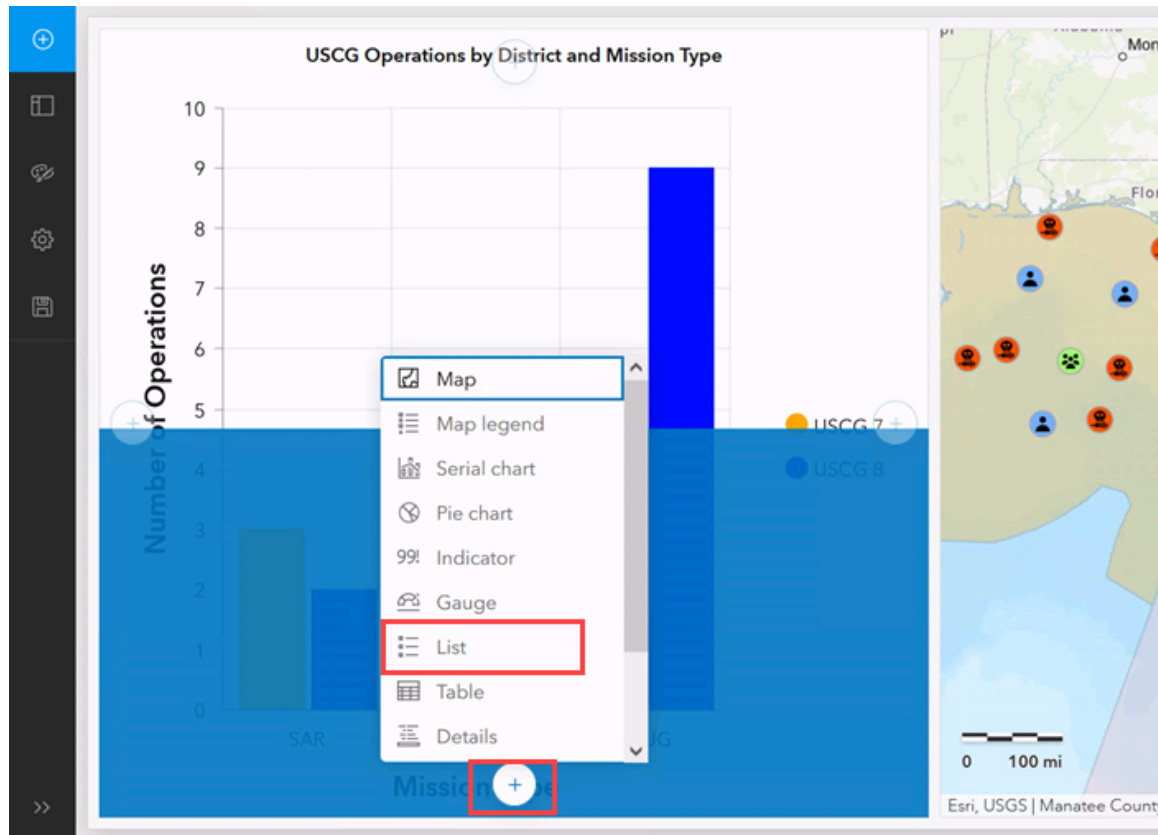
You created a serial chart displaying a count of the number and type of missions that occurred in the two USCG Districts responsible for the Gulf of Mexico. Currently, the serial chart is large and using a lot of space in the dashboard. You will fix this later after adding and configuring other elements.

Step 4: Add a list element

You added a serial chart summarizing the number of operations at a glance. Now you will add a list element that provides a summary of the individual operations.

You will stack the list element below the existing serial chart.

- a** Click the Add Element button .
- b** Position your mouse over the bottom of the serial chart pane.
- c** Click the Add button and choose List from the element options, as indicated in the following graphic.



d On the List - Select A Layer page, choose USCG_Operations_2019.

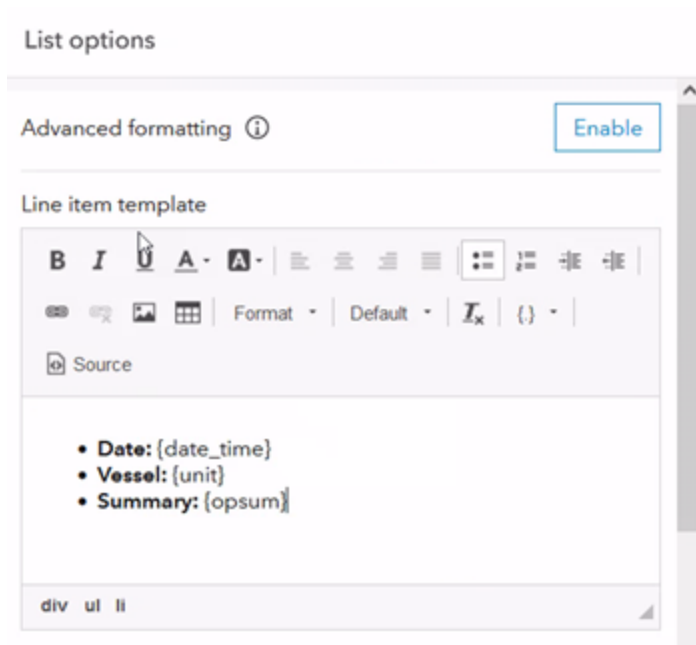
e In the List configuration pane, click the List tab.

The {date_time} field is automatically added to the text editor.

f Using the Insert Field button  and text formatting options, build the following expression:

- **Date:** {date_time}
- **Vessel:** {unit}
- **Summary:** {opsum}

g Make the Date:, Vessel:, and Summary: text bold, and then bullet the whole list.



These configuration options are what determine the information displayed in the list element on the dashboard. You have configured the list to show the date that an operation occurred, which USCG vessel conducted the operation, and a summary of the operation.

- h** Click the General tab, and then update the Name to **USCG Operations summaries**.
- i** For Title, click Edit, and then type **USCG Operations summaries**.
- j** Make the title text bold and centered aligned.

General options

Settings ^

Name

USCG Operations summaries

Title

Minimize

USCG Operations summaries

div p strong

- k Click the Actions tab.
- l Under When Selection Changes, expand Flash and enable Map (1).

Actions

Selection mode

Single Multiple

When selection changes

Filter

No active targets

Flash

1 active target

Map (1)

This action will flash the corresponding map symbol when you click a list item to show where the operation took place.

- m In the bottom-right corner of the dashboard, click Done.

- n Following the same steps that you completed to add the serial chart, add the USCG Operations Summaries list to the map element's Map Actions filter.

Hint: In the upper-left corner of the map, click the Configure button, and then from the Map Actions tab, enable the USCG Operations summaries list in the filter.


- o Save the dashboard.

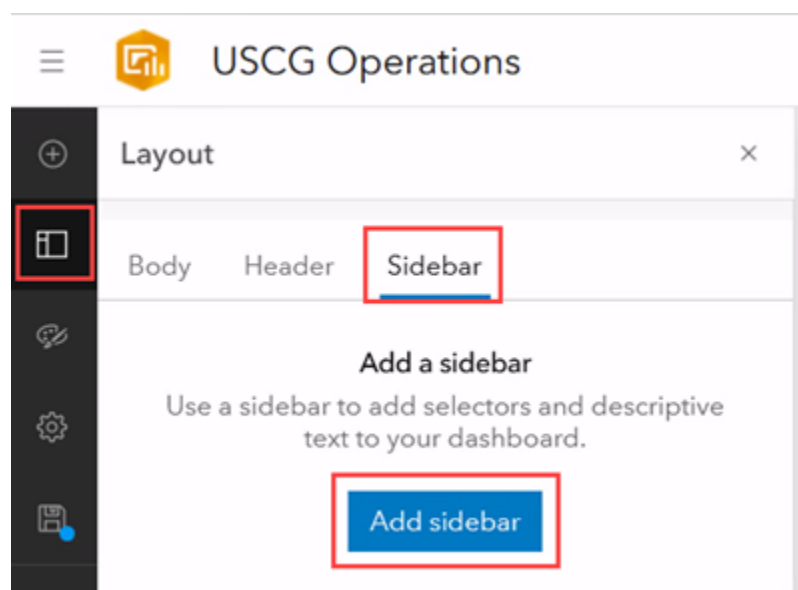
You added and configured a list element to show the date of an operation, which USCG vessel conducted the operation, and a summary of the operation. Additionally, the list element will filter operations based on the current map extent, and a selected list item will flash the corresponding symbol on the map, highlighting its location.

Step 5: Add a sidebar

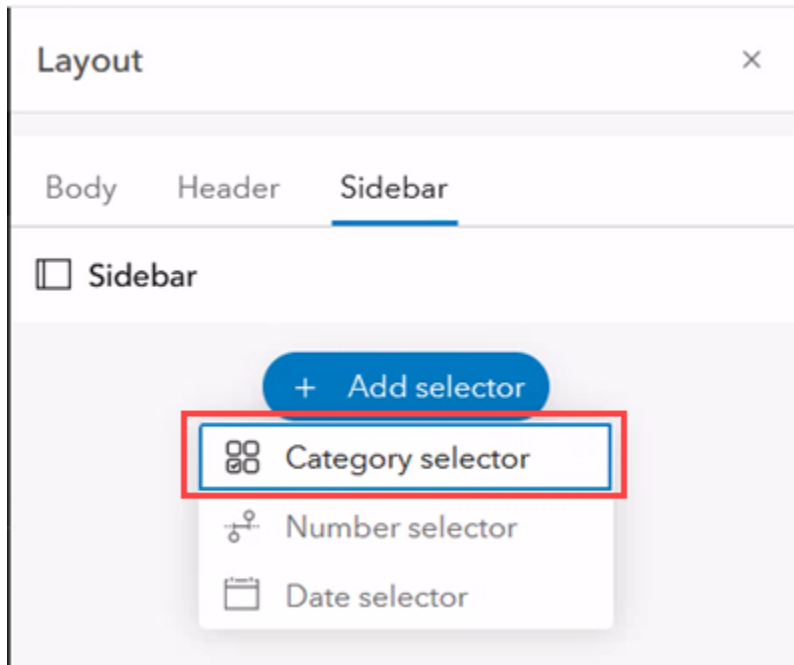
You added a list element that shows a summary of operations in the Gulf of Mexico. Now you will add a sidebar element that filters the list to show only operations conducted by a specific unit. This filter will also be reflected in the map element, showing only the operations conducted by the specified unit.

A sidebar is a reserved area along the side of a dashboard that you can use to give a dashboard more context. You can add a sidebar like you add other elements, but you can also add the sidebar from the Layout configuration.

- a On the Contents toolbar, on the left side of the page, click the Layout button .
- b In the Layout pane, click the Sidebar tab, and then click Add Sidebar, as indicated in the following graphic.



- c In the Appearance pane, next to Title, click Edit, and then type **USCG Operations**.
- d Make the text bold with center alignment, and then click Done.
- e In the Layout pane, under Sidebar, click Add Selector and choose Category Selector, as indicated in the following graphic.



- f In the Category Selector - Data pane, for Categories From, click Grouped Values.
- g On the Select A Layer page, choose USCG_Operations_2019.
- h In the Category Selector - Data pane, for Category Field, choose Unit, as indicated in the following graphic.

Category selector

Data	Data options
Selector	Categories from Defined values Features Grouped values
Actions	Layer: USCG_Operations_2019 Change Filter + Filter <div style="border: 2px solid red; padding: 2px;"> Category field unit ▼ </div> Sort by Add field ▼ <div> ⋮ unit ≡↑ × </div> Maximum categories 50 ^ ▼

- i** Click the Selector tab.
- j** For Label, type **Unit Selector**.
- k** Scroll down and enable None Option.

This option will allow you to view all units in the map without a filter.

- l** For Label For None, type **All units**, as shown in the following graphic.

Selector options

Maximum height

Compact Extended

Operator

equal not equal

None option ☒

Placement

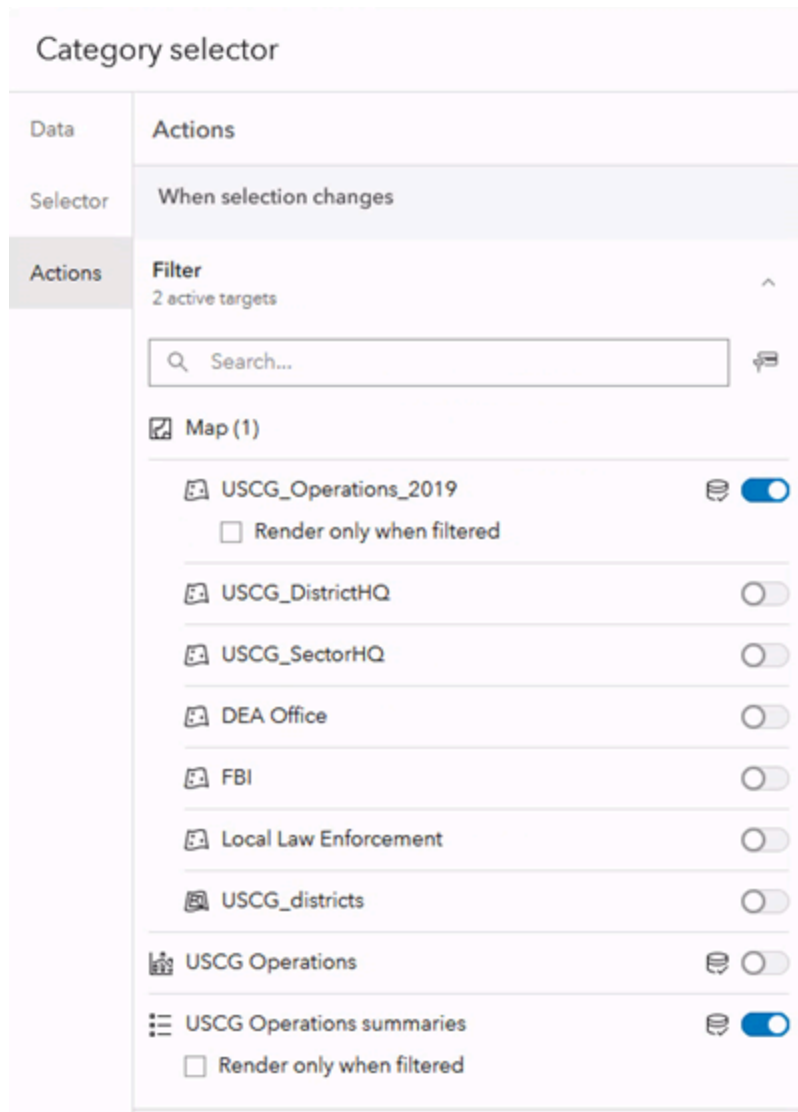
First Last

Label for none

All units

These settings configure the Category Selector to show a drop-down list based on the Unit attribute field and group together multiple line items with the same unit name. Next, you will create an action to filter the list and map elements based on which unit name you choose from the Category Selector.

- m** Click the Actions tab, and then enable USCG_Operations_2019 as a filter target.
- n** Add a second filter target for USCG Operations Summaries.



- o** Click Done.
- p** Close the Layout pane, and then save the dashboard.
- q** At the top of the sidebar element, click Unit Selector to expand the drop-down list and choose USCG New Orleans.
- r** Examine the list and map elements and observe that the data has been filtered to only show operations conducted by the USCG New Orleans.
- s** When you are done examining the updated, change the Unit Selector back to All Units.

Hint: Click Unit Selector to show the drop-down list.

You added a sidebar element with a Category Selector, enabling a user to quickly identify operational metrics for each unit operating in the Gulf of Mexico. This information will help

decision makers monitor the operational tempo of units under their command and quickly visualize a summary of the operations conducted by a specific unit.

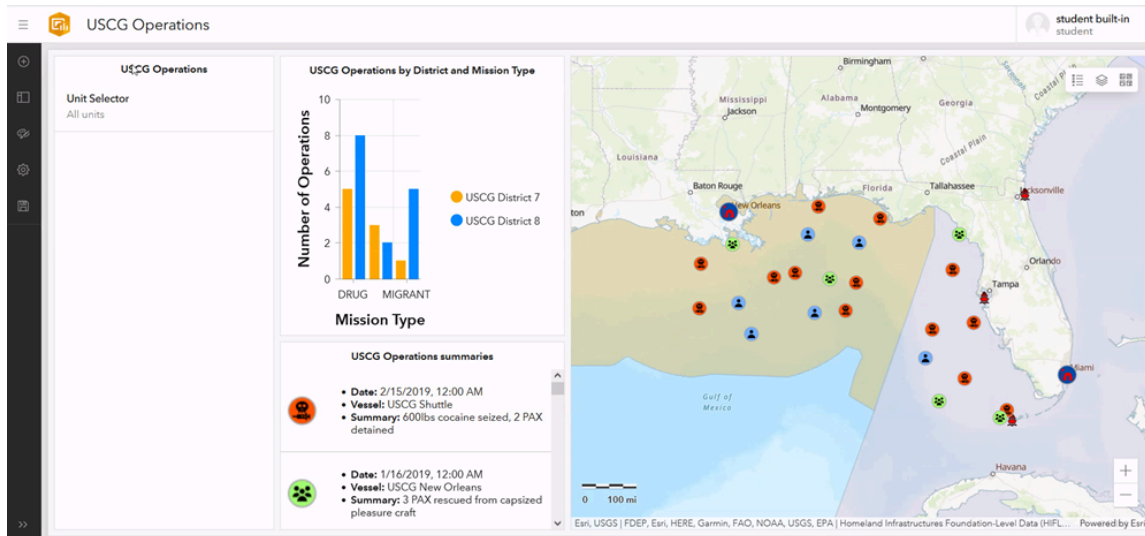
Step 6: Configure the dashboard layout

You added the elements that you need to provide a user with a summary of USCG operations in the Gulf of Mexico. Now you will resize elements in the dashboard layout so the map is larger but the text elements can still be easily read.

Hovering your mouse between element borders will enable you to resize each element in the layout.

- a Hover your mouse over the border between the stacked elements, and then click and drag the border to resize the stacked data elements pane so it is roughly 33% of the dashboard view.
- b If necessary, pan and zoom the map so that the map view is centered on the USCG Operations layer and all operations are in view.
- c Using the same method, resize the serial chart vertically so it is roughly 60% of the pane.

Your dashboard should look similar to the following graphic.



- d Save your dashboard.

You created an ArcGIS dashboard showing valuable operational metrics for USCG activity in the Gulf of Mexico. Other analysts and decision makers can use this dashboard to quickly identify operational trends and metrics in the area.


Step 7: Update the dashboard with field reporting

Now that the dashboard showing USCG operations in the Gulf of Mexico is complete, it can be used for historical analysis of operational trends and monitoring operational reporting as it is submitted from the field. You will now see how the dashboard updates with live data submitted by a unit in the field.

In this step, you are a USCG member submitting a post-operational report using ArcGIS Survey123.

- a Open a new web browser tab and navigate to your portal's Content page.

Hint: Click the ArcGIS Enterprise bookmark to go to the portal home page first.

- b If necessary, under Folders, click All My Content to view all content.
- c Next to the USCG OPSUMs form, click the More Options button  and choose Open In Survey123 App.
- d When the page loads, click Open The Survey.

The form should automatically sign you in because you are currently signed in to the portal.



If you are prompted to sign in, click Sign in With ArcGIS Enterprise: Analysis Workflows For Intelligence, and then provide the following information:

- Username: **student**
- Password: **Esri.4.GIS**

Click Sign In.

- e In the prompt to allow the site to open the ArcGIS Survey123, click Open Link.
- f In the Location Inaccessible warning, click Close.

The Survey123 form opens, showing various fields that can be used to submit an operational summary.

- g Under Point, click the map icon.
- h Navigate to the Gulf of Mexico.

Hint: Search for **Gulf of Mexico** in the search field or pan and zoom to the Gulf of Mexico in the map.

- i In the map, click in the USCG District 7 operating area in the Gulf of Mexico to drop a pin in this location.

Hint: The USCG District 7 operating area is off the western coast of Florida, USA.

- j** In the bottom-right corner of the app, click the check mark to save the location.
- k** Under Date_time, click the Date field and choose today's date.
- l** For the remaining fields, provide the following information:
 - Unit: **USCG Riven**
 - Vesselmmssi: **123123123**
 - Mission: **DRUG**
 - Opsum: **1.5ton marijuana seized. 4 PAX detained**
 - District: **7**



The Mission field is case-sensitive, so ensure that you type DRUG in all capital letters.

- m** In the bottom-right corner of the form, click the check mark.
- n** In the Survey Completed dialog box, click Send Now.

You submitted an operational summary detailing the pertinent information of a recent operation that your unit conducted. This item will automatically update in the feature layer used to display USCG operations.

- o** Close the ArcGIS Survey123 window and the associated web browser tab.
- p** Refresh the USCG Operations dashboard page.
- q** View the new item that populates in the map element containing the USCG Operations feature layer.

You submitted an operational summary from a unit in the field and then saw that report update in near-real-time in the dashboard.

- r** Navigate to your portal home page and leave the web browser open.

Lesson review

1. You can configure the list element to dynamically update when the map extent changes.
 - a. True
 - b. False
2. Which dashboard element allows you to embed files in your dashboard?

Answers to Lesson 4 questions

Explore dashboard elements (page 4-4)

1. What is the maximum number of data points that the pie chart element is intended to show?
The maximum is seven to eight elements.
2. Which settings are included in the map element that can be enabled or disabled during design?
Pop-ups, scale bar, default extent and bookmarks, legend, layer visibility, basemap switcher, search, zoom in and zoom out, and point zoom scale can be enabled or disabled during design.
3. What does the embedded content element allow you to do?
It allows you to embed documents, images, videos, or other web content into your dashboard.

With ArcGIS StoryMaps, you can share your maps and geospatial data with the added context of narrative text and other media context. ArcGIS StoryMaps is used to tell the story of a place, event, issue, or pattern in a geographic context.

Topics covered

Introduction to ArcGIS StoryMaps

Creating a story

What is ArcGIS StoryMaps?

ArcGIS StoryMaps is a web app that enables users to create stories by combining narrative text and media content with a web map. Stories are a powerful way to communicate with an audience, providing an easy-to-use story builder used to add content blocks containing multimedia, text, and web maps to tell the story of a place, event, issue, or trend.

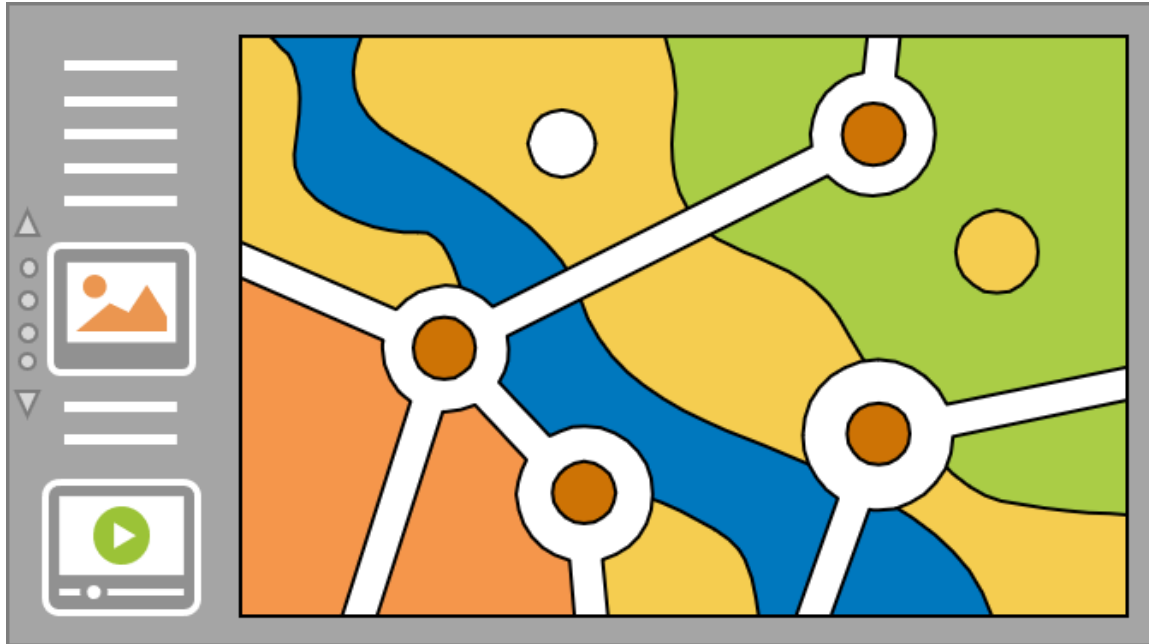


Figure 5.1. In this example of a story, narrative text and media on the left are added for context and relate to points in the web map to the right.

ArcGIS StoryMaps collections

An ArcGIS StoryMaps collection is a group of stories, apps, and files that you can use to share a group of items. The collection can include content that you have created or items that have been shared with you.

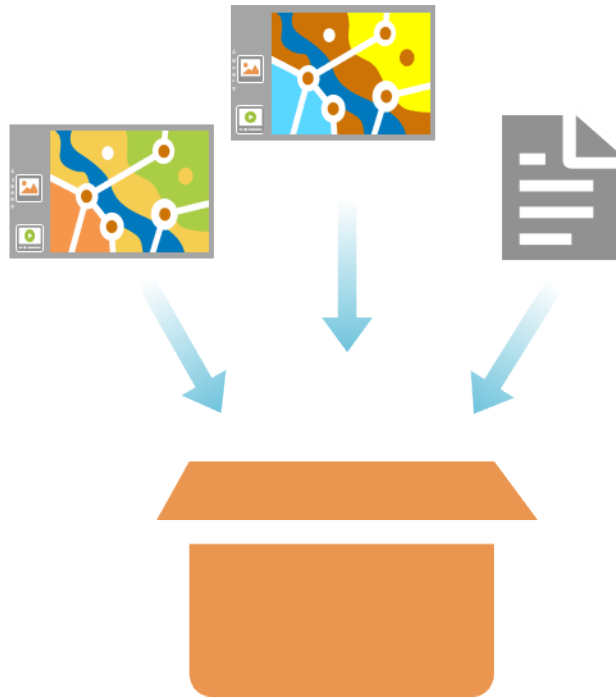


Figure 5.2. You can add stories, apps, and other files to an ArcGIS StoryMaps collection.

Authoring a story

Stories are simple to author, but there are several things to consider when creating your story.



Figure 5.3. Following the story creation workflow will help you create a successful story.

The following table provides a brief description of each step. The steps in this workflow are not necessarily linear, and you may need to iterate through steps more than one time and revise parts of your story.

Step	Considerations
Envision your story	<ul style="list-style-type: none"> • Identify target audience • Define key takeaways
Gather content	<ul style="list-style-type: none"> • Identify media to be used in story • Choose or create web map for story
Build narrative	<ul style="list-style-type: none"> • Use interactive builder to add content blocks and insert text and media to build story
Review story	<ul style="list-style-type: none"> • Is it appropriate for your target audience? • Does it provide key takeaways that you identified? • Is media appropriate and relevant to your narrative?
Publish and share	<ul style="list-style-type: none"> • Publish story and share to appropriate audience

Components of a story

An important part of planning your story is deciding what content will be used to communicate your message to your audience. Choosing the correct content block ensures that your content is presented clearly to your audience.

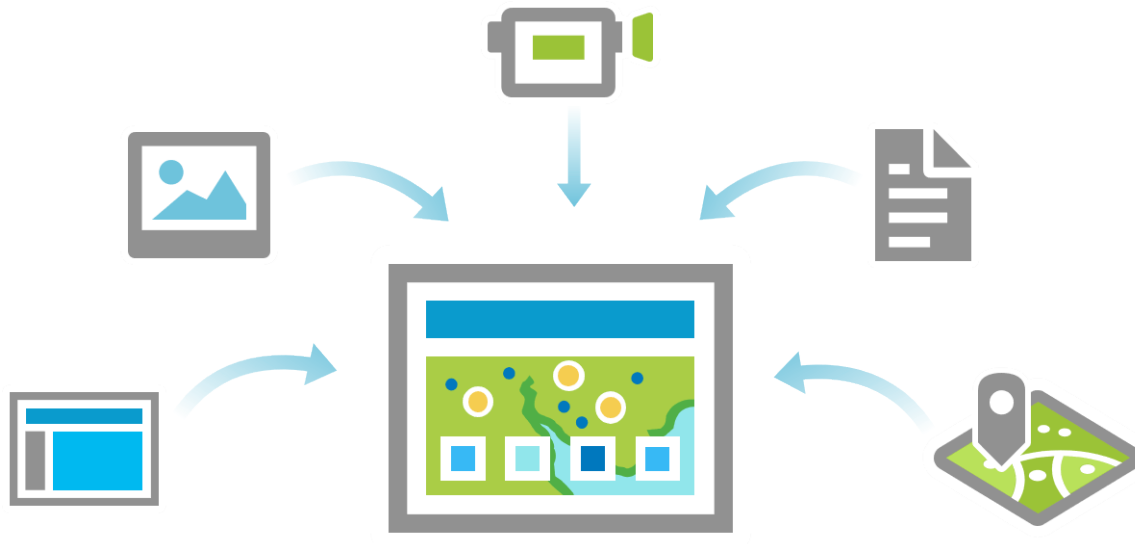


Figure 5.4. Content blocks allow you to add different types of content, such as narrative text and media, to your story.

Explore a story

You have learned what ArcGIS StoryMaps stories are, the components that make up a story, and how to author them. Now you will explore a gallery of stories to see how they can be used to deliver information about real issues.

Instructions

- a** Restore your web browser, if necessary, and then open a new web browser tab and browse to **<https://www.esri.com/en-us/arcgis/products/arcgis-storymaps/overview>**.
- b** Near the top of the page, click the Gallery tab.
- c** In the story gallery, choose a story to view, and then answer the following questions in your workbook.
- d** When you are finished, close the two story web browser tabs but leave the portal home page open.

1. What is a design aspect that attracted you to the story?

2. Is the story mapcentric or textcentric?

3. What are some components used in the story?

Using ArcGIS StoryMaps

With ArcGIS StoryMaps, you can use your maps and data to tell the story of locations, events, and trends. Whether you are describing a series of attacks in your unit's Area of Responsibility, providing local law enforcement with statistics on crime trends, or creating a virtual tour of a military installation, a story can help users visualize and comprehend the information that you are presenting.

1. How would you use ArcGIS StoryMaps in your work?

Create a story

Joint Task Force (JTF) Gulf has tasked you with creating a product providing information about JTF Gulf's operations. You will use ArcGIS StoryMaps to create a story detailing JTF Gulf's Area of Responsibility (AOR) and operations being conducted within that AOR.




Please see the appendix for source attributions and acknowledgments.

In this exercise, you will perform the following tasks:

- Create a story using ArcGIS StoryMaps.
- Use the story builder to add content to your story.

Step 1: Create a story

The first step in creating an effective story is to envision it. From your tasking, you know that the target audience is anyone interested in JTF Gulf or operations being conducted in the Gulf of Mexico and the Caribbean Sea. Additionally, you know that key takeaways should involve information about the operations being conducted by JTF Gulf in this area.

- a In the upper-right corner of your course portal home page, click the Apps button , and then click StoryMaps.

- b Click Start A Story.

A blank story builder template opens for you to use to author your story.

- c Click in the Title Your Story section and type **Joint Task Force Gulf**.

- d In File Explorer, browse to **C:\EsriTraining\NTEL\CreateAStory** and open StoryText.txt.

- e In the Subtitle section, copy the text and paste it into the text block under the title.



In the text file, it may be easier to copy and paste if you click Format and choose Word Wrap, if it is not already set.

You will leave the StoryText.txt file open to copy and paste from throughout this exercise.

- f Review the text that you inserted into your story.

Joint Task Force Gulf

Joint Task Force (JTF) Gulf is tasked with providing maritime safety and security in the Gulf of Mexico and Caribbean Sea.

- g Near the upper-right corner, click Add Cover Image Or Video.


- h Click Browse Your Files, and then browse to **..\EsriTraining\NTEL\CreateAStory** and open TitleGraphic.png.

- i Click Add.

You started your story, providing the title and a short introduction that briefly describes what JTF Gulf's mission is and its AOR.

Step 2: Add narrative text

In the previous step, you started your story and added a title, short description, and title graphic with organizational branding. Next, you will add narrative text providing more information about JTF Gulf.

- a In your story, scroll down until you can see below the title area, and then next to Tell Your Story, click the Add Content Block button .
- b Under Basic, choose Text.
- c In the text block, type **JTF Gulf**.
- d Highlight the JTF Gulf text, and then in the text format options, click Paragraph and choose Subheading.
- e Under JTF Gulf, click the Add Content Block button and choose Basic - Text.
- f From the StoryText.txt file, copy the text in the JTF Gulf section and paste it the new text section.

JTF Gulf


JTF Gulf was established in 2007 to enable interagency collaboration and coordinate support for the Gulf of Mexico and Caribbean Sea. The primary action arm of JTF Gulf is the US Coast Guard, with units from USCG Districts 7 and 8 conducting maritime safety and security operations in the JTF Gulf AOR.

JTF Gulf's primary mission is counter-narcotics. JTF Gulf units have conducted over 400 missions since its inception, resulting in the seizure of over 100 tons of narcotics.

You added a text block that details JTF Gulf's origin and mission. The text block also provides a summary of the impact that JTF Gulf has had in the region. Next, you will add text and media to provide additional information about operations conducted in the region by units attached to JTF Gulf.

Step 3: Add a virtual tour

You completed the first steps of your story, adding a title and narrative text that describes the background of JTF Gulf's operations in the region. Now you will add information about operations conducted by the USCG.

- a In your story, scroll down until you can see below the narrative text block, and then click the Add Content Block button  and under Immersive, choose Map Tour.



You may need to click in the white space below your paragraph to see the button.

With a guided tour, you can insert media and text slides describing points of interest on the map. In this story, you will use the guided tour content block to add information about U.S. Coast Guard Districts 7 and 8.

- b** On the How Would You Like To Create Your Tour page, click Start From Scratch.
- c** In the Choose A Layout window, select the Guided tile, if necessary, and click Next.
- d** In the Chose A Layout window, select the Map Focused tile, if necessary, and click Done.
- e** At the bottom of the slide that is floating to the left of the map, click Add Location.



You may need to collapse the Map Tour contents ribbon.

- f** On the map, click Miami, FL.



You may need to zoom in on the map to Florida, USA. Alternatively, you can use the Search By Location field in the upper-right corner of the app to search for **Miami, FL** to navigate to Miami and click Add To Map.

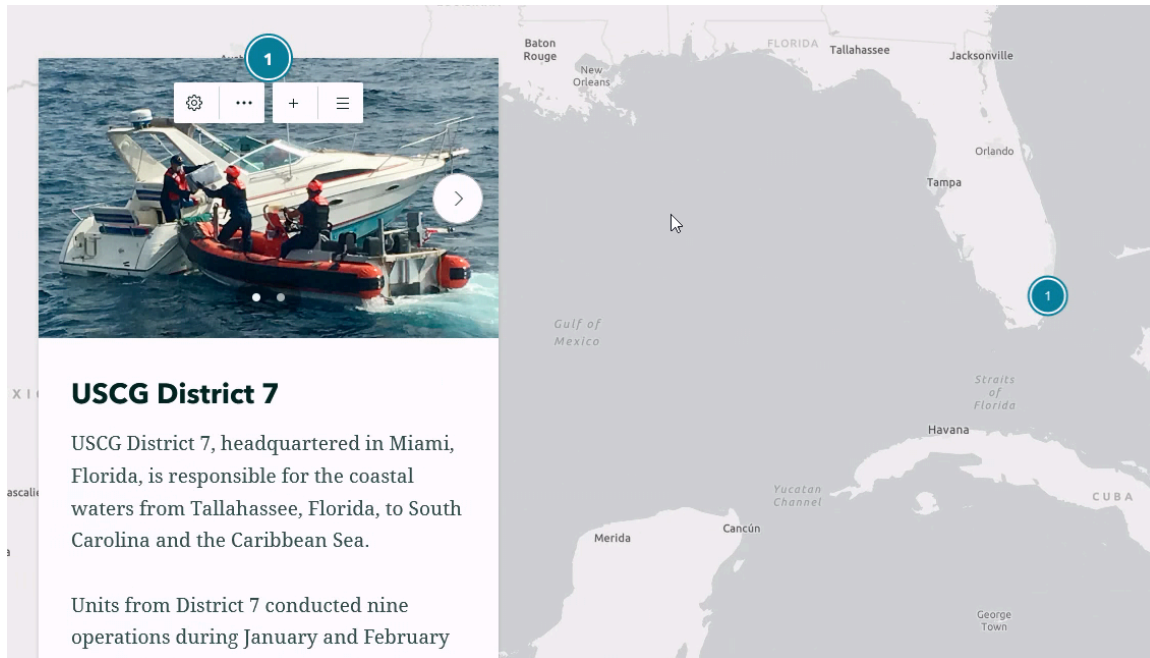
- g** In the bottom-right corner of the app, click Add Location.

This action confirms that this map location will be referenced by the media and text that you add to the slide.

- h** On the new slide, click Add Image Or Video.
- i** Click Browse Your Files, and then open CG1.png and add it.
- j** At the top of the slide, click the Add Media button **+**, and then browse to and add Drugs.png.
- k** Use the arrows to the sides of the media that you inserted to scroll back and forth through the images, and then leave the CG1.png image selected.

These images are from operations conducted by units attached to JTF Gulf. Adding images like these ones increases a reader's interest in your story by showing images of real people conducting real operations.


- l** Click Title and type **USCG District 7**.
- m** Restore StoryText.txt and copy the text from the USCG District 7 section.
- n** Return to your story, click Description (Optional), and then paste the text into the USCG District 7 slide.

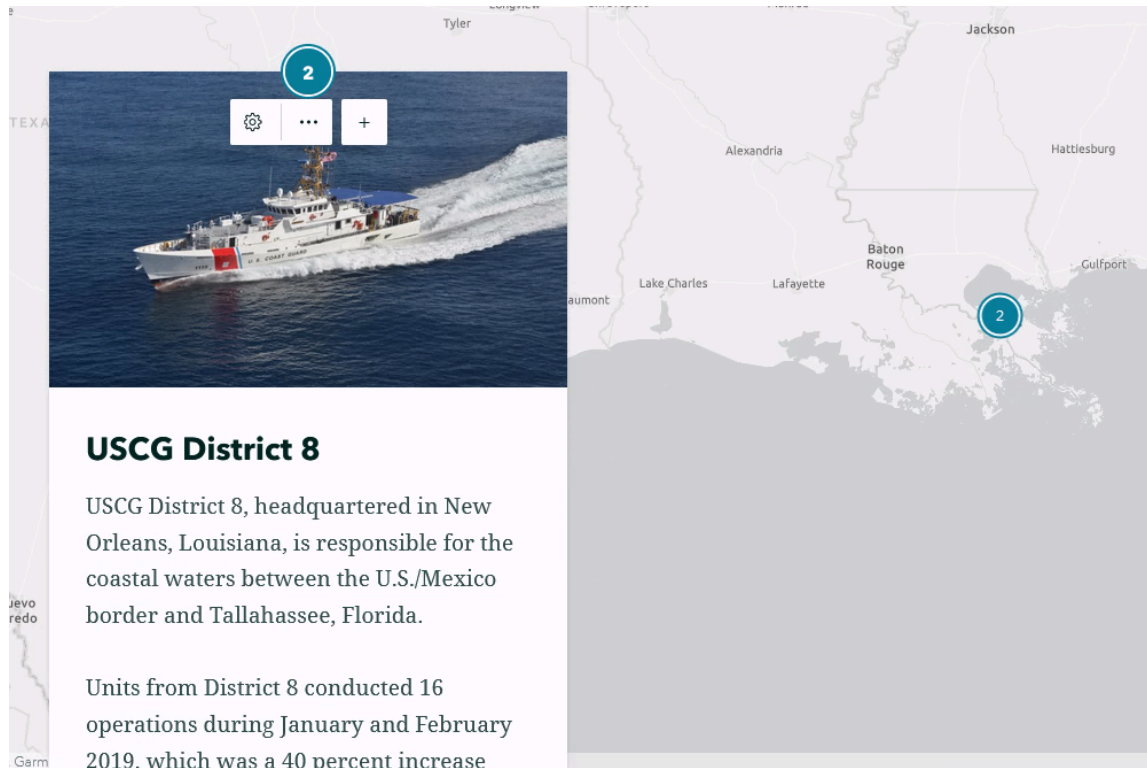


You added a slide that provides details on operations within the USCG District 7 AOR and a history of operations conducted within that AOR. This information is valuable for anyone interested in the region.

Step 4: Add a slide

In this step, you will add a second slide to your guided tour that provides information about operations conducted in USCG District 8, the other U.S. Coast Guard district operating in the Gulf of Mexico.

- a In the bottom-right corner of the app, click the New Slide button .
- b On the new slide, click Add Location.
- c In the map, pan and zoom until you can see both Florida and Louisiana, USA, and then click New Orleans, LA.
- d In the lower right, click Add Location.
- e On the new slide, add the CG2.jpg image and update the Slide Title to **USCG District 8**.
- f Restore StoryText.txt and copy the text from the USCG District 8 section into the USCG District 8 slide.



g Close the text file.

You added a slide that provides information on USCG District 8, completing your virtual tour. Your virtual tour provides users with information about operations conducted by USCG units operating in USCG Districts 7 and 8 in the Gulf of Mexico.

h At the top of your story, click Preview, and then scroll through the story and review the content that you added.

i Notice as you scroll through the virtual tour how the map automatically pans to the area that you have associated with your slides.

j In the lower-right corner of the page, on the Preview toolbar, click the Close Preview button .

k At the top of your story, click Publish.

l Under Share, for Set Sharing Level, choose Everyone (Public), and then click Publish.

You authored and published a story that anyone interested in JTF Gulf or maritime safety and security in the Gulf of Mexico and the Caribbean Sea can read to gain a better understanding of the region.

m Close your ArcGIS StoryMaps web browser tab and return to the portal home page.

- n Leave your web browser open.

Lesson review

1. What types of content can you include in a story?

2. What is a consideration when envisioning your story?

- a. Determining whether key takeaways have been provided
- b. Identifying the media to be used in the story
- c. Identifying the target audience
- d. Choosing or creating a web map for the story

Answers to Lesson 5 questions

Explore a story (page 5-6)

1. What is a design aspect that attracted you to the story?

Answers will vary.

2. Is the story mapcentric or textcentric?

Answers will vary.

3. What are some components used in the story?

Answers will vary.

Using ArcGIS StoryMaps (page 5-7)

1. How would you use ArcGIS StoryMaps in your work?

Answers will vary based on personal experience.

ArcGIS Experience Builder enables you to combine web content and web apps on single or multiple pages. For example, you can combine different web maps, web scenes, feature layers, and web apps, such as ArcGIS Dashboards.

Topics covered

Introduction to ArcGIS Experience Builder

Creating a web experience

What is ArcGIS Experience Builder?

ArcGIS Experience Builder is a web app that allows you to combine different pieces of content in a single location. With Experience Builder, you can combine web content, web maps, web scenes, and web apps to make a web experience. After creating your web experience, you can publish it to share with your audience.

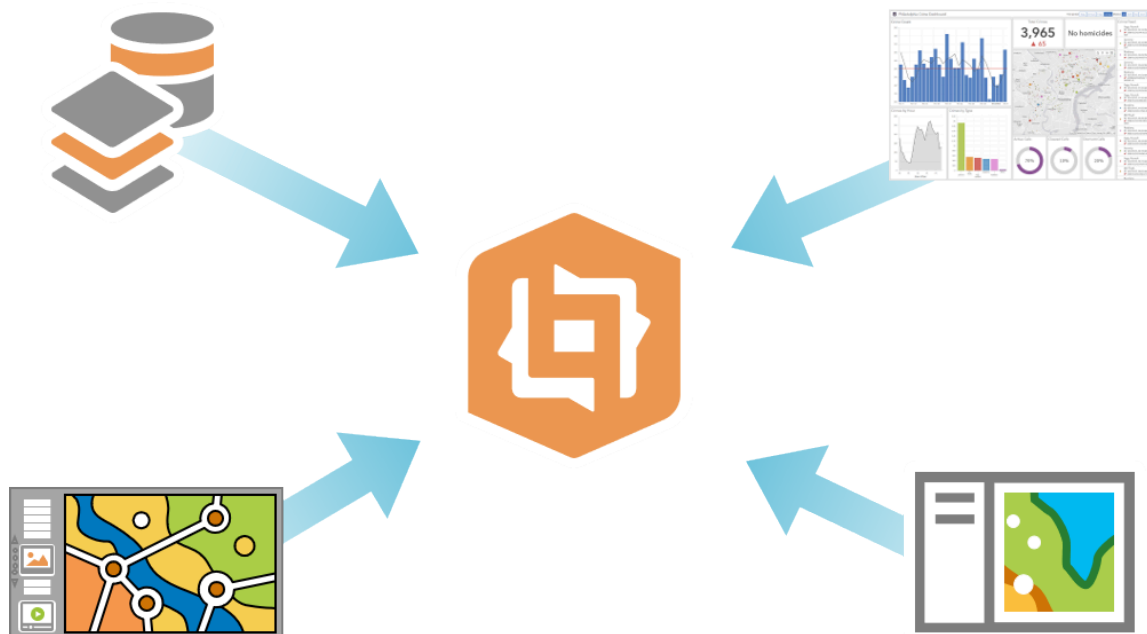


Figure 6.1. Using ArcGIS Experience Builder, you can combine web content, web maps, and web apps, such as ArcGIS Dashboards, in a single location.



Esri Training seminar: [Get Started with ArcGIS Experience Builder](#)

Creating a web experience

Creating a web experience using ArcGIS Experience Builder follows a simple yet effective workflow. The steps are not necessarily linear, and you may find yourself iterating through some of the steps multiple times when creating your web experience.

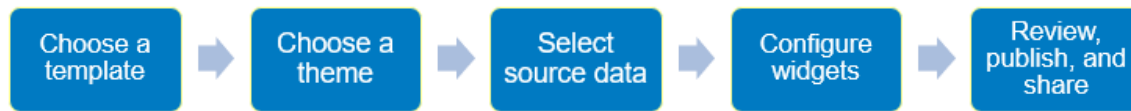


Figure 6.2. Following the web experience creation workflow will help you create an effective web experience.

ArcGIS Experience Builder creation considerations





Step	Considerations
Choose a template	<ul style="list-style-type: none"> • Mapcentric • Non-mapcentric • Single page or multipage • Full screen or scrolling page
Choose a theme	<ul style="list-style-type: none"> • Color scheme applied to header, footer, and body of each page, including color settings of widgets
Select source data	<ul style="list-style-type: none"> • 2D or 3D data • Web maps or web scenes • Hosted layers, services, and feature tables
Configure widgets	<ul style="list-style-type: none"> • Provide functionality in the web experience

Creating a web experience (continued)

Step	Considerations
Review, publish, and share	<ul style="list-style-type: none">• Preview the end-user experience before publishing the web experience to your audience

ArcGIS Experience Builder components

ArcGIS Experience Builder is an intuitive app used to create single-page or multipage web experiences. The creation wizard allows you to insert widgets, add pages, connect to data, and choose a theme for your web experience.

 Insert <ul style="list-style-type: none">• Add widgets	 Pages <ul style="list-style-type: none">• Add and name pages• View page components
 Data <ul style="list-style-type: none">• Add data connections• View connected data	 Theme <ul style="list-style-type: none">• Color scheme

Explore ArcGIS Experience Builder widgets

You have learned how to create an experience and have identified components that make up a web experience. Now you will examine the help documentation to discover more widgets that you can use to add functionality to your web experience.

Instructions

- a** Restore your web browser, if necessary, and then open a new web browser tab and browse to **<https://doc.arcgis.com>**.
- b** In the filter field, type **Experience Builder**, and then in the filtered results, click the ArcGIS Experience Builder tile.
- c** On the ArcGIS Experience Builder Resources page, near the upper-left corner, click Configure Widgets.
- d** Use the help documentation to answer the following questions in your workbook.
- e** When you are finished, close the browser tab but leave the portal home page open.

1. What are the categories of widgets?

2. What does the Filter widget do?

3. What does the Sidebar widget do?

Exploring web experiences

ArcGIS Experience Builder is used to combine web maps, apps, and other content to create compelling experiences. There are multiple ways that experiences can be used, including in the following ways:

- **Installation management:** Detailed information about resource usage, such as which berthing areas use the most water and which dining facilities consume the most food.
- **Archive intelligence:** Compile reporting, products, and other information about a specific topic or area used by analysts to quickly find all information in a single location.
- **Track live operations:** Add dashboards, stories, web maps, real-time or near-real-time data streams, and other information to track troop engagements and operationally significant information.

Using ArcGIS Experience Builder

You have learned about how to make experiences with ArcGIS Experience Builder. Web experiences are used to bring several pieces of content together and be presented as a single resource. For example, you could combine a web map, dashboard, and story to show historical crime trends in a city, as well as current and future plans to address those trends.

1. How would you use ArcGIS Experience Builder in your work?

Create an ArcGIS web experience


As an analyst for Joint Task Force (JTF) Gulf, you have created several products related to operations in the Gulf of Mexico. You have decided to create a web experience and combine these products into a single resource. This resource will enable other analysts to easily find and use the information and products that you have gathered related to JTF Gulf and its operations in the Gulf of Mexico.

In this exercise, you will perform the following tasks:

- Create a web experience.
- Add a web map to a web experience.
- Embed web apps in a web experience.
- Publish a web experience.

Step 1: Create a web experience

You will use the workflow that you learned earlier to use ArcGIS Experience Builder to combine intelligence products related to JTF Gulf's operations in the Gulf of Mexico and create a web experience.

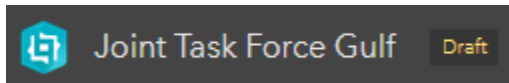
- a In the upper-right corner of your course portal home page, click the Apps button , and then click Experience Builder.
- b In the upper-right corner of the app, click Create New.
- c Locate the Blank Fullscreen tile and click Create.
- d If prompted, skip the Getting Started window.

The web experience builder opens with the template that you have chosen. Next, you will configure a header for your web experience.

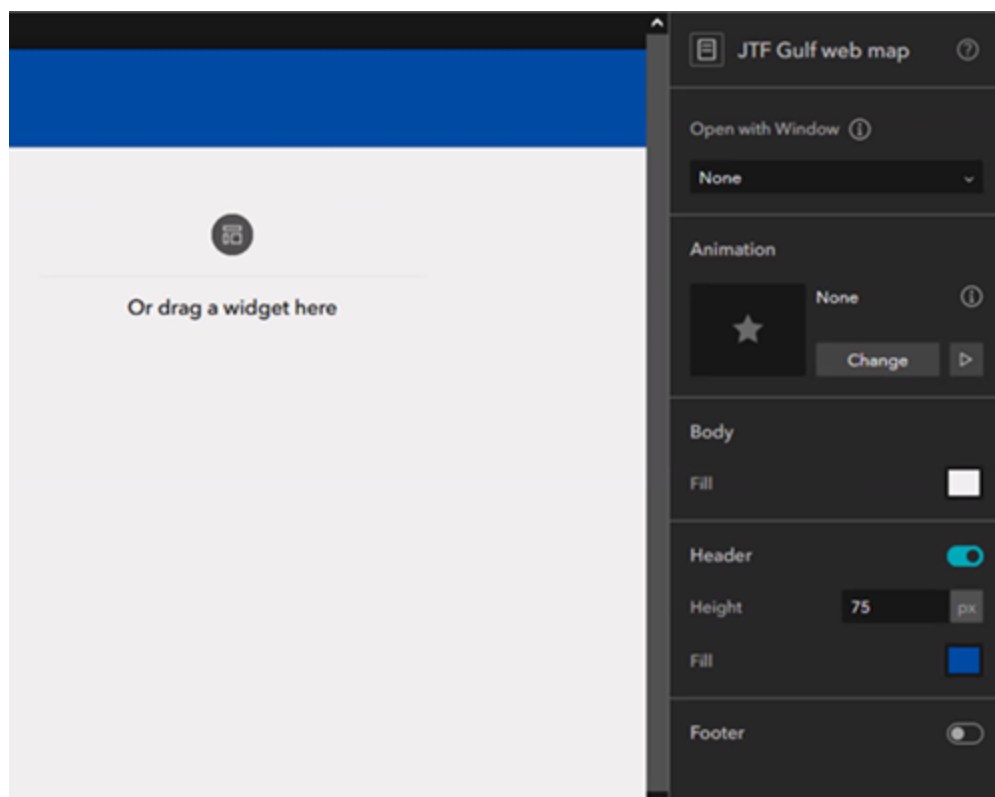
Step 2: Configure a header

You have begun the web experience creation process and chosen the template that you will work with. Now you will add a header, which allows you to add a title and other branding, as well as a built-in navigation widget.

- a In the upper-left corner of the app, click Untitled Experience 1, replace the existing text with **Joint Task Force Gulf** and press Enter.



- b In the configuration panel on the right, replace the name Page **JTF Gulf web map** and press Enter.
- c In the same panel, enable the Header option.




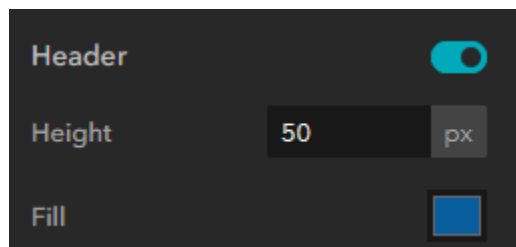
A blue header appears across the top of the page.

- d Point to the blue header, and then click Edit Header.



If you cannot see all of the button options, you can resize the Experience configuration view by using the scale bar at the bottom of the screen.

- e Click the Choose A Header Template button , and then select the Header 2 option in the upper-right corner.
- f In the configuration panel, under Header, for Height, type **50** and press Enter.



You enabled the header and set the height to 50 pixels, which controls how much of the screen it will take up. Next, you will configure organizational branding for the header.

- g In the header, double-click Double Click To Edit Text and type **Joint Task Force Gulf**.

- h To the left of the text, click the image placeholder.
- i In the Image configuration panel on the right, under Image Source, click Select An Image.
- j In the Select An Image panel, ensure that the Local tab is active, and then click Upload.
- k Browse to **C:\EsriTraining\NTEL\CreateAnArcGISWebExperience**, select JTFGulfLogo.png, and then click Open.
- l In the Image configuration panel, for Position, choose Fit.
- m At the top of the panel, click the Style tab.
- n Under Background, for Fill, click the color swatch and choose Transparent.

Hint: A transparent color is indicated by the checkerboard tile.

- o On the page, drag the Joint Task Force Gulf text to position it next to the image that you inserted.




Hint: It may be easier to click the text and use your arrow keys to make small positional adjustments.

Now that you have configured your organizational branding, you will configure the Menu widget built into the header, which allows users to navigate between the pages of the web experience.

- p On the right side of the header, click the Menu button .



Hint: You may need to scroll to the right.

- q In the Menu configuration panel on the right, replace the Menu text with **Navigation**.
- r Click the Content tab, if necessary.
- s Under Appearance, for Style, select Pills.
- t In the upper-right corner of the app, click the Save button .
- u Click in the empty white space to deactivate the header.

You configured a header for your web experience. This header will persist on all pages that you add to your web experience and contains organizational branding and a navigation tool.

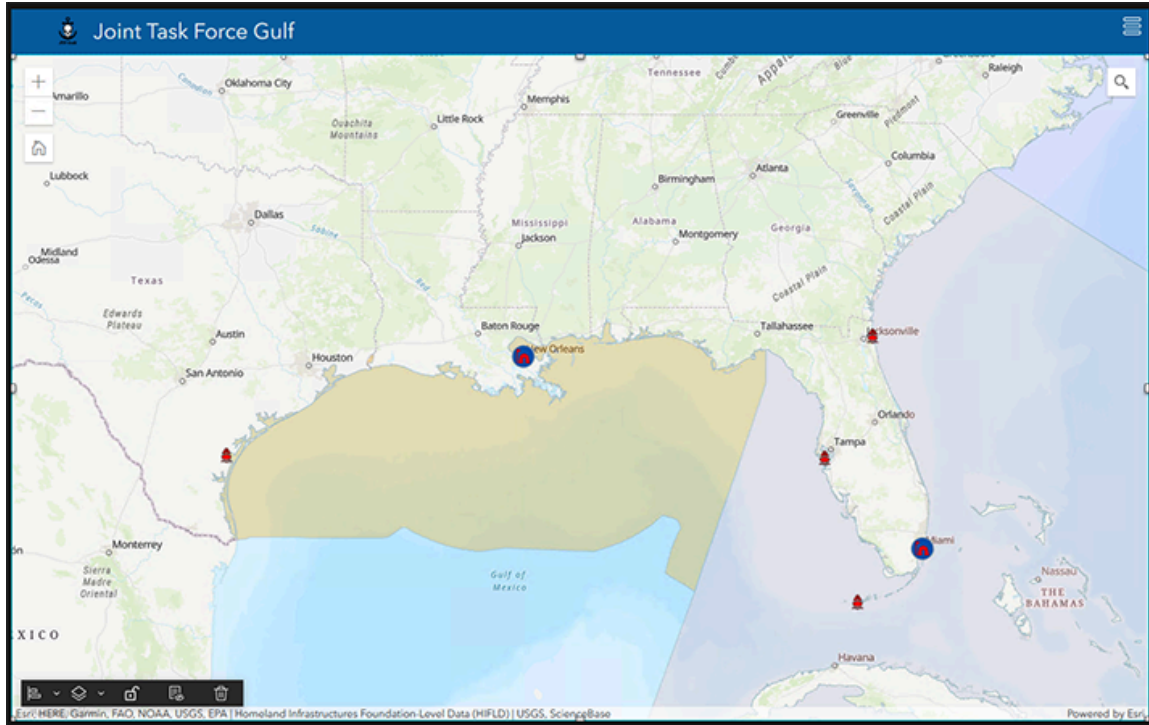
Step 3: Add a web map

Now that you have chosen a template and configured a header, you will add your first piece of content. You have created a web map containing all the layers that might be useful for someone looking for information about JTF Gulf operations in the Gulf of Mexico. In this step, you will add it to your web experience.

- a If necessary, in the Sidebar on the left side of the page, click the Insert button  to open the Insert Widget pane.
- b In the Insert Widget pane, drag the Map widget onto the page over Drag Widget Here, and then release your mouse click.
- c In the menu that pops up near the map on the page, click the Position button  and choose Full Size.
- d In the Map configuration panel on the right, under Source, click Select Map.
- e At the bottom of the Select Data pane, click Add New Data.
- f In the Add Data window, click the JTF Gulf tile to select it, and then in the bottom-right corner, click Done.
- g In the Select Data pane, click JTF Gulf to select it.

The Map widget that you inserted updates to show the JTF Gulf web map.

- h Close the Select Data pane.



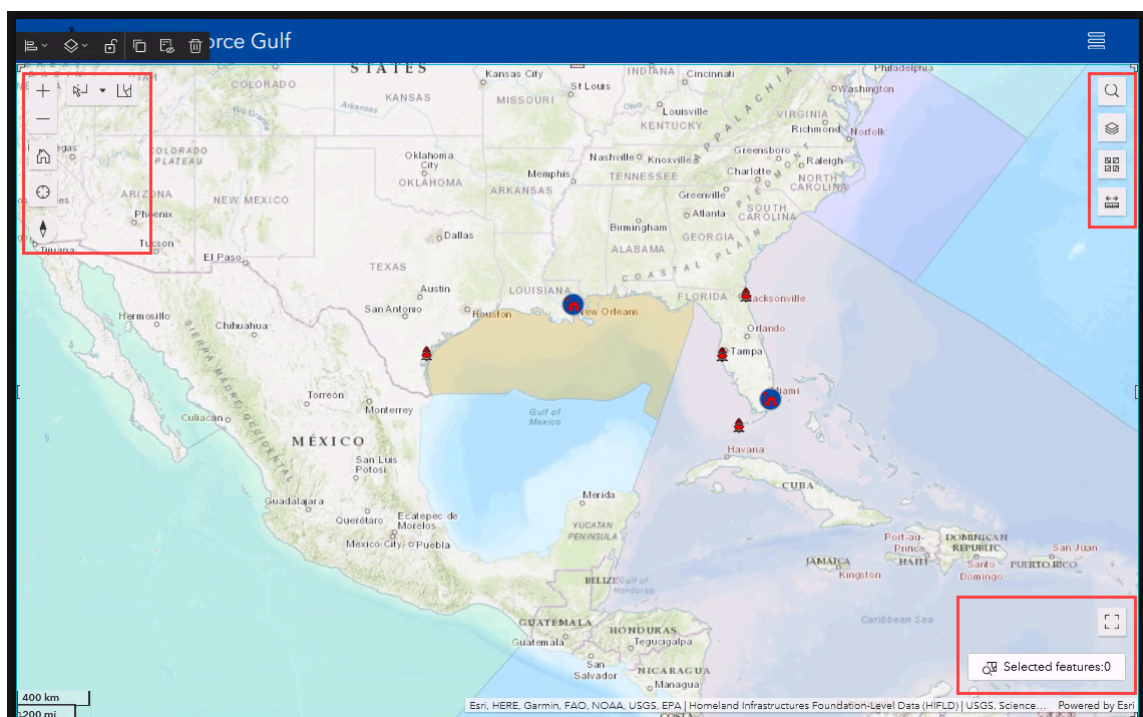
You inserted a web map with limited functionality. You will now enable tools that add functionality, such as the ability to change which layers are visible.

i In the Map configuration panel, under Tools, enable all available tools.



You must have the map selected to see the Map configuration panel.

j On the map, notice the tools that are available to use, as indicated in the following graphic.





The web map tools are now added to and enabled in the web map.

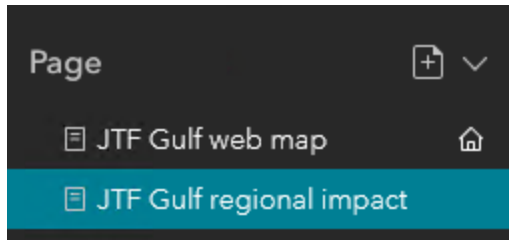
k Save your web experience.

You created the first page of your web experience. This web map contains valuable information about JTF Gulf's presence and operations in the Gulf of Mexico, as well as maritime infrastructure that is important to conducting operations in the Gulf.

Step 4: Add a story

In this step, you will add a page to embed the story that you created detailing JTF Gulf's operations in the Gulf of Mexico.

- a** In the Sidebar, click the Page button .
- b** In the top-right corner of the Page pane, click the Add Page button  and select Blank Fullscreen.
- c** For the Page title, type **JTF Gulf regional impact** and press Enter.



- d In the configuration panel on the right, enable the Header option for this page.


You added and named the second page for your web experience. You also enabled the header that you previously configured, which adds your organizational branding and navigation tool. Now you will embed a story in your web experience.

- e In the Sidebar, click the Insert button .

- f On your own, add an Embed widget to the blank page and make it full size.



Hint: Position button  > Full Size

To embed a story, or any other app, you need the app's URL. The next few steps will guide you through obtaining the URL for the story that you created. Later, you will recall these steps to add the dashboard that you made to another page.

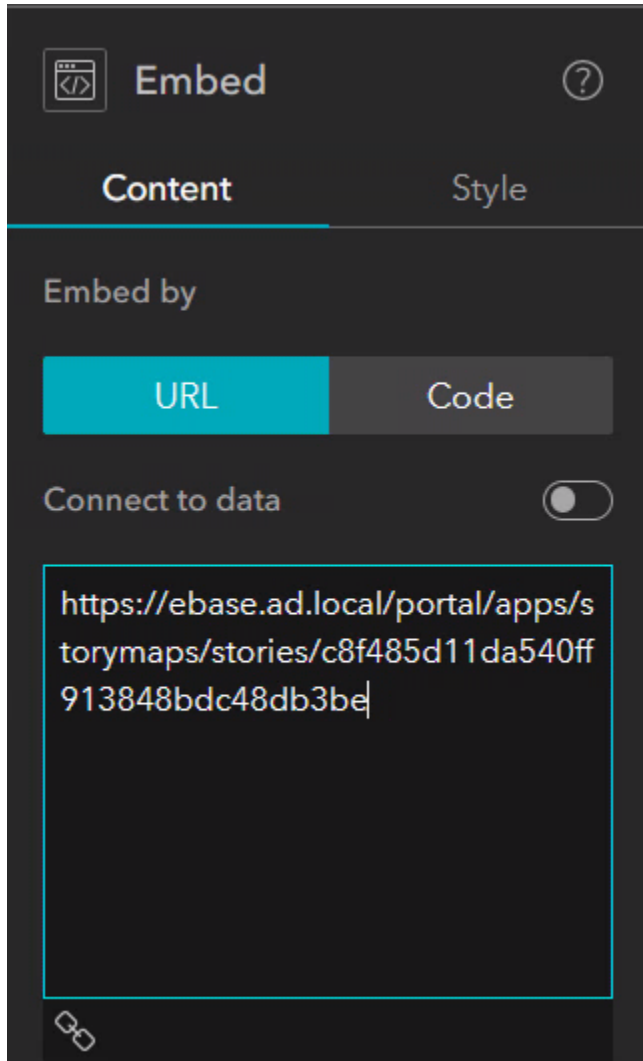
- g Open a new web browser tab and click the ArcGIS Enterprise bookmark to browse to the portal.
- h At the top of the portal, click Content.
- i To the right of the Joint Task Force Gulf StoryMap content item, click the More Options button  and choose View Item Details.



If you were unable to complete the Joint Task Force Gulf story exercise, perform the following steps:

1. At the top of the Content page, click the My Organization tab to navigate to your organization's content.
 2. On the left side of the page, under Filters and Item Type, click Apps and choose StoryMaps.
 3. Locate the Joint Task Force Gulf story published by portaladmin, and then click the More Options button  and choose View Item Details.
- j On the Item Details page, scroll down and under URL, click the Copy button  to copy the StoryMap's URL.

- k Return to the ArcGIS Experience Builder web browser tab.
- l In the Embed widget's configuration panel on the right, paste the URL for the story and press Enter.



Your URL may vary from the text shown in this graphic.



The Embed widget that you placed in the blank page updates to display the Joint Task Force Gulf story.

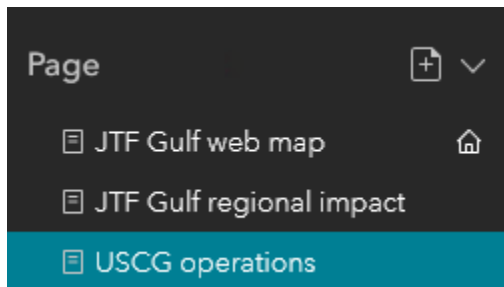
- m Save your web experience.

You embedded a story in your web experience. The header that you configured previously provides branding and navigation, reminding users that they are viewing the Joint Task Force Gulf web experience and allowing them to navigate between pages.

Step 5: Add a dashboard

In this step, you will add another page to your web experience. You will use this page to embed the dashboard that you created that summarizes the operations of U.S. Coast Guard units from District 7 and District 8 assigned to JTF Gulf.

- a In the Sidebar, click the Page button .
- b At the top of the Page panel, click the Add Page button  and select Blank Fullscreen.
- c Update the page name to **USCG operations** and press Enter.




- d In the configuration panel on the right, enable the Header for this page.

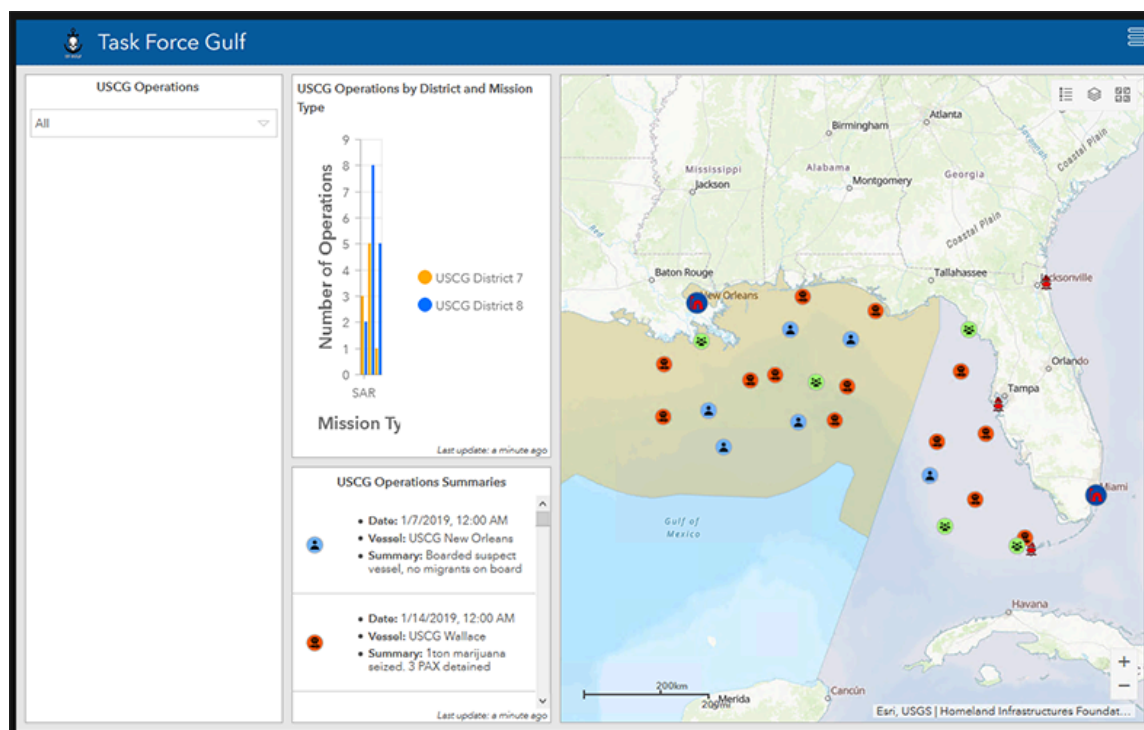
You configured the third and final page of your web experience. Now you will embed a dashboard on the page.

- e In the Sidebar, click the Insert button , and then add an Embed widget to the blank page and make it full size.
- f On your own, obtain the URL for the USCG Operations dashboard.



If you were unable to complete the USCG Operations dashboard exercise, perform the following steps:

1. At the top of the Content page, click the My Organization tab to navigate to your organization's content.
2. On the left side of the page, under Filters and Item Type, click Apps and choose Dashboards.
3. Locate the USCG Operations dashboard published by portaladmin, and then click the More Options button  and choose View Dashboard to access the URL.
- g Return to the ArcGIS Experience Builder web browser tab, and then paste the URL and press Enter.




The Embed widget that you placed in the blank page updates to display the USCG Operations dashboard.

h Save your web experience.

In this step, you embedded a dashboard in your web experience.

Step 6: Publish a web experience

You added all the content that you created that is related to JTF Gulf operating in the Gulf of Mexico to a web experience. The final steps are to preview the web experience to ensure that it is configured properly and then publish it to make the web experience available for use.

- In the upper-right corner of the app, click the Preview button .
- Use the navigation functionality that you previously added to the header to navigate between the web map, story, and dashboard pages.

Hint: Use the Menu button  in the upper-right corner to navigate between pages.

- On the USCG Operations page, navigate around the dashboard to test the functionality that you configured when creating the dashboard.



Zoom in and out, click individual features, and notice how the different widgets update dynamically.

- d When you are finished, close the web browser tabs for the preview and any tabs that were opened to obtain a URL, and then return to the ArcGIS Experience Builder web browser tab that includes your Joint Task Force Gulf experience.

- e In the upper-right corner of the app, click Publish.

You created and published a web experience. This web experience is now hosted on your organization's portal and can be viewed by anyone with appropriate permissions. This web experience contains all the content that you compiled and created that is related to JTF Gulf's history and current operations in the Gulf of Mexico.

- f When you are finished exploring, close any open web browser windows and tabs.

Lesson review

1. Which widget cannot be added to a web experience?

- a. Legend
- b. List
- c. Analysis
- d. Filter

2. What information is needed to embed an app in a web experience?

Answers to Lesson 6 questions

Explore ArcGIS Experience Builder widgets (page 6-6)

1. What are the categories of widgets?

The categories are Mapcentric widgets, Datacentric widgets, Page Element widgets, Menu and Toolbar widgets, Layout widgets, and Section widgets.

2. What does the Filter widget do?

It limits the visibility of features in a layer to only those that meet the expression criteria.

3. What does the Sidebar widget do?

It provides two adjacent panels, which allows you to control the layout and allocation of nested widgets.

Using ArcGIS Experience Builder (page 6-8)

1. How would you use ArcGIS Experience Builder in your work?

Answers will vary based on personal experience.

ArcGIS Enterprise offers several apps, including ArcGIS StoryMaps, ArcGIS Dashboards, ArcGIS Web AppBuilder, and ArcGIS Experience Builder, that you can use to create intelligence products. With these apps, you can extend your geospatial content and create apps that answer important intelligence questions and assist decision makers. In this lesson, you will review these apps and how they can be used.

Topics covered

- Review of ArcGIS Enterprise apps

ArcGIS Enterprise apps

ArcGIS Enterprise provides several web apps that you can use to extend your web content. Each of these apps, such as ArcGIS StoryMaps and ArcGIS Web AppBuilder, has its own creation tools used to create and share unique and powerful web apps for disseminating information and answering questions.

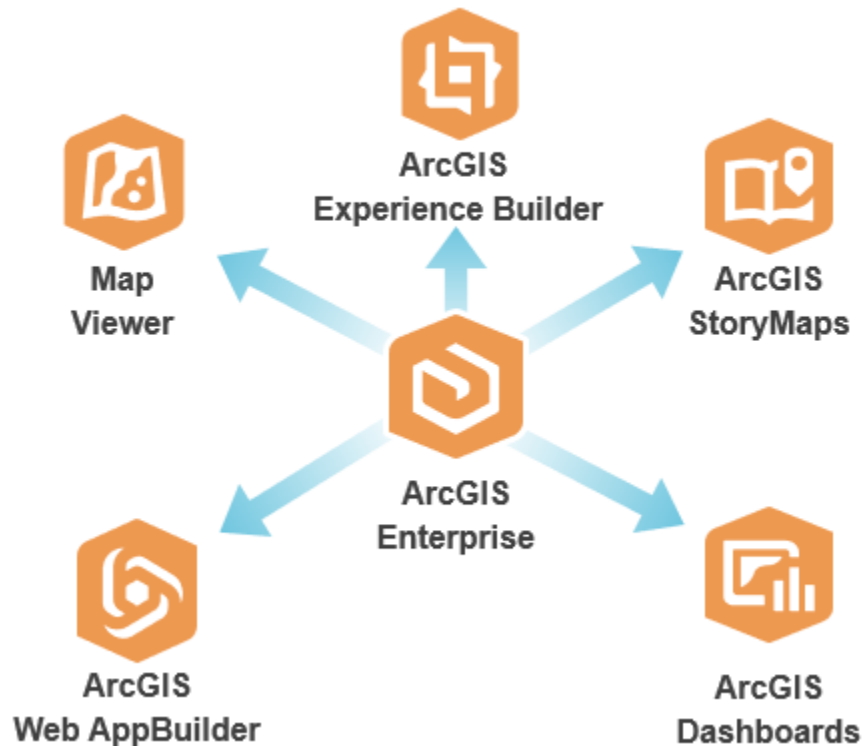


Figure 7.1. ArcGIS Enterprise provides several web apps used to extend content and create informational products that can be shared with a wide audience.

Map Viewer

Map Viewer in ArcGIS Enterprise is the primary way that you create, view, and edit geographic data in ArcGIS Enterprise. Map Viewer provides similar functionality to an ArcGIS Desktop application like ArcGIS Pro. You can also begin the web app creation process from within Map Viewer after you have configured a web map that you want to use as the foundation for a web app.

ArcGIS Enterprise apps (continued)

ArcGIS Web AppBuilder

With ArcGIS Web AppBuilder, you can create flexible and customizable web apps built to suit a specific task. When creating an app with Web AppBuilder, you follow a simple yet powerful wizard to create your app. Web AppBuilder enables you to identify a map and its related data and add functionality in the form of widgets.

ArcGIS Experience Builder

With ArcGIS Experience Builder, you can combine web maps, web scenes, and other web apps in a single location. This ability enables you to create and share an informative web experience containing various content types about a common topic.

ArcGIS StoryMaps

With ArcGIS StoryMaps, you can combine narrative text and media with your geospatial content to create an immersive story that you can share with a wide audience. The story builder is an intuitive tool for creating your stories, allowing you to choose from several types of content blocks to combine your content and geospatial data.

ArcGIS Dashboards

With ArcGIS Dashboards, you can visualize patterns, events, and trends in geographic information on a single screen. You can configure dashboard elements and data to highlight key information that enables decision makers to make well-informed and timely decisions.

Choosing the appropriate app

Imagine that you are a member of an organization with an ArcGIS Enterprise deployment, and you are a member of the Enterprise portal with the creator role. For each of the following scenarios, decide which web app would be most appropriate.

Scenario 1: Editing feature layers

You need to edit feature layers to remove attributes in an attribute table that have been identified as incorrect.

1. Which ArcGIS Enterprise app would you use and why?

Scenario 2: Displaying current operations

Your organization is operating during a pandemic, affecting personnel and operational readiness. You have been tasked with creating a product displaying the ongoing impact across your organization.

2. Which ArcGIS Enterprise app would you use and why?

Choosing the appropriate app (continued)

Scenario 3: Showcasing key locations

Your personnel management office has requested a product that new arrivals and visitors can use to take a virtual tour of the base. They would like a map of the base with key areas, such as the mess hall and lodging facilities, pointed out, along with important information about each area.

3. Which ArcGIS Enterprise app would you use and why?

Scenario 4: Providing access to data and functionality

While working with a joint federal and local police task force, you have identified a series of buildings that is being used to produce and distribute narcotics. The unit designated to raid the buildings does not have a geospatial analyst or access to ArcGIS Pro. Unit members have asked you to provide them with a product that can be used for mission planning and execution.

4. Which ArcGIS Enterprise app would you use, and what are some examples of content that you would include in the product?

Using ArcGIS Enterprise apps

You have learned about ArcGIS Enterprise apps and seen examples of how they can be used. Think about the work that you do and how the capabilities that you have learned could enhance that work to answer the following question.

1. **What are some ways that you would use ArcGIS Enterprise apps in your work?**

Lesson review

1. Which ArcGIS Enterprise app enables you to combine narrative text, media, and geospatial content on a scrolling page?
 - a. ArcGIS Dashboards
 - b. ArcGIS StoryMaps
 - c. Map Viewer
 - d. ArcGIS Web AppBuilder
2. Which ArcGIS Enterprise app provides functionality that is similar to an ArcGIS Desktop application like ArcGIS Pro?
 - a. ArcGIS Dashboards
 - b. ArcGIS StoryMaps
 - c. Map Viewer
 - d. ArcGIS Web AppBuilder

Answers to Lesson 7 questions

Choosing the appropriate app (page 7-4)

Scenario 1: Editing feature layers

1. Which ArcGIS Enterprise app would you use and why?

Map Viewer in ArcGIS Enterprise is the primary way to create and edit feature layers in ArcGIS Enterprise. You could perform the same task in a properly configured web app, but it is not the recommended workflow for simple feature layer editing if you have access to Map Viewer.

Scenario 2: Displaying current operations

2. Which ArcGIS Enterprise app would you use and why?

ArcGIS Dashboards is the ideal app to show the current impact of a pandemic on an organization's operations. You would be able to view such things as total number of personnel affected per department and current mitigation efforts. Additionally, this information could be presented on a single screen, providing decision makers with an easily comprehensible method of obtaining key information.

Scenario 3: Showcasing key locations

3. Which ArcGIS Enterprise app would you use and why?

ArcGIS StoryMaps is the ideal app to add context to a web map by using text and media to provide information about locations marked on the web map.

Answers to Lesson 7 questions (continued)

Scenario 4: Providing access to data and functionality

4. Which ArcGIS Enterprise app would you use, and what are some examples of content that you would include in the product?

ArcGIS Web AppBuilder would be the appropriate app to use. Content examples could include one or more of the following options:

- Imagery and basemap layer widgets
- Gridded Reference Graphic widget
- Oblique Viewer widget
- Print widget
- Emergency Response Guide widget
- Select widget
- Threat Analysis widget
- Visibility widget
- Directions widget
- Various other widgets

Using ArcGIS Enterprise apps (page 7-6)

1. What are some ways that you would use ArcGIS Enterprise apps in your work?

Answers will vary based on personal experience.

Appendix A

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Appendix A

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Appendix B

Acknowledgements

Lesson 5: *Create a story* exercise graphics:

- **CG1:** <https://www.forcecom.uscg.mil/Our-Organization/Yorktown-Photos/igphoto/2001819098/>
- **TitleGraphic:** https://commons.wikimedia.org/wiki/United_States_Coast_Guard#/media/File:Mark_of_the_U.S._Coast_Guard.svg
- **Drugs:** <https://commons.wikimedia.org/wiki/File:Drugpackscorpion.png>
- **CG2:** <https://commons.wikimedia.org/wiki/File:US-Coast-Guard-commissions-Joseph-Napier.jpg>

Appendix C

Answers to lesson review questions

Answers to lesson 1 review questions

1. What are the components of ArcGIS Enterprise?
Portal for ArcGIS, ArcGIS Server, ArcGIS Data Store, and ArcGIS Web Adaptor are components of ArcGIS Enterprise.
2. Map Viewer enables web map visualization and feature analysis.
a. True

Answers to lesson 2 review questions

1. How do you associate keywords with a content item that you are sharing from ArcGIS Desktop to ArcGIS Enterprise?
You complete the Tags field when sharing a content item.
2. You are creating a product to display hot spots of crime in your city. Which tool in Map Viewer Classic would you use to conduct this analysis and which category would you find it in?
Use the Find Hot Spots tool in the Analyze Patterns category.

Answers to lesson 3 review questions

1. What are the two categories of widgets?
Off-panel and in-panel widgets
2. Which step of the Web AppBuilder creation wizard enables you to embed custom functionality like measurement tools?
Configure Widgets



Esri Training course: [Creating Web Applications Using Templates and ArcGIS Web AppBuilder](#)

Appendix C

Answers to lesson review questions (continued)

Answers to lesson 4 review questions

1. You can configure the list element to dynamically update when the map extent changes.

a. True

2. Which dashboard element allows you to embed files in your dashboard?

The embedded content element allows you to embed files in your dashboard.

Answers to lesson 5 review questions

1. What types of content can you include in a story?

Answers can include one or more of the following content types:

- Maps
- Images
- Video
- Web apps
- Web-based resources
- Text

2. What is a consideration when envisioning your story?

c. Identifying the target audience

Answers to lesson 6 review questions

1. Which widget cannot be added to a web experience?

c. Analysis

2. What information is needed to embed an app in a web experience?

You must confirm that the app that you want to use can be embedded in a web experience, and you need the web address or HTML code.

Appendix C

Answers to lesson review questions (continued)

Answers to lesson 7 review questions

1. Which ArcGIS Enterprise app enables you to combine narrative text, media, and geospatial content on a scrolling page?

b. ArcGIS StoryMaps

2. Which ArcGIS Enterprise app provides functionality that is similar to an ArcGIS Desktop application like ArcGIS Pro?

c. Map Viewer

Appendix D

Additional resources

Lesson 3	Resources
Lesson review	<ul style="list-style-type: none">• Esri Training course: Creating Web Applications Using Templates and ArcGIS Web AppBuilder

Lesson 4	Resources
Create an ArcGIS dashboard	<ul style="list-style-type: none">• Esri Blog (www.esri.com/arcgis-blog): <i>Create your first dashboard using ArcGIS Dashboards</i>

Lesson 6	Resources
What is ArcGIS Experience Builder?	<ul style="list-style-type: none">• Esri Training seminar: Get Started with ArcGIS Experience Builder

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