

A stylized, light gray sunburst or fan-like graphic is positioned on the left side of the page, behind the main title. It consists of several radiating lines of varying lengths, creating a sense of motion or energy.

Using ArcGIS Online Sharing to locate and contribute GIS resources

Estimated time: 45 minutes

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Exercise

Estimated time: 45 minutes

ArcGIS.com is a Web site you can visit to begin your online ArcGIS experience. You can create maps, find and use maps, applications, and tools, and share your maps and applications with others. Within the site, you will find applications for building and sharing maps. You will also find thousands of basemaps, specialty layers, applications, and tools that you can view and use, plus communities you can join.

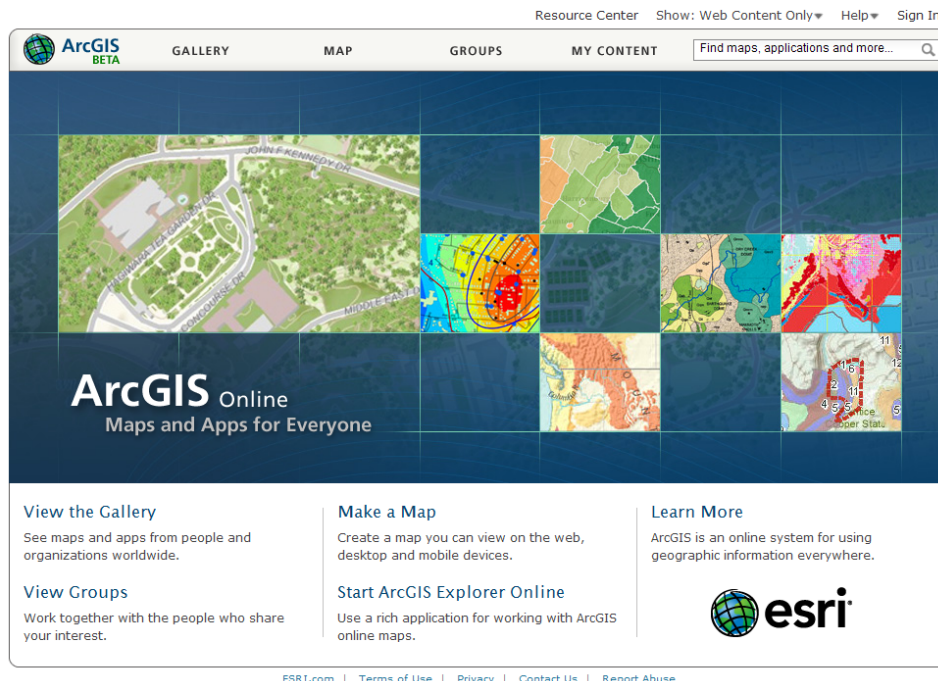
ArcGIS Online are the aspects of ArcGIS that are available online. This includes maps and tasks hosted by ESRI, APIs, and GIS functionality such as address locators and routing services. Much of ArcGIS Online is built into your application experience, for example, you can share packages directly through ArcGIS Desktop and you can access ArcGIS Online services through a mobile device.

In this exercise you will:

- Navigate ArcGIS.com and explore ArcGIS Online basemaps
- Create a web map using ESRI basemap layers
- Create an ArcGIS Online account
- Create a web map using ESRI basemaps in combination with user-provided layers
- Geocode a table of addresses using an ArcGIS Online service
- Create and upload layer packages

Step 1: Begin to explore ArcGIS.com

At the ArcGIS.com site, you can browse featured ArcGIS Online content such as maps and applications published by ESRI and the ArcGIS community, and add comments and ratings. You can upload and share your own items, either with specific groups that you created or are a member of, or you can share your items publicly. Use the newly designed Web Mapping application to quickly create online mashups that you can also share with others



View Gallery

- ☐ Open a web browser and navigate to ArcGIS.com at www.arcgis.com.

Take a moment to read through the site and orient yourself. This is the main place to begin your online ArcGIS experience. You can always get back to this page by clicking the ArcGIS logo in the upper left corner of each page.

- ☐ Click Gallery at the top of the page.

The Gallery shows featured maps and apps from the ArcGIS Community you are now becoming a part of.

- ☐ Browse the maps and hover over a map of interest. Read the description, which includes information about the data and what format it is in.
- ☐ For the purposes of this exercise, choose one with *Web Map* as the data type and click to open and view the map.

The ArcGIS Map Viewer will be launched for you to be able to navigate and explore the chosen map. Notice along the left Table of Contents, you are given the opportunity to open the map in other applications and then to add to the current map.

☐ Click the "ArcGIS.com Home" link at the top of the page and then choose Gallery from the pulldown.

☐ Try another map if you wish.

View groups

☐ Click the ArcGIS logo in the upper left corner of the page.

☐ Click Groups at the top of the page.

☐ Click List all public groups.

☐ Browse the list of groups within ArcGIS Online and the ArcGIS Community to discover maps and resources currently shared.

Learn More

☐ Click the ArcGIS logo in the upper left corner of the page..

☐ Click Learn More in the lower right part of the site. This will launch the ArcGIS.com Help system for browsing and searching.

From here you will go on and create a web map using the online resources available through ArcGIS.com.

Step 2: Create a map with ArcGIS Online

First you will use ArcGIS Online and create a web map starting from an ESRI base map.

This online content from ESRI is powered by ArcGIS Server and includes basemaps, reference layers, and specialty maps. There are also task-based functional services, such as, geocoding and routing which we'll look at in a later step.

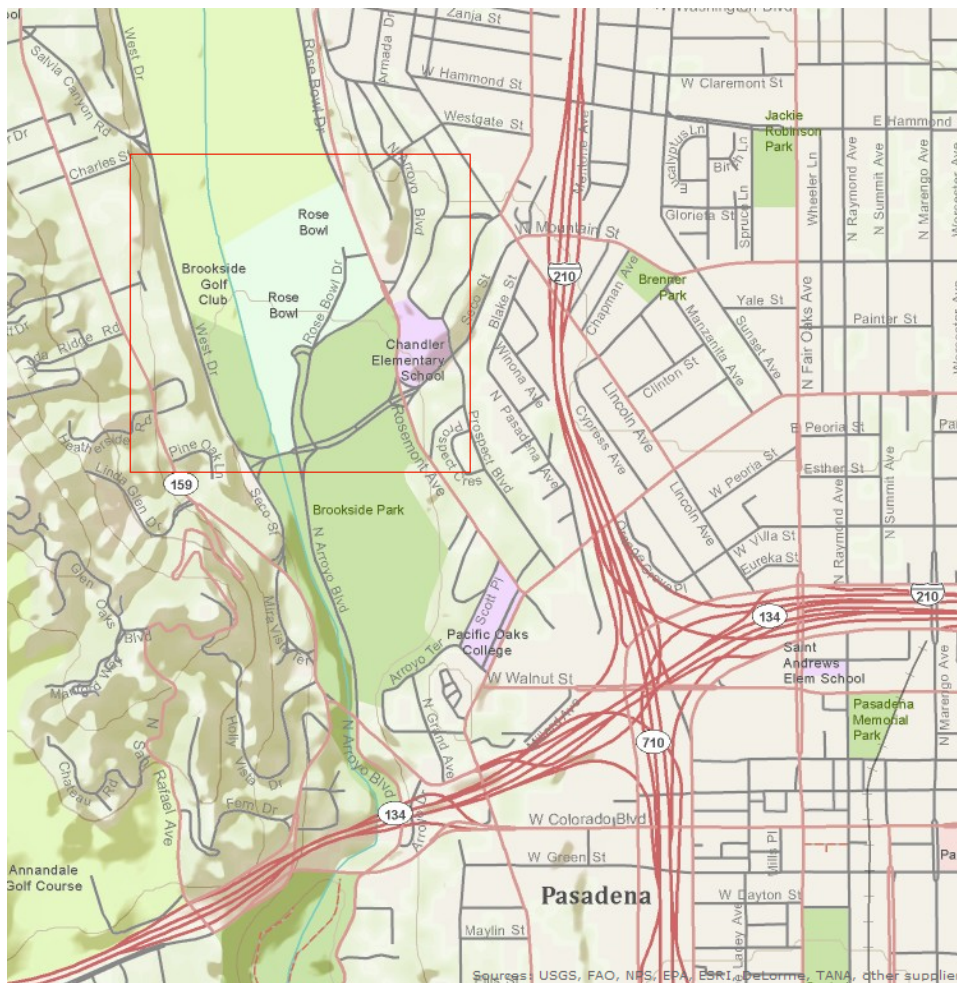
☐ Click the ArcGIS logo in the upper left corner of the page. (www.arcgis.com)

☐ Click Make a Map or the Map link at the top of the page.

The ArcGIS Online Web Map Viewer opens in a new window. The map opens at the extent of the contiguous United States, but this is a world topographic map service.

☐ On the left side of the map viewer, move down the slider to the very bottom to zoom all the way out.

- ☐ Scroll your mouse wheel forward to zoom in.
- ☐ In the Search field for Address, City, or Location, type in **Pasadena, CA**.
- ☐ Click Find.
- ☐ Click the slider or mouse wheel to zoom in and locate the Rose Bowl or Brookside Park area - intersection of Hwy 134 and 210.
- ☐ Press SHIFT and draw a box with the mouse as shown in the diagram below.



Note: Using SHIFT and drawing a box is a very common method in web map viewers to zoom in.

Notice that the level of detail increases significantly as you zoom in on particular areas. In fact here, you can even see the parking spaces and trees! This level of detail is not

available in all areas, but with the Community Mapping Program you will find more and more areas with this much information being contributed.

You will now change your basemap once again and look for your current location - the San Diego Convention Center.

☐ Click Basemap and choose Streets from the basemap choices.

Note: For a thorough list of the online maps and tasks available from ESRI, see the ESRI Maps and Data group.

[http://www.arcgis.com/home/](http://www.arcgis.com/home/group.html?owner=esri&title=ESRI%20Maps%20and%20Data)

[group.html?owner=esri&title=ESRI%20Maps%20and%20Data](http://www.arcgis.com/home/group.html?owner=esri&title=ESRI%20Maps%20and%20Data).

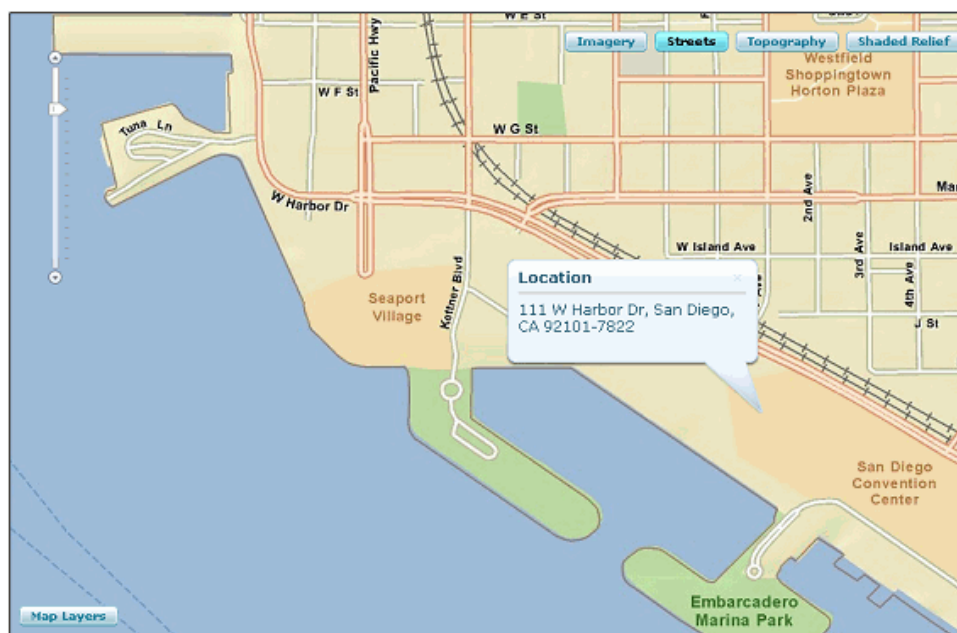
☐ You might notice that at certain scales the information is not available.

☐ Zoom out using the slider bar.

☐ In the Search field for Address, City, or Location, type in **111 W. Harbor Drive, San Diego, CA.**

☐ Click Find.

☐ Zoom out slightly to view the vicinity of the San Diego convention center, as shown in the graphic below.



☐ On the left side of the viewer, click the Show Contents of Map button. You will see the Streets map service listed in the table of contents.

☐ Click the small arrow next to the service and choose Description.

This will open a thorough description of the contents of the World Street Map service and information regarding the service capabilities. If you are familiar with ArcGIS Server, this would be the Services Directory for the ArcGIS Online.

At this point you could add more layers to your map. However, you will not be able to save your web map until you have signed in to ArcGIS online. Without an account, you are limited to finding and using publicly available maps and data. When you have an account, you can also add your own maps and data and join and create groups.

Therefore you will first sign up for an ArcGIS Online account and/or sign in as a member.

☐ At the top of your map, Click Save.

Step 3: (Optional) Create an ESRI Global Account

☐ If you have an ArcGIS Global Account, move on to the next step.

If you do not have an ESRI Global account you need to create one to access the full functionality of ArcGIS online.

☐ Click Create a new global account.

☐ In the form that displays, provide a user name and password of your choice and fill out the remaining required fields (displayed in bold).

☐ When you have filled out the required fields, click "create my ESRI Global Account."

If the user name you chose is already taken, you will be prompted to choose another one.

Your account will be created and activated upon confirmation of your e-mail address.

Step 4: Register for your ArcGIS Online account

Once you have an ESRI Global account, you can register that account in order to become a member of ArcGIS Online.

- ☐ Click the Register my ESRI Global Account link.

Note: If you have not got this link, click the Sign In link at the top right to reach the correct page.

- ☐ Enter your ESRI Global account username and password.

- ☐ Click the Register button.

- ☐ Click I accept to accept the ArcGIS Online Terms of Use.

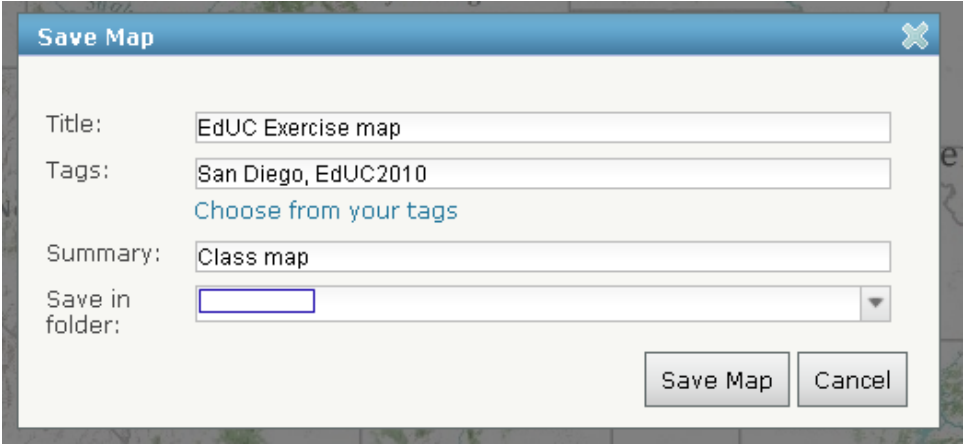
You now have the opportunity to edit your ArcGIS Online Profile if you wish. In the upper bar you will see a Notification link too where you could manage messages from some of the ArcGIS Online groups mentioned in the first part of the exercise. For now, we will move on to creating and saving a map.

Step 5: Save and develop your map

- ☐ Click the Map link at the top of the page.

The map that you were just building for San Diego will be re-opened and the Save process you had begun can now be finished.

- ☐ Complete the Save Map dialog with an appropriate title, Search Tag(s), and Summary. Perhaps as below:









The screenshot shows the 'Save Map' dialog box. The 'Title' field contains 'EdUC Exercise map'. The 'Tags' field contains 'San Diego, EdUC2010' and a link 'Choose from your tags'. The 'Summary' field contains 'Class map'. The 'Save in folder' field is a dropdown menu that is currently empty. The 'Save Map' and 'Cancel' buttons are at the bottom right.

- ☐ Click Save Map.

Your map has now been saved to "My Content" in your global account.

☐ Click OK.

☐ Click ArcGIS.com Home > My Content. Your new EdUC Exercise map has been saved, but notice that it is not currently shared.

 Add Item  Create Map  Share  Delete  Move To ▼					
<input type="checkbox"/>	▲ Title	Type	Modified	Shared	Size
<input type="checkbox"/>	 EdUC Exercise map	Web Map	Jun 6, 2010	Not Shared	1 KB

From here there are many options you could take. You can organize your Content by adding folders, moving items, removing items and adding new items. You could also create a new map or share existing ones. We will come back to adding and sharing items shortly. For now lets edit your map.

☐ Click on the EdUC Exercise map link.

Here you will see the metadata for your map. You can complete and maintain further information about your map such as Description, Access and Use Constraints as well as add comments by clicking Edit. We will now add information to your map from ArcGIS Online.

☐ Click the Open link below your map thumbnail.

☐ Click the Add Content to Map button. We will search ArcGIS online for some more interesting data for our map.

☐ Complete the Search window with Search: ArcGIS Online For: **California**.

☐ Scroll down through the list of services containing data for California. There are a couple of interest such as "Califonia Fire History" and "California Tsunami Risk".

☐ Click on California Tsunami Risk and click Item Details. Information about the data resource is provided.

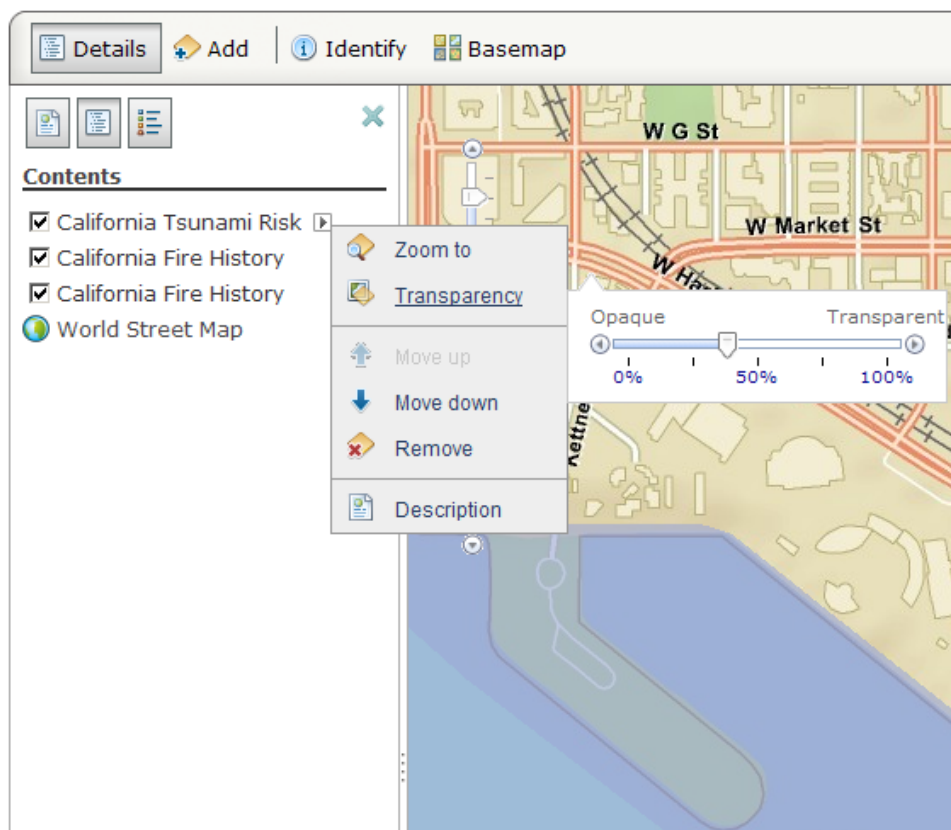
☐ Click Map at the top of the screen to return to your SanDiego map.

☐ Locate the California Tsunami Risk service once again and click Add to Map. Purple areas have been added to the street map.

☐ Take a moment to observe your new map.

a.) If you would like to toggle the Tsunami layer on and off, Click Details, Show Contents of this map button, and click the radio button next to the service.

- ☐ It is also possible to edit the order and appearance of the layers in your map. Wouldn't it be nice to set a transparency on the Tsunami layer?
- ☐ Click the small callout arrow next to the Tsunami Service. Click Transparency.
- ☐ Adjust the Transparency slider to ~ 40%.



- ☐ Click Save.
- ☐ Click ArcGIS.com > My Content.

You will see your map listed there. We will return to this area shortly with some new data we will post to ArcGIS Online.

Step 6: Display Bing Maps Data in ArcMap with local data

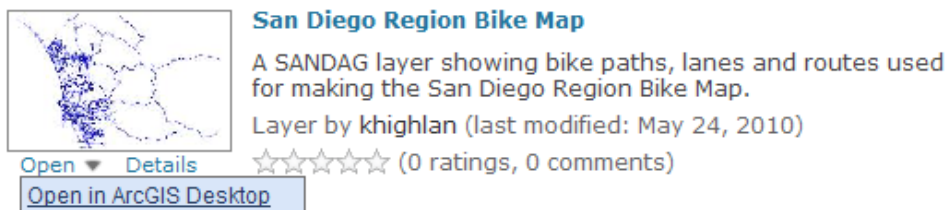
You can not only use ArcGIS Online content for making web maps, but you can also display layers from ArcGIS Online in ArcMap or ArcGIS Explorer, together with data that are stored locally on your computer. There are two ways to access access functionality - from ArcGIS.com or from ArcMap.

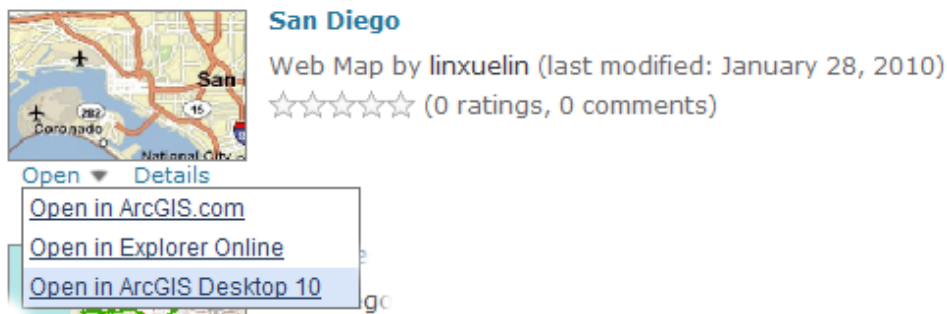
The default option is set to show Web content only. If you are looking for content like layer packages or ArcGIS Explorer maps, you won't discover these until you change this to show all content.



Once this is done you can search for items of interest and will find that more results appear. To learn more about finding ArcGIS Desktop content, please see the arcgis.com Help topic Finding content > Finding ArcGIS Desktop content.

To open your search results, click on the Open pulldown beneath the thumbnail and choose the application you wish to use. The options will vary depending on the resource you are accessing.






In this step you will combine Bing Maps data with local data layers in ArcMap.

- ☐ Launch ArcMap.
- ☐ Dismiss the New Document Window.
- ☐ Click the pulldown next to Add Data and notice there are 3 options:

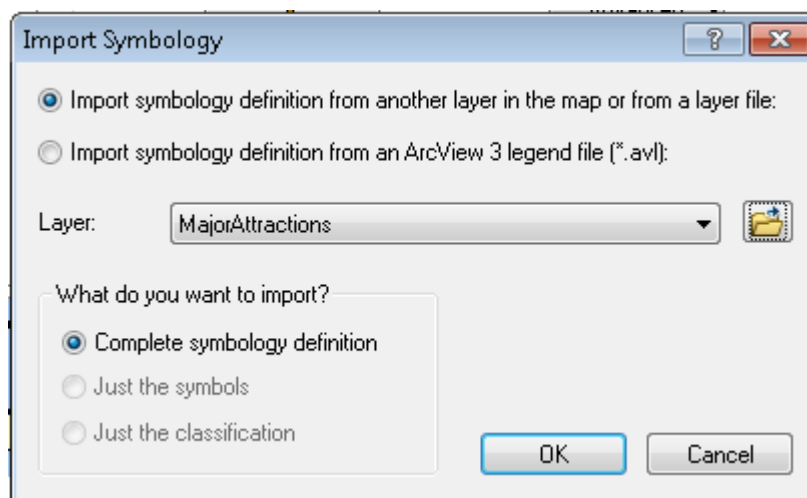


- ☐ First we will add a Basemap.
- ☐ Click Add Basemap. This will be a familiar list of options from ArcGIS.com.
- ☐ Click Bing Maps Hybrid, click Add.
- ☐ In ArcMap click the Add Data button .
- ☐ Navigate to your C:\EdUC\ArcGISOnline\SanDiego geodatabase and add MajorAttractions.
- ☐ Click Close in the Geographic Coordinate System warning.

- ☐ Right click the MajorAttractions and choose Zoom to Layer.
- ☐ The map zooms to the San Diego downtown area. The major attractions display on top of the Bing image.
- ☐ Double-click the Major Attractions layer to open the layer properties and click the Symbology tab.

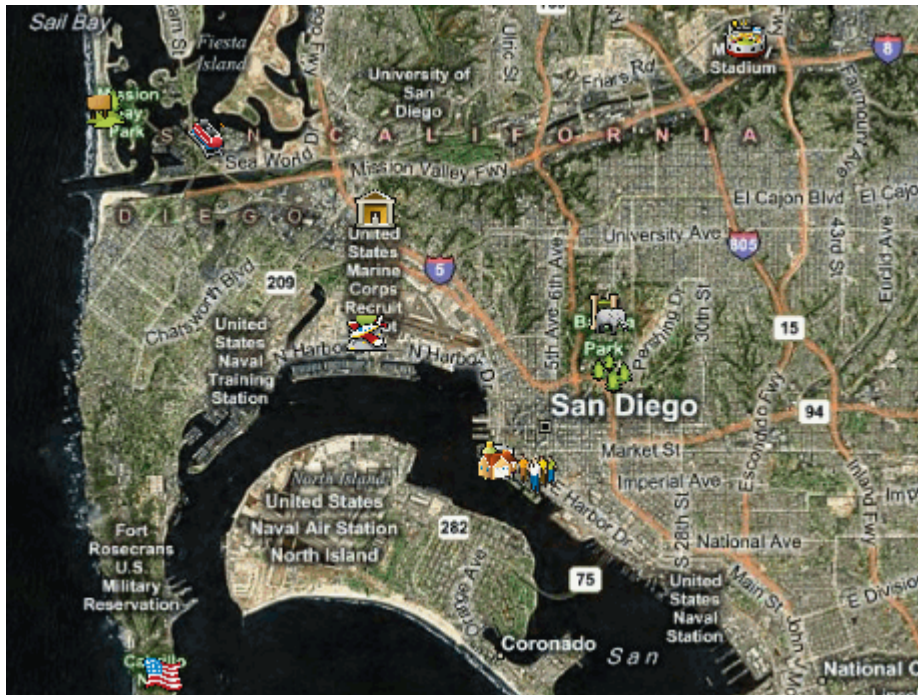
You will import the symbology for the MajorAttractions layer from a layer file.

- ☐ Click Import.
- ☐ Accept the default option to Import the symbology definition from a layer file.
- ☐ Navigate to your C:\EdUC\ArcGISOnline folder and double-click the MajorAttractions.lyr file.




- ☐ Click OK.
- ☐ Accept the NAME field for the Import Symbology Matching Dialog. Click OK.

☐ Click OK to close the layer properties.



☐ To take a look at the resolution of the image, zoom in closely to the Seaport Village and Marriott Hotel area.

Step 7: Geocode hotel addresses using an ArcGIS online address locator

☐ In ArcMap click the Add Data button .

☐ Navigate to your C:\EdUC\ArcGISOnline\SanDiego geodatabase and add the HotelAddr table.

☐ At the bottom of the table of contents, click the Source tab.

☐ Right-click the HotelAddr table and click Open.

HotelAddr is a table of San Diego major hotels and their addresses.

☐ Close the Attributes of HotelAddr table.

☐ Right-click the HotelAddr is a table and click Geocode addresses.

In ArcGIS 10, the ArcGIS Online address locators are automatically available for your use. If you wished to use a different one, you could click Add and enter the connection or location information.

- ☐ Select the North America Geocode Service.
- ☐ Click OK.
- ☐ The Geocode Addresses dialog box will appear.
- ☐ Confirm that HotelAddr is selected for the address table.

Next you will match the Address Input Fields with the corresponding fields in the HotelAddr table.

- ☐ For Address click the dropdown arrow and select ADDR and for City select CITYNM.

The State, Zip and Country fields are automatically matched.

- ☐ For Output shapefile or feature class, click the Browse button and navigate to the C:\EdUC\ArcGISOnline\ folder.
- ☐ For Save As Type, choose File- or Personal Geodatabase feature class.
- ☐ Double-click the San Diego geodatabase.
- ☐ For Name, enter **MajorHotels** and click Save.

- Make sure your Geocode Addresses dialog box looks like the graphic below.

Address table: HotelAddr

Address Input Fields

Address: ADDR

City: CITYNM

State: STATE

Zip: ZIP

7in4:

Output

☒ Create static snapshot of table inside new feature class

☐ Create dynamic feature class related to table

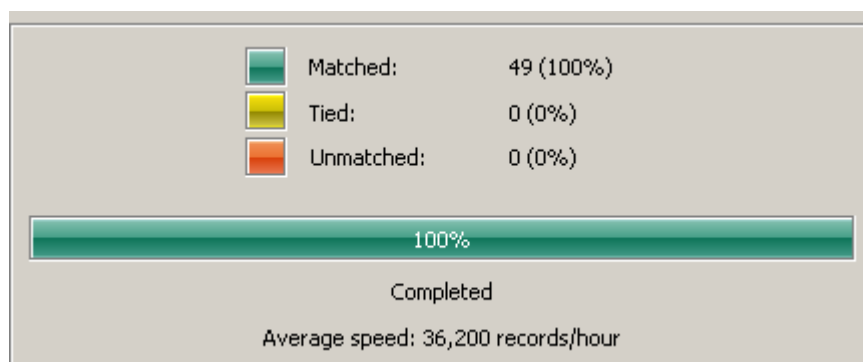
Output shapefile or feature class: C:\Student\EdUC\ArcGISOnline\SanDiego.gdb\MajorHotels

Config Keyword: DEFAULTS

Advanced Geometry Options...

Geocoding Options...

- Click OK to start the geocoding process.



- When the geocoding process is finished click Close.

- ☐ In the table of contents, right-click the Geocoding Results: MajorHotels layer, and choose Zoom to Layer.
- ☐ Click the point symbol under Geocoding Results: MajorHotels and assign a hotel symbol of your choice.

Note: You can enter "Hotel" in the Symbol Selector to retrieve the symbols.

- ☐ Save the map document in your C:\EdUC\ArcGISOnline\ folder.

Note: You may also wish to explore the Geocoding Toolbar under the Customize menu, point to Toolbars, then Geocoding. Here you can enter an address and interactively change the locator being used.

Step 8: Create a layer packages and upload them

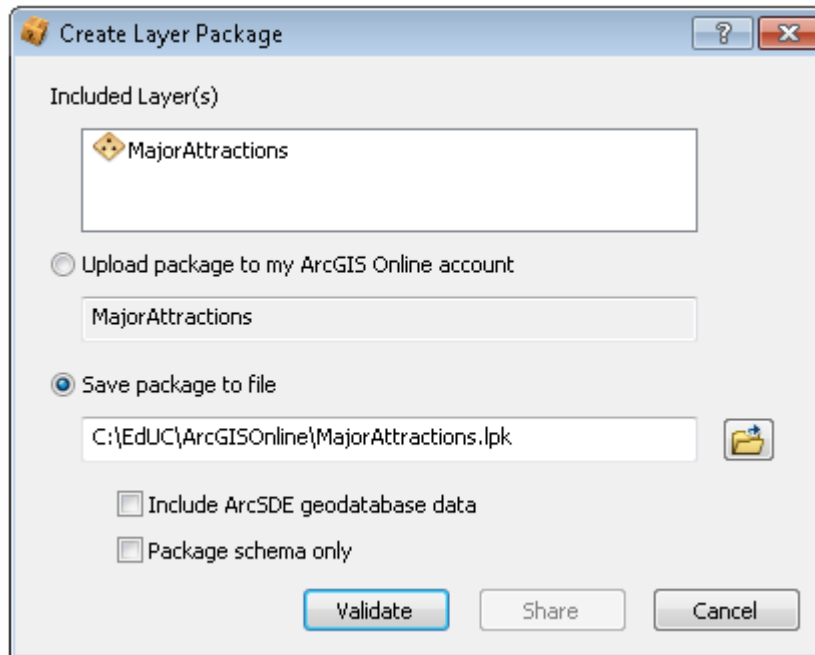
In this step you will create layer packages for the MajorAttractions and the Geocoding Results: Major Hotels layers. Layer packages can be shared in a variety of ways - they can be e-mailed, published onto CDs or DVDs, or placed on network drives - or they can be shared via ArcGIS Online.

Note: Layer Packages: A Layer package (LPK) is a file format you create in ArcGIS Desktop for easy sharing in ArcGIS Online. When you save a map layer as a layer package, you include its source data as part of the layer package. All your ArcGIS symbology, cartography, and metadata are included together in a single file.

These files allow you to publish your layers in a packaging format for easy uploading and downloading in ArcGIS Online. You publish these files in ArcGIS Desktop then add them to ArcGIS Online. When other users want to use these layers in their ArcGIS applications, ArcGIS Online unpackages them and opens them in the appropriate ArcGIS application, such as ArcGIS Desktop or ArcGIS Explorer.

- ☐ In the ArcMap table of contents, right-click the MajorAttractions layer and choose Create Layer Package.

- ☐ Click the Save package to file option and navigate to your C:\EdUC\ArcGISOnline\folder. Name the file **MajorAttractions.lpk**



- ☐ Click Validate.
- ☐ ArcGIS will check your layer for all the information required for creating and ultimately publishing to ArcGIS Online. You will see an error window appear at the bottom of ArcMap indicating that we need to have a description for the layer in order to save the layer package.
- ☐ Right click on the High Severity error in the Prepare window.
- ☐ Choose Change General Layer Properties.
- ☐ On the General tab, for Description, enter **San Diego major attractions** and click OK.
- ☐ Click Validate again. There should no longer be any errors in the Prepare window.
- ☐ Click Share.

We will add this to ArcGIS Online shortly. First let's share the Major Hotels directly to ArcGIS Online.

- ☐ In the ArcMap table of contents, right-click the MajorHotels layer and choose Create Layer Package.
- ☐ This time choose the Upload package to my ArcGIS Online account, and enter **SDMajorHotels** for a name.
- ☐ Click Validate. You may be prompted for a description again. Enter something appropriate and Validate again.
- ☐ Click Share.
- ☐ When prompted, enter your ArcGIS Online credentials from earlier in the exercise and click Sign In.
- ☐ Complete the Package Details menu.
- ☐ Click OK. It will take a minute or so and you will receive a message that your package has been posted online.

Let's go and verify that the Major Hotels layer package was in fact posted.

- ☐ Return to ArcGIS Online. Sign in again if necessary.
- ☐ Click My Content.

You should see your MajorHotels layer package listed, but not shared. Notice that the size of this compared to your map is significantly different. This is because the layer package in fact includes the data itself.

- ☐ We will now add the Major Attractions.
- ☐ Click Add Item.
- ☐ Browse to the Layer package you saved earlier in your C:\EdUC\ArcGISOnline\ folder.
- ☐ Click on the Supported items link to see what can be posted to ArcGIS Online.
- ☐ Enter a title and some tags (**San Diego, Hotels, California**).
- ☐ Click Add Item.

Step 9: Watch instructor share items.

Instructor adds check mark to items to share. Click Share.

Use the check box for sharing with Everyone (public). Click OK.

Step 10: Access a shared item

☐ In the ArcGIS.com window, type in **MajorAttractions, San Diego** and click Search Content.

☐ Click the MajorAttractions Layer Package and open it in ArcGIS.

☐ Repeat the search for Hotels San Diego.

☐ When you are finished, click Sign Out on the ArcGIS.com windows.

Conclusion

ArcGIS.com and ArcGIS Online make it easy to share GIS content on the web. You can access ArcGIS Online anonymously and create simple web maps. However, to save your web maps, share your content and inking and using publicly available maps and data you need an ArcGIS Online membership account. ArcGIS Online also gives you access to online services such as geocoding and base layers such as Bing Maps imagery.