



# ArcGIS Online: How to Enhance Web Map Performance

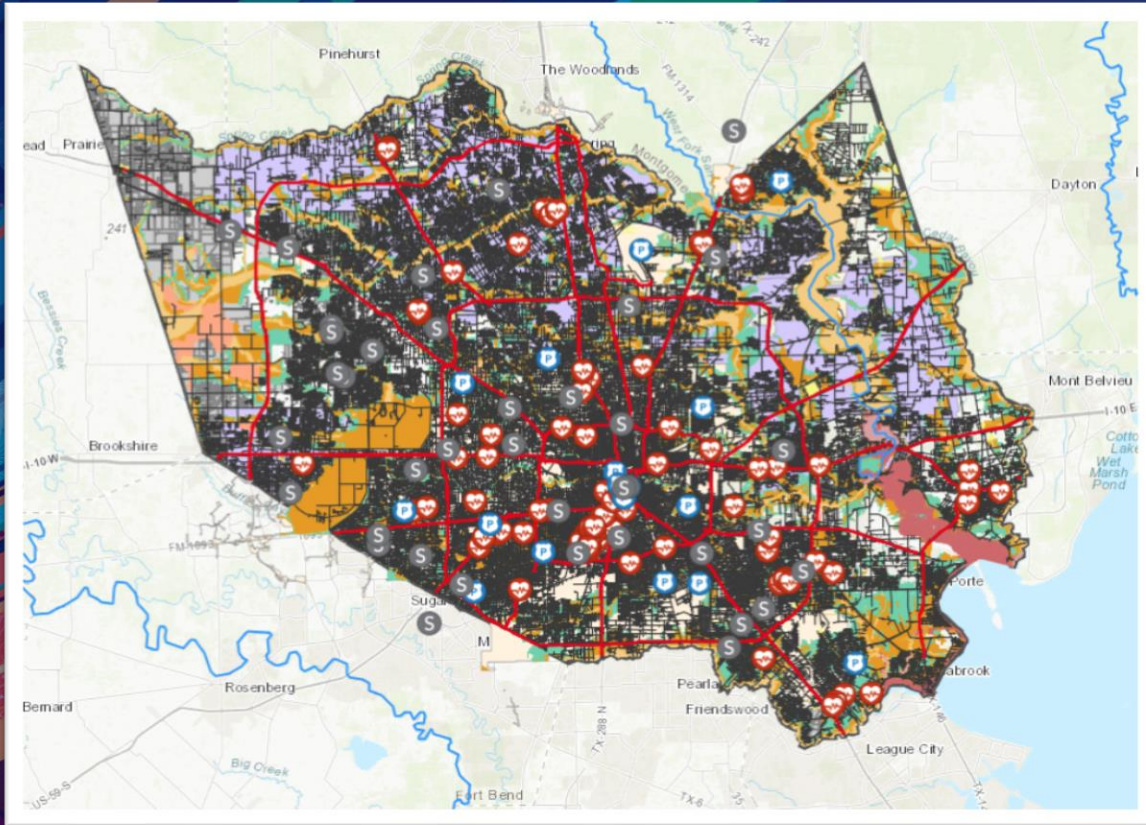
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ESRI USER CONFERENCE

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INSPIRING  
WHAT'S  
NEXT

Can you relate?





# Demo 1



# Agenda

- Preliminary questions before creating web maps
- Pre-publishing considerations & demo
- Web map configurations & demo
- Additional troubleshooting & demo
- Summary

# Points to consider before creating web map



Who will be using this web map?



What functionality do the users need?



What information is important?



How will the map or application be accessed?



What type of experience am I trying to convey?

# Case Study



**Residents of Houston, TX**



**Viewing parcels and locating nearby shelters**



**Parcels, shelters, and hazardous flood zones**



**Residents will access web map through application**



**Easy to interpret and use**

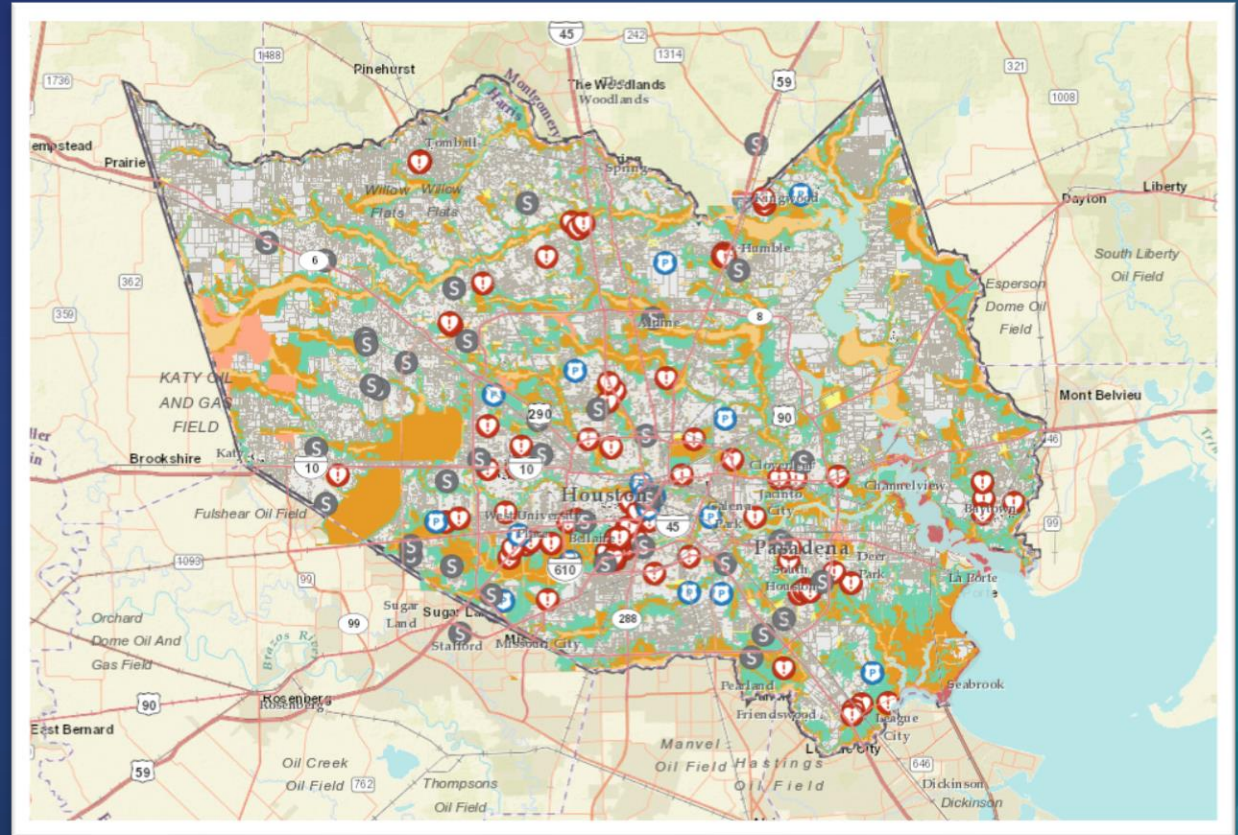
# Pre-Publishing Considerations

The background of the slide is a solid dark blue. In the top-left corner, there are several diagonal lines in shades of teal and orange. In the bottom-right corner, there is a complex graphic consisting of overlapping diagonal bands in teal, orange, and dark blue, with some lighter blue geometric shapes interspersed.



## Remove Unnecessary Layers

- **Is each layer necessary for the purpose of the map?**
- **Is the purpose of the map clear given the symbology and the data?**





# Generalize Layers

- Is geometry too complex for the for the scale of the map?
- Can the geometries be simplified without losing necessary information?

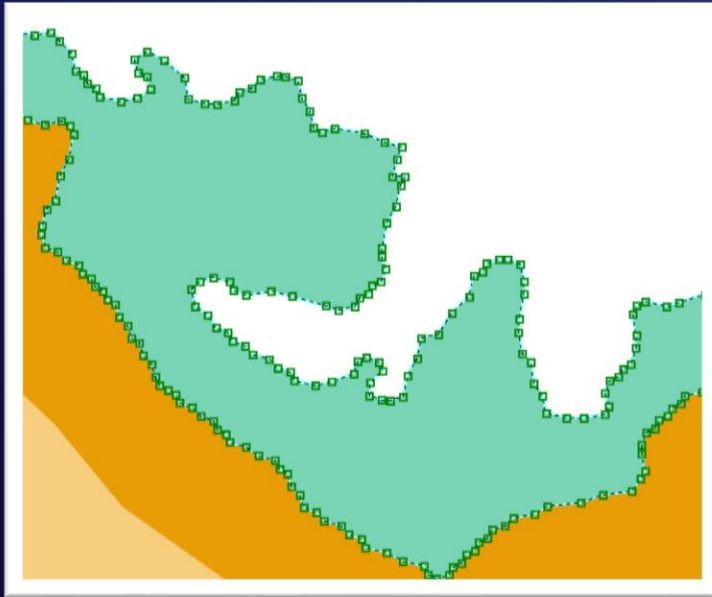


Image 1

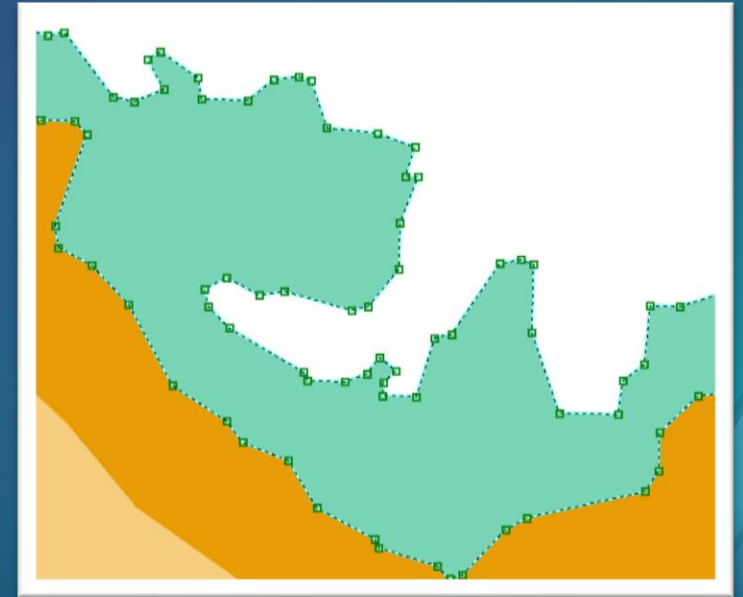
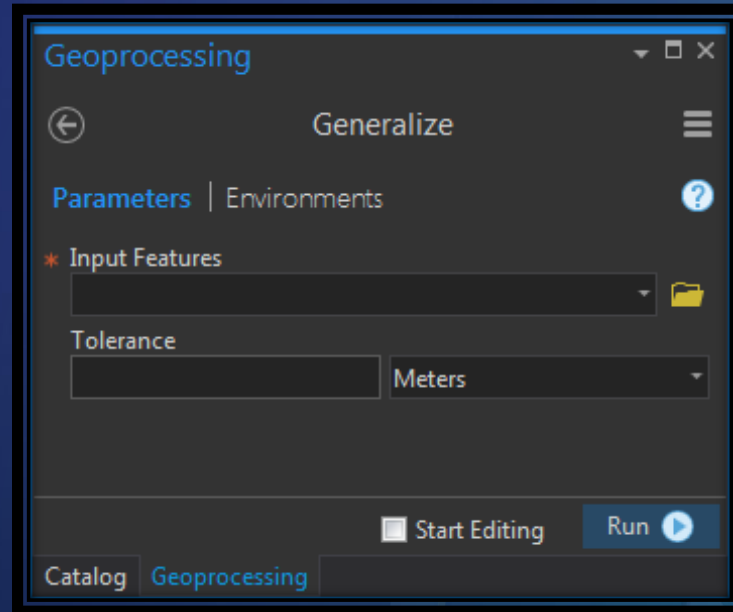


Image 2

# Choose Type of Service to Publish

- Which layers require access to attribute information?
- Which layers are used for only reference?

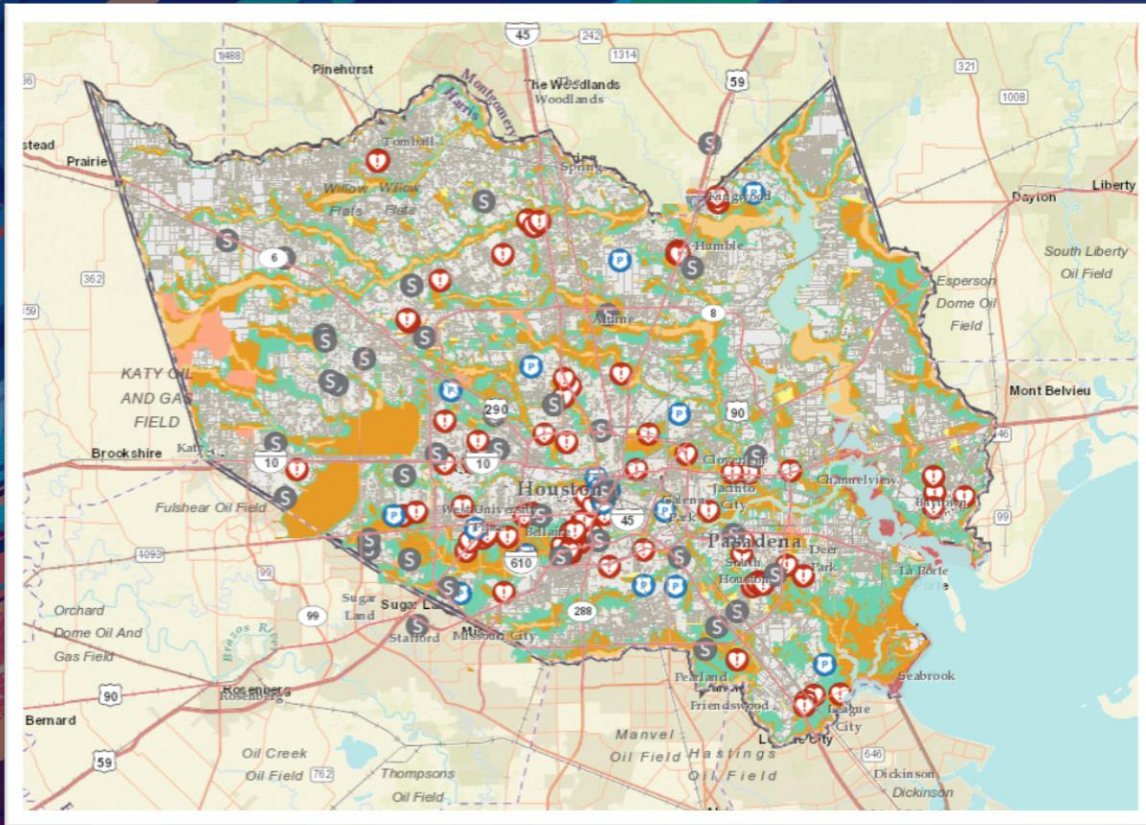
The image displays two screenshots of the 'Share As Web Layer' dialog box in ArcGIS, illustrating the configuration options for publishing a web layer.

**Left Screenshot (General Tab):**

- Title:** Sharing Demo2 As A Web Layer
- General | Configuration | Content** (Tabs)
- Name:** (Empty text field)
- Layer Type:**
  - ☒ Feature
  - ☐ Tile
  - ☐ Vector Tile
- Item Description:**
  - Summary:** (Empty text area)
  - Tags:** (Empty text area)
- Sharing Options:**
  - ☒ My Content
  - ☐ Esri Support Services
  - ☐ Everyone
  - Groups: (Dropdown menu)
- Finish Sharing:**
  - Analyze (Green checkmark icon)
  - Publish (Cloud icon)
  - Jobs (List icon)

**Right Screenshot (Configuration Tab):**

- Title:** Sharing Demo2 As A Web Layer
- General | Configuration | Content** (Tabs)
- Caching:**
  - Tiling Scheme:** ArcGIS Online / Bing Maps / Google Maps (Dropdown menu)
  - Levels of Detail:** (Slider from 0 to 23)
  - Minimum Level:** 7
  - Maximum Level:** 21
  - Scale:** 1:4,622,324 (Minimum) / 1:282 (Maximum)
  - Estimated cache size:** 142GB
  - ☐ Cache automatically on the server
  - ☐ Cache manually on the server
  - ☒ Cache locally (Information icon)
  - Temp cache location:** C:\Users\sua8719\Desktop (Folder icon)
  - ☐ Allow clients to export cache tiles
  - Limit export to:** 100000 tiles
- Finish Sharing:**
  - Analyze (Green checkmark icon)
  - Publish (Cloud icon)
  - Jobs (List icon)



## Demo 2

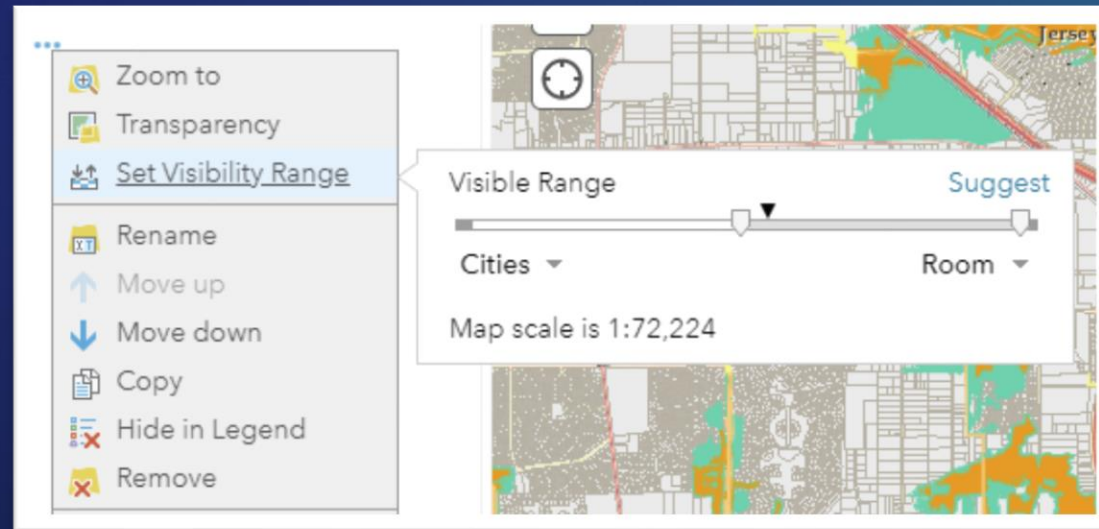
# Web Map Configurations

The background is a solid dark blue. In the top-left corner, there are several parallel diagonal lines in shades of teal, green, and red. In the bottom-right corner, there is a complex graphic featuring a red rectangular area with a white grid pattern, overlaid with various colored diagonal lines (orange, yellow, green, blue) and a dark blue line. The overall aesthetic is modern and technical.



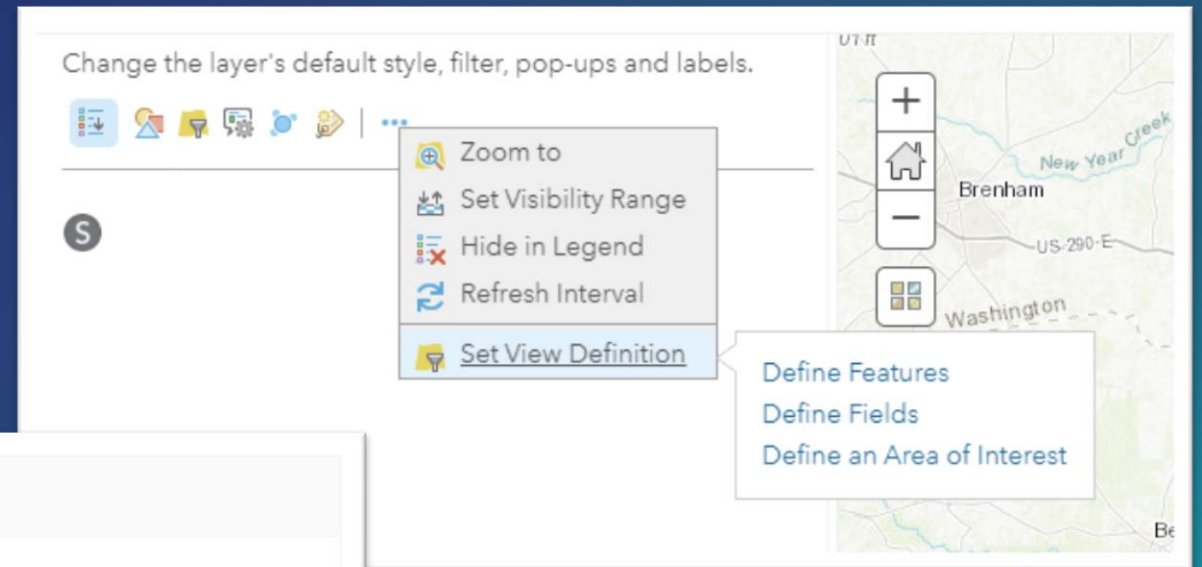
# Set Visible Scale Ranges

- Which layers are necessary to draw at the full extent of the web map?
- Are some layers only necessary at specific scale ranges?



# Create Views

- Can a view be used to avoid adding editable layers to a public map?
- Are all fields and features of existing feature layers necessary for this map?



Feature Layer (hosted, view)

\* Setting must be configured on the hosted feature layer that this feature layer view was created from, [Demo2](#).

Editing

☐ Enable editing.

☐ Keep track of created and updated features.\*

☐ Keep track of who created and last updated features.\*

☐ Enable Sync (disconnected editing with synchronization).\*

# Enable Optimize Layer Drawing

- Can layers with detailed geometries be optimized at small scales?
- Is storage size a concern?

## Optimize Layer Drawing

This setting increases the drawing speed of line and polygon layers with detailed geometry (e.g., many vertices) but also uses additional storage space to do so.

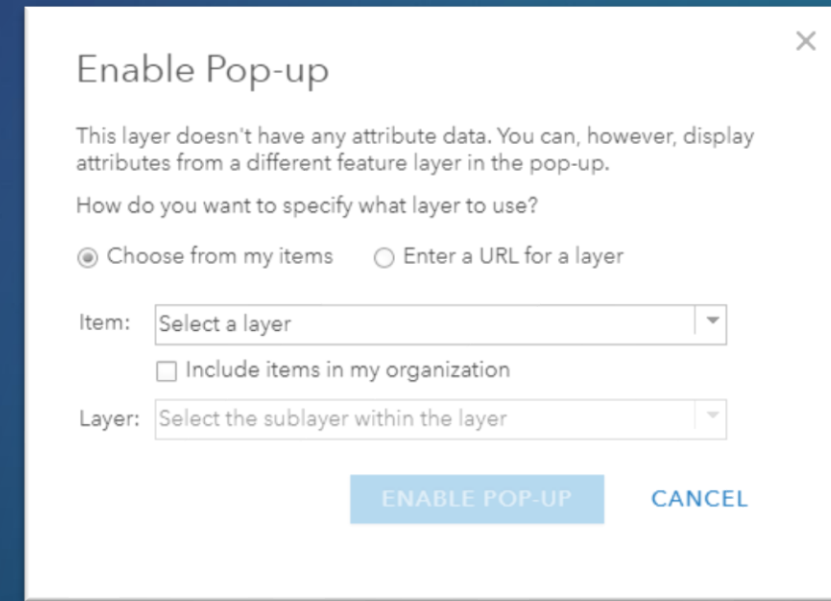
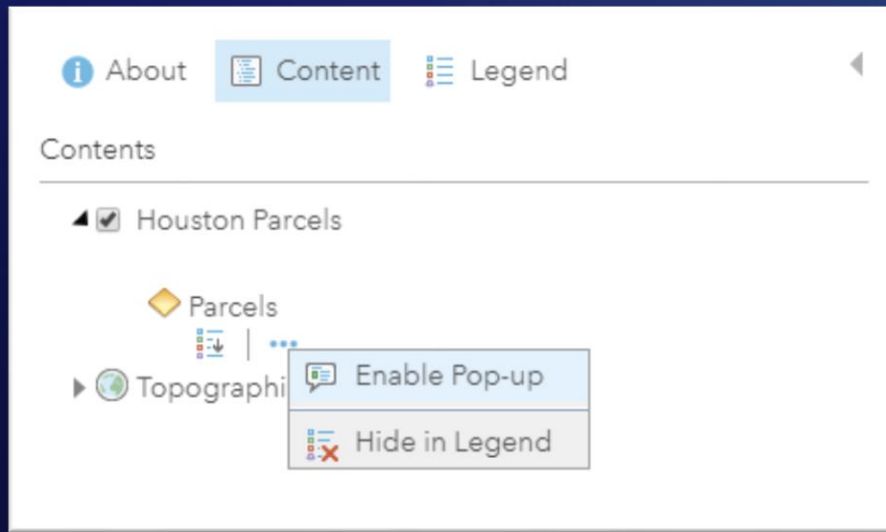
Select the layers to optimize:

☐ Flood\_Zones

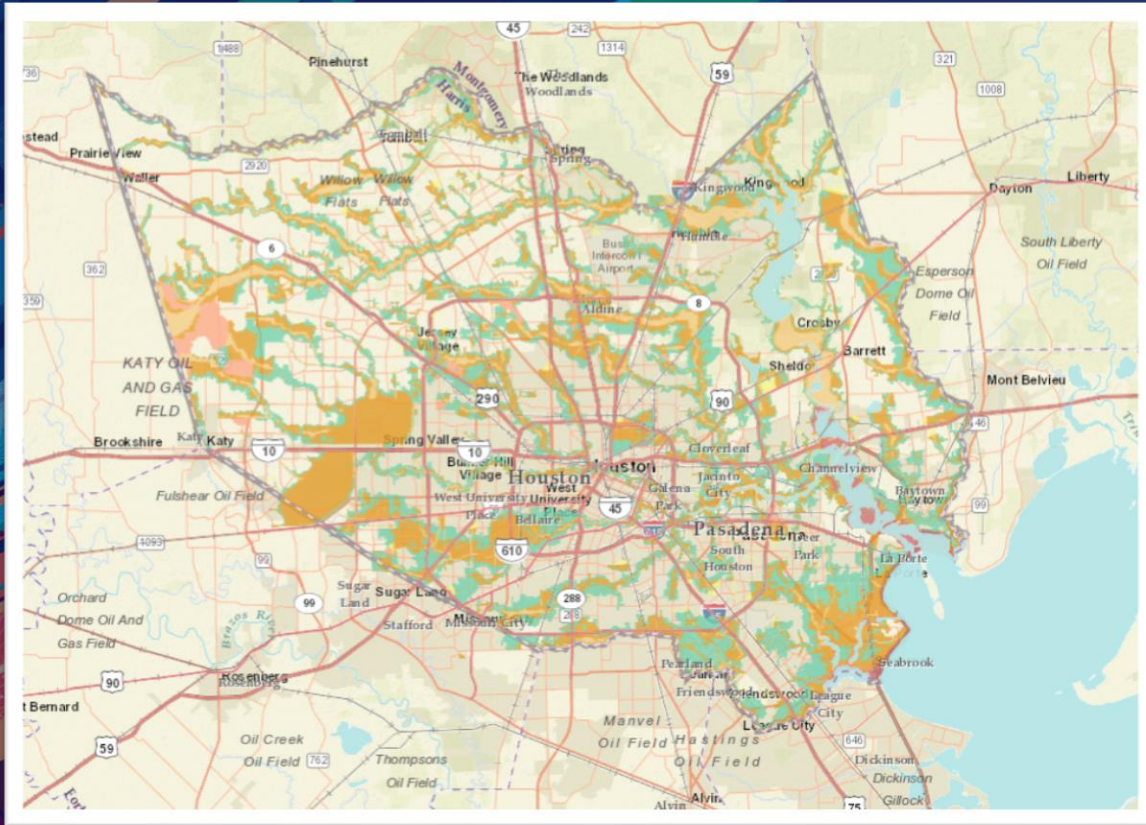
Note: Layer optimization takes a few minutes to complete. Editing will be temporarily disabled on layers undergoing optimization.

# Configure Hosted Tile Layer Pop-ups

- Is the data best presented as a tile service?
- Do the tile layers require pop-ups?







## Demo 3

# Additional Troubleshooting

Debug with Browser Developer Tools



An abstract graphic on the left side of the slide. It features a dark blue background with a complex overlay of colorful, semi-transparent geometric shapes and patterns. These include various shades of blue, green, red, orange, and purple. A map of a city with a grid of streets and several red circular markers is visible within the overlay. The overall effect is a layered, dynamic composition.

## Demo 4

# Summary

- Remove unnecessary layers that clutter the map
- Generalize the layers that have complex geometry
- Determine which layers should be feature vs. tile services
- Use visible scale ranges when appropriate
- Create views tailored to web map's purpose
- Enable Optimize Layer Drawing for detailed layers
- Enable pop-ups on tile layers
- Use Dev Tools to debug problematic layers





The background is a solid dark blue gradient. In the top-left corner, there are several thin, parallel diagonal lines in shades of teal, green, and red. In the bottom-right corner, there is a complex arrangement of overlapping geometric shapes, including rectangles and polygons in various colors like orange, yellow, green, and dark blue, creating a sense of depth and movement.

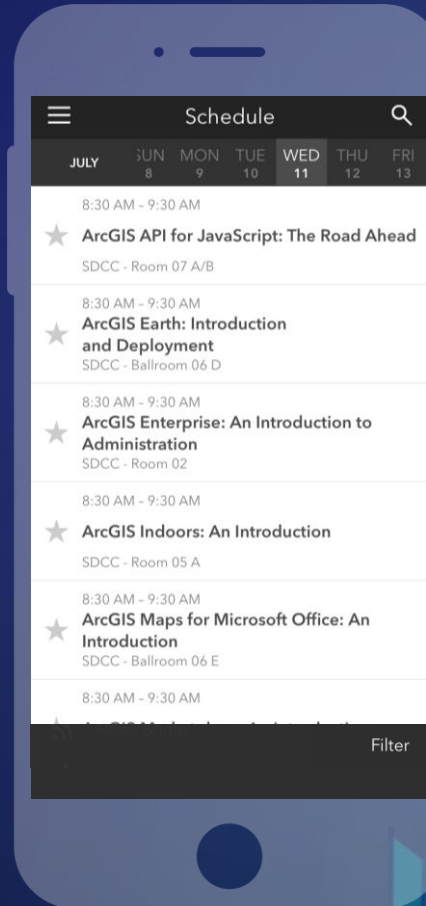
# Questions?

# Please Take Our Survey on the App

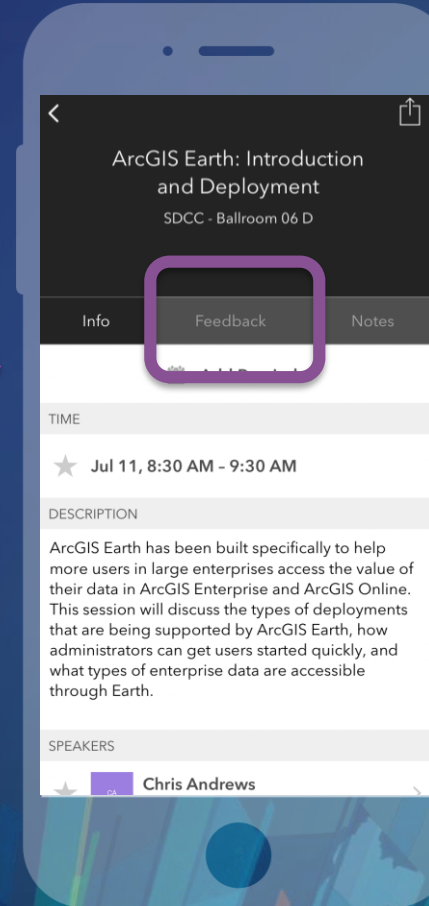
Download the Esri Events app and find your event



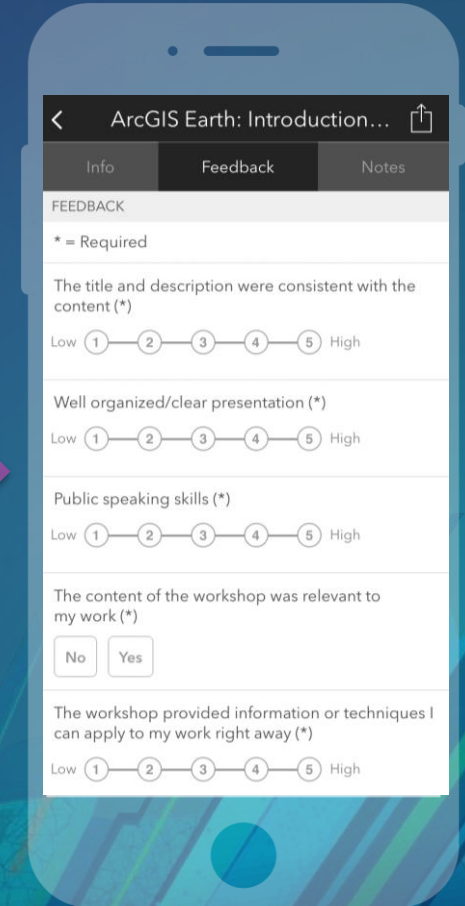
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"





# Related Sessions

WORKSHOP	LOCATION	TIME FRAME
<ul style="list-style-type: none"><li>• Web GIS: An Introduction</li></ul>	<ul style="list-style-type: none"><li>• SDCC – Room 15 B</li><li>• SDCC – Room 14 A</li></ul>	<ul style="list-style-type: none"><li>• Tuesday, July 10; 1:00 pm – 2:00 pm</li><li>• Wednesday, July 11; 10:00 am – 11:00am</li></ul>
<ul style="list-style-type: none"><li>• Best Practices for Publishing Services, Layers, and Maps</li></ul>	<ul style="list-style-type: none"><li>• SDCC – Room 10</li><li>• SDCC – Room 02</li></ul>	<ul style="list-style-type: none"><li>• Tuesday, July 10; 1:00 pm – 2:00 pm</li><li>• Thursday, July 12; 4:00 pm – 5:00 pm</li></ul>
<ul style="list-style-type: none"><li>• Configuring Web Map Pop-Ups</li></ul>	<ul style="list-style-type: none"><li>• SDCC – Demo Theater 07</li></ul>	<ul style="list-style-type: none"><li>• Tuesday, July 10; 2:30 pm – 3:15 pm</li></ul>
<ul style="list-style-type: none"><li>• ArcGIS Online: Best Practices for High Demand Layers</li></ul>	<ul style="list-style-type: none"><li>• SDCC – Room 16 B</li></ul>	<ul style="list-style-type: none"><li>• Wednesday, July 11; 4:00 pm – 5:00 pm</li></ul>



# Additional Resources

## Generalize

<https://pro.arcgis.com/en/pro-app/tool-reference/editing/generalize.htm>

## About hosted layers

<https://doc.arcgis.com/en/arcgis-online/share-maps/hosted-web-layers.htm>

## Publish hosted feature layers

<https://doc.arcgis.com/en/arcgis-online/share-maps/publish-features.htm>

## Publish hosted tile layers

<https://doc.arcgis.com/en/arcgis-online/share-maps/publish-tiles.htm>

## Apply filters

<https://doc.arcgis.com/en/arcgis-online/create-maps/apply-filters.htm>

## Set visible range

<https://doc.arcgis.com/en/arcgis-online/create-maps/set-visibility.htm>

## Create hosted feature layer views

<https://doc.arcgis.com/en/arcgis-online/share-maps/create-hosted-views.htm>

## Optimize drawing of complex lines and polygons

[https://doc.arcgis.com/en/arcgis-online/share-maps/manage-hosted-feature-layers.htm#ESRI\\_SECTION1\\_736A1F3329BB46069CF1B62393705C4C](https://doc.arcgis.com/en/arcgis-online/share-maps/manage-hosted-feature-layers.htm#ESRI_SECTION1_736A1F3329BB46069CF1B62393705C4C)

## Enable pop-ups on hosted tile layers without feature data

[https://doc.arcgis.com/en/arcgis-online/create-maps/configure-pop-ups.htm#HOSTED\\_TILE\\_POPUPS](https://doc.arcgis.com/en/arcgis-online/create-maps/configure-pop-ups.htm#HOSTED_TILE_POPUPS)

## Publishing tiles from features

<https://www.esri.com/arcgis-blog/products/arcgis-online/mapping/publishing-tiles-from-features-efficient-automatic-and-economical/>

## FAQ: How do I optimize a web map for high demand?

<https://support.esri.com/en/knowledgebase/techarticles/detail/42840>



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