ArcGIS Online: Three-and-a-Half Ways to Create Tile Layers

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Agenda

1. Introduction
2. What is a tile layer
3. How a tile layer works
4. The 3 ½ ways to publish a tile layer
   - Including live demos and considerations for each method
5. Conclusion
6. Questions
What is a (raster) tile layer

• Arrangement of individual square images (tiles)

• Displays your data at a range of different scale levels

• Provides high-performance and high-scalability

• Can be used as a basemap or reference layer throughout the ArcGIS platform
  - Web (ArcGIS Online, Portal for ArcGIS)
  - Desktop (ArcGIS Pro)
  - Mobile (Collector for ArcGIS)
How a tile layer works

Level 0
World
San Diego Convention Center

Level 5
California, USA

Level 15

Level $\ell$
The 3 ½ ways to create a tile layer

1. Upload tile package (.tpk) to ArcGIS Online
2. Define and publish a map in ArcGIS Pro
3. Publish hosted tile layer from an existing hosted feature layer and…
   a. Automatically generate tiles (Dynamic) or
   b. Manually generate tiles
Method 1:
Upload tile package (.tpk) to ArcGIS Online
Method 1: Upload tile package (.tpk) to ArcGIS Online

Considerations:

- Many ways to build tile packages, we only focused on one
- Does not use ArcGIS Online credits to generate tiles
- Reliant on machine resources as the tile package is being published to local machine first
- Tile package should not be deleted if you wish to take tile layer offline
Method 2:
Define and publish a map in ArcGIS Pro
Method 2: Define and publish a map in ArcGIS Pro

Considerations:

• This method uses ArcGIS Online credits to generate tiles at a rate of 1 credit per 10,000 tiles

• Speed and bandwidth of your internet connection will affect how quickly the tile layer publishes
Method 3:
Publish hosted tile layer from existing hosted feature layer and...

a) automatically generate tiles (Dynamic)
b) manually generate tiles
Method 3: Publish hosted tile layer from existing hosted feature layer

What you should do prior to publishing:

• Set scale range
• Configure styling
• Disable labels
  - Automatic tiles are not available if source feature layer is configured with labels
  - Must use manual option if you cannot disable labels
• Configure pop-ups (if needed)
• Configure a view definition to filter features
Method 3: Publish hosted tile layer from existing hosted feature layer

Considerations:

• Hosted tile layer can be kept up to date with edits made in source hosted feature layer

• Cannot overwrite a hosted feature layer that has a related hosted tile layer

• Tile generation uses credits, including when tiles are regenerated due to changes in source feature layer
Conclusion

- Tile layers provide fast visualization of data using a collection of pre-drawn map images (tiles)

- Ideal for large datasets due to increased drawing speed and lower storage costs compared to feature layers

- Considerations should be reviewed before deciding which method to use
Can any of your ArcGIS Online maps benefit from tile layers?
Creation of first tile layer (1969)
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