Esri International User Conference | **San Diego, CA**

Technical Workshops | **July 12th, 2011**

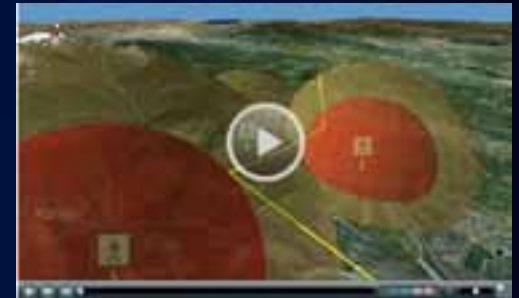# Publishing 3D Globe Services

Nathan Shephard

Karen Zwicker

Why create 3D Globe services…

- **Sharing can often be done <u>without</u> services**
  - Screenshots
  - Exported videos

- **You need 3D Globe services when:**
  - The content makes more sense in 3D
    - Elevation surface, 3D objects, …
  - Your users need direct access to the data
    - Interactive investigation (measure, identify)
    - Basemap / background content for
      other GIS data

How do I create 3D Globe services?

- **Start with a good ArcGlobe document (.3dd)**
  - Search for "optimization" in the Desktop Help
  - Use Templates from the 3D GIS Resource Center
  - Tech Workshop on Thursday afternoon
- **Publish the 3dd to an existing ArcGIS Server**
  - Where required, fully cache the service

- **TIPS**
  - You can only publish from ArcGlobe
  - You cannot republish existing services
  - Each layer in the 3dd is like it's own service

3D Globe services – 3 subtypes

- Elevation
  - Surfaces, such as the ground or geology
- Vector
  - 3D objects, such as buildings or trees
- Rasterized / Image
  - Rasters, such as imagery or draped counties

- Animations
  - Fly-throughs and layer animations

You can publish all these in one workflow…

Globe document should be streamlined

- **Remove layers you can't / won't publish**
  - All service layers
  - Background layers
- **Make the 3D view as fast as possible**
- **Use the Desktop Help by searching**

  for "optimization"
  - Optimizing ArcGlobe
  - Optimizing ArcScene
 - Optimizing 3D multipatch layers
  - Etc…

DEM layer authoring

- **Local DEM data can really improve the view**
- **Needs to be an Elevation layer (in Authoring tab)**
- **Will only be shown as part of the elevation mesh**
- **Note: the mesh will only display with:**
  - **No visible Draped layers, and**
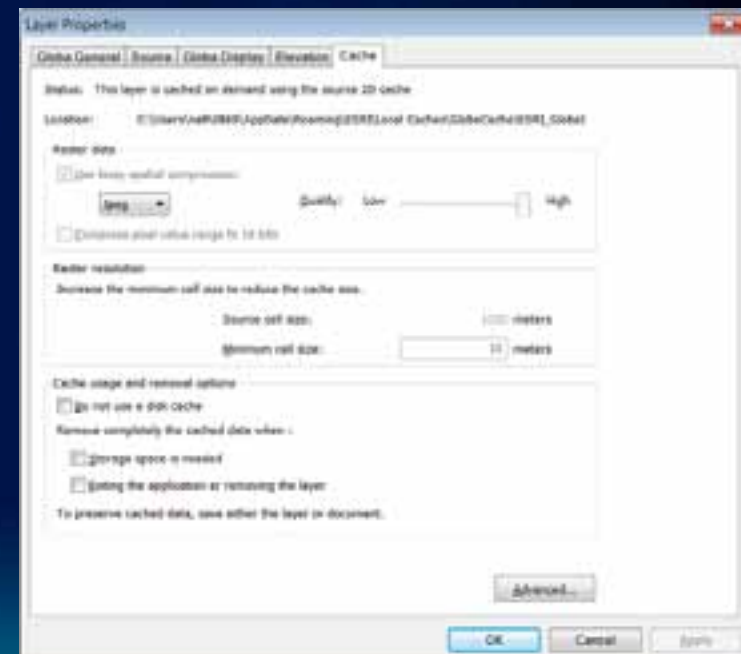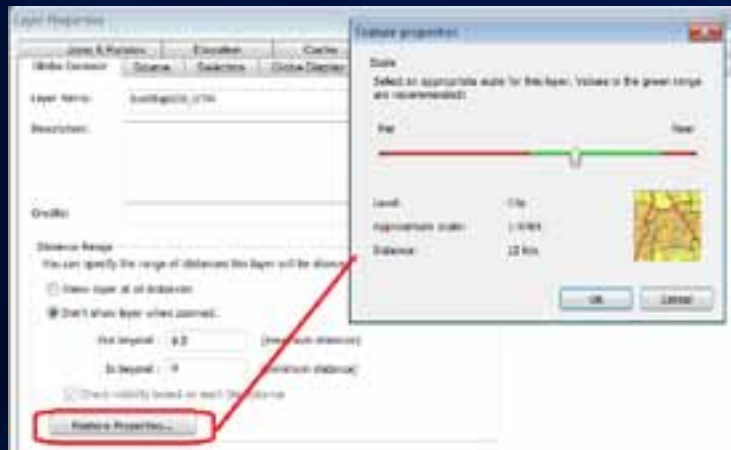 - **The mesh option enabled on the Default Layers tab of the ArcGlobe Options dialog**
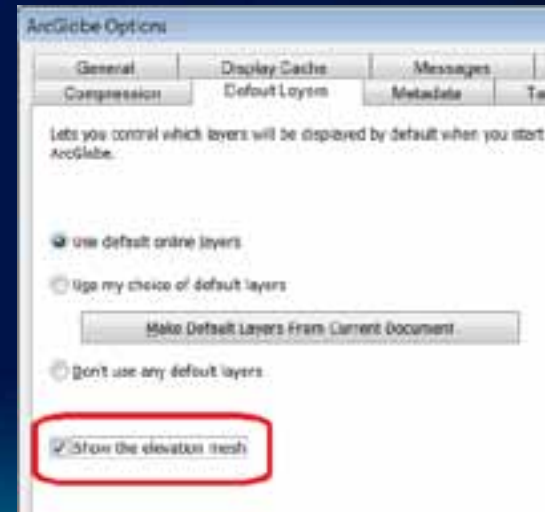
Animations

- **There are many types of animations**
  - **Camera / Fly-bys**
  - **Layer**
  - **Environment**
  - **Time**
- **Learn more about them in the Help**
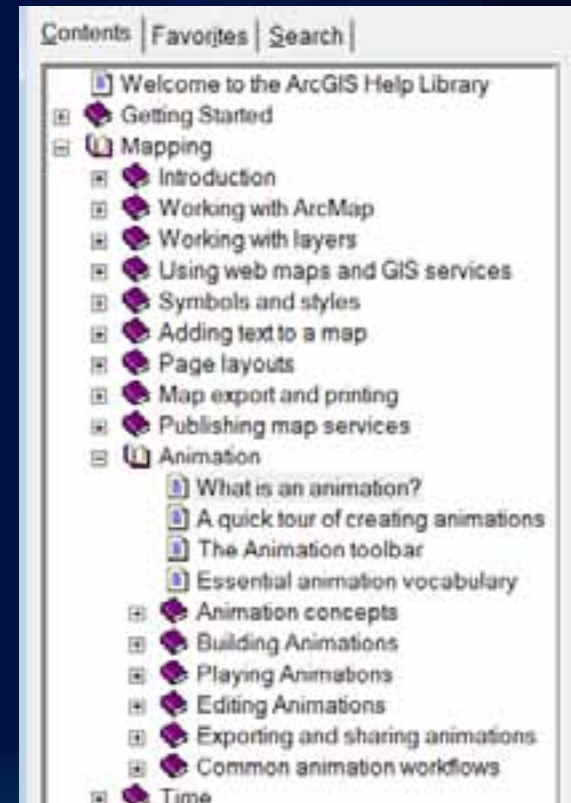
Caching properties

- **Caching properties are available per layer**
- **Cache tile size is on the General tab**
- **Other cache properties are on the Cache tab**

Save the ArcGlobe document

- **When you publish you specify a 3DD document**
- **All layers within the 3DD document will be published**
  - A folder is created for the 3DD file
  - Sub-entries are created for each layer
- **Animations are also stored in 3DD files…**

Connect to the server

- **Connect to your GIS Server (Catalog Window)**
 - **Use the 'Manage' option (so you can add/remove svcs)**
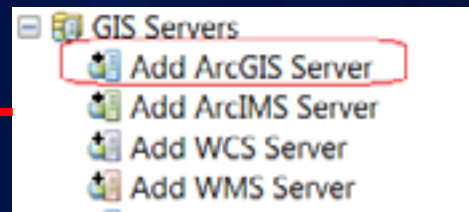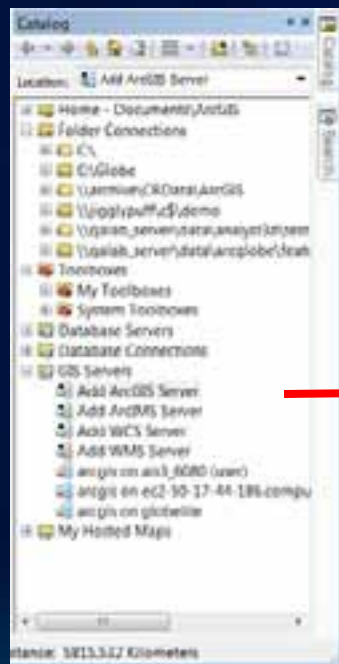
Publishing

- Publishing is done from the ArcGlobe document

- Navigate to and right click the 3DD file

  - "Publish to ArcGIS Server"

- The defaults properties are usually OK, and you can change most of them later, if needed

Caching on the server

- **Property pages on the service allow updating of important service properties**

- **Building full data caches is required for elevation surfaces to avoid seaming / splits between different level-of-details in the tiles**

- **Full caches are also recommended for vector-based 3D services (eg: buildings, street furniture)**

Who can use 3D Globe services?

- **Any globe-enabled ArcGIS client**
  - **ArcGlobe**
  - **ArcGIS Engine applications that use the GlobeControl**
  - **ArcGIS Explorer (free)**
  - **ArcReader (free)**
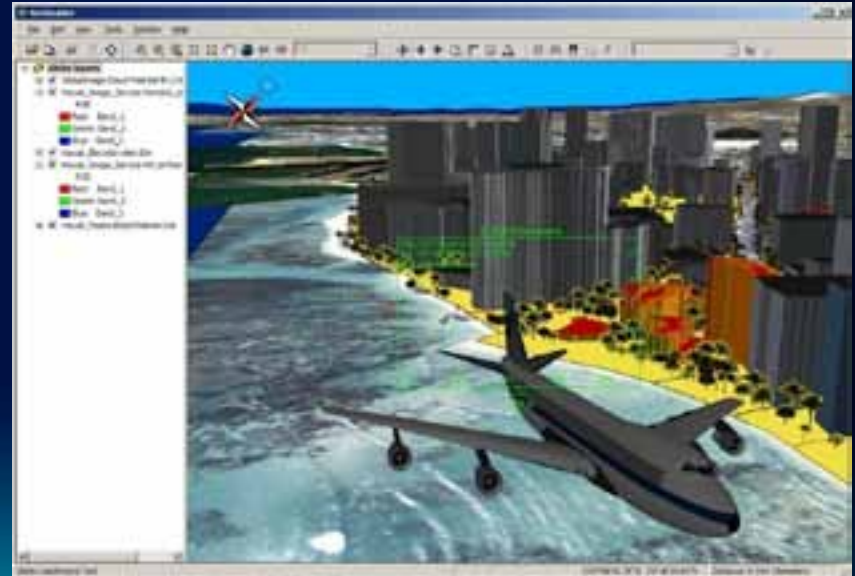
Questions?

Please fill in your surveys

www.esri.com/sessionevals