Mosaic Datasets
ArcGIS Imagery Information Model

• The Mosaic Dataset is the primary information model component which manages massive collections of imagery

• It’s role is to provide...
  - an image library for management (cataloging, indexing, metadata, searching,…)
  - dynamic, on-the-fly, product generation (mosaicking, processing and analysis)
  - a workflow to shorten the time from sensor to use (quickly ingest, dynamic product immediately available)

• Scalable (1 to millions of images)
• Homogeneous or heterogeneous collections (one sensor or a mix)
• Dynamic product generation for visualization or analysis
Mosaic Datasets
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• Building Mosaic Datasets
  - Geoprocessing: Tools, Models, and Scripts that can be automated
  - 25 + GP tools to handle:
    - Creation
    - Optimization
    - Processing
    - Color Balancing
    - Seamlines
    - Synchronization
    - and more
Dynamic Mosaicking
Mosaicking Multiple Images On Demand

• Mosaic imagery from multiple tiles
• User can query mosaic
  • Season = Summer
On-The-Fly Processing
Creating Multiple Products from a Single Source

• Processes
  - Extract Bands
  - Hillshade, Shaded Relief
  - Stretch

• Applied to
  - Individual rasters
  - Complete Mosaic
Raster Function
ArcGIS Imagery Information Model

Image → Pixel Block → Raster Function → Visualization or Analytical “Virtual” Product

Raster Function “Chain” → Cache or New Image

Screen Desktop, Mobile, Web
Mosaic Datasets
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- Model for managing and serving collections of images with multiple products from single source rasters or images.
- Processing is attached to Mosaic Datasets as Templates or built directly on the Mosaic Dataset.
- Once published they are immediately available when accessing the Web Image Layer in your portal.
DEMO

Building and working with Mosaic Datasets
Sharing Mosaic Datasets by Value

- **Share by Value**

  - Imagery is copied to the ArcGIS Server configuration store (e.g. C:\arcgisserver\config-store\services)

  - Data will be converted into File Geodatabase

  - **NOT** recommended for large image collections
Sharing Mosaic Datasets by Reference

- **Share by reference**
  - Register a file share and/or enterprise geodatabase(s) with the server data store
  - Data is **not moved**
  - Recommended for publishing mosaic dataset or large single images or large single raster data
• Sharing Mosaic Datasets as Web Image Layers is easy!
  - Requires Publisher role or higher
  - Must publish to a Portal
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• Processing on Mosaic Datasets
  - Individual items inside the Mosaic Dataset
  - Directly on the Mosaic Dataset
  - Attached as Templates
DEMO
Building and working with Mosaic Datasets
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