

How to Manage Raster Images using ArcGIS Mosaic Dataset


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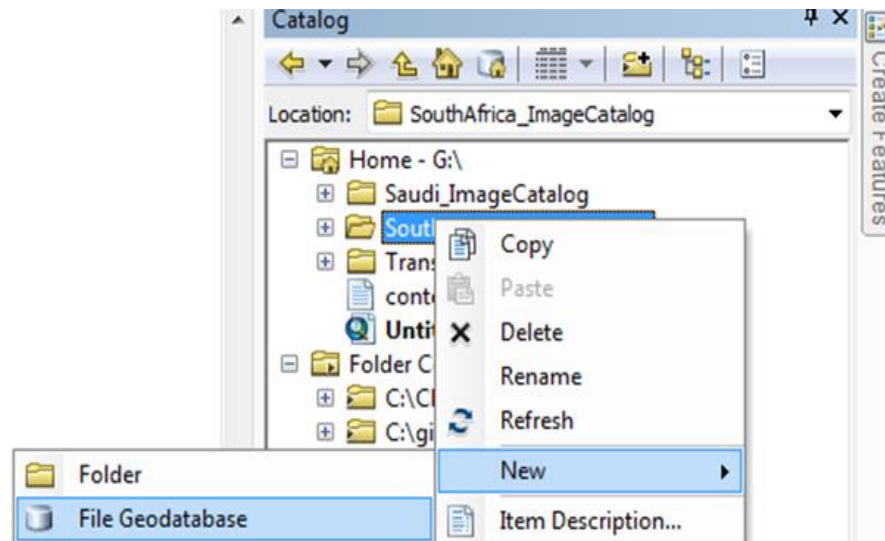
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This tutorial describes the process of organizing and managing a collection of imagery and rasters in ArcGIS using Mosaic Dataset toolset.

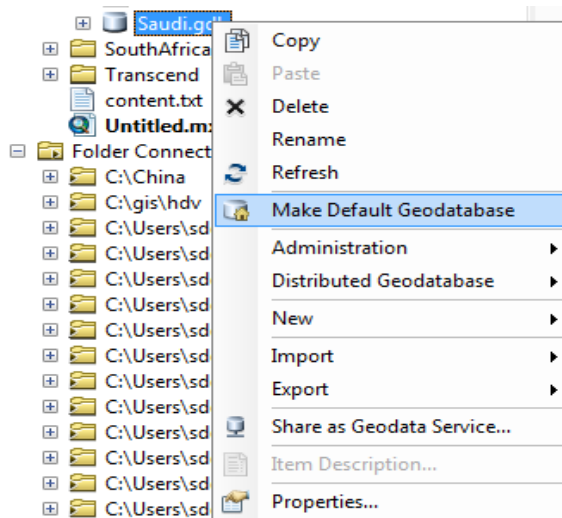
I. The steps to create a Mosaic Dataset where the raster data is stored outside the geodatabase:

1. Create a file geodatabase:

- a. Open a new **ArcMap** window.
- b. Click the **Catalog** button  on the Standard toolbar This opens the Catalog window.
- c. Right-click the folder where the images are stored and click **New > File Geodatabase**.

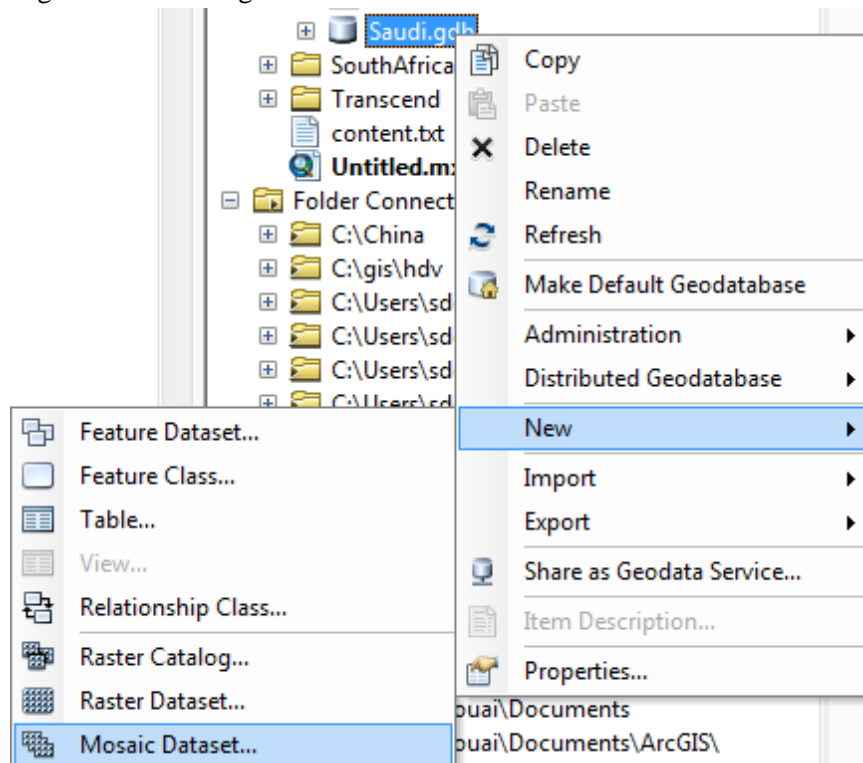


- d. Give a new name to your file geodatabase.
- e. Right-click the new file geodatabase and click Make> **Default Geodatabase**.



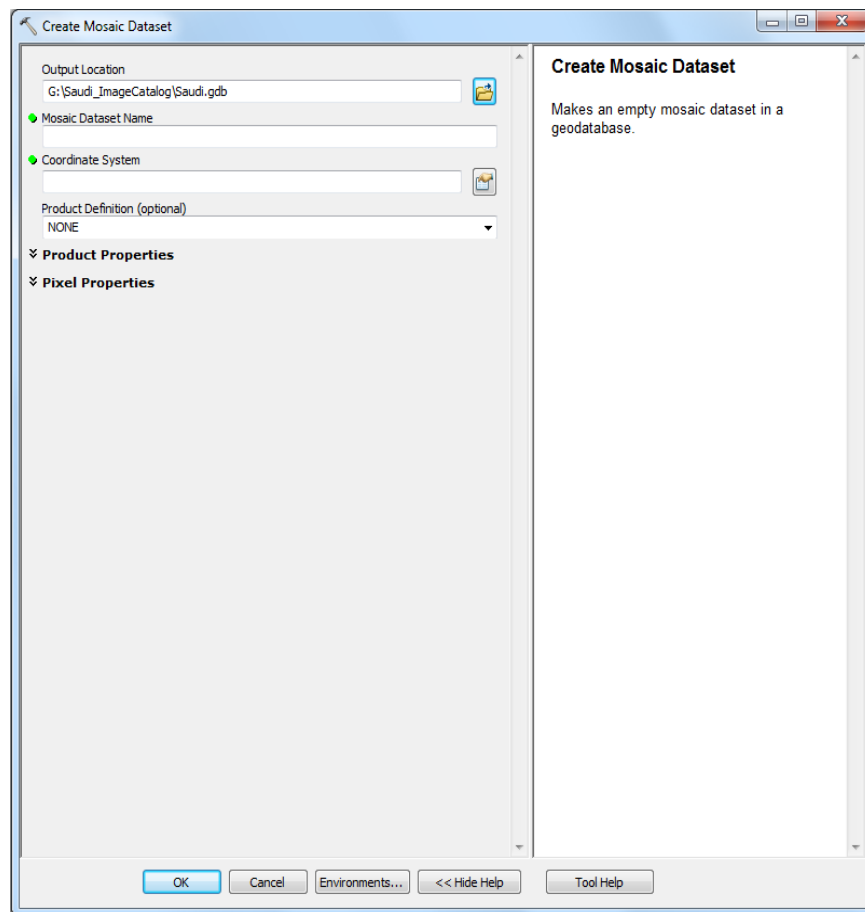
2. Create a new empty mosaic dataset:

- a. Right-click the file geodatabase and click **New > Mosaic Dataset**.

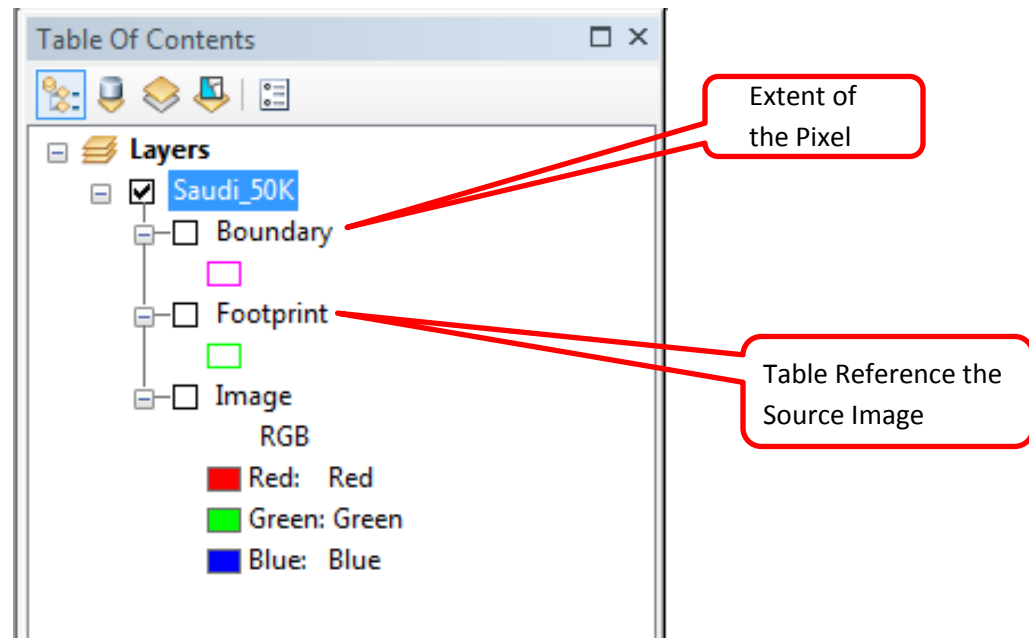


- b. Type a name for the mosaic dataset.
- c. Click the coordinate system button to select your coordinate. Note: if you are not sure which coordinate system to choose-click add **coordinate button > import the coordinate system from your raster images**.
- d. Leave everything as it is and click ok to create an empty mosaic.

Important : if you are working with a collection of rasters for many years such as (1997, 1998, 1999, 2000, 2001, 2002, 2003 and 2004). In this case you will need to create eight mosaic datasets – one of each year and one master mosaic that contain all the years.

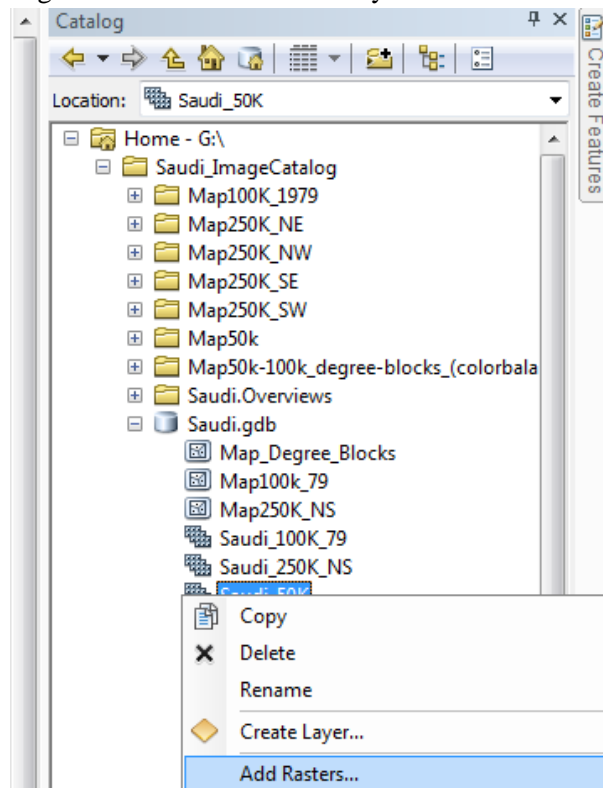


- e. Once the process is complete a mosaic dataset is added to the table of contents, it contains three layers boundary, footprint and image.

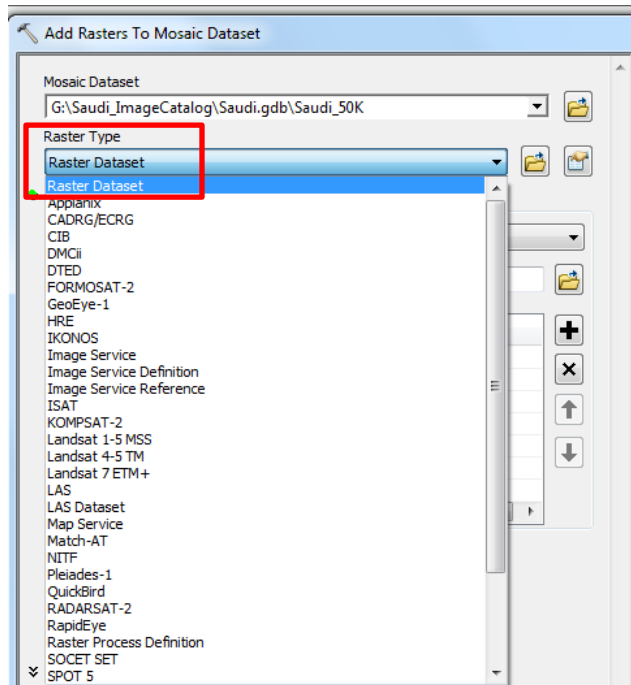


3. Add data to the mosaic dataset:

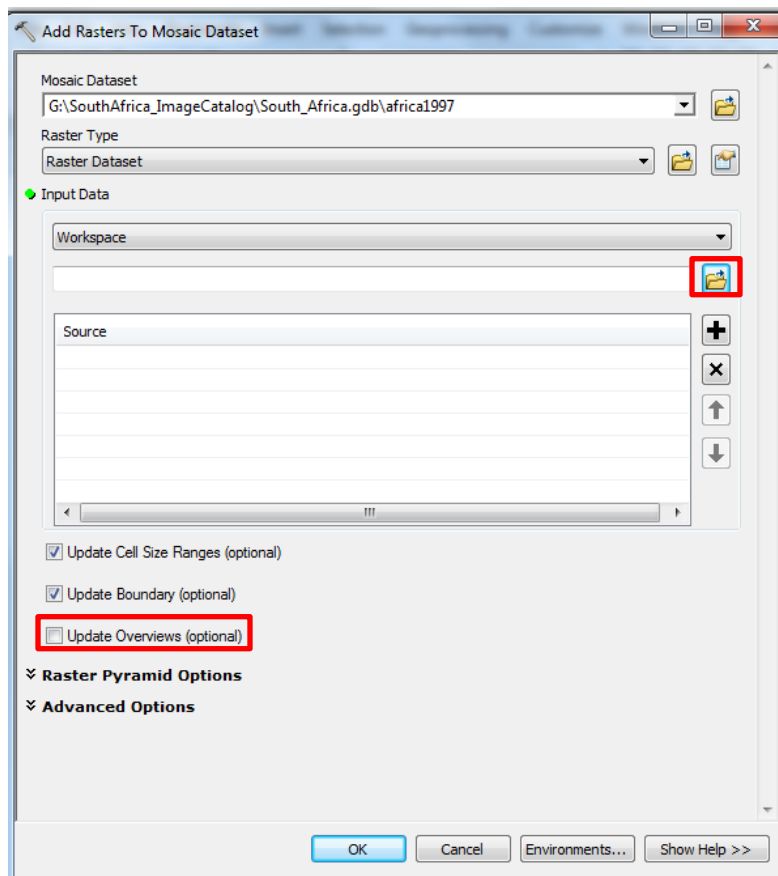
- a. Right-click the mosaic dataset you created in **Arc Catalog** and click add rasters .



- b. In the raster type list select raster date type. The raster type refers to all kinds of raster format that is supported by **ArcGIS**.



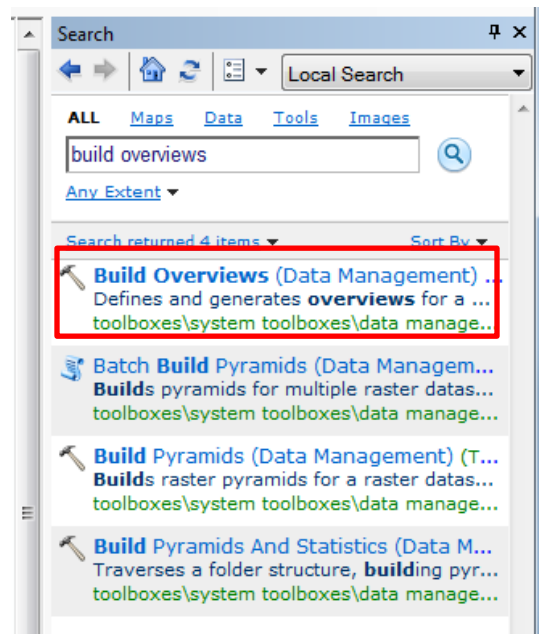
- c. Click the browse button to navigate to the folder where your input raster data .

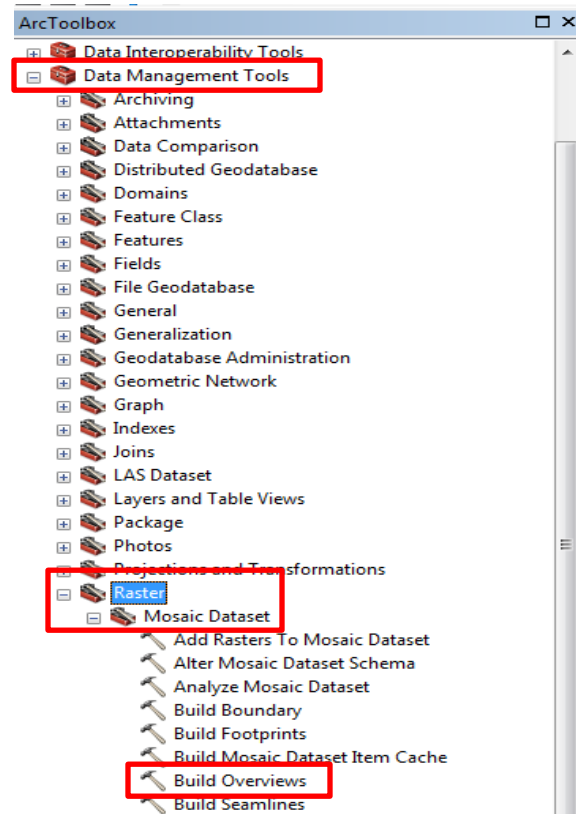


- d. After adding your images to the mosaic datasets check >**Update Overviews** and click ok to run the add raster tool.

Important : Overviews are references of the source raster, when overviews are generated it allow you to display all rasters contained in the entire mosaic datasets. Without overviews you cannot view the rasters.

- e. If you run the add raster tool without updating overviews there is another tool to build overviews.
- f. Open the search window, write build overviews and click search. Once the search is complete click the first tool > **Build Overviews (Data Management)**. Or you can directly access the tool from ArcToolbox >**ArcToolbox - Data Management Tools – Rasters – Mosaic Datasets – Build Overviews**.





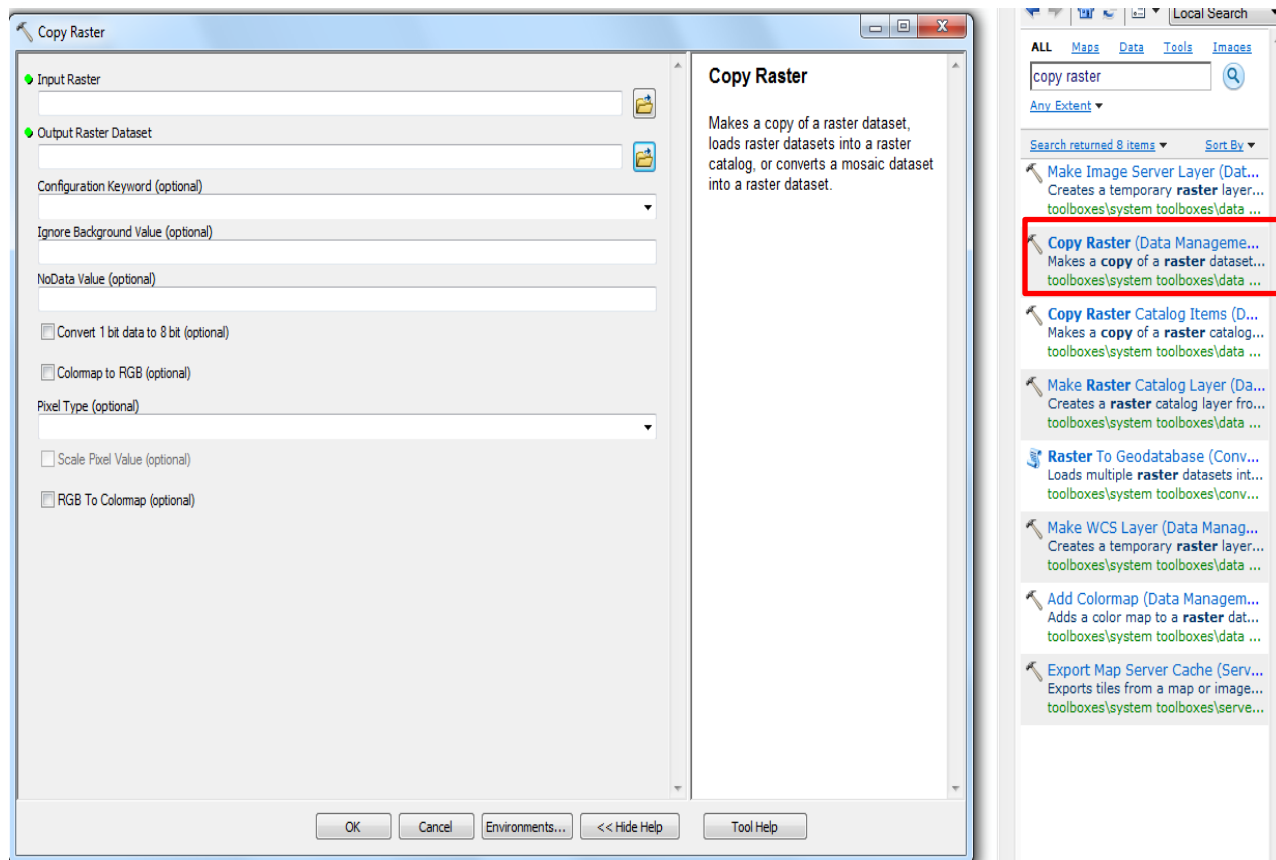
Note: In this first approach the raster data is stored outside the geodatabase, but have a reference image stored as file in the attribute table.

II. The steps to create a Mosaic Dataset where the raster data is stored within the geodatabase.

1. **Create a file geodatabase.**
2. **Import the raster data into the geodatabase.**

Raster data can be imported to the geodatabase in many ways:

- a. Right-click the geodatabase file and click > **Import-Raster Datasets.**
- b. Use >**Copy-Raster** form the raster tool or the search window.



The following steps are the same as the first approach.

Note: In this approach the raster data is stored within the geodatabase and have a reference image stored within the geodatabase also.