

Tutorial Set 1: Working with ArcGIS

Exercise Site20_1-2 Clipping data to field boundary

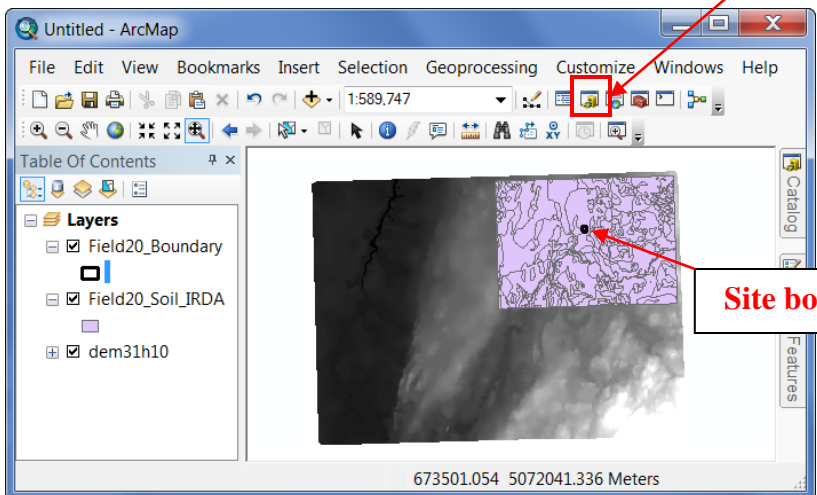
Learning objective: 1. Masking data outside of study boundary
2. Clipping raster and vector data

Techniques: 1. Layers > Properties > Data frame > Clip Option
2. Export Data
3. ArcToolbox > Data Management > Clip

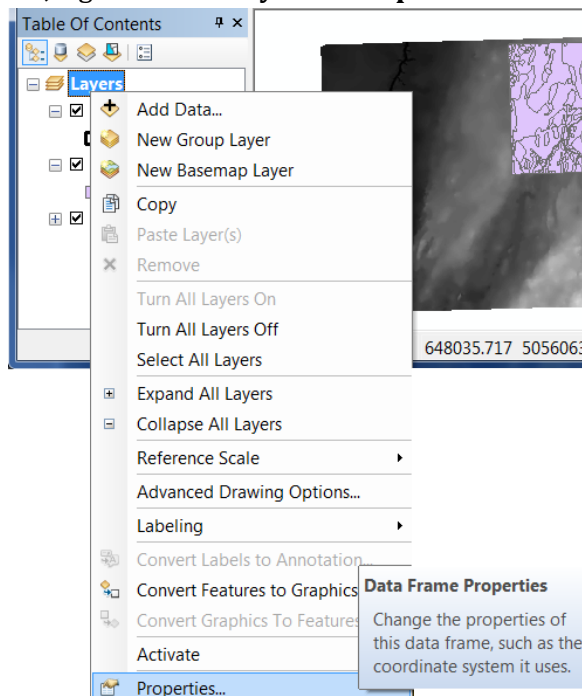
Data Source: Dataset1

Part 1: Displaying data within the field/study site boundary, i.e., Field20_Boundary

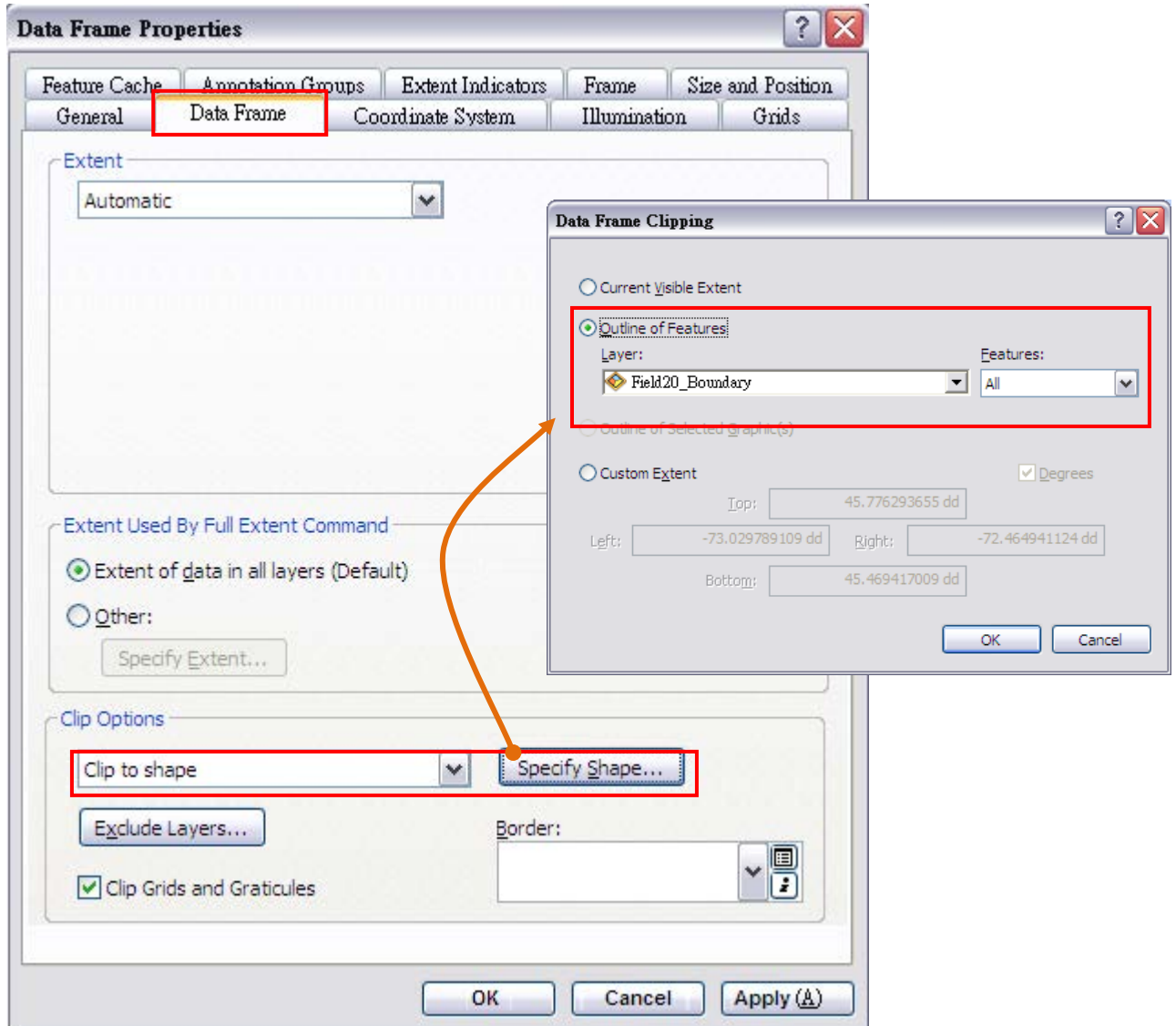
1. Create a new ArcMap document (Open a ArcMap). From ArcMap click **Catalog** icon to open ArcCatalog. In the Catalog, click **Folder Connections>...Dataset1** and bring/open three data layers (Field20_Boundary.shp, Field20_Soil_IRDA.shp, and dem31h10) from (into ArcMap):



2. In ArcMap **Table of Contents**, right click on **Layers > Properties**.



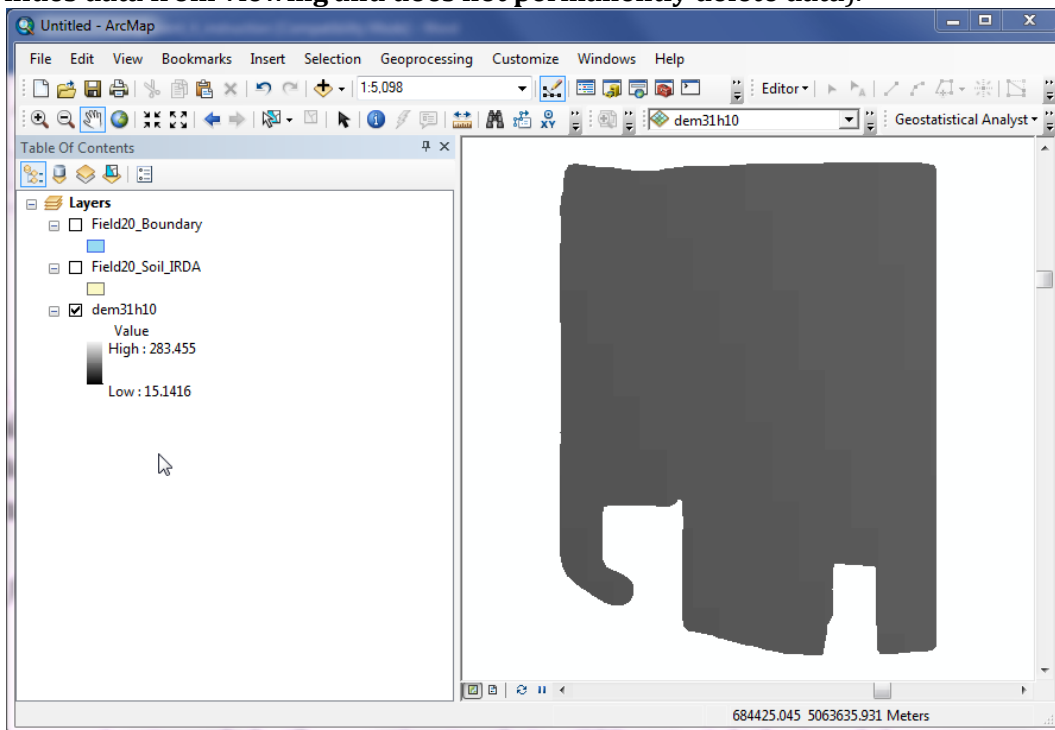
3. From **Data Frame Properties** dialog window, choose **Data Frame** tab
4. In **Clip Options**, choose **Clip to shape**, and then click **Specify Shape**.
5. In **Data Frame Clipping** dialog window, choose **Outline of Features**,
Select **Layer** = **Field20_Boundary** and then click **Apply** and **OK**.



6. Right click on the **Field20_Boundary** in the **Table of Contents** and select **Zoom To Layer**.
7. Checkbox off only for Field20_Boundary and Field20_Soil_IRDA

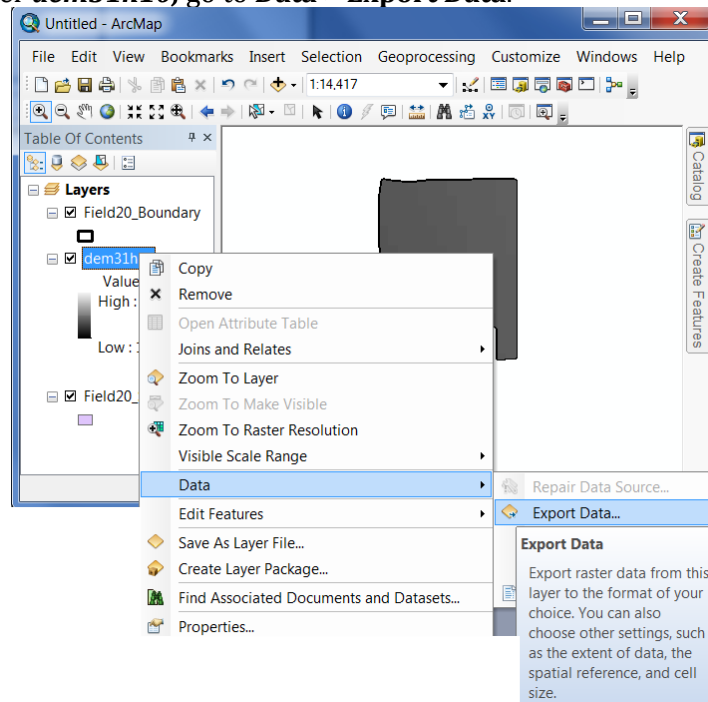
Now, the feature layers only show the data within the boundary of **Field20_Boundary.shp**.

8. Data outside of the site boundary is excluded from the view (**note: this technique only hides data from viewing and does not permanently delete data**).

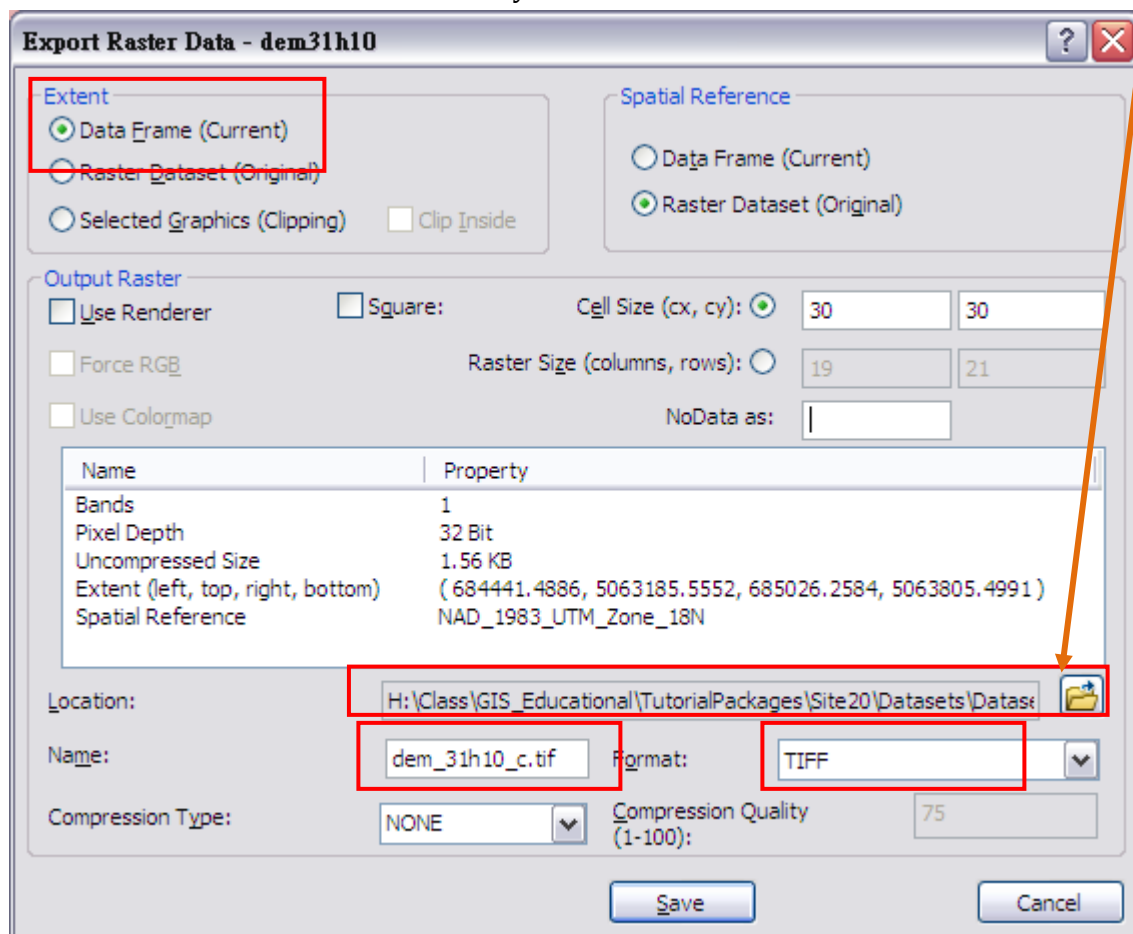


Part 2: Permanently clipping raster data

1. Now, while the viewing extent is limit to the outline of **Field20_Boundary.shp**, right click on the raster layer **dem31h10**, go to **Data > Export Data**.



2. In **Export Raster Data** dialog window, set the parameters as:
 - a. **Extent** : Data Frame (Current)
 - b. **Location** : select the Dataset1 folder > click add. (note: do not go inside the folder)
 - c. **Name** : **dem_31h10_c** (Write the file name in the space)
 - d. **Format** : TIFF
3. Click **Save** and then click **Yes** to add the layer to the viewer

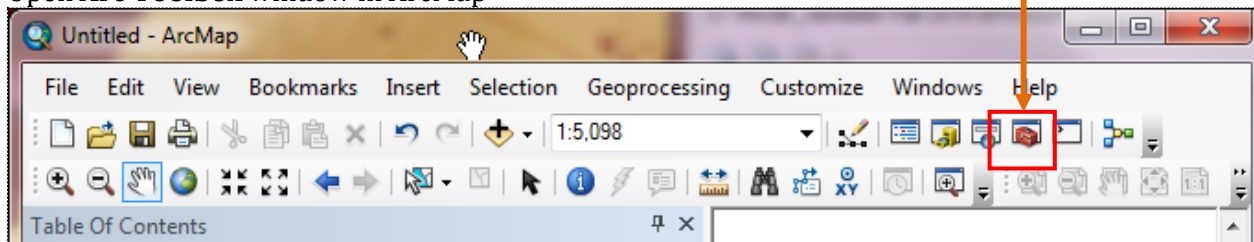


HINT:

- a. Currently the extent of the data frame is set to be **Field20_Boundary**. Therefore, setting the extent of exported raster to the current data frame will result in a new raster that fits the layer **Field20_Boundary**.
 - b. The exported raster should be located in the same folder as the rest of the dataset.
4. Now, create a copy of **Field20_Ortho_Q09928559_2008.tif** for analysis. In Catalog/ArcCatalog, Copy the *.tif file and paste in the same folder and rename it to **Field20_Ortho_Q09928559_2008_c.tif**

Part 3: Clipping vector data to site boundary

1. Open **Arc Toolbox** window in ArcMap



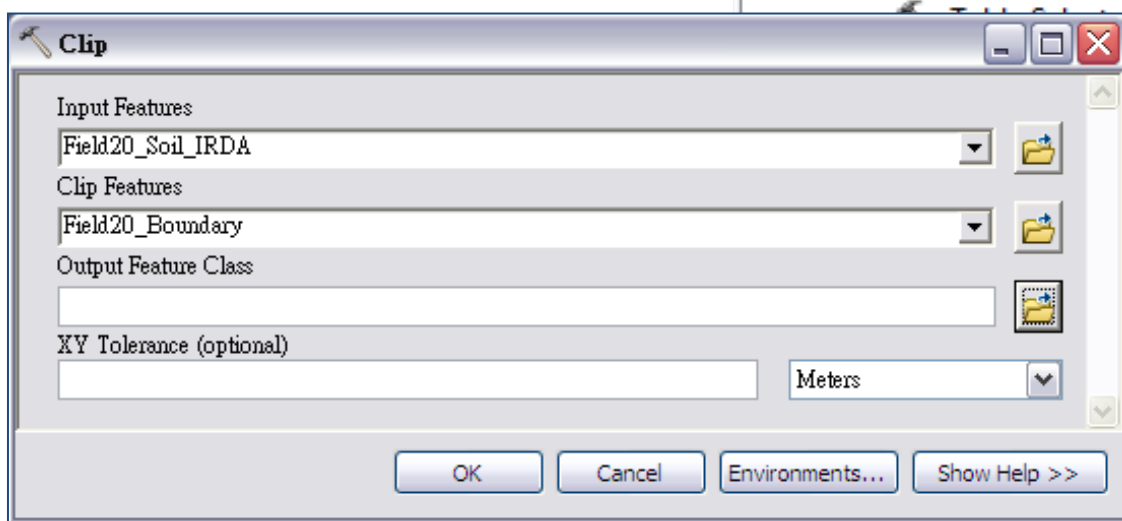
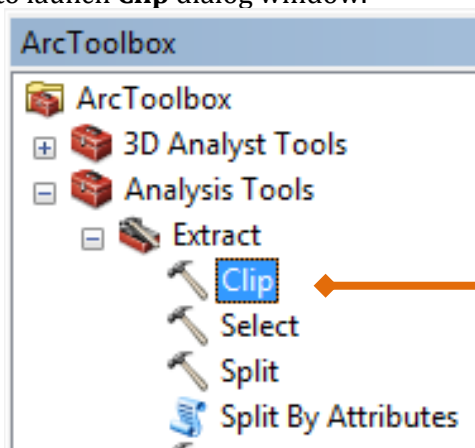
2. In **Arc Toolbox**, go to **Analysis Tools > Extract > Clip** to launch **Clip** dialog window. Set the parameters as shown in the image.

Note:

Input Features = Field20_Soil_IRDA
(Larger extent of the layer to be clipped)

Clip Features = Field20_Boundary
(The study boundary layer)

Output Feature Class = Field20_Soil_IRDA_C.shp
(Clipped shapefile stored in the folder of Dataset1)



3. Click **OK**
4. The new layer **Field20_Soil_IRDA_C.shp** within the study boundary is added to ArcMap.
5. Save the project.
6. Close the project