

Opening Canadian Digital Elevation Data Files in ArcMap 9.x

These procedures outline:

1. Downloading spatial data from the GeoBase website (accessed through the Ryerson University Library website)
2. Uncompressing files
3. Converting the DEM to a Raster format (grid file)

A. Introduction

The following procedure outlines the steps necessary for viewing Canadian Digital Elevation Data (CDED) using ArcMap 9.x. This particular digital elevation model (DEM) is based on the National Topographic Database (NTDB) at scales of 1:50,000 and 1:250,000 and is available from Natural Resources Canada (NRCan) through GeoBase.

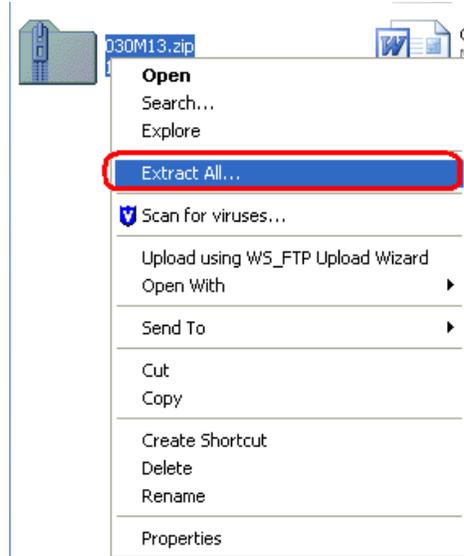
Note: In order to obtain these files, students must download the files from the GeoBase official Website:

1. Navigate to the **Ryerson University Library Website** (<http://www.ryerson.ca/library/>)
2. On the main page *click* **Map & Data Resources**
3. In the main menu on the left *click* **Geospatial Data**
4. In the main menu on the left *click* **Search Geospatial Resources**
5. In the search input box, type in **CDED**, then *click* **Search**
6. Scroll down to the search result with the title **Canadian Digital Elevation Data, Level 1 (CDED1)** and *click* on the title
7. Scroll down and *click* **Access is available via the World Wide Web**
8. In the ensuing screen *click* **English** or **French**
9. On the GeoBase main page, *click* the **Data** scroll down menu and select **Digital Elevation Data**.
10. *Click* **Download Data**
11. On the **Find Data** page, *click* the desired scale
12. On the **Data Selection** page, *click* the desired region to zoom in, and then *click* the desired tiles. **Note:** Each tile that is clicked appears in the text box below, thus multiple tiles can be selected. Once all of the desired tiles have been selected, *click* **Submit**.
13. *Click* the **http** download link next to one of the files.
14. In the ensuing screen, enter your name and password, and then *click* **Submit**. If you don't have an account with GeoBase, *click* **Register as a New User**, and follow the on screen instructions.
15. *Click* **Download File**. **Note:** If you had selected more than one tile, repeat steps 12 and 13 until all tiles have been downloaded. Once all of the downloading is complete exit the GeoBase website.
16. Once the file has been downloaded, browse to the location of the file and use **Extraction Wizard** to extract the file.

B. Uncompressing the Downloaded Files

As you may have noticed while downloading the files, the extension for all the files was **.zip**. This is a Zip file or compressed file. Files are stored in this format on the server to save space. The following section outlines the procedure for uncompressing these files.

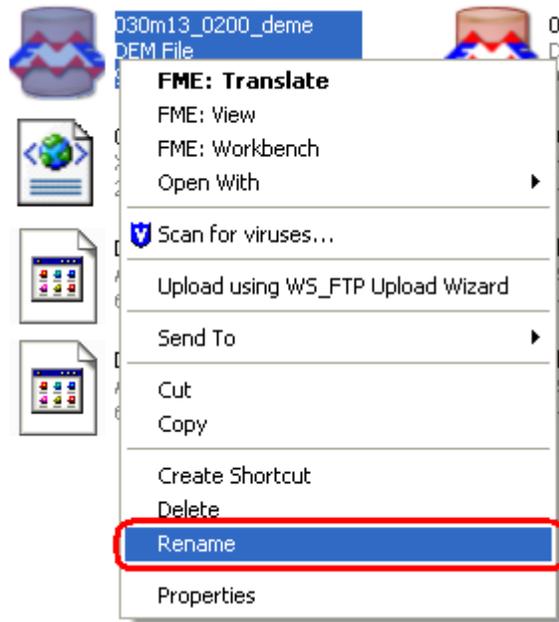
1. Browse to the location of the file.
2. *Right click* the desired file.
3. In the drop down menu, *click* **Extract All** and then follow the instructions in the **Extraction Wizard** for each downloaded file.



C. Understanding the data

The CDED data were produced using the Australian National University Digital Elevation Models software. The result is a file with similar properties to the United States Geological Survey digital elevation models. Before importing the CDED file you must define the file as ".dem". If the files already have a ".dem" extension then skip to **Section D**.

1. Browse to the location of the saved file.
2. *Double click* the folder containing the CDED DEM.
3. If the DEM file does not have a ".dem" extension then *right click* the file then select **Rename** from the drop down menu.
4. For the files ending with the letters "deme" and the letters "demw" type in ".dem" following the name. **Note:** Do not change any other part of the existing name.

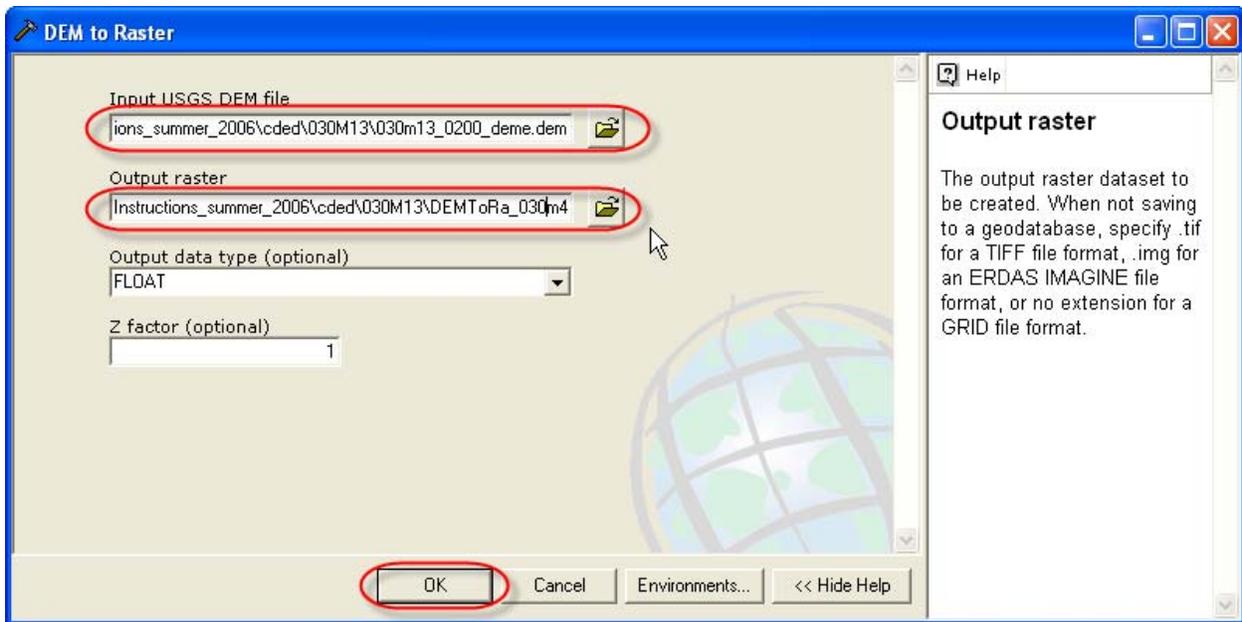


An example of a renamed file would be **030m13_0200_deme.dem**

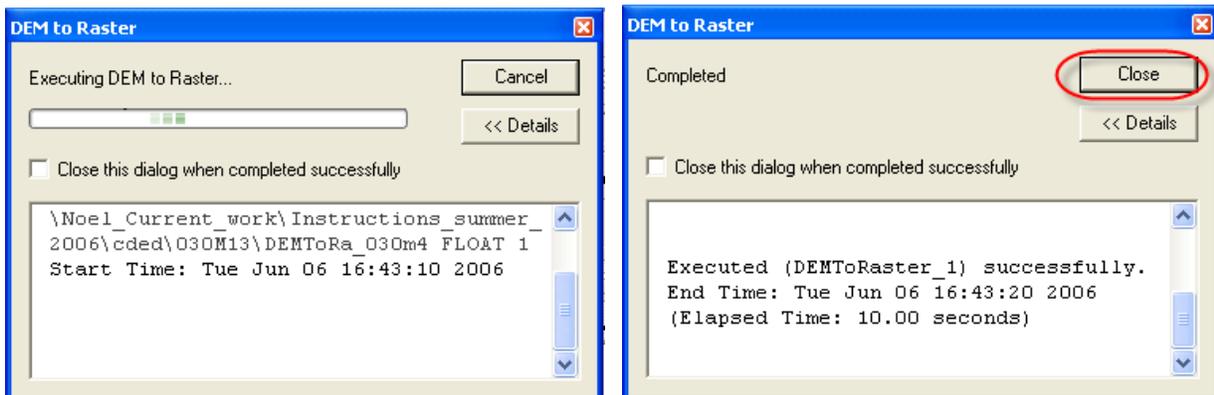
D. Converting the DEM to a Raster.

The original files are DEMs in USGS format that must be converted to a Raster format in order to be used in ArcMap. This process is completed using the DEM to Raster tool found in **ArcToolbox**.

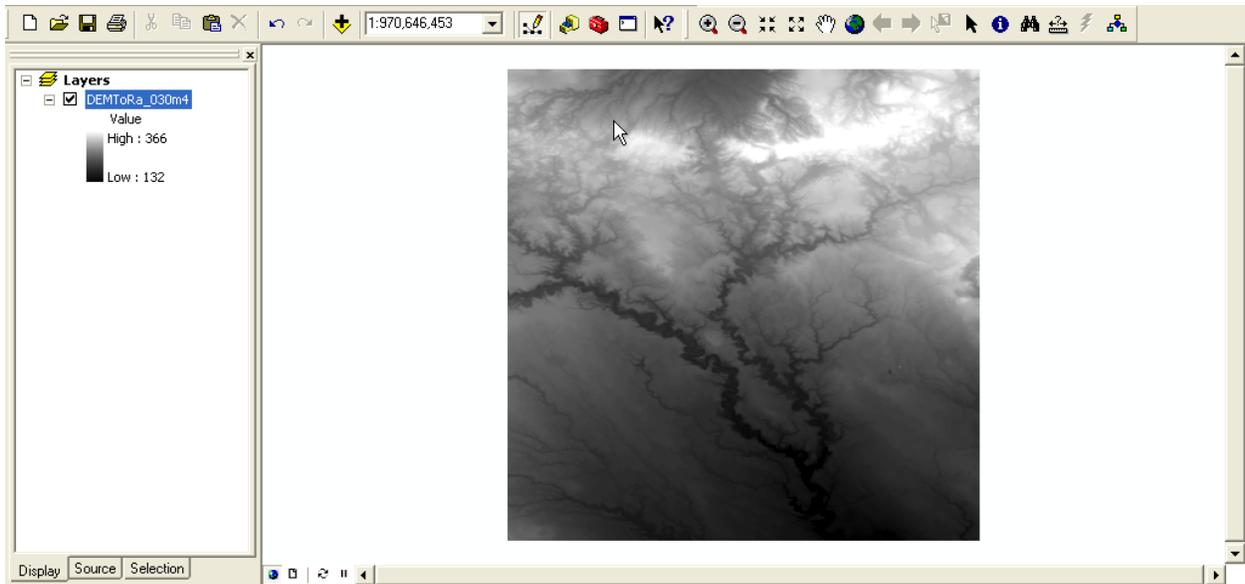
1. Open ArcMap. *Double-Click* on the **ArcMap 9.x** icon or *Select Start > Programs > ArcGIS > ArcMap*. ArcMap should automatically prompt the option to **Add Data**. *Click Cancel* in the bottom of the **Add Data** window.
2. Open **ArcToolbox**, by *clicking* the small red tool box button in the main menu .
3. In **ArcToolbox** scroll down and *click* **Conversion Tools > To Raster > DEM to Raster**. (*Double click* **DEM To Raster**). The **DEM to Raster** window will open.
4. Use the **Open Folder** button  to browse to the DEM in the **Input USGS DEM file** text box.
5. In the **Output Raster** text box use the **Open Folder** button  to browse to an appropriate location to store the new file. In addition, give the file a suitable name. Leave everything else in the **DEM to Raster** window the same, and then *click* **OK**.



6. Once the **DEM to Raster** task bar indicates that the conversion is complete, *click Close*.



7. Your new grid file will automatically appear in the data view.



The conversion is now complete. If you would like to merge this CDED grid file with another grid file then go back to the tutorial page found in the MADAR website and *click* on the **Opening and Merging Ontario Digital Elevation Model Files in ArcMap 9.0** tutorial. If you would like to view the CDED DEM in 3D then *click* on the **Viewing CDED DEM data in 3D using ArcScene** tutorial.