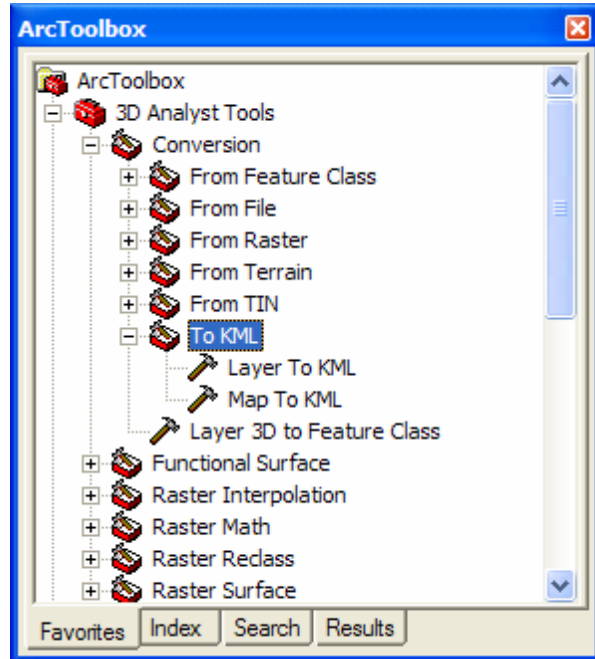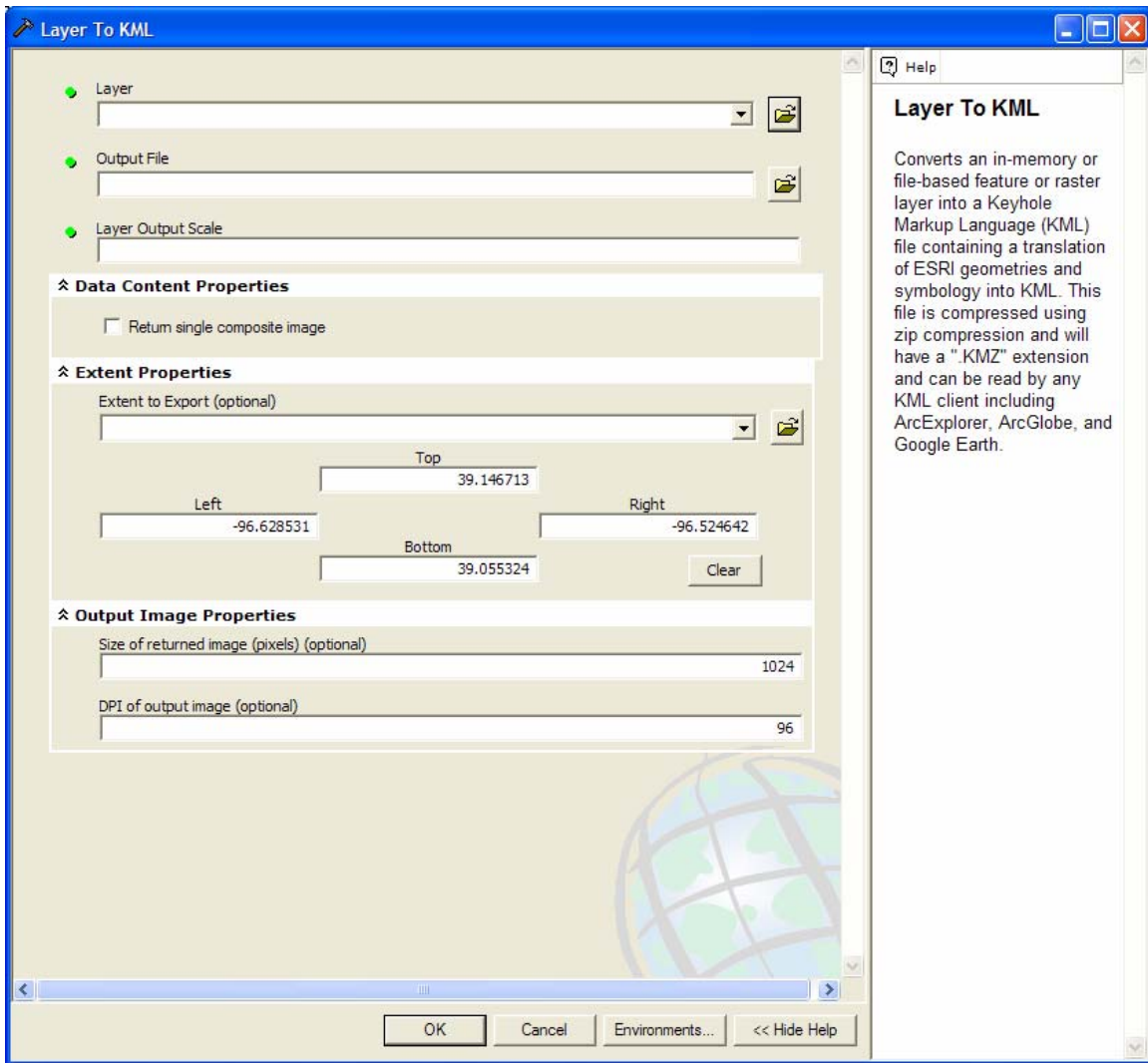Title: Exporting to Google Earth Protocol
Prepared by: Adam Skibbe
Date: 4/20/07
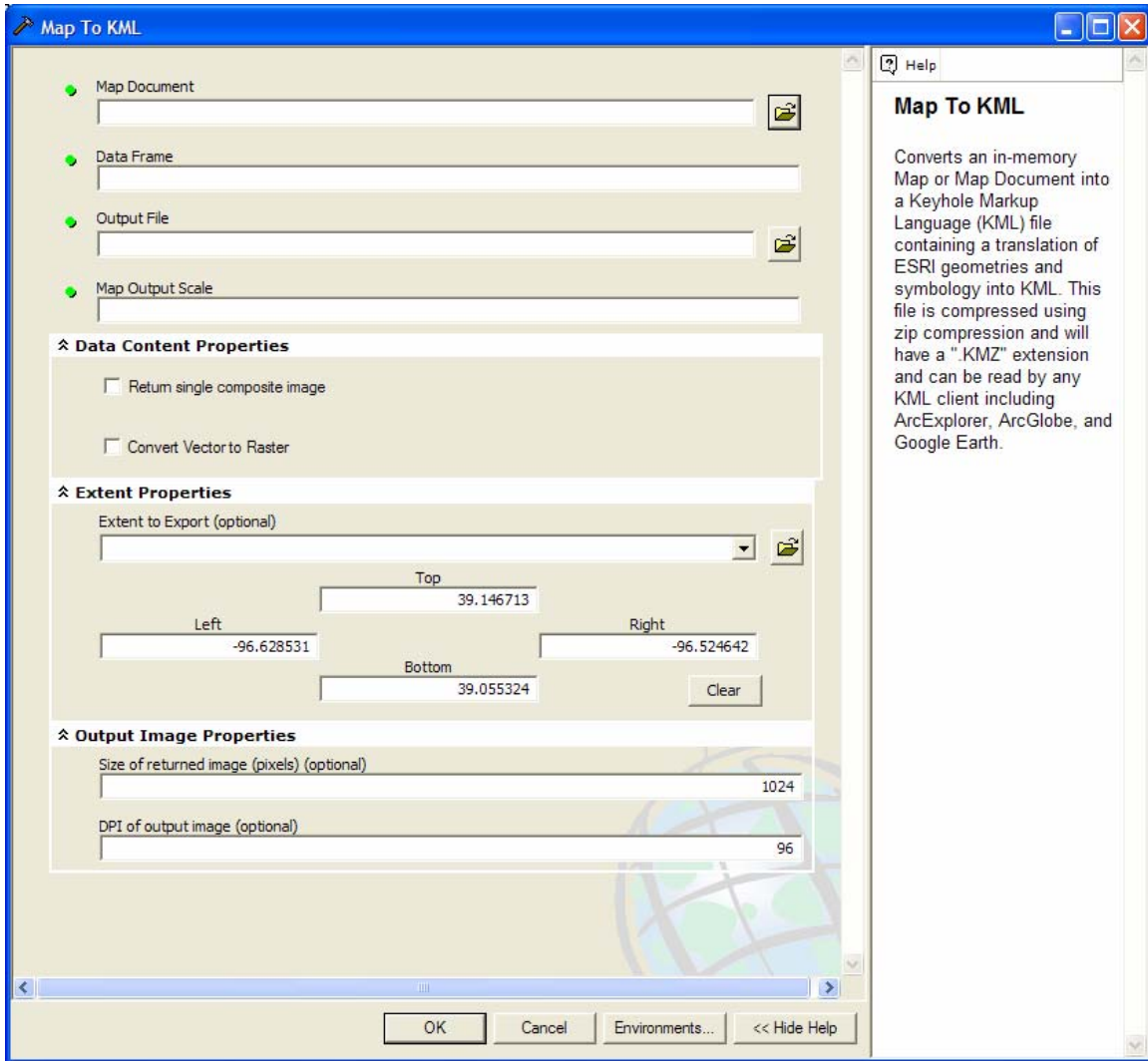
Google Earth is a free tool for visualization (2D and 3D) of geographic data (http://earth.google.com/). ArcGIS 9.2 supports the exportation of geographic data to Keyhole Markup Language files (KML) for use with Google Earth, thus enabling users an easy to distribute, interactive 3D visualization end product. ArcGIS 9.2 has integrated 2 tools, Layer to KML and Map to KML, for exporting content.

The Layer to KML tool can be used to convert a layer (shapefile, feature class, etc.) to KML. Files are exported in the .KMZ format, which is a compressed KML format, useable in Google Earth. This tool requires the user to identify the source layer, the output location, and an output scale.  Note: It is suggested using "1" as the output scale. The additional parameters are not required and include a variety of extent and output options.  The "Return single composite image" option under "Data Content Properties" converts vector based layers to raster.  This option is particularly useful as  Google Earth is unable to "label" features in the way that the ESRI software does.  When using this option you should also set the "Output Image Properties".  I suggest using 4X the preset values for image size and DPI (4096 and 384 respectively) to allow for a sharper raster layer.

The Layer to KML tool can be used to convert a layer (shapefile, feature class, etc.) to KML. Files are exported in the .KMZ format, which is a compressed KML format, useable in Google Earth. This tool requires the user to identify the source layer, the output location, and an output scale. Additionally, make sure that layer files (if being loaded from the map document) are turned on, otherwise they may not export properly. Note: It is suggested using "1" as the output scale. The additional parameters are not required and include a variety of extent and output options. The "Return single composite image" option under "Data Content Properties" converts vector based layers to raster. This option is particularly useful as Google Earth is unable to "label" features in the way that the ESRI software does. When using this option you should also set the "Output Image Properties". I suggest using 4X the preset values for image size and DPI (4096 and 384 respectively) to allow for a sharper raster layer.

The Map to KML tool can be used to convert an entire ArcMap project file (.mxd) to KML. The main requirements for the tool are the same with the addition of "Data Frame", which sets its own default. The additional parameters are the same also, with the addition of "convert vector to raster" which simply returns vector layers as raster based KML files. To make this tool work you must first have the project file set up and saved as you want it exported. Only layers which you want exported should be turned on as you do not have any control over that in this tool. For settings see the comments above on the Layer to KML tool.