## Conversion Steps for Various Formats

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## Converting to Shapefiles and Geodatabase

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| Geodatabase to shapefile* Open ArcCatalog and navigate to the feature class which you would like to convert to a shapefile
* Right click on the feature class and select Export > To shapefile (single)…
* Name the shapefile according to the guidance in Naming Convention
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| KML/KMZ to shapefile/feature classThere are many different methods for converting KML/KMZ to shapefiles, some work better than others and/or work for specific KML/KMZ and not others. To date no single preferred method has been identified. Please submit suggested alternative methods as feedback to this document.**Tip:** A KMZ is a zipped KML file which may include images, icons, overlays, etc. used in the original creation of the KML. If you change the extension from KMZ to ZIP, the file will open in any program capable of reading zipped files. |

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| ArcGIS 10Use the Conversion tool in the ArcGIS 10x toolbox.  |

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| DNRGarmin App and Extension for ArcGIS 9xThis tool has been around since the ArcView 3x days. It has various tools for displaying real-time GPS location in ArcGIS, and converting data between Shapefile, KML, and GPS formats. It also will connect to most Garming GPS Receivers and upload/download data. [Information and downloads](http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html). |

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| ArcGIS Interoperability ExtensionThe ArcGIS Interoperability extension allows for easy conversion of various geographic data to a shapefile or feature class. If a license is available, the extension may be accessed through ArcToolbox under Data Interoperability Tools. |

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| Global Mapper[Global Mapper](http://www.globalmapper.com/) is a commercial mapping software which can be used to convert from KML/KMZ to shapefiles and works great with most KML/KMZ. The software is not free, though a free trial is available. |

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| KML to SHP[Kml2shp](http://arcscripts.esri.com/details.asp?dbid=14980) is a free program which can be added and used in ArcToolbox however it does not work for all KML/KMZ, especially those with extensive attribute information and/or symbology. [An online version of the tool](http://www.zonums.com/online/kml2shp.php) is also available and the same site offers several other KML converters. |

### Converting to KML/KMZ

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| In ArcGISThis method is preferred if you would like to preserve the symbology used in ArcGIS.* Open ArcToolbox
* Go to Conversion Tools > to KML > Layer to KML
* Select the layer to be converted to KML and set the output scale to 1\*

*\*Layer Output Scale is the scale at which to export the layer. Any scale-dependent rendering will be observed, so if the layer is not visible at the export scale, it will not be included in the created KML file. The symbology for the layer will be driven by this scale. Only numeric characters should be entered. For example, enter the scale as 20000, not 1:20000 or 20,000.* |

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| In Google EarthThis method is preferred if you would like to preserve the attribute information with the data.* Load the shapefile to Google Earth Pro
	+ Open Google Earth
	+ Go to File > Import
	+ Select .shp as file type
	+ The shapefile will appear in the places panel
* Export the file as KML/KMZ
	+ Right click on the layer and select Save Place As
	+ Save the file as KML or KMZ and name according to the [Naming Convention](https://sites.google.com/site/commonoperationaldataset/file-and-dataset-naming-manual/file-naming-convention)
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| Tabular data to KML/KMZIf not already, convert the data to a csv* Open GoogleEarth and go to File > Import
* Select .csv as file type
* When prompted Do you want to apply a style template to the features you ingested select ‘yes’
* Choose from the options to select the style you want
	+ Under the Name tab, make sure to set the name field to field which will be used as the label
	+ The icon style, color and height can be modified in the associated tabs
* Select OK
* Save the style in a convenient location as it can be used to reproduce the same style with updating the data or creating a new dataset
* Export the file as a KML/KMZ
	+ Right click on the layer and select Save Place As
	+ Save the file as a KML or KMZ

To update the KML, simply make the correct changes to the csv file and create the kml following the same steps above using the style created above.  |