Use and Create File Geodatabases

File Geodatabase is a portable data format used in ArcGIS for storing and managing GIS data to allow easy exchange between users. A File Geodatabase can store multiple data layers, each of which can be up to 1 TB in size. The proprietary File Geodatabase format is the successor to the ESRI Personal Geodatabase, which utilizes a Microsoft Access file for storage, resulting in a maximum database size of 2 GB.

TNTmips users can exchange GIS data with users of ArcGIS using the ESRI File Geodatabase structure (in addition to shapefiles and ESRI Personal Geodatabases). TNTmips supports the File Geodatabase format through the use of third-party program libraries: the ESRI File Geodatabase API and the Geospatial Data Abstraction (GDAL) library.

TNTmips supports File Geodatabases in the following ways:
- export TNT vector or CAD objects to File Geodatabase for use in ArcGIS 10.0 or higher
- export multiple geometric layers at the same time, directing them to a single File Geodatabase or to separate File Geodatabases
- import one or more layers from a File Geodatabase created in ArcGIS 10.0 or higher to TNT vector or CAD objects
- display a File Geodatabase created in ArcGIS 10.0 or higher directly as a TNT CAD layer
- select elements, view attributes, and create display styles for layers in a linked File Geodatabase.

(over)

File Geodatabase Limitations

TNTmips uses the File Geodatabase API provided by Environmental Systems Research Institute (ESRI) for import, export, and direct use of File Geodatabases. This ESRI API imposes several limitations on the use of File Geodatabases in TNTmips and in the ESRI products.

1) Supports only ArcGIS Version 10.0 or later.

The File Geodatabase format changed with ArcGIS version 10.0, and the ESRI API only supports this later format. As a result,

- File Geodatabases exported from TNTmips can only be used in ArcGIS 10.0 and later versions.
- TNTmips cannot import or link to File Geodatabases produced in versions of ArcGIS prior to 10.0.

2) Raster objects are not supported.

**3) No style information is stored in File Geodatabases.**
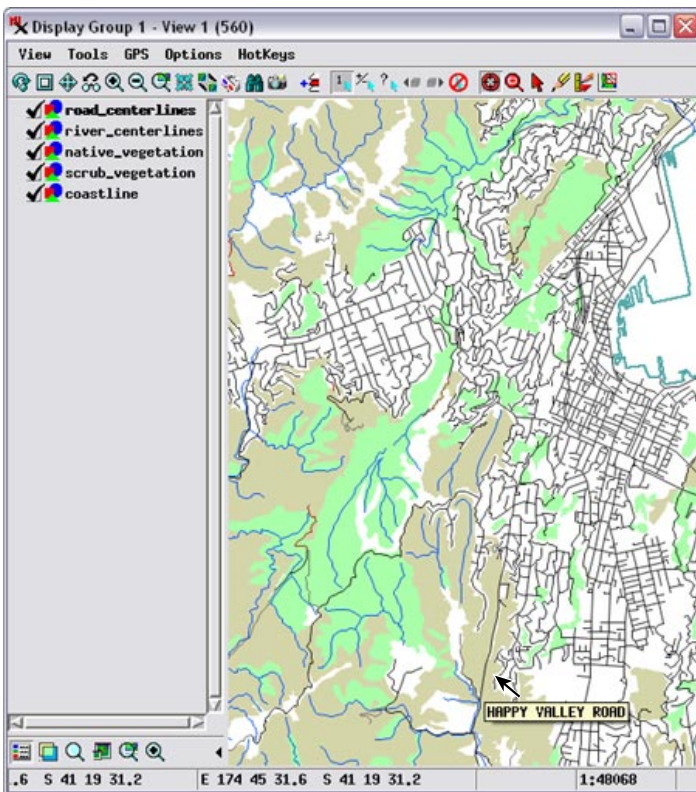
Display of 5 data layers stored in a linked FileGeodatabase showing map data for Wellington, New Zealand. The layers show vegetation types (green and brown polygons), coastline, stream centerlines (blue), and road centerlines. Layer styles were created in TNTmips after linking.
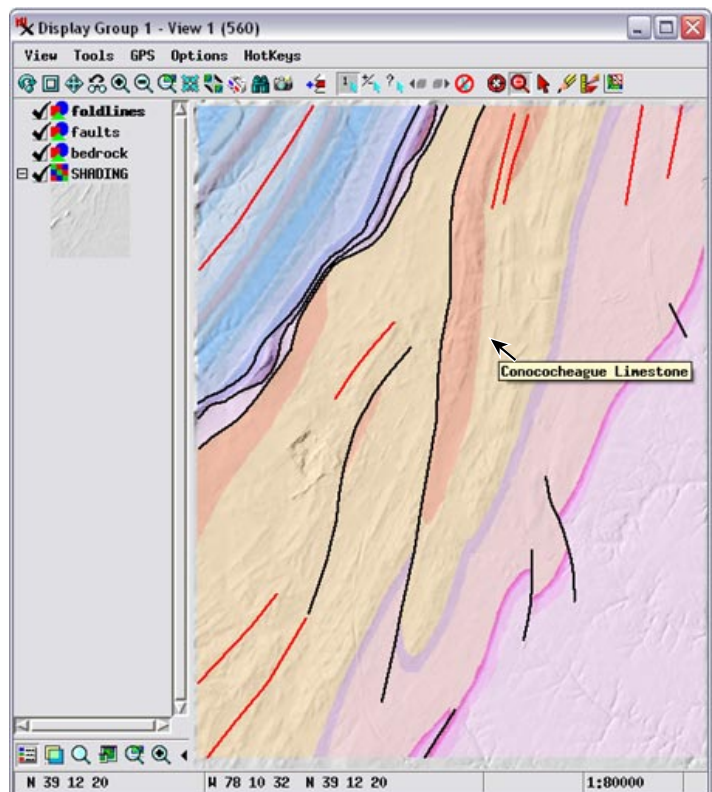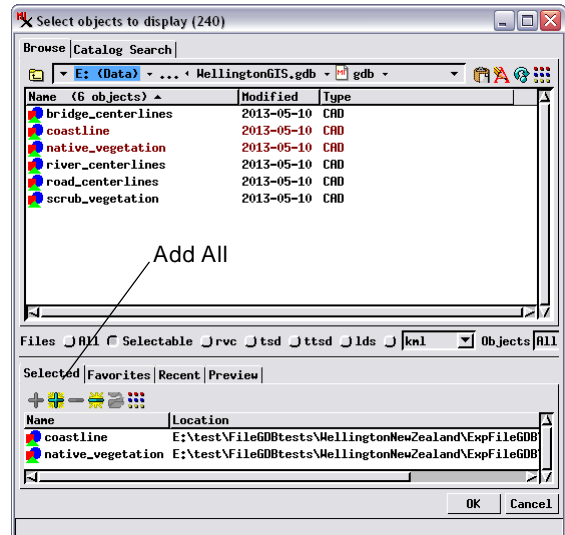

Display of 3 geologic map data layers from a linked FileGeodatabase for an area in Virginia, USA. Layers include bedrock unit polygons, fault lines (black), and fold lines (red). Layer styles were created in TNTmips after linking. Background is a shaded relief image computed from an elevation raster.

Selecting a File Geodatabase for Display or Import
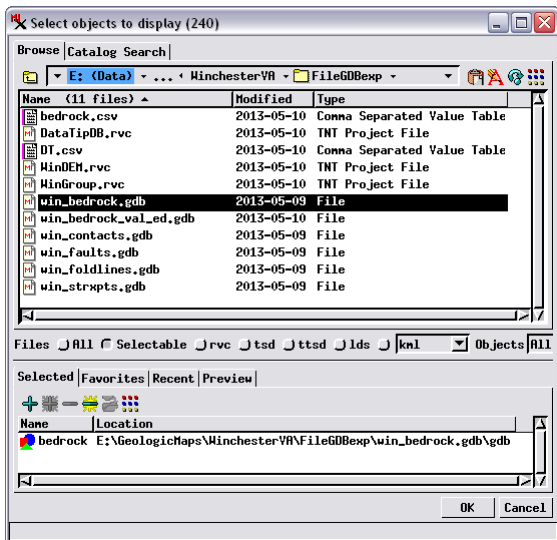
(2) If the File Geodatabase contains more than one data layer, the browse list is updated to show the list of layers. To select a layer, left click on its object icon (or double-click on the object name) to add it to the Selected list at the bottom of the window. You can also press the Add All icon button to select all of the objects.

(1) A File Geodatabase appears in the Browse list of the Select Objects window as a file with a MI icon and the extension *.gdb. Left-click on the File Geodatabase icon or double-click on the folder name. If only one data layer is included in the geodatabase, that layer is added automatically to the Selected list at the bottom of the window.

(3) When all desired objects have been selected, press [OK].

The first time you select a particular File Geodatabase in TNTmips, it may take a few seconds for its objects to appear in the Browse or Selected list as the geodatabase is scanned and linked. If the File Geodatabase was created by a version of ArcGIS prior to 10.0, and thus is not supported by the ESRI File Geodatabase API, an error message is shown at the bottom of the Select Objects window.

Exporting a Geometric Object to File Geodatabase

(1) In the Export process in TNTmips (Main / Export), choose FileGDB from the format list, select the vector or CAD object(s) you wish to export, then press [Next].
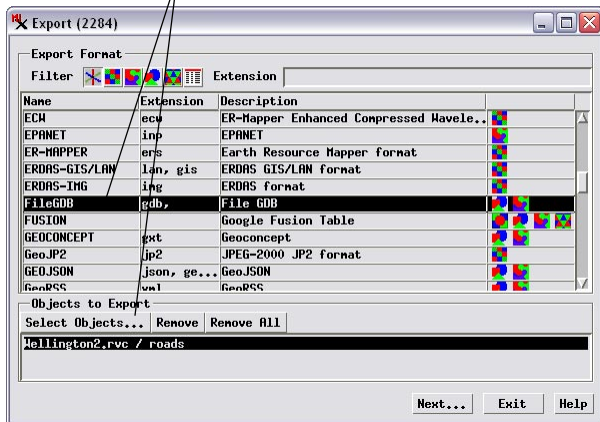
(2) In the Export Parameters window, choose Separate Files or Single File from the *Export Objects to* menu (if exporting multiple objects).

(3) For each object, a default element type and table is shown in the Table field. If the desired table is not selected, left click on the Table field to open the Element Type dialog. Choose the element type to export (Points, Lines, or Polygons) and press [OK] to open the Select Table window.
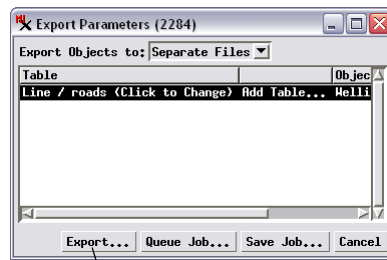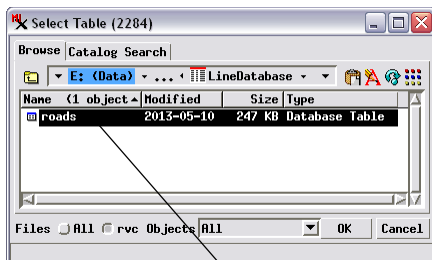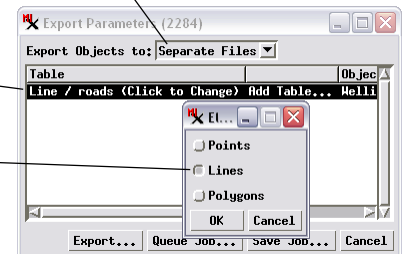
(4) In the Select Table window, choose the table you wish to export along with the elements, then press [OK].

(5) Press [Export] in the Export Parameters window.
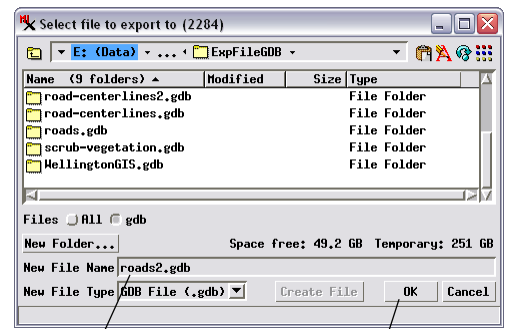
(6) Enter a new file name in the Select file to export to window, then press [OK] to start the export.