GETTING STARTED

Getting Started

with TNTmips®, TNTedit™, and TNTview®

Before Getting Started

This booklet introduces you to the TNTgis family of software products created by MicroImages, Inc. You may be a professional with years of experience or a student taking your first GIS or Image Processing course. Whatever your situation, this booklet will help you get started with the TNTgis products. We recommend that your next tutorial be *Displaying Geospatial Data*. Once you learn the basics of TNTgis with these first two booklets, you will be ready to branch off in any direction to explore the many powerful features TNTgis offers.

Sample Data The exercises presented in this booklet use sample data that is distributed with the TNTgis products. If you do not have access to a TNTgis products DVD, you can download the data from MicroImages' web site. In particular, this booklet uses objects in the PARKWAY data collection. Make a read-write copy of the sample data on your hard drive so changes can be saved when you use this data.

More Documentation This booklet is designed as the first in the tutorial series. Documentation on the use of TNTgis software can be found in a variety of tutorial booklets, Technical Guides, and Quick Guides, which you can access from the Help menu in your TNTgis product.

Randall B. Smith, Ph.D., 13 January 2015
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MicroImages software support engineers are ready to help you with questions and any problems you may encounter in using TNTgis software. If you are using the TNTgis professional software products, contact us at:

Software Support:	(402) 477-9562
FAX:	(402) 477-9559
Email:	tech@microimages.com

If you are using TNTmips Basic or TNTmips Free, ask for help from your campus computer lab supervisor or your organization's computer support and training specialists. TNTmips Basic and Free users may contact MicroImages directly (preferably by email or FAX), but our support staff gives priority to our professional clients.

The MicroImages Web site is your source for the latest Technical Guides and Tutorial booklets on other topics. You can download an installation guide, sample data, and the latest update of any TNTgis software product.

http://www.microimages.com

Welcome to the TNTgis Software Family

The TNTgis family of professional software products from MicroImages provides advanced GIS, image processing, and geospatial and terrain analysis. TNTgis professional software products include TNTmips, TNTedit, and TNTview, all of which can be used on computers running either Windows or Mac OS X.

TNTmips is an advanced Geographic Information System that integrates display and processing of map data, imagery, and terrain data along with the creation and management of associated relational databases. TNTmips provides all the tools needed to create, edit, georeference, interpret, and publish any type of geospatial data. It includes all the capabilities of TNTedit and TNTview. It also includes TNTatlas, a free viewer for images, map data, and electronic atlases assembled in TNTmips.

TNTedit provides interactive tools to display, georeference, create, and edit images, map data, and terrain data and to manage associated relational databases. TNTedit includes all of the display capabilities of TNTview and also provides import/export and geospatial scripting capabilities.

TNTview is a professional product for viewing and interpreting geospatial data in a variety of forms (image, vector, CAD, shape, LIDAR, and TIN). You can view geodata in 2D, stereo, and 3D perspective, and view and edit associated relational databases. TNTview also provides import/export and geospatial scripting capbilities.

TNTmips Basic and TNTmips Free TNTmips comes in three license levels: TNTmips Pro (which requires a software license key), low-cost TNTmips Basic, and TNTmips Free. TNTmips Basic and TNTmips Free provide nearly all of the capabilities of TNTmips Pro but limit the size of the geospatial objects and attribute tables that can be used in your projects.

TNTmips

TNTedit

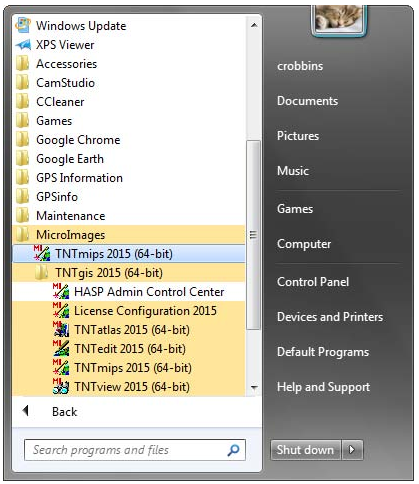
TNTview

TNTatlas

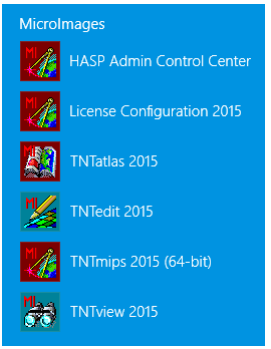
Pages 4-6 cover show you how to start your TNTgis software and discuss the basic program interface. Pages 7 and 8 discuss the documentation and Quick-Help that is available to assist you. The organization and types of data that you can use in the TNTgis software are covered in pages 9-17. The exercises on pages 18-21 show you how to select and display sample geospatial data objects. Pages 22-23 discuss your next steps in learning to use the TNTigs software and how to contact Software Support.

Starting the Software

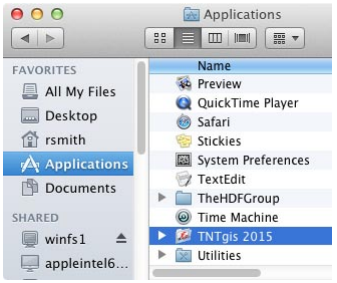
On Windows computers you can start TNTmips, TNTedit, or TNTview from the Windows Start menu. Open the Start menu, click on All Programs, then scroll down and click on the MicroImages folder in the list to expand it. The expanded contents show an entry for the TNTmips version (*e.g.*, 2015) you have installed. If your license allows, you can start TNTmips (or TNTmips Free or Basic) from this menu entry. You can also expand the TNTgis [version number] folder to launch TNTedit or TNTview.



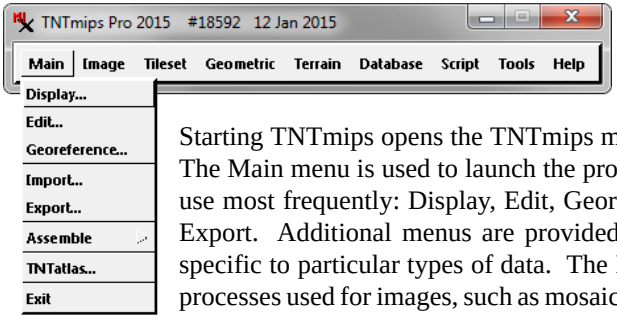
From the Window 8 Apps screen, locate the MicroImages section and double click the icon for your TNTgis product.



To start a TNTgis software product on Mac computers, activate the Finder, open the Go menu, and choose Applications. In the Applications list open the folder for the TNTgis version that has been installed. The TNTgis folder contains icons to launch TNTmips, TNTedit, TNTview, and TNTatlas. Double-click on the product icon to start the software.



TNTmips, TNTedit, and TNTview Windows

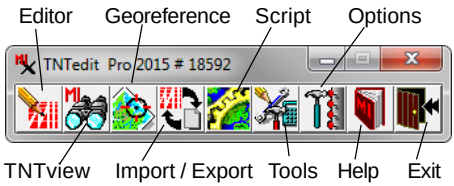


TNTmips Menu

Starting TNTmips opens the TNTmips menu window (above). The Main menu is used to launch the processes you will likely use most frequently: Display, Edit, Georeference, Import, and Export. Additional menus are provided to choose processes specific to particular types of data. The Image menu provides processes used for images, such as mosaicking, resampling, and filtering. The Tileset menu provides processes for preparing tiled geodata for presentation in web applications. Operations for geometric map data (vector, CAD, and shape) are available from the Geometric menu.

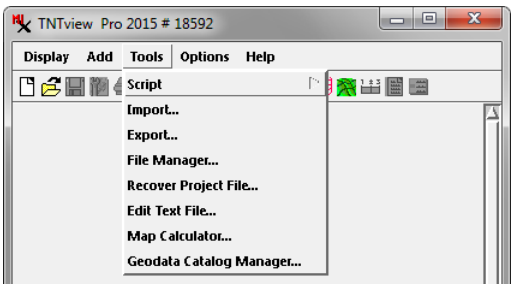
The Terrain menu includes a Surface Modeling operation for converting terrain data from one form to another, operations for processing LIDAR data, and a number of processes specific to gridded elevation data, such as viewshed and watershed analysis. The Database menu provides operations for processing attribute databases, while the Script menu lets you create and run geospatial scripts for custom data processing.

TNTedit Toolbar



Starting TNTedit opens the TNTedit toolbar (right). Place the mouse cursor over an icon button to see a ToolTip that identifies the purpose of the button. Press the Editor, TNTview, or Georeference icon button to launch the named process. The Import/Export icon button provides a menu for launching either process. The Script icon button provides a menu allowing you to run or edit a geospatial script.

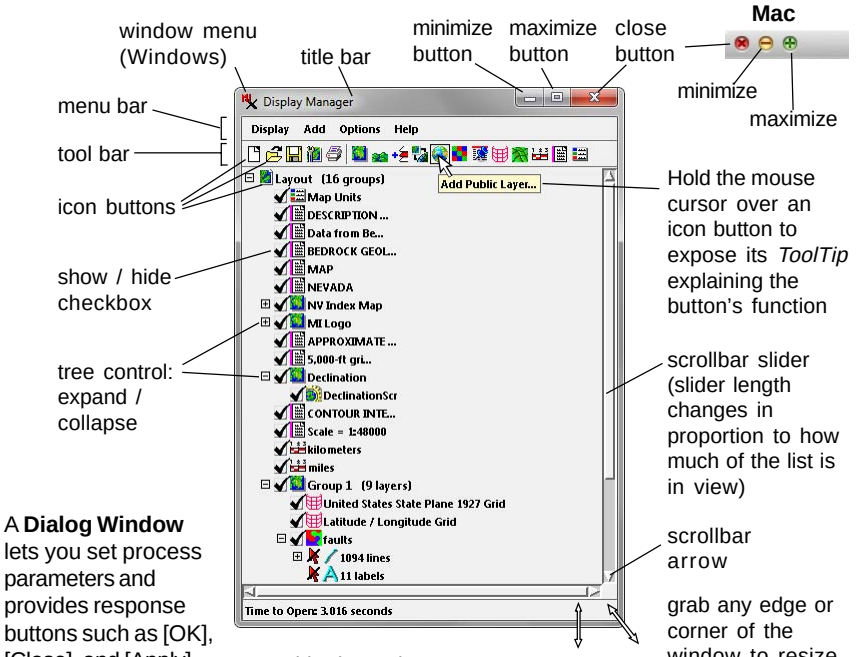
TNTview Window



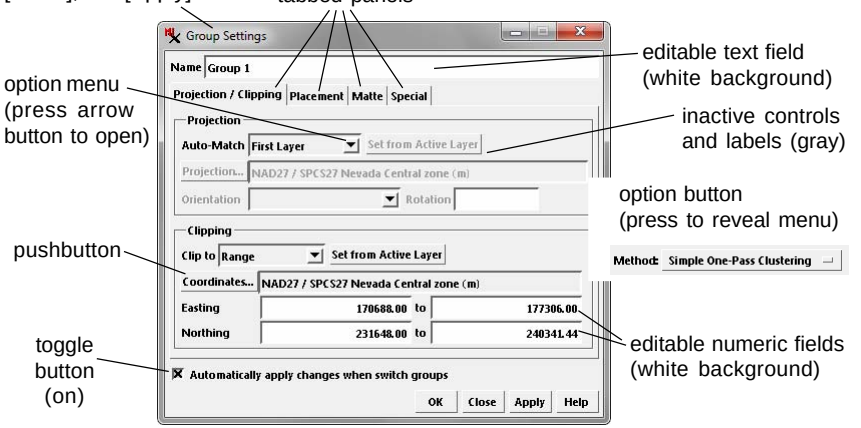
The TNTview window is identical to the TNTmips Display Manager window except for the addition of a Tools menu that provides access to Script options, Import and Export operations, as well as other data management utilities.

Interface Vocabulary

Windows shown in TNTmips, TNTedit, and TNTview present a consistent set of elements and controls that appear nearly identical whether you are working on a Windows or Mac computer. The documentation for the TNTgis products uses a carefully defined vocabulary to refer to elements of the graphical program interface. Review the illustrations below to familiarize yourself with this vocabulary.

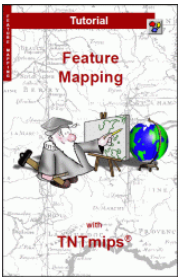


A **Dialog Window** lets you set process parameters and provides response buttons such as [OK], [Close], and [Apply].

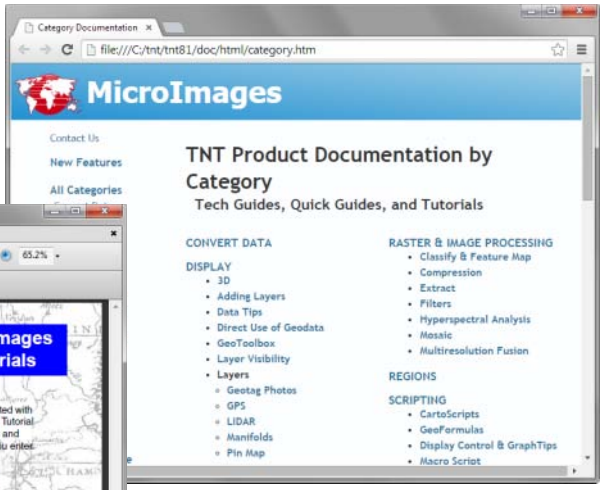


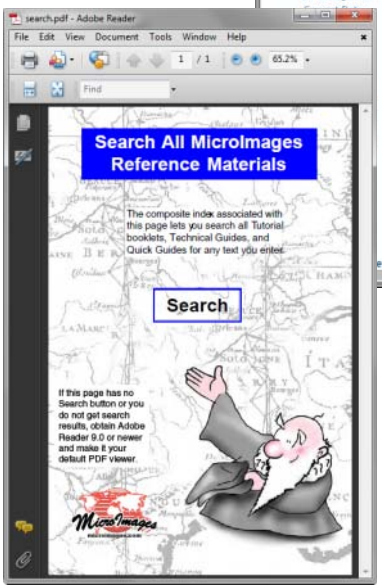
Documentation

MicroImages provides dozens of tutorials with step-by-step exercises covering major tasks in the TNTgis products. In addition, hundreds of Technical Guides cover the capabilities of individual processes and explain the process interface and settings. These documents are provided as PDF files that can be installed along with your TNTgis software.



The Help menu in the TNTmips and TNTview window and Help icon button menu in TNTedit allow you to access the documentation in several ways. The *Browse Documentation* option opens a web page that allows you to browse the documentation by category. The *Tutorials* option opens a listing of all of the tutorials. The *Search* option lets you search your installed documentation using a PDF index file, and the *Search Web* option opens the MicroImages Site Search page in your browser, where you can search the on-line documentation or the entire MicroImages web site. The What's New and News options let you consult new feature lists and news items at the MicroImages web site.

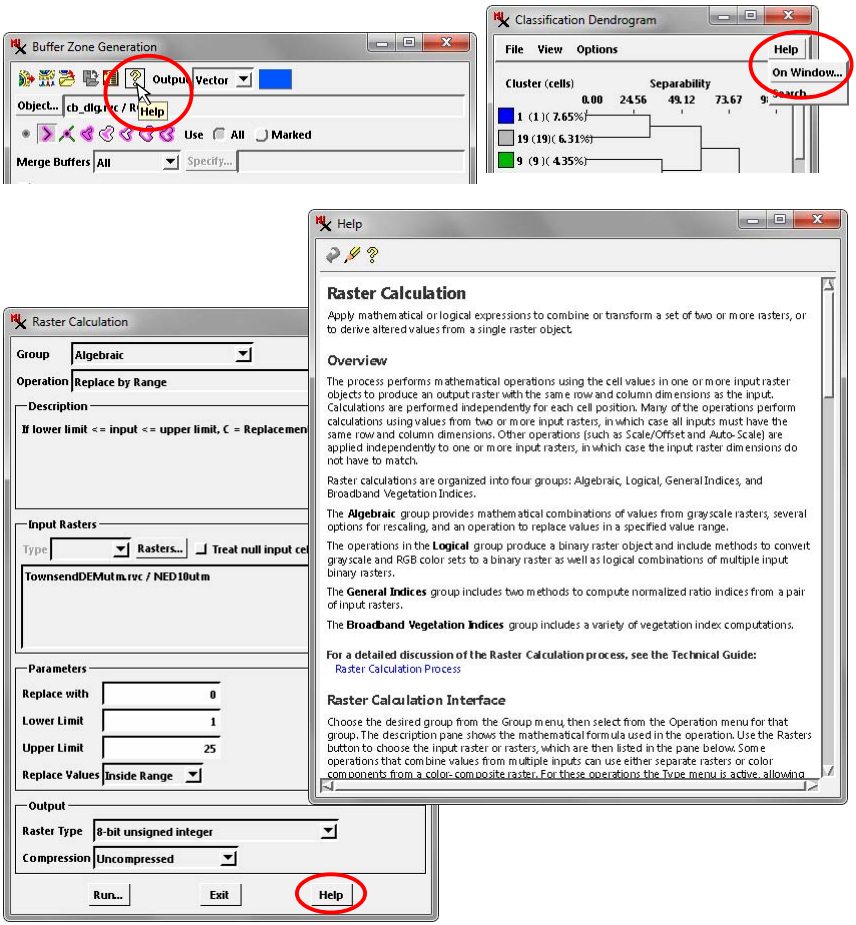




Quick Help

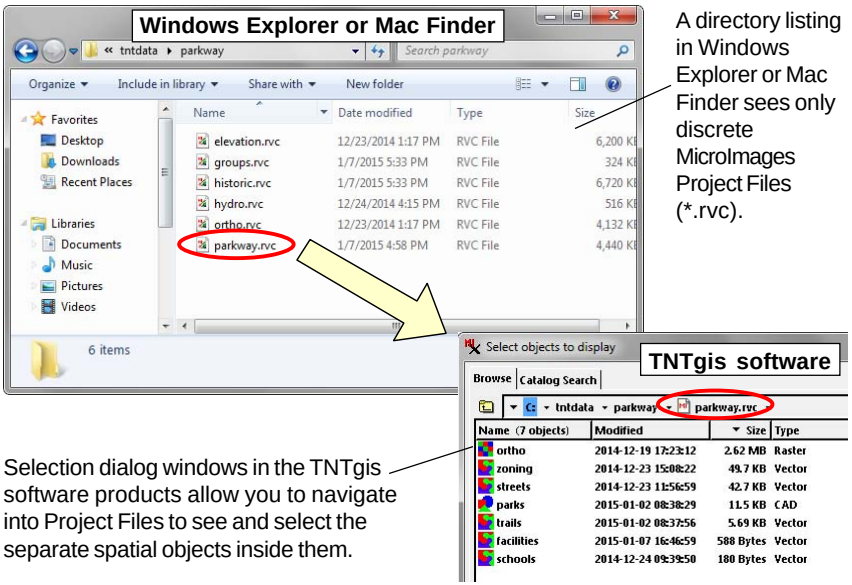
Many process windows in the TNTgis software products provide Quick Help to give you an overview of the window or process and an explanation of the controls and settings. TNTgis windows may have a Help icon button, a Help pushbutton, or a Help menu (with an *On Window* option to open the contextual help), as illustrated below.

Quick Help documents are shown in a separate Help window. Many Quick Help windows provide direct links to relevant Technical Guides and Tutorials, so you can use Quick Help both on its own and as an entry point into the more extensive technical documentation provided with the TNTgis software.



The Project File

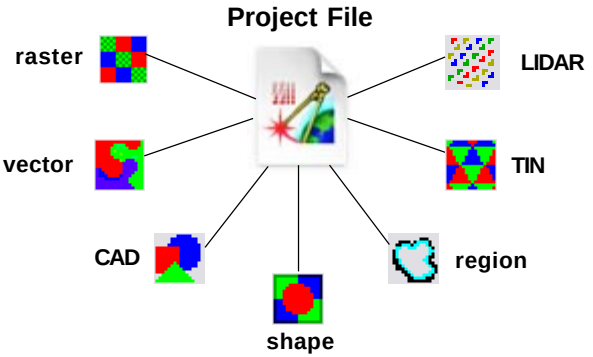
All TNTgis software products use a common data structure, the MicroImages Project File, to store your project data. To your computer operating system, a Project File appears as a single file with the file extension "RVC". But in the TNTgis software products a Project File functions more like a folder, storing any number of separate spatial data *objects*, each with its own name that you have assigned. You can keep many related spatial objects together in one Project File, making it easy to manage your project data and move data to a different computer. The Project File was also designed with cross-platform users in mind. All TNTgis processes use internal read and write routines so that any MicroImages Project File can be used on any Windows or Macintosh computer. So there are no data translation issues to worry about when you move your project data between Windows and Mac operating systems.



Selection dialog windows in the TNTgis software products allow you to navigate into any Project File to see a list of the spatial objects contained in the file. In the example shown above, the Project File named "parkway.rvc" contains a number of objects of different types covering the same area, including a color orthoimage and map data for streets, parks, trails, facilities, and schools . As another example, a single Project File can store all of the bands of a multispectral image, such as blue, green, red, and near-infrared bands of an aerial orthoimage, or all of the bands of a Landsat, SPOT, WorldView, or any other multispectral satellite image.

Spatial Object Types

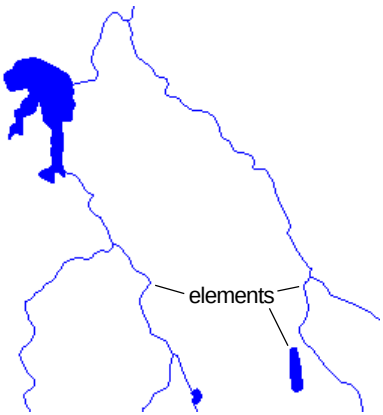
You can work with many types of geospatial data in the TNTgis software products, including images, map data, and terrain (surface) data. To accommodate the diversity of geospatial data, Project Files can store spatial data in a number of different forms, represented by different types of spatial data object. Each object type is indicated by a different icon (shown below) in listings of a Project File's contents.



These spatial objects fall into two broad categories. A *raster object* is a regularly-spaced grid of numeric values, with each number representing the value of some spatial parameter for a rectangular area referred to as a *cell*. A *geometric object* stores spatial coordinates that map the locations of various geometric *elements*, such as points, lines, and polygons, and may include database attribute information that identifies the elements.

1902	1912	1922	1930	1935	1938	1938
1890	1899	1905	1913	1921	1926	1927
1871	1881	1892	1897	1903	1909	1911
1851	1855	1864	1877	1890	1895	1898
1839	1839	1845	1849	1859	1870	1878
1831	1829	1834	1838	1841	1847	1850
1823	1823	1825	1829	1833	1837	1842

raster object cell

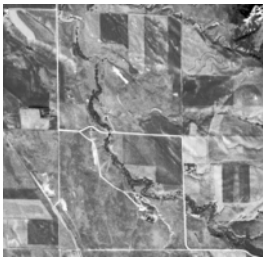


geometric object

Grayscale Raster Objects

The numbers in the cells of a raster object may represent values for any spatially-varying parameter. For example, raster objects are used to store the brightness values that make up aerial and satellite images. But raster values may also represent a parameter such as ground elevation, the concentration of some chemical element in the soil, or land use classes.

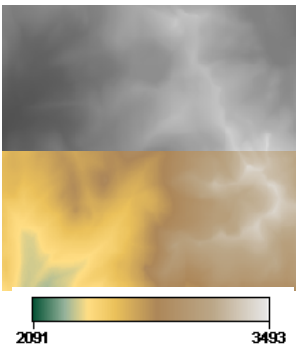
A raster object in which the relative magnitudes of the cell values have some physical meaning, such as image brightness or elevation, is called a *grayscale raster object*. A grayscale raster object displays in shades of gray ranging from black to white with the cell values controlling the brightness of the pixels on your screen. You can create and save *contrast lookup tables*, which specify a particular screen pixel brightness value for each raster value, to improve the brightness and contrast of the display. Three grayscale raster objects, such as bands of a multispectral image, also can be combined in a single TNTgis display layer to form a color image on the screen. The most common form of multiraster display layer uses a grayscale raster for each of the screen color components: red, green, and blue. When you choose image bands to match the screen colors (e.g., red band = display red, and so on), the result is a "natural color" screen image.

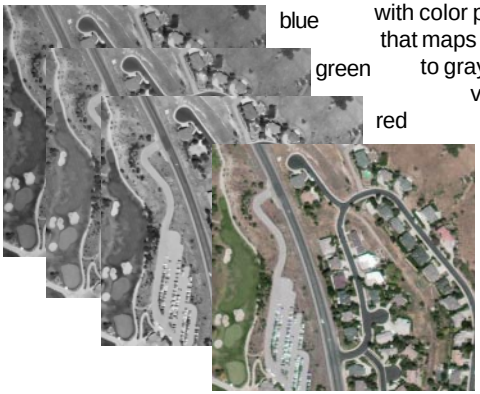


Grayscale image raster object

You can also display a grayscale raster object with a *color palette*, which specifies a color to use for each contrast-adjusted raster value. Color palettes with continuous color gradations are useful for displaying grayscale raster objects representing elevation or other non-image values.

Elevation raster object, lower portion shown with color palette that maps colors to grayscale values.



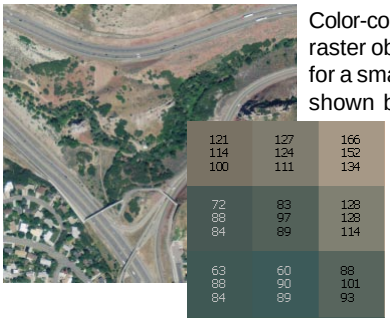


A "natural color" Red-Green-Blue screen display of red, green, and blue grayscale raster objects.

Raster Data Types

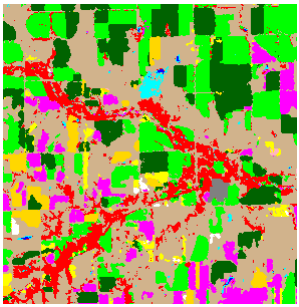
Grayscale raster objects can have different *raster data types*, which specify the number of storage bits assigned to the cell, whether negative values are allowed, and whether the values are integers or floating-point decimal values. Grayscale raster data types include signed and unsigned integer types with 4-bit, 8-bit, 16-bit, or 32-bit values, with larger bit-depth allowing a wider range of values. For example, an unsigned 8-bit integer raster object can store integer values between 0 and 255 ($2^8 = 256$ total values), while an unsigned 16-bit integer raster object can store values from 0 to 65,535 ($2^{16} = 65{,}536$ total values). Floating-point raster objects can have either 32-bit or 64-bit values.

A *color-composite raster object* stores a color image in the form of three integer values for each cell, representing red, green, and blue brightness values. A 24-bit color composite raster object uses 8-bit values for each color component, so each individual color value can range from 0 to 255. Like grayscale rasters, you can create and save contrast lookup tables for the color components in a color-composite raster object.



Color-composite raster object; values for a small area shown below

Category raster object (land use) with color palette



Binary (1-bit) *raster objects*, in which a cell can have a value of either 0 or 1, can be used for specialized purposes such as defining a *mask* to indicate the parts of an image to be displayed or processed.

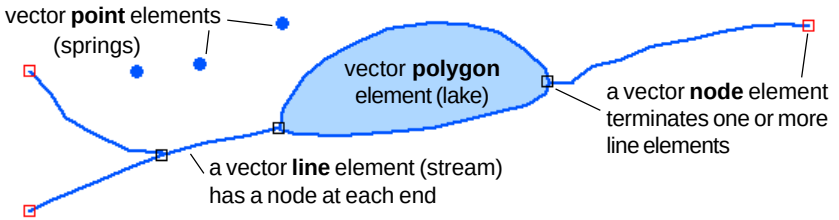
In some applications the values in an integer raster object have no numerical significance, but serve merely to identify a class or category of materials, such as a land use category or a type of vegetation cover. A *category raster object* is usually supplied with a color palette to provide a meaningful display.

In many cases the values stored in a raster object provide all of the required spatial information. However, raster objects can include database tables with records attached to individual cell values to provide additional information. Category rasters often include database tables to indicate the meaning and attributes of each of the arbitrary category values.

Geometric Objects: Vector and CAD

A *vector object* is the most highly-structured form of geometric object. A vector object can include up to five distinct types of geometric element: points, lines, polygons, nodes, and text labels. Points and nodes both consist of a location defined by a set of x,y or x,y,z coordinates. However, nodes occur only at the start and end of line elements, while points are independent elements that can occur anywhere with respect to other elements. Line elements consist of a sequence of vertex locations with a node at either end. Polygons are closed shapes made up of one or more line elements.

Each of these vector element types (except for labels) can have database tables with records attached to the elements to store any required attribute information. Each element type can also be displayed independently in a specified drawing style. Because of this flexibility, you can use vector objects to depict nearly any form of map information. The simple example below shows a vector object representing surface water features (streams, lake, and springs).



Vector objects also have *topology*, a set of rules that determine the relationships between elements. Topology also determines the internal bookkeeping that records which lines make up a polygon and which polygons lie to either side of a line, among other relationships. Topological relationships between elements are important for spatial analysis operations involving vector objects.

The TNTgis software products provide three levels of vector topology: polygonal, planar (with no polygons), and network. For more information, see the Tutorial entitled *Vector Analysis Operations*.

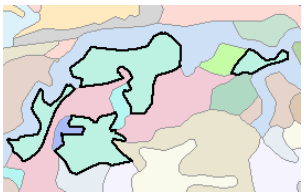
A *CAD object* (for Computer Aided Design) is a simpler geometric structure that lacks the strict topological rules applied to vector objects. CAD elements can overlap each other, which is not allowed in vector objects with polygonal and planar topology. Although all elements in a CAD object share the same database structure, separate styling can be applied to polygons, lines, and points. CAD objects are easy to create and edit, and are suitable for depicting simple types of map data, but are less suitable than vector objects for spatial analysis operations with complex map data.

Other Geometric Object Types

You can also use other types of geometric object in the TNTgis software products, including shape, region, TIN, and LIDAR objects.

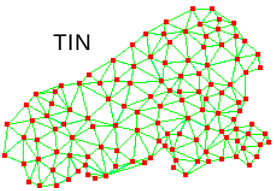
shape object with polygons

Shape objects also have a simpler topology than vector objects. A particular shape object can contain only one type of element: point, line, or polygon. Shape elements can have database attributes and can be styled based on those attributes. Unlike the types of geometric elements discussed previously, shape objects are not stored in MicroImages Project Files; they are merely *links* to data stored in the shape format in external files, such as ESRI shapefiles, or in a spatial database such as PostGIS or Oracle Spatial. Linking allows the data to be maintained and updated in its original form while still being available for ongoing use in the TNTgis products.

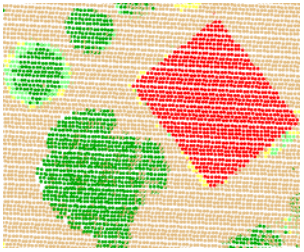


region (black outlines) created from selected polygons

A *region object* is a simple geometric object that defines an area of interest via one or more polygon outlines. Region objects do not have databases with attached attributes. Regions are utility objects that you can create from other spatial objects (from a set of selected vector polygons, for example) and which you can use to select elements in other objects, define an area to process, and other applications.



A *TIN object* (Triangulated Irregular Network) is a specialty object that represents a three-dimensional surface by a set of contiguous *triangles* with *edges* that intersect at irregularly-spaced 3D *nodes*. The TIN topology is rigorously defined so that there is only one proper triangulation for any given set of 3D nodes.

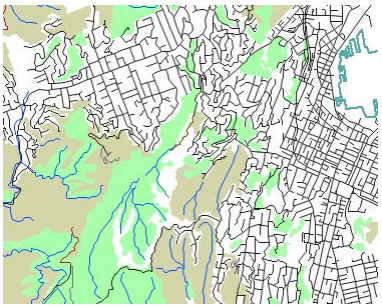


LIDAR point object

A *LIDAR* object stores a cloud of 3D points acquired by an aerial LIght Detection And Ranging scanning instrument. LIDAR objects are not stored in Project Files, but are links to data in the LAS file format. LIDAR objects can be displayed as an interpolated surface or as points styled by elevation, surface class, or other attributes. TNTmips Pro includes specialized processes for managing and classifying LIDAR data.

Use Spatial Data in Many File Formats

The TNTgis software products can import spatial data from, or export to, an extremely wide array of file formats. The import procedure converts the external data into an object in a MicroImages Project File. But as you can see from the discussion of shape and LIDAR objects, you are not limited to using spatial data in Project Files. You can use geospatial data in many file formats directly, without requiring import. Listed below are just a few of the file formats supported for direct use in TNTgis software.

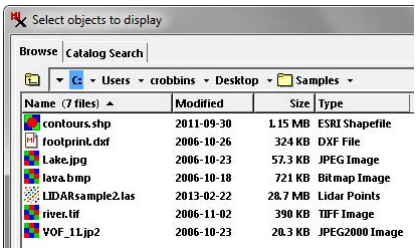


Raster File Formats

TIFF / GeoTIFF	Arc Grid	BMP
BigTIFF	ECW	JPEG
JP2 / GeoJP2	MrSID	PNG

Geometric File Formats

shapefile	DWG	GPX
Geodatabase	DXF	GMT
File GDB	GML	MapInfo
LAS	KML	



External files that can be used directly appear in TNTgis selection dialogs at the file level with an icon appropriate to their object type (for raster, shape, and LAS formats) or with a MicroImages icon (most other geometric formats), as shown in the illustration to the left.

In addition to these direct use formats, you can use the Import process to manually establish links to an even wider list of external file formats, including spatial data objects stored in enterprise database products such as MySQL Spatial, Oracle Spatial, and PostGIS. For any manually-linked or direct use (auto-linked) external file, TNTgis software creates a special type of Project File with the same name as the external file and the file extension "RLK". This link file is used to store the information needed for use of the external file in the TNTgis software, as well as items you create, such as styles, contrast tables, or color palettes. For a complete list of formats supported, see the Geodata Formats web page:

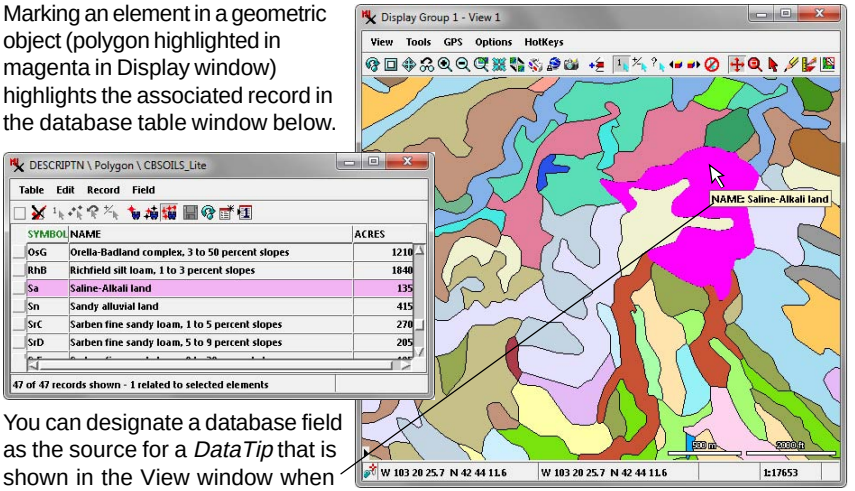
http://www.microimages.com/documentation/html/misc/geodataFormats.htm

Database Information

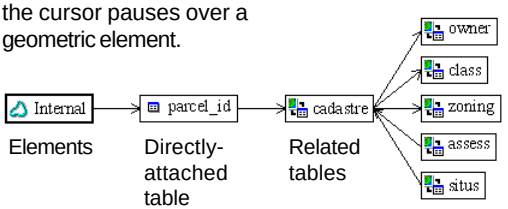
Elements in most forms of geometric object (and cell values in raster objects) can have attached records in one or more database tables. These database tables can store any type of attribute information, including numeric values, text, and date and time information. A database can have any number of separate tables, and records in separate tables can be *related* to each other via common values in specified fields. Thus a spatial element can have attributes in a table with records directly attached to the element as well as a host of other attributes in related tables. Attributes in these tables can be used as the basis for determining display styles for the elements and can be operated on by database queries to select elements for display or processing.

Databases for spatial objects in Project Files are stored internally as *subobjects* of the spatial object. A database can also exist in a Project File as a *database object* that is independent of other spatial objects. A database table that includes coordinate information can be displayed and styled as points in a *database pinmap* layer. Database objects and subobjects can both include links to tables in an external database file (such as a Microsoft Access file) or to tables in an enterprise database such as Oracle, MySQL, SQL Server, or PosgreSQL.

Marking an element in a geometric object (polygon highlighted in magenta in Display window) highlights the associated record in the database table window below.



You can designate a database field as the source for a *DataTip* that is shown in the View window when the cursor pauses over a geometric element.



Tables in a database can be related to each other by common values in specified fields. The arrows in the diagram to the left show the relationships between tables (boxes).

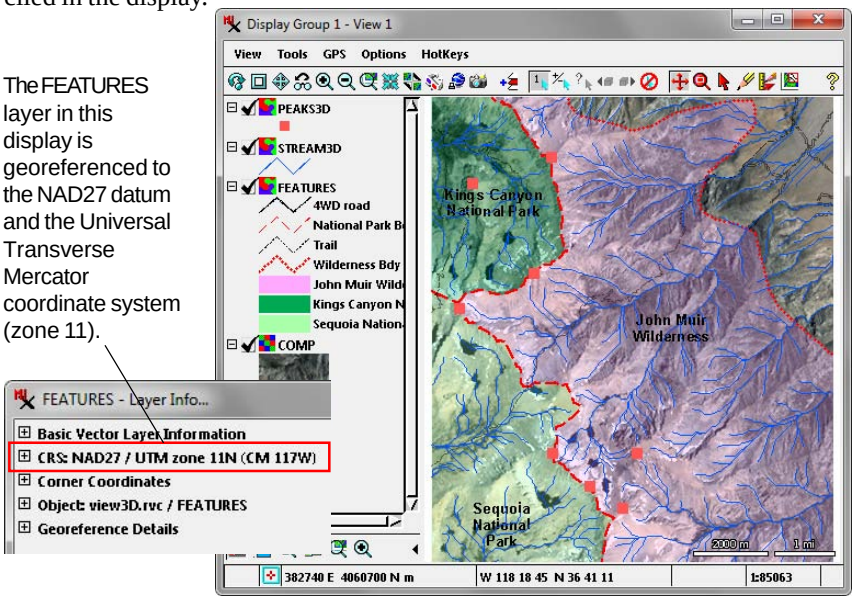
Georeference

Spatial objects can be overlaid in displays or used in combination in spatial operations in the TNTgis software products. In order for the software to know how positions in the different objects register with each other, each object must be *georeferenced*. Georeference information specifies how the internal coordinates in an object (x,y or column,row) translate to map coordinates in a specific real-world *coordinate reference system*, such as WGS84 / Geographic. TNTgis software supports thousands of coordinate reference systems, including many designed for use in specific countries, states, and provinces.

When you use or import data from outside sources, TNTgis software in most cases automatically recognizes and uses any accompanying georeference information. When you create new spatial objects from scratch in the TNTmips Editor (TNTedit), you can specify a georeferenced object to use as an editing background so that the new spatial elements you create are automatically georeferenced. When you have spatial objects that lack georeference information, you can use the Georeference process in TNTmips or TNTedit to create and save the necessary information. Georeference information is stored for each spatial object in a georeference subobject.

In TNTgis displays you can overlay spatial objects that are georeferenced to different coordinate reference systems; the differences are automatically reconciled in the display.

The FEATURES layer in this display is georeferenced to the NAD27 datum and the Universal Transverse Mercator coordinate system (zone 11).

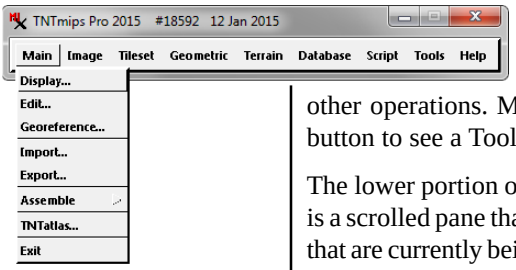


Start Display / TNTview

The tutorial booklets refer to menu choices with a **menu path** notation. For example, choosing the Display option from the Main menu in the TNTmips window is indicated by the menu path "Main / Display".

Now that we have covered some background concepts, it is time to start operating your TNTgis software. We will begin with the Display process, which allows you to display and investigate all types of geospatial data.

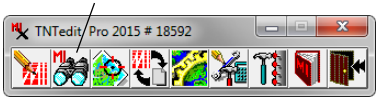
When you start the Display process, the Display Manager window (TNTview window in TNTview) opens. This window provides menus and icon buttons for adding spatial data layers and other operations. Move the mouse over each icon button to see a ToolTip that explains its function.



The lower portion of the Display Manager window is a scrolled pane that shows a list of all of the layers that are currently being viewed. Of course, this pane is blank until we add layers to the display. So let's select some layers to display.

For **TNTmips**:
- ☑ Start TNTmips
- ☑ choose Main / Display to start the Display process

TNTview

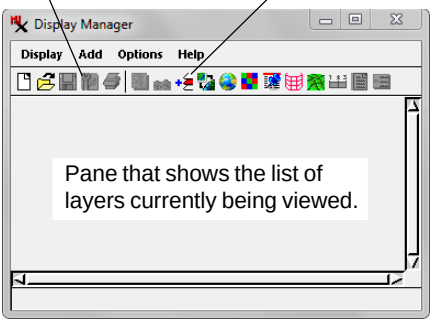


For **TNTedit**:
- ☑ Start TNTedit
- ☑ press the TNTview icon button in the toolbar

For **TNTview**:
- ☑ Start TNTview

Display Manager toolbar

Add Objects



Sample Data

MicroImages provides a collection of sample geospatial datasets that can be used with the TNTgis software products. These datasets are also referenced in the step-by-step lessons in this and other Tutorial booklets. The sample data is provided in a ZIP file on the TNT Products DVD, or it can be downloaded from

www.microimages.com/documentation/tutorialData.htm

If you have not already done so, copy or download the ZIP file to a separate folder on your hard drive (e.g. "TNTDATA") and extract the archive, which expands to create a number of separate dataset folders.

Navigate with the Select Objects Window

You select geospatial data for viewing and analysis in TNTgis processes using the *Select objects* window, which has varying names depending on the context. Controls for navigating through your computer's drives and directories (folders) are provided on the Browse tabbed panel. The *navigation bar* at the top of the panel shows the components of the path to the current folder or file, beginning with the drive letter or volume name on the left and proceeding through folders and subfolders toward the right. The *Locations* icon button at the left end of the navigation bar opens a menu that lets you choose any available drive or volume on your computer (along with Desktop, Network, and Web options).

The contents of the current drive, directory, or Project File are shown in the browse list directly below these controls. You can left-click on a drive, folder, or file icon (or double-click on the name) in the browse list to navigate down into that level.

STEPS

- ☑ press the Add Objects icon button on the Display Manager
- ☑ examine the *Select objects* window that opens
- ☑ press the Locations icon button on the left end of the navigation bar; from the dropdown menu, choose the drive or volume where you placed the TNT sample data
- ☑ use the browse list to navigate into your sample data folder (e.g. TNTDATA)
- ☑ navigate into the TNTDATA / PARKWAY folder

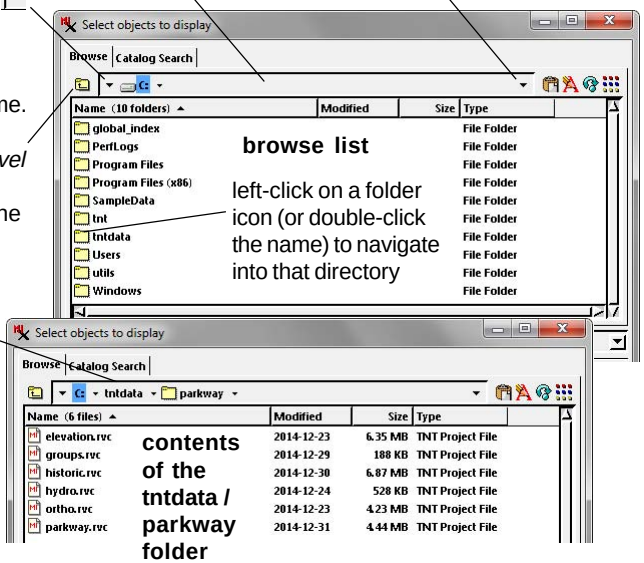
This arrow icon button opens a menu of recently-selected folders

navigation bar

Press the *Locations* icon button to see a dropdown menu that lets you select the desired drive or volume.

Press the *Up One Level* icon button to move upward one level in the path.

You can jump backward to any level in the current path by clicking on the name of a folder (or drive/ volume name) in the navigation bar.



Select Objects for Display

STEPS

- ☑ in the browse list, left-click on the icon for the PARKWAY Project File to navigate into the file
  parkway.rvc
- ☑ left-click on the Size column heading once or twice until the ORTHO raster object is at the top of the list
- ☑ press the Add All icon button on the Selected tabbed panel
- ☑ note the objects added to the list on the Selected panel
- ☑ press the OK button on the Select objects window

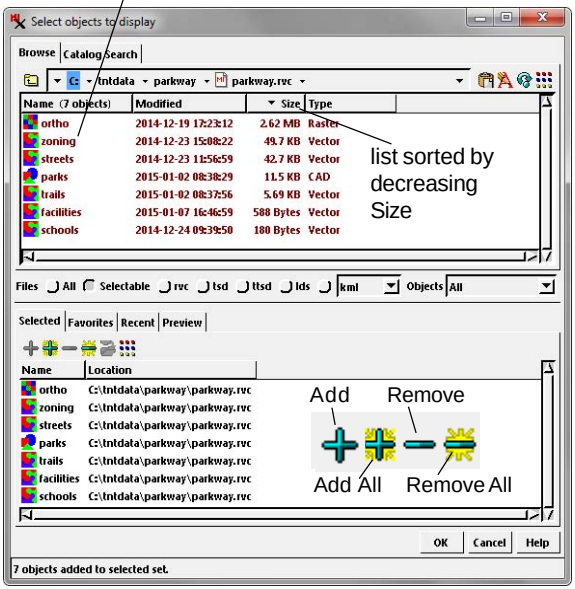
Objects that have already been added to the selected list are shown in brown in the browse list.

The *Select objects* browse list for the PARKWAY sample data folder shows the names and icons for all of the Project Files in the folder. You can use the browse list to navigate into any MicroImages Project File to see the list of objects it contains and select one or more objects for use. You can select an object in the browse list in several ways:

1) left-click on the object's icon
2) double-click on the object name
3) left-click on the object name to highlight it and press the Add icon button in the Selected panel
4) press the Add All icon button in the Selected panel to add all objects in the browse list

The selected objects are shown in the list in the Selected tabbed panel. You can add and remove objects from the selected list as needed, then press the OK button to accept the selection.

The default browse listing for a Project File includes columns with the object type, date last modified, and the stored size of the object. You can left-click on any column heading to sort the list by the entries in that column; left-click again on the same heading to invert the sort order. When you select multiple objects for display, the objects are added to the display in the order in which they are currently listed in the *Select objects* window: the object at the top of the list becomes the first (bottom) layer in the display.

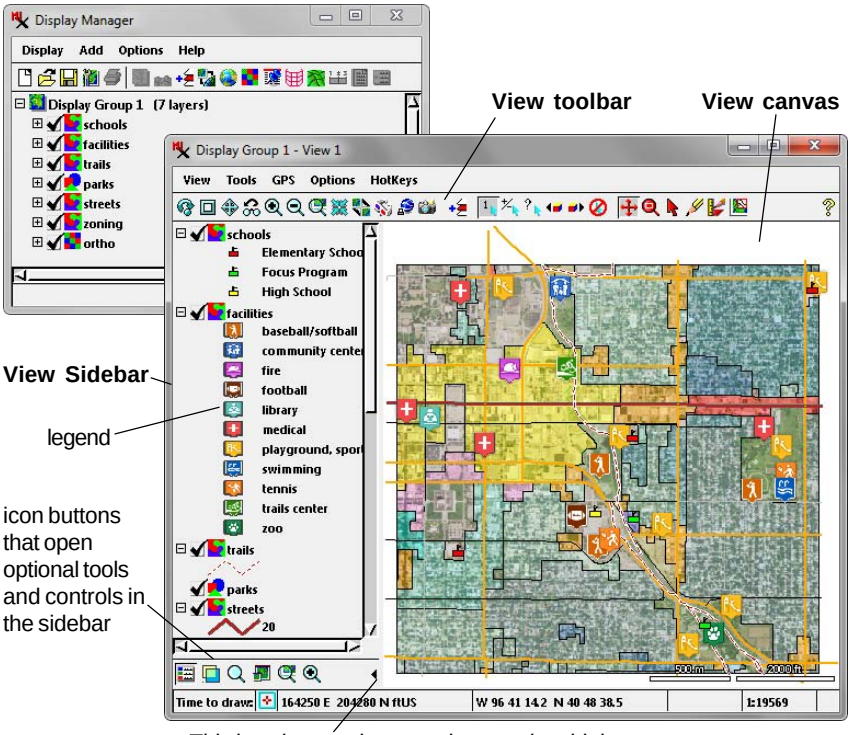


Your First Display

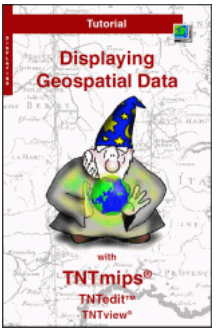
The objects you selected in the previous exercise include a raster object (an orthoimage color-composite), a CAD object, and several vector objects. These objects have now been added as *layers* to the list in the Display Manager window. The process has also opened a *Display Group - View 1* window in which the layers have been drawn in the View canvas. The size sorting we imposed when selecting the objects placed the ortho raster at the bottom of the stack of layers in the View. The *sidebar* in the View window includes a legend that shows the significance of the various display styles that have been set up for the geometric objects in the display. These objects have also been set to show attribute information in the DataTip.

STEPS

- ☑ hold the mouse cursor over the icon buttons in the Display Manager and View toolbars to see a ToolTip explaining their functions
- ☑ examine the list of layers and their styles in the sidebar legend in the View window
- ☑ place the cursor over various locations in the View to expose a DataTip with attribute information for the elements at these locations



What Next?



Congratulations! You have now learned how to select geospatial objects and have created your first display in your TNTgis software product. As a next step, we recommend that you consult the tutorial *Displaying Geospatial Data*, which provides a more complete introduction to the Display process.

Other tutorials provide introductions to most major processes in the TNTgis software products, as well as providing important background information. The tutorials listed below are good starting points:

Coordinate Reference Systems
Georeferencing
Editing Vector Geodata
Rectifying Images
Managing Geoattributes
Managing Relational Databases
Creating and Using Styles

Languages and Fonts

You can configure the visual interface of your TNTgis software product to show menu entries and control labels in any of a number of languages. To open the language selection window in TNTmips, choose Tools / System / Language from the TNTmips menu. In TNTedit, press the Options icon button in the TNTedit toolbar and choose Language from the menu. In TNTview, choose Options / Language from the TNTview window. You can also use any TrueType font on your computer system for the interface text. To open the Font List Selection window in TNTmips, choose Tools / System / Fonts; in TNTedit, TNTview, and TNTatlas, choose Options / Setup Fonts. For more information about languages and fonts, see the Technical Guide entitled *System: Use the TNT Products in Your Language.*

Closing Processes and Exiting the Software

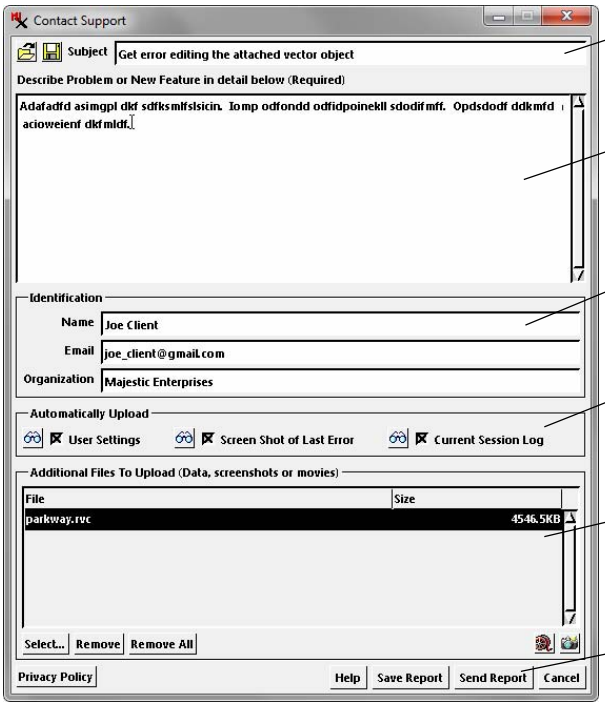
When you are finished with a TNTgis session, close each active process. You exit Display (and TNTview) by selecting Exit from the Display menu in the Display Manager. You can also exit any process using the Close icon button in the top right corner of the main process window (top left on Mac computers).

You exit TNTmips by selecting Exit from the Main menu on the TNTmips menu bar. You exit TNTedit by pressing the Exit icon button in the TNTedit toolbar.

Contacting Software Support

The Contact Support feature in each TNTgis software product is the most efficient way to obtain free technical assistance from MicroImages. The Contact Support form can be used to send an e-mail request for help in using your TNTgis product, to request new software features, and to report errors. The form provides an easy way to ensure that you transmit all the information that MicroImages software support engineers need to help you promptly and efficiently.

Choose the Contact Support option from the Help menu in any TNTgis software product to open the Contact Support window illustrated below. The upper part of the window provides a form with fields for entering an e-mail subject, text describing the assistance you require, your name, e-mail address, and your organization. The lower part of the window provides controls allowing the process to automatically upload your user settings file, a screen shot of the last error message you encountered, and the current session log, all of which can be useful in pinpointing the source of a software error. You can also automatically select and submit data, screenshot, or movie files by using the Select pushbutton in the *Additional Files to Upload* panel. Your materials will be treated as confidential and will only be used to assist you.



Enter an e-mail subject

Enter the text of your request

Enter your name, e-mail address, and organization

Accept the default settings for automatical upload of supporting files

Select data, screenshot, or movie files to submit with your report

Press the Send Report pushbutton

Advanced Software for Geospatial Analysis

MicroImages, Inc. publishes a complete line of professional software for advanced geospatial data visualization, analysis, and publishing. Contact us or visit our web site for detailed product information.

TNTmips Pro TNTmips Pro is a professional system for fully integrated GIS, image analysis, CAD, TIN, desktop cartography, and geospatial database management.

TNTmips Basic TNTmips Basic is a low-cost version of TNTmips for small projects.

TNTmips Free TNTmips Free is a free version of TNTmips for students and professionals with small projects. You can download TNTlite from MicroImages' web site.

TNTedit TNTedit provides interactive tools to create, georeference, and edit vector, image, CAD, TIN, and relational database project materials in a wide variety of formats.

TNTview TNTview has the same powerful display features as TNTmips and is perfect for those who do not need the technical processing and preparation features of TNTmips.

TNTatlas TNTatlas lets you publish and distribute your spatial project materials on CD or DVD at low cost. TNTatlas CDs/DVDs can be used on any popular computing platform.

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