

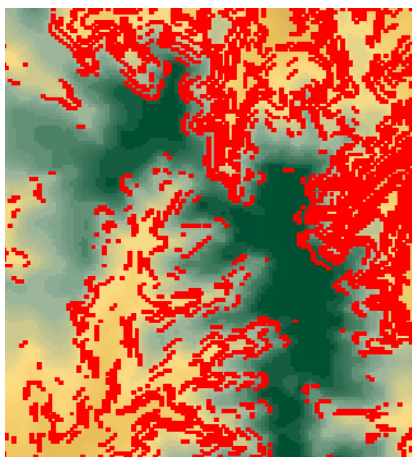
Environmental Planning

TNTmips provides powerful spatial analysis tools that can assist you in addressing wide variety of environmental issues such as soil and slope analysis, watershed analysis, landuse and ground water protection, ecological assessment for vegetation, wetlands and habitats, air quality, energy etc. With GIS, image processing, 2D/3D visualisation and geospatial analysis tools, TNTmips enhances understanding and analysis of the environment, related hydrological, geological and ecological systems, and human development. TNTmips also supports collaborative environmental management by providing a variety of data publishing methods such as creating electronic atlases, Google Earth overlays, and 3D simulations.



Visualize in 2D and 3D

TNTmips provides a wide range of 2D and 3D visualization options to enhance interpretation and presentation.



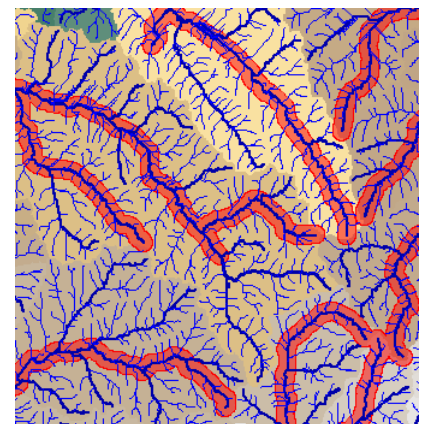
Areas with slope more than 15% displayed over the thematic elevation layer.

- **Data classification:** create color theme maps or graduated symbol maps for visualisation and analysis [more](#)
- **3D views:** open oblique perspective 3D views to visualize your overlays with full control over viewing geometry [more](#)
- **Stereo:** use 2D, 3D perspective or stereo view for better visual understanding of spatial relationships [more](#)
- **Layer integration:** use transparency effects, and advanced viewing tools in 2D and 3D displays to visually integrate map data with other layers [more](#)
- **Query layers:** query attributes to select elements to answer location questions [more](#)
- **Layer combination:** query attributes of spatial layers of different types, and combine the results on-the-fly using simple formulas [more](#)
- **Digital photo integration:** visually integrate geotagged digital photos into maps as symbols or pop-in photo keyed to cursor location [more](#)

Apply Spatial Analysis in 2D and 3D

Use wide variety of spatial analysis tools to derive new information from the existing layers.

- **Topography:** create digital elevation maps (DEMs) from LIDAR, contour, point, and other environmental data sources and compute, slope, aspect, viewshed, watershed structure, ... [more](#)
- **Watersheds:** compute local directions of flow, stream order and network, stream reaches, boundaries between watersheds, and the basins associated with the particular branches of the stream network [more](#)
- **Buffer zones:** create buffer zones to generate a zone influence of a specified distance around selected geographic elements [more](#)
- **Merging:** merge two or more layers of geometric data covering the same area using a variety of operations (union, intersect, subtract etc.) [more](#)
- **Multi-criteria decisions:** compare a number of alternatives based on selected criteria [more](#)
- **Build-Out:** use variety of visualization, overlay, relational database tools to compare the impacts of plans on environment [more](#)



Watershed analysis that shows the flow paths and watersheds, and 500 m buffer zones of only the perennial streams.

Monitor Changes Using Remote Sensing

TNTmips includes a full range of tools for enhancing images to use for recognizing natural and urban land cover.



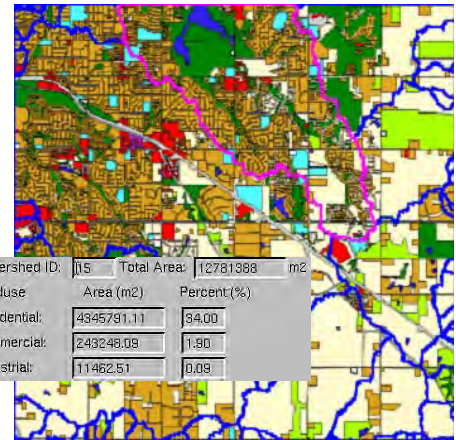
Transparent floodplain layer displayed over an orthophoto.

- **Enhancement:** on-the-fly contrast enhancement, spatial filtering, reprojection in the display and edit processes, and other image enhancements [more](#)
- **Rectification:** reproject base images to any map reference system and orthorectify satellite images [more](#)
- **Multispectral:** pan-sharpening satellite images for added resolution, band ratios to highlight classification [more](#)
- **Classification:** image classification and feature mapping to distinguish one land cover type from another [more](#)
- **Custom:** powerful geospatial scripting environment for developing custom processing and enhancement tools [more](#)

Create New Spatial Layers

You can create or alter your Vector, CAD, TIN, shape, raster environmental data layers or relational spatial databases using the powerful layer editor.

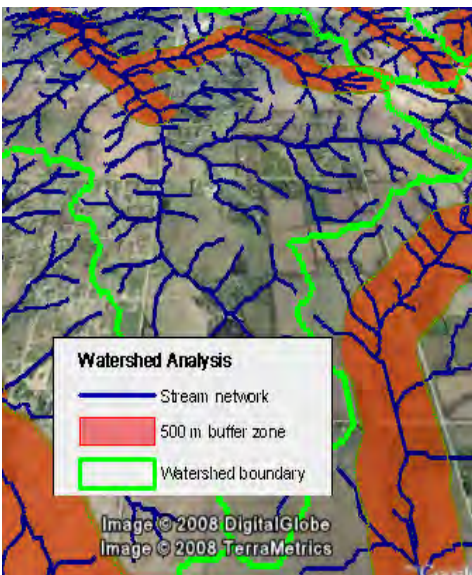
- **Interpret:** create new environmental layers by drawing over composites of aerial or satellite images, scanned field map, contour lines, Internet servers, ...
- **Edit:** edit any layer in a composite view with powerful interactive tools, automatic backups and multiple undos [more](#)
- **Data integration:** create new layers by cutting and pasting between layers, combining layers, dissolving adjacent polygons based on shared attributes [more](#)
- **Relational database:** create new attributes for layers using relational database structure, or linking to existing external database
- **Templates:** use templates to define relational database structure, database picklists, and styles [more](#)



land use information shown in the database table for the selected watershed.

Publish Hard-Copy and Electronic Versions

Use TNTmips to lay out map data for printing, distribution as PDF/GeoPDF files, or as electronic atlases.



Map layout rendered to KML and displayed in Google Earth.

- **Complete map layouts:** make hard-copy map layouts with map grids, legends, scale bars, database tables, marginalia
- **Publish to PDF/KML:** publish complete hard-copy layouts as KML files for Google Earth or georeferenced PDF files for easy electronic distribution [more](#)
- **Publish as electronic atlas:** create electronic atlases to view in Microlmages FREE TNTAtlas product with layer control, pop-in attributes keyed to cursor location, and access to complete attribute tables [more](#)
- **3D simulations:** use FREE TNTsim3D to enhance public perception of alternatives using 3D simulations and movies
- **Web-based mapping:** share your maps online by publishing your electronic atlases using TNTserver, view these atlases and combine them with web layers from other sources using FREE TNT clients such as a MAC widget, Windows Webap, iPhone, ... [more](#)
- **Data export:** export maps and map data to wide range of geospatial and relational database formats such as shape, geodatabase, KML, SID, SVG, ... [more](#)