

TerrainTools® Forestry

3D Mapping Designed for the Forest Industry

SIMPLE, AFFORDABLE, EASY.

Terrain Tools® Forestry is an easy to use software toolkit for planning and designing forest operations. It includes traverse field note capture, mapping and cable logging analysis.



TRAVERSE NOTE ENTRY

Terrain's Survey/Map module provides facilities for field note capture, adjustment and display. It can be used with a variety of survey equipment and accuracy requirements, including clinometer/compass, theodolite, level and EDM. A complete range of survey data management facilities from field note entry to production of scaled maps is provided.

Two main screens are available for entering and manipulating survey data: a customized spreadsheet for field note capture (Traverse Screen) and a plan display window for displaying one or more traverses (Map Screen).

MAPPING

Terrain Tools Forestry provides quick and easy mapping tools, ideally suited for the busy forest engineer who is not a GIS specialist. Maps can be quickly created using information from a variety of industry standard formats.

Features can be selected, edited, formatted and manipulated by name, coordinate range, property or layer. Operations are provided to move, scale, rotate, intersect, break, join and offset features. CAD functions are provided for control of color, linetype, symbols, hatching, and annotation of distances, bearings, and stations etc.

SITE PLANS

Terrain Tools Forestry includes a complete set of tools for creating site plans for bridges, log-dumps, major culverts, fish passage and stream restoration projects.

A 3D digital terrain model (DTM) and contours can be generated at user specified intervals and viewed in a variety of formats. Profiles can be created by 'draping' a feature over a digital terrain model. Profile elevations are calculated instantaneously from the model and displayed in a profile window. Design and grading functions are provided in both plan and section. Earthwork quantities between surfaces can be calculated and exported.

CABLE LOGGING

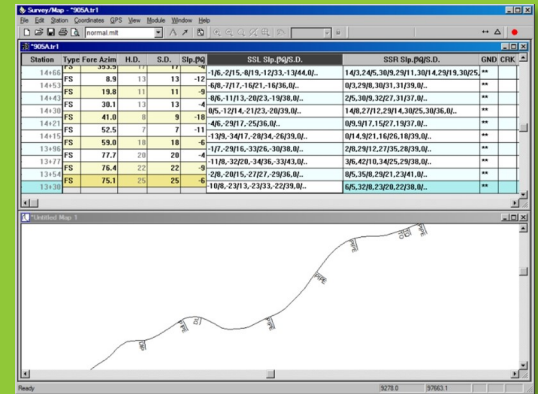
The Cable Analysis module provides functions for analyzing cable harvesting systems. Operating in conjunction with the Terrain and Survey/Map modules, this module simulates most common logging systems including highlead, running, standing and live skylines.

Working from either 'field run' profiles or contour maps, the user can analyze payload, clearance, and line tensions. Different types of equipment and logging configuration can be rapidly evaluated. Alternately, a planner can do a quick preliminary analysis of % deflection without getting into technical details.

KEY FEATURES

SURVEY: TRAVERSE NOTE ENTRY AND REDUCTION

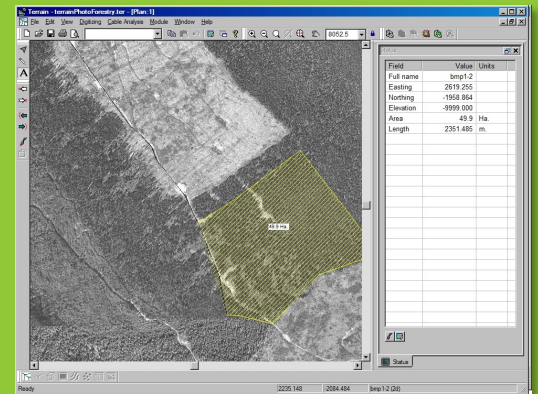
- Configurable traverse note entry supporting a variety of formats, such as clinometer/compass, theodolite, level and EDM.
- Quick side shot entry including cross section view and user defined columns.
- Survey reduction.
- Map display.
- Connecting and adjusting multiple traverses such as blocks, roads, and tielines.
- Compass Rule adjustment and closure error calculation.
- Export and import notes to ASCII format.
- Direct interface to GPS devices with cursor tracking in Map Window.
- Set an absolute coordinate or insert a shot from current GPS position.



Survey / Map Screen

TERRAIN: IMPORT/EXPORT AND COORDINATE SYSTEMS

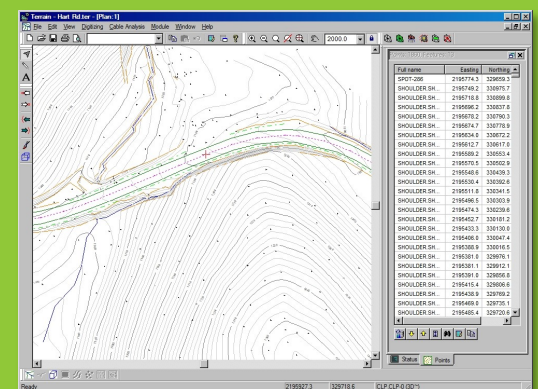
- Import: TIF, JPG, BMP, ASCII, SHAPE, MS Excel, DXF, DWG, USGS DEM, SDTS, MrSID, ECW, GPX, MapInfo, LandXML, ARC Grid, KMZ, MIF/MID and GML.
- Export: ASCII, DWG, DXF, BMP, JPG, TIF, SHAPE, LandXML and KMZ.
- Direct interface to Garmin GPS devices.
- Thinning and coordinate transformation on import.
- Assignment of symbology, breaklines, and modelled properties on import.
- Support for coordinate systems including Lat/Lon, UTM, State Plane, Albers Equal Area and many others.
- Conversion between coordinate systems and datums using NADCON or NTv2 grid shift files.



Features with an Image Background

TERRAIN MAPPING:

- Creation and plan display of linear or point features.
- Entry of features by coordinate or bearing and distance.
- User defined attributes.
- Calculation of areas, lengths, bearings and slopes.
- Feature formatting (annotation, linetypes, symbols hatching), and manipulation (move, size, rotate, break, join etc.).
- Curves, buffering and clipping.
- Feature/point densification and simplification.
- User definable symbols, linetypes and bitmap hatching.
- Image cropping, resolution control and rubber sheeting.
- Creation of output sheets including plan, profile, title blocks, legends etc.

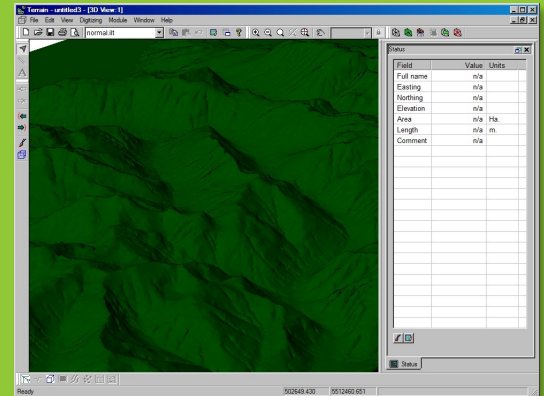


Terrain Mapping Features

KEY FEATURES

TERRAIN: SURFACE MODELLING AND DESIGN

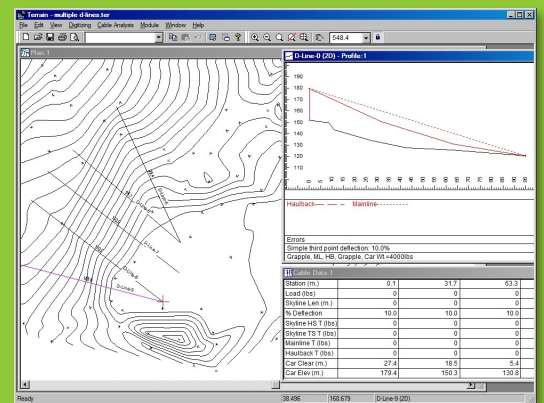
- TIN surface generation.
- Triangle control using breaklines, boundaries, void areas and maximum triangle side length.
- Surface shading by elevation, slope and aspect.
- Slope vector display.
- Surface to surface volume, surface area and average slope calculations.
- 3D display of features and TIN surfaces.
- Creation of profiles by draping over a surface model.
- Editing features in profile or cross section.
- Display of projected and intersected features in profile.
- Projection of features on multiple surfaces eg. sub-surfaces
- Grading design for polygonal shapes such as ponds, pads, pits etc.
- Merging TIN surfaces.



3D Model

TERRAIN: CABLE ANALYSIS

- Modelling most common logging systems including highlead, running, standing and live skylines.
- Works from either 'field run' profiles, contour maps or TIN surfaces.
- Analyzes payload, clearance, and line tensions.
- Support for different types of equipment and carriage/line configurations.
- Diagnostic error reporting.
- Multi-profile printed output.
- Modeling of haulback tension, clamping and non-clamping carriages is provided



Cable Analysis

SYSTEM REQUIREMENTS:

- Windows XP, Vista, Windows 7, 8, 8.1
- 64 Mb system RAM (128MB recommended)
- 800 x 600 resolution (1024 x 768 recommended)
- M256 colors (16 bit, thousands of colors, recommended)
- 70 Mb disk space (full installation including samples)
- Optional digitizer (must be Wintab compatible)

FUNCTION COMPARISON

TerrainTools®

	Field	Forestry	Rec (2D)	3D
TERRAIN CE BASE				
Windows CE handheld - field note entry, plan, profile display.	✓			
Windows CE handheld - cable logging profiles and deflection calculation.	✓			
Windows CE handheld- interface to laser guns (RS232 and Bluetooth).	✓			
TERRAIN BASE				
Basic mapping and CAD functions.		✓	✓	✓
Import of TIF, JPG, BMP, SHP, Mr.SID, ECW, LAS, GPX, GML,ASCII, MS Excel, DXF, DWG, USGS DEM, SDTS, Land XML, DGN		✓	✓	✓
Import from GPS		✓	✓	✓
Export to ASCII, DWG,DGN, DXF, SHAPE, TIF, JPG, BMP and LandXML.		✓	✓	✓
Multi-Plot – creation of output sheets, title blocks, legends, north arrows etc		✓	✓	✓
Digitizing – tracing areas and lengths from scaled maps.		✓	✓	✓
Extended CAD functions: curves, buffering, and clipping		✓	✓	✓
Profiles – display of profiles.		✓		✓
Profile Drafting & Design – provides editing in the profile window.		✓		✓
Surface Generation & Contouring – includes TIN generation and display.		✓		✓
Volume Calculation & Reporting – volumes and surface area calculations.		✓		✓
3D Window – perspective display of 3D features and TIN surfaces.		✓		✓
Image Adjustment – rubbersheeting images.		✓		✓
TERRAIN FORESTRY				
Survey – traverse note entry, adjustment and display.		✓		
Cable Analysis – payload and deflection calculations.		✓		



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