

WinGeonet - Geonet for Windows



R. Ruland, M. Gaydos, C. Le Cocq

Stanford Linear Accelerator Center, Stanford, CA 94309,
USA.

In 1985 development was started on a database system to automate the flow of survey data and expedite the alignment process. This program was called Geonet, an acronym for **G**eodetic **N**etworks. Geonet is a data management system designed to simplify the collection, storage and processing of large amounts of surveying data. This original program was written for IBM compatible computers running the DOS operating system. WinGeonet is the evolution of Geonet from the DOS operating system to the Windows operating system. WinGeonet currently has the capability to upload, reduce, and adjust observations from the following sources:



Angle observations
from Kern E2, and
Leica Txxx series
instruments.



Distance observations
from Leica TC2002,
TDA5000.



Leveled height
observations from
Leica N3, NA300x.



Angle and distance
observations from
Leica LTD 500.



Distance observations
from Kern ME5000.



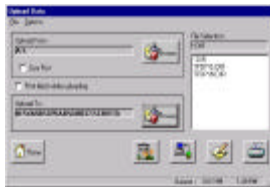
Angle and distance
observations from
Leica TC2002,
TDA5000.



Angle and distance
observations from
SMX 4000, 4500.



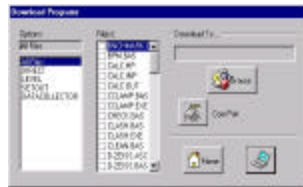
Upload Field Data



"Upload Field Data" uploads field data into the Geonet data structures. Data can be uploaded directly from a field computer via its COM port, or indirectly via a floppy or PC card. Files can be edited and printed before being uploaded either generically or by user defined print and edit functions based on file extensions.



Download Data



"Download Data" allows field programs along with support files (retrieved coordinate, ideal coordinate and instrument calibration files) to be loaded directly into a field computer via its COM port, or indirectly via a floppy or PC card. User defined templates can also be created to group together related files.



Data Reductions



"Data Reductions" takes the raw field observations and applies any necessary corrections (geometric, atmospheric etc.) and formats the observations into result files which are used to create the adjustment input file. The reduction programs are user defined and based on file extensions.



Create Job(s)



"Create Jobs" allows the user to create folders that will contain the field observations. The folders are created based on the location and type of the measurement for a particular job.



LEGO Adjustment

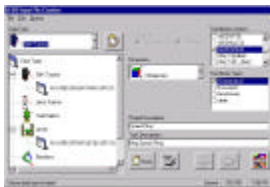


- L2 Norm Least Squares Adjustment
- L1 Norm (blunder detection)
- Simulation (No real data, error propagation only)

"LEGO Adjustment" is the analysis engine. LEGO automatically calculates approximate coordinates for any unknown points. It will solve one, two or three dimensional networks using either a "L1 Norm" (blunder detection) or a "L2 Norm" adjustment. It allows constrained, unconstrained (free), and connected datum definitions for networks.



Create LEGO Input File



"Create LEGO Input File" assembles an input file for the LEGO adjustment program from user selected reduced data. Coordinates can be included from the Geonet database or from user selected coordinate files.



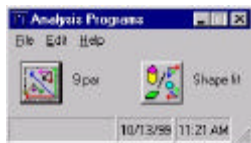
Coordinate Database



"Coordinate Database" allows the retrieval (shown here) and updating of the Geonet coordinate database.



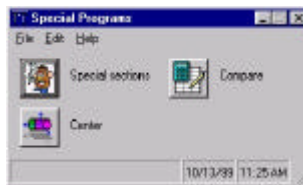
Post Analysis



"Post Analysis" provides access to transformation and shape fit programs for use in the post processing of data. Additional programs may be added to this menu by the user.



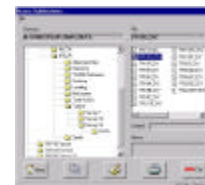
Special Programs



"Special Programs" provides access to various utility programs. This list is user defined.



Access Data Folders



"Access Data Folders" is a directory and file manager pre-configured for the Geonet data structure.