Grid Terrain Correction Module README

Gravity terrain corrections are accomplished using the PERL script *terrain_corr2.pl* and a configuration file that specifies the information needed to execute the code. The format of the configuration file is KEYWORD=VALUE. Do not change the KEYWORDs; you may only modify the VALUEs. Three configuration files are included with this module to test three DEM files with different grid resolutions:

terrain90m.conf : this files contains the setting using a 90-meter DEM
terrain30m.conf : this files contains the setting using a 30-meter DEM
terrain10m.conf : this files contains the setting using a 10-meter DEM

A text file of gravity values is required. The format of the file is four data columns separated by spaces or tabs:

easting northing gravity_value(units=mGals) elevation(units=meters).

This file has been provided:
gravity_data_62E-63E_459N-460N.utm

The final required file is a digital elevation model (DEM). These are often very large files. For this exercise the DEM file will be downloaded from an **ftp** file server (see link below):
ftp://gravity:Sca219@131.247.211.166/GLY6739/DEMs/

There are 3 DEM files in this ftp directory:

medicine_lake_10m.utm.2.asc
medicine_lake_30m.utm.2.asc
medicine_lake_90m.utm.2.asc

Be aware that the login name is gravity and the password is Sca219. Save these files to your computer. An easy command line way to retrieve a file is:
wget ftp://gravity:Sca219@131.247.211.166/GLY6739/DEMs/medicine_lake_90m.utm.2.asc

Use these files with the appropriate configuration file when executing the terrain correction PERL script. Each configuration file correctly specifies the map boundaries of each DEM file. Of course you can edit the values in the configuration file if ncessary.

To execute the script, at the command line type:
perl terrain_corr2.pl *<configuration file> > <output file>*
(note: type in your configuration file instead of *<configuration file>* and your output file name instead of *<output file>)*

The *output* of the PERL script is a listing of terrain corrections for each *input* gravity value. The *output* values are redirected to a file using the symbol ">". The format of the output file is 5 data columns:
easting northing gravity_value(units=mGals) elevation(units=mGals) correction(units=mGals)

The final column is the code output, the terrain correction to be applied. Tho other columns are copied from the input file.