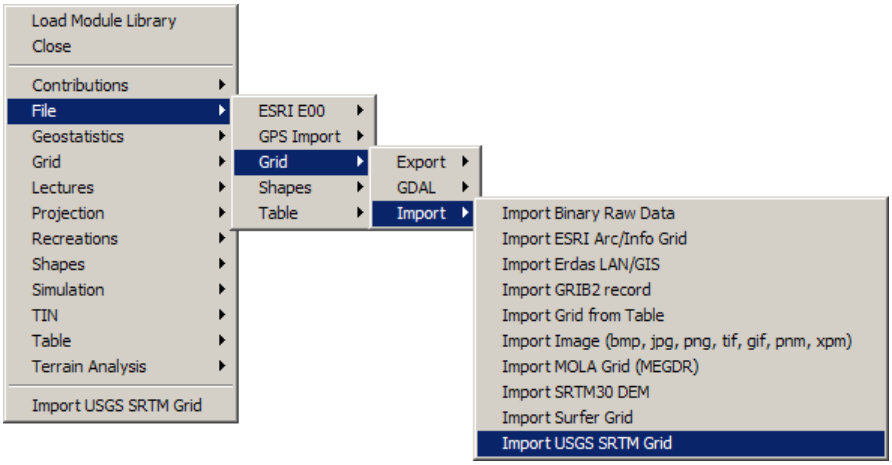
A note on the use of SAGA GIS

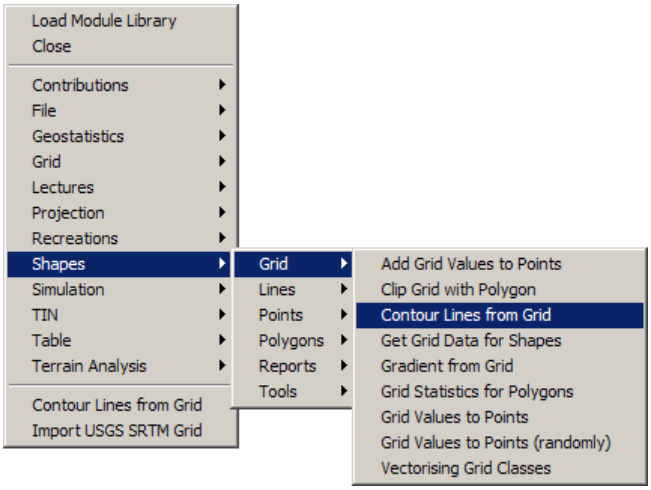
SAGA – **S**ystem for **A**utomated **G**eoscientific **A**nalyses – is a free-ware GIS system developed by University of Göttingen; the home page is http://www.saga-gis.uni-goettingen.de/. SAGA GIS can be used to make WAsP height contour (vector) maps from different kinds of gridded (raster) data.

Processing an SRTM grid for WAsP use

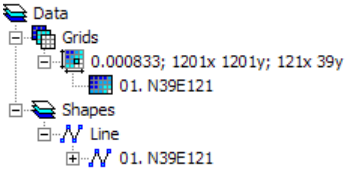
Once you have downloaded and unzipped a 1°×1° tile, import the grid from the **Modules** menu:



Make the height contours from the **Modules** menu, selecting the range and contour interval:

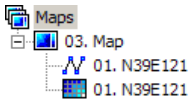


The **Data** workspace should now look something like this:

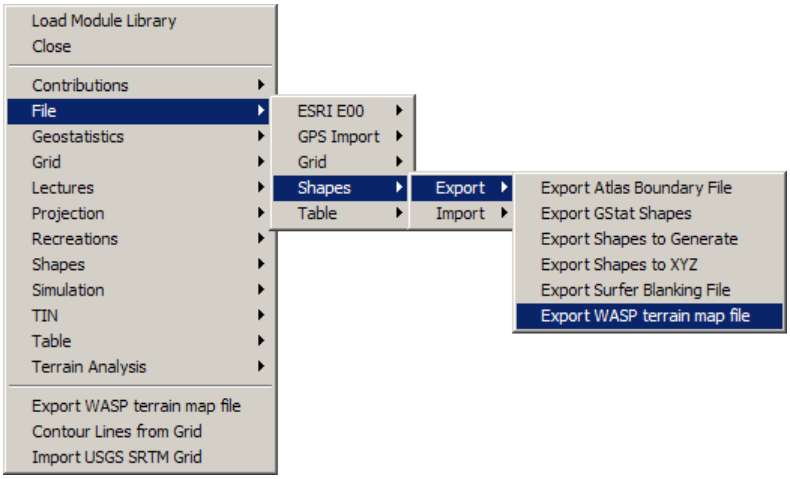


where the **Grids** section contains the SRTM grid and the **Shapes** section the contour lines.

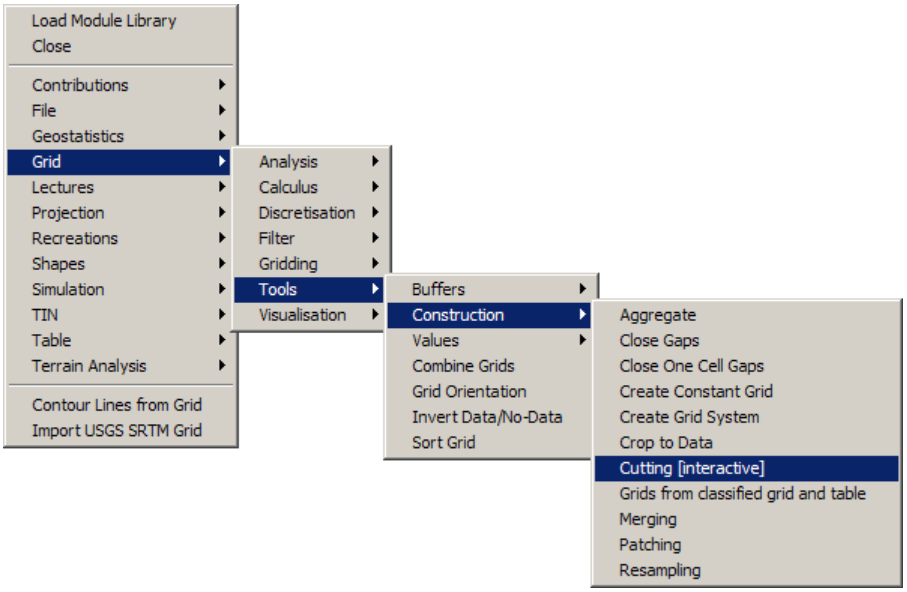
Double-click the grid, e.g. “01. N39E121”, to display it – same goes for the Shape “01. N39E121”. The **Maps** workspace could look something like this:



Finally, export the height contours to a WAsP terrain map file from the **Modules** menu:

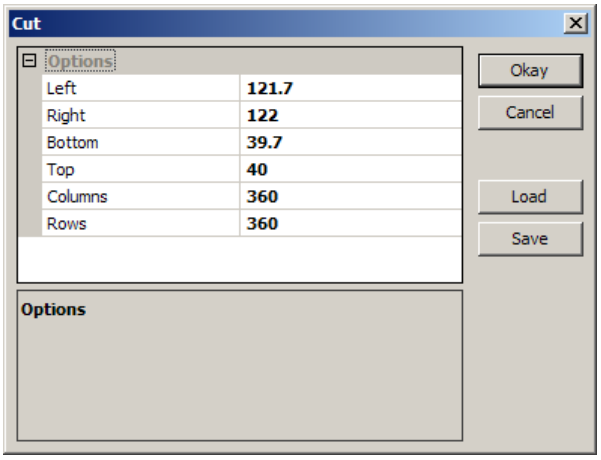


Each SRTM3 grid file covers a 1°×1° tile and contains 1201×1201 cells; an SRTM1 (US only) grid file also covers a 1°×1° tile but contains 3601×3601 cells. This is sometimes too much information too process or too large an area. The imported SRTM grid can then be cut from the **Modules** menu:



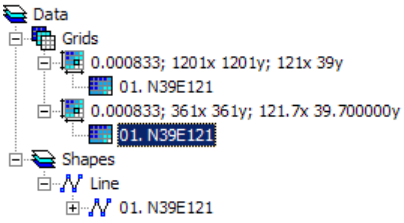
First, show the grid in a **Map** window. Next, start the **Cutting** tool, select the grid system and grid and click **Okay**. Next, select the **Action** pointer (the black arrow) in the toolbar:

In the **Map** window, drag out (left click and drag) the approximate area for the sub-grid that you would like to extract. A **Cut** window now pops up:

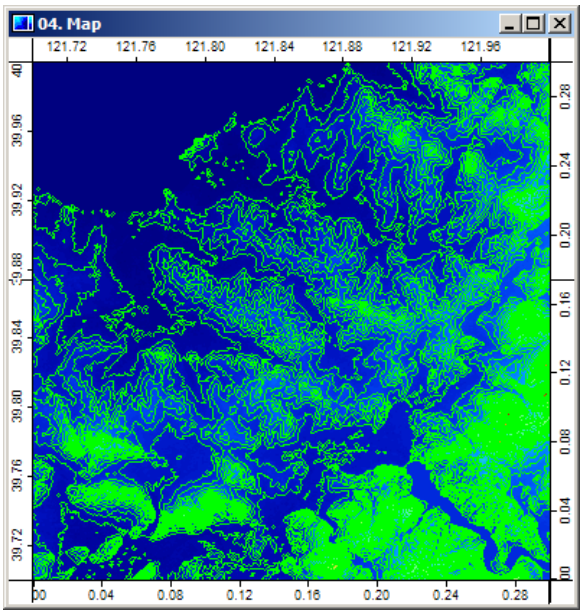


The sub-grid configuration may be changed here. Press **Okay** to continue. Finally, you must stop the interactive cutting module again by deselecting it in the **Modules** menu. You will not be able to use other modules before this interactive one has been shut down!

The **Data** workspace should now look something like this:



The new (sub)grid can be contoured and exported as a WAsP map file as described above.



The coordinates of the exported WAsP map file are geographical latitude and longitude; these must be transformed to a metric coordinate system in the WAsP Map Editor:

1. **Open** the map in the Map Editor.
2. Click **Yes** to switch to geographic Lat-Lon coordinate system, and then **Ok** twice.
3. Next, select **Tools** | **Transform** | **Projection**.
4. Select **Global Projections** | **UTM projection** for the Projection Type.
5. Leave Datum as WGS 1984 (or change to other) global/local datum.
6. Press Ok to transform map coordinates.

The map editor window could now look something like this: