GTOPO30 DEM

Files you need:

The DEM Op calculated terrains based on the GTOPO30 Digital Elevation Maps which are distributed by FTP (at no cost) or via a 5 CD-ROM set. It's as far as I know the best global data set freely available. The data points in this elevation map are regularly spaced at 30-arc seconds (approximately 1 kilometer).

GTOPO30 is available electronically at the EROS Data Center via anonymous ftp at ftp://edcftp.cr.usgs.gov/pub/data/gtopo30/global

Set the transfer type to "binary" . The downloaded file sets need to be uncompressed with a program which is able to uncompress *.gz and *.tar files, i.e. Alladin's Stuffit Expander. The file that you need from the set is the file ending with ".DEM". It's size is over 50 MB. The other files are not used by BSmooth, but may be used by other programs.

For more information about these data sets link your Browser to:
http://edcwww.cr.usgs.gov/landdaac/

How to set the Options...

First you should locate your position in the world map below and retireve the DEM files that you need. Files are named according to the longitude and latitude coordinates of the upper-left corner of the tile, followed by the extension ".tar.gz". For the Antarctica polar stereographic data, change to the "/pub/data/gtopo30/antarctica" subdirectory and retrieve the file antarcps.tar.gz.

n example, if you would like to create a terrain for the island Tenerife, which lays before the north eastern coast of Africa, then you need to retrieve the file W020N40.tar.gz from the net or the CD.

Unpack it, and locate W020N40.DEM. Then link it to the GTO-DEM Op: Click onto the Op's caption and locate it in the following open dialog.

Now call the option dialog with a click onto the Op's icon. The DEM Op needs four parameters:
The first are Latitude and Longitude of the center coordinate of the Sampling area. Then it asks for the sampling height/width. The sampling width/height sets the extension of the Sampling area. It's shown both as native DEM pixels and degrees.
The empty area value assigns the given height to undefined areas (usually these areas are open sea).
Southern latitudes and western longitudes have to be be preceeded with a minus sign.

If you knew the exact coordinates of your sampling area, you may simply fill them into the dialog. However, if you don't have them, then you may start with a rough estimate retrieved from the "World Map" control panel. It's part of the system software, and if you've already trashed it, you will certainly find a reason to reinstall it now ;-)

Simply click on the point you would like to have in the center. I've done that and got the coordinate 28° N, 15° W. Now I have used a large sampling area (1 K), and provided the coordinates from the "World Map" control panel (note that I have had to add a a minus sign to the eastern coordinate!)

hen I have adjusted the coordinates so that the island Tenerife was displayed in the center. At last I have adjusted the sampling area size. If you map 1 DEM pixel to 1 terrain pixel, then you get the maximum resolution. So it doesn't make sense to create a 1024-pixel terrain of this sampling area... 128 is enough here!

ou also can use the "Wold Map" control panel to retrieve the exact coordinate of a certain city. Type in the name of the city, i.e. "Hannover" and hit the "Where?" button. (I have a German system here, so the exact spelling onto the buttons may differ slightly, but you'll get the idea).

Now World Map spits out the geographic coordinates of Hannover (52°23' North, 9°43' East). If precision isn't a major concern then you can omit the minute part. If you need to get the exact coordinates, you have to convert the minutes in the decimal System. This is easily done by dividing the minute part by 60:

i.e. 23/60=0.3833…, so the exact North coordinate of Hannover is 52.383°