# Bathymetry Morphometry

## Rationale:

This tool creates several output raster derivatives from a single banded raster bathymetry grid.

## Usage:

There are five options:

- To create an interpolated bathymetry grid with less or no gaps in its coverage. A smoothing or filling factor in pixels is applied, calculating the average pixel value for the area but only applying this value to pixels that had NoData.  It does not alter pixel values of known depths.  A default value of 7 pixels kernel size is suggested but can be changed by the user if required.
- To create a slope map from the input bathymetry file or the interpolated file if created
- To create a roughness map from the input bathymetry file or the interpolated file if created
- To create a higher resolution raster grid from the input file or the interpolated file if created. Higher resolution is created with interpolation between the original grid squares. A default grid resolution of 100m is suggested but can be changed by the user if required..  This interpolation is processing intense and can take some time.  This option produces some intermediate files in the tempMT directory.
- To create a set of vector contours at the specified contour interval.  Small contours, of length less than ten times the pixel resolution, are removed as are often small anomalies of less than 6 pixels in areal extent. A default contour interval of 10m is suggested but can be changed by the user if required.

The user will have to change the "Do?" tick boxes to select which of the derivatives are done.

The input raster file will suggest output raster filenames (in the same directory) but with an additional descriptive postscript added to the filename.  These can be edited by the user if desired.

Example: