

NAME

mbm_grdcut – Macro to extract a specified subarea of a GMT GRD grid file as another GRD file.

VERSION

Version 5.0

SYNOPSIS

mbm_grdcut **-Iinfile -Ooutfile -Rw/e/s/n [-H -V]**

DESCRIPTION

mbm_grdcut is a macro to painlessly cut out a region from a GMT GRD grid file. The GMT program **grdcut** requires that one specify bounds which exactly match grid cell boundaries. Frequently, one just wants to extract an approximate region quickly, without calculating grid cell sizes and boundary locations. This macro does the calculations and extracts the subregion closest to that specified by the user.

MB-SYSTEM AUTHORSHIP

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OPTIONS

- H** This "help" flag cause the program to print out a description of its operation and then exit immediately.
- I** *infile*
 Sets the filename of the input GMT grid file. This file must be in the GMT NetCDF GRD format.
- O** *outfile*
 Sets the filename of the output GMT grid file. This file will be in the GMT NetCDF GRD format.
- R** *w/e/s/n*
 Sets the bounds of the area to be extracted from the input grid file.
- V** The **-V** option causes **mbm_grdcut** to print out status messages.

EXAMPLES

Suppose that we have used **mbgrid** to obtain a topography grid file called *KohalaA_bath.grd* in the GMT NetCDF GRD format:

```
mbgrid -Idatalist \
  -OKohalaA_bath \
  -R-155.72855/-155.31928/20.09488/20.47645 \
  -E30.0/0m! -A2 -N -G3 -C1 -V
```

Further suppose that one wishes to extract a smaller grid with bounds of 155 degrees 31 minutes W to 155 degrees 26 minutes W in longitude and 20 degrees 13 minutes N to 20 degrees 18 minutes N in latitude. This can be done using the GMT program **grdcut**, but **grdcut** requires that the user specify bounds that exactly match the grid cell boundaries in the file. The **mbm_grdcut** macros allows one to specify approximate desired bounds, calculates the exact, nearest bounds that **grdcut** will accept, and then executes **grdcut**.

To obtain the desired sub-grid, the following will suffice:

```
mbm_grdcut -I KohalaA_bath.grd -O Kohala_plunge.grd -R-155:31/-155:26/20:13/20:18
-V
```

The resulting output is:

Program mbm_grdcut status:

```
Input GRD file:    KohalaA_bath.grd
Output GRD file:   Kohala_plunge.grd
Input Grid bounds: -155.72855 -155.3192906 20.09488 20.47628103
Input grid dimensions: 1426 1329
Grid cell sizes:   0.0002871995719 0.0002871995719
Requested Grid bounds: -155.516667 -155.433333 20.216667 20.3
Output Grid bounds:  -155.516884 -155.433596 20.216653 20.299940
Output grid dimensions: 291 291
```

Running grdcut...

```
grdcut KohalaA_bath.grd -GKohala_plunge.grd -R-155.516884/-155.433596/20.216653/20.299940 -V
```

```
grdcut: File spec:  W E S N dx dy nx ny:
```

```
grdcut: Old: -155.729 -155.319 20.0949 20.4763 0.0002872 0.0002872 1426 1329
```

```
grdcut: New: -155.517 -155.434 20.2167 20.2999 0.0002872 0.0002872 291 291
```

SEE ALSO

mbssystem(1), mbgrid(1), mbmosaic(1), mbm_grid(1), mbm_grdplot(1)

BUGS

Probably.