NAME

mbm_makesvp – Macro to extract sound speed and depth data from a datalist of swath files, and generate a sound velocity profile model from averages of the sound speed values in regular depth ranges.

VERSION

Version 5.0

SYNOPSIS

mbm_makesvp –I*inputfile* [**–H –V –D***depthinterval* **–O***outputfile*]

DESCRIPTION

mbm_makesvp is a macro to extract sound speed and depth data from a datalist of swath files, and generate a sound velocity profile model from averages of the sound speed values in regular depth ranges.

This macro uses **mbctdlist** to extract the sound speed values embedded in swath data files. This macro is intended for use with mapping data from submerged platforms (e.g. ROVs and AUVs) carrying CTD or sound speed sensors. Since the sound speed values are generally recorded during the entire ROV or AUV survey, these values can be used to construct a model for sound speed as a function of depth at the survey location. The sound speed and sonar depth value pairs are binned according to the *depthinterval* value, and average sound speed values are reported for bins with at least one value. The **–O** option specifies the output filename; by default the model is output to the stdout stream.

AUTHORSHIP

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OPTIONS

–D *depthinterval*
Sets the size in meters of the depth bins used to calculate an average sound speed versus depth model. The default value is 25 meters.

–F *format*
Sets the data format for the input data. If *format* < 0, then the input file specified with the **–I** option will actually contain a list of input swath sonar data files. This program uses the **MBIO** library and will read or write any swath sonar format supported by **MBIO**. A list of the swath sonar data formats currently supported by **MBIO** and their identifier values is given in the **MBIO** manual page. Default: *format* = –1.

–H
This "help" flag cause the program to print out a description of its operation and then exit immediately.

–I *inputfile*
Sets the input filename. If *format* > 0 (set with the **–f** option) then the swath sonar data contained in *infile* is read and processed. If *format* < 0 (the default), then *infile* is assumed to be an ascii file containing a list of the input swath sonar data files to be processed and their formats. The program will read the data in each one of these files. In the *inputfile* file, each data file should be followed by a data format identifier, e.g.:

```
datafile1 11
datafile2 24
```

This program uses the **MBIO** library and will read any swath sonar format supported by **MBIO**. However, not all formats contain sound speed or CTD information, and useful results can only be expected from data actually including the relevant values. A list of the swath sonar data formats currently supported by **MBIO** and their identifier values is given in the **MBIO** manual page. The default input filename is "datalist.mb-1".

–O *output*
Sets the name of the output file for the sound speed versus depth model. By default, the model is output to the stdout stream.

–V The **–V** option causes **mbm_makesvp** to print out status messages.

EXAMPLES

Suppose we have a set of swath files from an AUV-based survey in a directory and we want to construct an average sound speed versus depth model from these data. The command:
mbm_makesvp -Idatalist.mb-1 -D25 -Osvp.txt -V will generate a model of sound speed versus depth in the output file "svp.txt".

SEE ALSO

mbsystem(1), **mbctdlist**(1)

BUGS

Likely yes.