

%%%%%%%%%% From the MB man pages, with a few comments %%%%%%%%%%%

The WHOI DSL group used to provide processed AMS-120 data as a set of parallel files in a DSL specific format. An example of the filenames used is:

```
DSL120.940630_1100.amp.dat (sidescan)
DSL120.940630_1100.bat.dat (bathymetry)
DSL120.940630_1100.nav (navigation)
```

The sidescan and bathymetry files contain navigation, but it is generally poor. The processed navigation resides in the *.nav file, but it is sampled less frequently than the sonar pings, and is reported in UTM easting and northing meters. The mbm_dslnavfix macro is used to translate the eastings and northings into the geographic coordinates (longitude and latitude) used by MB-System programs. The program mbmerge can be used to merge the translated navigation in with the bathymetry and sidescan.

The parallel files listed above are supported as format 111 by MB-System; a similar single-file format is supported as format 112. We recommend converting the data to format 112 before proceeding with processing to simplify data management. However, all relevant MB-System programs will work with format 111 files. In either case, the data is voluminous (~75 MB/hour) and processing will be slow relative to data from multibeam sonars.

We recommend the following initial procedure when processing old WHOI DSL AMS-120 data with MB-System:

Step 1: Concatenate all of the processed navigation files into a single file.

```
cat *.nav > cruise.rnav
```

Step 2: Translate the DSL UTM navigation into geographic coordinates. The input navigation is in the "old" navigation format, as specified by -F1. Note that you must know the UTM zone used - here we assume the zone is +27.

```
mbm_dslnavfix -Icruise.rnav \  
-Ocruise.mrg2 -F1 -J23 -V
```

(TAG is in UTM zone 23)

Step 3: Copy the bathymetry and sidescan data in each file from format 111 to format 112. Note that it does not matter which of the two parallel files you specify for format 111, as long as they end in ".bat.dat" and ".amp.dat".

```
mbcopy -F111/112 \  
-IDSL120.940630_1100.bat.dat \  
-ODSL120.940630_1100.mb112
```

Step 4: Merge the translated navigation with each of the format 112 data files. Note that mbm_dslnavfix produces navigation in mbmerge format 2 so that the -M2 option is

used.

```
mbmerge -F112 \  
-IDSL120.940630_1100.mb112 \  
-ODSL120.940630_1100_n.mb112 \  
-M2 -Ncruise.mrg2 -V
```

At present, there is no capability for recalculating bathymetry using different water sound velocity models than that used originally. Adding such a capability would require defining a new data format and seems unnecessary for any of the data we have examined.

The large number of bathymetry values (2048) per ping and the high (> 1/second) ping rate make interactive editing of the bathymetry extremely time consuming. It is probably more realistic to use auto-editing (e.g. mbclean) to clean up the worst artifacts. One may also find it necessary to use median filtering rather than weighted mean filtering in the gridding process (mbgrid). Other than the above, the generation of grids and maps can proceed in the same fashion as outlined above for SeaBeam 2112 data