

ALVIN DATA RENAV

PREPARATORY WORK:

- 1) c&c and nav data files must be uncompressed when running renav
- 2) matlab "mfiles" and subfolders must be in the \$PATH (right now on AD2 they are)
- 3) Renav should presently (as of 2016-Aug-02) be run on AD2
- 4) There should be a directory called "proc" under the dive directory you are renav'ing
- 5) There is a directory "dslpp" on the desktop of AD2. It includes files obtained from a repository on shore for Alvin. When updates, etc. are needed, they will be obtained from the repository and copied to that directory. More information on this aspect needs to be obtained once we've used renav for a while.

RUNNING RENAV

- 1) Open a terminal window.
- 2) Start matlab
>matlab
- 3) Navigate to the "proc" directory under the dive you are renav'ing. This can also be done within the terminal window before you start matlab.
- 4) Run the matlab script:
>>load_dive_mat

Once this comes up it will prompt you to enter the following information:

Enter dive number:	<i>{this is the number only, not including the AL}</i>
Enter the vehicle name:	<i>{AL}</i>
Enter dive start time:	<i>{YYYY/MM/DD HH:MM}</i>
Enter dive end time:	<i>{YYYY/MM/DD HH:MM}</i>

{dive start and end time do not have to be highly accurate, I used the time stamps on the nav .DAT files to assist me in picking times. As long as the graph that pops up has a full dive profile it should be okay}

Use toplab navest data? *{you must respond "y"}*

Now the program will toil away for a couple moments and then a graph will pop up and the command window in matlab will ask you to point to various positions on the graph with your mouse, as follows:

Point to launch time	<i>{top left, when Alvin entered the water}</i>
Point to survey start time	<i>{when Alvin reached the bottom/science start}</i>
Point to survey end time	<i>{when Alvin leaves the bottom/science end}</i>
Point to surface time	<i>{when Alvin reaches the surface}</i>
Point to recovery time	<i>{when Alvin is recovered/rest of graph flat}</i>

The program will whirl away again and then return to the command prompt >>

The matlab directory window should now have a file named something like “ALxxxx_renav.m” in its content. Type the main part of the name (do not need suffix) at the command prompt and hit enter:

>>ALxxxx_renav

The script will prompt for entry of the dive origin (it will actually ask twice – Stephano plans to fix that). Enter the lat and long of the origin in decimal degrees (obtained from Toplab). All sorts of files will be created in the “proc” directory.

When complete, the matlab command window will be asking:

Can't remember exact wording

Select filter (enter 0 for default of .001):

You need to enter a “0” not just hit the enter key (i.e. it is not really a default)

Now a graph will pop up (may be behind matlab command window) and the command line will say:

Can't remember exact wording

Run with a different filter (y/n)?

Examine the graph. The green dots are position fixes, the blue line is the raw navigation data, the red line is the corrected navigation data. The graph itself is longitude versus latitude (or vice versa). If everything looks good, answer the above question “n”. Otherwise, using a slightly higher number will move the corrected data to weigh the fixes more heavily, a smaller number will move the corrected data to weigh the raw nav more heavily *{I believe this is how it goes, may need to revise notes}*. This part is a bit subjective and any deviation from the “0” should likely incorporate some feedback from the Alvin group.

Answer a series of questions:

Save nav data?	<i>Usually “y”</i>
Write science files?	<i>Usually “y”</i>
Change default settings?	<i>Usually “n”</i>
Save raw?	<i>Usually “y”</i>