8.3 DeepSeapHOx Data Processing

8.3.1 Stage 0 – Data Download

After download the data are backed up and transferred to the network drive, then copied onto the processing computer in the directory *osnap/data/moor/raw/ar30/seaphox\_caldip*

8.3.2 Stage 1 – Conversion to standard RDB format

The script *seaphox\_call\_caldip* performs stage1 processing on DeepSeapHOx data. It converts the data from raw to RDB format. The user needs to modify some information in the beginning of the script like the directory trees, the mooring name or caldip cast number. This script calls seaphox2rodb\_01, which saves the file downloaded by the instrument software (stage 0) to the RDB formatted file *.raw a*nd produce summary plots and statistics for each instrument.

Download DeepSeapHOx and transfer to the processing computer:

*~/osnap/data/moor/raw/ar30/seaphox/ .* For the 2017-2018 deployment of the SeapHOx 117 the data appear to have been written on several files C00000\*.CSV, and several data files from the test on DY078 where still present on the memory of the DeepSeapHOx. After keeping a copy of all the original files, the data files were manually edited to make sure than only the data relevant for the 2017-2018 RTEB1 deployment were kept in this the seaphox raw directory.

If the relevant data are present in several C000\*.CSV file, edit and run the script (with bash shell) *~/osnap/data/moor/raw/ar30/seaphox/merge\_sort\_CSVfiles.sh.* This script will sort the lines of several CSV files generated by the SeapHOx and merge them into a single file. The name of this file, containing all the data, has to be indicated in the moor\_filenames.txt file (e.g. rteb1\_04\_2017\_filenames.txt).

Make sure that the relevant info.dat file contains the serial number of the DeepseapHOx (e.g. moor/proc/rteb1\_04\_2017/rteb1\_04\_2017 info.dat).

Run process\_seaphox\_ar30.m producing timeseries for each instrument, converting raw data to RODB format and summary statistics.

26.3 DeepSeapHOx Data Processing

The steps from instrument recovery to date processing are summarised in Table #3.

The data were downloaded and transferred to the network drive, then copied onto the

processing computer in the directory osnap/data/moor/raw/dy120/seaphox. The data output

from the instrument was to .CSV and .CTD file format. Data from the previous deployment as

well as previous calibration dips was still on the files and in some cases had been partially

overwritten with the most recent deployment data. A text file containing the serial number

of the instrument and each data filename was created before running the stage 1

(e.g.~/osnap/data/moor/raw/dy120/seaphox/rteb1\_05\_2018 \_filenames.txt).

Table #3: Summary of Seaphox processing steps from instrument to low pass filtered data

Stage 0 (Seabird software)

Data download Produces .CSV and .CTD files

Stage 1

Process\_seaphox\_dy120.m

calls seaphox2rodb\_01.m

Reads data into RODB format and plot