SOCIB Balearic Islands Coastal Observing and Forecasting System

Processing application environment, data processing

CTD Vessel

SOCIB-Data Center Facility

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Index of Contents

1. Introduction

The aim of this document is to describe a standardized procedure to conduct the data processing from the R/V SOCIB CTD profiles.

The following sections describe the data processing procedure using as example the Instrument SCB-SBE9002 during the Canales February 2016 Campaign (canales_dep0014_socib-rv_scb-sbe9002_L1_2016-02-23).

2. Required Features

- Desktop or laptop.
- Internet connection.
- Vessel User access.
- DataProcUser access.
- Terminal emulator (PuTTy is used in this procedure for windows users).
- pgAdmin software.

3. Procedure Development

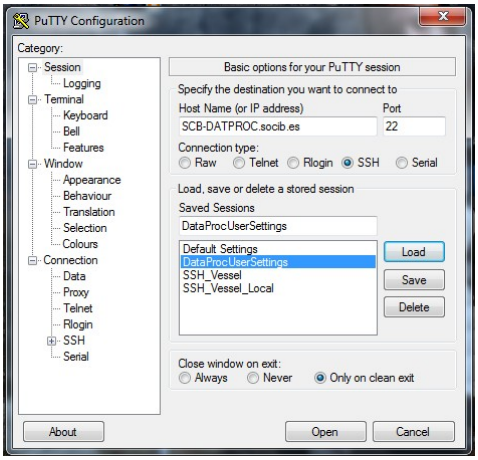
3.1. Non Active Deployment

This section of the procedure refers to data that needs to be processed once the deployment of the instrument has been finished.

3.1.1. Prepare data

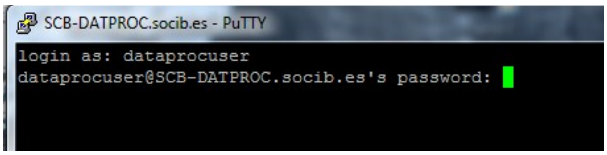
Windows user:

- Use a terminal emulator to establish a SSH connection. Set a new SSH configuration as follows:
  - **Host Name: SCB-DATPROC.**
  - **Port: 22.**
  - **Save session as: DataProcUserSettings**.



- Open configuration. A new linux console window will appear. For linux users just open a terminal (ctrl + Alt + T).

- Log in using the following credentials:
  - Log in as "**dataprocuser**" user.
  - Insert "**dataprocuser@SCB-DATPROC's password**"
    Note: Ask IT manager for the password.



- Switch to vessel user to copy folders to local directory:
  - **su vessel**
  - **password: "vessel password"**
    Note: Ask IT manager for the password.

- Parse the following path to access to the vessel directory SHIP_DATA where the CTD data obtained during the Campaign (provided by Cruise leader) are stored:

  cd /home/vessel/SHIP_DATA/SBE911/DATA

- Change the directory name using the nomenclature standard:
  cruiseName_depXXXX_socib-rv_scb-sbeXXXX_L1_yyyy/mm/dd

  You can use the following command:
  mv /home/vessel/SHIP_DATA/SBE911/DATA/SOCIB-Canales\ Spring16 /home/vessel/SHIP_DATA/SBE911/DATA/canales_dep0016_socib-rv_scb-sbe9002_L1_2016-05-05

- Copy the Cruise Data directory to the socib_rv rawArchive directory using the following path:

  cp -iR canales_dep0014_socib-rv_scb-sbe9002_L1_2016-02-23/ /home/vessel/RTDATA/socib_rv/SCB-SBE9002/rawArchive

- Parse to the folder where you copied the data:

  cd /home/vessel/RTDATA/socib_rv/SCB-SBE9002/rawArchive/ canales_dep0014_socib-rv_scb-sbe9002_L1_2016-02-23/cnv_files/sampling_5m

- Copy the downcast .cnv files contained within the folder sampling_5m to raw Input folder using the following command:

  cp -iR d.cnv ../../../rawInput*

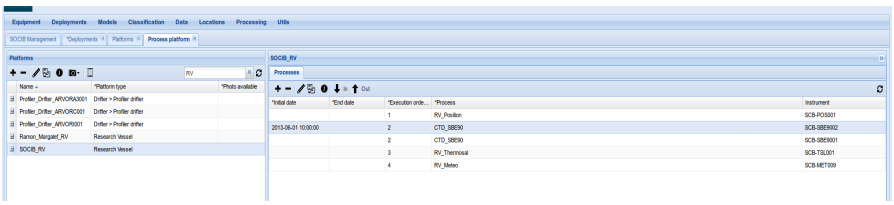
  or depending on directories structure
  cp -iR d.cnv ../../../../rawInput*

  NOTE: Remember to only copy the files that contain the downcast profiles.
  Downcast example: dst050.cnv
  Upcast example: ust050.cnv

3.1.2. Instrumentation database settings

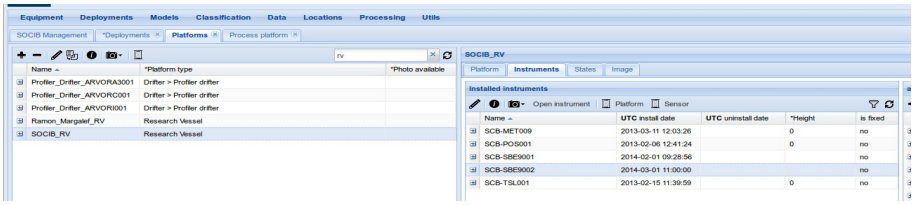
- In Process Platform check the processes to match the instrument belonging to the deployment that needs to be processed.

  Note: See processing_configuration document to create a new process.
  Note: See section 5 for current CTD_SBE90 processes configuration.

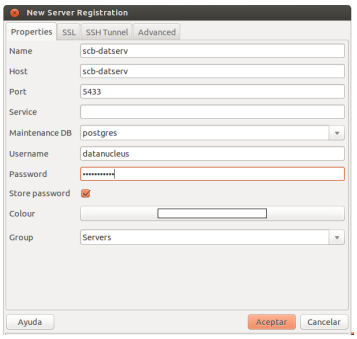


- In Platforms filter the platform needed.

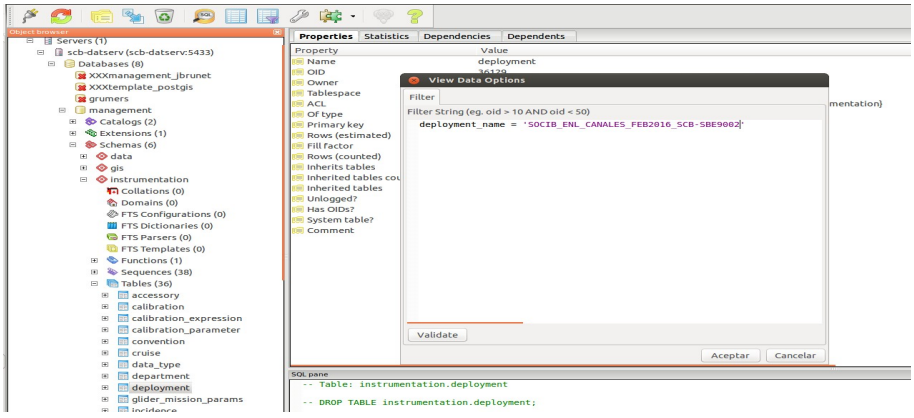
- Check that Platform > Instruments > Installed Instruments match with the instruments enabled in the deployments. Otherwise switch them for the available instruments



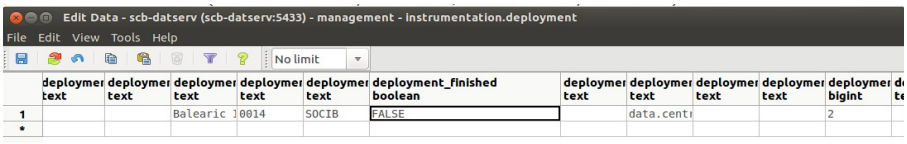
- Open pgAdmin and configure a new connection to scb-datserv:
  - **Name: scb-datserv**
  - **Host Name: scb-datserv**
  - **Port: 5433**
  - **Username: datanucleus**
  - **Password: “datserv password”**
    Note: Ask IT manager for the password.



- Connect to scb-datserv.
- Select Management database.
- Select Instrumentation Schemas.
- Select deployment table.
- Filter the deployment_name = ‘deployment_name’

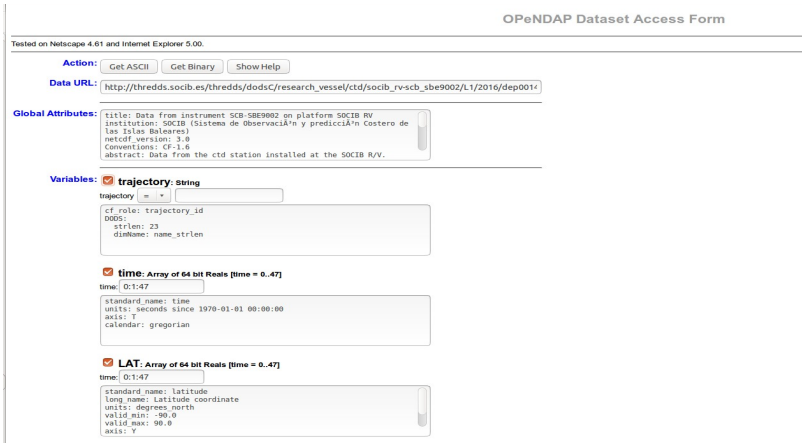


- Set deployment_finished to FALSE.

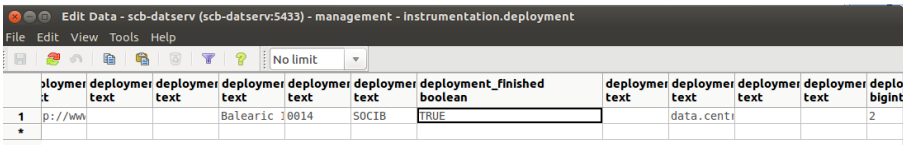


3.1.3. Check output results

- Check thredds server to find the NetCDF file created. http://thredds.socib.es/thredds/catalog/research_vessel/ctd/socib_rv-scb_sbe9002/L1/2016/catalog.html



- Set deployment_finished to TRUE.



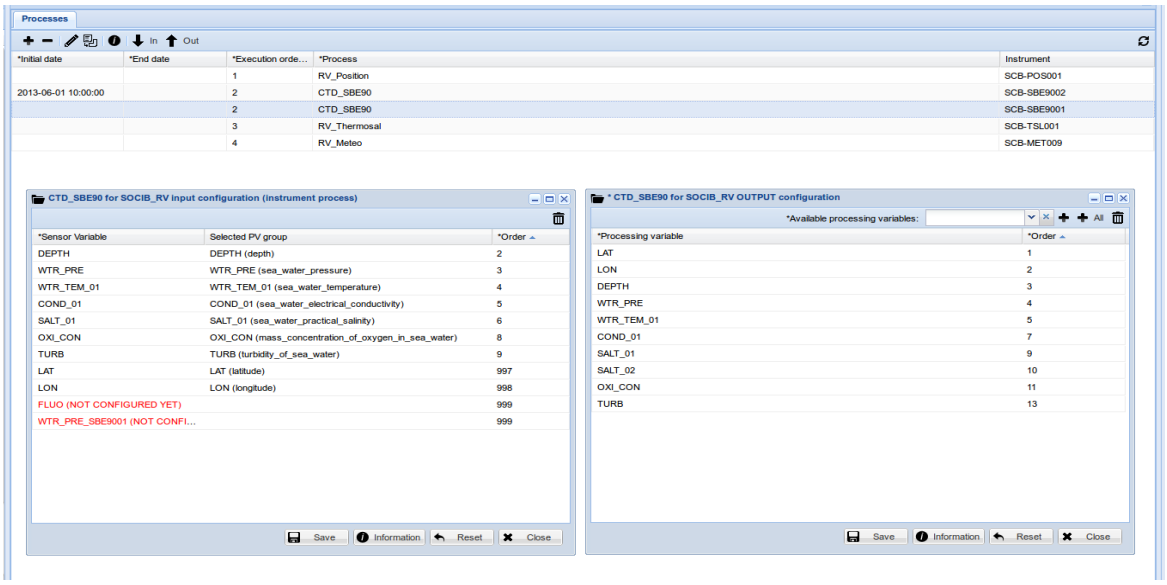
- Parse to the rawInput directory and remove the .cnv files contained in it by using the following commands:

cd /home/vessel/RTDATA/socib_rv/SCB-SBE9002/rawInput/
*rm *.cnv*

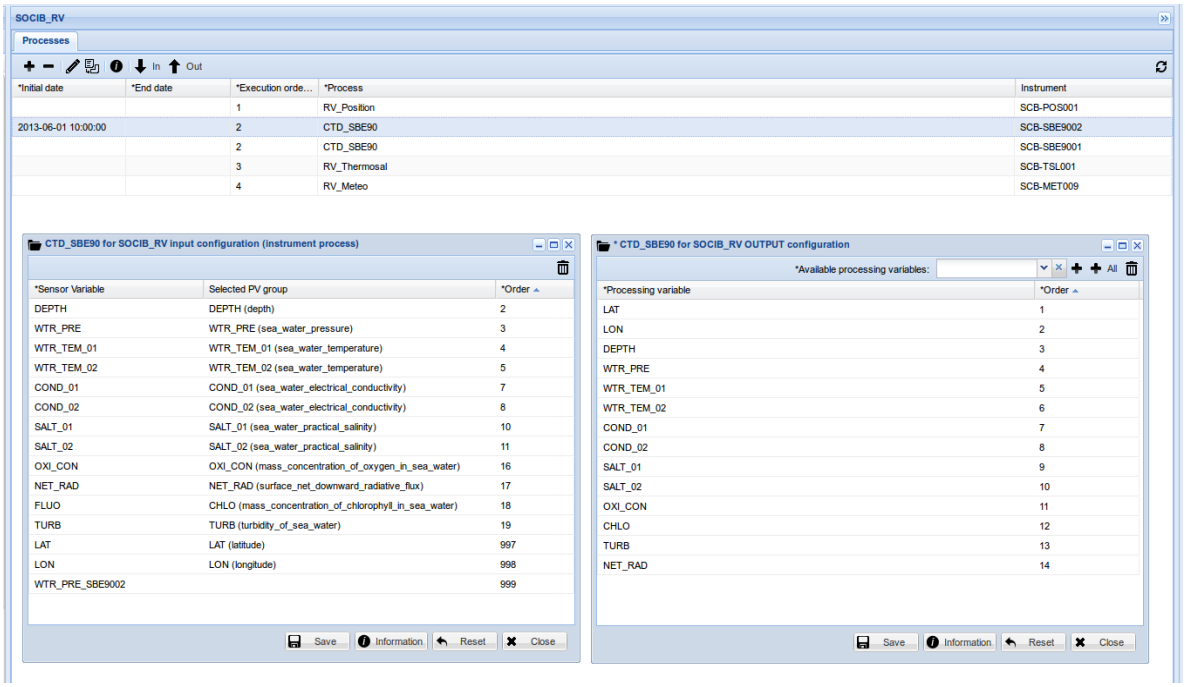
4. CTD_SBE90 Process Configurations

This section keeps the record of the different Process INPUT and OUTPUT configurations used with the two CTDs rosette used in the RV SOCIB until today.

4.1. Instrument SCB-SBE9001

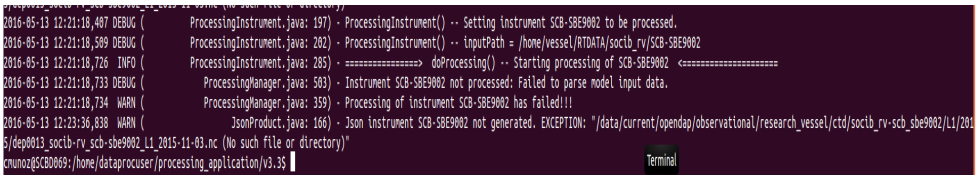


4.2. Instrument SCB-SBE9002

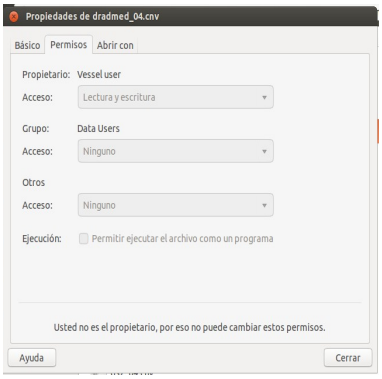


5. Troubleshooting

Case 1: NetCDF files not generated. Failed to parse model input data.

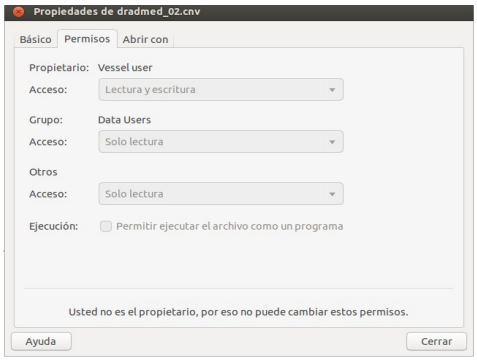


- Check permissions of data files for both group and other.



- If there are no permissions, then open a terminal, go till the data folder and provide reading permission for both groups and other users them by using the following command:

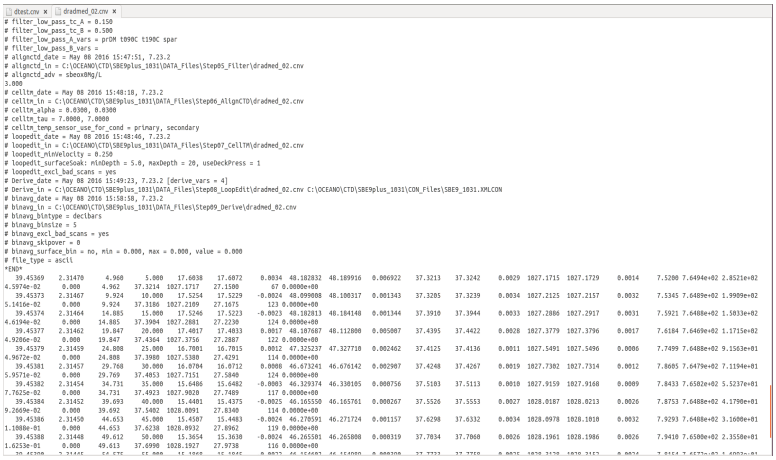
  *chmod g = r , o = r *.cnv*



- If the problem persists, check if there is any file without data in it. There may be some files with different names (e.g. dtest.cnv) where there are no data after the header (see following figure):

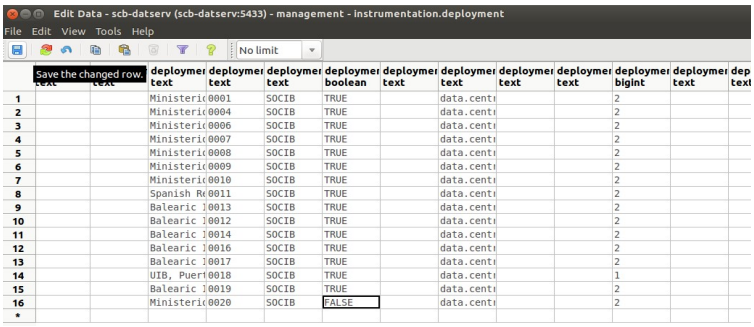
- In that case remove such files from rawInput directory.

- The cnv files should look like the following figure:

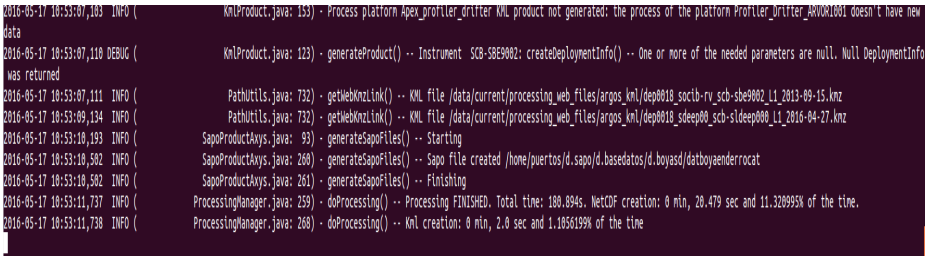


Case 2: NetCDF files not generated. One or more of the needed parameters are null.

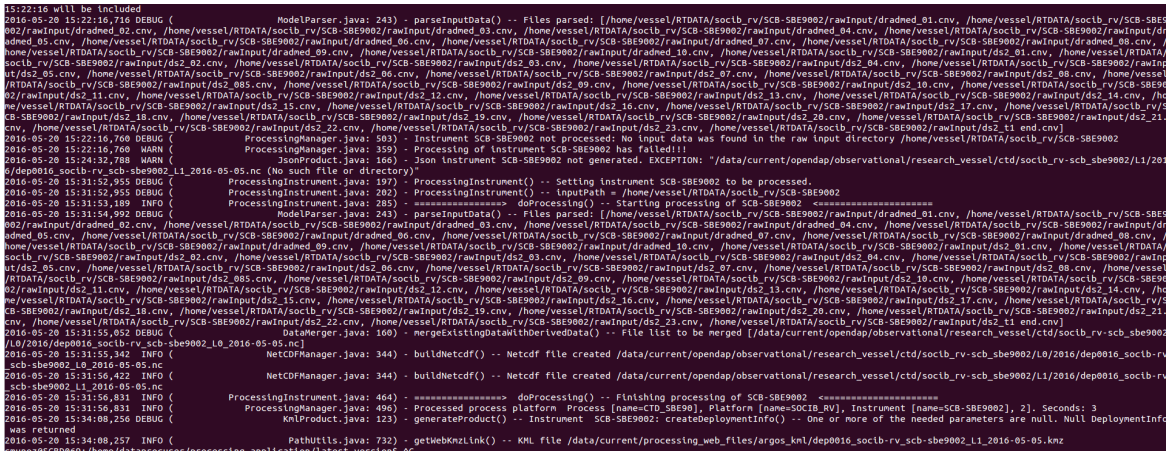
- Be sure you saved changes when set deployment_finished to FALSE.



- In case the problem persists, check if the deployment_code does match the deployment_code of any other instrument that is processing at the same time. In case affirmative create a copy of the CTD deployment that has a different deployment_code, set the deployment_finished to FALSE and check the results.



Case 3: NetCDF files not generated. No input data was found in the raw input directory.



- Be sure you copied the files to rawInput directory.
- If the problem persists, check if in the database there is more than one deployment set as FALSE in deployment_finished. In case affirmative you must set to TRUE any other deployment.