

PEACETIME README FOR CTD FOLDER

List of deliverables

Data from classical CTD system, including post-processing of dissolved oxygen using corrections from Winkler titration :

- Folder cnv1db : set of vertical profiles recorded during downcasts, with resolution 1 meter. File format is CNV (Ascii-like that can be directly imported in Ocean Data View), with geolocalisation (NMEA) and variable names in the header.
- Folder cnv1Hz : set of time series recorded during downcast and upcast, with resolution 1second. File format is CNV (Ascii-like that can be directly imported in Ocean Data View), with geolocalisation (NMEA) and variable names in the header.
- AllInOneCTD.xls : Excel file that compiles the parameters at every sampling levels.

Data from trace-metal-clean CTD system (no post-cruise correction):

- Folder cnv1db : set of vertical profiles recorded during downcasts, with resolution 1 meter. File format is CNV (Ascii-like that can be directly imported in Ocean Data View), with geolocalisation (NMEA) and variable names in the header.
- AllInOneTMC.xls : Excel file that compiles the parameters at every sampling levels.

Data of CTD casts, ship-track and underway continuous measurements (meteo and TSG) :

- PeacetimeUnderway5min.xls : Excel file that compiles the parameters as a single time series with resolution 5 minutes.
- StationSummary.xls : Excel table that compiles the geolocalisation and type of the different casts.

Report of CTD activities for the cruise that includes a chronology of events and first assessments on the stability of the deployed sensors.

- PEACETIME Rapport CTD 27 Jul 2017.pdf : PDF file in french.

Summary

One of the specificities of the Mediterranean Sea belongs to the presence of various marine ecosystems over relatively small regions, that, reinforced by mesoscale eddy activity of the sea circulation, makes each station of the cruise plan singular. In order to characterize in real time such diverse marine environment, collections of CTD casts were collected at every stations and vertical profiles of core environmental parameters (pressure, temperature, salinity, dissolved oxygen, biooptical properties : fluorescence of chlorophyll-a, fluorescence

of CDOM, particle transmission, light radiation) were acquired, processed and disseminated on board and sent to Coriolis GDAC center.

To do so, two CTD-systems were operated; both are composed of SeaBird's SBE911 upmost accurate technology and a set of 24 sampling bottles fired at chosen pressure levels. The first system (so called "classical") used Niskin bottles; it was hanged on a metallic cable and deployed from the vessel's winch. The second system so called "trace-metal-clean" used Go-Flo bottles; it was hanged on a Kevlar cable and deployed from its own winch.

The initial sampling plan has been fully reached thanks to the reliability of the instruments, as well as the scientific quality of the measurements thanks to the stability of the sensors. It consisted on at least three casts at short stations: one shallow (0-500m) and one deep (0-bottom) with the classical system, one deep (0-bottom) with the trace-metal-clean system. At long stations, the CTD operations were intensified in order to characterize short term variations of the ecosystem (until the diurnal cycle) and eventually to adapt the vertical discrete sampling to surface processes. Overall 118 casts were collected, 91 with the classical system and 27 with the trace-metal-clean system.

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