Possible synergies between the Gosud project & the FerryBox initiative

Loïc Petit de la Villéon - Ifremer

Contact: gosudcontact@listes.ifremer.fr
Outlines

• Gosud presentation
  – History
  – Objectives
  – Platforms, parameters, NRT & DM
  – Data flow
  – Results

• Developments
  – Formats (upstream & downstream)
  – Tools

• Synergies
  – Common data policy
  – Formats
  – Data distribution
  – Exchanges

7th FerryBox workshop. Heraklion 7-8 April 2016
- History

- XVI° session of IODE (2000) adopted recommendation IODE XVI.10 establishing the Underway Sea Surface Salinity Data archive Pilot Project and its steering group

- Important to note that it is a IODE – Intergovernmental Ocean Data Exchange - commission of the IOC – Intergovnmentnal Oceanographic Commission - UNESCO

  ➔ this provide also visibility to GOOS

- We will apply to pass from a Pilot project to a permanent project in 2017 (IODE 24th session)
Gosud objectives

• The project addresses Sea Surface data collected by vessels (research vessels, merchant ships and others) when they are underway
  – Most of the data collected are open ocean data even if we move forward collecting coastal research vessel data
  – Data collected may (ships of opportunity) be transects data or not (research data)

• Main focus has been put on Sea Surface Salinity and the Project is also supposed to address other parameters (possible cooperation with FerryBox ?)

• Expected outcomes from the project:
  – To collect sea surface salinity data and sea surface data either in near real time and in delayed mode
  – To quality control them using an uniform procedure
  – To deliver data using a common NetCDF format
  – To propose added value products driven from the data acquired
Key words

- Surface salinity,
- Surface temperature,
- Research vessels,
- Ships of opportunity,
- Near Real time data
- Delayed Mode data (high quality data, controlled, calibrated, cross compared

7th FerryBox workshop. Heraklion 7-8 April 2016
Web selection tool

GOSUD database

QC
RT

GOSUD FTP:
DM

GOSUD FTP:
RT, NRT

RT-transmission

DM-transmission

QC
Delayed mode

Distribution
- Direct users
- SeaDataNet
- Copernicus

7th FerryBox workshop. Heraklion 7-8 April 2016
Areas covered

2012 (82 vessels)

2013 (68 vessels)

2014 (64 vessels)

2015 (53 vessels) (3 months)

7th FerryBox workshop. Heraklion 7-8 April 2016
Tools & formats developed

**Formats**

- **NRT ASCII format.** NRT (once a day) data transmission from ship to shore (recommended but not mandatory)
  - 2 minutes median filtered applied on salinity and corresponding temperature measurement transmitted
  - Metadata transmitted in each file
    - ship code
    - sensor serial numbers
    - sensor last date of calibration
    - sensor linearization coefficients

- **Delayed mode NetCDF distribution format (GOSUD V3)**
  - holds in a same file
    - Metadata
    - non corrected data (NRT)
    - adjusted data (DM)
    - water sample analysis results used to correct the data
QC tool

- to produce delayed mode adjusted data
- using outside (water samples, argo data, …)
- Matlab (with a standalone version) developed
- freely distributed (public)
Delayed mode TS-QC

Courtesy: Gaël Alory IRD-France

Dedicated software: TSGQC

IRD Brest/Nouméa Atlantic/Pacific
TSG QC level 1: Quality flags
Water sample analysis

LEGOS Toulouse
TSG QC level 2: Data corrected using water samples & Argo data

One file per « voyage » GOSUD V30

Drift and spikes corrections (biofouling, impurities...) using a linear fit or a median filter applied on deviations

Validation Codes
- No control
- Good
- Probably Good
- Probably bad
- Bad
- Harbour

Quality flags applied by comparison to climatology SSS/SST. Ship speed, visual check

LOCEAN Paris
Colocated Argo Data

Courtesy: Gaël Alory IRD-France

7th FerryBox workshop, Heraklion 7-8 April 2016
Possible synergies or collaborations between FerryBox and Gosud

• Synergies

  – If a Ferrybox backup up facility outside HZG is needed, GOSUD could provide such a backup facility (daily synchronization and be an alternative distribution system in case of failure of the FB central distribution system)

  – Collaborate on the parameters naming as GOSUD is fully compatible with Copernicus Marine Service (CMEMS)

  – Try to have a common NetCDF format (if relevant)

  – Make the FB data visible at international global level (GOOS) and doing that, attract other (non European) multi-parameter transect data that could be useful for Copernicus Marine service global needs.

  – Others

  7th FerryBox workshop. Heraklion 7-8 April 2016
Contact: gosudcontact@listes.ifremer.fr
http://www.gosud.org
Thanks a lot!!