7ᵗʰ FerryBox Workshop

7-8 April 2016

Hellenic Centre for
Marine Research

(HCMR)

*The meeting will take place
at a hotel in Heraklion.
Further information about
accommodation will soon
follow*

Heraklion – Crete

Greece

Themes

- *Status of application of FerryBoxes in different regions*
- *Integration of FerryBox systems in observation networks*
- *FerryBox data management and quality control*
- *New sensors and their application in FerryBox systems*
- *Scientific applications of FerryBox measurements*
- *FerryBox data and models*

Registration and abstract submission
Participation at this meeting is free of charge, but limited to 80 people. For registration please use the link.

https://docs.google.com/spreadsheets/d/1FtVahqLOZl7YH1eo8BUIdXBYsSmSwfoa6RxXFILZTJM/edit?usp=sharing

For any additional info sent an email (mntou@hcmr.gr)

Dates and deadlines

Abstract submission: 15 January 2016

Abstract acceptance: 29 February 2016

Preliminary program: 15 March

**Workshop**: 7-8 April 2016

OUTCOMES

Status of applications of FB in different regions

- Although there are 10+ yrs since FB project momentum is maintained

- Some areas need better coverage – Med & Black Sea

- New systems are coming into operation with more and more parameters focusing on biology

- JERICO & JERICO NEXT act as a glue for the FB operators but also as a reference for new partners

FB data management and quality control

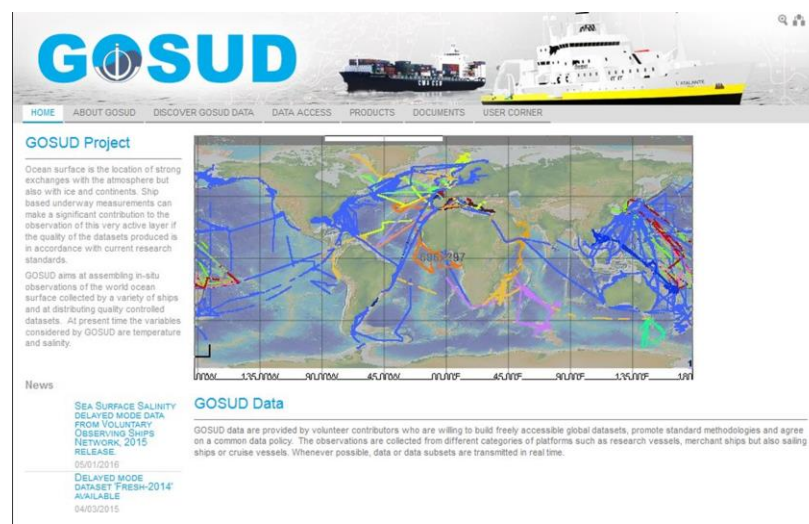**Gisbert Breitbach, Proposal for a Common European FB Database:**

- To strengthen the Ferrybox community and by this show a well organized European FB community

- Make it easier to contribute to the existing FB data system

- Provide the community with tools to unify processing and formats used

Proposed Scheme for a Common European FerryBox Data Management
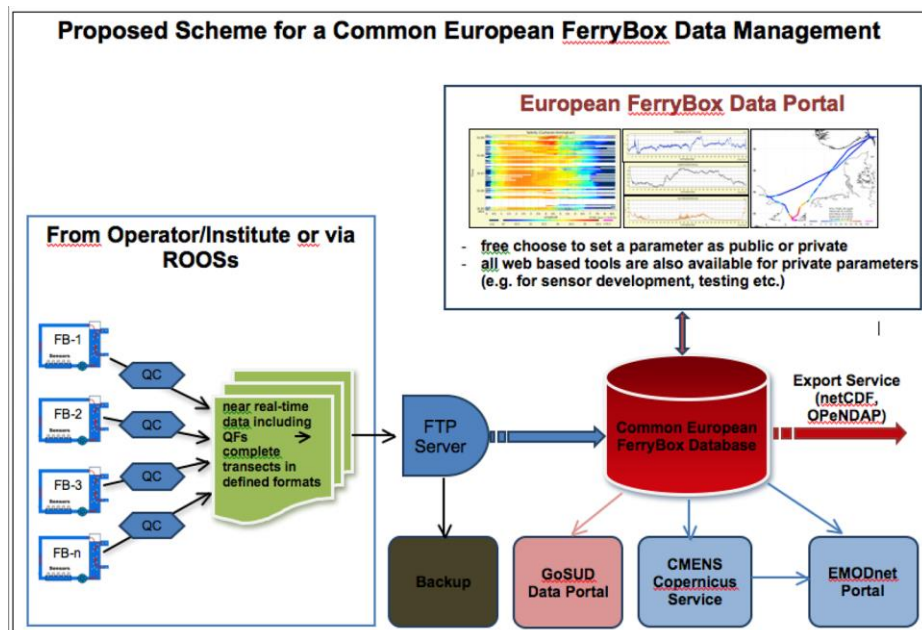
FB data management and quality control

Loic Petit de la Villeon: Possible synergies between the Gosud project and the FerryBox initiative

- GOSUD is an IODE project to collect observations on the ocean surface, provide high quality data collected underway, by research and opportunity ships

- European FerryBoxdata outside backup by GOSUD (if agreed)
  - This includes an agreement on how GOSUD will make the FB data visible to a wider community

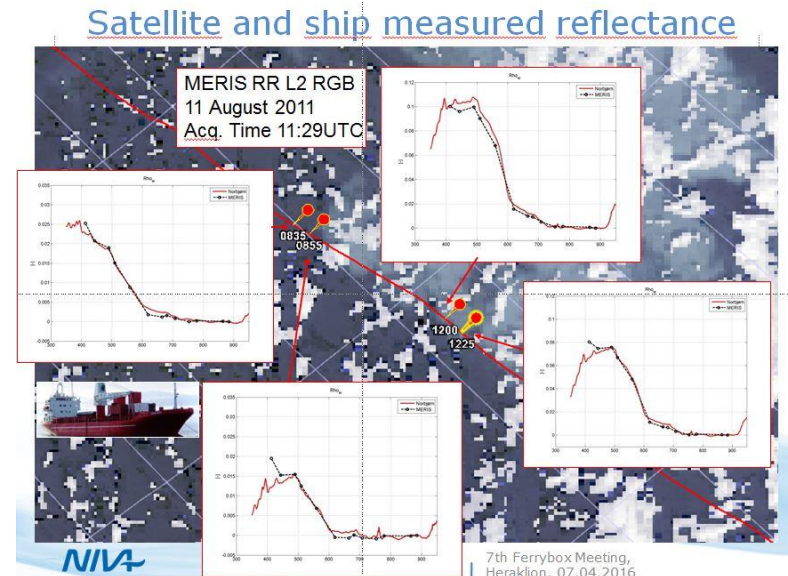- Identify whenever possible if some formats could be common or compatibles (Ascii & NetCDF)

FB data management and quality control

Pierre Jaccard: Correction and quality control of hyperspectral measurements performed from a Ferrybox platform

- Link between Ferrybox and satellite validation

- A tool to process light measurements and make them compatible for use to validate satellite data has been developed

- Automatized version is being developed.

  Status is in pre- production state.

Satellite and ship measured reflectance

MERIS RR L2 RGB
11 August 2011
Acq. Time 11:29UTC

7th Ferrybox Meeting,
Heraklion, 07.04.2016

New sensors and their application in FerryBox systems

Soumaya Lahbib/Melilotus Thyssen:

Presented new and important FerryBox line in Mediterranean and management tools for multidimensional flowcytometry data. They also aim in creating a new database for flowcytometer data.

Jochen Wollschläger:

Presented long-term development of PSICAM which is finally turning into commercial instrument. It is a promising alternative method for chlorophyll determination, but provides also means for detection of total suspended matter, CDOM, and algal pigment groups.

New sensors and their application in FerryBox systems

Andrew L. King: CARBONATE SYSTEM and NOVEL FERRYBOX SYSTEM.

Showed that instrumentation for carbonate system parameters are available for autonomous use and scientific applications. Main challenges are coastal areas with complex water matrix and high dynamics.

Great examples for industry-academia cooperation in method development.

New sensors and their application in FerryBox systems

Manufacturers

AANDERAA: SOOGUARD a compact system for long-term installation

SubCtech: New ferrybox approaches were presented like ferrybox systems for sailing boats aiming to cover so far undersampled sea areas

JENA: Dual ferrybox system minimizing data losses during cleaning cycles

Kongsberg: New sensors/systems for pH, TA, and CO2 especially suitable for FB

FerryBox data and models

Gisbert Breitbach: HZG Database Demo. Demonstrated as an important and needed tool for the FB community. Many features in the tool that would be good for the FB operator to display and work on the data. The first level of QC should be done by the operator. Discussion are ongoing how this can be implemented in the FB community.

Potiris Emmanouel: SST validation: Pointed out the use of FB data for SST validation of the stationary Metosat satellite. Deviation of less that <0.2 Deg. C. Daily variation was shown probably due to heating of the surface which is not picked up by the FB temperature

Scientific applications of FerryBox measurements

Jukka Seppälä. Multiwavelength fluorescense studies. Showed the complexity of the use and interpretation of the multi wavelength Fluoroprobe form Benguela upwelling system. Interpretation of results is not straight forward and local recalibration is needed. More to be done in JERICO-Next.

Johanna Linders: Temperature effects of Cyanobacteriabloom. Showed the effect of the temperature and triggering (around 20 DegC) of the cyanobacteria bloom in the Baltic. Data from all the FB routes in the Baltic should be used together to better under stand the mechanism of the bloom. The bloom complexity was illustrated with the Sentinel-2 image.

Scientific applications of FerryBox measurements

Yoana Voyonova. Biogeochemical changes in German Bight. Presented the impact from an extreme Elbe discharge in 2013 observed with 2 FB and Pile stations. Big flux of CDOM, POM and Nutrients and an increase of Chl-a but not directly associated with the low salinity. Prolonged stratification → Surface DO >100% while bottom DO <100%. There is an increase of extreme events – altered conditions the new normal?

Pierre Marrec: Coupling FerryBox and automated flow cytometer. Showed a new approach for studying biogeochemical processes and CO_2 system variability in relation to phyto community structure using a new FB system in Tunisia (Tunis – Marseille) and an appropriate set of sensors. Even in oligotrophic waters where phyto is composed of small cells, available methods such as flowcytometry makes possible its observation and the link to CO_2 variability.

Scientific applications of FerryBox measurements

Nelli Runk. Horizontal thermohaline variability at sub-mesoscale to basin scale in the NE Baltic Sea. From the FB data the horizontal variability and mesoscale and submesoscale gradients are well represented. High resolution measurements show sharp fronts and high variability of T, S revealing coastal upwellings & impact of river discharge.

Villu Kikas: New knowledge on essential processes in the marine environment from FB measurements. Presented data from 2007-2013 showing upwellings. Two different types - Stronger wind stress causes upwelling events with strong temperature front. Gradual decrease of Temperature from the open sea to the coast with max Temperature deviation close to the shore. Buoy data and FB data can provide a more informative picture on chl-a distribution.

Overview

➢ FB's are an efficient platform for high frequency high spatial observations.

➢ Technology moves fast and FB's are a great test bed for new sensors.

➢ Important science is performed with FB.

➢ Complementarity between different platforms – there is no "I do it all" platform.

8th FerryBox Workshop ~ Autumn 2017