



# ***Possible synergies between the Gosud project & the FerryBox initiative***

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- Gosud presentation
  - History
  - Objectives
  - Platforms, parameters, NRT & DM
  - Data flow
  - Results
- Developments
  - Formats (upstream & downstream)
  - Tools
- Synergies
  - Common data policy
  - Formats
  - Data distribution
  - Exchanges

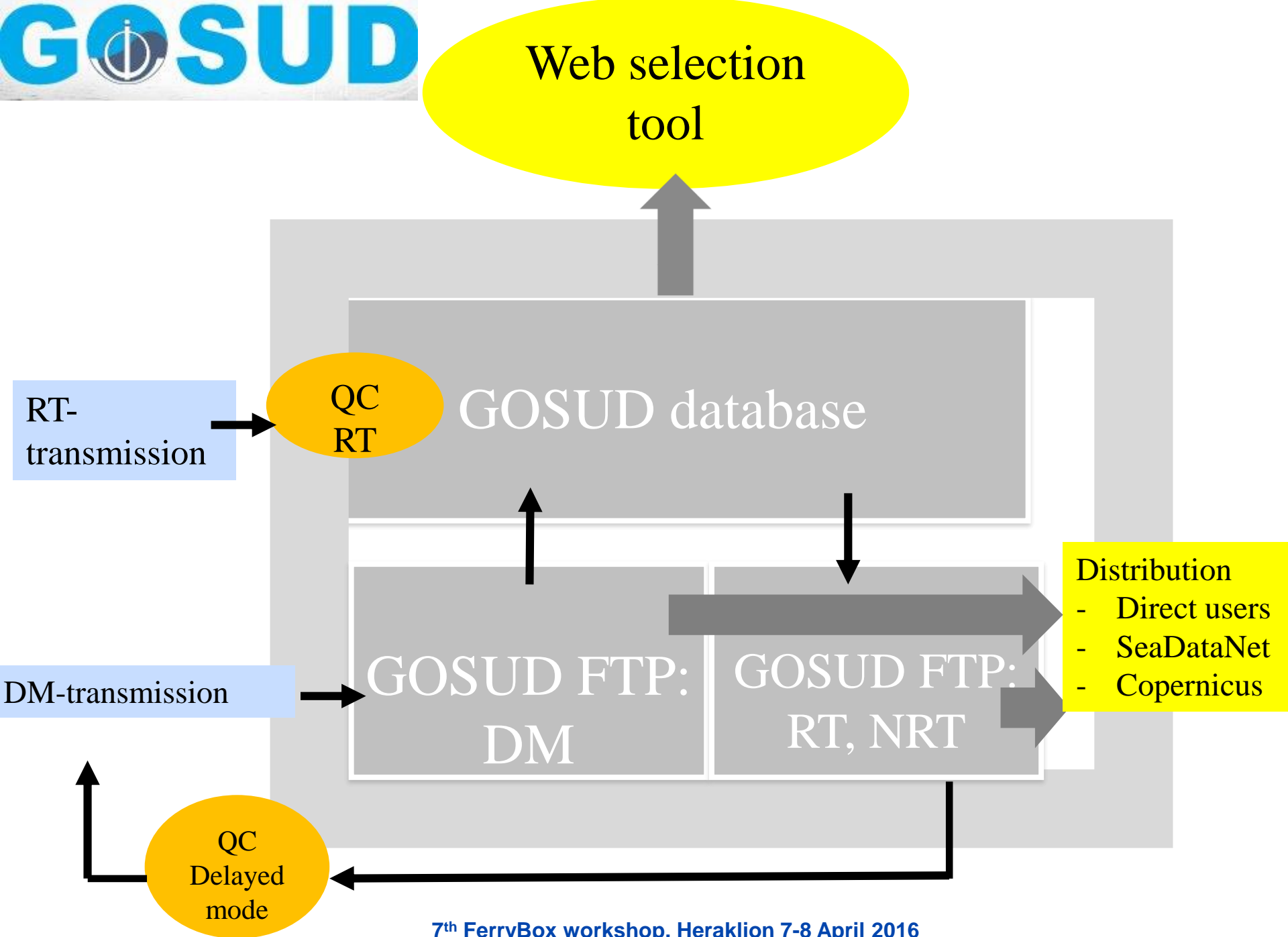
- XVI<sup>o</sup> session of IODE (2000) adopted recommendation IODE XVI.10 establishing the Underway Sea Surface Salinity Data archive Pilot Project and its steering group
- Important to note that it is a IODE –Intergovernmental Ocean Data Exchange- commission of the IOC – Intergovernmental Oceanographic Commission- UNESCO  
→ this provide also visibility to GOOS
- We will apply to pass from a Pilot project to a permanent project in 2017 (IODE 24<sup>th</sup> session)

- 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

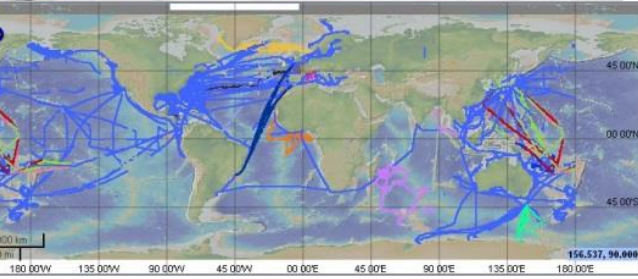


## Key words

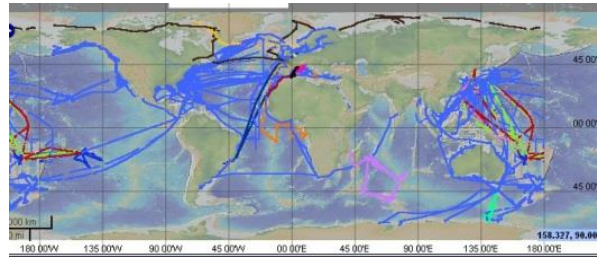
- Surface salinity,
- Surface temperature,
  
- Research vessels,
- Ships of opportunity,
  
- Near Real time data
- Delayed Mode data (high quality data, controlled, calibrated, cross compared)



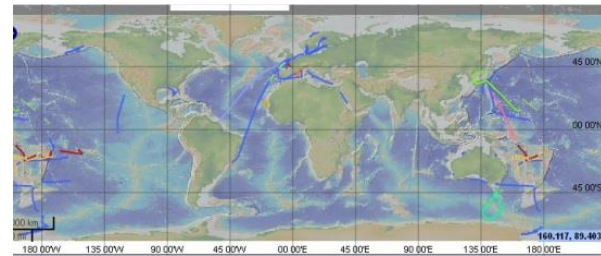
## Areas covered



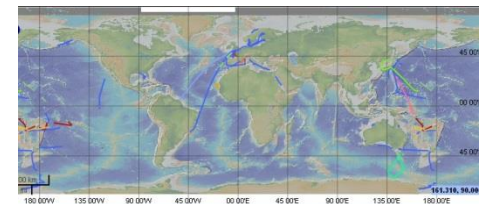
2012(82 vessels)



2013 (68 vessels)



2014 (64 vessels)



2015 (53 vessels) (3 months)

## Formats

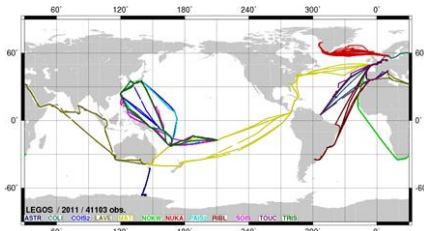
- NRT ASCII format. NRT (once a day) data transmission from ship to shore (recommended but not mandatory)
  - 2 minutes median filtered applied on salinity and corresponding temperature measurement transmitted
  - Metadata transmitted in each file
    - ship code
    - sensor serial numbers
    - sensor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



## Tools & formats developped

### QC tool

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



**IRD Brest/Nouméa**  
*Atlantic/Pacific*

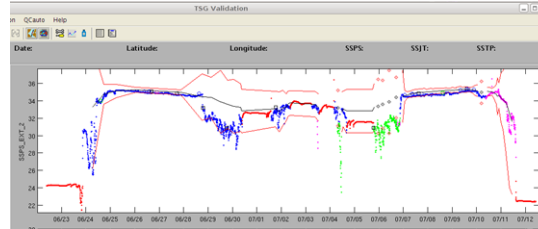
**TSG QC level 1:**  
 Quality flags

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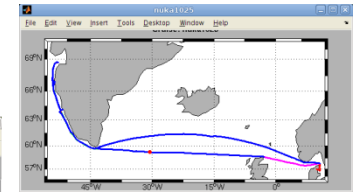
Water sample analysis



## Dedicated software: TSGQC



QC flag applied by comparison to climatology SSS/SST. Ship speed, visual check



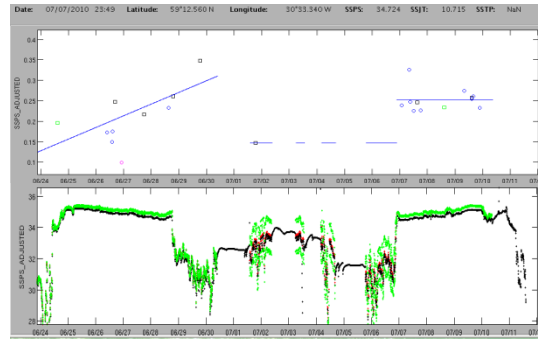
- Validation Codes**
- No control
  - Good
  - Probably Good
  - Probably bad
  - Bad
  - Harbour

**LOCEAN Paris**  
 Colocated Argo Data



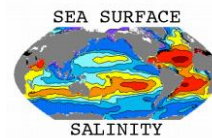
**LEGOS Toulouse**

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



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

One file per « voyage »  
 GOSUD V30





# Possible synergies or collaborations between FerryBox and Gosud

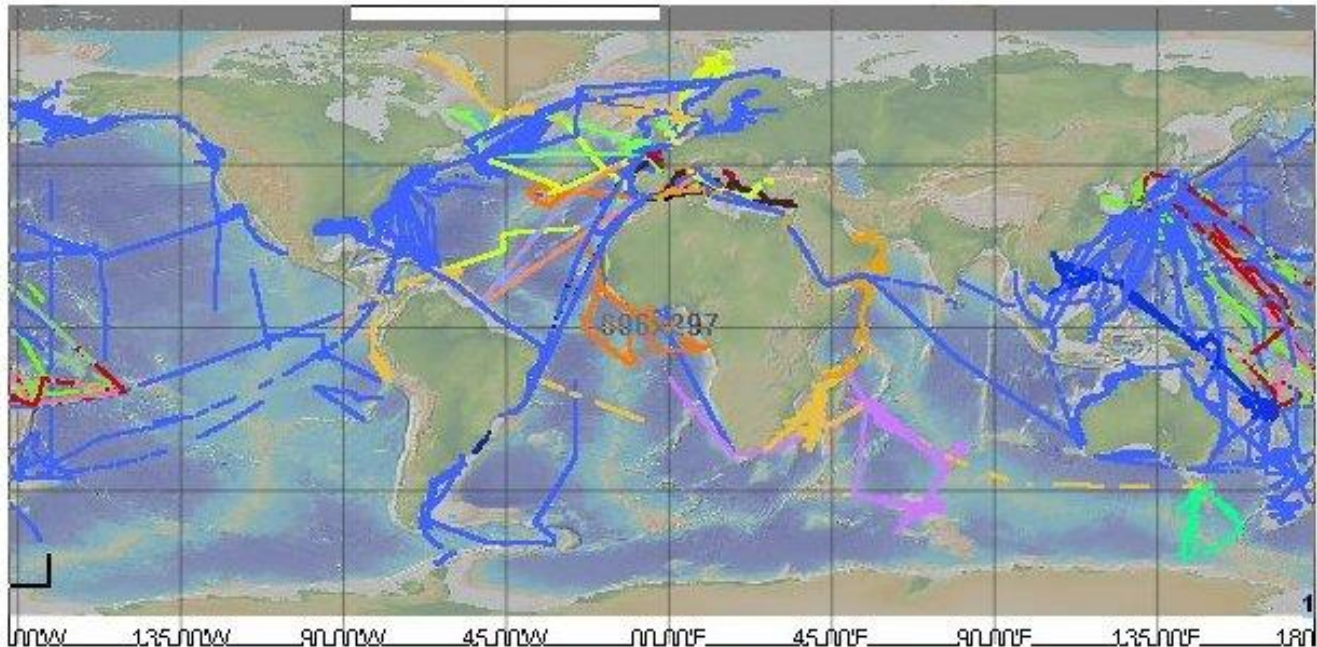
- Synergies
  - If a Ferrybox backup up facility outside HZG is needed, GOSUD could provide such a backup facility (daily synchronization and be an alternative distribution system in case of failure of the FB central distribution system)
  - Collaborate on the parameters naming as GOSUD is fully compatible 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



## GOSUD Project

Ocean surface is the location of strong exchanges with the atmosphere but also with ice and continents. Ship based underway measurements can make a significant contribution to the observation of this very active layer if the quality of the datasets produced is in accordance with current research standards.

GOSUD aims at assembling in-situ observations of the world ocean surface collected by a variety of ships and at distributing quality controlled datasets. At present time the variables considered by GOSUD are temperature and salinity.



## News

SEA SURFACE SALINITY  
DELAYED MODE DATA  
FROM VOLUNTARY  
OBSERVING SHIPS  
NETWORK, 2015  
RELEASE.

05/01/2016

DELAYED MODE  
DATASET 'FRESH-2014'  
AVAILABLE

04/03/2015

## GOSUD Data

GOSUD data are provided by volunteer contributors who are willing to build freely accessible global datasets, promote standard methodologies on a common data policy. The observations are collected from different categories of platforms such as research vessels, merchant ships but ships or cruise vessels. Whenever possible, data or data subsets are transmitted in real time.

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<http://www.gosud.org>

Thanks a lot !!