Global Ocean Surface Underway Data project (GOSUD)

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GOSUD is a project of the IODE programme of the IOC of UNESCO

- To build a comprehensive archive for surface oceanographic data and associated meta-data ;
- To add value to the archive by refining and standardizing the existing quality assessment procedure ;
- To provide data and information to users in a timely fashion ;
- To work with data collectors to improve the data acquisition systems ;
- To work with scientific organizations to provide products to a broad community.

GOSUD co-chairs : Bob Keeley (MEDS), Thierry Delcroix (IRD)

In the context of climate change detection, the usefulness of surface salinity data has been examined by the Ocean Observations panel for Climate, OOPC

<u>They state</u>: « At high latitude, sea surface salinity is known to be critical for decadal and longer time scale variations associated with deep ocean over turning and the hydrological cycle. »

« In the tropics, and in particular in the western Pacific, Indonesian Seas and in upwelling zones salinity is also believed to be very important. »

<u>They quote: «</u> The benchmark sampling strategy to be one sample per 200 km square every 10 days and with accuracy of 0.1 psu »

Following other recommendations expressed by OOPC, IOC, JCOMM, the project proposes to deal with a broader issue of surface ocean data (pCO_2 , fluorescence...) rather than concentrating on surface salinity data only.

Governance and participation of the project

- Parent body : IOC/IODE
- Steering Group composed of the major participants, governs the GOSUD project. It is responsible for the development and implementation of the Project
- Participants: approximately 10 countries or organizations in member states of IOC have expressed deep interest, and participated in the planning meetings of the GOSUD project: Australia, Canada, China, France, Greece, Japan, Russia, United Kingdom, USA.
- Member states that have not yet expressed interest in participation are encouraged to examine their data-related activities and to actively support the GOSUD project
- Canada and France have undertaken to draft the Project and are cochairing the project

GOSUD data flow

prepare data

data sent ashore via satellite or diskette

for distribution data from ships data collection 24 hours to 1 month and certification 24 hours, real-time qc gts: 24 hours dac data assembly centres aoml, coriolis, meds... dm qc, 12 months **DI** principal investigators users scientists, modelers, students... 24 hours ftp: 24 hours perform regional web: 12 hours gdac global data center analyses coriolis long term urs several years archive 1 year science centres here is the master long term archive n. atlantic, pacific, indian copy of gosud data usnodc

TSG data collect

- Real time TSG from GTS MEDS is collecting all SST and SSS circulating on the GTS. The real time quality control and distribution of these data to Coriolis is in testing.
- Real time TSG from participants
 Example : ORE-SSS and Coriolis French projects
 13 merchant ships and 6 research vessels collect TSG data.
 The real-time QC is implemented.
 A visual QC is performed once a week.
 Data is distributed on GOSUD ftp site.
 Data is also available from the web.
- Historical data TOGA-WOCE SSS data should be added to GOSUD data set. Historical data from participating countries should also be added to GOSUD data set.

The responsibility of the global server is :

- To maintain a centralized web-ftp available data server
- To accept data from national centers and ensure a safe archive
- **To verify that submitted data meet format and quality control requirements**
- To ensure that archived data retain all agreed metadata for the Project
- Collaborate with WDCs to ensure long term safekeeping of the data and information
- To ensure that data contributors are permitted to manipulate their own data only
- To ensure that rules governing deletions, changes to data are met by contributors before actions are taken in archives

GOSUD data access

GOSUD data format

- Derived from Argo trajectory format
- Described in « GOSUD user's manual » available on GOSUD web site http://www.ifremer.fr/sismer/program/gosud/

GOSUD data ftp site

- ftp://ftp.ifremer.fr/ifremer/gosud/
- Organization : YYYY/XXXX/GO_XXXX_YYYY_TRAJ.nc YYYY : year XXXX : WMO number of the ship

GOSUD data selection web page



Under development : objective analysis on integrated data set : TSG, ARGO, XBT, CTD, buoy, mooring

Temperature analysis (°C) - Depth 10 m - 10-Mar-2004



Examples of real-time TSG data collect



TSG data from Coriolis oceanographic vessels in 2003 240 000 temperature and salinity measurements collected from 6 research vessel in real-time.