GOSUD Project
Global Ocean Surface Underway Data

Report to SOT

Geneva 18-22 May 2009

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http://www.gosud.org

Some history

- **Decision to start GOSUD during the IODE XVIth session (2000)**

- **Began in 2001 (1st meeting in Brest-France) as a JCOMM-IODE pilot project**

- **Since then the GOSUD partners met five times**

- **The 2 last meetings were held in conjunction with the US program SAMOS**
  - **Boulder – Colorado - 2006**
  - **Seattle – Washington – 2008**

Objectives

- **to acquire, quality control, store in standart format, distribute and long-term archive of data collected by ships (mostly cargo vessels) when they are *en route.* For the moment, mainly SSS and SST**

- **To establish close cooperation with relevant data centres to build a database, develop data management procedures and standarts and document them**

- **To build a <u>comprehensive archive for underway sea surface salinity</u> including appropriate meta-data**

Objectives

- to develop and implement procedures for quality assesment of near real time and delayed mode data

- to provide data and metadata in a timely way to users (academic, validation needs –satellites & models-,assimilation)

- To ensure safeguarding of high resolution delayed mode data

- to improve data acquisition (to document the best practises for installation of equipments-TSG-)

- to work with science programs and users interested in the data

Roles in the Project

- **ISDM –Canada- & Ifremer-France- co-chair the project (B. Keeley & L. Petit de la Villeon)**

- **ISDM and Meteo-France provide a link from the GTS and provide data circulating on the GTS to the Project**

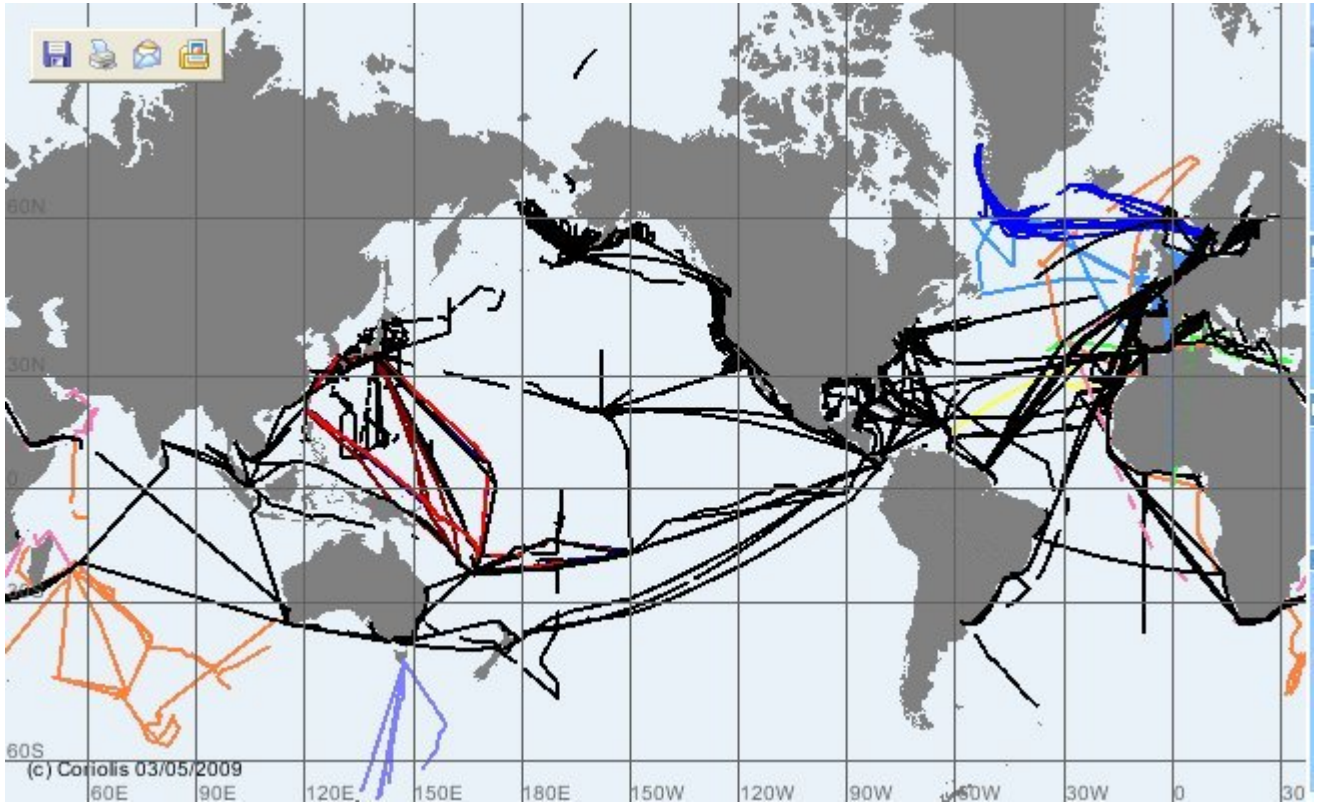
- **Ifremer provides GDAC facilities for the Project**

- **ISDM provides a monitoring function to compare data circulating on the GTS with data that are present in the GDAC**

- **US-NODC provides long-term archival facilities**

- **IRD –France- has developped a method and a software to elaborate a delayed-mode data set taking into account calibration coefficients, water samples and nearby data (ie Argo)**

Network status



•70 ships have reported data from May 2008 to May 2009

• Efforts to enlarge the network is on the way to be successfull (only 40 vessels in 2007)

Network status

From 19/05/2008 To 19/05/2009 total of 70 platforms and 1170181 locations	
C6VL5 - MATISSE	Number of locations : 550
KS004 - SEAKEEPERS 004	Number of locations : 1361
KS081 - SEAKEEPERS 081	Number of locations : 540
SHIP - UNIDENTIFIED PLATFORM	Number of locations : 5535
VHW5167 - UNKNOWN SHIP	Number of locations : 36227
KS027 - SEAKEEPERS 027	Number of locations : 64
KS062 - SEAKEEPERS 062	Number of locations : 211
C6TN4 - EXPLORER	Number of locations : 36315
FNIN - MARION DUFRESNE	Number of locations : 122238
JCCX - CHITA MARU	Number of locations : 492
JGQH - RYOFU MARU	Number of locations : 182
JIVB - SEIFU MARU	Number of locations : 230
JPBN - KEIFU MARU	Number of locations : 107
KS049 - SEAKEEPERS 049	Number of locations : 1022
KS052 - SEAKEEPERS 052	Number of locations : 1255
MGJS8 - NOKWANDA	Number of locations : 5768
WTEE - OSCAR ELTON SETTE	Number of locations : 11191
WTEO - RELENTLESS	Number of locations : 28894
WTEP - OCEANOGRAPHER	Number of locations : 58868
FABB - BEAUTEMPS-BEAUPRE	Number of locations : 20230
FHZI - L'ASTROLABE	Number of locations : 1162
KS007 - SEAKEEPERS 007	Number of locations : 1371

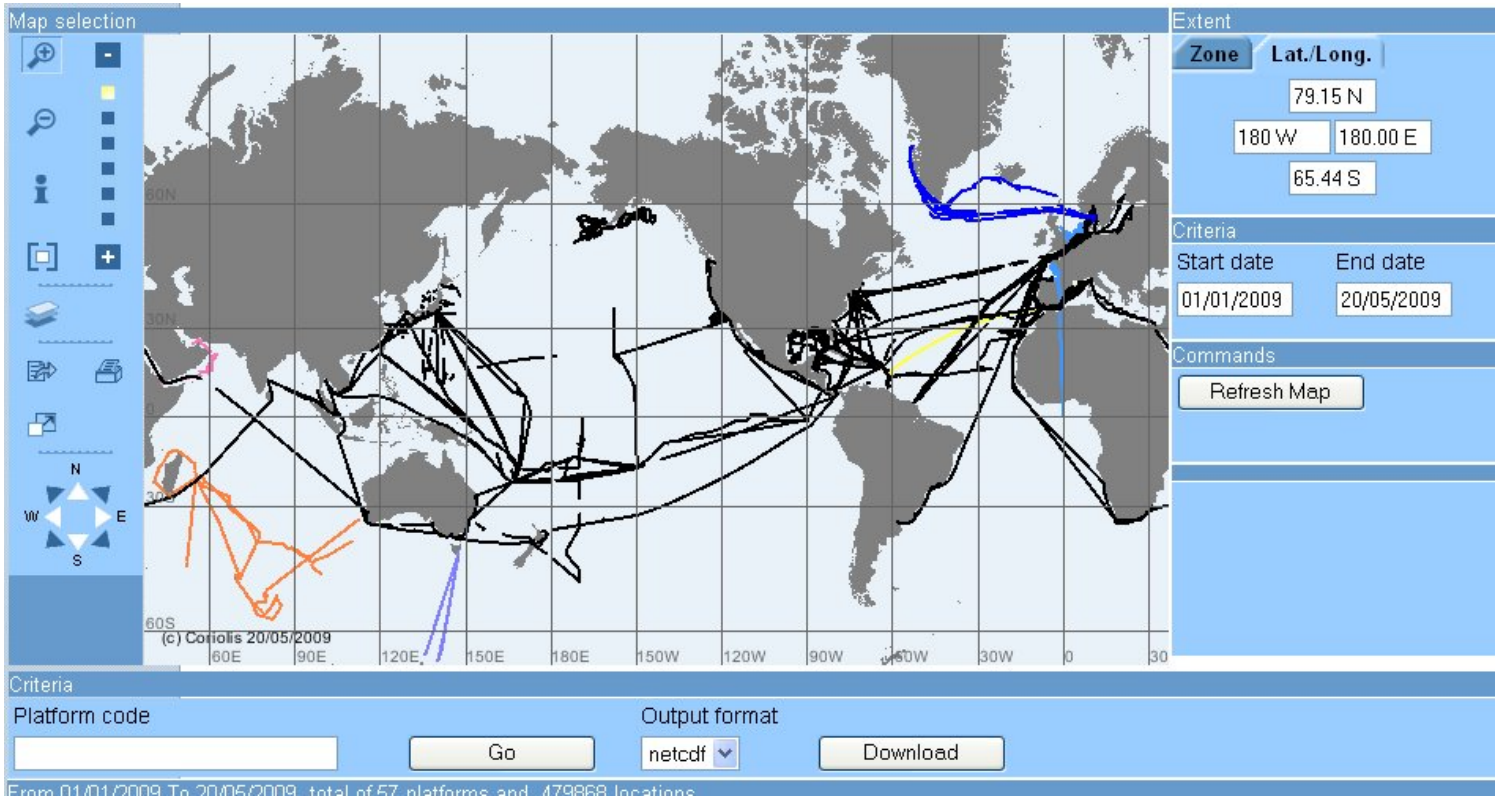
KS056 - SEAKEEPERS 056	Number of locations : 52
WTDK - DAVID STARR JORDAN	Number of locations : 23943
KS078 - SEAKEEPERS 078	Number of locations : 676
DAJC - MONTE OLIVIA	Number of locations : 5582
FMCY - POURQUOI PAS?	Number of locations : 63455
FNFP - THALASSA	Number of locations : 91212
JDSS - HAKUHO-MARU	Number of locations : 1972
KS011 - SEAKEEPERS 011	Number of locations : 811
KS055 - SEAKEEPERS 055	Number of locations : 928
KS059 - SEAKEEPERS 059	Number of locations : 91
OXYH2 - NUKA ARCTICA	Number of locations : 5779
PJJU - OLEANDER	Number of locations : 35225
KS067 - SEAKEEPERS 067	Number of locations : 1232
KS071 - SEAKEEPERS 071	Number of locations : 28
KS073 - SEAKEEPERS 073	Number of locations : 67
KS079 - SEAKEEPERS 079	Number of locations : 138
3ENY2 - SOUTH ISLANDER	Number of locations : 2592
3EVS - SOUTH ISLANDER	Number of locations : 2347
3FEW5 - KYOWA CATTLEYA	Number of locations : 2804
FNAV - MN TOUCAN	Number of locations : 2874
FZVN - LE SUROIT	Number of locations : 89935
HORQ - CORAL ISLANDER2	Number of locations : 4920
HPEW - PACIFIC ISLANDER	Number of locations : 970
KS060 - SEAKEEPERS 060	Number of locations : 537

KS084 - SEAKEEPERS 084	Number of locations : 48
VLHJ - SOUTHERN SURVEYOR	Number of locations : 112228
WTEY - HECK	Number of locations : 9265
KS034 - SEAKEEPERS 034	Number of locations : 167
KS074 - SEAKEEPERS 074	Number of locations : 141
DJOK - BARBARA	Number of locations : 2980
WTDM - MILLER FREEMAN	Number of locations : 22157
KS043 - SEAKEEPERS 043	Number of locations : 169
KS064 - SEAKEEPERS 064	Number of locations : 124
EDSV - CORNIDE DE SAAVEDRA	Number of locations : 252733
FNCM - L'ATALANTE	Number of locations : 56717
HOWN - PACIFIC ISLANDER2	Number of locations : 3185
JDWX - KOFU MARU	Number of locations : 306
KS008 - SEAKEEPERS 008	Number of locations : 686
WTDO - OREGON II	Number of locations : 15523
KS077 - SEAKEEPERS 077	Number of locations : 204
5BAD2 - MATISSE	Number of locations : 3144
A8IG2 - CMA CGM LAVENDER	Number of locations : 2934
DBFO - SEEFALKE	Number of locations : 548
DBKV - POSEIDON	Number of locations : 4011
FNHO - COLIBRI	Number of locations : 2785
WTER - MALCOLM BALDRIDGE	Number of locations : 7697

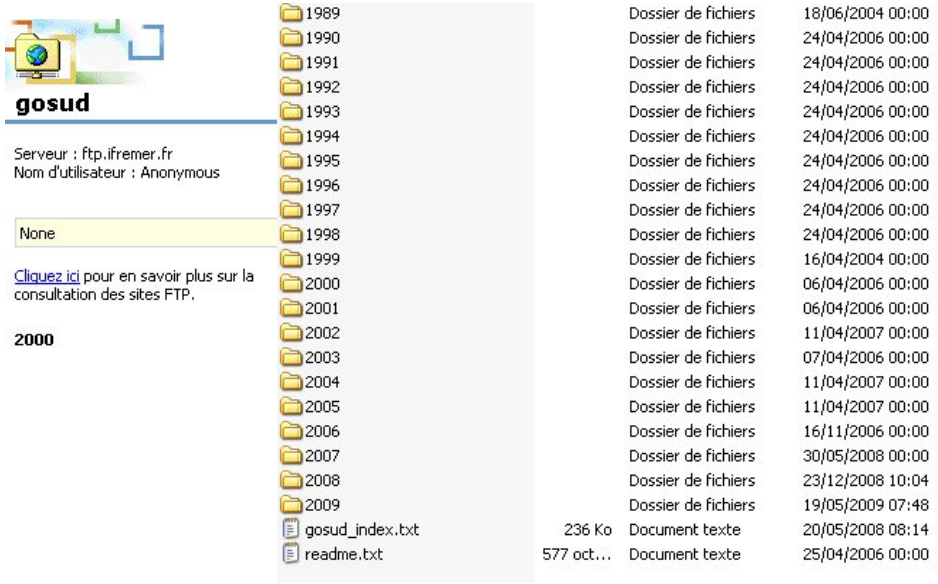
•They are still most of the ships that report data to GOSUD through the GTS and not directly to GOSUD. It become a priority to organize direct transfert from data originators to the GOSUD GDAC (higher resolution and best knowledge of the meta-data)

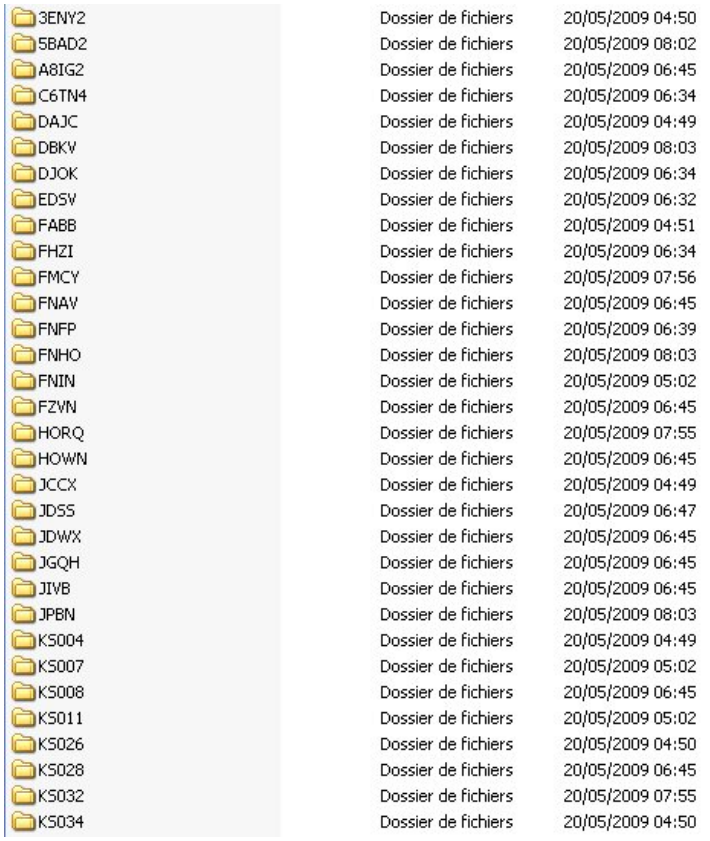
Data Distribution

- Coriolis GDAC Global data Centre
- http://www.ifremer.fr/gosud/
- Data access
  - Web : http://www.coriolis.eu.org/cdc/GosudSelection/cdcGosudSelections.asp



- Data access
  - Site ftp server **ftp://ftp.ifremer.fr/ifremer/gosud/**
  - **1 directory year 1989-2009**
  - **1 sub-directory per ship (call sign)**
  - **1 index**
  - **Format NetCDF**





Activity during the intersessional period

- **Considering that there is a strong complementarity between the SAMOS and GOSUD projects, decision was taken to join efforts to improve access to high quality underway meteorological and near-surface data collected by research vessels and merchant ships and identify common data providers**
  - **One joint meeting in 2006**
  - **Second meeting in 2008 from which 10 recommendations were driven (published as IODE workshop report 218)**

Recommendations from the 2nd SAMOS-GOSUD workshop

- Expand access to underway meteorological & TSG observations in remote ocean regions and marginal seas. The scientific community must determine critical regions for increased monitoring

- Encourage efforts to develop new and make available historical upper-ocean and meteorological observations for use by developping nations

- Develop a global data discovery systems to identify which research & selected merchant ships are participating GOSUD/TSG, SAMOS, PCO^2, radiation & other underway atmospheric and ocean sampling programs

- Vessels providing TSG data should routinely report in take temperature and salinometer temperature used to compute salinity

- Vessels providing TSG data should collect daily water bottles samples to monitor the instrument performances and to elaborate a delayed-mode dataset

Recommendations from the 2nd SAMOS-GOSUD workshop

- **Promote the recognition of underway sea water sampling as a critical component of the Global Ocean Observing System**

- **Maintain and distribute metadata meteorological & TSG measurements (ie depth) is critical for all applications (data assimilation, satellite validation, etc)**

- **Assess the impact of TSG data in forecasts models**

- **Collect results of past and current research to evaluate the importance of TSG observations**

- **Build best practises guides and continuing education materials to support needs of technical personnel on the front lines of data collection at sea**

Plan for 2009-2010

- **Continue to large the network of data collectors and providers**
  - **On going with NOAA vessels**
  - **On going with FerryBox in the frame of the just started EU project MyOcean**
- **Start the process of elaborating a delayed mode dataset**
  - **On going.**
  - **New format developped (allows to hold NRT, DM data and meat-data in a unique file)**
  - **Method & software developped to build DM datasets takink in account water bottle samples and calibration coefficients and surrounding data**
- **Define tools for monitoring the network (in close relationship JCOMM/Obs TT)**
- **Take in account the scientific needs and the satellite (Aquarius & SMOS) community needs. On going with SMOS**

Plan for 2009-2010

- **A 2 days workshop is scheduled in May 2010 in Ostende (Belgium) at the IODE Project Office**

- **4-5 May 2010 GTSPP Workshop**
- **6-7 May 2010 GOSUD Workshop**

Thanks for your attention