Expectations and Standards for PMO Service

Second International Port Meteorological Officers' Workshop
23 – 25 July 2003, London, U.K.

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Chairman of the JCOMM Ship Observations Team

Outline

- Ship Observations Team.
  - JCOMM / SOT / VOS Scheme.
- Port Meteorological Officers.
  - Roles / Responsibilities / Functions.
- Complementary Programmes.
- Proposal to SOT-II for PMO Support.
- Websites.

JCOMM

- JCOMM* is the reporting and coordinating mechanism for all operational marine activities in both WMO and IOC.
- JCOMM was formally established in 1999 through a merger of the WMO Commission for Marine Meteorology (CMM), and the IOC Committee for the Integrated Global Ocean Services System (IGOSS).

(* Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology)

JCOMM

- JCOMM comprises a Management Group and four Programme Areas (PAs);
  - Observations.
  - Services.
  - Capacity Building.
  - Data Management.

JCOMM

- The Observations PA is composed of a diverse group of marine meteorological and oceanographic teams;
  - Ship Observations Team (SOT).
  - Data Buoy Cooperation Panel (DBCP).
  - Argo Science Team (AST).
  - Global Sea Level Observing System (GLOSS) Group of Experts.

Ship Observations Team

- The SOT consists of a group of enduring and very successful data collection programmes;
  - Voluntary Observing Ships (VOS) Scheme.
  - Ship of Opportunity Programme (SOOP).
  - Automated Shipboard Aerological Programme (ASAP).
- The SOT also liaises and coordinates with other groups using volunteer ships as environmental observing platforms, e.g. ocean carbon community, with a view to their eventual participation in SOT.

Ship Observations Team

- Scientific guidance for the work of SOT will be provided by expert panels and bodies for climate and operational meteorology;
  - GCOS/GOOS/WCRP Ocean Observations Panel for Climatology (OOPC).
  - CLIVAR Ocean Observations Panel (CLIVAR OOP).
  - WMO Commission for Basic Systems (CBS).

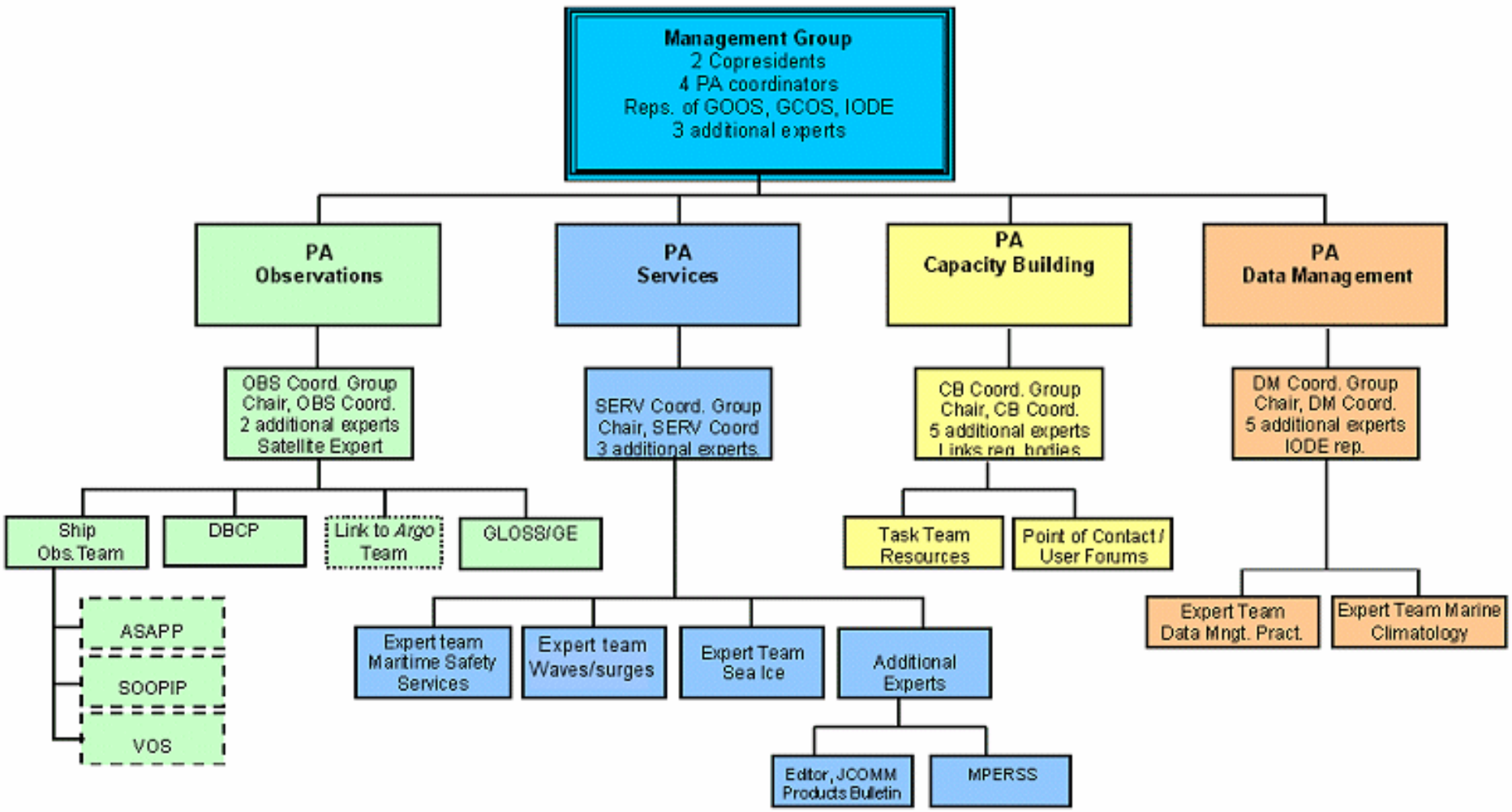
Ship Observations Team

- The aim of the SOT is to manage, coordinate and, wherever possible, integrate these programmes to support a developing range of well defined operational and research applications.
- A key component to the success of the SOT is an active and motivated international PMO network.
- Seek to expand the role of the PMO, to broaden the range of functions beyond the traditional VOS.

Ship Observations Team

- SOT-I, 25 February – 2 March 2002, Goa, India.
- SOT-II, 28 July – 1 August 2003, London, U.K.

JCOMM STRUCTURE



Role of the PMO

- The PMO is a representative of the National Meteorological Service (NMS), and is the primary contact with local marine authorities and the maritime community at large.

- The international PMO network is vital to the success of the JCOMM VOS Scheme, to;
  - Maintain the strength of the international VOS.
  - Maintain the quality and frequency of ships' weather reports.

Responsibilities of the PMO

- Broadly defined by the WMO;
  - WMO Technical Regulations (WMO No. 49).
  - Guide to Marine Meteorological Services (471).
  - Manual on Marine Meteorological Services (558).
- Specifically defined by the NMS having considered the port being serviced, and the type and volume of marine traffic.
- The range of functions will include:

Functions of the PMO

- Recruit ships of any nationality into, and maintain a national VOS fleet.

Functions of the PMO

- Regularly visit ships recruited into the national VOS fleet to;
  - Maintain contact with the Observers.
  - Provide ongoing training to the Observers.
  - Maintain and inspect the meteorological and selected oceanographic instruments.
  - Check the presence and condition of supplied handbooks, meteorological tables and charts.
  - Maintain the ship's supply of logbooks, autographic charts, muslin, wicks and other consumables.
  - Recover and inspect completed logbooks and autographic charts.

Functions of the PMO

- Maintain accurate records of ships recruited into the national VOS fleet, including;
  - Full ship details, as required for WMO Pub 47.
  - All instrumentation supplied and recovered.
  - All instrument checks and calibrations, including dates.

Functions of the PMO

- Upon the request of the Master of any ship and regardless of its country of recruitment;
  - Check the meteorological and selected oceanographic instruments.
  - Provide advice or assistance on meteorological matters.

Functions of the PMO

- Provide the following services to ships, regardless of their nationality and country of recruitment;
  - Perform a barometer check.
  - Check meteorological code tables.
  - Check instructions for Observers.
  - Provide advice on bulletins, including a list of areas for which forecasts are issued and to update the relevant facsimile broadcast schedules.

Functions of the PMO

- Promote and maintain liaison with;
  - The NMS.
  - Neighbouring PMOs.
  - Harbour authorities and shipping companies.
  - Merchant marine schools and yacht clubs.

Functions of the PMO

- Inquire from ship's officers of any problems that may be experienced, such as;
  - The transmission of observations (meteorological or oceanographic) to a Land Earth Stations (LES) or other facility.
  - The reception and adequacy of forecasts, bulletins and facsimile broadcasts, and to bring pertinent comments to the attention of the NMS.

Functions of the PMO

- Support complementary national, regional and international marine programmes, such as;
  - Drifting Buoy Programme.
  - Argo Float Programme.
  - Ship of Opportunity Programme.
  - Automated Shipboard Aerological Programme.

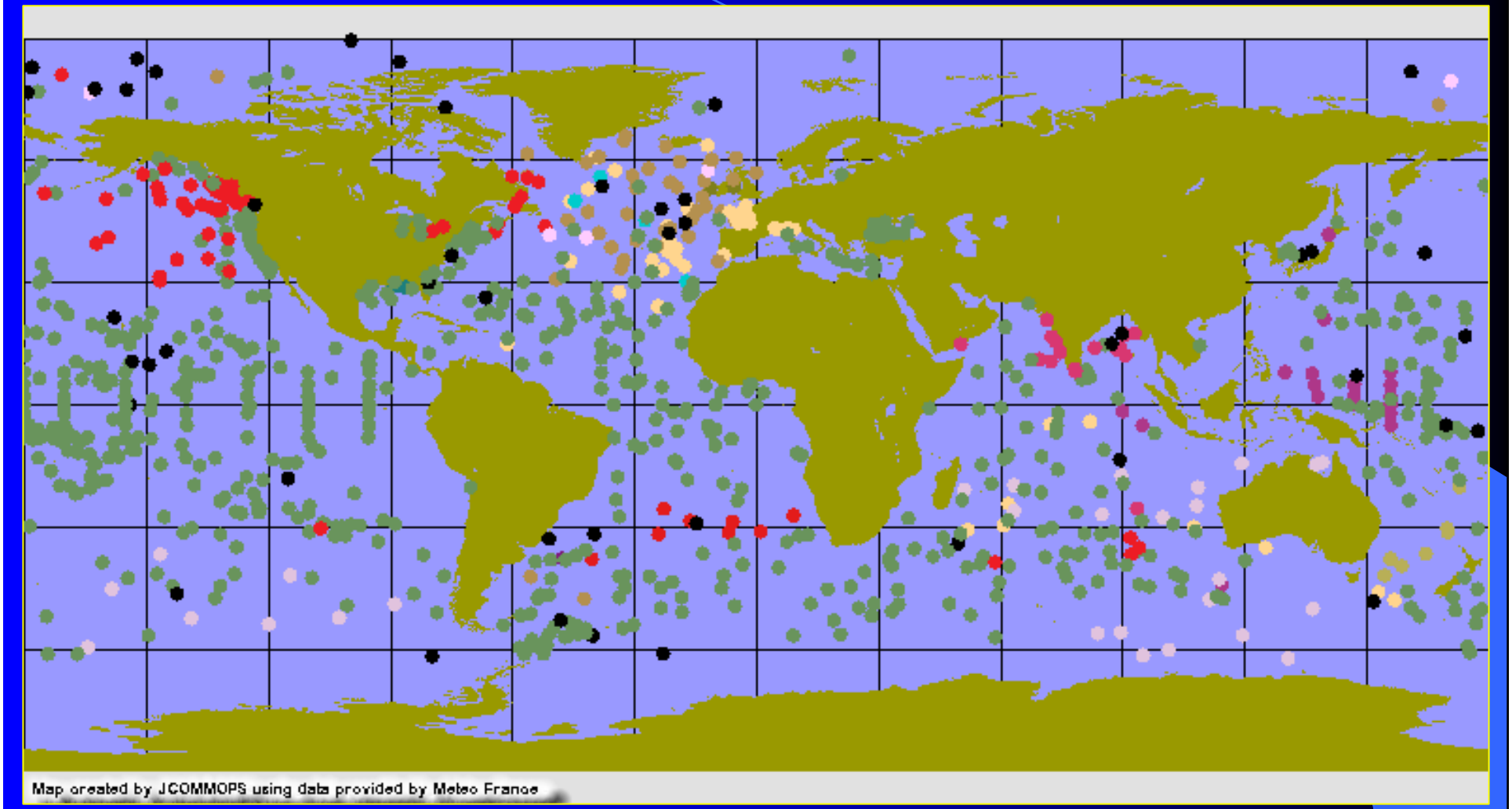
Drifting Buoy Programme

- Coordinated by DBCP*, a component of the JCOMM Observations PA.
- The DBCP is supported by national programmes and regional action groups, e.g. IBPIO.
- Real-time oceanographic and meteorological data;
  - AP, AT, SST, PT, WS/WD.
  - Inferred ocean current direction and speed.

(* Data Buoy Cooperation Panel)

Drifting Buoy Programme

Drifting Buoy Programme

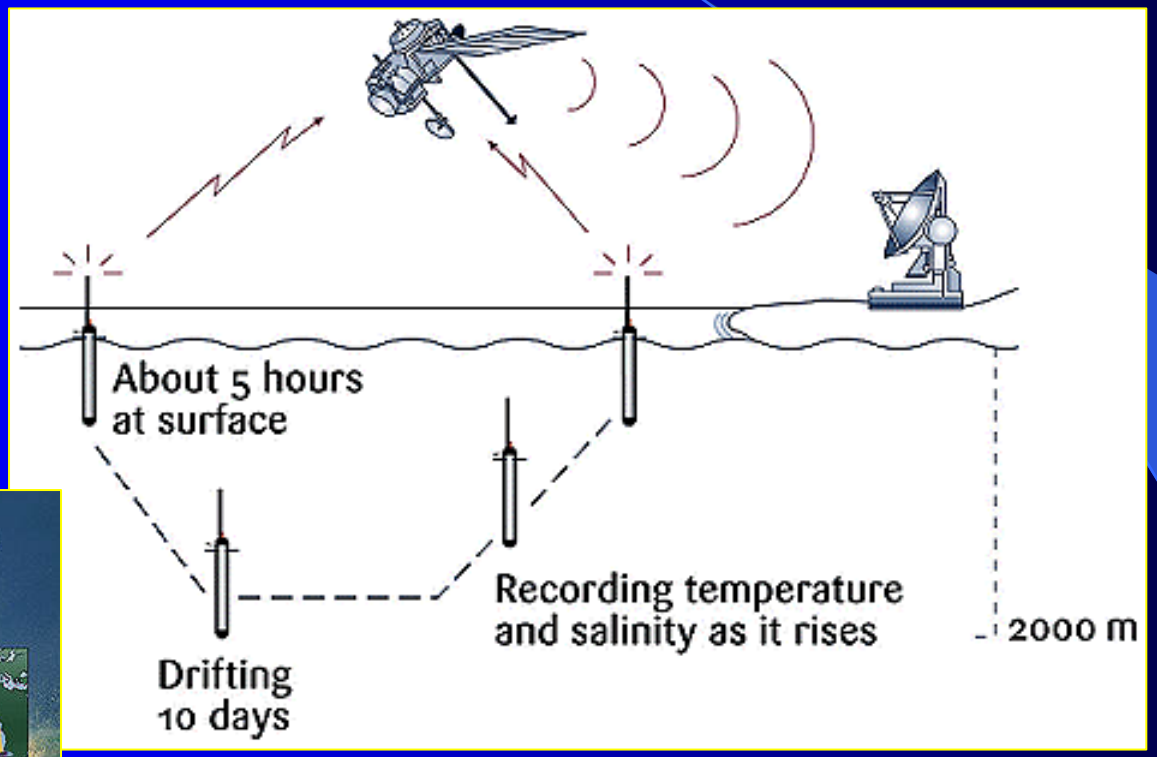


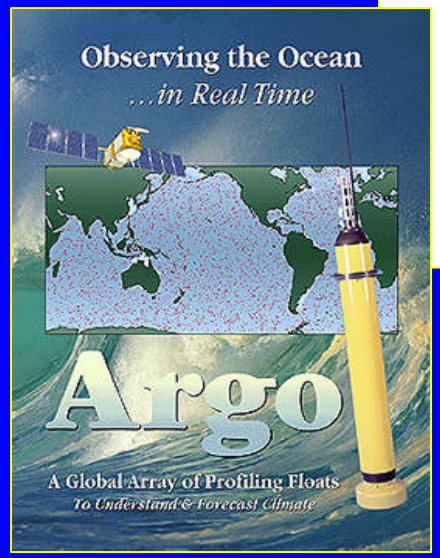
Argo Float Programme

- Coordinated by AST*, a component of the JCOMM Observations PA.
- Argo aims to have 3000 profiling floats deployed by 2005, providing broadscale temperature and salinity profiles to complement the XBT data.
- The AST is supported by national Argo programmes.

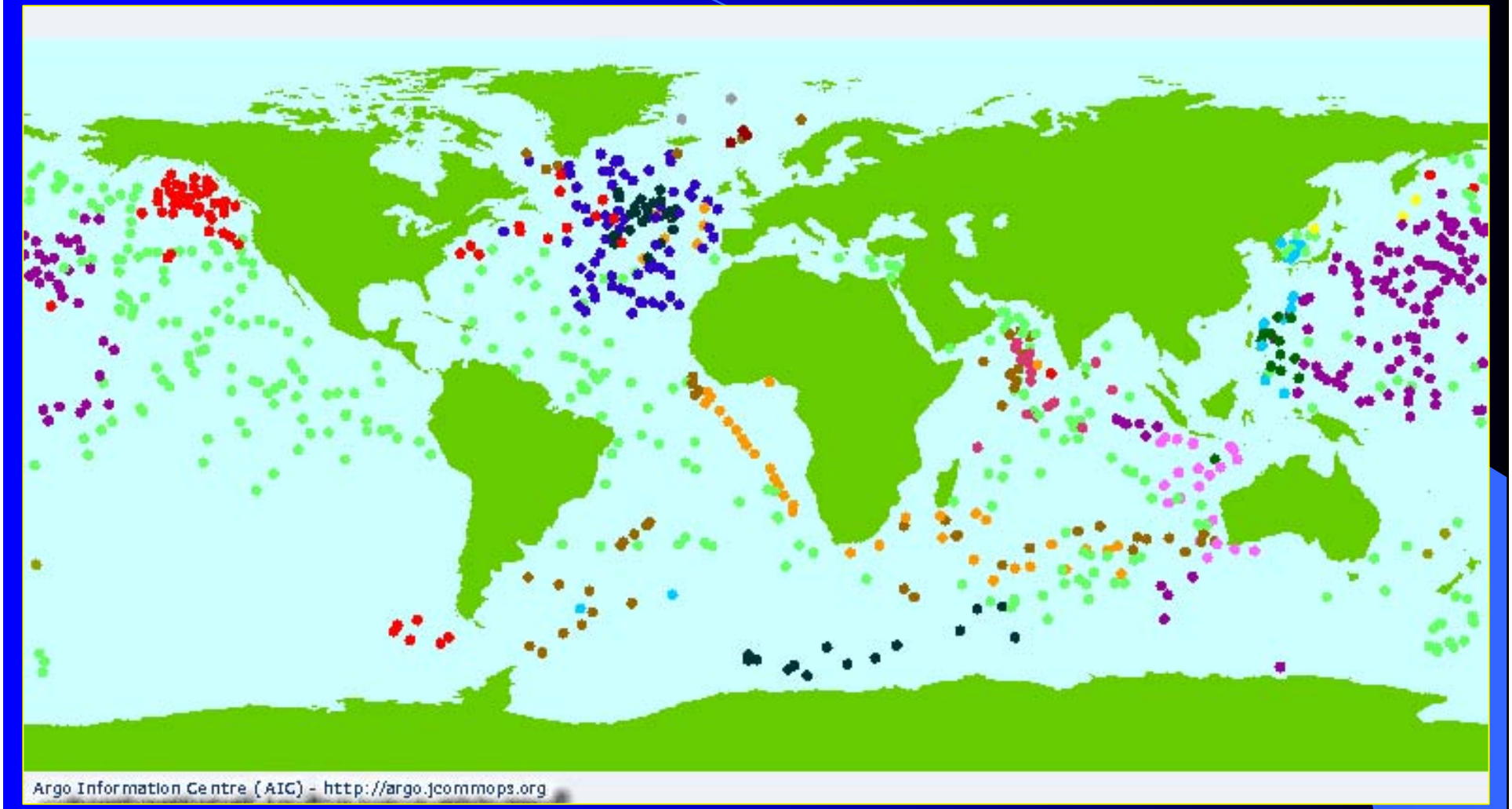
(* Argo Science Team)

Argo Float Programme





Argo Float Programme



Ship of Opportunity Programme

- Coordinated by SOOPIP*, a sub-group of the SOT, a component of the JCOMM Observations PA.
- The SOOPIP is supported by national programmes.
- The XBT SOOP provides Upper Ocean Thermal data, mostly on designated sampling lines, using eXpendable BathyThermographs (XBTs).

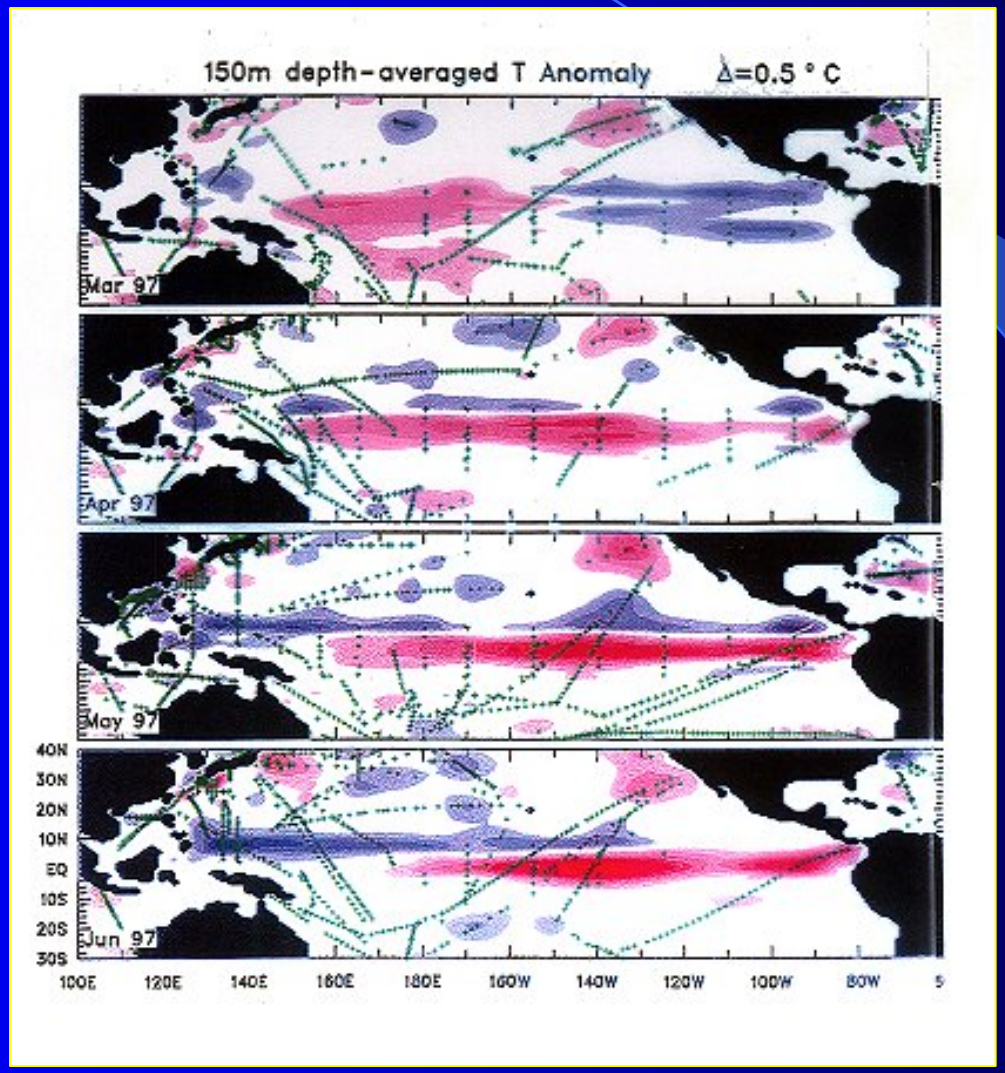
(* Ship of Opportunity Implementation Panel)

Ship of Opportunity Programme

Ship of Opportunity Programme

- XBT data applications;
  - Climate monitoring.
  - Oceanographic analysis.
  - Research.
  - Defence.
  - Fisheries.

Application of Upper Ocean Thermal Data



Automated Shipboard Aerological Programme

- Coordinated by ASAPP*, a sub-group of the SOT, a component of the JCOMM Observations PA.
- ASAP provides routine upper air soundings (temperature, humidity, wind speed and wind direction) from ships at sea.

(* Automated Shipboard Aerological Programme Panel)

Automated Shipboard Aerological Programme

- The majority of regular routes are in the N.H., as part of E-ASAP under EUMETNET, plus some routes operated by JMA.
- The Worldwide Recurring ASAP Project (WRAP) operates in the S.H., and is a collaborative project between the MetOffice, NOAA and the BoM.

Support for Complementary Programmes

- Based on stated national, regional or international requirement, identify ships to;
  - Deploy drifting buoys.
  - Deploy profiling floats.
  - Participate in the XBT SOOP.
  - Participate in ASAP.

Support for Complementary Programmes

- Represent the NMS at the loading of a buoy or float;
  - Official ‘hand-over’ of the device.
  - Confirm deployment requirements & methods.
  - Undertake post-delivery checks if applicable.
- Provide a ‘ship-greeting’ service to the XBT SOOP;
  - Recover log-sheets and data disks.
  - Test equipment and confirm satisfactory operation.
  - Replenish the supply of XBT probes and stationery.

Proposal to SOT-II for PMO Support

- The report by the Task Team on SOT Coordination to SOT-II, considered mechanisms to support and enhance PMO operations.

- JCOMMOPS to establish an internet forum, to;
  - Exchange details about ship inspections, particularly for vessels away from their country of recruitment for long periods, and which are visited by a foreign PMO.
  - Automatically send details to the responsible VOS NFP.
  - Facility to search for historical inspection details.
  - Exchange notices and requests via a message board.

JCOMM VOS website

http://www.bom.gov.au/jcomm/vos/

Useful websites

- SOT http://www.jcommops.org/sot/
- JCOMMOPS http://www.jcommops.org/
- DBCP http://www.dbcp.noaa.gov/
- ARGO http://www-argo.ucsd.edu/

Questions ?