Laura Lorenzoni – IOCCP SSG Member for Time Series
Maciej Telszewski - Project Director

IOCCP UPDATE

IOCCP Themes and SSC members

Chair
Toste Tanhua (Germany)

Underway pCO_2 Observations:
Ute Schuster (UK)

Surface CO_2 Data:
Kim Curry (New Zealand)

Ocean Interior Observations:
Masao Ishii (Japan)

Ocean Interior Data:
Are Olsen (Norway)

Time Series Networks:
Laura Lorenzoni (USA)

Instruments and Sensors:
Todd Martz (USA)

Data Management:
Benjamin Pfeil (Norway)

Nutrients
Michio Aoyama (Japan)

Framework for Ocean Obs.
Toste Tanhua (Germany)

Ocean Acidification
Richard Feely (USA)

Project Director:
Maciej Telszewski (Poland)

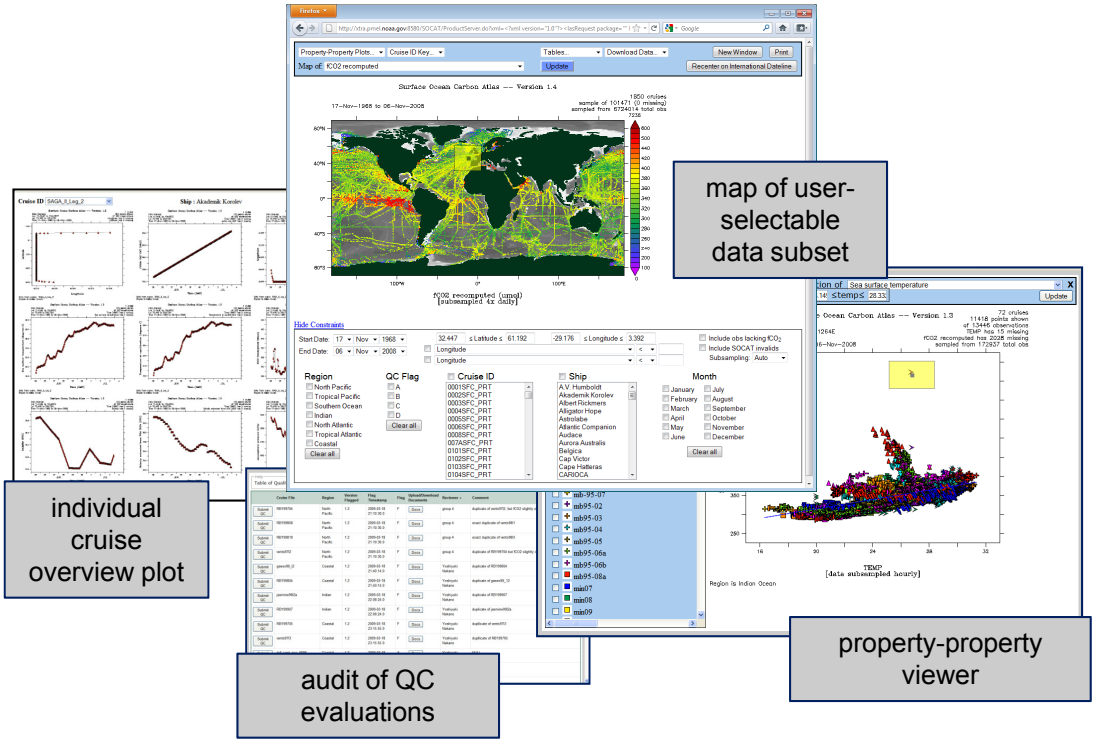
Why IOCCP?

The IOCCP promotes the development of a global network of ocean carbon observations for research through technical coordination and communication services, international agreements on standards and methods, and advocacy and links to the global observing systems.

In the ~11 years the IOCCP has:

- ✓ held 28 workshops and
- ✓ published over 23 reports, guides, and strategy documents
- ✓ issued 34 newsletters (The IOCCP Conveyor)

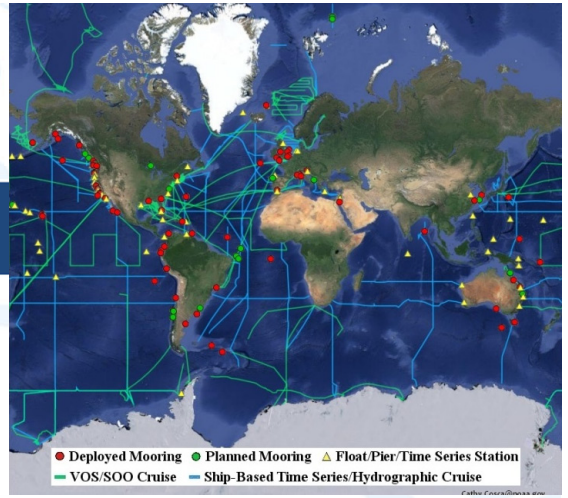
SOCAT Version 2



- SOCAT V2 consists of 10.1 million fCO_2 data (+60% over version 1.5) covering the years 1968-2011
- SOCAT accepts sensor data with a special set of quality flags
- SOCAT data submission and data quality control system automation to be launched within 2 years
- SOCAT version 3 to be released in 2015

Ocean Acidification

Global OA Observing Network



Human and technical resources for implementation

Coordination in context of essential biogeochemical ocean variables (for GOOS) & other global ocean carbon actions

Nationally-funded research and monitoring

IOCCP International Ocean Carbon Coordination Project

OA-ICC International Coordination Centre

Coordination support; capacity building; education & out-reach; stakeholder engagement (via iOA RUG)

OA observing activities, data, expertise & assets

Development of Framework for Ocean Observing

GOOS Global Ocean Observing System

Blue Planet task of GEO/GEOSS

OA in context of remote and *in situ* Earth Observing

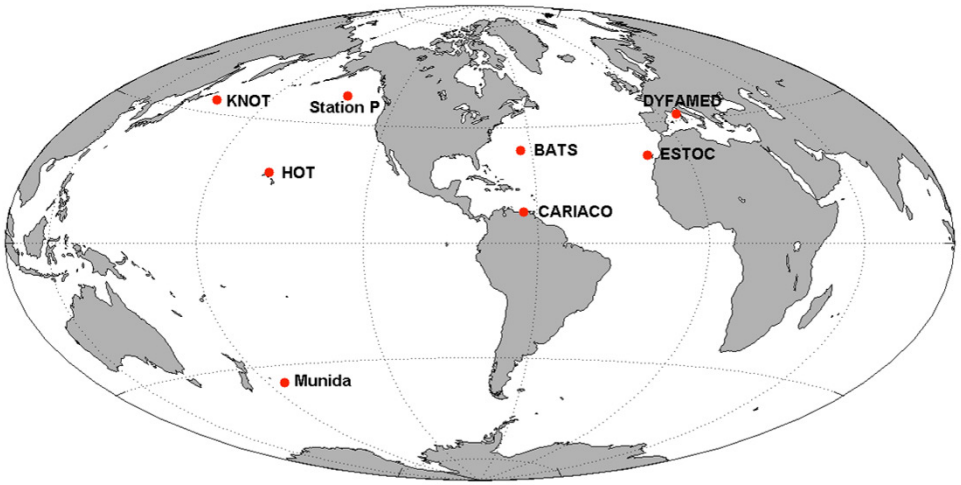
GOA ON outputs and outcomes

common protocols, databases, synthesis pr

Time Series

- Continue maintaining the ship-based biogeochemical TS network; live web presence (http://www.whoi.edu/website/TS-network/home)

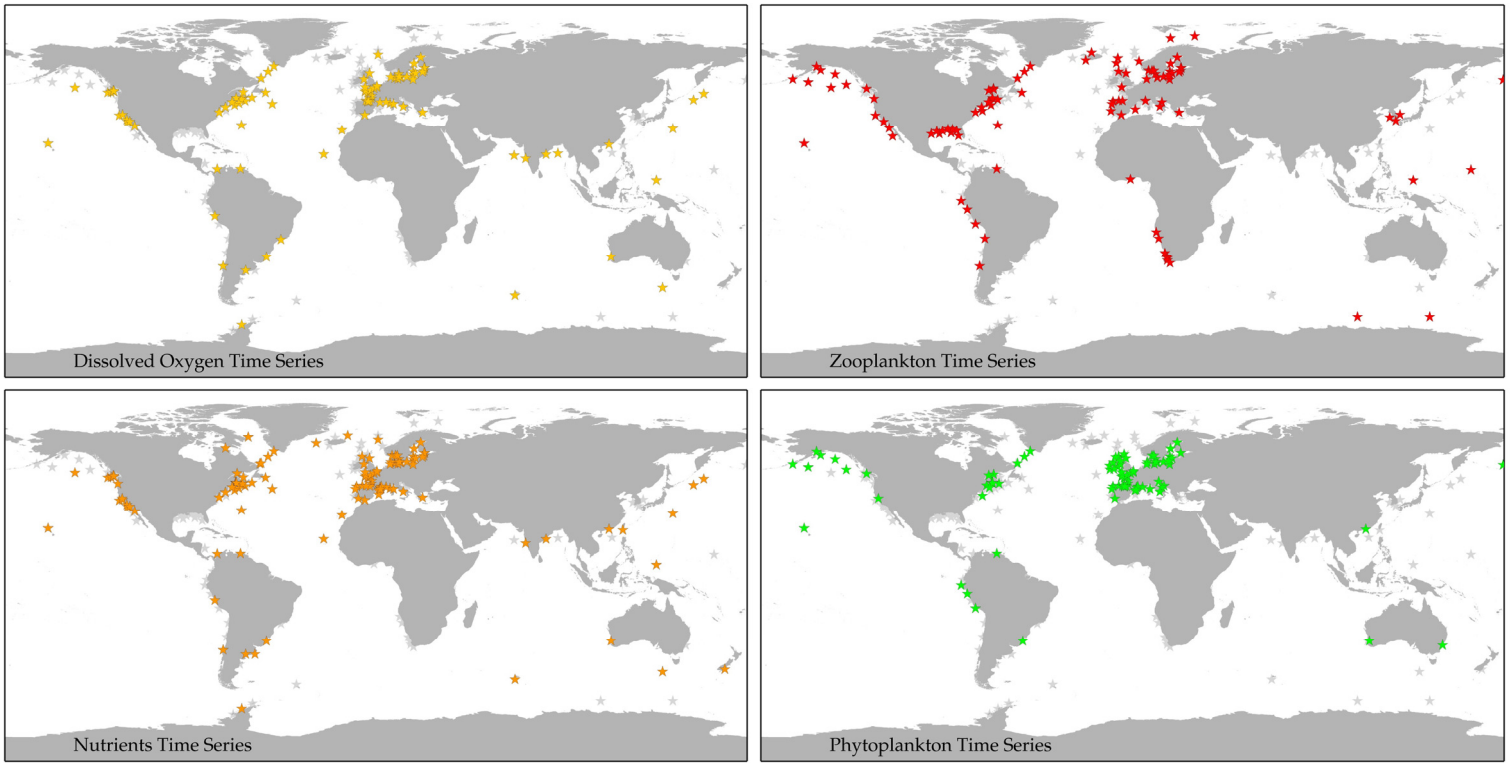
- WMO annual Greenhouse Gas Bulletin to feature a new 'oceans' page where ocean pCO_2 and pH from TS will be included. **8 ship-based time-series were selected** based on their historical records to be highlighted on this bulletin.



Time Series

The International Group for Marine Ecological Time Series (IGMETS) seeks to integrate a suite of *in situ* biogeochemical variables from ship-based time-series stations, together with satellite-derived information, to look at holistic changes within different ocean regions.

International Group for Marine Ecological Time Series (IGMETS)



Time Series

- The International Group for Marine Ecological Time Series (IGMETS) seeks to integrate a suite of *in situ* biogeochemical variables from ship-based time-series stations, together with satellite-derived information, to look at holistic changes within different ocean regions.

- Comprehensive, integrated report published under the auspices of IOC-UNESCO

- The report is estimated to be completed by summer 2015

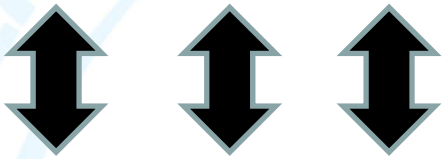
- AAAS meeting February 2015: Marine Ecosystems In Hot Water: Some Like It Hot (But Some Do Not!).

Framework for Ocean Observing

Approved governance structure

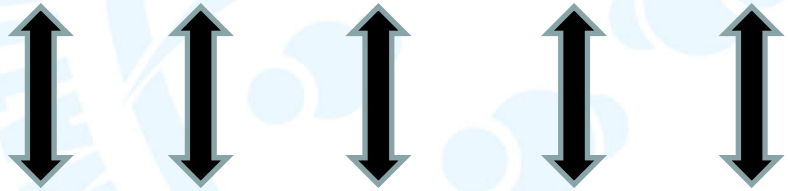
GOOS Steering Committee

(Peak Bodies, Sponsors, Observing Panel Chairs, Observing System leaders)



Observing System Panels

(focused on EOVs e.g. Physics, **Carbon/Biogeochemistry**, Biology/Ecosystems); Coordination for observing system elements



Technical Advisory Groups

(Observing technologies and networks, Variable focus: data and products, synthesis, link to models)

Biogeochemical EOV workshop
Townsville, Australia,
November 2013

The Global Ocean Observing System

GOOS

The Essential Ocean Variables for Biogeochemistry

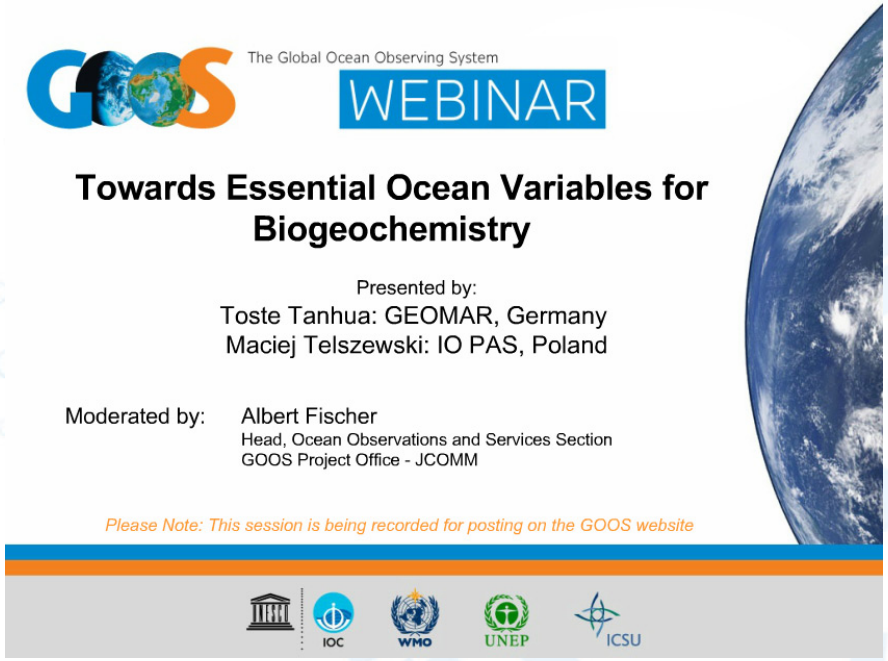
1) Oxygen
2) Macro Nutrients
3) Carbonate System
4) Transient tracers
5) Suspended particulates
6) Particulate Matter Transport
7) Nitrous Oxide
8) Carbon-13
9) Dissolved Organic Matter

- **Global**
- **General**
- **A pick of the „top 10“**

- **Can be important to designing observing systems, and for fund-rising**

Community input on BGC EOV's

- **Townhall meeting in Honolulu during the OSM-2014**
  - Attended by >100 people
  - The audience was invited to consult a draft EOV Report and Specification Sheets (http://www.ioccp.org/foo)
- **GOOS Webminar June 2014**



International Council for Science
SCOR
Scientific Committee on Oceanic Research

The Global Ocean Observing System
GOOS

GOOS Biogeochemistry Panel

Next steps

- Development of metrics
- Partnerships
- Pilot projects with strong biogeochemical component

Future planned activities

- Summer course “Instrumenting our oceans for better observation: a training course on biogeochemical sensors” June 2015.
- Generate a “Best Practices” guide with easy-to-follow steps on usage (including preparation, deployment, recovery and basic data reporting, processing and quality) of autonomous biogeochemical sensors.
- The course will be held at the Sven Lovén Center for Marine Sciences in Kristineberg, Sweden.

http://www.ioccp.org/