- SOCCOM (Southern Ocean Carbon and Climate Observations and Modeling) Status

- SCOR Working Group 142: Quality Control Procedures for Oxygen and Other Biogeochemical Sensors On Floats and Gliders

- XPRIZE pH competition and Argo

Ken Johnson, MBARI

soccom.princeton.edu

SOCCOM | Unlocking the

soccom.princeton.edu

Apps | Google | FloatVIZ Version 6.0 | LOBOVIZ Version 3.0 | NDBC - Station 46042 | The Canyon Head | JUL_DAY | Other bookmarks

SOCCOM

Unlocking the mysteries of the Southern Ocean

SOCCOM is launched!

The SOCCOM project has been awarded funding from the National Science Foundation and was officially launched on September 9, 2014.

SEARCH SOCCOM

ABOUT US | RESEARCH | BROADER IMPACTS | RESOURCES | NEWS | BLOG | CONTACT US | MEMBERS ONLY |

Latest News

Southern Ocean Town Hall at AGU

Join us on Dec. 14th to discuss SOCCOM and other progress

SOUTHERN OCEAN CARBON AND CLIMATE OBSERVATIONS AND MODELING

The Southern Ocean Carbon and Climate Observations and Modeling project (SOCCOM) is an NSF-sponsored program focused on unlocking the mysteries of the Southern Ocean and determining its influence on climate.

SOCCOM funded by NSF for 6 years with additional support from NOAA and NASA

Directorate

Jorge Sarmiento, Princeton

Ken Johnson

Theme I Observations

Lynne Talley, SIO

Steve Riser, U. W.

Theme II Modeling

Joellen Russell, U. Arizona

Biooptics (Emmanuel Boss, Maine, Oscar Schofield, Rutgers)

Theme III Education & Outreach

Heidi Cullen, Climate Central

SOCCOM

23 senior researchers at 11 institutions

- NSF funding will enable ~30 to 40 floats/y with pH, O_2, NO_3^-, ~200 total in Southern Ocean
- $3.5 million/year, $21 million total
- September 2014 start date for NSF $
- NOAA will provide half of the basic CTD floats
- NASA will provide biooptics (WETLabs FLBB or MCOM - ~FLBBCDOM)
- Support for Biogeochemical Argo data manager at UW

- CLIVAR/GO-SHIP quality calibration of chemical sensors at deployment (SIO)
- Southern Ocean State Estimate (SOSE) with biogeochemical data assimilation (SIO)
- Integrated biogeochemical modeling program linked to NOAA GFDL Earth System Model
- Ongoing OSSE assessment of system design (Miami & Princeton)
- International Collaborators Committee, Steve Rintoul, Chair

Biogeochemical profiling floats in the Southern Ocean. Click a float to access data and profile plotting.

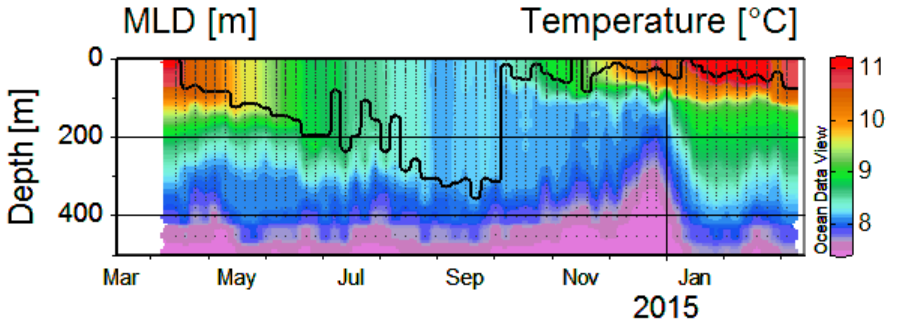
Argo data posted as part of Argo.
BGC data in near real-time and posted online at SOCCOM for public use.

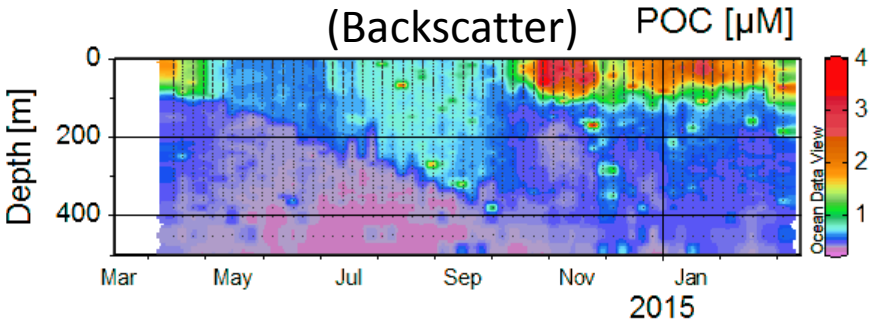
Deep-Sea DuraFET pH sensor (Ion Sensitive FET transistor)

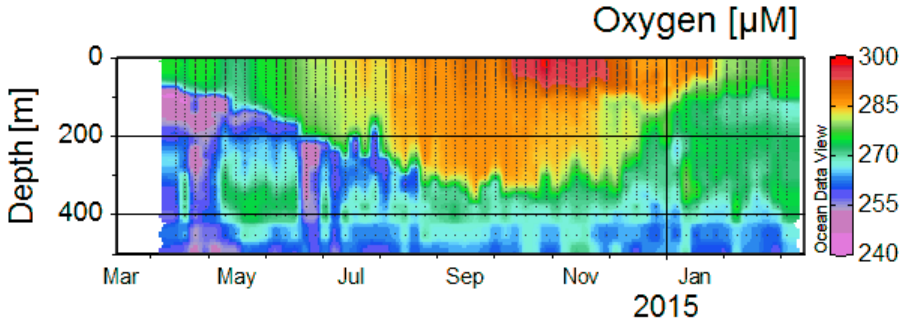
ISUS (or SUNA) optical nitrate sensor

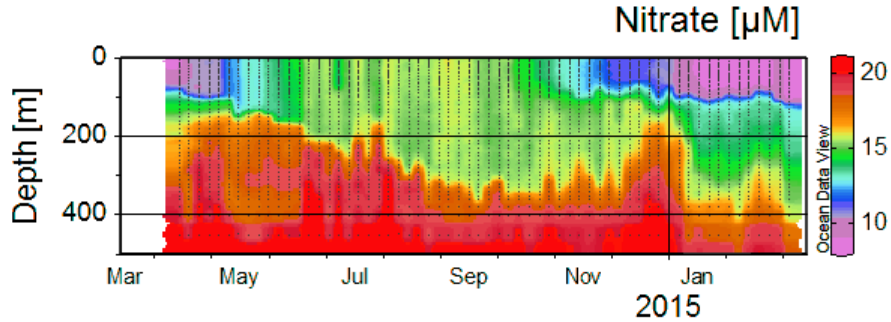
Aanderaa or SBE 63 oxygen optode & WETLabs FLBB or MCOM

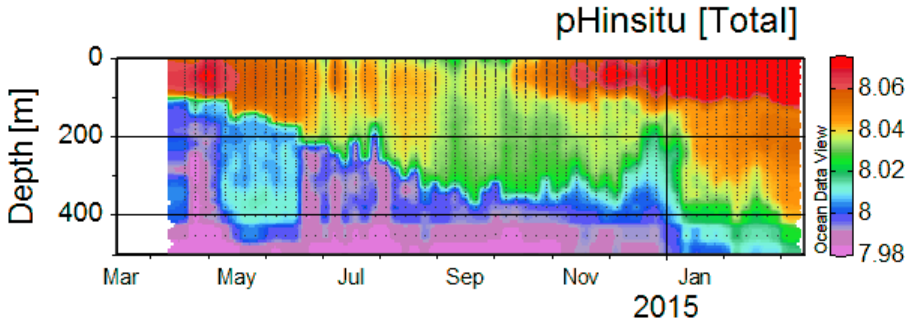
Navis APEX

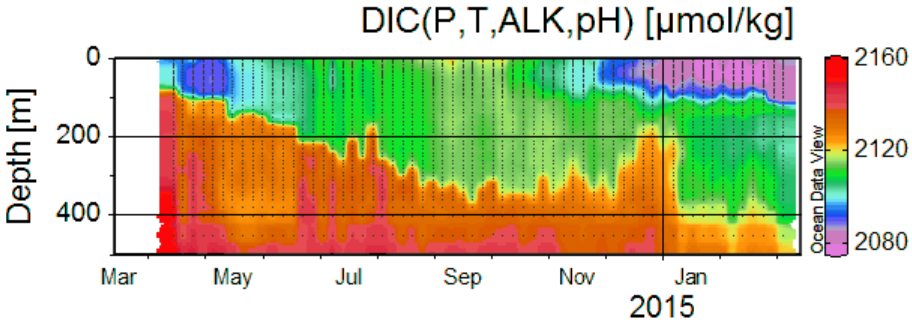


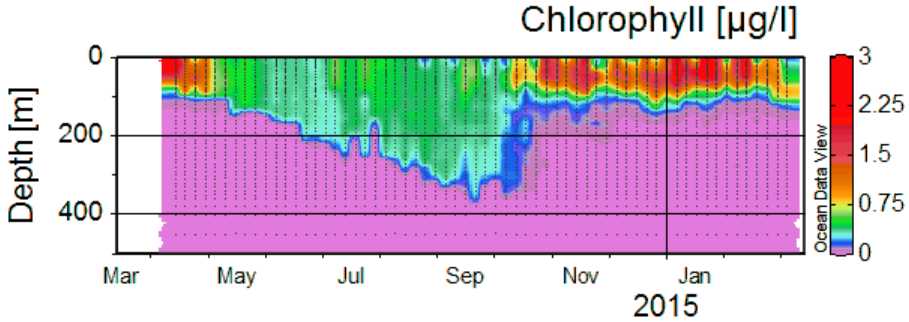


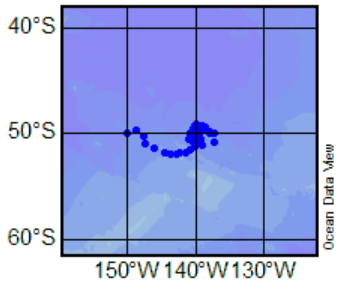












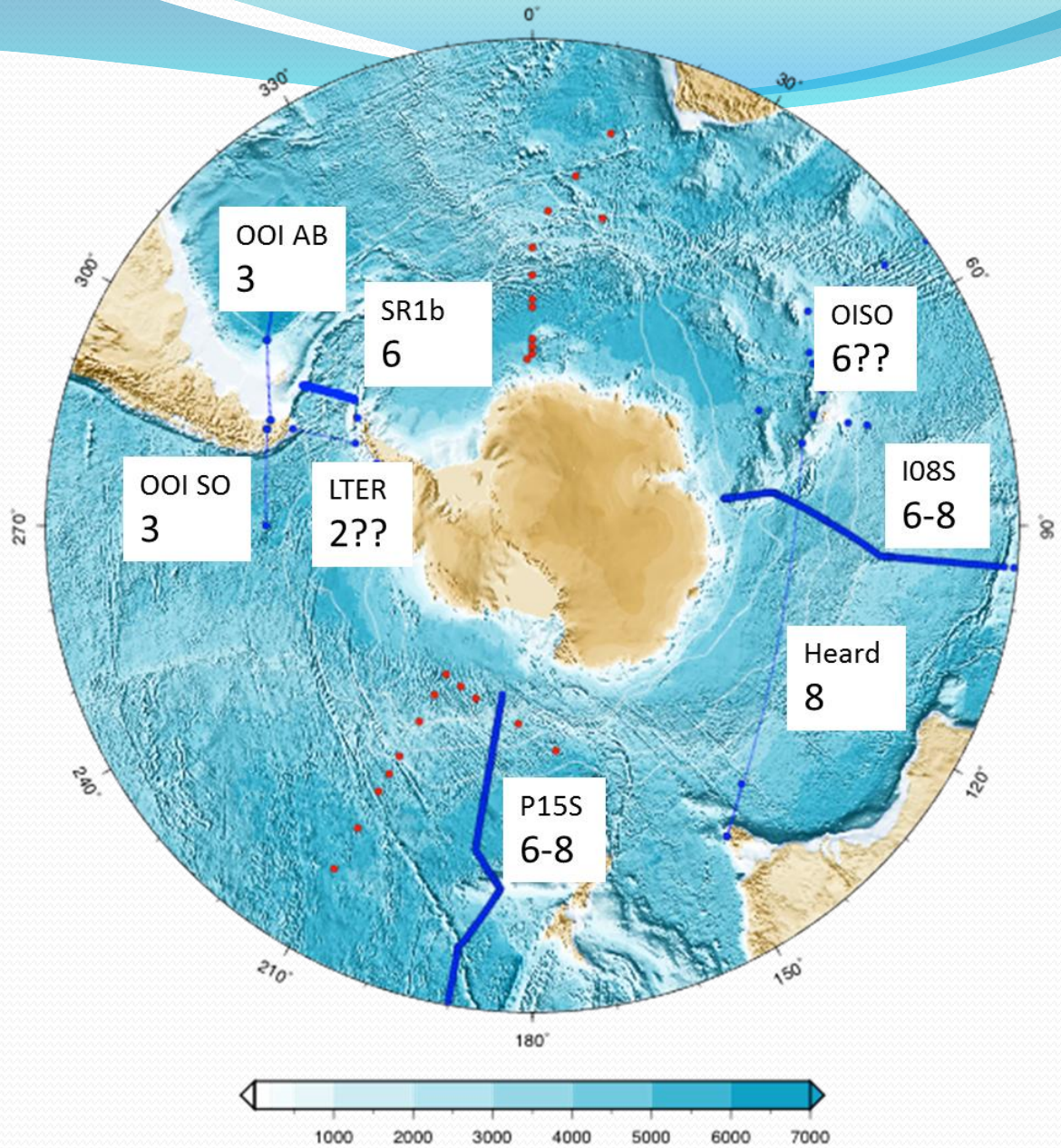
Float 9095

SOCCOM

SOCCOM Yr 2

37 floats available. Many cruise opportunities have been identified. Locations TBD.

A transformative understanding of Southern Ocean carbon cycling and climate.



SOCCOM

Outreach coordinated by Climate Central (Heidi Cullen, lead).
Join a “Google Hangout” – Tonight, 7 pm

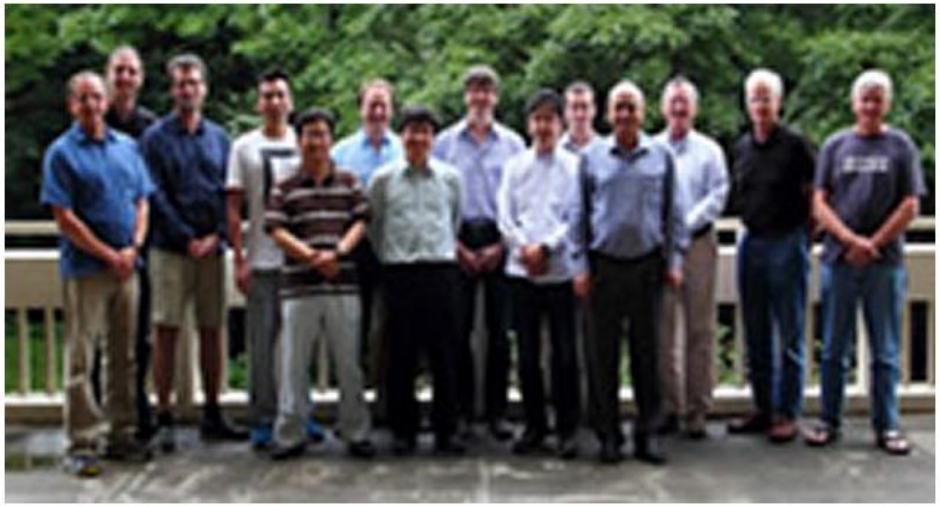
MEDIA ADVISORY: Google Hangout On Air
March 18, 2015, 2:00 p.m. (EDT)

THE DECODER: UNLOCKING THE MYSTERIES OF THE SOUTHERN OCEAN

https://plus.google.com/events/chakp8vd5tiadvs9fqnph3aujq8
(or just google “hangout the decoder unlocking”)

Featuring the folks who build and deploy the SOCCOM floats.
Live from the R/V Investigator in Hobart, which is loading SOCCOM floats.

Top stories - ibis Wifi Ser... | The Decoder: A Key to Un... | MBARI Web Expense: App... | MBARI Web Expense: App... | SCOR WG 142 on Quality
www.scor-int.org/Working_Groups/wg142.htm
Apps | Google | FloatVIZ Version 6.0 | LOBOVIZ Version 3.0 | NDBC - Station 46042 | The Canyon Head | JUL_DAY | Google Scholar | Chem Sensors M1 I... | Other bookmarks



Group photo from the 1st meeting of SCOR WG 142 in Honolulu, Hawaii

SCOR WG 142
on
Quality Control Procedures for Oxygen and Other Biogeochemical Sensors on Floats and Gliders

Co-Chairs: Arne Körtzinger (Germany) and Ken Johnson (USA)

Financial Sponsors: NSF, SCOR

Date Approved: October 2012

Terms of Reference

1. Summarize and assess the current status of biogeochemical sensor technology with particular emphasis on float-/glider-readiness (pressure and temperature dependence, long-term stability, calibration accuracy, measurements time constant, etc.).
2. Develop pre- and post-deployment quality control metrics and procedures for oxygen and other biogeochemical sensors deployed on floats and gliders providing a research-quality synthesis data product.
3. Collaborate with Argo and other data centers to implement these procedures in their standard routines.
4. Disseminate procedures widely to ensure rapid adoption in the community. Develop ideas for capacity building in this context.

WG 142 met Monday morning, Tuesday eve.

- Feb. 2014 meeting, identifies measurement of air O_2 as an effective sensor calibration to mitigate poor factory calibration.
- Analysis of 24 UW/MBARI floats shows O_2 bias in mixed layer reduced from 30 µmol/kg to 2 µmol/kg vs. Winkler.
- ADMT-15 encourages WG 142 to provide expert recommendation to manufacturers.
- Argo Canada (D. Gilbert) reports their O_2 floats all made air oxygen measurements, possibly all Apex O_2 floats did.
- WG 142 agrees at Brest to write recommendation to manufacturers that all floats should make air O_2 measurements (SBE 63 before deployment if not during deployment). Should have minimal impact on float ops.

WG 142 and guests

WENDY SCHMIDT OCEAN HEALTH XPRIZE
Turning the Tide on Ocean Health

Search the Site

XPRIZE

COMPETITION TEAMS MEDIA BLOG ABOUT

$2 million prize for 'best' pH sensor.

All Team Durafet Team Members hereby agree that Honeywell International Inc. …. shall donate any and all Wendy Schmidt Ocean Health XPRIZE winnings (less any tax or prize receipt obligations) to an ocean health non-profit organization such as the Argo Array

The intent is to help equip Argo with pH. Why? We need a long-term pH observing system.