

XBT Science Workshop

5-7 October 2016, Tokyo

- updated: 7 Oct 2016 -

Meeting organizers: Janet Sprintall (SIO, USA)
Gustavo Goni (AOML/NOAA, USA)
Shoichi Kizu (Tohoku University, Japan)

Local hosts: Shoichi Kizu (Tohoku University, Japan)
Masayoshi Ishii (MRI/JMA, Japan)
Toru Suzuki (MIRC, Japan)
Kanako Sato (JAMSTEC, Japan)

Objectives of the meeting:

- **Looking towards understanding and correcting XBT biases for climate research (e.g. ocean heat content) and physical oceanography studies.**
- **Scientific and operational uses of XBT observations, to better understand critical ocean phenomena, processes, such as Meridional Overturning Circulation, currents including Western Boundary Currents, ocean heat budgets.**
- **Exploring the synergy of XBT data with data from other observational platforms, such as Argo floats, satellite altimetry, surface drifters, etc.**

For more information on XBT Science, please visit
<http://www.aoml.noaa.gov/phod/goos/xbtscience/>.

Venue: JAMSTEC Tokyo Office

**Fukoku Seimei Bldg. 25F,
2-2-2 Uchisaiwaicho, Chiyoda City, Tokyo
100-0011, Japan**



List of registered participants

in alphabetical order, * means remote participation

** means reception only

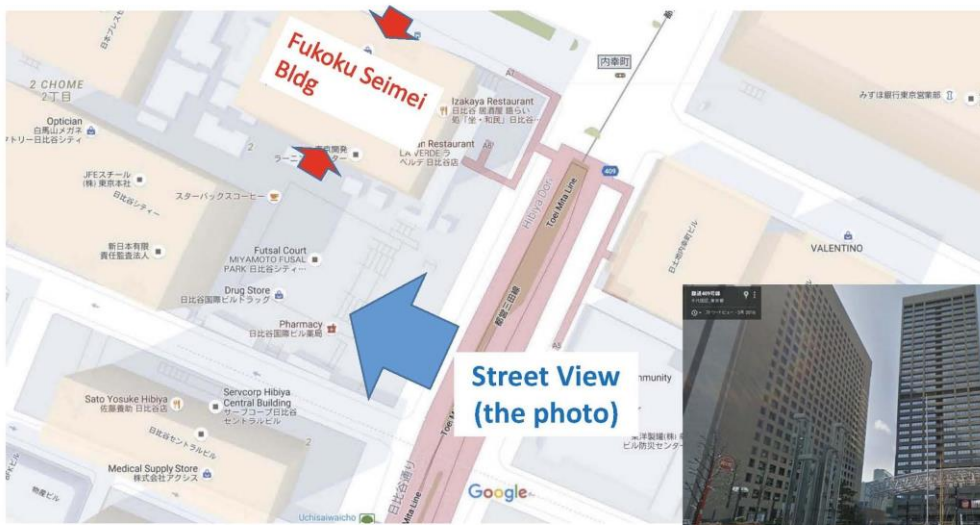
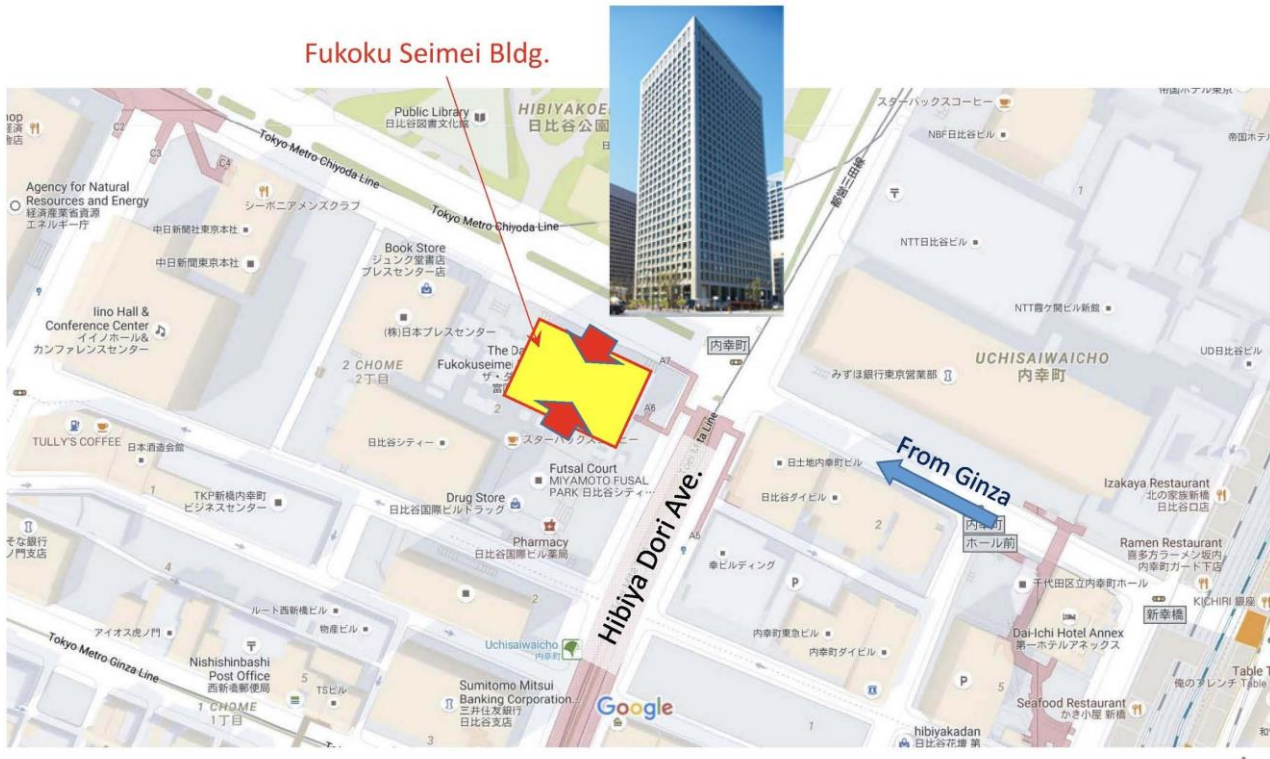
John Abraham	University of St Thomas, USA
Kenichi Amaike	Tsurumi Seiki Co., Ltd., Japan
Hiroshi Bandow	Assoc. of Int'l Research Initiatives for Environ. Studies, Japan
Molly Baringer	NOAA/AOML, USA
Tim Boyer	NOAA/NCEI, USA
Francis Bringas	NOAA/AOML, USA
Thierry Carval	IFREMER, France
Lijing Cheng	IAP/CAS, China
Mauro Cirano	REMO/UFRJ, Brazil
Christine Coatanoan	IFREMER, France
Rebecca Cowley	CSIRO, Australia
Steve Diggs	Scripps Institute of Oceanography, USA
Catia M. Domingues	IMAS - ACE CRC, University of Tasmania, Australia
Shenfu Dong	NOAA/AOML, USA
Paul Durak*	Lawrence Livermore National Laboratory, USA
Matteo Guideri*	Italian Hydrographic Institute, Italian Navy, Italy
Marlos Goes	University of Miami/CIMAS and NOAA/AOML USA
Gustavo Goni	NOAA/AOML, USA
Visa Gopalakrishna	National Institute of Oceanography, India
Viktor Gouretski	University of Hamburg, Germany
Kimio Hanawa	Tohoku University, Japan
Tetsuro Ino	Tsurumi Seiki Co., Ltd., Japan
Masayoshi Ishii	MRI/JMA, Japan
Rachel Killick	Met Office, UK
Shoichi Kizu	Tohoku University, Japan
Yulong Liu	National Marine Data and Information Service (NMDIS), China
Alison Macdonald	WHOI, USA
Takeharu Miyake	Japan Oceanographic Data Center, Japan
Kouji Muneda	Japan Oceanographic Data Center, Japan
Akira Nagano	JAMSTEC, Japan
Toshiya Nakano	JMA, Japan
Matt Palmer*	Met Office, UK
Nicholas Pittman*	University of Tasmania, Australia
Luca Repetti*	Italian Hydrographic Institute, Italian Navy, Italy
Franco Reseghetti*	ENEA - Italian National Agency for New Tech., Italy
Natalia Ribeiro Santos*	Federal University of Rio Grande - FURG, Brazil
Thomas Rossby	University of Rhode Island, USA
Kanako Sato	JAMSTEC, Japan
Janet Sprintall	Scripps Institution of Oceanography, USA

Toshio Suga	Tohoku University/JAMSTEC, Japan
Satoshi Suyama	Tsurumi Seiki Co., Ltd., Japan
Toru Suzuki	Marine Information Research Center, Japan
Michihiko Tachikawa**	Tsurumi Seiki Co., Ltd., Japan
Ann G. Thresher	CSIRO, Australia
Hiroyuki Tsuda	Tsurumi Seiki Co., Ltd., Japan
TVS Udaya Bhaskar	INCOIS, MoES, India

[Access to the venue]

Our venue is in JAMSTEC Tokyo Office, which is on the 25th floor of the Fukoku Seimei Building.

The building has entrances on its two sides (thick red arrows in the maps below). The ground (street) level is between 1F and B1F of the building. So, go up or down (whichever you like) the stairway near the locations indicated by the arrows and enter the building. Then find one of the elevators in the central portion of the floor, and go up to 25F.



This building



XBT Science Workshop

Agenda Plan (ver.3.1; 7 Oct 2016)

Wednesday 5 October 2016

14:00 – 14:10: Welcome, local logistics and Meeting Objectives: Shoichi Kizu and Janet Sprintall

Theme 1: Understanding and correcting XBT biases for climate research

Chair: Shoichi Kizu

Notetaker: Rebecca Cowley

14:10 – 15:10 [John Abraham \(Invited Speaker\): Fall rate biases of XBT devices and new estimates of ocean heat content](#)

15:10 – 15:30 [Lijing Cheng: Can we understand the difference of XBT bias calculated based on WOD13 and EN4 data? ---- Possible impact of difference in data processing](#)

15:30 – 16:00 *Coffee Break*

16:00 – 16:20 [Viktor Gourestki: Updating the XBT bias correction scheme](#)

16:20 – 16:40 [Lijing Cheng: Sippican T5 bias in side-by-side and global-scale datasets](#)

16:40 – 17:00 [Tim Boyer: Sensitivity of global upper-ocean heat content estimates to mapping methods, XBT bias corrections, and baseline climatologies](#)

17:00 – 17:20 [Nicholas Pittman \(in remote, from Australia\): Upper-ocean thermosteric sea level \(heat content\): Exploring the sensitivity of the CSIRO-ACE CRC IMAS estimates to 10 XBT bias corrections](#)

Thursday 6 October 2016

Theme 1: Understanding and correcting XBT biases for climate research (cont'd)

Chair: Shoichi Kizu

Notetaker: Ann G. Thresher

08:40 – 09:00 [Natalia Ribeiro Santos \(in remote, from Brazil\): An assessment of the XBT fall-rate errors in polar region: an application to the Southern Ocean](#)

- 09:00 – 09:20 [Francis Bringas: Current experiments of XBT fall rate equation at NOAA/AOML](#)
- 09:20 – 09:40 [Francis Bringas: The impact of deployment height and ship velocity on XBT fall rate computations](#)
- 09:40 – 10:00 [Rebecca Cowley: Progress on XBT biases](#)
- 10:00 – 10:20 [Thomas Rossby: AXIS - Autonomous eXpendable Instrument System](#)
- 10:20 – 10:50 *Coffee Break*
- 10:50 – 11:50 [Marlos Goes \(**Invited Speaker**\): The enhanced XBT probe](#)
- 11:50 – 12:10 [Shoichi Kizu: Sea tests of XCTDs: how are they different from XBTs?](#)
- 12:10 – 12:50 Discussion: The state of the most updated XBT FRE (Gustavo Goni)
- 12:50 – 14:00 *Lunch*

Theme 2: Scientific and operational uses of XBT observations

Chair: Gustavo Goni

Notetaker: Molly Baringer

- 14:00 – 15:00 [Rebecca Cowley \(**Invited Speaker**\): SOOPIP update](#)
- 15:00 – 15:20 [Janet Sprintall: Recent science highlights from the SIO high resolution XBT network in the Indian and Pacific Oceans](#)
- 15:20 – 15:50 *Coffee Break*
- 15:50 – 16:10 [Gopalakrishna Visa: Interannual variability of the western boundary current of the Bay of Bengal: 25 years of repeated XBT sections](#)
- 16:10 – 16:30 [Shoichi Kizu: A review of Japanese PX-40: 16 years with T/V Miyagi Maru](#)
- 16:30 – 16:50 [Marlos Goes: The structure and variability of the Brazil Current \(Part II\)](#)
- 16:50 – 17:10 [Mauro Cirano: Brazil Current structure and variability: the representativeness of the MOVAR-NOAA AX97 High-Density XBT transect](#)

Friday 7 October 2016

Theme 2: Scientific and operational uses of XBT observations (cont'd)

Chair: Gustavo Goni
Notetaker: Molly Baringer

09:00 – 09:20 [Shenfu Dong: Interannual variations of the Gulf Stream transport and location from 20 years of XBT measurements](#)

09:20 – 09:40 [Gustavo Goni: Use of XBT observations to assess meridional changes of MOC in the South Atlantic Ocean](#)

09:40 – 10:00 Discussion: [XBT Science review manuscript \(Gustavo Goni\)](#)

10:00 – 10:30 *Coffee Break*

Theme 3: Exploring the synergy of XBT data with other components of the observing system

Chair: Janet Sprintall
Notetaker: Rebecca Cowley

10:30 – 11:20 [Thomas Rossby \(**Invited Speaker**\): Measuring poleward volume and heat fluxes](#)

11:20 – 11:40 [Molly Baringer: Estimating the meridional heat transport and overturning circulation from XBTs](#)

11:40 – 12:00 [Marlos Goes: An OSSE system to assess the meridional transport uncertainties along 34°S](#)

12:00 – 12:20 [Akira Nagano: Heat transport variation by the North Pacific subtropical gyre interior flow change during 1993-2012](#)

12:20 – 12:50 Discussion: How can XBT community enhance its interaction with other observational communities, and increase science and operational impact of its observations? (Molly Baringer and Gustavo Goni)

12:50 – 13:10 Wrap up and conclusions of the meeting
Plan for the next meeting?