

# CLIVAR-GSOP Coordinated Quality-Control of Global Subsurface Ocean Climate Observations

Inaugural Meeting

CSIRO Marine and Atmospheric Research

Hobart, Tasmania

June 12 – 14, 2013

Sponsors:



[http://www.clivar.org/organization/gsop/activities/  
clivar-gsop-coordinated-quality-control-global-subsurface-ocean-climate](http://www.clivar.org/organization/gsop/activities/clivar-gsop-coordinated-quality-control-global-subsurface-ocean-climate)

<b>Day 1</b>	<b>Wed 12<sup>th</sup> June (8.00 – 18.10 h)</b>		
<b>8.00 – 8.15</b>	<b>Registration and Tea/Coffee</b>		<b>15 min</b>
<b>Morning:</b>	<b>Overview talks</b>		
<i>Session chair:</i>	<i>Bec Cowley (Notetaker: Good)</i>		
8.15 – 8.20	<b>Welcome and logistics</b>	Domingues	5 min
8.20 – 8.30	<b>Motivation and workshop goals</b> (defined by org. committee, including report for CLIVAR)	Wijffels	10 min
8.30 – 8.40	<b>Introduction to provisional Terms of Reference</b> (project scope developed by org. committee, reviewed and finalised at the end of the meeting)	Domingues	10 min
8.40 – 9.20	<b>The historical subsurface ocean T/S data: what takes to assemble a global data set &amp; metadata recovery: what has been achieved and what lies ahead.</b>	Boyer, Levitus, Gilles, Gouretski, Kizu	30 min + 10 min
9.20 – 9.45	<b>Relevant lessons from ACRE &amp; ICOADS Projects</b>	Good/Allan, Palmer/Woodruff	20 min + 5 min
<b>9.45 – 10.00</b>	<b>Break</b>		<b>15 min</b>
<i>Session chair:</i>	<i>Simon Good (Notetaker: Thresher)</i>		
10.00 – 11.40	<b>Instrumentation types, data and metadata (accuracy, biases and known issues)</b>		80 min + 20 min
	1. Introduction	Boyer	5 min
	2. General Nansen cast problems/metadata	Gouretski	10 min
	2a. 19th/early 20th century data	Gouretski	5 min
	2b. Specific Nansen cast example	Kizu	5 min
	3. MBT problems/metadata	Gouretski	10 min
	4. XBT problems	Kizu	10 min
	4a. General XBT metadata	Kizu	5 min
	5. CTD problems/metadata	Swift	15 min
	6. Other instruments problems/metadata	Boyer	10 min
	7. Wrap up	Boyer	5 min
11.40 – 12.05	<b>The end users perspective – from measurement to research</b>	Macdonald, Swift	20 min + 5 min
12.05 – 12.30	<b>The end users perspective – who are we doing this for?</b> (e.g., climate science and data assimilation efforts)	Cowley (coordinated by Oke)	15 min + 5 min
12.30 – 12.50	<b>Overall discussion (lead: Cowley, Good)</b>	All participants	20 min
<b>12.50 – 14.00</b>	<b>Lunch</b>		<b>70 min</b>

<b>Day 1</b>	<b>Wed 12<sup>th</sup> June (8.00 – 18.10 h)</b>		
<b>Afternoon:</b>	<b>Sharing PROS and CONS experiences: QC and data management</b>		
<i>Session chair:</i>	<i>Masayoshi Ishii (Notetaker: Cowley)</i>		
14.00 – 14.20	<b>US NODC</b>	Boyer	15 min + 5 min
14.20 – 14.40	<b>US AOML</b>	Goni	15 min + 5 min
14.40 – 15.00	<b>US Scripps</b>	Thresher, Roemmich	15 min + 5 min
15.00 – 15.30	<b>US GTSP (+ Optimal Spectrum Decomposition)</b>	Thresher, Sun	25 min + 5 min
15.30 – 16.10	<b>UK</b>	Good, Palmer	15 min + 5 min
<b>16.10 – 16.30</b>	<b>Break</b>		<b>20 min</b>
<i>Session chair:</i>	<i>Tim Boyer (Notetaker: Good)</i>		
16.30 – 16.50	<b>Japan</b>	Ishii (brief), Suzuki	15 min + 5 min
16.50 – 17.10	<b>Germany</b>	Gouretski	15 min + 5 min
17.10 – 17.20	<b>India INCOIS</b>	Bhaskar	15 min + 5 min
17.20 – 17.40	<b>Australia (QuOTA)</b>	Cowley, Thresher	15 min + 5 min
17.40 – 18.10	<b>Overall discussion &amp; Summary QC methods: PROS and CONS (lead: Ishii and Boyer)</b>	All participants	30 min
<b>18.30 – 21.00</b>	<b>BBQ with UTAS-ACE CRC-CSIRO PhD students &amp; Postdocs (CSIRO canteen)</b>		<b>150 min</b>

<b>Day 2</b>	<b>Thurs 13<sup>th</sup> June (8.00 – 17.30 h)</b>		
<b>8.00 – 8.20</b>	<b>Tea/Coffee</b>		<b>20 min</b>
<b>Morning:</b>	<b>Establishing QC system and data management protocols for subsurface ocean temperature data</b>		
<i>Session chairs:</i>	<i>Ann Thresher, Viktor Gouretski (Notetaker: Palmer)</i>		
8.20 – 8.45	<b>What level/type of quality control/metadata does the creator of analysis tools and gridded products need and want?</b> (e.g., Data quality and CARS; Making a cast statically stable)	Dunn, Ridgway, Barker, McDougall	20 min + 5 min
8.45 – 9.00	<b>Reviewing QC methods</b> (summary table: pros/cons)	Thresher, Gouretski	15 min
9.00 – 10.30	<b>Discussion of a unified QC system approach</b> (producing a flow chart of the QC steps) <b>(lead: Thresher and Gouretski)</b>	All participants	80 min
<b>10.30 – 11.20</b>	<b>Group photo (with Craig Macaulay) + Break</b>		<b>50 min</b>
<i>Session chairs:</i>	<i>Ann Thresher, Viktor Gouretski (Notetaker: Palmer)</i>		
11.20 – 11.40	<b>Data management (acquisition/delivery) – Title TBA</b>	Diggs	15 min + 5 min
11.40 – 12.30	<b>Discussion of QC data engagement priorities</b> (e.g., straw man approach with list of possible subsets – recent data, XBT data, full resolution data, ocean basis approach (WOCE, DAC approach, only profiles with adequate metadata, attack only data that has not been scientifically QCed or gone through high quality QC processes?) <b>(lead: Thresher and Gouretski)</b>	All participants	50 min
12.30 – 12.50	<b>Summary discussions</b>	Thresher, Gouretski	20 min
<b>12.50 – 14.00</b>	<b>Lunch</b>		<b>70 min</b>

<b>Day 2</b>	<b>Thurs 13<sup>th</sup> June (8.00 – 17.30 h)</b>		
<b>Afternoon:</b>	<b>Continued: Establishing QC system and data management protocols for subsurface ocean temperature data</b>		
<i>Session chair:</i>	<i>Nathan Bindoff (Notetaker: Hidas)</i>		
14.00 – 14.30	<b>Data interoperability for 21<sup>st</sup> century science</b> (e.g., overview of SeaDataNet, Ocean Data Interoperability Platform (ODIP), Australian Ocean Data Network (AODN); data format, metadata protocols, modes of data delivery)	Mancini, Proctor	20 min + 10 min
14.30 – 15.30	<b>Discussion of data management / metadata standards</b> Software development? Storing/serving/webhosting the data? Do we need a GDAC? More than one GDAC? Will the GDAC do basic checking before adding data? Obvious errors? Formats OK, content check? Who sends out the datasets that need to be QCed? What checks are done before they are sent? (Duplicates? Basic stat/metadata checks?) Data preservation? <b>(lead: Bindoff and Wijffels)</b>	All participants	60 min
<b>15.30 – 16.00</b>	<b>Break</b>		<b>30 min</b>
<i>Session chair:</i>	<i>Susan Wijffels (Notetaker: Hidas)</i>		
16.00 – 17.00	<b>Way forward: what working groups do we need?</b> Sharing the workload. Seek commitments from groups for personnel and funding. Division of the workload based on expertise or locality? Attach members to each group. i. QC methods ii. Steering group for scientific implementation plan (CLIVAR requirement) iii. Data assembly iv. Metadata harvesting v. Quantifying uncertainties (uncertainty in the data from instrument errors; uncertainty in how to correct for bias; uncertainty in the QC decisions (one system or operator might make a different choice on what data to reject). It is also important to assess correlation scales for errors e.g. an error in an XBT bias correction factor would affect XBT data globally, while assigning the wrong correction to an XBT due to lack of metadata is a more localised error.) vi. Data delivery/final formats/storage <b>(lead: Bindoff and Wijffels)</b>	All participants	60 min
17.00 – 17.30	<b>Summary discussions &amp; agreed points</b>	Bindoff, Wijffels	30 min
<b>18.30 – 21.00</b>	<b>Dinner function (The Mill, Morrison st, Hobart)</b>		<b>150 min</b>

<b>Day 3</b>	<b>Fri 14<sup>th</sup> June (8.40 – 17.00 h)</b>		
<b>8.40 – 9.00</b>	<b>Tea/Coffee</b>		<b>20 min</b>
<b>Morning:</b>	<b>Implementation plan: an agreed outline</b>		
9.00 – 9.10	<b>Introduction</b> (room locations, what outcomes we want from the breakout sessions)	Domingues	10 min
9.10 – 9.50	<ul style="list-style-type: none"> <li>Develop outlines, timelines, and action items for next steps based on Day 2 discussions.</li> </ul>	Breakout sessions Part 1	40 min
<b>9.50 – 10.00</b>	<b>Mini-Break</b>		<b>10 min</b>
10.00 – 10.40	<ul style="list-style-type: none"> <li>Develop outlines, timelines, and action items for next steps based on Day 2 discussions.</li> </ul>	Breakout sessions Part 2	40 min
<b>10.40 – 11.10</b>	<b>Break</b>		<b>30 min</b>
<b>Session chair:</b>	<b>Matt Palmer (Notetaker: Cowley)</b>		
11.10 – 13.00	<ul style="list-style-type: none"> <li>Meet and review each group's outline for implementation plan.</li> <li>Decide on sharing/writing/editing tasks – report of meeting and proposals for further funding/participation.</li> <li>Agree on drafts/final copy timelines.</li> </ul> <b>(lead: Palmer and Domingues)</b>	All participants	110 min
<b>13.00 – 14.30</b>	<b>Lunch</b>		<b>90 min</b>
<b>13.45 – 14.30</b>	<b>CSIRO Marine Lab tour</b> <b>(with Mark Underwood &amp; Craig Macaulay)</b>		<b>Max. 45 min</b>

<b>Afternoon:</b>	<b>Planning funding strategies &amp; Wrapping-up</b>		
<b>Session chair:</b>	<b>Gary Meyers (Notetaker: Cowley)</b>		
14.30 – 15.00	<b>Lessons from XBT &amp; Argo projects</b> (relevant to our project, from coordination, citizenship projects, protocols to funding, etc.)	Meyers, Wijffels	20 min + 10 min
15.00 – 17.00	<ul style="list-style-type: none"> <li>Identify main funding agencies/sources</li> <li>Project lifetime? Are there any ways to try to guarantee long-term sustainability of this project?</li> <li>Agree on and finalise the Terms of Reference</li> <li>Review action items (ensure names &amp; deadlines are associated with action items)</li> <li>Next meeting – How often? in conjunction with other communities (SOT, GTSP)</li> </ul> <b>(lead: Meyers, Palmer and Domingues)</b>	All participants	120 min
17.00 (or earlier)	<b>Adjourn</b>		

## EXTRAS: TUESDAY 11<sup>th</sup> June

### CSIRO seminars:

Date: Tuesday 11 June 2013 | Time: **11.00 am** (Tas time) | Dr Simon Good (UK MetOffice)

**A long-term satellite based data record of sea surface temperature from European Space Agency's Climate Change Initiative**

More details:-

<http://www.csiro.au/en/Organisation-Structure/Divisions/Marine--Atmospheric-Research/CMAR-Seminars/Hobart-Seminars/20130611-Good-pic2.aspx>

Date: Tuesday 11 June 2013 | Time: **11.30 am** (Tas time) | Dr Viktor Gouretski (KlimaCampus)

**Extending global subsurface temperature time series back to 1900**

More details:-

<http://www.csiro.au/en/Organisation-Structure/Divisions/Marine--Atmospheric-Research/CMAR-Seminars/Hobart-Seminars/20130611-Gouretski-pic3.aspx>



### Ship tour: R/V Southern Surveyor

Date: Tuesday 11 June 2013 | Time: **3 pm** (Tas time) |  
**Meeting at CSIRO reception, with Mike Jackson.**



## Participant List

Organising Committee	Email	Affiliation	Country
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<http://www.clivar.org/organization/gsop/activities/clivar-gsop-coordinated-quality-control-global-subsurface-ocean-climate>



Location:

CSIRO Marine Laboratory, Castray Esplanade, Hobart.

