



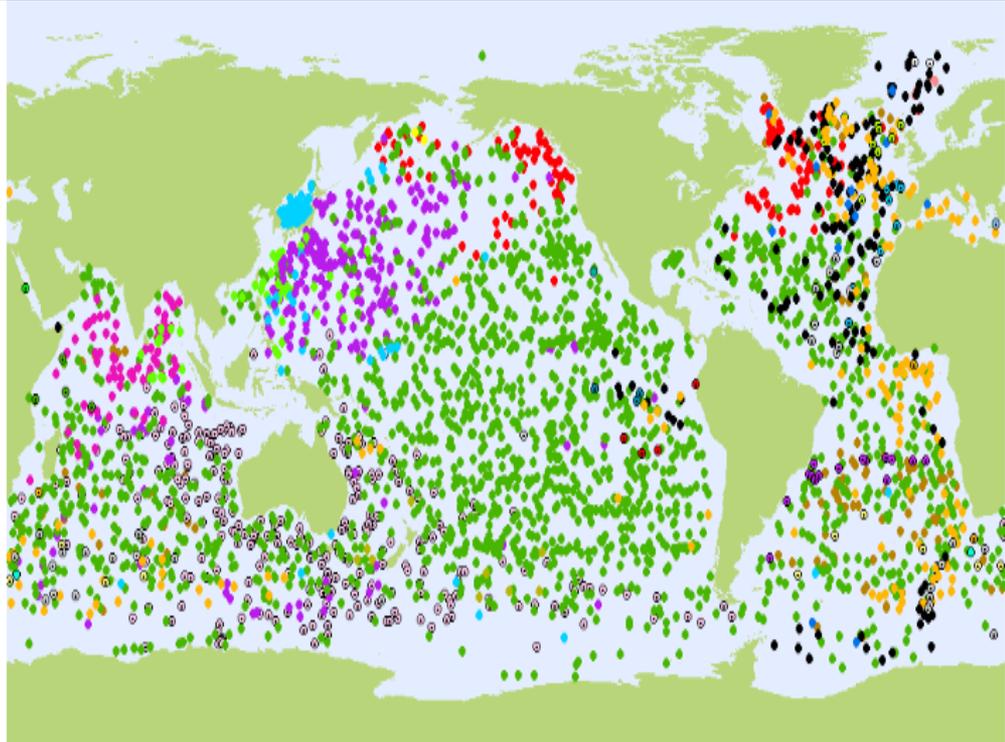
CLIVAR

CLIMATE VARIABILITY AND PREDICTABILITY

- Home
- About CLIVAR
- Science
- Organisation
- Data
- Calendar
- Publications
- Links
- WCRP Cross-Cuts
- SSG-18

Global Synthesis and Observations Panel

[News](#) |
 [Terms of reference](#) |
 [Members](#) |
 [Meetings](#) |
 [Projects](#) |
 [Publications](#) |
 [Ocean Synthesis Directory](#)



International CLIVAR Project Office
 National Oceanography Centre
 European Way
 Southampton, SO14 3ZH, UK
 Phone: +44-2380 596777
 Fax: +44-2380 596204
 Email: icpo@noc.soton.ac.uk

WCRP is sponsored by



GSOP ToR (proposed)

The CLIVAR Global Synthesis and Observations panel is established to:

1. Develop, promote and seek to **implement strategies for the synthesis** of global ocean, atmosphere and coupled climate information. Methods will include observation based syntheses and model-based syntheses eg. Reanalyses.
2. Define **CLIVAR's requirement for globally sustained observations** and promote the use of resulting data sets in global synthesis efforts. Provide strategic advice and supporting evidence in collaboration with WMO and IOC bodies, to help sustain, evolve and optimise the Global ocean observing system based on new science and reanalysis insights .
3. Develop **metrics to evaluate ocean and coupled syntheses**, to promote the utility of synthesis products for climate applications, including initialisation of coupled forecasts, detection/attribution of climate change and variability, and determining the oceans role in the global heat, water and biogeochemical cycles.
4. Provide strategic **advice and direction to CLIVAR/WCRP data management and processing** activities within the framework of the IFSOO, related to production of climate quality global ocean synthesis products.
5. Liaise and collaborate with WCRP Councils, Panels and Working Groups in identifying the requirements for, and coordinating the development of, a sustainable Earth system monitoring and prediction system.

The Panel will report to the CLIVAR SSG.



GSOP Membership

- Keith Haines (co-chair) University of Reading, UK
- Bernadette Sloyan (co-chair) CSIRO, Marine Research, Hobart, Australia
- Toshiyuki Awaji Kyoto University, Japan
- Magdalena Balmaseda ECMWF, UK <= GODAE-OV
- Bernard Barnier LEGI, Grenoble, France
- Simon Josey National Oceanography Centre, Southampton, UK
- Tony Lee Jet Propulsion Laboratory, USA
- Matt Palmer Met Office Hadley Centre, UK
- Toste Tanhua IfM-GEOMAR, Germany
- Josh Willis Jet Propulsion Laboratory, USA
- Ex_officio: Mike McPhaden, Dean Roemmich, Uwe Send
 - » Proposed changes
- Tony Lee to become new co-chair
- Pierre-Philippe Mathieu (ESA) – Additional member

- Lisan Yu (WHOI)
- Tim Boyer (National Oceanographic Data Center - NOAA)
- Catia Domingues (CSIRO)
- Martin Saraceno (University of Buenos Aires)
- Marika Holland (UCAR)
- John Lyman (NOAA)



Ongoing Actions from 5th GSOP Panel: May 2011

- Develop ocean synthesis evaluation activity around Air-Sea fluxes
 - GSOP air-sea flux guideline document((2006)
 - Air-sea flux Strategic Action Plan (WOAP lead)
 - GSOP Synthesis and Air-Sea flux workshop approved for 2012 (WHOI)
 - Initiate air-sea flux comparisons on GSOP website
 - ESF COST action proposal on synthesis evaluation
- Review climate metrics and initiate metrics intercomparison /evaluation/ promotion (GOV joint)
 - Recommend all synthesis datasets CF compliant NetCDF: conforming to CMIP5 standards
- Develop an ocean velocity directory on GSOP website
- Review of Dataset use within ocean synthesis



CLIVAR

CLIMATE VARIABILITY AND PREDICTABILITY

Home
About CLIVAR
Science
Organisation
Data
Calendar
Publications
Links
ERP Cross-Cuts
SSG-18

CLIVAR Project Office
Oceanography Centre
Way
on, SO14 3ZH, UK
44-2380 596777
80 596204
@noc.soton.ac.uk

ERP is sponsored by

Global Datasets

[Air-Sea Flux](#) | [SST](#)

Air-Sea Flux Directory

At its 5th Panel meeting GSOP has decided to develop an air-sea flux inventory and intercomparison project with the aim of promoting good practice within the range of different approaches used to develop air sea flux products, including observation based products and products based on ocean syntheses.

Guidelines for Evaluation of Air-Sea Heat, Freshwater and Momentum Flux Products have been previously developed by GSOP (Josey and Smith, 2006). A key element of the evaluation method is local comparison of flux products against high quality flux measurements (from air-sea flux buoys and research ships). GSOP recognises that the amount of high quality flux data has expanded significantly over the past decade. It recommends local evaluation against high quality flux data for all new flux products (atmospheric reanalysis, satellite, in situ, hybrid, ocean syntheses).

This webpage intends to list an inventory of air-sea flux (heat, freshwater and wind stress) products developed after 1990 categorised according to production method. It is anticipated that additions of further products will continue, in particular ocean synthesis and wind stress datasets. A weblink has been included for each product which can be consulted for details of resolution, time period covered etc.

[Atmospheric Reanalysis](#) | [In Situ](#) | [Blended](#) | [Hybrid](#) | [Remote Sensing](#)



Action Plan for WCRP Research Activities on Surface Fluxes

Purpose

The purpose of this report is to respond to a JSC request to WOAP to develop an outline of an action plan on surface fluxes and a timetable for its full development in collaboration with WCRP sub-programs. All relevant programs at the last JSC meeting (GEWEX, CLIVAR, CLIC, SOLAS, WGNE and GCOS Panels) expressed interest in the process and, together with a representative of IGBP and other experts, their representatives contributed to this report. The group involved in preparing this report is given in Appendix 1.

Background

Across WCRP and GCOS programs, surface flux observations are obtained both directly and indirectly, surface flux datasets are generated from both *in situ* and satellite-based data (as well as blended datasets from different sources), and model-based fluxes are generated. Fluxes are considered over land, ice and ocean, and the fluxes of both physical and chemical variables are considered. A number of groups have been carrying out inter-comparison studies of specific datasets which often identify some inconsistencies. Many of these issues will be resolved by the individual groups, but a number of problems may extend across domains. Moreover, some issues remain on the basic measurement of fluxes. Associated with the observation of fluxes has been the establishment of reference sites or super-sites at which comprehensive measurements are taken. A number of different networks of super-sites have been established around the world, and the relationships between these networks could also be considered.

.....

Contributors to the report

- Mark Bourassa
- Andy Brown
- Carol Anne Clayson
- Han Dolman
- Albert Fischer
- Christoph Garbe
- Sarah Gille
- Sergey Gulev
- Keith Haines
- Elizabeth Kent
- Eric Lindstrom
- Michael Manton (Convenor)
- Vladimir Ryabinin
- Sonia Seneviratne
- Adrian Simmons
- Konrad Steffen
- Toste Tanhua
- Kathy Tedesco
- Maciej Telszewski
- Michael Tjernstrom
- Kevin Trenberth
- Brain Ward
- Scott Woodruff



ESF COST proposal: (www.cost.esf.org)

Evaluation of Ocean Syntheses EOS

PI: Maria Valdivieso, Reading, UK

4 year project with different evaluation focus each year . Initial ideas:-

Air –sea fluxes

Variability of ocean heat and freshwater transports within the major ocean current system;

Evaluation of Arctic and Antarctic circulation patterns and transports, including variability in sea ice;

Detection and attribution of change signals in ocean synthesis products;

Incorporating new EO satellite datasets into ocean syntheses products (with strong ESA participation);

Ocean syntheses for initialising forecasts.

Initial participants (all European)

1. Keith Haines, University of Reading, UK
2. Bernard Barnier, CNRS Grenoble, FR
3. Detlef Stammer, University of Hamburg, DE
4. Laurent Bertino, NERSC, NO
5. Simona Masina, INGV, IT
6. Magdalena Balmaseda, ECMWF, UK
7. Matthew Palmer, Met Office, UK
8. Chris Merchant, University of Edinburgh, UK
9. Antonio Caltabiano, CLIVAR Project Office, UK
10. Nicolas Ferry, Mercator-Ocean, FR

Integrated Climate Data Center

[ICDC Home](#)
[Data](#)
[Projects](#)
[Support](#)
[News & Workshops](#)

> [ICDC Data Center](#) > [Projects](#) > [Easy INIT](#) > [Ozean Synthesen](#)

Ocean Synthesis/Reanalysis Directory

The following list provides basic information on the available ocean syntheses. Links to the project web pages and access to monthly mean data of the products via HTTP, FTP or OPeNDAP protocol and visualization with Live Access Server (LAS) are included if available and marked with an icon. The list item title contains the project name, domain and time period. Click on the project name to get more information. Currently only a limited number of products are available but the catalog will be completed in the next months.

	BLUElink	Global	1992-2006
	CERFACS	Global	1962-2001 
	DePreSys	Global	1950-present 
	ECMWF Ocean ReAnalysis ORA-S3	Global	1959-2009 
	ECMWF Ocean ReAnalysis ORA-XBTc	Global	1959-2008 
	ECMWF NEMOVAR COMBINE	Global	1958-2008 
	ECCO-GODAE MIT/AER	Quasi-Global	1992-2004 
	ECCO-JPL	Quasi-Global	1993-present
	ECCO-SIO	Quasi-Global	1992-2002 
	ECCO2-cube78	Global	1992-present 
	EN3	Global	2005-2008 

Quality Assessment of sea-ice products

XBT Correction & Interpolation

MBT Correction & Interpolation

+ Climate indices

Easy INIT

Ozean Synthesen

Historical hydrographic data



Integrated Climate Data Center

> ICDC Data Center > Projects > Historic

Quality Assessment of sea-ice produc...

XBT Correction & Interpolation

MBT Correction & Interpolation

Project Climate Indices

+ Easy INIT

[Historical hydrographic data](#)

Breaking News:

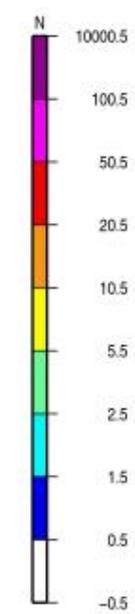
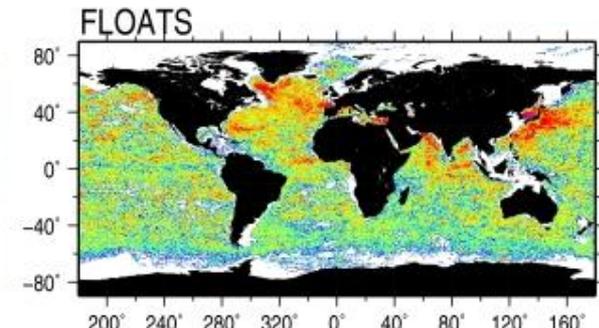
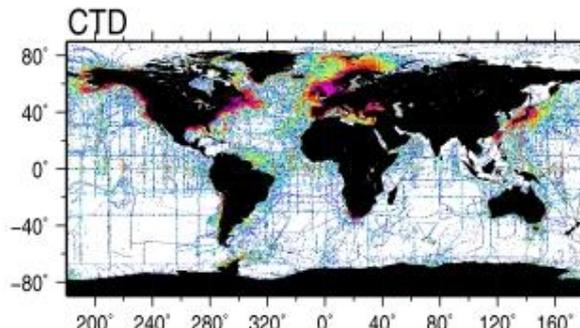
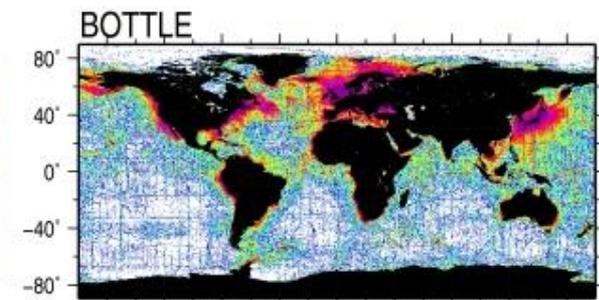
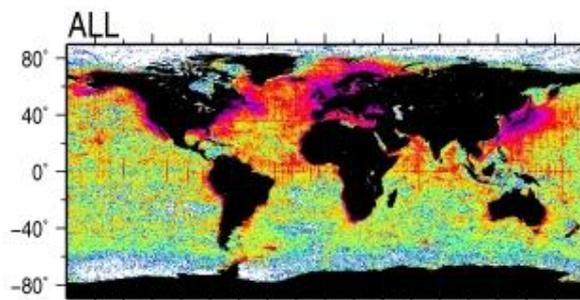
17.10.2011 11:08

New regular maintenance slot: Thursda
p.m.

From now on there will be a regular maintena
slot for adding new data sets and features to
our...

11.10.2011 10:26

New ICDC data product: Validated

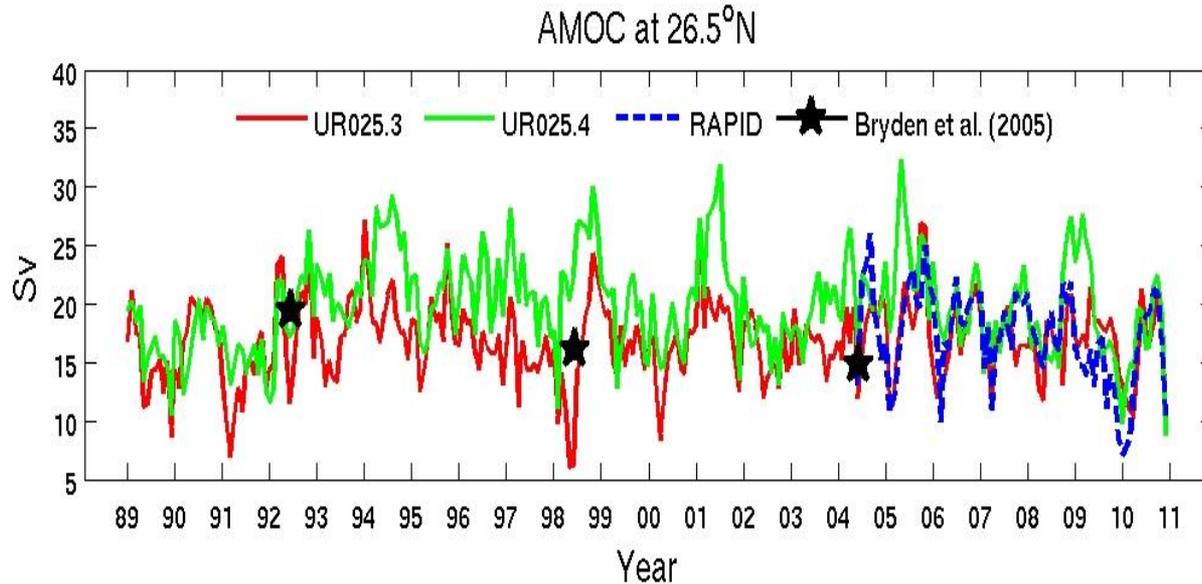




Relevant Metrics from GOV-GSOP Santa Cruz

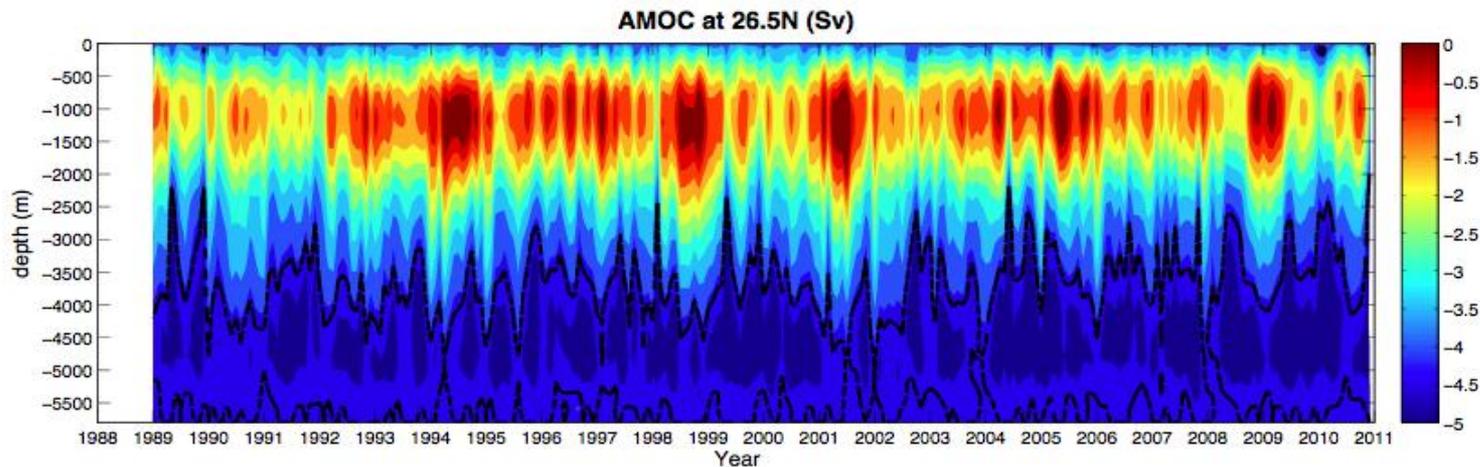
- Ocean heat content in upper 300m calculated regionally and as maps on monthly time-scales.
- Meridional transports, e.g. AMOC at 26°N. Volume and heat transports.
- Sea level comparisons at tide gauges.
- SSS and upper ocean salinity.
- Sea Ice concentration and thickness.
- Steric height
- Class 4: Obs-Background statistics
- Surface fluxes?

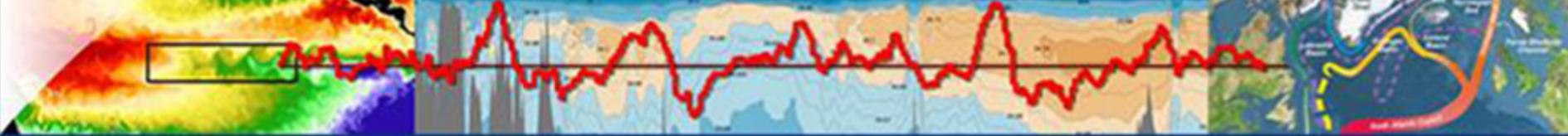
Maximum AMOC at 26.5 N



Some anomalously strong events eg. in 1994, 1998, 2001 not present in UR025.3

Possibly excited by altimeter assim?





The state of the ocean climate

Towards a measure of **our ability to observe the ocean** through estimations of key climate indices and their uncertainty

GCOS • GOOS • WCRP
OOPC
Ocean Observations
Panel for Climate

[Introduction](#) | [Overview](#) | [Atmosphere](#) | [Surface ocean](#) | [Subsurface ocean](#) | [Sea Ice](#)
[Bermuda-Labrador Basin Transport Index](#)

Subsurface indices from the Coriolis analysis

The following subsurface indices are based on the [Coriolis temperature and salinity objective analyses](#), updated weekly.

- [Bermuda-Labrador Basin Transport Index](#), a measure of the strength of the subpolar and subtropical gyre circulation in the North Atlantic.

Subsurface indices (external links)

The following sites have subsurface ocean indices:

- [Tropical Pacific Warm Water Volume](#) index, calculated and published by [TAO project](#), based on thermal analyses produced by [BMRC](#). Includes time series and downloadable data files.





Surface ocean indices (updated week of 08-JUN-2011)

Pacific	current value	series std	current value key >>	monthly tendency key >>
Niño1+2 far eastern equatorial SSTA map >>	0.59 °C	±1.21 °C		
Niño3 eastern equatorial SSTA map >>	-0.03 °C	±0.99 °C	—	
Niño3.4 central equatorial SSTA map >>	-0.29 °C	±0.97 °C	—	
Niño4 west-central equatorial SSTA map >>	-0.44 °C	±0.73 °C		
Atlantic				
TNA north tropical SSTA map >>	0.48 °C	±0.42 °		
TSA south tropical SSTA map >>	0.17 °C	±0.35 °C		
NAT north equatorial SSTA map >>	0.32 °C	±0.46 °C		
SAT south equatorial SSTA map >>	0.31 °C	±0.36 °C		
TASI north-south equatorial SST gradient map >>	0.01 °C	±0.56 °C	—	
Indian				
WTIO western equatorial SSTA map >>	-0.00 °C	±0.32 °C	—	
SETIO southeastern equatorial SSTA map >>	0.01 °C	±0.41 °C	—	
DMI west-east equatorial SST gradient map >>	-0.01 °C	±0.48 °C	—	
SWIO south western SSTA map >>	0.25 °C	±0.40 °C		

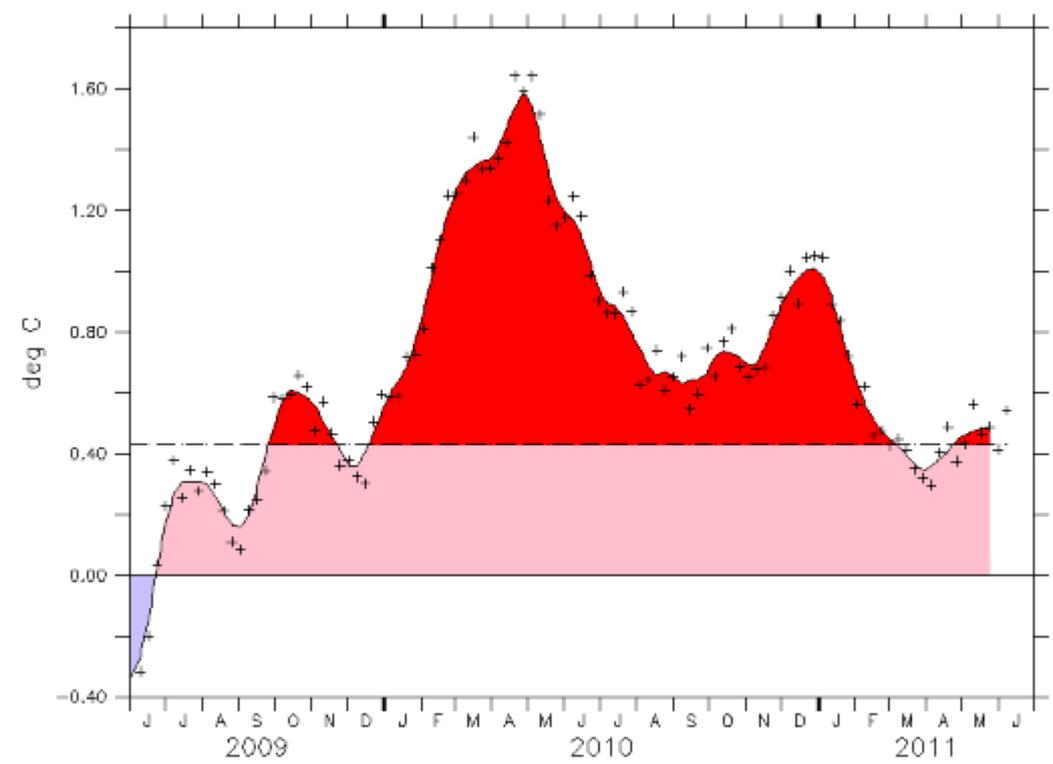
see also the [OOPC main page](#) for an alternate presentation of the state of the tropical oceans.

The state of the ocean climate

Towards a measure of our ability to observe the ocean through estimations of key climate indices and their uncertainty



[Introduction](#) | [Overview](#) | [Atmosphere](#) | [Surface ocean](#) | [Subsurface ocean](#) | [Sea Ice](#)
[Pacific](#) | [Atlantic](#) | [Indian](#)
TNA | [TSA](#) | [NAT](#) | [SAT](#) | [TASI](#)
[Last 2 years](#) | [Full series](#)



Tropical Northern Atlantic Index (TNA)

The TNA SST anomaly index is an indicator of the surface temperatures in the eastern tropical North Atlantic Ocean. It is calculated with SSTs in the box 55°W - 15°W, 5°N - 25°N.