



CLIVAR-GSOP Workshop

“Ocean Synthesis and Air-Sea flux evaluation”

First announcement

**CLIVAR-GSOP
Ocean Synthesis and Air-Sea flux evaluation Workshop
November 27th – 30th 2012
Woods Hole Oceanographic Institution, Woods Hole, USA**

1. Workshop Objectives and Overview:

Air-sea fluxes are recognised to be an important cross-cutting area within WCRP that link the interests of different programs including CLIVAR and GEWEX. The twin challenges of closing global ocean heat and freshwater budgets using models and observations, along with the importance of improving surface forcing functions for ocean and coupled climate modelling purposes, highlight the need for close collaboration between observation, modelling and synthesis communities. The Global Synthesis and Observational Panel of International CLIVAR has been working with both air-sea flux and ocean synthesis communities to organize a workshop to address these challenges through collaboration.

This workshop aims to convene researchers working on ocean synthesis and air-sea fluxes to (1) review the current state of surface fluxes of heat, freshwater and momentum obtained from ocean syntheses, atmospheric reanalyses, other observation based products, and coupled models, (2) discuss the gaps and current limitations in these products with particular reference to balancing ocean heat and freshwater budgets, and (3) develop recommendations and requirements for future global/regional synthesis activities. In particular, the workshop invites contributions that will strengthen synthesis evaluation activities and develop flux-oriented comparisons based on essential ocean variable metrics. These areas of activity are relevant to the interests of the WOAP, WGSF and new WCRP Data Council.

2. Anticipated workshop outcome:

The workshop will produce a report that a) summarises the current state of surface flux estimation from ocean synthesis and atmospheric reanalysis, and other observation based products, b) identifies community challenges and needs for improving estimates of ocean heat and freshwater storage and transport from ocean syntheses and flux products, and c) recommends a path towards obtaining globally consistent surface flux products through close collaboration and coordination between air-sea flux and ocean synthesis researchers. The report will reference the framework of Essential Ocean Variables (EOVs) as set out in the Integrated Framework for Sustained Ocean Observations (IFS00) document following OceanObs09.

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3. Workshop themes:

The workshop includes four sessions and constitutes both invited and contributed talks.

Session 1: The state of surface flux estimation

This session will review surface flux product methodologies, uncertainties, and limitations with a focus on ocean synthesis, atmospheric reanalysis and coupled model products referenced to other observation based datasets, including high quality measurements from surface flux buoys. Session 2: Heat and freshwater budgets over global/regional oceans

This session addresses the closure of the ocean's heat and freshwater budgets from using surface flux datasets, and ocean observations, ocean syntheses and coupled models. It will also address flux requirements for surface forced modelling studies. It includes reviews of gaps and strengths of various approaches, the uncertainties in surface flux estimates, the role of satellite ocean surface observations versus the role of Argo observations.

Session 3: Ocean synthesis evaluation and comparisons

This session will consider methods for evaluation of a wider range of ocean synthesis fields including comparisons of heat and freshwater content through different ocean depths or relative to isotherms, heat and freshwater transports across key ocean sections, and other related metrics, including water mass, thermocline and sea level changes.

Session 4 The way forward

This session invites studies that develop integrated global/regional approaches to invigorate synthesis Intercomparison activities and develop flux-oriented comparisons using essential ocean variable metrics.

4. Organising committees

Scientific Organizing Committee:

Lisan Yu (USA, co-chair)

Keith Haines (UK, co-chair)

Tony Lee (USA)

Magdalena Balmaseda (UK)

Bernard Barnier (France)

Mark Bourassa (USA)

Sergei Gulev (Russia)

Simon Josey (UK)

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Local Organising Committee:

Lisan Yu (Woods Hole Oceanographic Institution, USA)

Nico Caltabiano (International CLIVAR Project Office, UK)

5. Registration

Registration is required as space is limited to 60 participants. To register, please email Nico Caltabiano (caetano@noc.ac.uk) no later than 16th July 2012. In your email, please provide a title of your contribution. A poster session is being planned to allow more time for discussion.

There is very limited travel support. We suggest in the first instance that you seek travel support from your institution or national funding agency. We are grateful to the workshop sponsors, WCRP, USCLIVAR, NASA and NOAA.

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