CLIVAR Global Synthesis and Observations Panel

Ocean Synthesis and Air-Sea flux evaluation Workshop

27-30 November 2012

WHOI, USA

Final Agenda

Meeting Room: WHOI Quissett Campus, Clark 507

7:30-8:30 Continental breakfast

Opening: Agencies and program perspectives on surface fluxes and synthesis

8:30-8:40 **David Legler**
NOAA perspectives

8:40-8:50 **Antonio Caltabiano**
ICPO perspectives

8:50-9:00 **Mike Patterson**
US CLIVAR perspectives

Theme I: Review of Present state of air-sea flux estimation (Chair: Lisan Yu)

9:00-9:20 **Simon Josey**
Air-Sea Fluxes: An Overview of Developments in the Past Decade

9:20-9:40 **Chris Fairall**
Synthesis of surface observations of turbulent flux transfer coefficients: Updates on the COARE flux algorithms

9:40-10:00 **Bob Weller**
The present state of surface meteorological observations and sustained air-sea flux observations from moored buoys and plans for the future

10:00-10:20 **Break**

Theme II: Topical issues in air-sea flux estimation (Chair: Simon Josey)

10:20-10:40 **Carl Wunsch**
Data assimilation, reanalyses, state estimates, all that, and the problems of understanding the ocean

10:40-11:00 **Bill Large**
Flux variability and trends in nature versus the CESM Climate Model

11:00-11:20 **Seiji Kato**
Surface irradiances derived from NASA A-train observations:
CERES EBAF-surface product

11:20-11:40 **Lisan Yu**
On balancing heat and freshwater budgets at the ocean surface

11:40-12:20 **Discussion with Rapporteur (Simon Josey and Lisan Yu lead)**

12:20-14:00 Lunch (Box lunch provided)

Theme II continued: Topical issues in air-sea flux estimation
(Chair: Mark Bourassa)

14:00-14:20 **Arun Kumar**
Comparison of air-sea interaction between different reanalyses

14:20-14:40 **Sergey Gulev**
Comparative assessment of air-sea turbulent fluxes in reanalyses and climate models

14:40-15:00 **Gary Wick**
The impact of uncertainties in the input parameters on the uncertainty of satellite-derived flux estimates

15:00-15:20 **Carol Ann Clayson**
Issues with satellite ocean evaporation budgets in the context of global water cycles

15:20-15:40 **Tim Liu**
Spacebased estimation of sea-air water flux and evaporation

15:40-16:00 **Break**

Theme II continued: Topical issues in air-sea flux estimation
(Chair: Sergey Gulev)

16:00-16:20 **Chung-Lin Shie**
A Rice Cooker Theory -- the Equally Important Quality of Model/Algorithm (Rice Cooker) and Input Parameters (Rice) in Retrieving the Satellite-Based Air-Sea Turbulent Fluxes (the Cooked Rice!)

16:20-16:40 **Masahisa Kubota**
Topics related to construction of J-OFURO Ver.3

16:40-16:55 **Arun Kumar**
Summary of the Reanalysis workshop in May, Silver Spring, MD

16:55-17:40 **Discussion with Rapporteur (Mark Bourassa and Sergey Gulev lead)**

End of day

♦♦

Day 2 (Wednesday, November 28th)

7:30-8:30 Continental breakfast

Theme III: Topical issues in regional air-sea flux estimation (Chair: Ivana Cerovecki)

8:30-8:50 **Mark Bourassa**
High-latitude Ocean Surface Fluxes

8:50-9:10 **Praveen Kumar**
TropFlux

9:10-9:30 **Meghan Cronin**
Reference time series from the Kuroshio Extension Observatory, Station Papa, and the Agulhas Return Current station

9:30-9:50 **Jiping Liu**
High-Resolution satellite surface latent heat fluxes in North Atlantic hurricanes

9:50-10:10 **Break**

Theme IV: Integrating air-sea fluxes with temperature/salinity observations (Chair: Meghan Cronin)

10:10-10:30 **Dean Roemmich**
Ocean heat storage observed by Argo:
Separating components due to air-sea flux and ocean dynamics

10:30-10:50 **Gary Lagerloef/Hsun-Ying Kao**
Global freshwater budgets from Aquarius satellite salinity measurements

10:50-11:10 **Ray Schmitt**
The ocean and the global water cycle

11:10-11:30 **Ivana Cerovecki**
Can oceanic data improve air-sea buoyancy flux estimates?
The Southern Ocean State Estimate example

11:30-11:50 **Nadya Vinogradova**
How good is surface salinity as a proxy for surface freshwater flux?

11:50-12:30 **Discussion with Rapporteur (Ivana Cerovecki and Meghan Cronin lead)**

12:30-14:00 Lunch (Box lunch provided)

Theme V: Fluxes in coupled models & synthesis products (joint with ocean synthesis) (Chairs: Keith Haines/Tong Lee)

14:00-14:20 **Tong Lee**
How well do CMIP models represent momentum and heat fluxes climatology?

14:20-14:40 **Keith Haines**
Surface fluxes from ocean and/or coupled synthesis

14:40-15:00 **Yan Xue**
Air-sea coupled variability of tropical instability wave simulated by the NCEP CFSR

15:00-15:20 **Magdalena Balmaseda**
Budget analysis of global ocean heat content in ORAS4

15:20-15:40 **Break**

15:40-16:00 **Introduction to the poster session**
(A 3-min (2slides) presentation per poster presenter)

Maria Aleksandrova New global short-wave radiation climatology from VOS based on highly accurate parameterization

Mike Brunke Recent Work on Understanding the Uncertainties in Ocean Surface Turbulent Fluxes in Reanalysis, Satellite-Derived, and Combined Global Datasets

Masanori Konda An evaluation of directly measured surface turbulent fluxes and their influence on the ocean mixing layer

Alison McDonald The relationship between heat and carbon transports in Pacific

Xiangzhou Song Sensitivity of high latitude water formation to the air-sea heat fluxes

16:00-17:00 **Discussion with Rapporteur (Keith Haines lead)**

17:00-18:30 Reception & Poster viewing

End of day

♦♦♦

Day 3 (Thursday, November 29th)

7:30-8:30 Continental breakfast

8:30-8:40 **Keith Haines**
Metrics; collaboration with other program/panel (GODAE, OOPC);

8:40-8:50 **Magdalena Balmaseda**
Introduction to the synthesis products Intercomparisons

Theme V continued: Fluxes in global ocean synthesis products
(chair: Keith Haines or Tong Lee)

8:50-9:10 **Maria Valdivieso**
Surface fluxes intercomparison results

9:10-9:30 **Veronica Nieves**
Insight into the energy balance over the global oceans: a comparison of ECCO2 net heat flux estimates with other products

9:30-9:50 **Dimitris Menemenlis**
Comparison of surface wind stress from global, eddying ocean state estimation with QuikSCAT retrievals

9:50-10:00 **Break**

10:00-11:00 WHOI PO seminar by Simon Josey

11:00-11:20 **Break**

11:20-11:50 **Outcomes and Further Actions: Surface fluxes and syntheses (Lisan Yu and Keith Haines lead)**

Theme VI: synthesis evaluation and Intercomparison
(chair: Magdalena Balmaseda)

11:50-12:10 **Takahiro Toyoda**
Mixed-layer depth intercomparison results

12:10-12:30 **Fabrice Hernandez**
Sea level and D20 intercomparison results

12:30-2:00 Lunch (Box lunch provided)

Theme VI continued: Synthesis evaluation and Intercomparison
(chair: Fabrice Hernandez)

14:00-14:20 **Andrea Storto (or Magdalena Balmaseda)**
Steric height intercomparison results

14:20-14:40 **Matt Palmer**
Heat content intercomparison results

14:40-15:00 **Keith Haines**
AMOC transports intercomparison

15:00-15:20 **Greg Smith (presented by Hal Ritchie)**
Sea ice intercomparison

15:20-15-40 **Robin Wedd**
Upper Ocean salinity intercomparison results

15:40 **Break and Poster session**

Poster Session: (Note there is room for further posters if people bring them)

Catia Domingues Human-induced Global Ocean Warming on Multidecadal Timescales

Stephanie Guinehut Monitoring the ocean from observations

Drew Peterson The GloSea ocean analysis

Karina von Schuckmann A new in situ database for global ocean reanalyses (CORA): validation and Diagnostics of ocean temperature and salinity in situ measurements

16:40-17:40 **Discussion with Rapporteur (synthesis evaluation and intercomparison focus, Magdalena Balmaseda leads)**

End of day

♦♦♦

Day 4 (Friday, November 30th)

7:30-8:30 Continental breakfast

Theme VII: Synthesis applications and the way forward (chair: Tony Lee)

8:30-8:50 **Jim Carton**
SODA and some alternative syntheses/reanalyses on longer time scales

8:50-9:10 **Yosuke Fujii**
Intercomparison of data-free and data-assimilated ocean simulations with a common ocean model forced by CORE II data

9:10-9:30 **Guillaume Vernieres**
The GMAO ocean sea ice synthesis

9:30-9:50 **Magdalena Balmaseda**
Coupled synthesis initiative at ECMWF and ECMWF Coupled Synthesis workshop summary

9:50-10:10 **Jake Gebbie**
Development of a Physically-consistent Coupled Ocean-Atmosphere Re-analysis

10:10-10:30 **Break**

10:30-11:30 **Discussion with Rapporteur**
(Synthesis applications and the way forward, Tony Lee leads)

11:30-12:30 **Summary and discussion for all themes;**
Workshop Recommendations (Lisan Yu and Keith Haines lead)

12:30 Workshop ends