

**Tuesday, November 1, 2011**  
**AOMIP School for young scientists**  
**Clark Building, Room 507**

**8:45 9:00 Coffee**

**9:00 9:15 Mike Steele and Andrey Proshutinsky:** Introduction (welcome, AOMIP workshop school major goals and tasks, school agenda)

**9:15 9:55 Mary-Louise Timmermans** (Yale University, USA): Structure and dynamics of the upper Arctic Ocean

**9:55 10:05 Questions, discussions**

**10:05 10:45 Daniel Feltham** (CPOM, University College London, UK): Melt ponds: from understanding of controlling physics to climate model parameterization

**10:45 10:55 Questions, discussions**

**10:55 11:15 Coffee break**

**11:15 11:55 Peter Gent** (NCAR, USA): *Eddy parameterization in models*

**11:55 12:05 Questions, discussions**

**12:05 13:00 Lunch**

**13:00 14:00 "Outreach Fair"** for demonstrations and exchange of ideas

**14:00 14:40 Fiamma Straneo** (WHOI, USA): *Ice sheet - ocean interactions*

**14:40 14:50 Questions, discussions**

**14:50 15:30 Ron Lindsay** (UW, USA): *Sea ice prediction*

**15:30 15:40 Questions, discussions**

**15:40 16:00 Coffee break**

**16:00 16:40 Mike Steele** (UW, USA): *Heat in the Arctic Ocean*

**16:40 16:50 Questions, discussions**

**18:00 21:30 Martha Vineyard Island trip:** (Weather permitting)

**Wednesday, November 2, 2011**

**Clark Building, Room 507**

**8:45 9:00 Coffee**

**9:00 9:15** Andrey Proshutinsky: Introduction (welcome and workshop major goals and tasks)

**SESSION 1: Transports via straits, heat and freshwater content transformations** (Conveners: Alexandra Jahn and Rebecca Woodgate)

**09:15 – 09:30 Jahn Alexandra** (ajahn@ucar.edu), NCAR, USA: “Seasonal cycle of the Fram Strait freshwater export: a multi-model perspective”

**09:30 – 09:45 Nudds Shannon** (Shannon.Nudds@dfo-mpo.gc.ca), Bedford Institute of Oceanography, Canada: “Variability and trends in transport through the Canadian Arctic Archipelago”

**09:45 – 10:00 Maslowski Wieslaw** (maslowsk@nps.edu) and T. McGeehan, NPS, USA: “Volume and Freshwater Fluxes through the Canadian Arctic Archipelago: Model Evaluation and Control Mechanisms”

**10:00 – 10:15 Woodgate Rebecca** (woodgate@apl.washington.edu, UW, USA): “Velocity structure in the Bering Strait, and its implications for Arctic modeling”

**10:15 – 10:30 Platov Gennady** (plat@ommfao.sccc.ru), Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia: “A Numerical Study of Deep and Intermediate Water Formation in Arctic Ocean”

**10:30 – 10:45 Coffee break**

**10:45 – 11:00 Zhang, Xiandong** (xdz@iarc.uaf.edu), IARC, UAF, USA: “Examining Regional Variability of Arctic Freshwater From 3D Ocean Dynamic Processes”

**11:00– 11:15 Dmitrenko Igor** (idmitrenko@ifm-geomar.de), GEOMAR, Germany: “Atlantic Water inflow into the Arctic Ocean through the St. Anna Trough”

**11:15 – 11:30 Prinsenber Simon** et al. (Simon.Prinsenber@dfo-mpo.gc.ca), Bedford Institute of Oceanography, Canada: “The observed variability in 12-years of the Volume Transports through Lancaster Sound and its dependence on the far-field wind field in the Beaufort and Greenland Seas”

**11:30 – 12:00 Discussion:** Problems of water transports via straits and open boundaries (Moderators: Alexandra Jahn and Rebecca Woodgate)

**12:00– 13:00 Lunch**

## **SESSION 2: Sea ice observations and modeling (Conveners: Elizabeth Hunke and Ronald Lindsay)**

**13:00 – 13:15 Lindsay Ronald** (lindsay@apl.washington.edu), UW, USA: “A new unified sea ice thickness data set and uncertainty in modeled sea ice volume”

**13:15 – 13:30 Hunke Elizabeth** (eclare@lanl.gov), LANL, USA: “Progress and plans for the CICE sea ice model”

**13:30 – 13:45 Martin Torge** (torge.martin@noaa.gov), UW, USA, R. Gerdes and F. Kauker (AWI, Germany): "Using free-drift simulations to understand trends in Arctic sea-ice motion".

**13:45 – 14:00 Rampal Pierre** (rampal@MIT.EDU), MIT, USA: “Towards estimating the Arctic sea ice age with the MITgcm”

**14:00 – 14:15 Tremblay Bruno** (bruno.tremblay@mcgill.ca), McGill University, Canada: “The summer sea ice mass balance as derived from an IMB north of the Canadian Arctic Archipelago

**14:15 – 14:30 Spreen Gunar** (gunnar.spreen@jpl.nasa.gov), JPL, USA: “Arctic Sea Ice Deformation and Model Evaluation Using the MITgcm and Satellite Observations”

**14:30 – 15:00 Discussion:** Sea ice and ice-related modeling and observing (Moderators: Elizabeth Hunke and Ronald Lindsay)

**15:00 – 15:15 Coffee break**

## **SESSION 3: Arctic Ocean water properties and dynamics (Conveners: Greg Holloway and Evgeny Aksenov)**

**15:15 – 15:30 Yang Jiayan** (jyang@whoi.edu), WHOI, USA: “Spin up of the Arctic wind-driven circulation.”

**15:30– 15:45 Aksenov Yevgeny** et al. (yka@noc.ac.uk) NOC Southampton, UK: “Pacific water as simulated in the Arctic models: what have we learned from the AOMIP coordinated experiments?”

**15:45 – 16:00 Holloway Greg** (Greg.Holloway@dfo-mpo.gc.ca) Institute of Ocean Sciences, Canada: "The Arctic 3 million years ago: relevance and a challenge today"

**16:00 – 16:15 Cole Silvia T.** (scole@whoi.edu) J. M. Toole, M.-L. Timmermans, R. A. Krishfield, and F. T. Thwaites, WHOI, USA: "Ekman veering, inertial motions and turbulent fluxes observed under Arctic sea-ice."

**16:15– 16:30 Proshutinsky Andrey** (aproshutinsky@whoi.edu), et al., WHOI, USA: Coordinated experiments to identify roles of wind and thermal forcing on the dynamics of the Arctic Ocean

**16:30 – 16:45 Timmermans, M.-L.** (mary-louise.timmermans@yale.edu, Yale University), S. Cole and J. Toole (WHOI): "Horizontal density structure and restratification of the Arctic Ocean surface layer"

**16:45 – 17:00 Lique Camille** and Mike Steele (liquec@uw.edu), UW, USA: "On the seasonal cycle of the Atlantic water temperature within the Arctic Basin"

**17:00 – 17:30 Discussion:** Causes of the Arctic Ocean hydrography and dynamics change (Moderators: Greg Holloway and Evgeny Aksenov)

**17:30 – 19:00 Reception, Clark 507**

***Thursday, November 3, 2011***

***Clark Building, Room 507***

**8:30 – 8:45 Coffee**

**SESSION 4: Arctic Ocean Ecosystem: observations and modeling** (Convener: Katya Popova and Mike Steele)

**08:45 – 09:00 Sheldon Bacon** (s.bacon@noc.ac.uk), Sinhue Torres-Valdes, Takamasa Tsubouchi, Alberto Naveira Garabato, NOC, Southampton, UK: "A near-synoptic nutrient budget for the Arctic Ocean"

**09:00 – 09:15 Popova Ekaterina** (e.popova@noc.ac.uk) NOC Southampton, UK: "Ecosystem dynamics in Arctic models: role of physical process"

**09:15 – 09:30 Mahadevan Amala** ([amala@whoi.edu](mailto:amala@whoi.edu)), WHOI, USA: "Vertical transport of heat and nutrients by near-surface submesoscale eddies"

**09:30 – 09:45 Malakhova Valentina and Elena Golubeva:** ([elen@ommfao.ssc.ru](mailto:elen@ommfao.ssc.ru)), Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia: "Dissolved methane anomalies over the East-Siberian Arctic Shelf: Modeling results".

**09:45 – 10:00 Coffee break**

**10:00 – 11:00 Physical Oceanography seminar: Gent Peter** (gent@ucar.edu), UCAR, USA: “CCM4 – new community climate system model version and results”

**11:00 – 11:30 Discussion:** Future directions of AOMIP involvement in ecosystem and geochemistry dynamics modeling (Moderator: Katya Popova and Mike Steele)

**SESSION 5: Satellite-based analysis and methods for the Arctic Ocean** (Conveners: Seymour Laxon and Sinead Farrel)

**11:30– 11:45 Farrell Sinead L.** (Sinead.Farrell@noaa.gov) ESSIC/CICS/Univ. Maryland: “Arctic Ocean Topography and Lead Statistics from Altimetry: An observational validation data-set for AOMIP”

**11:45 – 12:00 Peralta-Ferriz Cecilia** (ferriz@apl.washington.edu) UW, USA: “A new estimation of the time-varying Arctic Ocean bottom pressure using GRACE and two ocean models: validation and interpretation.”

**12:00 – 13:00 Lunch**

**13:00 – 13:15 Laxon Seymour** (swl@cpom.ucl.ac.uk), University College London, UK: “CryoSat-2 measurements in the Arctic”

**13:15 – 13:30 Giles, Katherine** (k.giles@cpom.ucl.ac.uk), University College London, UK: “Changes in Arctic sea surface height between 1995 and 2011 from ERS-2 and Envisat”

**13:30 – 13:45 Carton Jim** and Chepurin Gennady (carton@atmos.umd.edu; chepurin@umd.edu), University of Maryland, USA : “Historical satellite SST data set and its relationship to heat storage in the Arctic”

**13:45 – 14:00 Newton Robert** (bnewton@ldeo.columbia.edu), Columbia University, USA: “Data analysis results from the satellite ice motion dataset”

**14:00 – 14:30 Discussion:** Synthesis of satellite, in situ and modeling data (Moderators: Seymour Laxon and Sinead Farrel)

**SESSION 6: Models and model validation** (Conveners: Torge Martin and Andrey Proshutinsky )

**14:30 – 14:45 Dukhovskoy Dmitry** (ddukhovskoy@fsu.edu), Eric Chassignet (FSU COAPS), Joe Metzger, Pam Posey, Alan Wallcraft (NRL SSC), USA: “"On vertical discretization in the HYCOM/CICE Arctic Ocean modeling system"”

**14:45 – 15:00 Coffee break**

**15:00 – 15:15 Golubeva Elena** (elen@ommfao.sccc.ru), Gennady Platov and Dina Yusupova, Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia: “Numerical modeling of the Atlantic Water distribution in the upper Arctic Ocean: Sensitivity studies.”

**15:15 – 15:30 Luneva Marya** (mane1@noc.ac.uk) **and J. Holt, NOC Liverpool, UK:** “The effect of tides on the hydro-physical fields in the NEMO-shelf Arctic Ocean model.”

**15:30 – 15:45 Wang Qiang** (Qiang.Wang@awi.de) AWI, Germany: “Arctic Ocean modeling with the Finite Element Sea-ice Ocean Model”

**15:45– 16:00 Chen, Chen** (c1chen@umassd.edu), G. Gao, A. Proshutinsky and R. C. Beardsley (UMASSD, USA: “Modeling Studies of Ice-Ocean Interaction Dynamics in the Marginal Ice Zone of the Arctic Ocean “

**16:00 – 16:15 David A. Hebert** (david.hebert@nrlssc.navy.mil), P. Posey, E. J. Metzger, A. Wallcraft, R. Allard, J. Cummings O. M. Smedstad, M. Phelps (Stennis Space Center, USA): Overview of U.S. Navy Arctic Cap Nowcast/Forecast System

**16:15 – 16:45 Discussion:** New data for model validation or how to organize both observed and simulated data to validate models, Moderators: Torge Martin and Andrey Proshutinsky)

**16:45 – 17:30 Poster session and some food**

***Friday, November 4, 2011***

***Clark Building, Room 509***

**8:30 – 8:45 Coffee**

**08:45 – 09:30 Discussion:** Coordinated data processing and archiving for AOMIP (Convener and moderator: Don Stott (stott@ucar.edu) NCAR, USA: “Arctic Data Management at EOL”

**09:30 – 09:45 Andrey Proshutinsky: Coordinated observations and modeling**

**09:45 – 11:15 Coordinated activities (group meetings in conference rooms: Clark 507, Clark 509, Clark 428 and Clark 331) Coffee break: 10:00 – 10:15**

**11:15 – 12:00 Coordinated activities (group reports)**

12:00 – 12:30 Workshop adjourn and final remarks

## SESSION 7: POSTERS (will be displayed all time during workshop)

1. **Dukhovskoy et al.** (ddukhovskoy@fsu.edu) FSU COAPS, "Arctic Ocean response to small scale (O(100km)) atmospheric processes"
2. **Piacsek Steve** (Steve.A.Piacsek.1@nd.edu) NRL, USA: "Arctic Ocean Watermasses: Volumes, Locations and Fluxes from Models and Climatologies"
3. Postlethwaite C. and **M Luneva** "The role of brine rejection and dense water cascades in the Arctic Shelf Seas.  
(NOTE that Malakhova is moved to oral session)
4. **Nudds Shannon** (Shannon.Nudds@dfo-mpo.gc.ca), Bedford, Canada: "A 1/18th degree pan-Arctic model and application to oil spill trajectory modeling"
5. **Clement-Kinney Jaclyn**, (jlclemen@nps.edu), W. Maslowski et al, NPS, USA: "On the Flow Through Bering Strait: A Synthesis of Model Results and Observations"
6. **Aksenov Yevgeny** et al. (yka@noc.ac.uk) NOC Southampton, UK: "A new insight in the Arctic boundary current from eddy-resolving ocean models"
7. **Chaudhuri Ayan H.** (achaudhu@aer.com), Rui M Ponte, Gael Forget and Patrick Heimbach (MIT, USA): A comparison of atmospheric reanalysis products for the Arctic Ocean and implications for uncertainties in the air-sea boundary fluxes.
8. **Johnson, M. et al.** (majohnson@alaska.edu), UAF, USA: "Evaluation of Sea Ice Thickness from AOMIP Models."
9. **Kasper Jeremy** (jkasper@whoi.edu) WHOI, USA: "Circulation, Cross-shelf exchange and Sea ice on the Alaskan Beaufort Shelf"
10. **Dmitrenko Igor** (idmitrenko@ifm-geomar.de), GEOMAR, Germany: "Atlantic modified halocline water over the Laptev Sea continental margin: Historical data analysis"
11. **Newton Robert** (rnewton@ldeo.columbia.edu), Columbia University, USA: "Comparisons of the recent (AOS-05 and the Switchyard program) isotope tracer observations with earlier ones ..."
12. **Mahadevan Amala** (Amahadevan@whoi.edu) WHOI, USA: "
13. **Ashik Igor** (ashik@aari.nw.ru), AARI, Russia: "Arctic sea level data archive and results of storm surges analysis based on these data"  
**NOTE THAT Kulakov poster is canceled**
14. **Wingate Beth** (wingate@lanl.gov), LANL, USA: "Some aspects of high latitude ocean dynamics with weak stratification"
15. **Nguyen An T.** (antnguyen13@gmail.com), P. Heimbach, R. Ponte and I. Fenty, MIT, USA: "Progress and Assessment of the Arctic & sub-polar North Atlantic state estimate"
16. **Pavel Sakov**, Laurent Bertino (laurent.bertino@nersc.no ) and François Counillon, Nansen Center, Norway: Results from the TOPAZ4 pilot ice-ocean reanalysis in the Arctic (2003-2008)"
17. **Bacon Sheldon** (s.bacon@noc.ac.uk), T. Tsubouchi, A. C. Naveira Garabato, NOC, Southampton, UK: "The Arctic Ocean in Summer: an inverse estimate of boundary fluxes and water mass transformation"
18. **Houssais M.-N.**, A. Germe, C. Herbaut and C. Cassou : Interannual variability of the sea ice cover in the Greenland Sea : insight from observations and models
19. **Herbaut C.**, D. Iovino and M.-N. Houssais : "Variability of ocean convection in the Nordic Seas during the last two decades : sensitivity to model resolution and parameterization"
20. **Laney Sam** (slaney@whoi.edu), WHOI, USA: ITP bio-optical data

