16\textsuperscript{th} AOMIP and 1\textsuperscript{st} FAMOS meetings

AGENDA

Tuesday, October 23, 2012

AOMIP School for young scientists

Clark Building, Room 507

8:30  8:45  Coffee

8:45  9:15  Mike Steele and Andrey Proshutinsky: Introduction (welcome, AOMIP workshop school major goals and tasks, school agenda)

9:15  9:55  Ursula Schauer (Alfred Wegener Institute, Germany): Atlantic Water in the Arctic Ocean – can we estimate the heat supplied through its inflow?

9:55  10:05  Questions, discussions

10:05  10:45  Sonya Legg (Princeton University, USA): The state of the art in understanding and modeling of ocean overflows and density currents

10:45  10:55  Questions, discussions

10:55  11:15  Coffee break

11:15  11:55  Vernon A. Squire (University of Otago Dunedin, New Zealand): Better Operational Forecasting for the Contemporary Arctic via Ocean Wave Integration

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  Don Perovich (Cold Region Research and Engineering Laboratory, USA): Arctic sea ice mass balance and its future

14:40  14:50  Questions, discussions

14:50  15:30  Andrey Proshutinsky (Woods Hole Oceanographic Institution, USA): Large-scale Arctic atmospheric-ice-ocean circulation modes
15:30  15:40  Questions, discussions  

15:40  16:00  Coffee break  

16:00  16:40  Carin Ashjian (Woods Hole Oceanographic Institution, USA): The future of Arctic Marine Ecosystems  

16:40  16:50  Questions, discussions  

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

Wednesday, October 24, 2012  

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:  Sea ice highlights session (Conveners: Jackie Richter-Menge and Don Perovich)  

09:15 – 09:30  Perovich Don (Donald.K.Perovich@usace.army.mil) CRREL, USA: “2012 sea ice conditions”  

09:30 – 09:45  Richter-Menge Jackie (Jacqueline.A.Richter-Menge@usace.army.mil), CRREL, USA: “Seasonal-to-Decadal Predictions of Arctic Sea Ice: Challenges and Strategies”  

09:45 – 10:00  Allard Rick (Richard.Allard@nrlssc.navy.mil) NRL, USA: “NRL’s September Sea Ice Extent Predictions for the 2012 Sea Ice Outlook”  

10:00– 10:15  Schroeder David et al. (d.schroeder@ucl.ac.uk) University College London, UK: “Spatial and temporal evolution of melt pond area and depth based on Arctic sea ice simulations from 1990 to 2012”  

10:15– 10:30  Smith Gregory (Gregory.Smith@ec.gc.ca) RPN-E, Environment Canada: “Evaluation of the CONCEPTS global ice-ocean prediction system”  

10:30 – 10:45  Coffee break
10:45 – 11:00 West Alex (alex.west@metoffice.gov.uk) Met Office, Exeter, UK: “Mechanisms causing reduced sea ice loss in a coupled climate model”

11:00 – 12:00 Discussion: Fate of sea ice and its changes predictability (Moderators: Jackie Richter-Menge and Don Perovich)

12:00– 13:00 Lunch

SESSION 2:  Sea ice observations and modeling (Conveners: Torge Martin and Andrew Roberts)

13:00 – 13:15 Hebert David (david.hebert@nrlssc.navy.mil, NRL, USA): “Preliminary Evaluations of the Navy's ACNFS versus NASA IceBridge Data”

13:15 – 13:30 Feltham Daniel (d.feltham@ucl.ac.uk) University College London, UK): “Anisotropic sea ice mechanics in climate models”

13:30 – 13:45 Martin Torge (torge.martin@gmail.com) University of Washington, USA): “Sea ice ridging: (un)constrained model parameters and impacts on the Arctic climate system”

13:45 – 14:00 Lemieux Jean-Francois (lemieux@meteo.mcgill.ca) McGill University, Canada: “Robustness and convergence properties of sea ice model implicit solvers”

14:00 – 14:15 Tsamados Michel and Daniel Feltham (d.feltham@ucl.ac.uk) University College London, UK: “Atmospheric and oceanic drag on sea ice”

14:15 – 14:30 Roberts, Andrew (afrobert@nps.edu) Naval Postgraduate School, USA): "Synthesis of ice-ocean dynamics statistics from observations and high-fidelity Earth System Models using wavelet techniques."

14:30 – 15:00 Discussion: Sea ice modeling and observing (Moderators: Torge Martin and Andrew Roberts)

15:00 – 15:15 Coffee break

SESSION 3: Arctic Ocean water properties and dynamics (Conveners: Mike Steele and Michael Karcher)

15:15 – 15:30 Golubeva Elena (elen@ommfao.sscc.ru) Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia): “Simulation of the variability of the Atlantic Water circulation in the Arctic. Model sensitivity studies”
15:30 – 15:45 **Holloway Greg** (Greg.Holloway@dfo-mpo.gc.ca) Institute of Ocean Sciences, Canada: “California Currents of the Arctic Ocean”

15:45 – 16:00 **Carpenter Jeff** (jeffrey.carpenter@yale.edu) Yale University, USA: "Deep mesoscale eddies in the Canada Basin, Arctic Ocean"

16:00– 16:15 **Proshutinsky Andrey et al.** (apros@whoi.edu) WHOI, USA: Coordinated experiments to identify roles of different factors in the ocean dynamics and hydrography

16:15 – 16:30 **Herbaut Christophe et al.** (ch@ocean-ipsl.upmc.fr) LOCEAN-IPSL, Université Pierre et Marie Curie, Paris, France: “Dynamics of the Norwegian Atlantic Current from high resolution modeling and observations”

16:30 – 16:45 **Lu Youyu et al.** (Youyu.Lu@dfo-mpo.gc.ca) Bedford Institute of Oceanography, Canada: “Impacts of vertical momentum mixing on the simulation of Arctic circulation”

16:45– 17:00 **Wang Xuezhu** (Xuezhu.Wang@awi.de), Alfred Wegener Institute, Germany) “Representation of Atlantic Water in the Eastern Arctic in the Finite Element Sea-ice Ocean Coupled Model”

17:00 – 17:30 **Discussion**: Causes of the Arctic Ocean hydrography and dynamics change (Moderators: Michael Karcher and Mike Steele)

17:30 – 19:15 Reception, Clark 507

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**Thursday, October 25, 2012**

**Clark Building, Room 507**

8:30 – 8:45 Coffee

**SESSION 4: Future Experiments**

**A. Freshwater and heat experiments** (Conveners: Sheldon Bacon and Andrey Proshutinsky)

08:45 – 09:00 **Sheldon Bacon** (s.bacon@noc.ac.uk), Sinhue Torres-Valdes, Takamasa Tsubouchi, Alberto Naveira Garabato, NOC, Southampton, UK: “Arctic ice and ocean heat and freshwater fluxes: an outline for a new AOMIP (or FAMOS) model intercomparison experiment”
09:00 – 09:15 Proshutinsky Andrey and Dmitri Dukhovskoy: Freshwater fluxes from Greenland as a new regulator of climate regime changes in the Arctic-North Atlantic system

09:15 – 09:30 Cenedese Claudia (ccenedese@whoi.edu) WHOI, USA: “Laboratory experiments investigating the influence of fjord circulation on outlet glacier melting”

09:30 – 09:45 Karcher Michael (Michael.Karcher@awi.de) AWI, Germany: “AOMIP/FAMOS – ASOF coordinated studies”

09:45 – 10:00 Coffee break

B. Tracer based experiments (Conveners: Jim Ledwell and Alexandra Jahn)

10:00 – 10:15 Jahn Alexandra (ajahn@ucar.edu) UCAR, USA: “Isotope enable Community Earth System Model”

10:15 – 10:30 Ledwell Jim (jledwell@whoi.edu) WHOI, USA: "Prospective Tracer Release Experiments in the Arctic"

10:30 – 10:45 Landing William M. (wlanding@fsu.edu) Florida State University, USA: “GEOTRACES Arctic Program”

C. Ecosystem experiments (Conveners: Katya Popova and Nadja Steiner)

10:45 – 11:00 Popova Ekaterina (e.popova@noc.ac.uk) NOC Southampton, UK: “Role of advection in Arctic Ocean ecosystem dynamics”

11:00 – 11:15 Steiner Nadja (Nadja.Steiner@ec.gc.ca, Canadian Centre for Climate Modeling and Analysis, Canada): “Modeling the high-latitude ocean carbon system, opportunities and constraints”

11:15 – 11:30 Mahadevan Amala (amala@whoi.edu, WHOI, USA): “Submesoscale processes at the ice edge”

11:30 – 11:45 Greene Charles (chg2@cornell.edu, Cornell University, USA): “Remote Climate Forcing of Regime Shifts in Northwest Atlantic Shelf”

D. Circulation experiments (Conveners: Greg Holloway and Yevgeny Aksenov)

11:45 – 12:00 Aksenov Yevgeny et al. (yka@noc.ac.uk) NOC Southampton, UK: “Pacific and Atlantic water circulation coordinated studies”
12:00 – 13:00 Lunch

13:00 – 13:15 Karcher Michael (Michael.Karcher@awi.de, AWI, Germany): “On changes in the surface and mid-depth circulation of the Arctic Ocean”

13:15 – 14:45 Future experiments group meetings (group meetings in conference rooms: Clark 507, Clark 509, Clark 428 and Clark 331)

14:45 – 15:00 Coffee break

15:00 – 16:00 Future experiments plenary session (Conveners: Andrey Proshutinsky and Mike Steele)

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

16:00– 16:15 Farrell Sinead L. (Sinead.Farrell@noaa.gov) ESSIC/CICS/Univ. Maryland: “Deriving High Resolution Sea Ice Statistics from Aircraft and Satellite Observations and their use in Model Validation”

16:15 – 16:30 Peralta-Ferriz Cecilia (ferriz@apl.washington.edu) UW, USA: “Arctic Ocean circulation patterns using GRACE”

16:30 – 16:45 Laxon Seymour (swl@cpom.ucl.ac.uk), University College London, UK: “Estimates of ice thickness and volume from CryoSat-2”

16:45 – 17:00 Giles, Katharine (k.giles@cpom.ucl.ac.uk), University College London, UK: “Sea surface height from Envisat and CryoSat-2”

17:00 – 17:15 Gennady Chepurin and James Carton (chepurin@umd.edu, carton@atmos.umd.edu) University of Maryland, USA: “Sea level variations in the Arctic Seas: an examination of the altimeter record”

17:15 – 17:45 Discussion: Synthesis of satellite, in situ and modeling data (Moderators: Seymour Laxon and Sinead Farrel)

17:45 -18:15 Poster session
Friday, October 26, 2012

Clark Building, Room 507

8:30 – 8:45 Coffee

SESSION 6: Models and fluxes (Conveners: Rebecca Woodgate and Camille Lique)

08:45 – 09:00 Dukhovskoy Dmitry et al. (ddukhovskoy@fsu.edu) FSU COAPS, USA: “The sensitivity of the oceanic processes in the Nordic Seas to uncertainties in the wind forcing from the 1/12-degree Arctic Ocean HYCOM – CICE coupled system”

09:00 – 09:15 Dupont Frederic (Frederic.Dupont@ec.gc.ca) CMC, Environment Canada: “Environment Canada 1/12th ice-ocean Arctic-Atlantic model: preliminary results and validation”

09:15 – 09:30 Lique Camille and Mike Steele (liquec@uw.edu) UW, USA: “Variability of Arctic Ocean heat content: A model-based analysis and implications for autonomous observing systems”

09:30 – 09:45 Platov Gennady (plat@ommfao.sscc.ru) Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia): “Lagrangian tracer simulations of the Arctic fresh water sources”

09:45 – 10:00 Coffee break

10:0 – 10:15 Woodgate Rebecca (woodgate@apl.washington.edu) UW, USA: "Measuring (and modeling) structure in the Bering Strait. - things you learn taking a modeler to sea"

10:15 – 10:30 Long Zhenxia (Zhenxia.Long@dfo-mpo.gc.ca, Bedford Institute of Oceanography, DFO, Canada) and Perrie William (Dalhousie University, Canada, wperrie@dal.ca): “Simulated interannual variations of fresh water content and sea surface height in the Beaufort Sea”

10:30 – 12:00 Coordinated activities (group meetings in conference rooms: Clark 507, Clark 509, Clark 428 and Clark 331)

12:00 – 13:00 Coordinated activities (group reports)

13:00 – 13:30 Workshop adjourn and final remarks
SESSION 7: POSTERS (will be displayed all time during workshop)

1. **Bouchat Amelie** (amelie.bouchat@gmail.com, McGill University, Canada): “The energetics of viscous-plastics sea of sea ice models”
2. **Chaudhuri Ayan** (achaudhu@aer.com, AER, USA): “Evaluation of trends, modes and events from the next generation atmospheric reanalysis for forcing Arctic Ocean models”
3. **Curry Beth** (beth4cu@uw.edu, UW, USA): “Observational study of Davis Strait fluxes”
4. **Deal Clare** (clara.deal@gmail.com, UW, USA): TBD
5. **Hata Yukie** (yukie.hata@mail.mcgill.ca) McGill University, Canada: “Preliminary results on an Ice Stress Buoy from the Canadian Arctic Archipelago”
6. **Jackson Jennifer** et al. (jjackson@apl.washington.edu, UW, USA): “The hydrography of the North Ellesmere Shelf, Lincoln Sea, based on hydrographic and modeling results from 1991-2010”
7. **Jin Meibing** (mjin@alaska.edu, IARC, USA): “Improving subgrid scale ocean mixing under sea ice in climate model”
8. **Kawaguchi Yusuke** (yusuke.kawaguchi@jamstec.go.jp, JAMSTEC, Japan): “Observational study of a linkage among ice deformation, mixed layer warming and ice melt”
9. **Luneva Maria** (mane1@noc.ac.uk, National Oceanographic Center, UK): “Free waves and energy partitioning in a polar basin with topography: results of adjustment problem”
10. **Luneva Maria and Clare Postlethwaite** (mane1@noc.ac.uk, National Oceanographic Center, UK): “The effects of summer ice openings on the brine rejection and cascades in the Arctic Ocean.”
11. **Lu Youyu and Simon Higginson**: Dynamics of flow and volume transport through CAA and Davis Strat
12. **Meyers Paul** (pmyers@ualberta.ca, University of Alberta, Canada): “Modeling of freshwater pathways from the Arctic Ocean to the sub-polar North Atlantic via the Canadian Arctic Archipelago”
13. **Mills Thomas** (tjmills@nps.edu, Naval Postgraduate School, USA): Poster: “An analysis of sea ice deformation and its spatial characterization from the Regional Arctic System Model”
14. **Sheldon Bacon and Nurser George** (g.nurser@noc.ac.uk, National Oceanography Centre, Southampton, Southampton, U.K.): “Arctic Ocean Rossby Radius”
15. **Paquin J.-P.**., et al. (paquin.jeanphilippe@gmail.com) UQAM Montreal, Canada): “Causes and consequences of mid-21st Century Rapid Ice Loss Events simulated by the Rossby Centre Regional Atmosphere-Ocean model”
16. **Perrie W.** (wperrie@dal.ca, Dalhousie University), and **Z. Long** (Zhenxia.Long@dfo-mpo.gc.ca, Canada Bedford Institute of Oceanography, Canada): “Air-sea interactions during an Arctic storm”
17. **Peterson K. Andrew et al.** (drew.peterson@metoffice.gov.uk, Met Office Hadley Centre, UK: “Ice Analysis and Prediction with the UKMO Seasonal Forecast System: GloSea”
18. **Piacsek Steve** (Steve.Piacsek@nrlssc.navy.mil, NRL, USA): “Arctic Watermasses Derived from Models, Climatologies and CTDs”
19. Prinsenberg Simon (Simon.Prinsenberg@dfo-mpo.gc.ca, Fisheries and Oceans Canada, Bedford Institute of Oceanography, Canada): “Electromagnetic-Laser Sea ice Data from Canadian coastal pack ice collected by helicopter-borne sensors”
20. Proshutinsky Andrey et al. (aproshutinsky@whoi.edu) WHOI, USA: “Roles of different factors in shaping the Arctic Ocean hydrography and circulation”
21. Renaud-Desjardins Louis (louis.renaud-desjardins@mail.mcgill.ca) McGill University, Canada: “Vertical ocean heat fluxes and the sea ice mass balance in the CCSM4 model”
22. Richter-Menge Jackie (Jacqueline.A.Richter-Menge@usace.army.mil), CRREL, USA: "Sea ice observational data for model validation: sources, status and problems"
23. Stanley Rachel (rstanley@whoi.edu, WHOI, USA): “The Effect of Sea Ice on Gross Primary Production and Net Community Production: a Study in the Canada Basin”
24. Stewart Kial D. & T. W. N. Haine (kialstewart@jhu.edu, The Johns Hopkins University, USA): “Bounds on Wind-Driven Arctic Freshwater Export Anomalies”
25. Strey-Mellema Sara (sstrey2@atmos.uiuc.edu, University of Illinois, USA): “Cold Air Outbreaks over the Gulf Stream and Implications for Arctic and North Atlantic Ocean Circulation”
26. Timmermans Mary-Louise (mary-louise.timmermans@yale.edu) Yale University, USA: "Contributions to seasonal sea level variability in the Beaufort Gyre region"
27. Webster Melinda (melindawebster@gmail.com, UW, USA): “2012 Springtime Snow Conditions near Barrow”
28. Wekerle Claudia (claudia.wekerle@awi.de, AWI, Germany): “Modeling freshwater transports through the Canadian Arctic Archipelago”
29. Whitefield Jonathan (jwhitefield@alaska.edu, UAF, USA): “Using in situ observations to validate the performance of a high-resolution global model in the Bering, Beaufort and Chukchi Seas”