

FAMOS: FAMOS Workshop #2, October 22-25, 2013

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Woods Hole Oceanographic Institution, Woods Hole, Massachusetts

October 22, 2013: FAMOS School for young scientists, Redfield Auditorium

October 23-25, 2013: FAMOS workshop, Redfield Auditorium

- A. [List of Participants](#)
- B. [Workshop Final Agenda](#)
- C. [2nd FAMOS Workshop Logistics Package](#)

FAMOS School for Young Scientists

1. [Amala Mahadevan \(Woods Hole Oceanographic Institution, USA\): "Submesoscale processes, biophysical interactions, and the Arctic"](#)
2. [Michael Karcher \(Alfred Wegener Institute, Germany\): "Atlantic Water circulation in the Arctic Ocean"](#)
3. [Ron Kwok \(Jet Propulsion Laboratory, USA\): "Arctic sea ice deformation, thickness, and large-scale mass balance"](#)
4. Outreach Discussion: [Michael Steele \(Polar Science Center, Applied Physics Laboratory, Univ. of Washington\) "What is computer modeling? \(...of climate\)"](#)
5. [John Marshall \(MIT, USA\): "Building and removing stratification in the Arctic Ocean"](#)
6. [Marika Holland \(NCAR, USA\): "Using coupled climate models to investigate the predictability of sea ice"](#)

SESSION 1: Sea Ice Highlights Session

1. [Don Perovich \(CRREL, USA\): "2012 and 2013 sea ice conditions and results of 2012 sea ice outlook"](#)
2. [Rick Allard et al. \(NRL, USA\): "An Assessment of the Navy's Sea Ice Outlook Predictions for 2013"](#)
3. [Daniel L. Feltham et al. \(University of Reading, UK\): "The changing Arctic sea ice cover: challenges to understanding and models"](#)
4. [Sinead L. Farrell et al. \(University of Maryland, USA\): "An update on Arctic sea ice thickness conditions from airborne and satellite altimetry"](#)

SESSION 2: Sea Ice Modeling and Observations

1. [Andrew Roberts \(Naval Postgraduate School, Monterey, California, USA\): "Sea Ice Dynamics Scaling in the Regional Arctic System Model"](#)
2. [Torge Martin et al. \(University of Washington, USA\): "Trends in momentum transfer into the Arctic Ocean and the role of optimum ice concentration"](#)
3. [Bruno Tremblay \(McGill University, Canada\): "Lagrangian sea ice tracking technique for seasonal prediction of sea ice conditions"](#)
4. [Frederic Dupont et al. \(CMC, Environment Canada\): "Environment Canada 1/12th ice-ocean Arctic-Atlantic model: improving the ice"](#)

Discussion: [Roberts and Martin Sea Ice Discussion for FAMOS](#) and [Torge Sea Ice Discussion for FAMOS](#)

SESSION 3: Poster Session (see one-slide poster summary presentations and/or posters at poster session below)

SESSION 4: Arctic Ocean Dynamics and Properties from Observations and Model Results

[Summary of "Arctic Ocean dynamics and properties from observations and model results" poster session](#)

1. [Golubeva Elena et al. \(Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia\): "Variability of the Atlantic Water properties in the Arctic Ocean: 1948-2012 model results"](#)

2. [David A. Hebert et al. \(NRL, USA\): "Assessing the U.S. Navy Coupled Ice-Ocean Model vs. Recent Arctic Observations"](#)
3. [Yanni Ding\(Maryland University, USA\): "Arctic Ocean circulation in the CMIP5 models"](#)
4. Chen Chen et al. (UMASS, Dartmouth, USA): "The 35-year high-resolution AO-FVCOM model experiment" (Coming soon)

[Discussion: Working group on Circulation experiments \(conveners: Karcher and Aksenov\)](#)

SESSION 5: Ecosystem and Biogeochemical Modeling

[Summary of ecosystem and biochemical modeling poster session](#)

1. [Patricia Matrai \(Bigelow Laboratory for Ocean Sciences, USA\): "A brief introduction to the PPARR 5 adventure: A Net Primary Production Algorithm Round Robin focused on the Arctic Ocean"](#)
2. Jean-Éric Tremblay (University of Laval, Canada): "What have we learned on the seasonality of nutrient dynamics and the vertical distribution of primary production in the stratified Beaufort Sea?" (coming soon)
3. [Katya Popova \(Marine Systems Modelling, National Oceanography Centre, U. Southampton, UK\): "Modeling beauty contest: Arctic ecosystems in seven models competing for the next UK Earth System Model biogeochemistry"](#)

[Discussion](#)

SESSION 6: Climate States, Freshwater and Heat Content

[Summary of climate states, freshwater and heat content poster session](#)

1. [An T Nguyen et al. \(MIT, USA\): "Progress and Assessment of the Arctic & sub-polar North Atlantic state estimate"](#)
2. [Wieslaw Maslowski \(NPS, USA\): "Modeling Seasonal to Decadal Climate Variability using the Regional Arctic System Model"](#)
3. [Benjamin Rabe \(Alfred Wegener Institute, Germany\): "Arctic freshwater changes and regional implications"](#)
4. [Thomas Haine \(The Johns Hopkins University, USA\): "New synthesis of Arctic freshwater budget and fluxes"](#)
5. [Claudia Cenedese \(WHOI, USA\): "Laboratory experiments investigating the influence of subglacial discharge on submarine melting of Greenland's Glaciers"](#)
6. [Jiayan Yang and Andrey Proshutinsky \(WHOI, USA\): "Dynamics of the Beaufort Gyre: A Balance between Ekman Pumping and Eddy Flux"](#)

[Discussion\(Coming Soon\)](#)

SESSION 7: 2013-2014 FAMOS Coordinated Experiments

1. [Popova Ekaterina \(NOC Southampton, UK\): "Some ideas for FAMOS coordinated ecosystem studies *Role of advection in Arctic Ocean ecosystem dynamics*"](#)
2. [Sheldon Bacon \(NOC, Southampton, UK\): "Arctic Ice and Ocean Heat and Freshwater Fluxes: A FAMOS Model Intercomparison Project"](#)
3. [Aksenov Yevgeny \(NOC Southampton, UK\): "Coordinated water circulation experiments"](#)
4. [John Toole \(WHOI, USA\): "Coordinated mixing experiments"](#)
5. [Dmitri Dukhovskoy \(Florida State University\): "Coordinated Greenland freshwater flux experiment"](#)
6. Torge Martin and Andrew Roberts: "Coordinated sea ice experiments" (coming soon)

SESSION 3: POSTER SESSION

[One Slide Poster Presentations](#)

A. Sea Ice

1. Edward Blanchard-Wrigglesworth (UW,USA): "Predictability of sea ice conditions" (coming soon)
2. [Peter Davis \(University of Oxford, UK\): "Spin up of the Beaufort Gyre and the effects of Arctic sea ice cover"](#)
3. [Dmitry Dukhovskoy et al. \(Florida State University, USA\): "Sea ice model evaluation: A topological approach"](#)
4. Daniela Flocco et al. (University of Reading, UK): "The impact of refreezing of melt ponds on Arctic sea ice thinning" (coming soon)
5. Phillip Griewank (Max-Planck-Institute for Meteorology, Hamburg, Germany): "Impact of parameterizing sea-ice salinity" (coming soon)
6. [Giulia Castellani et al. \(Alfred Wegner Institute, Germany\): "Implementation of sea-ice roughness dependent drag coefficients in a coupled sea-ice-ocean model and assessment of the effects in the sea-ice drift in the Arctic."](#)
7. [Jary Haapala et al. \(Finnish Meteorological Institute, Finland\): "Small scale ice dynamics revealed by the coastal ice radar"](#)
8. [Yukie Hata \(McGill University, Canada\): "In-Situ Internal Sea-Ice Stress Data from Canadian Arctic Archipelago and Modeling Anisotropic Behavior of Sea Ice"](#)
9. Christophe Herbaut et al. (LOCEAN, CNRS/Universite' Pierre et Maris Curie, Paris, France): "Variability of the Barents Sea winter sea ice in 1979-2011. (coming soon)

10. [Polona Itkin \(Alfred Wegener Institute, Bremerhaven, Germany\): "Sea ice running Atlantic Water?"](#)
11. [Ann Keen et al. \(Ridley Met Office, Hadley Centre, UK\): "Drivers of Arctic sea ice decline in the HadGEM1 coupled model"](#)
12. [Alexander Komarov et al. \(University of Manitoba, Canada\): "Detection of Wind Speed and Sea Ice Motion in the Marginal Ice Zone from RADARSAT-2 Images"](#)
13. [Mi Ok Kwon \(The Korea Maritime and Ocean University, Korea\): "Numerical simulation on oceanic state and sea ice distribution of the Arctic Ocean"](#)
14. [De Silva, Lianarachchi Waruna Arampath \(The University of Tokyo, Japan\): "Numerical investigation of sea ice prediction to support ice navigation in the Northern Sea route"](#)
15. [Einar Olason \(Max-Planck Institute of Meteorology, Germany\): "Dynamical modeling of Kara Sea land-fast ice"](#)
16. [Jamie Rae \(Met office Hadley Centre, United Kingdom\): "A sensitivity study of the sea ice simulation in the global coupled climate model, HadGEM3"](#)
17. [Julia M. Ruth et al. \(University of Maryland, USA\): "Assessment of Arctic sea ice freeboard from photon-counting laser altimetry: Pre-launch activities for NASA's ICESat-2 Mission"](#)
18. [Michel Tsamados \(University of Reading, UK\): "Impact of variable drag coefficients on Arctic sea ice and ocean spin-up and down"](#)
19. WITHDRAWN: Wilbert Weijer et al. (Los Alamos National Laboratories): "The Arctic ocean/sea ice system in a high-resolution coupled climate model"
20. James Williams (McGill University, Canada): "Using Algebraic Multigrid to Precondition the Viscous Plastic Sea Ice Momentum Equations" (coming soon)
21. [Jinping Zhao \(Ocean University of China, China\): "Non-numerical forecasting of sea ice concentration induced by lateral melting"](#)

B. Arctic Ocean Dynamics and Properties from Observations and Model Results

1. [Evgeny Aksenov \(Southampton Oceanographic Center, UK\): "Preconditioning of the Arctic outflow west of Greenland: Ocean Circulation in the Lincoln Sea"](#)
2. Tachanat Bhatrasataponkul (Florida State University, USA): "Pathways and transformation of Greenland's excessive freshwater in the Nordic Sea" (coming soon)
3. [Beth Curry \(University of Washington, Applied Physics Laboratory, USA\): "Davis Strait observations"](#)
4. Seth Danielson (IMS UAF, USA): "Circulation variability on the Bering-Chukchi shelves in response to local and remote wind forcing" (coming soon)
5. [Dustin Carroll \(University of Oregon, USA\): "Oceanic response to buoyancy, wind and tidal forcing in a Greenlandic glacial fjord"](#)
6. [Vera Fofonova \(AWI, Germany\): "The simulation of circulation in the Laptev Sea shelf zone using FVCOM"](#)
7. [Renske Gelderloos \(University of Oxford, UK\): "Modeling the Canadian Archipelago"](#)
8. [Simon Higginson et al. \(Bedford Institute of Oceanography, Canada\): "Validation of the CONCEPTS 1/12 degree Arctic-Atlantic ice-ocean model: Water masses and transports"](#)
9. [Pål Erik Isachsen \(Norwegian Meteorological Institute, Norway\): "Ocean eddy fluxes in the Arctic and their parameterization in climate Models"](#)
10. [Jennifer Jackson \(ASL Environmental Sciences, Canada\): "The formation, transport, and fate of Beaufort Shelf Winter Water in the Canadian Beaufort Sea from 2009-2011."](#)
11. [Markus Janout \(AWI, Germany\): "Semidiurnal tides on the Laptev Sea shelf with implications for shear and mixing"](#)
12. Hyunjung Lee (Korea Polar Research Institute, Korea): "Annual variability in water column structure regarding heat content and freshwater content in the Pacific sector of Arctic Ocean, last 3 years" (coming soon)
13. Ho Jin Lee (The Korea Maritime and Ocean University, Korea): "Tidal mixing effect on the Arctic Sea circulation and sea ice distribution using OGCM" (coming soon)
14. [Zhenxia Long and William Perrie \(Bedford Institute of Oceanography, Canada\): "Impacts of climate change on sub-surface water temperature"](#)
15. [Maria Luneva \(NOC, UK\): "Effect of mixing and ageostrophic circulations induced by tides on multi-decadal scale on the changes in ice, temperature and salinity fields"](#)
16. Charlotte Marcinko (NOC, Southampton, UK): "Characterizing horizontal variability in the Arctic Ocean" (coming soon)
17. [Aleksi Nummelin \(Geophysical Institute, University of Bergen, Norway\): "Role of the changing river runoff in the Arctic ocean stratification"](#)
18. [Cecilia Peralta-Ferriz \(Univ. of WA, USA\): "Evolution of mixed layer depth in the Arctic from historic CTD data"](#)
19. [Mike Spall \(WHOI, USA\): "A simple model for the halocline and Atlantic Water circulation in the Arctic"](#)
20. [Arlid Sundfjord et al. \(Norwegian Polar Institute, Tromsø, Norway\): "Upper-ocean vertical fluxes in the Atlantic Water inflow region North of Svalbard"](#)
21. [Mary-Louise Timmermans \(Yale University, USA\): "Pacific Summer Water in the Central Canada Basin"](#)

C. Climate States, Freshwater and Heat Content

1. [Yanni Ding et al. \(University of Maryland, USA\): "Seasonal Arctic heat budgets in CMIP5 models"](#)
2. Ayan Chaudhuri (AER, USA): "Impact of atmospheric forcing uncertainties on Arctic state estimates" (not available)
3. [John Guthrie \(Polar Science Center, Applied Physics Laboratory, University of Washington, USA\) "Recent Microstructure Observations from the Eurasian Basin"](#)
4. WITHDRAWN: Amber M. Holdsworth (University of Alberta, Canada): "The Labrador Sea as a "Vital Organ" in the Earth System"
5. WITHDRAWN: Richard Krishfield et al. (WHOI, USA): "Deterioration of perennial sea ice in the Beaufort Gyre from 2003 to 2012 and its impact on the oceanic freshwater cycle" (File not available.)
6. [Camille Lique \(Oxford University, UK\) "Vertical mixing and heat flux study"](#)
7. Steffen Malskaer Olsen (Polar Oceanography, Danish Meteorological Institute, Denmark): "Variability of the Arctic Ocean freshwater reservoir in a coupled climate model" (not available)
8. [Per Pemberton \(Stockholm University, Sweden\): "Tracing sources and sinks of freshwater in a regional Arctic Ocean model"](#)
9. [Will Perrie and Zhenxia Long \(Bedford Institute of Oceanography, Canada\): "Impacts of climate change on fresh water content and sea surface height in the Beaufort Sea"](#)
10. [Gennady Platov \(Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia\): "On the freshwater content modeling in the Arctic basin: A sensitivity study"](#)
11. WITHDRAWN: Andrey Proshutinsky (WHOI, USA): "Atmospheric forcing uncertainties to drive simulation of freshwater content variability"
12. [Hyodae Seo \(WHOI, USA\): "Dynamics of the near-surface wind response to Arctic sea ice"](#)
13. [William Williams \(Institute of Ocean Sciences, Canada\): "The changes observed between 2012 and 2013 in the Beaufort Gyre and their causes"](#)
14. [Jonathan Whitefield \(University of Alaska Fairbanks, USA\): "A new high-resolution forcing of Arctic river discharge"](#)

D. Ecosystem and Biogeochemical Modeling

1. [Fillippa Fransner \(Stockholm University, Sweden\): "Tracing terrestrial dissolved organic carbon in the Baltic Sea - a 3D model study"](#)
2. WITHDRAWN: Ho Kyung Ha (Korea Polar Research Institute, Incheon, Korea): "Measurement of suspended particulate matter beneath Arctic sea ice during the summer season of rapid melting"
3. [Rubao Ji et al. \(WHOI, USA\): "Phenology of Sea Ice and Primary Production in the Arctic Ocean"](#)
4. [Meibing Jin \(IARC, USA\): "Ocean mixing under sea ice with multi-column ocean grid in CESM and its impact on ecosystem dynamics"](#)
5. [Valentina Malakhova and Elena Golubeva \(Institute of Computational Mathematics and Mathematical Geophysics, Novosibirsk, Russia\): "Modeling of subsea permafrost related methane emissions in the East Siberian Arctic Shelf"](#)
6. [Molly A. Palmer \(ExxonMobil Research and Engineering, USA\): "A new 1-D biogeochemical model of the Chukchi Sea, Arctic Ocean: modeling the impacts of sea ice retreat, thinning, and melt pond proliferation on the summer phytoplankton bloom"](#)
7. [Josie Robinson \(National Oceanography Centre, U. Southampton, UK\): "Is the melting of Arctic sea-ice blurring the biological boundaries between ocean basins?"](#)
8. WITHDRAWN: Natalia Shakhov et al. (IARC, UAF, USA): "Lateral transport of methane in the Pacific sector of the Arctic Ocean as inferred from water circulation pattern"
9. [Nadja Steiner \(Institute of Ocean Sciences, Fisheries and Oceans Canada, Canada\): "Model intercomparisons within the SCOR WG BEPSII \(Biogeochemical Exchange Processes at Sea-Ice Interfaces\) - Overview and early results"](#)
10. Jean-Éric Temblay (University of Laval, Canada): "Nutrients and biological productivity in the Arctic Ocean: an overview of major issues" (coming soon)

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