**13th AOMIP WORKSHOP AGENDA**

**Day 1: Tuesday, October 20th, 2009**

**AOMIP School for young Arctic scientists**

**8:15 8:30 Mike Steele and Andrey Proshutinsky: *Introduction (Welcome, AOMIP workshop school major goals and tasks, school agenda)***

**8:30 9:10 Elizabeth Hunke (Los Alamos National Laboratories, LNL):  *Sea ice modeling and challenges for the future***

**9:10 9:20 Questions, discussions**

**9:20 10:00 Luc Rainville (Polar Science Center, University of Washington): *Mixing in the arctic seas***

**10:00 10:10 Questions, discussions**

**10:30 11:10 Axel Schweiger (Polar Science Center, University of Washington):    
 *Atmospheric forcing data and surface air temperature***

**11:10 11:20 Questions, discussions  
11:20 12:00 Katya Popova (National Oceanography Centre, Southampton, UK):  
 *Ecosystem modeling overview* 12:00 12:10 Questions, discussions  
13:00 13:40 Mike Steele (Polar Science Center, University of Washington):    
 *Arctic Ocean Freshwater:  past, present, future***

**13:40 13:50 *Questions, discussions*14:00 15:30 WOODS HOLE TOUR**

**15:30 16:10 Andrey Proshutinsky (WHOI): *Wind-forced dynamics of the Arctic Ocean***

**Day 2: Wednesday, October 21th, 2009**

**8:00 8:15 Andrey Proshutinsky: Introduction   
 (welcome, AOMIP, and workshop major goals and tasks)  
SESSION 1: FRESH WATER   
8:15 8:40 Andrey Proshutinsky (WHOI), Elena Golubeva (RUS),**

**Jinlun Zhang, (UW), Eiji Watanabe (IARC), Marie-Noelle Houssais and**

**Christophe Herbaut (LOCEAN): *Beaufort Gyre freshwater experiments***

**8:40 9:05 Per Pemberton and Markus Meier (Swedish Meteorological and Hydrological Institute (SMHI): *Beaufort Gyre freshwater experiments with the RCO model: Effects of mixing***

**9:05 9:30 Alexandra Jahn (McGill University): *Comparison of the simulated FW export variability from different models - first results***

**9:30 9:55 Michael Karcher (AWI): *First assessment of large scale FW content changes in the Arctic Ocean from the 1990s to the 2000s***

**10:15 10:40 Wieslaw Maslowski on behalf of Jonathan Bamber, Michiel van den Broeke, Janneke Ettema and Eric Rignot (NPS): *A 50-year reconstruction of freshwater fluxes from Greenland***

**10:40 11:00 Discussion:   
 FRESH WATER COORDINATED EXPERIMENTS   
 (Moderators: A. Proshutinsky and A. Jahn)**

**SESSION 2: SEA ICE**

**11:00 11:25 Tremblay, Bruno (McGill University): *Ice mass balance buoy measurements from the Canadian Arctic Archipelago - Viscount Melville Sound***

**11:25 11:50 Veronique Dansereau  (McGill University): *Calibration of a multi-resolution viscous plastic model of the Arctic sea Ice against the air and water drag parameters***

**12:50 13:15 Heimbach, Patrick (MIT): *Analysis of sea-ice export through the Canadian Arctic Archipelago via adjoint sensitivity modeling*  
13:15 13:40 Hibler, Bill (International Arctic Research Center): C*omparison of Simulated and Observed Sea Ice Tidal Oscillations*     
13:40 14:05 Mark Johnson and Tatiana Proshutinsky (IMS UAF), Andrey Proshutinsky (WHOI):  
 *Evaluation of sea ice thickness reproduction in AOMIP models***

**14:05 14:30 Markus Meier, Sebastian Mårtensson, and Per Pemberton (Swedish Meteorological and Hydrological Institute (SMHI): *Impact of sea ice dynamics on the Arctic climate variability - a model* *study***

**14:50 15:10 Discussion:**

**SEA ICE MODELING AND COORDINATED EXPERIMENTS  
 (Moderator: E. Hunke)**

**SESSION 3: MODELING, MODEL PROGRESS AND MODEL RESULTS**

**15:10 15:35 Greg Holloway (Institute of Ocean Sciences, Canada):   
 *Equations of motion***

**15:35 16:00 Robert Osinski and Wieslaw Maslowski (NPS):   
 *Intercomparison of ocean circulation in regional Arctic Ocean models at increasing spatial resolution***

**16:00 16:25 Gleb Panteleev (IARC), Max Yaremchuk (PARC), and Dmitry Nechaev (USM):   
 *Adjointless variational data assimilation in reduced space: advantages and possible application for model intercomparison*   
16:25 16:50 An T Nguyen (Jet Propulsion Laboratory, California Institute of Technology): *Results from the ECCO2 optimized Arctic solution*   
16:50 17:15 Guoping Gao and Changsheng Chen (UMASSD), Andrey Proshutinsky and Robert Beardsley: (WHOI*): Development of Unstructured-grid Version of CICE: Validation and Applications***

**Day 3: Thursday, October 22nd, 2009**

**8:00 8:25 Changsheng Chen and Guoping Gao (UMASSD), Andrey Proshutinsky and Robert Beardsley (WHOI): *An Unstructured Grid Arctic Ocean Model (FVCOM-Arctic): Validation via Observations and Critical Need for Horizontal Resolution***

**8:25 8:40 Rick Allard (NRL): *NRL plans for Arctic modeling***

**8:40 9:00 Discussion: MODEL IMPROVEMENTS (Moderator R. Gerdes and G. Holloway)**

**SESSION 4: OBSERVATIONS AND METHODS**

**9:00 9:25 Sinead Farrell (NOAA): *Arctic Ocean Topography from Satellite Laser Altimetry*  
9:25 9:50 Maslowski (NPS): *On (in)correctness of volume and property flux calculation across a   
 single section*   
  
10:10 10:25 James Reagon (UMD): *Comparison of hydrographic databases in the Arctic*  
10:25 10:50 Jean Claude Gascard (Universite Pierre et Marie Curie, France) : *Brines and frazil ice formation***

**10:50 11:10 Discussion:**

**OBSERVATIONS AND METHODS FOR MODEL EVALUATION (Moderators: J. C. Gascard, A. Proshutinsky)**

**SESSION 5: WATER MASSES, STRAITS, AND ECOSYSTEMS  
11:10 11:30 Chris Hill (MIT): *Explicit modeling of ice-edge plumes*  
11:30 11:55 Katya Popova (National Oceanography Centre, Southampton): *Arctic Ocean in a global biogeochemical model: Physical control of Arctic biological productivity* 13:00 13:25 Eiji Watanabe (International Arctic Research Center): *Mesoscale eddies and shelf-basin exchange in the western Arctic Ocean*  
13:25 13:50 Camille Lique (Fremer): *A Lagrangian model analysis of Arctic water mass transformations and exports.* 13:50 14:15 Zeliang Wang (BIO): *Representing eddy stress in an Arctic Ocean model*   
14:35 15:00 Mike Steele (UW): *Ecosystem parameter: Mixed Layer Depth in the Arctic Seas***

**15:00 15:25 Marie-Noelle Houssais and Christophe Herbaut (LOCEAN): *Variability of the Canadian Archipelago outflow in a simulation forced by the ERA40 reanalysis***

**Day 4: Friday, October 23rd, 2009**

**8:00 8:25 Elena Golubeva (Russian Academy of Science, Novosibirsk):   
 *Numerical modeling of Atlantic and Pacific waters dynamics*  
8:25 8:50 Yevgeny Aksenov, Sheldon Bacon, and A. J. George Nurser (National Oceanography Centre, Southampton), Vladimir V. Ivanov (SAMS, UK),   
 Andrew C. Coward (NOCS, UK) and Igor V. Polyakov (IARC, USA):   
 *The North Atlantic Inflow to the Arctic Ocean from observations   
 and high-resolution modeling  
8*:50 9:15 Michael Karcher (AWI):   
 *Studies on AW circulation in the Arctic Ocean: a) On consequences   
 of the Atlantic Water inflow warming and b) Experiments on  
 Iodine 129 dispersion***

**9:15 9:40 Maria Luneva (Proudman Oceanographic Laboratory):   
 *The effect of bathymetry on the geostrophic adjustment problem in an idealised Arctic Ocean model.***

**9:40 10:00 Do Pacific and Atlantic waters influence sea ice conditions in the Arctic Ocean? (Moderator: W. Maslowski )**

**10:20 10:40 Michael Karcher (AWI, Germany):   
 *AOMIP – ASOF collaboration***

**10:40 13:00 GROUP MEETING TO DETERMINE THEMES, GOALS AND CONDITIONS OF NEW COORDINATED EXPERIMENTS**

**13:00 13:15 Workshop adjourn and final remarks**

**POSTERS**

**1. Katya Popova** (**N**ational Oceanography Centre, Southampton):*Ecosystem model intercomparison within the framework of AOMIP: ideas, experiments and logistics*

**2. John Calder , et al.,** (NOAA): presented by A. Proshutinsky:   
 *An Integrated International Approach to Arctic Ocean Observations for Society   
 (A Legacy of the International Polar Year)***3. Craig Lee, et al.,** (UW): presented by A. Proshutinsky:   
 *Autonomous Platforms in the Arctic Observing Network*

**4. Ron Kwok ,et al.**, (JPL): presented by A. Proshutinsky:   
 *Combining satellite altimetry, time-variable gravity, and bottom pressure observations   
 to understand the Arctic Ocean*

**5. Igor Ashik, et al.,** (AARI):Ice-ocean coupled model for operational predictions of sea ice and sea level conditions in the   
 Arctic Ocean marginal seas

**6.** **Gennady Platov** (Russian Academy of Science, Novosibirsk): *Parameterization of deep and intermediate water formation in Arctic Ocean*

**7. Fanny Girard-Ardhuin and Denis Croize-Fillon** (LOS/Ifremer):  
 *Sea ice satellite data for models*

**8.**  **Amala Mahadevan** (Boston University):   
 *Generating stratification and phytoplankton blooms in a vertically mixed ocean*

**9.**  **Mary-Louise Timmermans** , et a**l.,**  (Yale University, USA):   
 Moored observations of bottom-intensified motions in the deep Canada Basin  
  
**10.**  **Beth Wingate, Pedro Embid and  Mark Taylor** (Los Alamos):  
 Arctic Ocean Dynamics: a new theoretical result and its modeling implications  
  
**11.** **Paquin, J.-P. , L. Sushama ,** (University of Quebec), **R. Döscher** (SMHI, Rossby Center),

and **B. Tremblay,** (McGill University):  
 Arctic freshwater budget evaluation using a fully coupled regional

atmosphere-land-river-ocean-sea ice climate model: project overview