

JGR Oceans Special section: “FAMOS: Beaufort Gyre phenomenon”

- Proposed by Andrey Proshutinsky (aproshutinsky@whoi.edu) to publish major results of both FAMOS and BGEP focusing on the synthesis of observations and modeling in the Beaufort Gyre region.
- FAMOS phase 2 is focused on the synthesis of modeling and observations with high resolution.
- BGEP has a 15–year time series data set with information about sea ice, ocean physical characteristics and bio-geochemistry.
- All participants of FAMOS different themes (ice, ocean, ecosystems, geochemistry, Atlantic, mixing, eddies, freshwater, CRFs, etc.) have been invited to contribute with a focus on BG problems and using BG data and of course
- All participants of the BG observational teams (ice, ocean, atmosphere, freshwater, geochemistry and ecosystems, etc.) have been invited to contribute results of their analyses, changes and hypotheses.
- **Please distribute widely!**
- Papers using model results and observations are encouraged.
- If interested please contact Andrey (aproshutinsky@whoi.edu) with preliminary title of your paper and date when you think the paper will be ready for submission.

JGR-Special section “FAMOS: Beaufort Gyre phenomenon” list of proposed papers

1. Proshutinsky et al., Introduction paper

A1. Freshwater

2. Georgy Manucharyan: "The influence of continental slopes on eddy and freshwater dynamics of the Beaufort Gyre",

3. Chen Chen: BG freshwater content changes, mechanisms and causes based on FVCOM model results

4. Proshutinsky et al. 2003-2017: BG bottom pressure changes, tides and sea level variability as manifestation of freshwater dynamics and wind forcing

5. John Marshal et al: (Andrey, we'd have some material to send to the special edition which combines observations and models.)

6. Jiechen Zhao et al: Projected freshening of the Arctic Ocean in the 21st century

7. D. Dukhovskoy et al. Freshwater pathways from rivers and Greenland

8. S. Kelly backward trajectories of freshwater from the Beaufort Gyre region to identify sources and volumes of freshwater changes

A2. Mixing and eddies

9. M. Zhao et al.: Energy pathways and mesoscale eddies in the Beaufort Gyre

10. N. Shibley et al.: The influence of turbulence on double-diffusive structures in the Beaufort Gyre

11. Y. Bebieva et al.: Lateral property gradients and the evolution of double-diffusive layers

12. Kozlov et al.: Internal waves including internal solitary wave and eddies from satellites

13. Maria Luneva, et al.: Cascading events and favorable conditions for cascading in the BG and Chukchi Sea from observations and model results

A3. Sea ice

14. Don Perovich: I look forward to participating. We have several years of ice mass balance data from BGEO that hopefully will complement other measurements and modeling efforts.
15. Bjorn Erlingsson: Stress strain-rate characteristics in the BG sea ice field and their relation to external dynamical forcing
16. Multi-author paper (Bruno Tremblay et al...): Sea ice modeling reviewer paper: 21st century major tasks for sea ice modeling and prediction.

A4 Circulation and halocline

17. R. Pickart et al.: (my interpretation) something like: Beaufort and Chukchi Sea upwellings and their influence on BG environment including ecosystems
18. M. Spall, R. Pickart, et al. Ventilation of the Pacific Halocline in the Canada Basin
19. Paul Myers et al. something like: "Pacific water pathways, and links to the Beaufort Gyre, model resolution and eddies"
20. Aksenov et al. "Atlantic Water pathways: downstream impacts in the Arctic Ocean".
21. Itoh, Kikuchi, Nishino, Williams: 'Pacific water fluxes through the Barrow Canyon and its effect on subsurface warming in the BG region'

A5. Biogeochemistry and ecosystems

21. Celine Gueguen et al. 2007-2017 CDOM distribution in the BG region
22. DeGrandpre, Michael: "The annual cycle of pH and pCO₂ in the Beaufort Gyre"
23. Nadja Steiner (Ecosystems: "I am supportive and will be able to contribute").
24. M. Jin & A. Holdsworth et al.*: *Linking physical characteristics of the Beaufort gyre to biogeochemical cycling.
25. M. Jin & A. Holdsworth et al.**Impact of changing model spatial resolution on Arctic biogeochemistry in the Beaufort Gyre

A6. Other

26. Xianyao Chen: Arctic Sea Level Variability: observations and simulations