PAG Data, Synthesis, Interactions, Structure, Secretariat and Future Meetings

Jacqueline M. Grebmeier, PAG Chair

Chesapeake Biological Laboratory
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PAG Meeting
October 28-29, 2014
PMEL/NOAA
Seattle, Washington, USA

http://pag.arcticportal.org

Pacific Arctic Group (PAG)
Fall Meeting Agenda-Day 1 to 2

4. **Data sharing and issues**
   - PAG Agreed on following IASC data policy approved by IASC Council 2013
   - Discussion if want standard metadata site on common PAG portal, with links to national data portals (is this necessary or best like DBO use national archives and either link to international data sites or post specific data on DBO data portal?)
   - Mooring data-status and need coordinate metafile?
   - Other input?

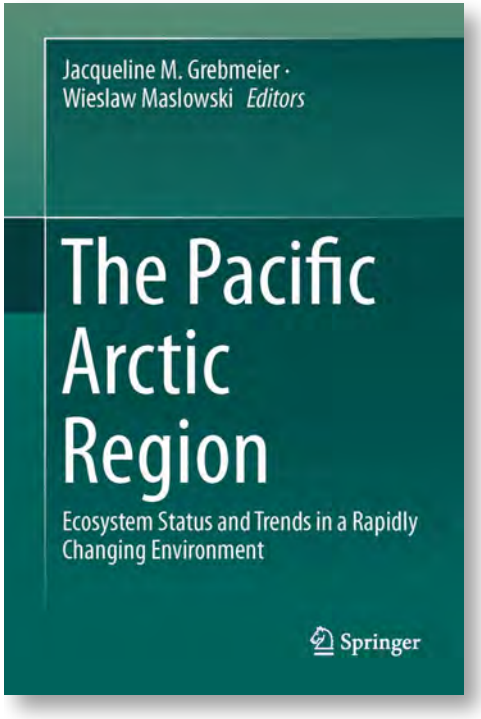
IASC Statement of Principles and Practices for Arctic Data Management"
http://www.iasc.info/home/iasc/data

5. **Synthesis-status and future plans**
   Springer PAR synthesis book published June 2014 (Jackie Grebmeier)
   ARAON DSR Special issue update (Sang Lee via Jackie Grebmeier)
   Biogeosciences-Special issue update (Takashi Kikuchi)

5. PAG Synthesis

Springer

springer.com



2014, XV, 450 p. 153 illus., 129 illus. in color.

Printed book

Hardcover

- **129,99 € | £117.00 | $179.00**
- ***139,09 € (D) | 142,99 € (A) | CHF 173.50**

J.M. **Grebmeier**, W. **Maslowski** (Eds.)

The Pacific Arctic Region

Ecosystem Status and Trends in a Rapidly Changing Environment

- **A one-stop resource volume for a better understanding of the key processes influencing the status and trend in the ecosystem of the Pacific Arctic Region (PAR)**
- **Highlights key scientific findings focused on the Pacific Arctic marine environment and includes a summary of gaps and future research directions**
- **Looks at model outputs to evaluate and forecast possible future change in the Arctic**

The Pacific Arctic region is experiencing rapid sea ice retreat, seawater warming, ocean acidification and biological response. Physical and biogeochemical modeling indicates the potential for step-function changes to the overall marine ecosystem. This synthesis book was coordinated within the Pacific Arctic Group, a network of international partners working in the Pacific Arctic. Chapter topics range from atmospheric and physical sciences to chemical processing and biological response to changing environmental conditions. Physical and biogeochemical modeling results highlight the need for data collection and interdisciplinary modeling activities to track and forecast the changing ecosystem of the Pacific Arctic with climate change.

Title Book: THE PACIFIC ARCTIC REGION: ECOSYSTEM STATUS AND TRENDS IN A RAPIDLY CHANGING ENVIRONMENT
Publisher: Springer, publ. date June 2014

Ch. 1 Introduction (Guest editors: Grebmeier, J.M. and W. Maslowski); dedication to Marty Bergmann

Ch. 2 Recent and Future Change in the Meteorology of the Pacific Arctic (Overland, J.E., J. Wang, R.S. Pickart, and M. Wang)

Ch. 3 Recent Variability in Sea Ice Cover, Age, and Thickness in the Pacific Arctic Region (Karen E. Frey, James A. Maslanik, Jaclyn Clement Kinney, Wieslaw Maslowski)

Ch. 4 Model-Data Fusion Studies of Pacific Arctic Climate and Ice-Ocean Processes (Wang, J., H. Eicken, Y. Yu, X. Bai, J. Zhang, H. Hu, D-R Wang, M. Ikeda, K. Mizobata, and J. Overland)

Ch. 5 Physical oceanography, hydrography, and shelf-basin exchange processes (Williams, B. et al.)

Ch. 6 The large scale ocean circulation and physical processes controlling Pacific-Arctic interaction (W. Maslowski, W., J. Clement Kinney, S.R. Okkonen, R. Osinski, G. Panteleev)

Ch. 7 On the Flow Through Bering Strait: A Synthesis of Model Results and Observations (Clement Kinney, J., W. Maslowski, Y. Aksenov, B. de Cuevas, J. Jakacki A. Nguyen, R. Osinski, M. Steele, R.A. Woodgate, and J. Zhang)

Ch. 8 Carbon Fluxes Across Boundaries in the Pacific Sector of the Arctic Ocean in a Changing Environment (Cai, W.J., N.R. Bates, L. Guo, L.G. Anderson, J.T. Mathis, R. Wanninkhof, D.A. Hansell, L. Chen, I.P. Semiletov)

Ch. 9 Carbon Biogeochemistry of the Western Arctic: Primary Production, Carbon Export and the Controls on Ocean Acidification (Mathis, J.T., J.M. Grebmeier, D.A. Hansell, R.R. Hopcroft, D.L. Kirchman, S.H. Lee, S.B. Moran, N.R. Bates, S. VanLaningham, J.N. Cross, W-J. Cai)

Ch. 10 Biodiversity & Biogeography of Lower Trophic Systems in the Pacific Sector (Nelson, R,J., C. Ashjian, B. Bluhm, K. Conlan, R. Gradinger, J. Grebmeier, V. Hill, R. Hopcroft, B. Hunt, H. Joo, D. Kirchman, K. Kosobokova, S. Lee, W. Li, C. Lovejoy, M. Poulin, E. Sherr, K. Young)

Ch. 11 Marine Fishes, Birds and Mammals as Sentinels of Ecosystem Variability and Reorganization in the Pacific Arctic Region (Moore, S.E., E. Logerwell, L. Eisner, E. Farley, L. Harwood, K. Kuletz, J. Lovvorn, J. Murphy, L. Quakenbush)

Ch. 12 Progress and Challenges In Biogeochemical Modeling Of The Pacific Arctic Region (Deal, C.J., N. Steiner, J. Christian, J.Clement Kinney, K. Denman, S. Elliott, G. Gibson, M. Jin, D. Lavoie, S. Lee, W. Lee, W. Maslowski, J. Wang, E. Watanabe)

PAG Synthesis

5. **Synthesis-status and future plans:** ARAON DSR Special issue update-**Korean Arctic expeditions in the northern part of the Chukchi Sea from 2010 to 2012 (11 papers)**

Small-scale deformation of an Arctic sea ice floe detected by GPS and satellite imagery (in 1st revision)
Byong Jun Hwang, Duk-jin Kim & others

Entrainment by the sea-ice movement in the surface mixed layer and its impact on under-ice blooming dynamics (in revision)-Yong Hoon Kim et al

Optical properties of in 2012 summer open water from Mendeleev Ridge to Chukchi Plateau (revised)
Jinping Zhao et al

Bacterial Diversity along Water Column in the Western Arctic Ocean (in revision)
Dukki Han' Ho Kyung Ha, Bang Yong Lee, Hor-Gil Hur, and Yoo Kyung Lee

Regional productivity of phytoplankton in the western Arctic Ocean during early summer in 2010 (in press)
Mi Sun Yun, Bo Kyung Kim, Hui Tae Joo, Eun Jin Yang, Kyung Ho Chung, Sung-Ho Kang, Sang Heon Lee

Macromolecular compositions of phytoplankton in the Arctic Ocean during the summer in 2011 (accepted)
Bo Kyung Kim, Mi Sun Yun, Hui Tae Joo, Jang Han Lee, Jae Hyun Lim, Kyung Ho Chung, Sung-Ho Kang, Sang

Total Carbon budget of Arctic sea ice floes (accepted), Sang Heon Lee, Bo Kyung Kim, Hui Tae Joo, Jung Wook Park, Hyoung-Min Joo, Doo Byoul Lee, Chang-Keun Kang, and Sung-Ho Kang

Vertical structure variations of pelagic ciliated microzooplankton communities in response to the summer sea ice reduction in the western Arctic Ocean (in revision), Yong Jiang, Eun Jin Yang, Sung-Ho Kang and SangHoon Lee

Characteristics of the sound-scattering layer in the Pacific Summer Water, Arctic Ocean (in revision)
Hyoung Sul La, Myounghee Kang, Hans-Uwe Dahms, Ho Kyung Ha, Eun Jin Yang, Young Nam Kim, and Kyung Ho Chung

Microzooplankton community structure and grazing impact on major phytoplankton in the Chukchi Sea and the western Canada Basin, Arctic Ocean (accepted), Eun Jin Yang*, Ho Kyung Ha, Kyung Ho Chung, and Sung-Ho Kang

Relationship of macromolecular compositions between phytoplankton and zooplankton in the northern Chukchi Sea (in revision), Mi Sun Yun, Doo Byoul Lee, Bo Kyung Kim, Jae Jung Kang, Jang Han Lee, Eun Jin Yang, Kyung Ho Chung, Sung-Ho Kang, Sang H. Lee

Biogeosciences special volume: Catastrophic reduction of sea-ice in the Arctic Ocean – its impact on the marine organisms and ecosystems in the polar region

MS No.	Authors	Title
1	Jiang, K., J. Zhang*, S. Hirayama, M. Yamamoto-Kawai, T. Hirawake	Biogeochemical process of surface sediment and its changes in Chukchi Sea using rare earth elements
2	Kondo Y., H. Obata, A. Ooki, S. Nishino, T. Kukuchi, N. Hioki, K. Kuma	Distributions of trace metals (Cu, Zn, Mn, Ni, Pb and Cd) in the western Arctic Ocean
3	Mizobata K., E. Watanabe, N. Kimura	Intraseasonal variability of the Beaufort Gyre and its impact on the distribution of Pacific-origin water in the Pacific sector of the Arctic Ocean
4	Nishino, S. and T. Kikuchi + GRENE collaborator	Water mass characteristics and their temporal changes in the biological hotspot of the southern Chukchi Sea
5	Ota, N., H. Ueno, M. Itoh, T. Kikuchi, K. Mizobata, E. Watanabe	Heat budget of the Chukchi Sea
6	Yamamoto-Kawai, M. and Mifune T.	Distribution of aragonite undersaturated water in Chukchi Sea
7	Zhang* J., S. Hirayama, K. Jiang, H. Narita, S. Nishino, M. Yamamoto-Kawai, K. Shimada and T. Kikuchi	Water mass structure and nutrient distribution of the western Arctic Ocean using chemical tracers
8	Fujiwara A., T. Hirawake, K. Suzuki, I. Imai, L. Eisner, S. Saitoh	Inter annual variability of phytoplankton community size structure and primary production in the Chukchi and Bering Sea shelf region: a satellite remote sensing approach
9	Ikenoue T., K.R. Bjørklund, P. Dumitrica, S. Kruglikova, A. Krabberød, K. Kimoto	Joergensenium xxxxx n. gen., n. sp. (Entactinaria, Radiolaria): its distribution of Canada basin and northwind abyssal plain in the western Arctic Sea.
10	Itoh M., M. Kitamura, J. Onodera, A. Fujiwara, T. Hirawake, S. Nishino, T. Kikuchi	Temporal variability of zooplankton biomass from ADCP time series data in the Western Arctic
11	Kimoto, K., J. Onodera, N. Harada, M. Honda, Y. Tanaka	Calcareous zooplankton flux seasonality in the Arctic sediment traps.
12	Matsuno, K., A. Yamaguchi, A. Fujiwara, J. Onodera, E. Watanabe, N. Harada, T. Kikuchi	Seasonal changes in zooplankton swimmer and faecal pellets collected using a sediment trap in the western Arctic Ocean
13	Onodera, J., S. Nishino, Y. Kawaguchi	Fixed point observation of diatom flora and water mass condition in the northern Chukchi Sea in late summer 2013
14	Ooki, A., K. Kuma, S. Nishino, T. Kikuchi	Measurements of biogenic halocarbons in the Chukchi sea and Arctic Ocean basin in 2012.
15	Uchimiya M., C. Motegi, Y. Kawaguchi, J. Inoue, S. Nishino, T. Nagata	Atmospheric forcing resulted in enhanced heterotrophic prokaryote production in the water column of the Chukchi Sea, western Arctic Ocean in early fall
16	Yamaguchi, A., K. Matsuno, A. Fujiwara, J. Onodera, E. Watanabe, N. Harada, T. Kikuchi	Life cycle of dominant calanoid copepods in the western Arctic Ocean.
17	Saruwatari, K., M. Satoh, N. Harada, I. Suzuki, Y. Shiraiwa	Morphological responses of subarctic and Arctic Emiliania huxleyi coccoliths to the growth temperatures and salinity during culture
18	Satoh M., F. Itoh, K. Saruwatari, N. Harada, J. Onodera, M. Itoh, I. Suzuki, Y. Shiraiwa	Isolation and characterization to the growth temperature of coccolithophore, Emiliania huxleyi from the Arctic Sea
19	Kokubun, N, T. Yamamoto, D. Kikuchi, Y. Watanuki, A. Kitaysky, A. Takahashi	Foraging habitat use of thick-billed murres: why do they go farther from the colony?
20	Nakano, T., A. Yamazaki,, H. Sasaki, J. Yamamoto, Y. Watanuki, Y. Sakurai	Changes in the abundance of macro-epibenthos and demersal fish collected by bottom-trawl in 1990's and 2010's in northern Bring and Chukchi Seas
21	Nishizawa, B., K. Matsuno, Y. Iwahara, E. Labunski, K. Kuletz, A. Yamaguchi, Y. Mitani, Y. Watanuki	Spatial distribution of krill and Short-tailed shearwaters in the Bering Sean and Arctic during summer
22	Otsuki, M., Y. Mitani*, D. Mizuguchi, K. Amakasu, S. Nishino, T. Kikuchi	The presence of fin whale vocalizations is correlated with zooplankton abundance in the southern Chukchi Sea.
23	Sasaki, H.*, K. Matuno, A. Yamaguchi	Habitat model for zooplankton
24	Yamamoto, T.*, K. Hoshina, B. Nishizawa, C.E. Meathrel, R.A. Phillips, Y. Watanuki	Movement of short-tailed shearwaters with environmental gradient in the sub-Arctic Pacific and Arctic seas through summer to autumn
25	Watanabe E	Relationship of primary productivity around the Chukchi Borderland with Beaufort Gyre Variation
26	Yoon S., M.J. Kishi, E. Watanabe	Estimating potential habitat for chum salmon (Oncorhynchus keta) in the Western Arctic using a bioenergetics model coupled with a three-dimensional lower trophic ecosystem model

Biogeosciences-Special Issue

Catastrophic reduction of sea-ice in the Arctic Ocean – its impact on the marine organisms and ecosystems in the polar region–

Guest Editors:
Toru Hirawake
Yutaka Watanuki
Jacqueline Grebmeier
Melissa Chierici
Michiyo Yamamoto-Kawa
Makoto Sampei
BG editor:
Koji Suzuki (kojis@ees.hokudai.ac.jp)
Biologist

We propose to organize and publish a special volume in *Biogeosciences* in order to advance our understanding of the responses of Arctic marine organisms to rapid reduction of sea-ice in the Arctic Ocean and its influence to marine ecosystem there.

Pacific Arctic Group (PAG)
Fall Meeting Agenda-Day 2

6. **Updates on interactions with other organizations and upcoming meetings** – IASC, SAON, PICES, APECS, others
    - PAG talk at PICES MONITOR meeting October 2014 (update Sung-Ho Kang)
    - Arctic Net "Arctic Change 2014" Conference, Dec 9-12, 2014, PAG session (leads: Kikuchi, Kang, and Grebmeier)
    - AGU 2014 US Polar Research Board sponsored "Changing Arctic Ecosystems of the Arctic and Antarctic" (Jackie Grebmeier)
    - CAFF/PAME/AMAP activities (Kathy Crane, Phil Mundy)
    - ICARPIII status report (Sung-Ho Kang)
    - IASC Marine Working Group (Jackie Grebmeier)
    - SAON update (Jackie Grebmeier)-DBO as part Observing Subcommittee
    - Gordon Research Seminar/Gordon Research Conference, March 15-20, 2015 in Lucca, Italy update (Co-Chair Jackie Grebmeier update, Chair: Paul Wassmann, Norway)
    - Others?

3rd Circular, Call for Abstracts and Registration

The Arctic Science Summit Week (ASSW) is the annual gathering of the international organizations engaged in supporting and facilitating Arctic research. The purpose of the summit is to provide opportunities for coordination, collaboration and cooperation in all areas of Arctic science. The summit attracts scientists, students, policy makers and other professionals from all over the world. The ASSW 2015 will be held in Toyama (Japan) on April 23-30 and include business meetings of the participating organizations on April 23-25, excursions and a public lecture (in Japanese) on April 26 and a four day science symposium on April 27-30, combining the Fourth International Symposium on Arctic Research (ISAR-4) and the Third International Conference on the Arctic Research Planning (ICARP III).

The Call for Abstracts for oral and poster presentations at the ISAR-4 / ICARP III is now open. The Symposium will address the overarching themes "Rapid change of the Arctic climate system and its global influence" (ISAR-4) and "Integrating Arctic Research: a Roadmap for the Future" (ICARP III). Conference Organizers invite you to submit abstracts to one of the session listed below. Submissions can be made via the conference website at http://www.assw2015.org.

Session Themes (A: ISAR-4, B: ISAR-4 / ICARP III, C: ICARP III)

- A1: Understanding the Arctic climate change and its global influences: Japan's contributions and suggestions for the future
- A2: Paleoclimatic perspective on Arctic changes and polar amplification
- B10 (A3): Ice mass loss in Greenland and Arctic glaciers under the influence of changing atmosphere and ocean
- A4: Geospace over and related to the Arctic region
- A5: The climatic threat from Arctic offshore methane
- A6: Climate and ecosystem vulnerability in the terrestrial northern high-latitudes
- B1: Arctic climate change and potential mid-latitude weather linkages: large-scale atmospheric circulation and storm track dynamics
- B2: Current and future observing strategies for understanding the evolving Arctic climate and ecological system
- B3: Changing permafrost and its impact on the physical, ecological, economic and cultural Earth system
- B4: Arctic snow cover changes and their consequences
- B5: Remote sensing of the Arctic system
- B6: A pan-Arctic challenge: predicting the future of marine biota and ecosystem connectivity through field studies and data integration
- B7: Atmosphere-ocean-ice interactions and aspects related to a future, seasonally ice free Arctic Ocean
- B8: From human security to geopolitical dynamics in the Global Arctic: the global implications of rapid environmental, economic, and societal change
- B9: Arctic governance, sustainable development of local communities and non-Arctic state's contribution
- C1: Sharing Arctic data, observations and knowledge: understanding the global system through international exchange
- C2: Arctic in rapid transition - future research directions from the perspective of early career scientists
- C3: Emerging questions in Arctic geoscience
- C4: Co-design, co-production, co-communication of scientific knowledge – how to frame concerted research for sustainable development in times of change
- C5: Advances in transdisciplinary Arctic research: progress on building collaborative agendas for research supporting solutions for sustainability
- C6: Understanding sustainability in the Arctic: from patchwork to framework
- C7: Arctic freshwater system, changes and effects with emphasis on Arctic freshwater ecosystems
- C8: Circumpolar Arctic Coastal Communities Observatory Network: knowledge hubs for northern coastal sustainability
- C9 : Navigation and fisheries in the Arctic: prospects, problems and international policies
- C10: Consulting Arctic communities on research planning

The call for abstracts closes November 10, 2014.
All submissions are subject to peer review and notifications of acceptance will be sent via e- mail to the corresponding author by December 19, 2014. For further information, please visit the conference website at http://www.assw2015.org.

WWW.ASSW2015.ORG

Abstract Deadline: Nov 10, 2014

Two PAG-developed sessions (organizers combined with 2-3 others and revised abstracts

Session B2. Current and Future Observing Strategies for Understanding the Evolving Arctic Climate and Ecological System
(de Bier, Grebmeier, Olsen, Callaghan)

Session B6. A Pan-Arctic Challenge: Predicting the Future of Marine Biota and Ecosystem Connectivity through Field Studies and Data Integration
(Piepenburg, Cooper, Kang)

Theme of the session: ISAR4

Session Title: B2. Current and Future Observing Strategies for Understanding the Evolving Arctic Climate and Ecological System

Session Description: The Arctic environment is changing at a rapid pace. Melting sea ice, ice sheets, glaciers, terrestrial snow and permafrost are examples of an evolving landscate that many models are struggling to accurately represent. These changes provide substantial challenges for the observational community as well, especially as we try to determine ecosystem response to changing environmental conditions. This community is not only tasked with capturing a new set of observational targets, but is additionally forced to re-think measurement strategies, instruments and platforms to appropriately characterize the "new normal" Arctic. Some examples of changes to the observational landscape include the need to better observe processes in a first-year sea ice environment, increased access to open water environments, an amplified focus on coupling between atmosphere, ocean, cryosphere and the terrestrial/aquatic and marine biosphere, ecosystem responses, and a responsibility to understand enhanced surface fluxes of methane and other greenhouse gases. How will the new "normal" of the Arctic system influence ecological processes and potential tipping points in biological community structure? To date, various platforms and facilities have been deployed to enhance this understanding, including coordinated research vessels at the international level, aircraft, gliders, biophysical moorings, long-term land-based observing stations, and drifting ice stations. The fact that the Arctic remains a hostile place for instruments and researchers alike has resulted in the development and deployment of new measurement sites, platforms and instrumentation, including unmanned aircraft and underwater vehicles, advanced buoy-based sensors, polar-orbiting satellites, and multi-disciplinary observatories. Despite these advances, challenges to efficient data collection remain, including those related to the multinational governance of this region. With this session, we are looking to facilitate discussion on Arctic observing strategies and technology, and how these may be best used to advance our understanding of the evolving Arctic climate and ecological systems. Abstracts providing updates on large, current (e.g., INTERACT**, Distributed Biological Observatory (DBO**), International Arctic Buoy Programme) and future (e.g., MOSAiC, Synoptic Arctic Survey, **developing Pacific region climate line)** collaborative observing activities are sought in addition to abstracts detailing smaller upcoming observational campaigns, technological developments in instrumentation and platforms, and obstacles to comprehensive observing.

Co-conveners: Gijs de Boer, Jacqueline Grebmeier, Are Olsen, Terry Callaghan

Theme of the session: ICARP III – Integrating Arctic Research: a Roadmap for the Future

Session title B6. A Pan-Arctic Challenge: Predicting the Future of Marine Biota and Ecosystem Connectivity Through Field Studies and Data Integration

REVISED JOINT SESSION

The Arctic marine systems are experiencing environmental change, including regional warming and acidification, ice-shelf and sea-ice decline, and variable biological and ecosystem response in response to shifts in ocean and atmospheric forcing. These changes may have significant impacts on marine biota on variable time and space scales, with distinct differences around the Arctic. Moreover, increasing human activities, such as exploration/exploitation of resources, ship traffic and mass tourism, add further pressures on polar ecosystems. Substantial effects on marine biota from sea surface to seafloor are expected, leading to shifts in all ecosystem functions and services (e.g., biodiversity, trophic interactions, carbon and nutrient cycling). To understand and predict the profound ecological consequences of these environmental changes – and ultimately mitigate them through ecosystem-based management – there is a need to monitor and describe the ecological status quo in terms of structural and functional properties not only on national (regional) but also international (pan-Arctic) scales, and to identify and analyze the relationships among environmental factors and ecological processes in time and space. To address this challenge, close international research cooperation is required to combine data and expertise in joint efforts to establish reliable, quality-controlled and geo-referenced information systems integrating a wide range of data on Arctic marine biota (e.g., plankton, benthos, fish, marine mammals) with physical forcing aspects of the ocean-atmosphere system. Development of coupled models that link species distributions to organism energetics in the context of dynamic climate and oceanographic models would allow analysis and scenario building. Ultimately success with these approaches will provide a more complete understanding of mechanisms connecting external drivers and ecological responses on regional and pan-Arctic scales.

Co-Conveners: Dieter Piepenberg, Lee Cooper and Sung-Ho Kang

Polar Gordon Research Conference March 15-20, 2014

http://www.grc.org/programs.aspx?id=12641

Gordon Research Conferences

Conference Program

Polar Marine Science

Polar Shelves and Shelf Break Exchange in Times of Rapid Climate Warming

March 15-20, 2015
Renaissance Tuscany Il Ciocco Resort
Lucca (Barga), Italy

Chair:
Paul Wassmann

Vice Chair:
Jacqueline M. Grebmeier

Application Deadline

Applications for this meeting must be submitted by **February 15, 2015**. Please apply early, as some meetings become oversubscribed (full) before this deadline. If the meeting is oversubscribed, it will be stated here. *Note*: Applications for oversubscribed meetings will only be considered by the Conference Chair if more seats become available due to cancellations.

Related Meeting Information

The Polar Marine Science Gordon Research Conference will be held in conjunction with the **Polar Marine Science Gordon Research Seminar**. Those interested in attending both meetings must submit an application for the GRS in addition to an application for the GRC. Please refer to the Polar Marine Science GRS web page for more information.

Following the tradition of excellence of the Gordon Research Conference (GRC) Series, the 2015 GRC on Polar Marine Science "Polar shelves and shelf break exchange in times of rapid climate warming" will bring together leading investigators in Arctic and Antarctic marine research to present and discuss cutting edge interdisciplinary polar science. The unique GRC format, with invited dialog leaders and talks, followed by discussion periods and interactive poster sessions, provides an avenue for scientists from different disciplines to get inspired and to brainstorm about the Arctic Ocean of tomorrow. It promotes indispensable cross-disciplinary collaborations in the various polar research areas. Aside from scientific excellence, creative and open scientific exchanges and an unparalleled learning platform are hallmarks of the Gordon Research Conference Series. This will be more than ever supported by extended discussion sequences and selected postdoctoral scientist that, in concert with senior scientists, create discussion teams. The GRC poster sessions on Polar Marine Science have a reputation for scenarios of vivid and in-depth discussions and this tradition is continued. There will also be informal daily, moderated, "speakers corner" events where all participants are welcome to air ideas, prospects and opinions on polar marine science.

Dynamic and thermodynamic processes associated with warming trends are impacting sea ice cover, oceanographic processes and atmosphere-ocean interactions across polar regions at an unprecedented rate. Nowhere are these changes stronger, more evident and more impacting polar oceans than along polar shelves. Observations and models

Pacific Arctic Group (PAG)
Fall Meeting Agenda-Day 2

7. **PAG structure**
   - Executive committee composed of PAG Chair, Vice-Chairs, and leads from each of PAG activities: DBO (Jackie Grebmeier), Canada Basin, Pacific Climate Line shelf-basin exchange (Koji Shimada), sea ice-atmosphere (Joo-Hong Kim)
   - Current rotation plan: Chair and Secretariat
     - 2012-2014 – US (Jackie Grebmeier, UMCES)
     - 2014-2016 – Korea (Sung-Ho Kang, KOPRI)
     - 2016-2018 – Japan (TBD)
     - 2018-2020 – Russia, Canada, or China?

8. **PAG Secretariat** (moving from UMCES to KOPRI over next 6 months)
   - Organizes fall meeting with host country, spring meeting with ASSW organizers
   - Science subgroups hold meetings outside schedule or should these be co-incident with PAG meetings?
   - Location of Secretariat same as location of Chair or should we consider possible semi-permanent location for PAG Secretariat, how fund?)

9. **Future PAG meetings:**
   - April 2015 – ASSW2015, Toyama, Japan (http://www.assw2015.org/)
     - April 23-25, 2015: Business meetings (PAG meeting April 24, 2014)
     - April 26: public lecture and excursion
     - April 27-30: ICARPIII and ISAR4
   - Fall 2015 –TBD (open to offers)
   - Spring 2016 - ASSW2016, Fairbanks, Alaska (March)
   - Fall 2016-TBD
   - Spring 2017 - ASSW2017, Prague, Czech Republic
   - Fall 2017-TBD
   - June 2018 - ASSW2018 as Joint SCAR-IASC Conference, Davos, Switzerland