

ワークショップおよび国際委員会等参加報告書

2013年3月19日

報告者	氏名：片山 智代
	所属：創価大学大学院工学研究科

会合名	Polar Marine Science	
会合目的	北極・南極域を対象とする研究者が集まり、極域に関わる生物学、物理学、化学、地理学等、幅広い分野における最先端の研究の情報収集・共有を主目的とする。	
主催団体（共催の場合並記）	Gordon Research Conferences	
会合年月日	2013年 3月 9日 ～ 3月 15日	
会合場所	会場名称：フォーポイントシェラトン	国名（都市名）：アメリカ（カリフォルニア）
出席者（日本人は所属とともに分かる範囲で記載）	出席者は添付資料を参照。 日本人出席者：綿貫豊（北海道大学）、伊藤元裕（NIPR）、渡邊英嗣（JAMSTEC）、Matsuoka Atsushi（Laval University）、田口哲（創価大学）、滝本香代子（創価大学）	
会合開催の経緯	各極域分野をリードする研究者が集まり、下記テーマに関して議論し、地球温暖化がもたらし得る将来を予測することにより、極域海洋の研究をより発展させ、世界中の若手研究者の育成を図るために開催された。	
主要な議論と決定事項	「Linking Polar Observations, Process and Models at Regional and Global Scales」というテーマのもとで、現場観測の重要性と海域別と全球規模のモデル化について議論が行われた。	
本会合の今後と関連会合	次回の会合は2015年3月にイタリアで開催予定。	
会合における報告者の役割、発表内容	アイスアルジーの強光に対する光適応について議論を行い、意見交換を行いました。極域生態系におけるアイスアルジーの生存戦略に関する研究内容を最先端の研究者たちから入手しました。	
報告者ないし日本のコミュニティー・JCARが留意すべき点、およびアクションを起こすべき事項	<p>大学、研究機関を中心に37ヶ国中185人が参加し、内56%がアメリカ国外からの参加者でした。その中でも研究分野を問わず、女性研究者の参加・発表が目立ちました。日本や韓国などアジアから女性研究者の参加はなく、日本における女性研究者の育成体制の必要性を感じました。</p> <p>口頭発表は22件、ポスター発表は120件であり、日本人による発表は5件でした。全発表のうち、研究対象とする極域は、北極域の方が比較的多く、砕氷船所有国の研究者による北極域の研究が活発に行われている現状が伺えました。また、今後の研究動向として、海氷の減少に伴う極域生態系への影響に注目しており、モデルを始めとした様々な分野において、海氷減少に関する研究が行われていくことが予想されました。</p>	
備考（上記以外の事項）		
添付資料（○をつける）	<ul style="list-style-type: none"> ○アジェンダ ○主な参加者一覧 ・会合の配布・発表資料（可能な範囲） ・会合主催者作成の報告書（後日提出可） ・その他（) 	

Polar Marine Science

Linking Polar Observations, Processes and Models at Regional and Global Scales

March 10-15, 2013
Four Points Sheraton / Holiday Inn Express
Ventura, CA

Chair: Christine Michel
Vice Chair: Paul Wassmann

Contributors



SUNDAY

4:00 pm - 8:00 pm	Arrival and Check-in (Office Closed 6:00 pm - 7:45 pm)
6:00 pm	Dinner
7:30 pm - 7:40 pm	Welcome / Introductory Comments by GRC Site Staff
7:40 pm - 9:30 pm	The Global Picture: Large-Scale Atmosphere-Ocean-Sea Ice Interactions
7:40 pm - 7:50 pm	Discussion Leader: James Overland (NOAA)
7:50 pm - 8:30 pm	Eric Steig (University of Washington) "Atmospheric circulation changes over the high latitude South Pacific and their relevance to the future of the West Antarctic ice sheet"
8:30 pm - 8:40 pm	Discussion

- 8:40 pm - 9:20 pm **JinPing Zhao** (Ocean University of China)
"Influence of changing Arctic sea ice and upper ocean on the global effects of Arctic Oscillation"
- 9:20 pm - 9:30 pm Discussion

MONDAY

- 7:30 am - 8:30 am Breakfast
- 8:30 am Group Photo
- 9:00 am - 12:30 pm **Linking Sea Ice-Ocean Observations and Models: Regional Couplings and Feedbacks**
- 9:00 am - 9:10 am Discussion Leader: **David Barber** (University of Manitoba)
- 9:10 am - 9:50 am **Peter Winsor** (University of Alaska Fairbanks)
"Autonomous real-time observations of an Arctic shelf system - coupling small scales pieces to the large climate puzzle"
- 9:50 am - 10:05 am Discussion
- 10:05 am Coffee Break
- 10:35 am - 11:15 am **Sharon Stammerjohn** (University of Colorado)
"The many riddles of Antarctic sea ice that thwart model projections"
- 11:15 am - 11:30 am Discussion
- 11:30 am - 12:10 pm **Wieslaw Maslowski** (Naval Postgraduate School)
"Modeling the Arctic System at a Process Scale: Progress and Data Requirements"
- 12:10 pm - 12:25 pm Discussion
- 12:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session
- 6:00 pm Dinner
- 7:30 pm - 9:30 pm **From Within: Why Do Microscale Processes Matter?**
- 7:30 pm - 7:40 pm Discussion Leader: **Søren Rysgaard** (Greenland Institute of Natural Resources)
- 7:40 pm - 8:20 pm **Nicole Jeffery** (Los Alamos National Laboratory)
"How Sea Ice Microstructure Supports Ice Algae"
- 8:20 pm - 8:35 pm Discussion
- 8:35 pm - 9:15 pm **Colin Stedmon** (Technical University of Denmark)
"Conservative and non conservative behavior of DOM in polar environments: insight into macro and micro scale processes"
- 9:15 pm - 9:30 pm Discussion

TUESDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Linking Bio-Physical Processes and Observations at Regional and Global Scales**
- 9:00 am - 9:10 am Discussion Leader: **Jacqueline Grebmeier** (University of Maryland)
- 9:10 am - 9:50 am **Eji Watanabe** (JAMSTEC)
"Arctic modeling study on bio-physical hot spots along the pathway of Pacific water"
- 9:50 am - 10:05 am Discussion
- 10:05 am Coffee Break
- 10:35 am - 11:15 am **Marit Reigstad** (University of Tromsø)
"What is in the zooplankton box? Challenges for regional downscaling of ecosystem functions and flows"
- 11:15 am - 11:30 am Discussion
- 11:30 am - 12:10 pm **Jean-Éric Tremblay** (Laval University)
"A 'nested scales' approach to environmental and biological drivers of marine productivity in the Arctic and beyond"
- 12:10 pm - 12:25 pm Discussion
- 12:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session
- 6:00 pm Dinner
- 7:30 pm - 9:30 pm **From the Top: The Role of Upper Trophic Predators in Polar Marine Ecosystems**
- 7:30 pm - 7:40 pm Discussion Leader: **Nina Karnovsky** (Ponoma College)
- 7:40 pm - 8:20 pm **Sue Moore** (NOAA)
"Marine Mammals and Sea Ice Loss in the Pacific Arctic Region: tracking ecosystem responses to the 'New Normal'"
- 8:20 pm - 8:35 pm Discussion
- 8:35 pm - 9:15 pm **Yutaka Watanuki** (Hokkaido University)
"Can seabirds be useful as an indicator of human and climate impacts on high sea ecosystem?"
- 9:15 pm - 9:30 pm Discussion

WEDNESDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Linking Ecological Responses and Models from Contemporary Observations**
- 9:00 am - 9:10 am Discussion Leader: **Martin Vancoppenolle** (Université Catholique de Louvain)
- 9:10 am - 9:50 am **Alexandre Forest** (Laval University)
"Carbon fluxes in Arctic marine ecosystems: an attempt to reconcile biogeochemistry with food web energetics through ecosystem-level analyses and modelling"
- 9:50 am - 10:05 am Discussion
- 10:05 am Coffee Break
- 10:30 am - 11:10 am **Hugh Ducklow** (Marine Biological Laboratory)
"The Changing Marine Ecosystem of the Western Antarctic Peninsula"
- 11:10 am - 11:25 am Discussion
- 11:25 am - 12:05 pm **Ekaterina Popova** (University of Southampton)
"Arctic ecosystems in global circulation models: how are they different from the other areas and what information do we have to validate global models in Arctic?"
- 12:05 pm - 12:20 pm Discussion
- 12:20 pm - 12:30 pm **Marie Seguret** (Rutgers University) & **Paul Wassmann** (University of Tromsø)
"Poster Session A: Summary & Best Poster Presentation"
- 12:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session
- 6:00 pm Dinner
- 7:00 pm - 7:30 pm Business Meeting
Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Election of the next Vice Chair
- 7:30 pm - 9:30 pm **Linking Environmental Changes and Models from Paleo and Recent Tracers**
- 7:30 pm - 7:40 pm Discussion Leader: **Martin Jakobsson** (Stockholm University)
- 7:40 pm - 8:20 pm **Nina Kirchner** (Stockholm University)
"The dynamics of marine ice margins: What can we learn from paleo-proxies and numerical ice models"
- 8:20 pm - 8:35 pm Discussion
- 8:35 pm - 9:15 pm **Claude Hillaire-Marcel** (GEOTOP-UQAM)
"Arctic sea-ice in the paleoclimate system... with an isotopic bias"
- 9:15 pm - 9:30 pm Discussion

THURSDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Biochemical Responses and Feedbacks to the Climate System**
- 9:00 am - 9:10 am Discussion Leader: **Leif Anderson** (University of Gothenburg)
- 9:10 am - 9:50 am **Jeremy Mathis** (University of Alaska Fairbanks)
"Ocean Acidification and the Suppression of Carbonate Mineral Saturation States in the Pacific-Arctic Region"
- 9:50 am - 10:05 am Discussion
- 10:05 am Coffee Break
- 10:30 am - 11:10 am **Jacqueline Stefels** (University of Groningen)
"Dynamics of DMS, DMSP and DMSO in sea ice across the Weddell Sea"
- 11:10 am - 11:25 am Discussion
- 11:25 am - 12:05 pm **Bruno Dellile** (Université de Liège)
"From the release of CH₄ by sub-sea permafrost to the oceanic sink of CO₂: the role of sea ice in the fate of greenhouse gases in polar oceans"
- 12:05 pm - 12:20 pm Discussion
- 12:20 pm - 12:30 pm **Jeff Bowman** (University of Washington) & **Maria Gavrilo** (Arctic and Antarctic Research Institute)
"Poster Session B: Summary and Best Poster Presentations"
- 12:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session
- 6:00 pm Dinner
- 7:30 pm - 9:30 pm **Changing Polar Marine Systems: Challenges, Opportunities and Future Outlook**
- 7:30 pm - 7:40 pm Discussion Leader: **Kenneth Drinkwater** (Institute of Marine Research)
- 7:40 pm - 8:20 pm **David Ainley** (H.T. Harvey & Associates)
"Alteration of coastal Southern Ocean food webs: exploitation and climate change"
- 8:20 pm - 8:35 pm Discussion
- 8:35 pm - 9:15 pm **Monika Kedra** (Chesapeake Biological Laboratory)
"Changing Arctic marine ecosystems - a benthic perspective"
- 9:15 pm - 9:30 pm Discussion

FRIDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am Departure
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POSTER LIST

Posters are divided into two sessions. Yellow highlights indicate early career scientists (students and postdocs) whose posters will be evaluated for the best poster award.

SESSION I (Monday/Tuesday)

Name	Affiliation	Prof. Status	Co-Authors	Poster Title
ACKLEY, STEPHEN	UTSA	Professor	S.F. Ackley, M. Meredith, L. Newman, O. Schofield, M. Sparrow and E. Urban	The Southern Ocean Observing System
ALDERKAMP, ANNE	STANFORD UNIVERSITY	Research Scientist	List of names too long	Phytoplankton photosynthetic responses to iron additions in the Amundsen Sea Polynya, Antarctica
AMPEL, LINDA	STOCKHOLM UNIVERSITY	Post Doc	Martin Jakobsson	Identifying changes in Arctic Ocean sea ice conditions north of Svalbard during the Holocene
ARRIGO, KEVIN	STANFORD UNIVERSITY	Professor	The ICESCAPE Team	Phytoplankton blooms beneath the sea ice in the Chukchi Sea
ASPLIN, MATTHEW	UNIVERSITY OF MANITOBA	Program Manager		Cyclone Forcing of Coupled Dynamic and Thermodynamic Processes In Arctic Sea Ice, and Across the Ocean-Sea Ice-Atmosphere Interface
ATTARD, KARL	UNIVERSITY OF SOUTHERN DENMARK	Student	Ronnie N. Glud, Daniel F. McGinnis, Søren Rysgaard	Aquatic oxygen eddy-covariance measurements in Arctic and sub-Arctic environments: A case study from Godthåbsfjord, South-West Greenland
BAER, STEVEN	VIRGINIA INSTITUTE OF MARINE SCIENCE	Student	R. L. Sipler, Q. Roberts, D. A. Bronk	Seasonal nitrogen uptake and regeneration in the western coastal Arctic
BALCH, WILLIAM	BIGELOW LABORATORY FOR OCEAN SCIENCES	Research Scientist	B. Bowler, L. Lubelczyk, D. Drapeau and M. Stevens	The first direct measurements of 14C-calcification by coccolithophores in the Arctic Ocean
BALMONTE, JOHN PAUL	UNIVERSITY OF NORTH CAROLINA	Student	Dr. Carol Arnosti	Microbial enzymatic activities across different ice regimes in the high Central Arctic
BANAS, NEIL	UNIVERSITY OF WASHINGTON	Research Scientist	RG Campbell, C Ashjian, EJ Lessard, A Pinchuk, E Sherr, B Sherr, J Zhang	Linking sea-ice retreat and increasing water temperature to plankton community structure and function in the eastern Bering Sea
BARLETTA, ROBERT	UNIVERSITY OF SOUTH ALABAMA	Professor	Robert E. Barletta, Anjali Ganhakwala, and Heather M. Dikes	μ -Raman Analysis of Sea Ice
BENCH, SHELLIE	STANFORD UNIVERSITY	Post Doc		

BERGE, JORGEN	UNIVERSITY CENTRE IN SVALBARD	Professor	J. Berge ^{1,2*} , Ø. Varpe ³ , M.A. Moline ^{1,4} , A. Wold ³ , P.E. Renaud ^{5,1} , M. Daase ³ , S. Falk-Petersen ³ ,	Retention of ice-associated amphipods: possible consequences for an ice-free Arctic Ocean
BOWMAN, JEFF	UNIVERSITY OF WASHINGTON	Student	Jeff S. Bowman, C.T. Berthiaume, V.E. Armbrust, and J.W. Deming	Metagenomic analysis of an unexpected community of Rhizobiales in Arctic frost flowers
BROWN, ZACHARY	STANFORD UNIVERSITY	Student		
CAPE, MATTIAS	SCRIPPS INSTITUTION OF OCEANOGRAPHY	Student	Dr. Maria Vernet, Dr. Amy Leventer, Dr. Michael McCormick, Dr. Craig Smith	Benthic-pelagic coupling in the wake of ice shelf disintegration in the Larsen A embayment, Antarctica
CARNS, REGINA	UNIVERSITY OF WASHINGTON	Student	Rich Brandt, Bonnie Light, Steve Warren	Salt crystallization in cold sea ice: hysteresis, biology, and Snowball Earth
CARTER, BRENDAN	PRINCETON UNIVERSITY	Post Doc		TBD: Deconvolving simultaneous changes in SAMW from repeat hydrographic measurements.
CASTELLANI, GIULIA	ALFRED WEGENER INSTITUTE	Student	Rüdiger Gerdes, Christof Lüpkes, Martin Losch, Stefan Hendricks	Impact of sea-ice surface topography on the atmospheric and oceanic drag coefficients.
CHEN, BAOSHAN	UNIVERSITY OF GEORGIA	Student	Wei-Jun Cai, Liqi Chen	Regional differences in ocean acidification in the western Arctic Ocean in summer
COLLINS, ERIC	UNIVERSITY OF ALASKA FAIRBANKS	Post Doc		hima: a metadatabase for genomes, metagenomes, and phenotypes from cold environments
CONNELLY, TARA	UNIVERSITY OF TEXAS AT AUSTIN	Post Doc	Tara Connelly, James McClelland, Kenneth Dunton, Matthew Khosh	Distinct Seasonal Variations in Sources of Particulate Organic Matter into Arctic Lagoons as Revealed by Fatty Acid Profiles
DAVID, CARMEN	ALFRED WEGENER INSTITUTE	Student	C.L. David ^{1,2} , B. Lange ^{1,2} , H. Flores ^{1,2}	Using a novel under-ice trawl to investigate the association of under-ice communities with sea ice ice properties in the central Arctic Ocean
DE SOUZA, GREGORY	PRINCETON UNIVERSITY	Post Doc	Jorge L. Sarmiento, Richard D. Slater	Quantifying the importance of Southern Ocean nutrient supply to low latitudes using stable isotope observations and GCMs
DEAL, CLARA	UNIVERSITY OF ALASKA FAIRBANKS	Professor	Clara Deal, Meibing Jin, Scott Elliott	Ice-ocean dimethylsulfide ecosystem modeling in the Pacific Arctic Region and the key role of ice algae export from sea ice

DESLONGCHAMP S, GABRIELE	UNIVERSITY LAVAL	Student	Gabrièle Deslongchamps, Jean-Éric Tremblay, Julie Granger, Jonathan Gagnon	Impacts of environmental conditions on the assimilation, recycling and nitrification of ammonium in marine waters of the western Canadian Arctic
DUFOUR, CAROLINA	AOS PROGRAM, PRINCETON UNIVERSITY	Post Doc	J. L. Sarmiento, J. Le Sommer, S. M. Griffies	What processes control anthropogenic carbon subduction and reventilation in the Southern Ocean?
FERNANDEZ-MENDEZ, MAR	ALFRED WEGENER INSTITUTE	Student	I. Peeken & A. Boetius	New estimates of primary productivity and its limiting factors in the Central Arctic
FRIPIAT, FRANCOIS	UNIVERSITY LIBRE DE BRUXELLES	Post Doc	François Fripiat, Jean-Louis Tison, Daniel M. Sigman	The Nitrogen isotope dynamics of Antarctic Sea Ice
GALE, MATTHEW	UNIVERSITY OF MANITOBA	Student	TBD	TBD
GALINDO, VIRGINIE	UNIVERSITY LAVAL	Student	M. Levasseur, M. Scarratt, C.J. Mundy, M. Gosselin, R.P. Kiene, T. Papakiriakou, S. Michaud, M. Lizotte	Fate of sea ice DMSP during the spring melt period in Arctic
GALLEY, RYAN	UNIVERSITY OF MANITOBA	Research Scientist	B.G.T. Else, S.J. Prinsenberg, D. Babb, D.G. Barber	Summer sea ice concentration, motion and thickness near areas of proposed offshore oil and gas development in the Canadian Beaufort Sea - 2009
GAVRILO, MARIA	NATIONAL PARK RUSSIAN ARCTIC	Research Director		
GEILFUS, NICOLAS-XAVIER	UNIVERSITY OF MANITOBA	Post Doc	Geilfus N.-X., Tison J.-L., Carnat G., Papakyriakou T., Rysgaard S., Delille B.	Role of the arctic sea ice to the CO2 exchange during the last IPY
GONG, DONGLAI	VIRGINIA INSTITUTE OF MARINE SCIENCE	Professor	Robert S. Pickart	Summertime Circulation and Water Mass Transformation in the Eastern Chukchi Sea
GOSELIN, MICHEL	UNIVERSITY OF QUEBEC AT RIMOUSKI	Professor	"to be submitted at a later date"	"to be submitted at a later date"
GRIMM, ROSINA	MAX PLANCK INSTITUTE FOR METEOROLOGY	Post Doc	Notz, D., Rysgaard, S., Riemenschneider, L., Griewank, P.	The role of sea ice for the global carbon cycle – from micro-scale observations to global simulations
GUEGUEN, CELINE	TRENT UNIVERSITY	Professor	Paul G. Dainard	Influence of hydrography and biogeochemistry on colored dissolved organic matter distribution in the North Pacific and Western Arctic Seas.

HALLANGER, INGEBORG	UNIVERSITY OF TROMSO	Post Doc	Henrik Nygård	Seasonal life in the Arctic, a story by Onisimus litoralis
HELGASON, LISA	UNIVERSITY OF TROMSO	Post Doc		THEORETICAL MODELS IN PREDICTING THE EFFECT OF EMERGING COMPOUNDS
HEUZE, CELINE	UNIVERSITY OF EAST ANGLIA	Student	Karen J. Heywood, David P. Stevens, Jeff K. Ridley	Southern Ocean Bottom Water Characteristics in CMIP5 Models
HU, YUBIN	ALFRED WEGENER INSTITUTE	Student	G. Nehrke, G. Dieckmann, C. Völker, and D. Wolf-Gladrow	The study of ikaite (CaCO ₃ .6H ₂ O) formation in sea ice
HUGHES, KENNETH	UNIVERSITY OF OTAGO	Student	P. J. Langhorne and G. H. Leonard	Propagation of Ice Shelf Water beneath McMurdo Sound Sea Ice
HWANG, JEOMSHIK	POSTECH	Professor	Minkyong Kim, Hyoung Jeek. Kim, Dongseon. Kim, Jisoo Park, SangHoon Lee	Particulate organic carbon cycling on the Amundsen shelf
ITO, MOTOHIRO	NATIONAL INSTITUTE OF POLAR RESEARCH	Post Doc	Takahashi Akinori, Watanabe Yuuki, Takai Noriyuki, Kuwae Tomohiro	Structure of marine ecosystem under fast sea-ice: insight from stable-isotope analysis
KAHRU, MATI	SCRIPPS INSTITUTION OF OCEANOGRAPHY	Research Scientist	B. G. Mitchell	Earlier phytoplankton blooms in the Arctic Ocean
KARNOVSKY, NINA	POMONA COLLEGE	Professor	Zachary Brown, Wojciech Walkusz, Jorg Welcker, Ann Harding, Slawomir Kwasniewski, David Gremillet, Alexander Kitaysky	Arctic auks and advection: the impact of climate change on planktivores in the Greenland Sea
KATAYAMA, TOMOYO	SOKA UNIVERSITY	Student	Mitsuko Obata, Shozo Motokawa, Kayoko Takimoto, and Satoru Taguchi	Photoprotective responses to high light intensity of ice algae in Saroma-Ko Lagoon, Hokkaido, Japan
KATLEIN, CHRISTIAN	ALFRED-WEGENER-INSTITUTE	Student	Marcel Nicolaus	Consequences of micro-scale optical properties of sea ice on light availability in sea ice habitats
KEDRA, MONIKA	UNIVERSITY OF MARYLAND UMCES CBL	Post Doc	Jacqueline M. Grebmeier, Lee W. Cooper	Benthic population dynamics and diversity in the changing ecosystems of the Bering and Chukchi Seas
LALANDE, CATHERINE	ALFRED WEGENER INSTITUTE	Post Doc	Eva-Maria Nöthig, Eduard Bauerfeind, Vladimir Shevshenko, and Yuri Okolodkov	Under-ice export of biogenic matter in the Arctic Ocean

LANEY, SAMUEL	WOODS HOLE OCEANOGRAPHIC INSTITUTION	Research Scientist	J. Toole, R. Krishfield, C. Ashjian	YEAR-LONG MONITORING OF UNDER-ICE PHYTOPLANKTON ASSEMBLAGES IN THE ARCTIC BY ICE-TETHERED PROFILERS
LANGHORNE, PAT	UNIVERSITY OF OTAGO	Professor	P.J. Langhorne, M.J.M. Williams, C.L. Stevens, I.J. Smith, N.J. Robinson, W. Rack, C.R. Purdie, A.R. Mahoney, G.H. Leonard, K. Hughes, T.G. Haskell, C. Haas, A.J. Gough, D.E. Dempsey	What can we learn about the "health" of an ice shelf from historical sea ice records?
LARUE, MICHELLE	POLAR GEOSPATIAL CENTER	Student	David Ainley, Matt Swanson, Katie Dugger, Phil Lyver, Kerry Barton, Grant Ballard	Climate change winners: receding ice fields facilitate colony expansion and altered dynamics in an Adélie penguin metapopulation
LEWIS, KATE	STANFORD UNIVERSITY	Student		TBD
LI, LINGHAN	SCRIPPS INSTITUTION OF OCEANOGRAPHY, UCSD	Student	Julie McClean, Arthur Miller, Ian Eisenman, and Myrl Hendershott	Sea Ice Variability in the Bering Sea
LOWRY, KATE	STANFORD UNIVERSITY	Student	Kate E Lowry, Matthew M Mills, Zachary W Brown, Gert L van Dijken, Robert S Pickart, Nicolas R Bates, and Kevin R Arrigo	The significance of winter water for phytoplankton blooms in the Chukchi Sea
LURIA, CATHERINE	BROWN UNIVERSITY	Student		Dissolved organic matter and sea ice dynamics may explain changes in microbial community structure along the Western Antarctic Peninsula
MACK, STEFANIE	OLD DOMINION UNIVERSITY	Student	Laurie Padman, Scott Springer, Mike Dinniman, John Klinck	Sea ice variability in the Ross Sea forced by tides: Satellite observations and modeling

SESSION II (Wednesday/Thursday)

Name	Affiliation	Prof. Status	Co-Authors	Poster Title
MATSUOKA, ATSUSHI	UNIVERSITE LAVAL	Post Doc	E. Ortega-Retuerta, A. Bricaud, K. R. Arrigo, and M. Babin	Characteristics of colored dissolved organic matter (CDOM) in the Western Arctic Ocean: relationships with microbial activities
MCCLELLAND, JAMES	UNIVERSITY OF TEXAS AT AUSTIN	Professor	K.H. Dunton, B.C. Crump, T.L. Connelly, C. Kellogg, and M.S. Khosh	Seasonality of Organic Matter in Lagoon Ecosystems along the Eastern Alaska Beaufort Sea Coast
MEINERS, KLAUS	AUSTRALIAN ANTARCTIC DIVISION	Research Scientist	Jessica Melbourne-Thomas	Antarctic sea ice bio-optical properties: ice algal pigments and their influence on transmitted under-ice irradiance spectra
MEIRE, LORENZ	UNIVERSITY OF GHENT	Student	Lorenz Meire, Heidi Louise Sørensen, Bo Thamdrup, Thomas Juul Petersen, Filip Meysman, Ronnie Glud	Seasonal study of carbon dynamics in a subarctic fjord (Kobbefjord-Greenland)
MEISTERHANS, GUILLAUME	FRESHWATER INSTITUTE - DFO	Post Doc	G. Meisterhans ¹ , C. Michel ¹ , B. Lange ³ , A. Niemi ¹ , A. Reppchen ¹ , C. Belzile ² , C. Haas ⁴ . ¹ Freshwater Institute - Fisheries and Oceans, Winnipeg, Canada; ² Université du Québec à Rimouski, Rimouski, C	Characterization of sea ice microbial communities in multi-year and first-year ice near Alert, Canadian High Arctic.
MILLER, LISA	INSTITUTE OF OCEAN SCIENCES	Research Scientist	Robie W. Macdonald, Alfonso Mucci, Michiyo Yamamoto-Kawai, Karina E. Giesbrecht, Fiona McLaughlin	Changes in the marine carbonate system of western Canadian Arctic: Patterns in a rescued data set
MILLS, MATTHEW	STANFORD UNIVERSITY	Research Scientist	ZW Brown, K Lowry, GL van Dijken, S Becker, S Pal, C Benitez-Nelson, AL Strong, B Pickart, KR Arrigo	Impacts of low phytoplankton NO ₃ :PO ₄ utilization ratios over the Chukchi Shelf, Arctic Ocean

MITCHELL, BRIAN	SCRIPPS INSTITUTE OF OCEANOGRAPHY	Research Scientist	B. G. Mitchell, B. Seegers, B. Schieber, M. Kahru, K. R. Arrigo and M. M. Mills	REGULATION OF OCEAN COLOR RELATIONSHIPS BY ABSORPTION COMPONENTS IN THE CHUKCHI AND BEAUFORT SEAS
MORATA, NATHALIE	LEMAR	Post Doc		ECOTAB: Effect of Climate change On The Arctic Benthos
MOREAU, SEBASTIEN	UNIVERSITY CATHOLIQUE DE LOUVAIN	Post Doc	Martin Vancoppenolle, Jiayun Zhou, Jean-Louis Tison, Bruno Delille, Hugues Goosse	Modeling gas dynamics in first-year sea ice
MU, LINQUAN	UNIVERSITY OF GEORGIA	Student	Patricia L. Yager	Spatial variability of surface pCO ₂ in the Amundsen Sea polynya, Antarctica
MULLER, SUSANN	UNIVERSITY OF HELSINKI	Student	Jari Uusikivi, Janne-Markus Rintala, Markus Majaneva, Anssi Vähätalo, Sanna Majaneva, Ilkka Matero	Applying a bio-optical model to estimate the rate of photosynthesis in the Baltic Sea
NAHRGANG, JASMINE	UNIVERSITY OF TROMSO	Post Doc	Jørgen Berge, Ekaterina Korshunova, Svetlana Murzina, Øystein Varpe	Gender specific reproductive strategies in polar cod (<i>Boreogadus saida</i>) in different climatic domains: implications of future warming
NDUNGU, KURIA	NORWEGIAN INSTITUTE FOR WATER RESEARCH (NIVA)	Research Scientist	Celine Gallon, Cheryl Zurbrick, Maria Lagerstrom, Robert Sherrell, Russell Flegal	Exploring the use of stable Pb Isotopic composition data to constrain possible trace metal sources to the Amundsen Sea Polynya, West Antarctica
NEUKERMANS, GRIET	SCRIPPS INSTITUTE OF OCEANOGRAPHY	Post Doc	Griet Neukermans, Rick A. Reynolds, and Dariusz Stramski	CONTRASTING INHERENT OPTICAL PROPERTIES AND PARTICLE CHARACTERISTICS BETWEEN AN UNDER ICE PHYTOPLANKTON BLOOM AND OPEN WATERS IN THE CHUKCHI SEA.
NICOLAUS, MARCEL	ALFRED WEGENER INSTITUTE	Post Doc	C. Kattlein, J. Maslanik, S. Hendricks	Changes in Arctic Sea Ice Result in Increasing Light Transmission
OESTREICHER, SAMANTHA	LANL / UNIVERSITY OF MINNESOTA	Student	Nicole Jeffery and Scott Elliott	A minimal complexity model analyzing dominant processes in sea-ice algal growth.
PALMER, MOLLY	STANFORD UNIVERSITY	Student	Kevin R. Arrigo, Benjamin L. Saenz	Modeling the impacts of sea ice retreat, thinning, and melt pond proliferation on the summer phytoplankton bloom in the Chukchi Sea, Arctic Ocean
PERALTA-FERRIZ, ANA	UNIVERSITY OF WASHINGTON	Post Doc		Arctic Ocean circulation patterns using GRACE
PRADO, DAVID	UNIVERSITY OF TEXAS SAN ANTONIO	Student	Ackley, S., Xie, H.	Iceberg coverage in the Bellingshausen – Amundsen Seas from 2010 and 2011 NASA IceBridge DMS Imagery

PUCKO, MONIKA	UNIVERSITY OF MANITOBA	Research Scientist	Robie W. Macdonald, David G. Barber, Bruno Rosenberg, Yves Gratton, Gary A. Stern	a-HCH enantiomer fraction (EF): A novel approach to calculate the ventilation age of water in the Arctic Ocean?
PURKEY, SARAH	UNIVERSITY OF WASHINGTON	Student	Gregory C. Johnson	The contribution of deep Southern Ocean warming and freshening to sea level rise and the fresh water budget between the 1980s and 2000s
RACK, FRANK	UNIVERSITY OF NEBRASKA-LINCOLN	Research Director	Robert Zook, Paul Mahacek, Dustin Carroll and Meg Daly	Antarctic Anemones Discovered Living in the Lower Surface of the Ross Ice Shelf.
RENNER, ANGELIKA	NORWEGIAN POLAR INSTITUTE	Post Doc	Arild Sundfjord	Vertical heat fluxes in the sea ice-ocean boundary layer north of Svalbard
RIAL, JOSE	UNC-CH	Professor	J.A. Rial, Jeseung Oh, Dept. of Geological Sciences, University of North Carolina, Chapel Hill, NC 27599-3315	Polar Synchronization and the Climate History of Antarctica deduced from Greenland's
ROBINSON, JOSIE	UNIVERSITY OF SOUTHAMPTON	Student	E. Popova, A. Yool, M. Skeroz, R. Lampitt, J. Blundell	Southern Ocean iron fertilization as a method of geoengineering: Modeling the fate of sequestered carbon
RUDELS, BERT	FINNISH METEOROLOGICAL INSTITUTE	Professor	Bert Rudels, Meri Korhonen, Ursula Schauer, Sergey Pisarev, Benjamin Rabe, and Andreas Wisotzki	The circulation and transformation of Atlantic water in the Eurasian Basin of the Arctic Ocean and the contribution from the inflow through the Fram Strait to the Arctic Ocean heat budget
SACKETT, OLIVIA	MONASH UNIVERSITY	Student	Petrou, K., Ralph, P., Beardall, J. and Heraud, P	Sea ice conditions enhance the caloric value of two dominant Southern Ocean diatoms.
SAENZ, BENJAMIN	UC SANTA CRUZ - OCEAN SCIENCES DEPT.	Post Doc	Sharon Stammerjohn, Scott Doney, Chris Fritsen, Robin Ross, Langdon Quetin, Maria Vernet	Exploration of marine physical-biological coupling in the west Antarctic Peninsula
SCHMIDT, BRITNEY	UT AUSTIN, INSTITUTE FOR GEOPHYSICS	Research Scientist		Antarctic Ice Shelves as Analogs for Europa
SCHULZE, LENA	NATIONAL OCEANOGRAPHY CENTER	Student	Robert S. Pickart, G.W.K.Moore, Matthew A. Charrette, Kevin Arrigo, Gert van Dijken, Seth Danielson	Upwelling in the Alaskan Beaufort Sea and its impacts on primary productivity

SEGURET, MARIE	UNIVERSITY OF ALASKA FAIRBANKS	Post Doc	Marie Séguret, Robert Rember, Shigeto Nishisho, Kikuchi Takashi and Ana Aguilar-Islas	Trace metal distributions in the Chukchi Plateau
SEUTHE, LENA	UNIVERSITY OF TROMSØ	Post Doc	Lena Seuthe	Trophic state alone does not explain biomass partitioning in marine planktonic communities: The importance of zooplankton life-span and advection in Arctic marine ecosystems
SHIELDS, MEGAN	UNIVERSITY OF MANITOBA	Student		Rough Sea Ice Surface Deformation and Detection using RADARSAT-2 during the Arctic Melt Season and Its Significance for Polar Bear Habitat
SIMO, ARMELLE	UNIVERSITY DU QUEBEC A RIMOUSKI	Student	Marjolaine Blais, Michel Gosselin	Which environmental factors determine the spatial and seasonal variability of phytoplankton dynamics in Labrador fjords (56-60° N)?
SIPLER, RACHEL	VIRGINIA INSTITUTE OF MARINE SCIENCE	Research Scientist	Tara Connelly, Steven Baer, Quinn N Roberts, Marta Sanderson and Deborah A Bronk	Rough Sea Ice Surface Deformation and Detection using RADARSAT-2 during the Arctic Melt Season and Its Significance for Polar Bear Habitat
SMITH, CASEY	STANFORD UNIVERSITY	Student	Kevin Arrigo, Gert van Dijken	Annual variability and trends in primary production and sea-ice in the Ross Sea, Antarctica (1997-2012)
STEINER, NADJA	FISHERIES AND OCEANS CANADA	Research Scientist	Jim Christian, Warren Lee, Tessa Sou	Modeling projections of the high-latitude ocean ecosystem - Opportunities and constraints
STEPHENSON, GORDON	BANGOR UNIVERSITY	Post Doc	Sarah T. Gille, Janet Sprintall	Intraseasonal to interannual variability of upper ocean heat content in Drake Passage
STRONG, AARON	STANFORD UNIVERSITY	Student	Aaron L. Strong, Zachary W. Brown and Kevin R. Arrigo	The velocity of sea ice retreat in the Pacific Arctic and its implications for biological productivity in the Bering and Chukchi Sea shelves.
STUBNER, EIKE	UNIVERSITY CENTRE IN SVALBARD (UNIS)	Student	Eike Stübner, Ole Jørgen Lønne, Marit Reigstad	Mass occurrences of strangers: A year-round study of meroplankton in Adventfjorden, Svalbard
TAGUCHI, SATORU	SOKA UNIVERSITY, DEES	Professor	Kayoko Takimoto, Tomoyo Katayama, Mitsuko Obata, Shozo Motokawa	(1) Photoacclimation determined by photosynthetic characteristics in ice algae, Saroma-Ko Lagoon, Hokkaido, Japan, (2) Photoprotective responses to high light intensity of ice algae in Saroma-Ko La
TAKIMOTO, KAYOKO	SOKA UNIVERSITY	Student	Mitsuko Obata, Shozo Motokawa, Tomoyo Katayama, and Satoru Taguchi	Photoacclimation determined by photosynthetic characteristics of ice algal community in Saroma-Ko Lagoon, Hokkaido, Japan

TEDESCO, LETIZIA	FINNISH ENVIRONMENT INSTITUTE	Research Scientist	Tedesco, L., Miettunen, E., Vichi, M., Haapala, J., An, B. W.	Towards a quantitative understanding of sea ice biogeochemistry
TISON, JEAN-LOUIS	UNIVERSITY LIBRE DE BRUXELLES	Professor	J.-L.; Tison, J. Zhou, O. Crabeck and B. Delille	Oxygen dynamics in spring first year sea ice, Kapissilit, Greenland: implications for oxygen fluxes to the ocean and net primary production estimates
TYNAN, EITHNE	NATIONAL OCEANOGRAPHY CENTRE SOUTHAMPTON	Post Doc	Toby Tyrrell, Eric Achterberg	Seasonal variability of the carbonate system in the Atlantic gateway to the Arctic Ocean
ULFSBO, ADAM	UNIVERSITY OF GOTHENBURG	Student	Nicolas Cassar, Leif Anderson	Comparison of multiple proxies of NCP in the central Arctic Ocean
VAN DIJKEN, GERT	STANFORD UNIVERSITY	Research Scientist	Gert van Dijken and Kevin Arrigo	Southern Ocean Primary Production: 1997-2012
VANCOPPENOLLE, MARTIN	LOCEAN CNRS	Research Scientist	Martin Vancoppenolle (1), Laurent Bopp (2), Gurvan Madec (1,3), John Dunne (4), Tatiana Ilyina (5), Paul Halloran (6), and Nadja Steiner (7)	Future Arctic Primary Productivity from CMIP5 Simulations: Uncertain Outcome, but Consistent Mechanisms
VERNET, MARIA	SCRIPPS INSTITUTION OF OCEANOGRAPHY	Research Scientist	M. Cape, P.A. Matrai, C. Gle, C. Rauschenberg, A. Leventer, S. Jeong, E. Domack, D. Christ, S. Brachfeld, C. Natter and M. McCormick.	A BRIDGE BETWEEN MSA IN ICE CORES AND OCEANIC SURFACE PRODUCTIVITY IN RELEVANT TIME SCALES: DMSP IN MARINE SEDIMENTS AS A PROXY OF PALEO-PRODUCTIVITY
WALKER, SALLY	DALHOUSIE UNIVERSITY	Post Doc	R.M.W. Amon and C. Stedmon	VARIATIONS IN HIGH LATITUDE CHROMOPHORIC DISSOLVED ORGANIC MATTER (CDOM) DOM: A COMPARISON OF LARGE ARCTIC RIVERS
WEBSTER, MELINDA	UNIVERSITY OF WASHINGTON	Student	Rigor, I., Nghiem, S. V., Sturm, M., Kurtz, N., Farrell, S., Gleason, E., Lieb-lappen, R., and E. Saiet	Current Springtime Snow Conditions in the Beaufort and Chukchi Seas.
WHITEFIELD, JONATHAN	UNIVERSITY OF ALASKA, FAIRBANKS	Student	Peter Winsor, Tom Weingartner	Extreme transport events in the Bering Strait in a global ocean model
WILLIAMS, COLIN	UNIVERSITY OF GEORGIA	Student	Tara Connelly, Karie Sines, Patricia Yager	Pelagic Microbial Heterotrophy in a Productive Antarctic Polynya

WILSON, STEPHANIE	BANGOR UNIVERSITY	Professor	R. Swailethrop, S. Kjellerup, M. Wolverton, H. Ducklow, P. Yager	Mesozooplankton community structure of the Amundsen Sea Polynya, Antarctica (Summer 2010-2011)
WOODGATE, REBECCA	UNIVERSITY OF WASHINGTON	Research Scientist	TBD	TBD
XIA, WENTAO	THE UNIVERSITY OF TEXAS AT SAN ANTONIO	Student	Hongjie Xie; Stephen F. Ackley	Summer Surface Albedo Evolution of Arctic Sea Ice –A Case Study from Ice Stations during 4th CHINARE in 2010
XIE, HONGJIE	UTSA	Professor	Hongjie Xie ¹ , Ahmet Emre Tekeli ^{1,2} , Stephen F. Ackley ¹ , Donghui Yi ³ , H. Jay Zwally ⁴	Sea ice thickness estimations from ICESat Altimetry over the Bellingshausen and Amundsen Seas, 2003-2009
ZHOU, JIAYUN	UNIVERSITY LIBRE DE BRUXELLES	Student	G. Carnat, B. Delille, T. Goossens, T. Haskell, J-L. Tison	Scenario of DMS(P) evolution in landfast sea ice, at Cape Evans (Ross Island, Antarctica), over an annual cycle of ice growth

Polar Marine Science

Gordon Research Seminar

High Latitude Physical, Chemical, and Biological Processes and Their Impact on Regional and Global Systems

March 9-10, 2013
Four Points Sheraton / Holiday Inn Express
Ventura, CA

Chair: Jeff S. Bowman
Associate Chair: Marie JM. Seguret

Contributors



SATURDAY

- | | |
|-------------------|--|
| 2:00 pm - 5:00 pm | Arrival and Check-in |
| 3:30 pm - 3:45 pm | Introductory Comments by GRC Site Staff / Welcome by the GRS Conference Chair |
| 3:45 pm - 4:30 pm | Keynote Session
Discussion Leader: Gregory Souza (Princeton University) |
| 3:45 pm - 4:15 pm | Hugh Ducklow (Lamont-Doherty Earth Observatory)
"Challenges and rewards of interdisciplinary polar oceanography: examples from Palmer LTER" |
| 4:15 pm - 4:30 pm | Discussion |
| 4:30 pm - 6:00 pm | <u>Poster Session I</u> |
| 6:00 pm | Dinner |
| 7:30 pm - 9:30 pm | Small Things Matter - Fine Scale Biological, Chemical, and Physical Processes
Discussion Leader: Francois Fripiat (University Libre de Bruxelles) |
| 7:30 pm - 7:50 pm | Christian Katlein (Alfred Wegener Institute)
"Consequence of micro-scale optical properties of sea ice on light availability in sea ice habitats" |
| 7:50 pm - 8:00 pm | Discussion |

- 8:00 pm - 8:20 pm **Giulia Castellani** (Alfred Wegner Institute)
"Impact of sea ice surface roughness on the atmospheric drag coefficient"
- 8:20 pm - 8:30 pm Discussion
- 8:30 pm - 8:50 pm **Nicolas-Xavier Geilfus** (University of Manitoba)
"Role of the arctic sea ice to the CO2 exchange during the last IPY"
- 8:50 pm - 9:00 pm Discussion
- 9:00 pm - 9:20 pm **Virginie Galindo** (University Laval)
"Fate of sea ice DMSP during the spring melt period in Arctic"
- 9:20 pm - 9:30 pm Discussion

SUNDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 11:00 am **Scaling Up - Arctic and Antarctic Regional Processes**
Discussion Leader: **Angelika Renner** (Norwegian Polar Institute)
- 9:00 am - 9:20 am **Monika Kedra** (University of Maryland)
"Benthic population dynamics and diversity in the changing ecosystems of the northern Bering and Chukchi Seas"
- 9:20 am - 9:30 am Discussion
- 9:30 am - 9:50 am **Mar Fernandez-Mendez** (Alfred Wegner Institute)
"New estimates of primary productivity and its limiting factors in the Central Arctic"
- 9:50 am - 10:00 am Discussion
- 10:00 am - 10:20 am **David Prado** (University of Texas at San Antonio)
"Snow Depths on Antarctic sea ice in the Bellingshausen - Amundsen Seas from NASA IceBridge and *In Situ* measurements: 2009 - 2011"
- 10:20 am - 10:30 am Discussion
- 10:30 am - 10:50 am **Kenneth Hughes** (University of Otago)
"Propagation of ice shelf water beneath McMurdo Sound sea ice"
- 10:50 am - 11:00 am Discussion
- 11:00 am - 12:30 pm Poster Session II
Coffee will be served in the poster area from 11:00 am - 11:30 am
- 12:30 pm Lunch
- 1:30 pm - 2:30 pm **Beyond the Poles - Global Effects of Polar Processes**
Discussion Leader: **Gordon Stephenson** (Bangor University)
- 1:30 pm - 1:50 pm **Ana Peralta-Ferriz** (University of Washington)
"Arctic Ocean circulation patterns using GRACE"
- 1:50 pm - 2:00 pm Discussion
- 2:00 pm - 2:20 pm **Sarah Purkey** (University of Washington)
"The contribution of deep Southern Ocean warming and freshening to sea level rise and the fresh water budget between the 1980s and 2000s"
- 2:20 pm - 2:30 pm Discussion

2:30 pm - 3:00 pm Evaluation Period
Fill out GRS Evaluation Forms

3:00 pm Gordon Research Seminar ends. For those attending the associated Gordon Research Conference, please check in at the GRC Office beginning at 4:00 pm.

POSTER LIST

Name	Organization	Co-Authors	Poster Title
ATTARD, KARL M	UNIVERSITY OF SOUTHERN DENMARK	Karl Attard, Ronnie N. Glud, Daniel F. McGinnis, Søren Rysgaard	Aquatic oxygen eddy-covariance measurements in Arctic and sub-Arctic environments: A case study from Godthåbsfjord, South-West Greenland
BALMONTE, JOHN PAUL P	UNIVERSITY OF NORTH CAROLINA	Dr. Carol Arnosti	Microbial enzymatic activities across different ice regimes in the high Central Arctic
BENCH, SHELLIE R	STANFORD UNIVERSITY	Hugh Ducklow, Oscar Schofield, Kevin Arrigo and Chris Francis	Molecular assessment of phytoplankton community dynamics and metabolism in the West Antarctic Peninsula
CAPE, MATTIAS R	SCRIPPS INSTITUTION OF OCEANOGRAPHY	Dr. Maria Vernet, Dr. Amy Leventer, Dr. Michael McCormick, Dr. Craig Smith	Benthic-pelagic coupling in the wake of ice shelf disintegration in the Larsen A embayment, Antarctica
CARNS, REGINA	UNIVERSITY OF WASHINGTON	Rich Brandt, Bonnie Light, Steve Warren	Salt crystallization in cold sea ice: hysteresis, biology, and Snowball Earth
CARTER, BRENDAN R	PRINCETON UNIVERSITY		TBD: Deconvolving simultaneous changes in SAMW from repeat hydrographic measurements.
CASTELLANI, GIULIA	ALFRED WEGENER INSTITUTE	Rüdiger Gerdes, Christof Lüpkes, Martin Losch, Stefan Hendricks	Impact of sea-ice surface topography on the atmospheric and oceanic drag coefficients.
CHEN, BAOSHAN	UNIVERSITY OF GEORIGIA	Wei-Jun Cai, Liqi Chen	Regional differences in ocean acidification in the western Arctic Ocean in summer
COLLINS, ERIC	UNIVERSITY OF ALASKA FAIRBANKS	Jody W. Deming, University of Washington	An inter-Order horizontal gene transfer event enables the catabolism of compatible solutes by <i>Colwellia psychrerythraea</i> 34H
DAVID, CARMEN C	ALFRED WEGENER INSTITUTE	C.L. David ^{1,2} , B. Lange ^{1,2} , H. Flores ^{1,2}	Using a novel under-ice trawl to investigate the association of under-ice communities with sea ice ice properties in the central Arctic Ocean
DE SOUZA, GREGORY F.	PRINCETON UNIVERSITY	Jorge L. Sarmiento, Richard D. Slater	Quantifying the importance of Southern Ocean nutrient supply to low latitudes using stable isotope observations and GCMs
DESLONGCHAMPS, GABRIELE	UNIVERSITY LAVAL	Jean-Éric Tremblay	Impacts of environmental conditions on the assimilation, recycling and nitrification of ammonium in marine waters of

			the western Canadian Arctic
DUFOUR, CAROLINA O	AOS PROGRAM, PRINCETON UNIVERSITY	J. L. Sarmiento, J. Le Sommer, S. M. Griffies	What processes control anthropogenic carbon subduction and reventilation in the Southern Ocean?
FERNANDEZ-MENDEZ, MAR	ALFRED WEGENER INSTITUTE	I. Peeken & A. Boetius	New estimates of primary productivity and its limiting factors in the Central Arctic
FRIPIAT, FRANCOIS	UNIVERSITY LIBRE DE BRUXELLES	Jean-Louis Tison, Daniel M. Sigman	Nitrogen isotopic composition in Antarctic Sea Ice
GALINDO, VIRGINIE	UNIVERSITY LAVAL	M. Gourdal, M. Levasseur, M. Scarratt, C.J. Mundy, M. Gosselin, J. Stefels, R.P. Kiene, M. Lizotte	Fate of DMSP in the brines and at the ice-water interface during the spring melt period in Arctic
GEILFUS, NICOLAS-XAVIER NX	UNIVERSITY OF MANITOBA	Geilfus N.-X., Tison J.-L., Carnat G., Papakyriakou T., Rysgaard S., Delille B.	Role of the arctic sea ice to the CO ₂ exchange during the last IPY
HEUZE, CELINE	UNIVERSITY OF EAST ANGLIA	Karen J. Heywood, David P. Stevens, Jeff K. Ridley	Southern Ocean Bottom Water Characteristics in CMIP5 Models
HU, YUBIN	ALFRED WEGENER INSTITUTE	G. Nehrke, G. Dieckmann, C. Völker, and D. Wolf-Gladrow	The study of ikaite (CaCO ₃ ·6H ₂ O) formation in sea ice
HUGHES, KENNETH G	UNIVERSITY OF OTAGO	P. J. Langhorne and G. H. Leonard	Propagation of Ice Shelf Water beneath McMurdo Sound Sea Ice
KATAYAMA, TOMOYO	SOKA UNIVERSITY	Mitsuko Obata, Shozo Motokawa, Kayoko Takimoto, and Satoru Taguchi	Photoprotective responses to high light intensity of ice algae in Saroma-Ko Lagoon, Hokkaido, Japan
KATLEIN, CHRISTIAN	ALFRED-WEGENER-INSTITUTE	Marcel Nicolaus	Consequences of micro-scale optical properties of sea ice on light availability in sea ice habitats
KEDRA, MONIKA K	UNIVERSITY OF MARYLAND UMCES CBL	Jacqueline M. Grebmeier, Lee W. Cooper	Benthic population dynamics and diversity in the changing ecosystems of the northern Bering and Chukchi Seas
LI, LINGHAN	SCRIPPS INSTITUTION OF OCEANOGRAPHY, UCSD	Julie McClean, Arthur Miller, Ian Eisenman, and Myrl Hendershott	Sea Ice Variability in the Bering Sea
LOWRY, KATE E	STANFORD UNIVERSITY	Kate E. Lowry, Matthew M. Mills, Gert L. van Dijken, Zachary W. Brown, Robert S. Pickart, Nicolas R. Bates, and Kevin R. Arrigo	The significance of winter water for phytoplankton blooms in the Chukchi Sea
MACK, STEFANIE	OLD DOMINION UNIVERSITY	Laurie Padman, Scott Springer, Mike Dinniman, John Klinck	Sea ice variability in the Ross Sea forced by tides: Satellite observations and modeling

MEIRE, LORENZ	UNIVERSITY OF GHENT	Lorenz Meire, Heidi Louise Sørensen, Bo Thamdrup, Thomas Juul Petersen, Filip Meysman, Ronnie Glud	Seasonal study of carbon dynamics in a subarctic fjord (Kobbefjord-Greenland)
MICHEL, CHRISTINE	FISHERIES AND OCEANS CANADA		TBD
MOREAU, SEBASTIEN	UNIVERSITY CATHOLIQUE DE LOUVAIN	Martin Vancoppenolle, Jiayun Zhou, Jean-Louis Tison, Bruno Delille, Hugues Goosse	Modeling gas dynamics in first-year sea ice
MU, LINQUAN	UNIVERSITY OF GEORGIA	Patricia L. Yager	Spatial variability of surface pCO ₂ in the Amundsen Sea Polynya, Antarctica
MULLER, SUSANN	UNIVERSITY OF HELSINKI	Jari Uusikivi, Janne-Markus Rintala, Markus Majaneva, Anssi Vähätalo, Sanna Majaneva, Ilkka Matero	Applying a bio-optical model to estimate the rate of photosynthesis in the Baltic Sea
OESTREICHER, SAMANTHA M	LANL / UNIVERSITY OF MINNESOTA	Nicole Jeffery and Scott Elliott	A minimal complexity model analyzing dominant processes in sea-ice algal growth.
PERALTA-FERRIZ, ANA C	UNIVERSITY OF WASHINGTON		Arctic Ocean circulation patterns using GRACE
PRADO, DAVID W	UNIVERSITY OF TEXAS SAN ANTONIO	Ackley, S., Xie, H.	Iceberg coverage in the Bellingshausen – Amundsen Seas from 2010 and 2011 NASA IceBridge DMS Imagery
PURKEY, SARAH G	UNIVERSITY OF WASHINGTON	Gregory C. Johnson	The contribution of deep Southern Ocean warming and freshening to sea level rise and the fresh water budget between the 1980s and 2000s
RENNER, ANGELIKA	NORWEGIAN POLAR INSTITUTE	Gunnar Spreen, Sebastian Gerland, Edmond Hansen	Sea ice thicknesses north of Svalbard and in Fram Strait in the context of the 2012 summer ice extent minimum
ROBINSON, JOSIE	UNIVERSITY OF SOUTHAMPTON	E. Popova, A. Yool, M. Skeroz, R. Lampitt, J. Blundell	Southern Ocean iron fertilization as a method of geoengineering: Modeling the fate of sequestered carbon
SACKETT, OLIVIA	MONASH UNIVERSITY	Petrou, K., Ralph, P., Beardall, J. and Heraud, P	Sea ice conditions enhance the caloric value of two dominant Southern Ocean diatoms.
SCHMIDT, BRITNEY E	UT AUSTIN, INSTITUTE FOR GEOPHYSICS		Antarctic Ice Shelves as Analogs for Europa
SCHULZE, LENA M	NATIONAL OCEANOGRAPHY CENTER	Robert S. Pickart, G.W.K.Moore, Matthew A. Charrette, Kevin Arrigo, Gert van Dijken, Seth Danielson	Upwelling in the Alaskan Beaufort Sea and its impacts on primary productivity
SEGURET, MARIE	UNIVERSITY OF		

JM	ALASKA FAIRBANKS		
SHIELDS, MEGAN E	UNIVERSITY OF MANITOBA		Rough Sea Ice Surface Deformation and Detection using RADARSAT-2 during the Arctic Melt Season and Its Significance for Polar Bear Habitat
SIMO, ARMELLE	UNIVERSITY DU QUEBEC A RIMOUSKI	Marjolaine Blais, Michel Gosselin	Which environmental factors determine the spatial and seasonal variability of phytoplankton dynamics in Labrador fjords (56-60o N)?
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STUBNER, EIKE	UNIVERSITY CENTRE IN SVALBARD (UNIS)	Eike Stübner, Ole Jørgen Lønne, Marit Reigstad	Mass occurrences of strangers: A year-round study of meroplankton in Adventfjorden, Svalbard
TAKIMOTO, KAYOKO K	SOKA UNIVERSITY	Mitsuko Obata, Shozo Motokawa, Tomoyo Katayama, and Satoru Taguchi	Photoacclimation determined by photosynthetic characteristics of ice algal community in Saroma-Ko Lagoon, Hokkaido, Japan
TYNAN, EITHNE	NATIONAL OCEANOGRAPHY CENTRE SOUTHAMPTON	Toby Tyrrell, Eric Achterberg	Seasonal variability of the carbonate system in the Atlantic gateway to the Arctic Ocean
ULFSBO, ADAM	UNIVERSITY OF GOTHENBURG	Nicolas Cassar, Leif Anderson	Comparison of multiple proxies of NCP in the central Arctic Ocean
VERGOUWEN, SOPHIE S.A.	STANFORD UNIVERSITY		TBD
WASSMANN, PAUL	UNIVERSITY OF TROMSO	TBD	TBD
WEBSTER, MELINDA	UNIVERSITY OF WASHINGTON	Rigor, I., Nghiem, S. V., Sturm, M., Kurtz, N., Farrell, S., Gleason, E., Lieb-lappen, R., and E. Saiet	Current Springtime Snow Conditions in the Beaufort and Chukchi Seas.
WIETZ, MATTHIAS	UNIVERSITY OF OLDENBURG	Thorsten Brinkhoff, Meinhard Simon	Response of bacterioplankton communities from the Southern and Atlantic Oceans to polymeric carbohydrates
WILLIAMS, COLIN M	UNIVERSITY OF GEORGIA	Tara Connelly, Karie Sines, Patricia Yager	Pelagic Microbial Heterotrophy in a Productive Antarctic Polynya

XIA, WENTAO	THE UNIVERSITY OF TEXAS AT SAN ANTONIO	Hongjie Xie; Stephen F. Ackley	Summer Surface Albedo Evolution of Arctic Sea Ice –A Case Study from Ice Stations during 4th CHINARE in 2010
YOUNGS, MADELEINE	CALIFORNIA INSTITUTE OF TECHNOLOGY	Andrew F. Thompson	Surface Drifters in the Weddell: A look at Frontal Crossings and Climate Links
ZHOU, JIAYUN	UNIVERSITY LIBRE DE BRUXELLES	J.-L. Tison, B. Delille	Methane storage, production and consumption in sea ice