

Synoptic Arctic *Survey*



AGENDA

Synoptic Arctic Survey (SAS) Open Planning Workshop

Dates: May 15-16, 2019

Venue: Clark Building, 5th Floor, Woods Hole Oceanographic Institution Quissett Campus
360 Woods Hole Rd. Woods Hole Massachusetts USA

Sponsors: US National Science Foundation and the International Arctic Science Committee

Day 1 (May 15)

8:30 Welcome and logistics - Carin Ashjian and Laurence Madin, Deputy Director and Vice President for Research, WHOI

8:40 Overview of the SAS Program – Øyvind Paasche, Chair of the International SAS Science Steering Committee

- Motivation
- Timeline of program development
- Program Components (Physical Oceanography, Carbon Cycle, Ecosystems)
- International Science Steering Committee Members
- Core questions
- Introduction to core measurements
- Status of the field program – confirmed and planned cruises
- National efforts

9:15 Five minute Country Updates

Korea – Kyong-Ho Cho presented by Jackie Grebmeier

Russia – Alexander Polukhin

Canada – Bill Williams and Kumiko Azetsu-Scott

Japan – Shige Nishino

China - TBD

Sweden – Sten-Åke Wangberg and Leif Anderson

Norway – Øyvind Paasche

Denmark – Karen Edelvang presented by Carin Ashjian

UK – Carin Ashjian

USA – Jackie Grebmeier and Carin Ashjian

Germany – Heidi Kassens



10:00–10:20 Coffee break

10:20 Goals and Outcome of the Workshop – Carin Ashjian and Jackie Grebmeier

-Overall Objectives

-Planned Products

-Review of workshop structure and strategy

-Review of planned breakouts/discussions needed to accomplish workshop goals
(not in order; not all require a breakout group)

1. Discipline specific methods and measurements including questions of spatial and temporal scale
2. Data management
3. Blueprint for nurturing next generation of international Arctic scientists
4. Elements missing from present SAS science plan (e.g., modeling, synthesis, molecular survey for bar coding, satellite data)
5. Additional possible measurements outside core program components (e.g., atmospheric, cryospheric, geological)
6. Review of planned and potential transects and scientific justification for each
7. Non-ship assets (e.g., satellites, AUVs, submarine data collections) including questions of spatial and temporal scale
8. Achieving cross-calibration between programs/ships
9. Indigenous communities: engagement and participation
10. Identify potential overlapping interests with other international efforts such as Mosaic and YOPP mentioning but two
11. Education – developing collaborative platforms (focus on PhDs)
12. Outreach. Identify target groups, messages and opportunities.
13. Funding opportunities. Public and Private?

10:35–12:30 Attendees present research areas of interest

Attendees will be asked if they want to present 2 slides in 3 minutes describing their research interests or specialization (e.g., data management) and how they envision contributing to the SAS. Not all attendees need to do so, only those who wish to.

12:30–1:15 Lunch (served) and synergizing

1:15 Working Groups I - Discipline specific methods and measurements – Carin Ashjian

3 groups (physical oceanography, carbon cycle, ecosystems)

Carbon - Clark 509: Leif Anderson and Lisa Bröder

PO – Clark 237: Mary-Louise Timmermans and Maria Pisareva (PO),

ECO - Clarke 507: Carin Ashjian/Jackie Grebmeier and JP Balmonte

Review the discipline specific scientific questions (modifications possible!) and the measurements identified in the science plan. Identify and codify common methods, methods



that intercalibration between ships, and additional measurements to add (e.g., ecosystem samples for molecular barcoding). Workshop goals to address:

- 1) Discipline specific methods and measurements including questions of spatial and temporal scale
- 8) Achieving cross-calibration between programs/ships and also consider but note there are dedicated breakout groups for these topics:
- 4) Elements missing from present SAS science plan (e.g., modeling, synthesis, molecular survey for bar coding, satellite data)
- 5) Additional possible measurements outside core program components (e.g., atmospheric, cryospheric, geological)
- 6) Review of planned and potential transects and scientific justification for each
- 7) Non-ship assets (e.g., satellites, AUVs, submarine data collections) including questions of spatial and temporal scale

3:00 – 3:20 Coffee Break

3:20 Return to Group to pull together conclusions

3:45 Working Groups I Report

- Each working group will present a synopsis of findings
- Group discussion

5:00 – 7:00 Reception – Clark 5 Foyer (outside meeting room)

5:00 – 8:00 Shuttle bus to hotels available

Day 2 (May 16)

8:30 Welcome, logistics, summary of Day 1, and schedule - Carin Ashjian

8:45 Working Groups II

Pre- and Post-fieldwork synthesis –Clark 507: Carin Ashjian, Jackie Grebmeier, and Astrid Pacini
Workshop Goal 4: Identify elements missing from present SAS science plan (e.g., modeling, synthesis, molecular survey for bar coding, satellite data). SAS2030.
Workshop Goal 10. Potential overlap with other international efforts (e.g., MOSAiC, Nansen Legacy, YOPP, Decade of the Ocean)

Next Gen Arctic scientists- Clark 201: Øyvind Paasche and Jennifer Questel

Workshop Goal 3: Blueprint for nurturing next generation of international Arctic scientists

Workshop Goal 11: developing collaborative platforms (focus on PhDs)



Indigenous communities- Clark 237: - Seth Danielson and Kaare Erickson
Workshop Goal 9: How to engage indigenous communities and identify potential participation

10:00–10:30 Coffee break

10:30 Working Groups Report Out

11:30 Working Groups III

Additional measurements outside core program – Clark 507: Carin Ashjian and Anouk Beniest
Workshop Goal 5) Additional possible measurements outside core program components (e.g., atmospheric, cryospheric, geological) including any identified in the discipline specific groups (e.g., molecular)

Non-ship assets – Clark 201: Seth Danielson and Jessica Cross
Workshop Goal 7) Non-ship assets (e.g., satellites, AUVs, submarine data collections) including questions of spatial and temporal scale

Planned transects and scientific motivation - Clark 237: Jackie Grebmeier and Yana Bebieva
Workshop Goal 6

Modeling – MRF 204: Jackie Clement-Kinney and Zhixuan Feng
What can modeling do for the SAS and vice-versa?

12:30 Lunch (served)

1:15 Data Management – Clark 507: Jackie Grebmeier and Jim Swift

2:00 Working Groups III continued
Additional Measurements – Clark 507
Non-Ship Assets – Clark 507
Modeling – MRF 204
Planned transects – Clark 237

3:00 Coffee Break

3:30 Working Groups III Report Out and discussion

4:00 Perspectives and future outlook/What we decided and where do we go from here (next international workshop) – Carin Ashjian, Jackie Grebmeier, and Øyvind Paasche
Also: Workshop Goal 12: Outreach – Target Groups, Messages, and Opportunities

5:00 Adjourn. Shuttle buses to hotels.

Post-workshop: Summarize findings in a report that will be made available to funders etc.



Synoptic Arctic Survey Attendees

Name	Affiliation	Email address
Anders Torstensson	University of Washington, Uppsala University	andtor@uw.edu, anders.torstensson@ebc.uu.se
Ann Bucklin	University of Connecticut	ann.bucklin@uconn.edu
Annie Bourbonnais	University of South Carolina	abourbonnais@seoe.sc.edu
Anouk Beniest	Vrije Universiteit Amsterdam	a.beniest@vu.nl
Astrid Pacini	MIT-WHOI Joint Program in Physical Oceanography	apacini@whoi.edu
Bill Williams	Fisheries and Oceans Canada	Bill.Williams@dfo-mpo.gc.ca
Bob Pickart	Woods Hole Oceanographic Institution	rpickart@whoi.edu
Carin Ashjian	Woods Hole Oceanographic Institution	cashjian@whoi.edu
Chelsea Wegner	University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory	cwegner@umces.edu
Christina Goethel	University of Maryland Center for Environmental Science	cgoethel@umces.edu
Cynthia Pilskaln	University of Massachusetts Dartmouth	cpilskaln@umassd.edu
Dale Chayes	University of New Hampshire Center for Coast and Ocean Mapping & Lamont-Doherty Earth Observatory of Columbia University	dale@ccom.unh.edu
Daniel Torres	Woods Hole Oceanographic Institution	dtorres@whoi.edu
Danielle Dickson	North Pacific Research Board	danielle.dickson@nprb.org
Don Anderson	Woods Hole Oceanographic Institution	danderson@whoi.edu
Dr. Alexander Polukhin	Shirshov Institute of Oceanology Russian Academy of Sciences	aleanapol@gmail.com (polukhin@ocean.ru)
Heidemarie Kassens	GEOMAR	hkassens@geomar.de
Jackie Clement Kinney	Naval Postgraduate School	jlclemen@nps.edu
Jacqueline M. Grebmeier	Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science	jgrebmei@umces.edu
James H. Swift	UCSD Scripps Institution of Oceanography	jswift@ucsd.edu
Jean-Éric Tremblay	Laval University	jean-eric.tremblay@bio.ulaval.ca
Jeff Welker	Univ of Alaska Anchorage, Univ of Oulu, Finland	jmwelker@alaska.edu
Jennifer Questel	College of Fisheries and Ocean Sciences; University of Alaska Fairbanks	jmquestel@alaska.edu
Jessica Cross	NOAA Pacific Marine Environmental Laboratory	jessica.cross@noaa.gov
Jessica Dabrowski	MIT-WHOI Joint Program	jsdabrow@mit.edu
John Farrell	U.S. Arctic Research Commission	jfarrell@arctic.gov
John Toole	Woods Hole Oceanographic Institution	jtoole@whoi.edu
JP Balmonte	Uppsala University	jp.balmonte@ebc.uu.se
Justin Suca	Woods Hole Oceanographic Institution	jsuca@whoi.edu
Kaare Sikuaq Erickson	Ukpeagvik Inupiat Corporation (UIC Science)	kaare.erickson@uicscience.com
Karen Frey	Clark University	KFrey@clarku.edu
Kumiko Azetsu-Scott	Bedford Institute of Oceanography, DFO	Kumiko.Azetsu-Scott@dfo-mpo.gc.ca
Laura Gemery	U.S. Geological Survey	lgemery@usgs.gov
Lauren Kipp	Dalhousie University & Lamont-Doherty Earth Observatory	LKipp@dal.ca
Laurence Madin	Woods Hole Oceanographic Institution	lmadin@whoi.edu

Name	Affiliation	Email address
Laurie Juranek	CEOAS-Oregon State University	ljuranek@coas.oregonstate.edu
Leah McRaven	Woods Hole Oceanographic Institution	lmcraven@whoi.edu
Lee W. Cooper	Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science	cooper@umces.edu
Leif G. Anderson	Department of Marine Sciences, University of Gothenburg	leif.anderson@marine.gu.se
Lisa Bröder	Vrije Universiteit Amsterdam	L.M.Broeder@vu.nl
Lisan Yu	Woods Hole Oceanographic Institution	lyu@whoi.edu
Liviu Giosan	Woods Hole Oceanographic Institution	lgiosan@whoi.edu
Maria N. Pisareva	Shirshov Institute of Oceanology, RAS, Moscow, Russia	mnpisareva@gmail.com
Mary-Louise Timmermans	Yale University	mary-louise.timmermans@yale.edu
Matt Charette	Woods Hole Oceanographic Institution	mcharette@whoi.edu
Mindy Richlen	Woods Hole Oceanographic Institution	mrichlen@whoi.edu
Øyvind Paasche	Bjerknes Centre For Climate Research and NORCE	oyvind.paasche@uib.no
Paul Arthur Berkman	Tufts University	paul.berkman@tufts.edu
Peter Wiebe	Woods Hole Oceanographic Institution	pwiebe@whoi.edu
Renee D. Crain	National Oceanic and Atmospheric Administration	renee.crain@noaa.gov
Robert G. Campbell	University of Rhode Island	rgcampbell@uri.edu
Rubao Ji	Woods Hole Oceanographic Institution	rji@whoi.edu
Scott Zolkos	University of Alberta	zolkos@ualberta.ca
Seth L. Danielson	University of Alaska Fairbanks	sldanielson@alaska.edu
Shea Wyatt	University of Victoria, Canada	sheawyatt@gmail.com
Shigeto Nishino	JAMSTEC	nishinos@jamstec.go.jp
Sten-Åke Wängberg	University of Gothenburg	sten-ake.wangberg@marine.gu.se
Sylvia Cole	Woods Hole Oceanographic Institution	scole@whoi.edu
Ted Maksym	Woods Hole Oceanographic Institution	tmaksym@whoi.edu
Xiaobo Ni	Second Institute of Oceanography(SIO), Ministry of Natural Resource (MNR)	xiaoboni@sio.org.cn
Yana Bebieva	Geophysical Fluid Dynamics Institution, Florida State University	ybebieva@fsu.edu
Zhaohui 'Aleck' Wang	Woods Hole Oceanographic Institution	zawang@whoi.edu
Zhixuan Feng	Woods Hole Oceanographic Institution	zfeng@whoi.edu