### A01: Understanding the Arctic climate change and its global influences: Japan's contributions and suggestions for the future

**Main Convener: Kumiko Takada**

#### April 28, 13:45-15:15

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Miyagawa Mayu, Fujimoto Risa, Kuji Makoto, Yabuki Masanori, Shiobara Masataka

A01-P07  GROUND-BASED REMOTE-SENSING FOR CLOUDS, AEROSOL AND WATER VAPOR IN NY-ÅLESUND, SVALBARD AND THE GRENE ARCTIC CAMPAIGN
Shiobara Masataka, Yabuki Masanori, Ohora Kosei, Kuji Makoto, Okamoto Hajime, Takano Yoshiaki, Kobayashi Hiroshi, Koike Makoto, Ukita Jinro

A01-P08  Tethered balloon-borne cloud measurements with Cloud Particle Microscope sonde in Ny-Ålesund
Kobayashi Hiroshi, Ohora Kosei, Shiobara Masataka, Sato Kazutoshi, Koike Makoto, Takano Toshiaki, Un oKengo, Ukita Jinro

A01-P09  AEROSOL OPTICAL PROPERTIES OBTAINED BY SKY-RADIOMETER MEASUREMENTS AT NY-ÅLESUND, SVALBARD AND A CLOUD-SCREENING METHOD APPLIED FOR SKY-RADIOMETRY
Ohora Kosei, Shiobara Masataka, Tanaka Noriaki, Kobayashi Hiroshi

A01-P10  Winter weather in Japan controlled by large-scale atmospheric and small-scale oceanic phenomena
Ando Yuta, Ogi Masayo, Tachibana Yoshihiro, Kodera Kunihiko, Yamazaki Koji

A01-P11  Summary on Research Activities of the GRENE Atmospheric Group
Ukita Jinro, Koike Makoto, Miyoshi Yasunobu, Yamazaki Koji

A01-P12  APPROACHES FOR UNDERSTANDING ARCTIC CHANGE BY CRYOSPHERIC STUDY IN THE GRENE-ARCTIC PROJECT
Enomoto Hiroyuki

A01-P13  MEASUREMENTS OF ATMOSPHERIC BLACK CARBON AEROSOLS OVER THE ARCTIC OCEAN ON R/V MIRAI DURING SEPTEMBER 2014
Taketani Fumikazu, Takuma Miyakawa, Yuichi Komazaki, Hisahiro Takashima, Xiaole Pan, Yugo Kanaya

A01-P14  Oceanic CO2 evolutions at the fixed stations in the Arctic in summer
Kosugi NaohiroSasano DaisukeIshii MasaoNishino Shigeto JunYoshikawaHisayuki

A01-P15  Studies on greenhouse gas cycles in the Arctic and their responses to climate change
Aoki Shuji

A01-P16  Estimating monthly CO2 flux distribution in the Arctic and its spatio-temporal variability
Yasunaka Sayaka, Murata Masahiko, Watanabe Eiji, Kosugi Naohiro, Sasano Daisuke, Ishii Masao, Nishino Shigeto, Uchida Hiroshi

A01-P17  Ecosystem studies of the Arctic Ocean with declining sea ice
KIKUCHI Takashi

A01-P18  Characteristics of sea-ice draft revealed by a moored ice-profiling sonar in the Chukchi Sea off Barrow, Alaska
Fukamachi Yasushi, Simizu Daisuke, Ohshima Kay, Iwamoto Katsushi, Eicken Hajo, Mahoney Andrew

A01-P19  Arctic sea ice prediction with a global coupled atmosphere-ocean model
Nodzu I. Masato

A01-P20  A Wind-driven, Hybrid Latent and Sensible Heat Coastal Polynya at Barrow, Alaska
Hirano Daisuke, Fukamachi Yasushi, Watanabe Eiji, Iwamoto Katsushi, Mahoney Andrew, Eicken Hajo, Shimizu Daisuke, Ohshima Kay I, Tamura Takeshi

A01-P21  Coordinated observational and modeling studies on the basic structure and variability of the Arctic sea ice-ocean system
Hasumi Hiroyasu

A01-P22  SEA ICE PREDICTION AND CONSTRUCTION OF ICE NAVIGATION SUPPORT SYSTEM FOR THE ARCTIC SEA ROUTE
Yamaguchi Hajime

A01-P23  Catastrophic reduction of sea ice: Fundamental mechanisms associated with ice-ocean coupled dynamics
Shimada Koji
A2: Paleoclimatic perspective on Arctic changes and polar amplification

Main Convener: Kawamura Kenji

[Oral]
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<td>A Multidisciplinary, Pan-Arctic Network for Researching Arctic Palaeoclimate</td>
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<td>Sherriff-Tadano Sam, Abe-Ouchi Ayako, Yoshimori Masakazu, Oka Akira, Chan Wing-Le</td>
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<td>Goto-Azuma Kumiko, Wegner Anna, Hiraibayashi Motohiro, Hansson Margareta, Kuramoto Takayuki, Twarloh Birthe, Motoyama Hideaki</td>
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<td>Wyszynski Przemysław, Przybylak Rajmund, Strzyzewski Tomasz</td>
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<td>PRELIMINARY RESULTS OF AN ICE CORE OBTAINED FROM NORTHWESTERN GREENLAND ICE SHEET (SIGMA-D)</td>
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<td>Hirabayashi Motohiro, Goto-Azuma Kumiko, Wegner Anna, Hansson Margareta, Twarloh Birthe, Motoyama Hideaki, Steffensen Jorgen, Dahl-Jensen Dorthe</td>
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## A4: Geospace over and related to the Arctic region

**Main Convener: Yasunobu Ogawa**

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<td>Ward William, Manson Alan, Shepherd Marianna, Wu Qian, Drummond James</td>
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<td>Miyoshi Yasunobu, Jin Hidekatsu, Fujiwara Hitoshi, Shinagawa Hiroyuki</td>
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<td>Miyaoka Hiroshi, Nozawa Satonori, Ogawa Yasunobu, Oyama Shin-ichiro, Nakamura Takuji, Fujii Ryoichi</td>
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**EISCAT_3D** science topics related to the Arctic geospace  
Kero Johan, Belova Evgenia, Hedin Jonas, Pellinen-Wannberg Asta, Nilsson Hans

**VARSITI – VARIABILITY OF THE SUN AND ITS TERRESTRIAL IMPACT**  
Shiokawa Kazuo, Georgieva Katya

**JAPANESE SOUNDING ROCKET EXPERIMENTS IN THE ARCTIC**  
Abe Takumi, Saito Yoshifumi, Ishii Nobuaki

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**Vertical structure of temperature variations in the mesosphere and lower thermosphere region during stratospheric sudden warming**  
Kim Jeong Han, Geonhwa Jee, Won Young In, Kim Baek Min Choi, Hyesun Kim, Seong Joong

**Compound auroral micromorphology: Ground-based high-speed imaging**  
Ryuho Kataoka, Yoko Fukuda

**VARIATIONS OF TEMPERATURE AND WINDS IN THE MESOSPHERE AND LOWER THERMOSPHERE ABOVE TROMSOE**  

**Upper atmosphere cooling over the past 33 years**  
Ogawa Yasunobu, Motoba Tetsuo, Buchert Stephan, Hagstrom Ingemar, Nozawa Satonori

**NIPR TRAJECTORY MODEL (NITRAM) AND METEOROLOGICAL FIELD DISPLAY SYSTEM**  
Tomikawa Yoshihiro

**Further observations of 4fce auroral roar**  
Sato Yuka, Kadokura Akira, Ogawa Yasunobu, Kumamoto Atsushi, Katoh Yuto

**CURRENT STATUS OF UPPER ATMOSPHERE PHYSICS OBSERVATION IN ICELAND IN 2015**  
Kadokura Akira, Sato Natsuo, Yamagishi Hisao, Tanaka Yoshimasa, Sato Yuka, Taguchi Makoto, Motoba Tetsuo, Hosokawa Keisuke, Bjornsson Gunnlaugur

**IUGONET tools for interdisciplinary study on upper atmosphere**  
Tanaka Yoshimasa, Abe Shuji, Koyama Yukinobu, Shinbora Atsuki, Umemura Norio, Yagi Manabu, Yatagai Akiyo, Ueno No Satoru

**Periodic variation characteristics of the high-latitudinal tropopause over Point Barrow (71.3° N, 156.8° W)**  
WANG Rui, ZHANG Shaodong, YANG Huigen

**Effects of cosmic ray input on clouds and climate in Antarctica**  

**LONG TERM METEOR WIND RADAR OBSERVATIONS IN ARCTIC NORWAY**  
Tsutsumi Masaki, Hall Chris

**ROSMIC: A project in the SCOSTEP VarSITI Program**  
Ward William, Luebken Franz-Josef, Seppala Annika
Study on generation mechanisms of a sporadic sodium layer above Tromsoe, Norway during a night of the high aurora activity

### A5: The Climatic Threat from Arctic Offshore Methane

**Main Convener: Peter Wadhams**

**Oral**

April 30, 10:45-12:15

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<td>Shakhova Natalia, Semiletov Igor, Yusupov Vladimir, Salyuk Anatoly, Salomatin Alexander, Chernykh Denis, Kosmach Denis, Gustafsson Orjan</td>
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<td><strong>Evolving ice and ocean conditions in the East Siberian and Laptev Seas relevant to methane emissions</strong></td>
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<td>A5-O02</td>
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<td>Sasano Daisuke, Ishii Masao, Kosugi Naohiro, Murata Akihiko, Uchida Hiroshi, Toyoda Sake, Yamada Keita, Kudo Kushi, Yoshida Naohiro, Mifune Takahisa, Yamamoto–Kawai Michiyo, Yoshikawa–Inoue Hisayuki, Nishino Shigeto, Kikuchi Takashi</td>
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<td><strong>Methanogenetic diversity and activity in the forehead of Austre Lovénbreen and Midre Lovénbreen glacier</strong></td>
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A6: Climate and ecosystem vulnerability in the terrestrial northern high-latitudes

Main Convener: Iijima Yoshihiro

【Oral】

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<td>Monitoring Arctic Greenhouse Gas Emissions Using Top-Down Approaches</td>
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<td>Bruhwiler Lori, Dlugokencky Edward</td>
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<td>Regional scaling of airborne flux measurements over Arctic regions</td>
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<td>Serafimovich Andrei, Metzger Stefan, Hartmann Joerg, Kohnert Katrin, Wieneke Sebastian, Sachs Torsten</td>
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<td>Environmental controls of methane fluxes from an Arctic river floodplain</td>
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<td>Budishchev Artem, van Huissteden Ko, Dolman Han</td>
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<td>Changes in Arctic and boreal terrestrial ecosystems from 1981-2010: comparisons between a global Earth system model and observations</td>
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<td>Diehl Thomas, Cescatti Alessandro, Duveiller Gregory, Alkama Romain</td>
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399 11:00–11:15 A6–O14 LONG-TERM VARIATION OF ANOMALY IN ABOVEGROUND BIOMASS IN CIRCUMPOLAR BOREAL FORESTS
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118 11:15–11:30 A6–O15 DENDROCHRONOLOGICAL STUDIES OF THERMOKARST DEPRESSIONS DEVELOPMENT IN CENTRAL YAKUTIA (NOTRH–EASTERN RUSSIA)
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194 11:30–11:45 A6–O16 Effect of seasonal thawing depth increase on water balance in cryolithozone
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372 11:45–12:00 A6–O17 Studies of soil carbon dioxide fluxes in boreal taiga larch forests in Yakutia
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522 12:00–12:15 A6–O18 Is tundra productivity responsive to changes in sea ice extent in the Arctic?
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244 14:00–14:15 A6–O20 Permafrost and hydrological response to the observed and potential climate change in the Russian Arctic discontinuous permafrost zone
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159 14:15–14:30 A6–O21 "Examining the contribution of reproductive traits to Arctic shrub expansion patterns using spatially–explicit simulation modelling"
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235 14:30–14:45 A6–O22 Forward and inverse modelling of greenhouse gases in the Arctic and subarctic regions
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214 14:45–15:00 A6–O23 RECENT CHANGES IN TERRESTRIAL CO2 FLUXES IN SIBERIA INFERRED FROM MULTIPLE BOTTOM–UP ESTIMATIONS
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251 A6-P09 CH4 emission from different stages of thermokarst in Central Yakutia, Russia
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275 A6-P10 Spatial variation of snow cover in Indigirka lowland observed in spring 2014
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278 A6-P11 The effects of climate manipulation on soil organic carbon characteristics in northeast Greenland
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286 A6-P12 Influence of the Thawing Permafrost on methane diffusion flux from lakes in the Alaskan Arctic Zone
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314 A6-P13 Spatial patterns and inter-tree interaction in a mature Larix sibirica stand at the northern ecotone in Mongolia
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360 A6-P15 The rate of permafrost CO2 and methane release under aerobic and anaerobic conditions using a specially designed lower temperature controlled incubation system and yonemura seiichiro

442 A6-P16 Energy Balance and Carbon Exchange of Larch Forest in Central Yakutia
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460 A6-P17 Evapotranspiration and carbon dioxide fluxes over larch forests with different soil water condition at eastern Siberia
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Main Convener: James E. Overland

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28 B01–O01 DYNAMICS OF THE ARCTIC OSCILLATION AS A DOMINANT INTERNAL VARIABILITY AND A POSSIBLE LINK TO THE WARMING HIATUS
Tanaka Hiroshi

56 B01–O02 Is the Jet Stream Becoming Wavier in Response to Rapid Arctic Warming?
Francis Jennifer, Vavrus Stephen

77 B01–O03 Regional and global interactions between Arctic sea ice and the atmospheric circulation
Dethloff Klaus, Handorf Doerthe, Jaiser Ralf, Rinke Annette, Crasemann Berit, Dorn Wolfgang

172 B01–O04 Arctic impacts on mid-latitude weather and climate: The research challenge
Walsh John

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46 B01–O06 A negative phase shift of the winter AO/NAO due to the recent Arctic sea-ice reduction in late autumn
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166 B01–O07 Impact of snow cover and sea ice on sub-seasonal to seasonal predictions in the Arctic
Orsolini Yvan, Senan Retish, Balsamo Gianpaolo, Weisheimer Antje, Vitart Frederic, Doblas Reyes Francesco

14 B01–O08 RECENT RAPID ARCTIC CHANGE AND ITS INFLUENCE ON EAST ASIA WEATHER
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127 B01–O11 Robust Arctic sea-ice influence on the frequent Eurasian cold winters in past decades

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148 B01–O10 Greenland blocking as a mechanism for recent Arctic/mid-latitude weather linkages
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104 B01–O05 Intensified Linkage Between Arctic Climate Change and Midlatitude Extreme Events: Role of Atmospheric Circulation and Storm Track Dynamics
Zhang Xiangdong, Basu Soumik, Lu Chuhan, Wang Zhaomin, Guan Zhaoyong

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127 B01–O11 Robust Arctic sea-ice influence on the frequent Eurasian cold winters in past decades
Masato Mori, Masahiro Watanabe, Hideo Shiogama, Jun Inoue, Masahide Kimoto

253 B01-O12 The extreme European cold spell in 2011/12 winter. Part I: Roles of Rossby wave trains and storm track feedback
Wang Lin, Nakamura Hisashi, Nishii Kazuaki

167 B01-O13 Potential Arctic Impacts on the North Atlantic Jet Stream
Hall Richard, Hanna Edward

326 B01-O14 The effect of downwelling longwave radiation on Arctic summer sea ice
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496 B01-O15 The structure and development of Arctic cyclones
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51 B01-P02 Role of Sea Ice Reduction in Eurasian Wintertime Cooling
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109 B01-P03 The Greenland Blocking Index 1948–2014: A Key Indicator of Arctic–Mid Latitude Weather/Climate Coupling?
Hanna Edward

209 B01-P04 Effects of the recent Arctic sea ice reduction on the vertical coupling process between the troposphere and stratosphere
Miyoshi Yasunobu, Ogawa Yasunobu, Tomikawa Yoshihiro, Ukita Jinro, Nakamura Tetsu, Yamazaki Koji, Honda Meiji, Iwamoto Katsushi

217 B01-P05 Atmospheric response to anomalous sea ice in the Sea of Okhotsk
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220 B01-P06 Persistent cooling of the polar stratosphere in 2011 winter and spring
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240 B01-P07 Influence of the Gulf Stream on the Barents Sea ice retreat and Eurasian coldness during early winter
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279 B01-P08 Impact of zonal wind changes on the instability rates of planetary and baroclinic waves
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237 B01-P09 A study on the cyclogenesis of the Arctic cyclone from the perspective of quasi-geostrophic potential vorticity
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THE EXTREME EUROPEAN COLD SPELL IN 2011/12 WINTER. PART II: THREE-DIMENSIONAL STRUCTURE OF ANOMALIES AND IMPORTANCE OF ENERGY CONVERSION FOR THEIR MAINTENANCE
Nakamura Hisashi

THE IMPORTANCE OF PHYSICAL PARAMETERIZATION IN THE WRF MODEL TO REPRODUCE ATMOSPHERIC DYNAMICS AND BLACK CARBON TRANSPORT IN THE ARCTIC: A SENSITIVITY STUDY.
Cavazos-Guerra Carolina, Lauer Axel
B2: Current and Future Observing Strategies for Understanding the Evolving Arctic Climate and Ecological System

Main Convener: Gijs de Boer

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356 B02-O01 Enhancing process understanding in the coupled Arctic atmosphere–ocean–ice system through MOSAiC
Shupe Matthew

485 B02-O02 Towards a coordinated Research and Monitoring Program for Ny–Ålesund
Pedersen Christina, Gabrielsen

543 B02-O03 The Global Cryosphere Watch (GCW) surface observations programme CryoNet
Schoener Wolfgang, Goodison Barry, Fierz Charles, Snorrason Arni

330 B02-O04 The Svalbard Integrated Arctic Earth Observing System (SIOS); Implementation and main assets of the SIOS Knowledge Centre
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438 B02-O05 OPENING THE ARCTIC AIRSPACE FOR UNMANNED AIRCRAFT
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348 B02-O06 International Arctic Systems for Observing the Atmosphere (IASOA) –Creating a Collaboration Platform for Pan–Arctic Research
Starkweather Sandra, Uttal Taneil

277 B02-O07 Tracing arctic hydrology with observations of water vapor isotopes from in situ, airborne, and satellite platforms
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319 B02-O08 An Atmosphere Flagship Programme for Ny–Aalesund, Svalbard and beyond
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292 B02-O09 Ship–based atmospheric and sea–state measurements to support the Pacific Arctic Group (PAG) climate observing system
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309 B02-O10 Impact of radiosonde observation on a summertime Arctic cyclone formation forecast
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306 B02-O11  Arctic Ocean Boundary Array: cornerstone of Arctic monitoring

Bacon Sheldon, Tsubouchi Takamasa, Aksenov Yevgeny

161 B02-O12  The Distributed Biological Observatory: A Latitudinal Detection Array for Tracking Ecosystem Change in the Pacific Arctic

Grebmeier Jacqueline, Cooper Lee, Frey Karen, Kikuchi Takashi, Moore Sue, Vagle Svein

84 B02-O13  The Pacific Arctic Group Climate Observing System: An international effort to understand the causes and consequences of sea ice loss in the ‘Hot Spot’ of the Arctic Ocean


137 B02-O14  Year-long, daily-scale ecosystem observations under perennial ice cover in the Arctic Ocean

Laney Samuel, Toole John, Krishfield Richard, Timmermans Mary Louise

170 B02-O15  SIZONet: Multi-purpose, multi-platform observations to inform responses to an Arctic sea ice cover in transformation

Eicken Hajo, Mahoney Andrew, Dammann Dyre, Jones Joshua, Hendricks Stefan, Fukamachi Yasushi, Ohshima Kay, Haas Christian, Gerland Sebastian, Makshitas Alexandr

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52 B02-O16  A world class terrestrial research infrastructure: bringing the scientific community together in remote, cold regions

Johansson Margareta, Callaghan Terry

152 B02-O17  Building a multi-disciplinary observatory in the Lower Yenisei region (Igarka Geocryology Lab)

Tananaev Nikita, Teisserenc Roman

320 B02-O18  SPECIALLY PROTECTED NATURE AREAS OF NORTHEAST EURASIA AS POSSIBLE CENTERS OF KNOWLEDGE ON CONSERVATION OF ARCTIC ECOSYSTEMS STABILITY

Solomonov Nikita, Okhlopkov Innokentiy, Germogenov Nikolai, Isaev Arkadiy, Tatsuzava Shirow, Vladimirtseva Maria, Desyatkin Roman

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332 B02-P01  Svalbard Integrated Arctic Earth Observing System (SIOS): A research infrastructure for Arctic Earth System Science

Oerbeak Jon, Christine Olseng, Roenneberg Ragnhild, Bente Bye, Kaja Hoedving, Kresse Louisa

106 B02-P02  Herbivory Network: an international, collaborative effort to study herbivory in northern and alpine environments

Barrio Isabel C, Bueno C Guillermo, Hik David S, Jonsdottir Ingibjorg Svala, Morsdorf Martin A, Ravolainen Virve T

308 B02-P03  Arctic Ocean Boundary Array: methods, and modelled seasonality of fluxes and storage
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407 B02–P04 Arctic sea ice monitoring and research through Indigenous and community–based observations
Mette Kaufman, Eicken Hajo, Pulsifer Peter, Holak Irene, Sheffield Betsy

342 B02–P05 ICE-ARC: Ice, Climate, and Economics – Arctic Research on Change – EU funded project
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B3: Changing permafrost and its impact on the physical, ecological, economic and cultural Earth system
Main Convener: Ylva Sjöberg

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132 B3–O01 Environmental History of Yakutia and the Permafrost: Rural Residents’ Perceptions of the Permafrost and It’s Role in Everyday Life
Vinokurova Liliia

130 B3–O02 The Limit of Pastoral Adaptation to Permafrost Region under Global Warming: The Sakha People in the middle basin of Lena River
Takakura Hiroki

B3–O03 Towards systematic approaches for interdisciplinary global change research: The alaas permafrost socio-ecological system as case in point
Susan A Crate

82 B3–O04 Climate-Induced Changes in Stability of Russian Urban Infrastructure Built on Permafrost
Shiklomanov Nikolay, Streletskiy Dmitry

Panel: Working across disciplinary borders
Susan Crate, Hiroki Takakura, Joachim Otto Habec

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518 B3–O05 INITIAL CONCEPTUALIZATION AND APPLICATION OF ARCTIC TUNDRA LANDSCAPE EVOLUTION USING THE ALASKA THERMOKARST MODEL
Bolton W

5 B3–O06 Permafrost Research Priorities: A roadmap for the future of permafrost research
Lantuit Hugues, Allard Michel, Guglielmi Mauro, Johansson Margareta, Kraev Gleb, Krautblatter Michael, Krinner Gerhard, Schuur Edward, Sjöberg Ylva, Baeseman Jenny, Schollaen Karina

531 B3–O07 The International Permafrost Association: current initiatives for cryospheric research
Schollaen Karina, Lewkowicz Antoni, Christiansen Hanne, Romanovsky Vladimir, Lantuit Hugues, Schrott Lothar, Sergeev Dmitry, Wei Ma

570 B3–O08 Metadata statistics of the new Global Terrestrial Network for Permafrost database
Biskaborn Boris, Lanckman Jean–Pierre, Lantuit Hugues, Johannson Haldor
Panel: Future challenges for the permafrost research community
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497 B3–O09 Landslide activity peak of the late 1980’s in Central Yamal Peninsula, Russia, observed from time series satellite imagery
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432 B3–O10 TEMPERATURE, SNOW, PERMAFROST: HETEROGENEITY OF CHANGE IN SHRUB GROWTH ON THE ARCTIC TUNDRA
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424 B3–O11 Thermokarst lake sediment as indicator of climate variations: Precise environmental archive or wishful thinking?
Fritz Michael, Lenz Josefine, Gajewski Konrad, Frenzel Peter, Unkel Ingmar, Lantuit Hugues

548 B3–O12 Detection of microorganisms in ancient ice wedges in the Central Yakutia (Russia)
Elina Karnysheva, Anatoly Brushkov, Maria Cherbunina, Svetlana Filippova, Natalia Surgucheva, Valerij Galchenko

470 B3–O13 MODERN TALIK FORMATION ON IV TERRACE OF THE LENA RIVER, CENTRAL YAKUTIA
Gagarin Leonid

135 B3–O14 Permafrost carbon degradation at the land–ocean–interface
Tanski George, Fritz Michael, Lantuit Hugues

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33 B3–P01 Permafrost and indigenous land use in the Northern Urals: Komi and Nenets reindeer husbandry
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35 B3–P02 Mapping Permafrost–Related Terrain Features with PurVIEW
McCuaig Shirley

150 B3–P03 UNDERSTANDING THERMOKARST LAKE DYNAMICS IN ARCTIC ALASKA: CASE STUDIES BASED ON SEDIMENT CORES
Lenz Josefine, Wetterich Sebastian, Jones Benjamin M, Grosse Guido

234 B3–P04 Simulating a role of natural fire disturbance on the soil carbon storage of boreal forest and tundra ecosystems in Alaska
Wang Xin

254 B3–P05 Intrinsic Chemical Conversion of Heavy Metal in Polar Region
KIM KITAE

305 B3–P06 Size and frequency distribution of thermokarst lakes in the eastern Siberia.
Saito Hitoshi, Iijima Yoshihiro, Ulrich Mathias
B4: Arctic snow cover changes and their consequences

Main Convener: Terry V. Callaghan

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<td>CHEMISTRY OF SNOW COVER AND ACIDIC SNOWFALL DURING A SEASON WITH HIGH LEVEL AIR POLLUTION AT HANSBREEN GLACIER, SPITSBERGEN</td>
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Scanning Pan-Arctic Snow Conditions of Freezing and Melting for Analyzing Regional and Interannual Changes, and application to Field Observation Planning
Alimasi Nuerasimuguli, Enomoto Hiroyuki, Sugiura Konosuke, Hori Masahiro, Kameda Takao

MEASUREMENTS OF CHEMICAL COMPOSITIONS IN THE SNOW COVER AT MT. TATEYAMA, JAPAN
Watanabe Koichi

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**B5: Remote Sensing of the Arctic System**

**Main Convener: Jessica Cherry**

**Oral**

**April 29, 10:45–12:15,  SUB–THEME: Atmospheric Science**

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

Main Convener: Dieter Piepenburg

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273 B06–002 USE OF NEXT-GENERATION SEQUENCING IN STUDYING BIOGEOGRAPHY OF SEA-ICE PROTISTS
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482 B06–003 Arctic phytoplankton responses to changing temperature and light
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406 B06–004 Springtime phytoplankton dynamics in the Arctic Krossfjorden and Kongsfjorden (Spitsbergen) as a function of glacier proximity
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18 B06–005 Settling diatom flux reflecting hydrographic change in the western Arctic Ocean, 2010–2012
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224 B06–006 DISTRIBUTION OF MYCOSPORINE-LIKE AMINOACIDS ALONG SIZE-FRACTIONATED PHYTOPLANKTON IN THE BUEAFORT SEA, ARCTIC
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174 B06–008 Spatial distributions of nutrients, dissolved organic carbon and nitrogen in the Chukchi and Beaufort Seas
Jung Jinyoung, Ha Sun Yong, Min Jun Oh, Yang Eun Jin, Shin Kyung Hoon, Kang Sung Ho

145 B06–009 The Arctic Ocean nutrient budget; transport of dissolved inorganic and organic nutrients across the Arctic Ocean boundaries.
Torres Valdes Sinhue, Tsubouchi Takamasa, Naveira Garabato Alberto, Davey Emily, Bacon Sheldon

185 B06–010 CARBONATE SYSTEM AND ITS CONTROL FACTORS IN THE CHUKCHI SEA IN PERSPECTIVE OF THE CHANGING ARCTIC ENVIRONMENT
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136 B06–011 Inter-annual and Shorter-Term Variability in Physical and Biological Characteristics across Barrow Canyon in August – September 2005–2014
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Zooplankton communities on arctic shelves: a panarctic analysis of faunal regions

Hopcroft Russell, Kosobokova Ksenia, Ershova Elizaveta, Questel Jennifer, Smoot Caitlin

Destination North – structural and functional diversity of zooplankton in relation with environmental variables in the entrance to the Arctic Ocean

Gluchowska Marta, Trudnowska Emilia, Blachowiak–Samolyk Katarzyna, Goszczko Ilona, Walczowski Waldemar, Kwasniewski Slawomir

From ‘benthos-dominated’ to ‘zooplankton-dominated’ mode – is it plausible scenario for Arctic fjords?

Grzelak Katarzyna, Gluchowska Marta, Weslawski Jan

Benthic community diversity and structure in relation to sediment processes in the Chukchi Sea

Cooper Lee, Grebmeier Jacqueline

Benthic ecosystem functioning and coupling processes in the shallow Laptev Sea: Evidence from benthic turnover rates, benthic and pelagic patterns

von Juterzenka Karen, Abramova Ekaterina, Link Heike, Novikhin Andrey, Povazhnyi Vassily, Piepenburg Dieter

Benthic population dynamics and diversity in the changing shelf ecosystems of the Bering and Chukchi Seas

Kedra Monika, Grebmeier Jacqueline, Cooper Lee

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A pan-Arctic or polar challenge? Insights from a comparative study of benthic functions on both poles

Link Heike

Benthic Biomass Size Spectra – a tool to identify biotic response to environmental change in the Arctic?

WlodarskaKowalczuk Maria, Gorska Barbara

The diet of polar cod (Boreogadus saida) early life stages: a pan-Arctic study

Bouchard Caroline, Aspirault Ariane, Fortier Louis

Upper thermal limits of cardiac function for Arctic cod Boreogadus saida – a key food web fish species in the Arctic Ocean

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Spatial associations between baleen whales and their prey in the northern Bering and Chukchi Seas

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480 B06–O25 Building partnerships across the Arctic
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269 B06–O26 Russian–German Cooperation in the Siberian Arctic: the Laptev Sea System Program
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479 B06–O27 Coordinating and integrating international studies of marine biodiversity and ecosystem dynamics in the Atlantic sector of the Arctic Ocean – a key activity of the Svalbard Integrated Earth Observing System
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100 B06–O28 PANABIO – A strategic approach to large-scale data integration, analysis and modeling by means of a geo-referenced information system for predicting the response of benthic biota to environmental change in Arctic seas
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443 B06–O29 Integration of the Beaufort Sea Shelf Ecosystem Model with biomarker data to select indicators for monitoring
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393 B06–O30 Modeling future arctic marine ecosystems
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310 B06–P02 THE SOURCES OF FOOD FOR BENTHIC COMMUNITIES IN THE TWO ARCTIC FIORDS CHARACTERISED BY DIFFERENT ENVIRONMENTAL CONDITIONS
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516 B06–P03 Seasonal variability in high Arctic fjord benthic food web – stable isotope case study
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526 B06–P04 Meiofaunal communities along an offshore gradient in two glacial Spitsbergen fjords
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271 B06–P05 Changes in Arctic benthos – Demand for a “functional Atlas”
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189 B06-P08 SPATIAL DISTRIBUTION AND CHARACTERISTICS OF DISSOLVED ORGANIC MATTER IN THE BEAUFORT AND CHUKCHI SEAS
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416 B06-P09 Adaptability to environmental change in a high–latitude fjord ecosystem: The Kongsfjorden Ecosystem Flagship Program
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179 B06-P10 Distributions of the Pacific–origin waters in the Chukchi Borderland, 2010–2014
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551 B06-P11 Localised shelf-break upwelling and downwelling and alongshelf flow on the Canadian Beaufort Shelf – response at Cape Bathurst and Herschel Island to along–shelf wind and flow.
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181 B06-P13 Seasonal and interannual variability of remotely sensed chlorophyll–a in Arctic Ocean during a recent decade
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226 B06-P15 CORRELATION BETWEEN PHYTOPLANKTON COMMUNITIES AND ENVIRONMENTAL FACTORS IN THE WESTERN ARCTIC OCEAN DURING LATE SUMMER, 2012
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295 B06-P16 SPATIAL VARIABILITY OF SPECIES COMPOSITION, ABUNDANCE AND BIOMASS OF LATE SUMMER PHYTOPLANKTON IN THE LAPTEV SEA (SEASONS 2008–2010)
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362 B06-P17 Seasonal change of sound scatters derived from zooplankton in the southern Chukchi Sea
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513 B06-P18 Growing of the Arctic Marine Ecosystem – food–web traits of the high latitude Spitsbergen fjords ecosystems with contrasting oceanographic conditions
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242 B06-P19 DETERMINATION OF PHOTOSYNTHETIC PIGMENT PRODUCTION RATE AND DISSOLVED FREE AMINO ACID FROM MELTING PONDS ON ARCTIC SEA ICE
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229 B06-P20 ASSESSMENT OF THE RELATIONSHIP BETWEEN TIMING OF SEA-ICE RETREAT AND PHYTOPLANKTON COMMUNITY SIZE STRUCTURE IN THE BERING AND CHUKCHI SEA SHELF REGION: A REMOTE SENSING APPROACH
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430 B06-P21 Hydrochemical regime of the Pechora River in present–day conditions of anthropogenic impact
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336 B07–O02 The Complex response of Arctic aerosol to sea-ice retreat
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382 B07–O03 On assessing the temporal variability of Arctic energy budgets
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589 B07–O04 Future changes in the Arctic Ocean biogeochemistry in CMIP5 projections with MPI-ESM
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225 B07–O05 Towards Process Resolving Modeling, Integrated Synthesis and Prediction of Arctic Climate Change
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384 B07–O07 Direct Observations of Ocean Variability Across the Arctic Marginal Ice Zone from Autonomous Gliders
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532 B07–O08 Atmosphere–Ice–Ocean Interactions During Summer Melt and Early Autumn Freeze–up: Observations from the ACSE Field Program

572 B07–O09 Rapid sea–ice melt due to warm air advection: Observations from the ACSE Field Program
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Climatology of polar lows over the Japan Sea using the JRA-55 reanalysis
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Arctic Ocean circulation changes in the last decade, derived from observations and model investigations
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The Atlantic Water impact on the shelf–basin exchange at the boundary between the Barents Sea and the Greenland Sea.
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Tides stir up Atlantic Water heat along the Arctic Ocean continental slope
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Upper Arctic Ocean decadal changes: freshwater, stratification and surface velocity
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206 B07-O23 Seasonality and trends of freshwater exchanges between the ice and ocean in the Canada Basin
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324 B07-O24 Mechanisms of Polar Surface Water and their Prospects with Loss of Summer Ice Cover
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243 B07-O25 Volume, heat and freshwater fluxes of Pacific Water through the Barrow Canyon in the Arctic Ocean
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494 B07-O26 Existence of the Mendeleev Gyre and its role in Arctic circulation
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441 B07-O27 ROLES OF DIFFERENT FACTORS IN SHAPING ARCTIC OCEAN HYDROGRAPHY AND CIRCULATION
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290 B07-O28 Mixing, overturning and water mass transformation in the Arctic Ocean
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11 B07-O29 Future states of the Arctic Ocean using a coupled ice–ocean model with probability distribution function
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178 B07-O30 Two decades of the Atlantic water variability in Fram Strait and its links to the regional sea ice and atmospheric changes
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108 B07-O31 Observed seasonal variation of the Arctic Ocean heat and fresh water budgets
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415 B07-O32 Autonomous Investigations of Marginal Ice Zone Processes— Changing Feedbacks and Observational Challenges
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408 B07-P02 The Arctic Sea Ice Seasonality Index
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270 B07–P03  Change in sea ice thickness caused by the ice motion
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70 B07–P04  THE SEA ICE ALBEDO FEEDBACK IN ACTION: A CASE STUDY
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55 B07–P06  Changes of heat balance in Hornsund (SW Spitsbergen) in the period from May to October 2014
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354 B07–P07  Changes to the surface wave boundary layer in the presence of partial ice cover.
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454 B07–P09  Continuously radiosonde observation on–ice and off–ice by Icebreaker passing through marginal ice zone in Laptev Sea.
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87 B07–P10  HORIZONTAL VARIABILITY SPECTRUM IN THE ARCTIC OCEAN
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349 B07–P11  In Situ Measurements of an Energetic Wave Event in the Arctic Marginal Ice Zone
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54 B07–P12  Arctic Ocean stability, a balance between cooling and freezing, freshwater input and sea ice melt
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151 B07–P13  Predicting the Arctic Ocean Environment in the 21st century
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124 B07–P14  Delayed response of the oceanic Beaufort Gyre to wind sea ice motion: Influences on recent sea ice reduction in the Pacific sector of the Arctic Ocean
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507 B07–P15  Forcing, Variability, and Pathway of a Siberian Buoyancy–driven Current and its implications for Arctic freshwater variability
24 B07-P16  Magnitude and variation of under ice primary production in the Arctic Ocean
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176 B07-P17  NUTRIENT SUPPLY AND BIOLOGICAL RESPONSE CAUSED BY WIND–INDUCED FORCING IN THE NORTHERN CHUKCHI SEA
            Nishino Shigeto, Kawaguchi Yusuke, Inoue Jun, Hirawake Toru, Fujiwara Amane, Futsuki Ryosuke, Onodera Jonaotraro, Aoyama Michio

160 B07-P18  ATMOSPHERIC FORCING OF TRANSPORT OF POLAR WATER AND SEA ICE OVER THE NORTH ICELANDIC SHELF
            Jonsson Steingrimur, Valdimarsson Hedinn

418 B07-P19  Freshwater changes in the Nordic Sea and its connection with the regional Ocean and Atmosphere variations
            DU Ling, ZHAO Jinping
**B8: From human security to geopolitical dynamics in the Global Arctic: the global implications of rapid environmental, economic, and societal change**

**Main Convener:** Lassi Heininen

**[Oral]**
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<td>Kishigami Nomuhiro</td>
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<td>Human security as Arctic geographies of provisioning</td>
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<td>Arthur Mason</td>
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<td>Global Change, Biodiversity and the livelihoods of Indigenous Arctic People in North-Eastern Siberia</td>
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<td>Stanisl Ksenofontov, et al</td>
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**Poster Introductions**
### B9: Arctic Governance, Sustainable Development of Local Communities and Non-Arctic State’s Contribution

**Main Convener: Shiniciro Tabata**

**【Oral】**

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BAKER Betsy

472 B09–O14 New Challenges for Arctic Regional Order

Ohnishi Fujio

6 B09–O15 ARCTIC GOVERNANCE AND INDIGENOUS PEOPLES: A HUMAN SECURITY PERSPECTIVE

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413 B09–O16 The UK’s, German and French approaches to the Arctic

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488 B09–O17 THE EU’ S MORAL RESPONSIBILITY: BANNING IMPORTS OF RUSSIAN ARCTIC OIL

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519 B09–O18 Arctic Council’s impact on member states policies: does it really matter? Arctic Council and Norwegian shipping policy

Graczyk Piotr

514 B09–O19 Thinking Outside the Box: A Call for the Polar Treaty

Ason Agnieszka

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Sprau Matthew

300 B09–P03 Institutional diversity and its effects on social vulnerability and human security: analytical framework

Loginova Julia

426 B09–P04 Russian coal mining in Svalbard: paths to sustainability

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B10: Ice mass loss in Greenland and Arctic glaciers under the influence of changing atmosphere and the ocean

Main Convener: Shin Sugiyama

【Oral】
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59 B10–O01 Relevance of ice stream dynamics and induced anisotropy for simulating the discharge of the Greenland ice sheet
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338 B10–O02 North East Greenland Ice Stream: Flow Dynamics from Geophysics and Implications for Sea Level Rise
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171 B10–O03 Ice front and flow speed variations of marine terminating outlet glaciers along the coast of Prudhoe Land, northwestern Greenland
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262 B10–O04 Modeling the flow dynamics of the Bowdoin Glacier, Qaanaaq region, northwestern Greenland
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1 B10–O05 GLACIAL EARTHQUAKE ACTIVITIES AND ICE SHEET DYNAMICS IN GREENLAND
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486 B10–O06 Programme for Monitoring of the Greenland Ice Sheet
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389 B10–O08 The oceanic influence on glaciers calving in Hornsund Fjord, Spitsbergen
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395 B10–O09 Meltwater and rain water discharge from glacier basins of Spitsbergen and its influence on ice cliff dynamics
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374 B10–O10 Pathways of warm water to the Northeast Greenland outlet glaciers
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274 B10–O11 GRIFF 2016 – an interdisciplinary campaign to study the 79° N glacier and its interaction with the ocean
Strategy for future research to investigate ice–ocean interaction in Greenland

Humbert Angelika

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Mass balance and dynamics of Austfonna ice cap, Svalbard

Hagen Jon Ove, Dunse Thorben, Eiken Trond, Kohler Jack, Moholdt Geir, Schuler Thomas, Ostby Torbjorn

Evolution of Svalbard land–terminating glaciers over the 21st century

Francisco Navarro, Moeller Marco, Martin–Espanol Alba, Finkelnburg Roman

Modelling mass balance and dynamics of Hardangerjøkulen ice cap, southern Norway

Akesson Henning, H Nisancioglu Kerim, H Giesen Rianne, Morlighem Mathieu

Shrinking glaciers in Suntar Khayata, east Siberia

Kadota Tsutomu, Shirakawa Tatsuo, Kusaka Ryo, Takahashi Shuhei, Galanin Alexay, Fedorov Alexander, Enomoto Hiroyuki, Ohata Tetsuo, Yabuki Hironori

Modeling future mass balance of the Arctic glaciers: case study in the Altai Mountains

Zhang Yong, Enomoto Hiroyuki, Ohata Tetsuo

Appearance of new Arctic islands due to recession of glaciers

Ziaja Wieslaw, Ostafin Krzysztof

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Light absorbing snow impurities measured at SIGMA–A, Greenland ice sheet and their effect on albedo

Aoki Teruo, Matoba Sumito, Yamaguchi Satoru, Tanikawa Tomonori, Niwano Masashi, Kuchiki Katsuyuki, Hori Masahiro, Motoyama Hideaki, Goto Azuma Kumiko, Ogawa Yoshimi, Kondo Yutaka, Moteki Nobuhiro

Quantification of impurities on melting glacier ice surfaces and its relation to measured albedo

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Darkening Greenland and cryoconite hole dynamics

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Snow algal communities and its effect on melting of glaciers in Suntar Khayata Mountain range in Eastern Siberia

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182 B10-O24 Surface energy balance at the site SIGMA-A, northwest Greenland during the record surface melt event in the summer of 2012
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207 B10-P02 Sensitivity of the simulated projection of Greenland ice sheet to variation of structural uncertainties in ice–sheet models
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545 B10-P03 Destabilization of the Greenland ice sheet during the last interglacial
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48 B10-P04 Mass balance estimation for the Hurlbut Ice Cap in northern Greenland,
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420 B10-P05 Surface elevation change on ice caps in northwestern Greenland
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60 B10-P06 Glacier and rock temperature changes in the Suntar–Khayata Range (northeastern Russia) over the last 50 years
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119 B10-P07 Spatial and temporal distributions of high turbidity ocean water off the northwestern Greenland coast
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198 B10-P08 Trend and Inter–Annual Variability in Southeast Greenland Sea Ice: Impacts on Coastal Greenland Climate Variability
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107 B10-P09 Temporal and spatial variations in dark ice surface on Greenland ice sheet derived from MODIS satellite image
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241 B10-P10 RETRIEVALS OF SNOW ALBEDO AND ICE SURFACE TEMPERATURE IN THE NORTH–WEST GREENLAND USING MODIS DATA
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121 B10-P11 Temporal change in chlorophyll–a concentration on a snowpack in Qaanaaq Ice Cap in northwest, Greenland
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B11: Navigation and Fisheries in the Arctic: Prospects, Problems and International Policies

Main Convener: Atsumu Ohmura

[Oral]

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Networks and Governance of Arctic Shipping and Fishing: A Robust Management Approach
Pincus Rebecca

The main outcomes of Sessions B11 “Navigation and Fisheries in the Arctic: Prospects, Problems and International Policies”
Ohmura Atsumu
### C01: Sharing Arctic data, observations and knowledge: understanding the global system through international exchange

**Main Convener: Peter L. Pulsifer**  
**[Oral]**

**April 27, 14:00–15:30**

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27  C01-O13  Barents Sea benthic fauna in a changing Sea
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375  C01-O15  LEGAL BACKGROUND IN THE INTERNATIONAL LAW CONCERNING INDIGENOUS INTELLECTUAL PROPERTY IN THE ARCTIC
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112  C01-O16  The Transfer of Arctic-based Research and Science Communication Methods to Tropical Contexts
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C02: Arctic in Rapid Transition — future research directions from the perspective of early career scientists
Main Convener: Makoto Sampei

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Main Convener: Victoria Pease

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C04: Co-design, co-production, co-communication of scientific knowledge? how to frame concerted research for sustainable development in times of change

Main Convener: Jörn Schmidt

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C05: Advances in Transdisciplinary Arctic Research: Progress on Building Collaborative Agendas for Research Supporting Solutions for Sustainability

Main Convener: Carolina Cavazos Guerra

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Debate Panel (Trevor Bell, Volker Rachold, Timo Koivurova, TBC, TBC)

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C06: Understanding Sustainability in the Arctic: From Patchwork to Framework
Main Convener: Andrey N. Petrov

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39 17:40-17:50  C06–P02  THE EFFECTS OF CLIMATE CHANGE ONTOZHU REINDEER HERDERS IN SOUTHERN SIBERIA
   Arakchaa Tayana

129 17:50-18:00  C06–P03  Mining as a Part of Environment: Indigenous people and extractive industries in the North-West of Russia
   Varfolomeeva Anna
C07: The Arctic system; changes and effects with emphasis on freshwater ecosystems
Main Convener: Alexander M. Milner

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99 C07–O14 Climate change and water sources in Arctic streams; effects on physiochemical variables and biotic communities.
Milner Alexander

287 C07–O15 Changes to freshwater systems affecting Arctic infrastructure and natural resources
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201 C07–O16 Arctic Hydrological Change: Major Implications for Terrestrial and Freshwater Ecosystems
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81 C07–P01 Water storage changes on arctic watersheds. Contribution of future SWOT mission
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168 C07–P02 12 years’ changes of the terrestrial water storage in the Lena River basin, eastern Siberia detected by GRACE
Suzuki Kazuyoshi

195 C07–P03 Increases in pan–Arctic river water temperature and heat flux to the Arctic Ocean
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202 C07–P04 Freshwater diatom assemblages from Yakutia, Eastern Siberia: pattern, diversity, and relationship to environmental parameters
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404 C07–P05 Thermal effects from groundwater flow – A case study from a subarctic fen within the sporadic permafrost zone of Tavvavuoma, Sweden
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520 C07–P06 Cyanobacterial diversity along a latitudinal Arctic gradient
Velazquez David, Falde Marta, Vincent Warwick, Quesada Antonio

525 C07–P07 WARD HUNT LAKE: A SENTINEL ECOSYSTEM AT THE TOP OF THE CANADIAN HIGH ARCTIC
Begin Paschale, Vincent Warwick
C08: Circumpolar Arctic Coastal Communities Observatory Network: knowledge Hubs for Northern Coastal Sustainability

Main Convener: Dr. Donald L. Forbes, Memorial University

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<td>Resilience in a coastal Sámi community – challenges to current and future resilience and sustainable development</td>
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<td>536</td>
<td>REGIONAL PRIORITIES AND PERSPECTIVES: EXAMPLE FROM CHUKOTKA</td>
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<td>493</td>
<td>Identifying regional and circumpolar Arctic coastal research priorities</td>
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[Poster core time] April 28, 17:30–

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<td>Coastal indigenous communities’ problems associated with permafrost changes in Eastern Chukotka</td>
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<td>333</td>
<td>New insights into coastal erosion rates along the Yukon Coast, Canada</td>
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<td>465</td>
<td>Morality, Practice and Economy in a Commercial Seal Hunting Community in Canada</td>
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<td>483</td>
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<td>Questions and Discussion</td>
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**[Poster core time] April 28, 17:30~19:00**

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<td>10</td>
<td>Health inequalities are unethical. Indigenous health and well-being through the lens of structural racism: A case study of Canada, Finland and Norway.</td>
<td>Juutilainen Sandra</td>
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<td>475</td>
<td>Toward a joint epistemology: meaningful knowledge production for local communities and academia</td>
<td>Saxinger Gertrude</td>
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**C11: Early Exploration and Exploitation and their Impact Today on Local Arctic Societies**

**Main Convener: Peter Sköld**

**[Oral]**

**April 27, 16:00–17:30**

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<tr>
<td>16:00–16:05</td>
<td>C11–O01</td>
<td>Introduction</td>
<td>Dr. Peter Skold</td>
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<td>16:05–16:20</td>
<td>C11–O02</td>
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<td>16:20–16:35</td>
<td>C11–O03</td>
<td>The impact of environmental change on the Arctic aboriginal population’s economy—a case study of the Inuit in Canada</td>
<td>Dr. Pan Min</td>
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<td>16:35–16:50</td>
<td>C11–O04</td>
<td>Cultural confrontation or coexistence? Indigenous peoples of the North Soviet Union between resistance and coexistence</td>
<td>Dr. Florian Stammler</td>
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<td>16:50–17:05</td>
<td>C11–O05</td>
<td>Cultural heritage as we affect it and it affects us</td>
<td>Dr. Susan Barr</td>
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<td>C11–O06</td>
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<td>17:20–17:30</td>
<td>C11–O07</td>
<td>concluding discussion</td>
<td>Dr. Peter Skold</td>
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