

## **A2: Paleoclimatic perspective on Arctic changes and polar amplification**

**Main Convener: Kenji Kawamura**

**April 27 (Monday), Room 201, 14:00-15:30**

**Chair: Masanobu Yamamoto, Keiji Kawamura**

- 14:00-14:15 A02-O01 THE DYNAMIC ARCTIC  
O. Ingolfsson\*
- 14:15-14:30 A02-O02 A MULTIDISCIPLINARY, PAN-ARCTIC NETWORK FOR RESEARCHING ARCTIC  
PALAEOCLIMATE  
K. O. Strand\*, C. O'Cofaigh
- 14:30-14:45 A02-O03 INTRODUCTION OF "LONG-TERM PLAN FOR ARCTIC ENVIRONMENTAL RESEARCH,  
THEME 6: FUTURE ARCTIC ENVIRONMENT EXPLORED FROM PALEOENVIRONMENTAL  
RECORDS" OF JAPAN  
K. Kawamura\*
- 14:45-15:00 A02-O04 THE 'LITTLE ICE AGE' WARMING IN THE WEST GREENLAND WATERS BASED ON  
DIATOM MICROFOSSILS  
D. W. Krawczyk\*, A. Witkowski, M. Moros, T. Juul-Pedersen, K. Arendt, J. Mortensen
- 15:00-15:15 A02-O05 INSOLATION CONTROL ON THE BEAUFORT GYRE DYNAMICS DURING THE HOLOCENE  
M. Yamamoto\*, S. I. Nam, L. Polyak, D. Kobayashi, T. Irino, K. Shimada
- 15:15-15:30 A02-O06 THE FLEETING GLACIERS OF THE ARCTIC  
O. Paasche\*, J. Bakke

**April 27 (Monday), Room 201, 16:00-17:30**

**Chair: Ayako Abe-Ouchi, Keiji Kawamura**

- 16:00-16:15 A02-O07 THE LATE QUATERNARY OF ARCTIC CANADA: THE INTERPLAY OF CLIMATE, SEA-  
LEVEL, ICE, AND OCEANS  
A. J. Pienkowski\*, M. F. A. Furze
- 16:15-16:30 A02-O08 THE FENNOSCANDIAN ICE SHEET AS A TRIGGER FOR DANSGAARD-OESCHGER CYCLES  
K. H. Nisancioglu\*, T. M. Dokken
- 16:30-16:45 A02-O09 THE INFLUENCE OF GLACIAL ICE SHEETS ON ATLANTIC MERIDIONAL OVERTURNING  
CIRCULATION THROUGH ATMOSPHERIC CIRCULATION CHANGE UNDER GLACIAL  
CLIMATE  
S. Sherriff-Tadano\*, A. Abe-Ouchi, M. Yoshimori, A. Oka, W.-L. Chan
- 16:45-17:00 A02-O10 VARIABILITY OF TERRESTRIAL BIOGENIC IONS OVER THE PAST 128,000 YEARS FROM A DEEP  
ICE CORE DRILLED AT NEEM, GREENLAND  
K. Goto-Azuma\*, A. Wegner, M. Hirabayashi, M. Hansson, T. Kuramoto, B. Twarloh, H. Motoyama
- 17:00-17:15 A02-O11 TOC FLUCTUATION OF MD01-2407 CORE FROM JAPAN SEA AS A PROXIES OF  
GREENLAND ICE SHEET IN THE GLACIAL PERIODS FOR THE PAST 640 KA  
F. Kumon\*, Y. Takizawa
- 17:15-17:30 A02-O12 DRIVERS AND MECHANISMS FOR ENHANCED MID-PLIOCENE SUMMER MONSOON  
PRECIPITATION OVER EAST ASIA SIMULATED IN THE PLIOMIP  
Y. Sun\*, T. Zhou, G. Ramstein, C. Contoux, Z. Zhang

## **C7: The Arctic system; changes and effects with emphasis on freshwater ecosystems**

**Main Convener: Alexander M. Milner**

**April 28 (Tuesday), Room 201, 10:45-12:15**

**Chair: Jon Olafsson**

- C07-O01 ARCTIC COASTAL TRANSIT AND CYCLIC AQUATIC SYSTEMS' HYDROLOGICAL AND  
GEOCHEMICAL PARTICULARITIES  
I. V. Fedorova\*, A. A. Chetverova, I. E. Sidorina, O. N. Bobrova, B. Heim, Y. A. Dvornikov,  
T. V. Skorospelkova, A. Morgenstern, N. K. Shumskaya, A. A. Shadrina
- C07-O02 FRESHWATER PATHWAYS IN THE SUB-ARCTIC SEAS FROM THE GREENLAND  
FRESHWATER EXPERIMENT  
D. S. Dukhovskoy\*, M. Bourassa, A. Proshutinsky
- C07-O03 FRESH WATER AND ITS ROLE IN THE ARCTIC MARINE SYSTEM: SOURCES, DELIVERY,  
DISPOSITION, STORAGE, EXPORT, AND PHYSICAL AND BIOGEOCHEMICAL CONSEQUENCES  
IN THE ARCTIC AND GLOBAL OCEANS  
E. Carmack, M. Yamamoto-Kawai\*, S. Bacon, B. Bluhm, T. Haine, C. Lique, H. Melling,

I. Polyakov, F. Straneo, M. L. Timmermans, W. Williams

- C07-004 THE ARCTIC ATMOSPHERIC WATER CYCLE: PAST AND FUTURE CHANGES AND THEIR IMPACTS  
T. Vihma\*, J. Screen, C. Deser, M. Holland, B. Newton, V. Popova, T. Prowse, M. Tjernstrom, J. Walsh, X. Zhang
- C07-005 ARCTIC TERRESTRIAL HYDROLOGY: A SYNTHESIS OF PROCESSES, CHANGE DRIVERS AND RESEARCH CHALLENGES  
A. Bring, I. Fedorova\*, Y. Dibike, L. Hinzman, J. M. Karlsson, S. H. Mernild, T. Prowse, O. Semenov, S. Stuefer, M. K. Woo
- C07-006 EPOCH DIFFERENCES IN WATER CYCLES IN EASTERN AND WESTERN SIBERIA DURING THE PAST TWO CENTURIES  
K. Oshima\*, K. Ogata, H. Park, Y. Tachibana

**April 28 (Tuesday), Room 201, 13:45-15:15**

**Chair: Alexander Milner**

- C07-007 FIRE-CAUSED NONSTATIONARITY OF HYDROLOGICAL SYSTEMS IN COLD ENVIRONMENTS: THE EXAMPLES FROM OBSERVATIONS AND MODELLING ACROSS RUSSIAN SIBERIA AND FAR EAST  
O. Semenov, L. Lebedeva\*
- C07-008 STATUS & PROSPECTS OF ARCTIC FRESHWATER EXPORT  
T. Haine\*, B. Curry, R. Gerdes, E. Hansen, M. Karcher, C. Lee, B. Rudels, G. Spreen, L. de Steur, K. Stewart, R. Woodgate
- C07-009 A STUDY OF THE WHOLE YEAR CYCLES OF CYANOBACTERIA/MICROALGAE IN POLAR HYDROTERRESTRIAL ENVIRONMENTS  
D. Tashyreva, M. Pichrtová, J. Elster\*
- C07-010 TRACE ELEMENT BIOGEOCHEMISTRY IN THAW LAKES: INFLUENCE OF ORGANIC MATTER  
J. Canario\*, L. Castanheira, T. Duarte, M. da C. Oliveira, J. Ascenso, M. de F. Araujo, G. Vieira, W. Vincent
- C07-011 CHANGES IN POND COMMUNITY ASSEMBLAGES AT A MORaine OF RAPID RETREATING GLACIER  
J. S. Olafsson\*, R. Þ. Magnúsdóttir
- C07-012 PERMAFROST LAKES IN THE ARCTIC FRESHWATER ARCHIPELAGO  
W. F. Vincent\*, I. Laurion

**April 28 (Tuesday), Room 201, 15:45-17:15**

**Chair: Warwick Vincent**

- C07-013 ARCTIC FRESHWATER SYNTHESIS: SOURCES, FLUXES, STORAGE AND EFFECTS  
T. Prowse\*, A. Bring, E. Carmack, J. M. Karlsson
- C07-014 CLIMATE CHANGE AND WATER SOURCES IN ARCTIC STREAMS; EFFECTS ON PHYSIOCHEMICAL VARIABLES AND BIOTIC COMMUNITIES.  
A. M. Milner\*, P. J. Blaen, L. E. Brown, K. K. Khamis, D. M. Hannah
- C07-015 CHANGES TO FRESHWATER SYSTEMS AFFECTING ARCTIC INFRASTRUCTURE AND NATURAL RESOURCES  
A. Instanes\*, V. Kokorev, R. Janowicz, O. Bruland, K. Sand, T. Prowse
- C07-016 ARCTIC HYDROLOGICAL CHANGE: MAJOR IMPLICATIONS FOR TERRESTRIAL AND FRESHWATER ECOSYSTEMS  
F. J. Wrona, M. Johansson\*, J. Culp, A. Jenkins, J. M. Karlsson, I. M. Smith, T. Prowse, W. Vincent, P. Wookey
- MODERATED DISCUSSION

**B1: Arctic Climate Change and Potential Mid-latitude Weather Linkages: Large-scale Atmospheric Circulation and Storm Track Dynamics**

**Main Convener: James E. Overland**

**April 29 (Wednesday), Room 201, 10:45-12:15**

**Chair: James E. Overland**

- B01-001 DYNAMICS OF THE ARCTIC OSCILLATION AS A DOMINANT INTERNAL VARIABILITY AND A POSSIBLE LINK TO THE WARMING HIATUS  
H. L. Tanaka\*

- B01-O02 IS THE JET STREAM BECOMING WAVIER IN RESPONSE TO RAPID ARCTIC WARMING?  
J. Francis\*, S. Vavrus
- B01-O03 REGIONAL AND GLOBAL INTERACTIONS BETWEEN ARCTIC SEA ICE AND THE ATMOSPHERIC CIRCULATION  
K. Dethloff\*, D. Handorf, R. Jaiser, A. Rinke, B. Crasemann, W. Dorn
- B01-O04 ARCTIC IMPACTS ON MID-LATITUDE WEATHER AND CLIMATE: THE RESEARCH CHALLENGE  
J. E. Walsh\*, T. Vilma
- B01-O05 INTENSIFIED LINKAGE BETWEEN ARCTIC CLIMATE CHANGE AND MIDLATITUDE EXTREME EVENTS: ROLE OF ATMOSPHERIC CIRCULATION AND STORM TRACK DYNAMICS  
X. Zhang, S. Basu, C. Lu, Z. Wang, Z. Guan
- DISCUSSION

**April 29 (Wednesday), Room 201, 13:45-15:15**

**Chair: Xiangdong Zhang**

- B01-O06 A NEGATIVE PHASE SHIFT OF THE WINTER AO/NAO DUE TO THE RECENT ARCTIC SEA-ICE REDUCTION IN LATE AUTUMN  
T. Nakamura\*, K. Yamazaki, K. Iwamoto, M. Honda, J. Ukita, Y. Miyoshi, Y. Ogawa
- B01-O07 IMPACT OF SNOW COVER AND SEA ICE ON SUB-SEASONAL TO SEASONAL PREDICTIONS IN THE ARCTIC  
Y. Orsolini\*, R. Senan, G. Balsamo, A. Weisheimer, F. Vitart, F. D. Reyes
- B01-O08 RECENT RAPID ARCTIC CHANGE AND ITS INFLUENCE ON EAST ASIA WEATHER  
S. J. Kim\*, B. M. Kim, S. H. Woo, J. H. Kim
- B01-O09 SPATIAL-TEMPORAL PATTERNS OF THE COLD SURGE EVENTS IN CHINA IN RECENT 50 YEARS AND ITS RELATIONSHIP WITH ARCTIC SEA ICE  
F. Huang\*, C. Zhu
- B01-O10 GREENLAND BLOCKING AS A MECHANISM FOR RECENT ARCTIC/MID-LATITUDE WEATHER LINKAGES  
J. E. Overland\*, E. Hanna
- DISCUSSION

**April 29 (Wednesday), Room 201, 15:45-17:15**

**Chair: Seong-Joong Kim**

- B01-O11 ROBUST ARCTIC SEA-ICE INFLUENCE ON THE FREQUENT EURASIAN COLD WINTERS IN PAST DECADES  
M. Mori\*, M. Watanabe, H. Shioyama, J. Inoue, M. Kimoto
- B01-O12 THE EXTREME EUROPEAN COLD SPELL IN 2011/12 WINTER. PART I: ROLES OF ROSSBY WAVE TRAINS AND STORM TRACK FEEDBACK  
L. Wang\*, H. Nakamura, K. Nishii
- B01-O13 POTENTIAL ARCTIC IMPACTS ON THE NORTH ATLANTIC JET STREAM  
R. J. Hall\*, E. Hanna
- B01-O14 THE EFFECT OF DOWNWELLING LONGWAVE RADIATION ON ARCTIC SUMMER SEA ICE  
M.-L. Kapsch\*, R. G. Graversen, M. Tjernström, T. Economou, R. Bintanja
- B01-O15 THE STRUCTURE AND DEVELOPMENT OF ARCTIC CYCLONES  
T. Aizawa\*, H. Tanaka
- DISCUSSION

**B4: Arctic snow cover changes and their consequences**

**Main Convener: Terry V. Callaghan**

**April 30 (Thursday), Room 201, 10:45-12:15**

**Chair: Teruo Aoki**

- 10:45-11:00 B04-O01 ARCTIC SNOW COVER CHANGES AND THEIR CONSEQUENCES: DEVELOPING A ROAD MAP FOR RESEARCH AND LONG-TERM MONITORING  
T. V. Callaghan\*, M. Johansson on behalf of the IASC Snow Meeting Participants, Copenhagen, 16-17 October 2014.
- 11:00-11:15 B04-O02 CLOUD COVER DICTATES SPRING SNOW COVER, BUT SURFACE TEMPERATURE CHANGE IS RELATED TO BOTH

|             |         |   |
|-------------|---------|---|
|             |         | S. N. Williamson, D. Hik*, J. Gamon   |
| 11:15-11:30 | B04-O03 | SNOW MICROSTRUCTURE AND MODELLING IN SUPPORT OF PERMAFROST SCIENCE<br>M. Proksch, I. Gouttevin, M. Langer, P. Ebner, C. Fierz, M. Schneebeli* |
| 11:30-11:45 | B04-O04 | IMPACTS OF CHANGING WINTER SNOW CONDITIONS FOR ARCTIC ECOSYSTEMS<br>S. Bokhorst*  |
| 11:45-12:00 | B04-O05 | HIGH ARCTIC PLANT RESPONSES TO CHANGES IN SNOW COVER<br>E. J. Cooper*   |
| 12:00-12:15 |         | QUESTIONS AND DISCUSSION  |

**April 30 (Thursday), Room 201, 13:45-15:15**

**Chair: Margareta Johansson**

|             |         |  |
|-------------|---------|--|
| 13:45-14:00 | B04-O06 | EFFECTS OF CHANGING SNOW CONDITIONS ON REINDEER HUSBANDRY IN ARCTIC SWEDEN<br>G. Rosqvist*, N. Inga  |
| 14:00-14:15 | B04-O07 | THERMAL AND HYDROLOGICAL CONTROLS OVER ORGANIC MATTER REDISTRIBUTION IN GLACIAL SNOW COVER<br>K. Koziol*, E. Brown, N. Rutter, H. Moggridge, A. Hodson                                   |
| 14:15-14:30 | B04-O08 | CHEMISTRY OF SNOW COVER AND ACIDIC SNOWFALL DURING A SEASON WITH HIGH LEVEL AIR POLLUTION AT HANSBREEN GLACIER, SPITSBERGEN<br>K. Migala*, A. P. Nawrot, B. Luks, K. Migala, P. Glowacki |
| 14:30-14:45 | B04-O09 | SNOW COVER IN RUSSIAN ARCTIC CITIES DUE TO CLIMATE CHANGE<br>M. N. Ivanov*   |
| 14:45-15:15 |         | GENERAL DISCUSSION: BUILDING A ROAD MAP FOR FUTURE RESEARCH AND MONITORING<br>Moderated by M. Schneebeli   |