Program for the Second International Symposium on the Arctic Research (ISAR-2)

6-10 December 2010, Hitotsubashi Memorial Hall, Tokyo, Japan

Page

6 December 2010 (Monday)

17:00- Registration for public lecture and symposium
18:00-20:00 Public Lecture

7 December, 2010 (Tuesday)

9:00- Registration
9:45-10:15 Opening Session **Chair: Ohata T.**

O-1 Kanda, Hiroshi (Chair of International Organizing Committee for ISAR-2, National Institute of Polar Research) Mission of ISAR-2

O-2 Hik, David. (President of IASC (International Arctic Science Committee), University of Alberta) Welcome talk

O-3 Steffen, Konrad (Chair of WCRP/CliC (Climate and Cryosphere), University of Colorado) Welcome talk

O-4 Ishizaki, Hiroaki (Director for Polar Research Program, Ministry of Education, Culture, Sports, Science, and Technology Japan) Welcome talk

10:15-10:45 Keynote Speech 1

KN-1 CHANGES IN THE ARCTIC ICE COVER – GREENLAND ICE SHEET AND SURROUNDING OCEANS 1
Steffen K.

10:45-11:15 Keynote Speech 2

KN-2 PACIFIC ARCTIC SECTOR: BIOLOGICAL AND ECOSYSTEM RESPONSE TO CLIMATE WARMING 2
Grebmeier J.M., Cooper L.W., Frey K.E., Moore S.E.

11:15-11:30 Coffee Break

11:30-12:00 Keynote Speech 3

KN-3 ARCTIC OSCILLATION OR ICE-ALBEDO FEEDBACK? 3
A DISCREPANCY IN THE WARMING PATTERN OF THE IPCC MODEL PROJECTION
Tanaka H.L.

12:00-13:25 (S1) Changing Arctic System and Global Influence
Chair: Tachibana Y. and Ohata T.

S1-O1 IMPACT OF THE 2007 ARCTIC SEA ICE REDUCTION IN COUPLED OCEAN-ATMOSPHERE AUTUMN HINDCASTS 4
Orsolini Y.J., Senan R., Benestad R.E., Balmaseda M.A.

S1-O2 INFLUENCE OF RECENT ARCTIC SEA-ICE REDUCTION ON ANOMALOUSLY COLD EURASIAN WINTERS 5
Honda M. (Invited speaker)

S1-O3 NORTHERN HEMISPHERE SEA-ICE: SUMMER TREND and WINTER SEESAW 6
Ukita J., Honda M., Komori N., Taguchi B. (Invited speaker)

S1-O4 ABRUPT EVOLUTION OF THE SUMMER ARCTIC OSCILLATION AND ITS ASSOCIATION WITH BLOCKING 7
Tachibana Y., Nakamura T.

S1-O5 WHY ARCTIC SUMMER ICE MINIMA OCCURRED IN 2007, 08, 09, AND 2010? 8
Wang J., Bai X.

13:25-14:25 Photo, Lunch

14:25-15:25 Poster Session S1, G7, G5

15:25-16:30 (G7) Integrated Modeling Studies

Chair: Tanaka H.L.

G7-O1 REGIONAL ARCTIC CLIMATE MODEL (RACM) – DEVELOPMENT AND SELECTED RESULTS 9
Maslowski W., Cassano J., Gutowski W., Lettenmeier D. (Invited speaker)
G7-O2 EARTH SYSTEM MODELING FOR PROJECTING GLOBAL ENVIRONMENTAL CHANGES 10
Kawamiya M. and the Kakushin members
G7-O3 A PHYSICS-BASED, DEPTH STRUCTURED SIMULATION OF SOIL ORGANIC CARBON: STUDY IN ALASKA WITH 14C DATA 11
Ise T.
G7-O4 NUMERICAL SIMULATIONS OF POLAR STRATOSPHERIC CLOUDS USING GLOBAL CLOUD-RESOLVING MODEL NICAM INSTALLED AT THE CCS, UNIVERSITY OF TSUKUBA 12
Tanaka H.L., Aizawa T., Ohya M., Nakajima H.

16:30-18:40 (G5) Terrestrial Ecosystem

Chair: Sugimoto A. and Matsuura Y.

G5-O1 WINTER CHALLENGES IN ARCTIC TERRESTRIAL ECOSYSTEMS 13
Cooper E.J. (Invited speaker)
G5-O2 MONITORING OF VEGETATION SUCCESSION IN THE ABANDONED COAL MINE SITE IN NY-ÅLESUND, SVALBARD 14
Kojima S.
G5-O3 ABUNDANCE AND DIVERSITY OF FUNGI IN RELATION TO CHEMICAL CHANGES IN ARCTIC MOSS PROFILES 15
Osono T., Ueno T., Uchida M., Kanda H.

17:20-17:35 Coffee Break

G5-O4 ECOHYDROLOGICAL FEEDBACKS IN ARCTIC AND SUBARCTIC ECOSYSTEMS: DEEP SOIL WATER MAY BUFFER ECOSYSTEMS FROM CLIMATE VARIABILITY 16
Cable J.M., Ogle K., Schuur T., Welker J.
G5-O5 VARIATION OF SOIL RESPIRATION RATES AND FINE ROOT BIOMASS IN RELATION TO FOREST FLOOR VEGETATIONS AT BLACK SPRUCE STANDS IN INTERIOR ALASKA FOLLOWING WILDFIRE 17
Noguchi K., Morishita T., Kim Y., MatsuuraY
G5-O6 OBSERVATIONS OF PERMAFROST AND MATERIAL CYCLING AT NORTHERN EDGE OF TAIGA FOREST ECOSYSTEM IN EASTERN SIBERIA 18
Sugimoto A., Iwahana G., Tei S., Shingubara R., Liang M., Takano S., Petrov R., Maximov T.C.
G5-O7 MANAGEMENT FOR ECOLOGICAL DATA SETS 19
Bölter M., Fleischer D., Möller R. (Invited speaker)

(19:00-20:30 APECS meeting)

8 December, 2010 (Wednesday)

9:00- Registration

9:30-11:05 (G1) Atmospheric Science

Chair: Murata I. and Shiobara M.

G1-O1 PRESENT STATUS AND POSSIBLE VARIATIONS IN THE ARCTIC ENERGY BALANCE 20
Ohmura A. (Invited speaker)

G1-O2 CLIMATE OF THE 20TH AND 21ST CENTURY SIMULATIONS BY A GLOBAL ATMOSPHERIC MODEL 21
Kusunoki S., Mizuta R., Matsueda M.

G1-O3 ATMOSPHERIC POLAR AMPLIFICATION MECHANISMS OF GLOBAL WARMING 22
Alexeev V.A.

G1-O4 LINKAGES OF THE WEATHER SYSTEM BETWEEN OVER THE PACIFIC AND ARCTIC REGIONS 23
Asuma Y., Yamanouchi T., Zoltan T.

G1-O5 STRUCTURE AND TRENDS IN GREENLAND PRECIPITATION 24
Moore, G.W.K.

G1-O6 OBSERVATION OF POLAR STRATOSPHERIC CLOUDS IN NY-ÅLESUND AND ITS RELATIONSHIP ON OZONE DESTRUCTION 25
Nakajima H., Murata I., Shiraishi K., Tomikawa Y., Saeki K., Ohya M.

11:05-11:20 Coffee Break

11:20-12:55 (G2) Ocean and Sea Ice I

Chair: Maslowski W. and Shimada K.

G2-O1 ARCTIC OCEAN ACIDIFICATION AND MELTING OF SEA ICE 26
Yamamoto –Kawai. M., McLaughlin F., Carmack E. (Invited speaker)

G2-O2 WARMING OF THE UPPER ARCTIC OCEAN 27
Steele M., Ermold W., Zhang J. (Invited speaker)

G2-O3 UPWELLING IN THE ALASKAN BEAUFORT SEA: ATMOSPHERIC FORCING AND LOCAL VERSUS NON-LOCAL RESPONSE 28
Pickart R.S., Spall M.A., Moore G.W.K. (Invited speaker)

G2-O4 BASIN-SCALE UPPER OCEAN CLIMATE VARIABILITY BENEATH THE ARCTIC ICE PACK FROM AN INTERNATIONAL ARRAY OF ITPS 29
Krishfield R.A., Toole J.M., Proshutinsky A.Y., Timmermans M.-L.

G2-O5 ARCTIC OCEAN – ICE – ATMOSPHERE INTERACTIONS: A SYNTHESIS 30
Maslowski W.

G2-O6 SEA-ICE REDUCTION RELATED TO A DRASTIC CHANGE IN MIXED LAYER TEMPERATURE AND ICE DEFORMATION AT A FRONTAL REGION IN THE EASTERN ARCTIC OCEAN 31
Kawaguchi Y., Hutchings J., Kikuchi T., Morison J.

12:55-13:55 Lunch

13:55-14:55 Poster Session G1, G2, G6, S2

14:55-15:45 (G2) Ocean and Sea Ice II

Chair: Maslowski W. and Shimada K.

G2-O7 SCALING OF SEA ICE DEFORMATION 32
Hutchings J. K., Roberts A.

G2-O8 THE RAPIDLY SHRINKING ARCTIC MULTIYEAR ICE COVER AS OBSERVED FROM SPACE 33
Comiso J.C. (Invited speaker)

G2-O9 ESTIMATION OF THE ANNUAL MINIMUM SEA ICE EXTENT IN THE ARCTIC OCEAN USING IJIS DATASET 34
Tateyama K., Shibata H., Enomoto H., Hori M., Naoki K.

15:45-16:55 (G6) Marine Ecosystem

Chair: Saito S.

G6-O1 CURRENT STATUS OF PHYTOPLANKTON COMMUNITY IN THE WESTERN ARCTIC OCEAN 35
Lee S.H. (Invited speaker)

G6-O2 INTERANNUAL VARIABILITY OF COCCOLITHOPHORE *EMILIANIA HUXLEYI* BLOOMS IN ASSOCIATION WITH CHANGES OF WATER COLUMN STABILITY IN THE EASTERN BERING SEA FROM 1997 TO 2008 36
Iida T., Mizobata K., Saitoh S.I. (Invited speaker)

G6-O3 EFFECTS OF SEA ICE ON BREEDING NUMBERS AND CLUTCH SIZE OF A HIGH-ARCTIC POPULATION OF THE COMMON EIDER *SOMATERIA MOLLISSIMA* 37
Mehlum F.

G6-O4 INTEGRATED STUDY OF THE ARCTIC ICE-OCEAN-ECOSYSTEM USING GLOBAL POP-CICE MODELS 38
Jin M., Deal C., Lee S.H., Elliott S., Hunke E., Maltrud M., Jeffery N.

16:55-17:10 Coffee Break

17:10-18:30 (S2) Warming in the Arctic: Anthropogenic or Natural Variability?

Chair: Tanaka H.L. and Walsh J.

S2-O1 ARCTIC CLIMATE PREDICTABILITY UNDER CHANGING EXTERNAL FORCING 39
Walsh J.E.

S2-O2 CHANGING CHARACTERISTICS OF ARCTIC PRESSURE RIDGES 40
Wadhams P. (Invited speaker)

S2-O3 SOLAR MAGNETIC ACTIVITY AFFECTS THE GLOBAL CLIMATE THROUGH THE ARCTIC OSCILLATION 41
Itoh K.

S2-O4 ON-GOING RAPID CHANGE IN THE COUPLED ARCTIC ICE-OCEAN SYSTEM RESPONDING TO GLOBAL CLIMATE CHANGE 42
Ikeda M.

S2-O5 PHYSICAL MECHANISM OF THE ARCTIC MOISTENING IN THE LATTER HALF OF THE 20TH CENTURY 43
Nozawa T., Kawase H.

19:00-20:30 Banquet

9 December, 2010 (Thursday)

9:00- Registration

9:30-11:20 (G3) Hydrology, Permafrost and Snow Cover

Chair: Sugiura K. and Hinzman L.D.

G3-O1 SIBERIAN LARGE RIVER THERMAL REGIME AND CHANGE 44
Yang D., Berezovskaya S. (Invited speaker)

G3-O2 REGIONAL FEATURES OF TEMPORAL CHANGES OF THE FRESH WATER INFLOW INTO THE ARCTIC OCEAN 45
Georgiadi A.G., Kashutina E.A.

G3-O3 OBSERVED AND MODELED CHANGES IN PERMAFROST 46
Romanovsky V.E., Marchenko S.S., Grosse G. Kholodov A.L. (Invited speaker)

G3-O4 SURFACE AND SUBSURFACE CONDITIONS IN PERMAFROST AREA AFTER WILDFIRE, ALASKA 47
Harada K., Narita K., Saito K., Sawada Y., Fukuda M. (Invited speaker)

G3-O5 PREDICTED CHANGES IN ARCTIC SNOWFALL PATTERNS: IMPLICATIONS FOR PERMAFROST AND ACTIVE LAYER THICKNESS 48
Sturm M. (Invited speaker)

G3-O6 THE ROLE OF SNOW IN LAND-ATMOSPHERE COUPLING AT THE MARGIN OF THE NORTHERN HEMISPHERE SNOW EXTENT VERSUS AT HIGH LATITUDES 49
Cherry J., Schwartz M., Saito K.

11:20-11:35 Coffee Break

11:35-13:00 (G4) Ice Sheets, Glaciers and Ice Cores I

Chair: Goto-Azuma K.

G4-O1 THE NEW NEEM ICE CORE FROM THE GREENLAND ICE SHEET ADDS TO THE KNOWLEDGE WE HAVE ON THE WARM CLIMATE EEMIAN 130.000 - 115.000 YEARS BP 50
Dahl-Jensen D. (Invited speaker)

G4-O2 PALAEO TEMPERATURES BASED ON GREENLAND ICE CORE ISOTOPES USING VARIOUS METHODS 51
Johnsen S.J., Vinther B.M., Simonsen S.B., Steen-Larsen H.C., Popp T., Svensson A., Dahl-Jensen D., Sveinsbjörnsdóttir Á.E., White J.

G4-O3 THE LAST 4000 YEARS OF GREENLAND TEMPERATURE CHANGE FROM OCCLUDED AIR IN ICE CORES 52
Kobashi T., Kawamura K., Severinghaus J.

G4-O4 50 YEARS RECORDS OF CLIMATE CHANGES AT THE SEA OF OKHOTSK EXTRACTED FROM AN ICE-CORE OF MOUNT ICHINSKY, KAMCHATKA. 53
Matoba S., Shiraiwa T., Tsushima A., Sasaki H., Muravyev Y.D.

G4-O5 ICE CORES PROVIDE EVIDENCE FOR RECENT ARCTIC WARMING AMPLIFICATION 54
Fisher D., Zheng J., Burgess D., Zdanowicz C., Kinnard C., Sharp M. (Invited speaker)

13:00-14:00 Lunch

14:00-15:00 Poster Session G3, G4, S3

15:00-15:45 (G4) Ice Sheets, Glaciers and Ice Cores II

Chair: Goto-Azuma K.

G4-O6 CHANGES IN THE MASS BALANCE OF THE GREENLAND ICE SHEET IN A WARMING CLIMATE DURING 2003-2009 55
Zwally H.J., Luthcke S.

G4-O7 RELATION OF CHANGES OF GLACIER GEOMETRY AND THERMAL STRUCTURE TO DRAINAGE SYSTEM DEVELOPMENT IN SPITSBERGEN GLACIERS 56
Grabiec M., Jania J., Clarke G., Piechota A., Budzik T., Kolondra L., Puczko D., Gajek G.

G4-O8 CHARACTERISTIC SENSITIVITY OF SNOW ACCUMULATION TO TEMPERATURE CHANGE IN THE ARCTIC GLACIERS 57
Takahashi S.

15:45-17:25 (S3) International Cooperation of Arctic Research and IPY

Chair: Kanda H. and Kim Y.

S3-O1 THE NEED FOR SYSTEM SCALE STUDIES IN POLAR REGIONS 58
Hinzman L.D.

S3-O2 SUSTAINED ARCTIC OBSERVING NETWORKS (SAON): A PROGRAM FOR INTERNATIONAL COOPERATION FOR ARCTIC OBSERVING 59
Calder J., Hik D. (Invited speaker)

S3-O3 INTERNATIONAL COOPERATION IN SVALBARD: NySMAC, SSF, SIOS AND BEYOND. 60
Holmén K. (Invited speaker)

S3-O4 THE ASSOCIATION OF POLAR EARLY CAREER SCIENTISTS (APECS) AS AN INTERNATIONAL POLAR YEAR LEGACY 61
Bertelsen R.G., Baeseman J.

S3-O5 PROGRESS IN THE PROMOTION OF RESEARCH ACTIVITIES OF ARCTIC REGION IN JAPAN AND INTERNATIONAL COOPERATION 62
Ohata T., Yamanouchi T., Yasunari T.

S3-O6 ASIAN CONTRIBUTION TO INTERNATIONAL ARCTIC PROGRAM 63
Kim Y.

17:25-18:00 Discussion and Closing Session **Chair: Ohata T.**

Poster Session

7 December, 2010 (Tuesday)

Core time 14:25-15:25

S1-P1 ACTION FOR THE ARCTIC: ENGAGEMENT – COMMUNICATION – PARTNERSHIP 64
Treffeisen R., Rawlins J.

S1-P2 ASSESSMENT OF CURRENT AIR AND GROUND TEMPERATURE VARIATIONS IN YAKUTIA 65
Fedorov A.N.

S1-P3 METHANE POTENTIAL OF THE EAST SIBERIAN ARCTIC SHELF AS A FACTOR OF GLOBAL SIGNIFICANCE 66
Shakhova N., Semiletov I., Nikolsky D., Leifer I., Salyuk A., Kosmach D., Repina I.

S1-P4 CARBON CYCLING IN THE EAST SIBERIAN ARCTIC LAND-SHELF-ATMOSPHERE SYSTEM: (1999-2009) 67
Semiletov I., Shakhova N., Pipko I., Dudarev O., Charkin A., Grigoriev M., Alling V., Sanchez-Garcia L., Vonk J., Gustafsson O., Anderson L.

G7-P1 COMPARISON OF PSCS IN THE ARCTIC AND ANTARCTIC SIMULATED BY THE GLOBAL CLOUD-RESOLVING MODEL NICAM 68
Aizawa T., Tanaka H.L., Ohya M., Nakajima H.

G7-P2 THE PHYTOPLANKTON COMMUNITY STRUCTURE AND ITS RELATION TO DIMETHYLSULFONIOPROPIONATE (DMSP) DISTRIBUTION DURING EARLY SUMMER BLOOM (*PHAEOCYSTIS*) IN KONGSFJORDEN, SVALBARD 69
Kim Y. N., Lee H.W., Kim H.C.

G7-P3 NUMERICAL SIMULATIONS OF ASH PLUME FROM ICELANDIC VOLCANO IN APRIL 2010 USING THE PUFF MODEL 70
Tanaka H.L., Henmi M.

G7-P4 NUMERICAL SIMULATION OF STRATOSPEHIC SUDDEN WARMING IN JANUARY 2009 USING NICAM 71
Yashiro Y., Tanaka H.L.

G5-P1 EXCHANGE OF GREENHOUSE GAS FLUXES IN RELATION TO VEGETATION COVERAGE ON A GLACIER FORELAND IN THE HIGH ARCTIC, NY-ÅLESUND, SVALBARD 72
Kishimoto A. (W. Mo), Hayashi K., Motohka T., Uchida M., Nakatsubo T., Kanda H.

G5-P2 VEGETATION DEVELOPMENT AND CARBON STORAGE ON A GLACIER FORELAND IN THE HIGH ARCTIC, NY-ÅLESUND, SVALBARD 73
Yoshitake S., Uchida M., Ohtsuka T., Kanda H., Koizumi H., Nakatsubo T.

G5-P3 SOIL RESPIRATION IN A GLACIER FORELAND IN NY-ÅLESUND, SVALBARD 74
Uchida M., Yoshitake S., Nakatsubo T., Kanda H.

G5-P4 FEATURES OF NITRIFICATION AND DENITRIFICATION OF AN ARCTIC SOIL IN NY-ÅLESUND, SVALBARD 75
Hayashi K., Hayatsu M., Morimoto S., Kishimoto A. (W. Mo), Motohka T., Uchida M., Nakatsubo T.

G5-P5 PHOTOSYNTHETIC CHARACTERISTICS OF VASCULAR PLANTS UNDER PRIMARY SUCCESSION STAGES IN A HIGH ARCTIC GLACIER FORELAND, SVALBARD 76
Tanabe Y., Uchida M.

G5-P6 SENSITIVITY OF ECOSYSTEM CARBON FLOW TO CLIMATE CHANGE IN A HIGH ARCTIC GLACIER FORELAND 77
Nakatsubo T., Muraoka H., Uchida M.

G5-P7 EFFECT OF TAR SPOT DISEASE ON PHOTOSYNTHESIS OF *SALIX POLARIS* IN NY-ÅLESUND, NORWEGIAN HIGH ARCTIC 78
Masumoto S., Uchida M., Tojo M., Imura S.

G5-P8 MOSS VEGETATION IN THE HIGH ARCTIC AND ITS IMPLICATION FOR ENVIRONMENTAL CHANGE 79
Kanda H.
G5-P9 UNIQUE PHYLOTYPES OF ULTRAMICROBACTERIA ISOLATED FROM ARCTIC TERRAINS 80
Nakai R., Shibuya E., Naganuma T.
G5-P10 THE HETEROTROPHIC RESPIRATION USING OLD CARBON IN ARCTIC SOIL: INSIGHTS FROM COMPOUND-SPECIFIC RADIOCARBON ANALYSIS 81
Uchida M., Uchida M., Utsumi M., Kondo M., Takahashi Y., Shibata Y.
G5-P11 MERCURY METHYLATION AND SULPHUR-REDUCING BACTERIA in SUB-ARCTIC LAKE SEDIMENTS 82
Joe-Strack J., Petticrew E.
G5-P12 MICROBIAL COMMUNITY ANALYSIS OF PERMAFROST SOIL IN CANADA USING PYROSEQUENCING 83
Lee Y.K., Kim H.M., Lee B.Y.
G5-P13 INCREASED SUMMER PRECIPITATION DECREASES SOIL MICROBIAL ACTIVITY IN HIGH ARCTIC DRY HEATH DURING THE AUTUMN FREEZE-IN PERIOD 84
Christiansen C.T., Schmidt N.M., Michelsen A.
G5-P14 SPECTRAL INDICES FOR EVALUATING PHYTOMASS AND DECIDUOUS SHRUB CHANGES IN ALASKAN ARCTIC TUNDRA 85
Kushida K., Hobara S., Tsuyuzaki S., Watanabe M., Harada K., Kim Y., Shaver G.R., Fukuda M.
G 5-P15 CO2 EFFLUX ALONG THE TRANS-ALASKA PIPELINE IN SNOWTHAWING SEASON 86
Kim Y.
G5-P16 CONSTARAINING RADIOCARBON SIGNATURE OF SOIL ORGANIC MATTER IN TUNDRA AND BOREAL FORESTS, ALASKA 87
Kondo M., Uchida M., Kim Y., Utusmi M., Shinozaki T., Sibata Y.
G5-P17 RECENT ACTIVE LIGHTNING AND FOREST FIRES IN ALASKA 88
Hayasaka H., Farukh M.A.
G5-P18 CHARACTERISTICS OF CANOPY STRUCTURE AND AERODYNAMIC ROUGHNESS OF A BLACK SPRUCE FOREST IN INTERIOR ALASKA 89
Nakai T., Suzuki R., Nagai S., Kim Y., Busey R., Hinzman L.D.
G5-P19 CARBON DIOXIDE AND ENERGY EXCHANGES IN UNDERSTORY VEGETATION IN A MATURE BLACK SPRUCE FOREST AND A FIRE SCAR IN INTEROIR ALASKA 90
Iwata H., Ueyama M., Harazono Y.
G5-P20 SURVEY OF BI-DIRECTIONAL REFLECTANCE FACTOR OF BLACK SPRUCE FOREST IN ALASKA FOR VALIDATION OF GCOM-C REMOTE SENSING 91
Suzuki R., Nagai S., Nakai T., Kim Y.
G5-P21 CHANGES IN CO2 AND ENERGY EXCHANGE IN A BLACK SPRUCE FOREST AFTER FIRE DISTURBANCE AND THEIR DETECTION BY REMOTE-SENSING 92
Harazono Y., Iwata H., Ueyama M.
G5-P22 ACTIVE LAYER DEPTH REGULATES BIOMASS REGIME OF BLACK SPRUCE STANDS IN INTERIOR ALASKA. 93
Matsuura Y., Noguchi K., Morishita T., Jomura M., Dannoura M.
G5-P23 RECONSTRUCTION OF THE PAST INTERANNUAL VARIATION IN SOIL MOISTURE BASED ON DELTA-13C OF LARCH TREE RINGS IN EASTERN SIBERIA 94
Tei S., Sugimoto A., Yonenobu H., Maximov T.C.
G5-P24 NITROGEN DYNAMICS IN BOREAL FOREST ECOSYSTEM IN EASTERN SIBERIA 95
Popova A., Sugimoto A., Tokuchi N., Ohte N., Osaka K., Maximov T.C.

G5-P25 ABOVEGROUND NET PRIMARY PRODUCTION FOR 50 YEARS OF THE FIRE-PROTECTED *LARIX CAJANDERI* FORESTS IN EASTERN SIBERIA 96
Shirota T., Maximov T.C., Kononov A., Makismov A., Suzdalov D., Karsanayev S., Lopez L.C., Koide T., Iwahana G., Kushida K., Takahashi K., Fukuda M., Saito H.
G5-P26 DRASTIC CHANGES IN POPULATION AND DISTRIBUTION OF EASTERN SIBERIAN WILD REINDEER, AND THEIR INFLUENCES TO LOCAL INDIGENOUS PEOPLES. 97
Tatsuzawa S., Okhlopkov I.M., Kirillin E.V., Krivoshapkin A.A., Isaev A.P.
G5-P27 LARCH FOREST GROWTH AND CLIMATE BASED ON TREE-RING ANALYSIS DURING THE LAST CENTURY IN NORTHERN MONGOLIA 98
Lopez C.M.L., Nobori Y., Mizota Ch., Takeda K.
G5-P28 ENCROACHING OF LARCH FORESTS ALONG THE FOREST/GRASS LAND ECOTONE IN NORTHERNMOST MONGOLIA 99
Arima R., Takeda K., Nobori Y., LopezC.M.L., Mizota C.
G5-P29 REGENERATION AT THE BURNED LARCH FOREST IN THE NORTHERN MONGOLIA 100
Takeda K., Torita H., Itoh J.
G5-P30 TEMPERATURE AND MOISTURE SENSITIVITY OF SOIL CARBON DECOMPOSITION RATES ON THE TIBETAN PLATEAU 101
Moriyama A., Yonemura S., Kawashima S., Tang Y., Wagai R., Ohtsuka T., Hirota M., Zhang X., Du M.

8 December, 2010 (Wednesday)

Core time 13:55-14:55

G1-P1 REPRUDUCIBILITY OF SUMMERTIME STORM-TRACK ACTIVITY OVER THE ARCTIC IN CMIP3 CLIMATE MODELS 102
Nishii K., Nakamura H., Orsolini Y.J.
G1-P2 FUTURE CHANGE IN EXTRATROPICAL CYCLONES ASSOCIATED WITH CHANGE IN THE UPPER TROPOSPHERE 103
Mizuta R., Matsueda M., Endo H., Yukimoto S.
G1-P3 ARCTIC OSCILLATION SIMULATED IN THE ATMOSPHERIC GENERAL CIRCULATION MODEL NICAM 104
Terasaki K., Tanaka H.L.
G1-P4 MODIFICATION OF THE BAROCLINIC INSTABILITY ASSOCIATED WITH POSITIVE AND NEGATIVE ARCTIC OSCILLATION INDEX: A THEORETICAL PROOF OF THE POSITIVE FEEDBACK 105
Seki S., Tanaka H.L., Fujiwara F., Ikeda M.
G1-P5 ABNORMAL ARCTIC DIPOLE ANOMALY AND ARCTIC CYCLONES IN THE SUMMER OF 2010 106
Takahashi S., Tanaka H.L.
G1-P6 TOWARDS PASSIVE MICROWAVE PRECIPITATION RETRIEVAL IN HIGH LATITUDES: NEW FORWARD CALCULATION PROGRAM INTRODUCING MICROWAVE PROPERTIES OF NON-SPHERICAL FROZEN PARTICLES 107
Aonashi K., Ishimoto H.
G1-P7 FIELD EXPERIMENT OF CLOUD-AEROSOL INTERACTION STUDY PLANNED FOR MAY 2011 IN NY-ÅLESUND, SVALBARD 108
Shiobara M., Uchiyama A., Yamazaki A., Kobayashi H., Yabuki M.
G1-P8 THE BLACK CARBON OF ARCTIC OCEAN AND ITS EFFECT ON SEA ICE REFLECTION 109
Dou T.F., Xiao C.
G1-P9 SHEAR INSTABILITY DURING THE RECOVERY OF STRATOSPHERIC SUDDEN WARMINGS 110
Tomikawa Y.

G1-P10 CURRENT STATUS OF UPPER ATMOSPHERE PHYSICS OBSERVATION IN ICELAND 111
Kadokura A., Sato N., Yamagishi H., Motoba T., Taguchi M., Ono T., Sato Y., Hosokawa K., Bjornsson G.
G1-P11 GPS-BASED PHYSICAL MECHANISM PROPOSED FOR UPPER-LOWER ATMOSPHERIC COUPLING STUDIES 112
Suparta W.
G1-P12 INTERANNUAL VARIATIONS OF THE ATMOSPHERIC METHANE CONCENTRATION AND ITS STABLE ISOTOPES OBSERVED AT NY ALESUND, SVALBARD AND CHURCHILL, CANADA. 113
Morimoto S., Umezawa T., Huang L., Aoki S., Nakazawa T., Yamanouchi T.
G1-P13 RELATIONSHIP BETWEEN PSC TYPE AND OZONE DESTRUCTION RATE EVALUATED BY SATELLITE MATCH 114
Ohya M., Nakajima H., Saeki K., Tanaka H.L.
G1-P14 OZONE DECREASE OBSERVED IN THE MID-LATITUDE AFTER THE BREAKUP OF THE POLAR VORTEX 115
Murata I., Goto H., Morino I., Nakajima H., Nakane H.
G1-P15 SOLID PSCS DETECTED BY AEROSOL SONDE AND LIDAR ABOVE NY-ALESUND IN THE WINTER OF 2009/10 116
Shiraishi K., Nakajima H., Murata I., Tomikawa Y., Saeki K., Ohya M.
G1-P16 A STUDY OF HIGH LATITUDE SUPERCOOLED LIQUID WATER CLOUDS FROM CALIPSO OBSERVATIONS 117
Hu Y.
G2-P1 THE ARCTIC SEA ICE REGIME AROUND SVALBARD IN LATE SUMMER 2010 118
Gerland S., Granskog M., Beckers J., Brandt O., Eltoft T., Haas C., Hamre B., Hansen E., Hop H., Hudson S., Maus S., Pavlov A., Pavlov V.,Pavlova O., Renner A.H.H., Stamnes J., Ström J., Sundfjord A., Tronstad S., Koc N.
G2-P2 ICE GROUNDING AND CRATER ON THE CHUKCHI AND BEAUFORT BORDERLAND IN THE ARCTIC OCEAN, EVIDENCED BY MULTIBEAM BATHYMETRIC AND SEDIMENT PROFILER 119
Shibahara A., Uchida M.
G2-P3 LAND-SEA CONNECTION OF SNOW AND ICE CONDITIONS IN THE ARCTIC 120
Enomoto H., Tateyama K., Shibata H., Sasaki K., Tanaka Y., Kim Y., Alimasi N., Nakamura F., Takahashi S.
G2-P4 INVESTIGATION OF SEA ICE CONDITIONS ON THE ARCTIC SEA ROUTES OBTAINED BY SATELLITE MICROWAVE DATA 121
Shibata H., Tateyama K., Enomoto H.
G2-P5 RATE OF MELT POND AND ICE CONCENTRATION IN THE ARCTIC 122
Tanaka Y., Tateyama K., Enomoto H.
G2-P6 MAPPING OF SEA ICE PRODUCTION IN THE ARCTIC OCEAN USING AMSR-E THIN ICE ALGORITHM 123
Iwamoto K., Ohshima K.I., Tamura T., Nihashi S.
G2-P7 CONTRIBUTIONS OF SUMMERTIME SEA ICE MELT, MOVEMENT AND OUTFLOW TO REDUCTION OF SEA ICE EXTENT 124
Shimada K., Kamoshida T., Mizobata K., Yoshizawa E.
G2-P8 LONG TERM SEA ICE MOTION DATASET IN THE ARCTIC FROM SMMR, SSM/I AND AMSR-E 125
Kamoshida T., Shimada K.
G2-P9 RELATIONSHIP BETWEEN WINTER ICE MOTION AND SUMMER ICE EXTENT IN THE ARCTIC 126
Kimura N., Takaishi S., Tanaka Y., Yamaguchi H.

G2-P10 ANOMALOUS CHANGES IN SEA-ICE MOTION AND THE UPPER OCEAN CIRCULATION IN THE PACIFIC SECTOR OF THE ARCTIC OCEAN ASSOCIATED WITH RAPID REDUCTION OF SEA ICE COVER 127
Yoshizawa E., Shimada K., Kamoshida T.
G2-P11 WIND-DRIVEN HALOCLINE VARIABILITY IN THE WESTERN ARCTIC OCEAN 128
Watanabe E., Nguyen A.T.
G2-P12 REANALYSIS OF THE ARCTIC OCEAN CIRCULATION AND ADJOINT SENSITIVITY ANALYSIS OF THE VELOCITY OBSERVATIONS 129
Panteleev G., Proshutinsky A., Nechaev D., Zhang J., Kikuchi T.
G2-P13 THE STUDY ON NEAR SURFACE TEMPERATURE MAXIMUM IN THE CANADA BASIN FOR 2003-2008 IN RESPONSE TO SEA ICE VARIATIONS 130
Cao Y., Su J., Zhao J.
G2-P14 ANOMALOUS OCEANIC HEAT CONTENT IN THE SURFACE MIXED LAYER OF THE WESTERN ARCTIC OCEAN DERIVED FROM THE AMSR-E SST MEASUREMENT 131
Mizobata K., Shimada K.
G2-P15 BIOCHEMICAL RESPONSES TO WARM WATER INTRUSION IN THE VICINITY OF WESTERN BOUNDARY OF CANADA BASIN 132
Ha H.K., La H.S., Kim Y.N., Yang E.J., Lee S.Y., Chung K.H.
G2-P16 CARBON AND NITROGEN PRODUCTIONS OF PHYTOPLANKTON IN THE CANADA BASIN IN 2009 133
Yun M.S., Lee S.H., Chung K.H.
G2-P17 SPATIAL DISTRIBUTION OF STRENGTH OF DOUBLE DIFFUSIVE INTERLEAVING IN THE CANADA BASIN AND SPREADINGS OF FRAM STRAIT BRACH OF ATLANTIC WATER 134
Maeta E., Shimada K., Yoshida J.
G2-P18 ON FLOW PATTERNS OF THE ATLANTIC WESTERN BRANCH IN THE SOUTHERN NORDIC SEAS 135
Kasajima Y., Orvik K.A.
G2-P19 ATLANTIC DERIVED WATER WITHIN THE NORTHERN BARENTS SEA. 136
Pisarev S.
G2-P20 THE TRANS-ARCTIC WATER 14C SECTIONS FROM MIRAI AND NABOS CRUISES: RECONSTRUCTION OF SURFACE-MID-DEEP WATER VENTILATION AGES AND THEIR COMPARISON OF PAST 14C INVENTRY DATA 137
Uchida M., Kumamoto Y., Polyakov I., Ivanov V., Kim Y., Rozman P., Utsumi M., Shimada K., Murata M., Shibata Y.
G2-P21 SEDIMENTARY ORGANIC MATTER VARIATIONS IN THE CHUKCHI BORDERLAND SINCE THE LAST DEGLACIATION 138
Rella S., Uchida M.
G2-P22 RAPID PHYSICALLY DRIVEN INVERSION OF THE AIR-SEA ICE CO2 FLUX IN THE SEASONAL ARCTIC LANDFAST ICE 139
Nomura D., Eicken H., Gradinger R., Shirasawa K.
G2-P23 GLOBAL WARMING AND PALEOCEANOGRAPHIC CHANGES IN THE WESTERN ARCTIC OCEAN 140
Nam S.-I., Stein R., Matthiessen J., Mackensen A.
G6-P1 CHANGES IN ARCTIC BIOGEOCHEMICAL CYCLES WITH THE RECENT LOSS OF SEA ICE 141
Nishino S., Kikuchi T., Yamamoto-Kawai M., Kawaguchi Y., Hirawake T., Itoh M.
G6-P2 COMMUNITY STRUCTURE OF MARINE PLANKTONIC ARCHAEA IN THE PACIFIC SECTOR OF THE ARCTIC OCEAN 142
Akiyama S., Sato C., Gang C., Uchida M., Utsumi M.

G6-P3 MICROZOOPLANKTON HERBIVORY IN THE VICINITY OF WESTERN BOUNDARY OF CANADA BASIN 143
Yang E.-J., Ha H.-K., Chung K.-H.
G6-P4 YEAR-TO-YEAR CHANGES OF MESOZOOPLANKTON COMMUNITY IN THE CHUKCHI SEA DURING SUMMERS OF 1991/92 AND 2007/08 144
Matsuno K., Yamaguchi A., Hirawake T., Imai I.
G6-P5 PROBLEMS OF RESEARCH OF THE BIODIVERSITY OF BOTTOM ECOSYSTEMS OF RUSSIAN ARCTIC SEAS 145
Galtsova V.V., Alexeev D.K.
S2-P1 DIAGNOSTIC ANALYSIS OF THE ABNORMAL AO MINUS IN THE WINTER OF 2009/2010 USING THE AOI EQUATION 146
Shimo Y., Tanaka H.L.
S2-P2 ESTIMATION OF GLOBAl WARMING TREND WITHOUT THE CONTRIBUTIONS FROM DECADAL VARIABILITY OF THE ARCTIC OSCILLATION 147
Nagato Y., Tanaka H.L., Ohashi M., Terasaki K.

9 December, 2010 (Thursday)

Core time 14:00-15:00

G3-P1 STREAM FLOW SIMULATION IN ARCTIC BASINS AT VARIOUS SPATIAL SCALES 148
Bolton W.R., Kane D.L., Hinzman L.D.
G3-P2 EFFECTS OF EARLY SNOWMELT ON WATER CYCLE IN THE TERRESTRIAL ARCTIC REGIONS 149
Park H., Iijima Y., Yabuki H., Kodama Y., Ohata T.
G3-P3 KOLYMA WATER-BALANCE STATION: DATA ANALYSIS AND MODELLING 150
Lebedeva L.S., Semenova O.M.
G3-P4 RECENT ECOHYDROLOGICAL CHANGE IN RELATION TO PERMAFROST DEGRADATION IN EASTERN SIBERIA 151
Iijima Y., Fedorov A.N., Maximov T.C.
G3-P5 DEVELOPMENT OF DATA-SET ON SURFACE WATER BODY IN THE NORTHEAST SIBERIA FOR THE STUDY OF REGIONAL HYDRO-ENVIRONMENTAL CHANGE. 152
Yabuki H., Ohata T.
G3-P6 THERMOKARST LAKE CHANGES ON THE PERMAFROST DISTRIBUTION REGIONS IN MONGOLIA 153
Adiya S., Ishikawa M., Jambaljav Y.
G3-P7 THE SOURCES OF PARTICULATE AND DISSOLVED ORGANIC CARBON IN THE TANANA RIVER, ALASKA 154
Wada T., Kim Y., Chikita K.A., Kudo I.
G3-P8 RECOMSTRUCTION OF RAINFALL AMOUNT VARIABILITY IN CENTRAL ALASKA SINCE PAST 1 KA USING PEAT CELLULOSE δ13C 155
Shinozaki T., Uchida M., Kondo M., Yoshikawa K.
G3-P9 MONITORING PERMAFROST AND PERIGLACIAL PROCESSES IN SVARBARD 156
Matsuoka N., Christiansen H.H., Watanabe T.
G3-P10 IDENTIFYING ICE AND SOIL WEDGES IN KAPP LINNÉ SVALBARD, WITH TWO- AND THREE-DIMENSIONAL GROUND-PENETRATING RADAR AND GROUND THERMAL EVIDENCES 157
Watanabe T., Matsuoka N., Christiansen H.H.
G3-P11 PERMAFROST DEGRADATION CAUSED BY GLOBAL WARMING IN THE FAR NORTH OF SIBERIA 158
Sakai T., Hiyama T., Fujiwara J., Gotovtsev S., Gagarin L., Takeuchi W., Yamaguchi Y., Inoue G.

G3-P12 PERMAFROST OBSERVATORIES OVER MONGOLIA 159
Ishikawa M., Jambaljav Y., Ohata T.
G3-P13 DRY/WET FRACTION AND ITS SEASONAL VARIATION OF SNOW COVER EXTENT IN THE NORTHERN HEMISPHERE 160
Hori M.
G3-P14 FIELD SURVEY AND AMSR-E RETRIEVAL OF SNOW IN THE FOREST AND TUNDRA IN ALASKA 161
Enomoto H., Sasaki K., Kim Y., Tateyama K., Kimura S., Alimasi N., Nakamura F., Tnikawa T., Kadosaki G., Saito Y., Takahashi S.
G3-P15 CLIMATIC GRADIENT OF THE PHYSICAL PROPERTY OF SNOW ACCUMULATION 162
Saito K., Yamaguchi S., Lehning M., Shulski M.
G3-P16 ANALYSIS OF SNOW FEEDBACKS USING SNOW METAMORPHISM AND ALBEDO PROCESS (SMAP) MODEL 163
Niwano M., Aoki T., Kuchiki K., Hosaka M.
G3-P17 INTER-COMPARISON OF SNOW COVER MODELS FOR THE SNOWPACK IN SAPPORO, JAPAN 164
Kodama Y., Nishimura K., Yamazaki T., Suzuki K., Niwano M., Aoki T., Hosaka M.
G3-P18 MONITORING OF SNOWPACK CONDITIONS BY IN-SITU OBSERVATIONS IN THE MOUNTAINOUS REGIONS OF THE NORTH PACIFIC RIM 165
Sugiura K., Ohata T.
G4-P1 MECHNISM OF ADAPTATION OF HIGH ARCTIC GLACIER TO A CHANGING CLIMATE 166
Pętlicki M., Navarro F., Lapazaran J., Hock R.
G4-P2 THE GREENLAND ICE SHEET MONITORING NETWORK (GLISN) 167
Dahl-Jensen T., Anderson K.R., Beaudoin B.C., Butler R., Clinton J.F., Ekstrom G., Giardini D., Hanka W., Kanao M., Larsen T., McCormack D., Mykkeltveit S., Nettles M., Agostinetti N.P., Tsuboi S., Voss P.
G4-P3 GLACIAL EARTHQUAKE ACTIVITIES AROUND GREENLAND AND SURROUNDING REGIONS 168
Kanao M., Himeno T., Tsuboi S., Dahl-Jensen T.T., Anderson K.R.
G4-P4 DISTRIBUTION AND INTERNAL STRUCTURE OF SNOW COVER ON SELECTED SVALBARD GLACIERS MAPPED BY THE HIGH FREQUENCY GPR 169
Grabiec M., Puczko D., Budzik T., Gajek G.
G4-P5 SHRINKING GLACIERS IN MONGOLIAN ALTAI 170
Kadota T., Gombo D., Kalsan P., Namgur D., Ohata T.
G4-P6 THE RECENT 50 YEARS GLACIER CHANGES IN MONGOLIAN ALTAI MOUNTAINS 171
Yabuki H., Ohata T.
G4-P7 ABLATION, ACCUMULATION AND NET BALANCE OF POTANIN GLACIER, MONGOLIAN ALTAI 172
Konya K., Kadota T., Nakazawa F., Yabuki H., Gombo D., Khalzan P., Ohata T.
G4-P8 PRELIMINARY STUDY OF MICROORGANISMS ANALYSIS AT NORTH GREENLAND EEMIAN ICE DRILING SITE 173
Uetake J., Goto-Azuma K., Kuramoto T., Dahl-Jensen D., Steffensen J.P., Motoyama H.
G4-P9 SNOW CHEMISTRY OF THE LAST FOUR YEARS AT NEEM, GREENLAND 174
Kuramoto T., Goto-Azuma K., Uetake J., Hirabayashi M., Miyake T., Motoyama H., Dahl-Jensen D., Steffensen J.P.
G4-P10 YEARLY VARIATION IN ATMOSPHERIC IRON DEPOSITION ESTIMATED FROM THE ICE CORE OF Mt.WRANGELL, ALASKA 175
Sasaki H., Matoba S., Shiraiwa T.
G4-P11 MULTIVARIATE ANALYSIS AND DATING OF SVALBARD ICE CORE DATA: A NITROGEN PERSPECTIVE IN 20TH CENTURY 176
Samyn D.

S3-P1 EISCAT OBSERVATIONS DURING THE INTERNATIONAL POLAR YEAR 177
Ogawa Y., Häggström I., van Eyken A.P.
S3-P2 INTERNATIONAL COLLABORATIVE STUDIES ON THE ARCTIC UPPER AND MIDDLE ATMOSPHERE BASED ON THE EISCAT RADAR AND GROUND-BASED OBSERVATIONS 178
Miyaoka H., Ogawa Y., Tutsumi M., Kadokura A., Nakamura T., Yamagishi H., Sato N., Nozawa S., Oyama S., Fujii R., and the project members
S3-P3 PRECIPITATION OBSERVATIONS IN THE EAST SIBERIAN OYMYAKON IN THE NORTHERN POLE OF COLD AND THE SURROUNDING MOUNTAINOUS REGIONS USING SIMPLE PRECIPITATION GAUGES 179
Sugiura K., Takahashi S., Kameda T., Enomoto H., Kononov Y., Ananicheva M.
S3-P4 CANADA – JAPAN COLLABORATIVE PROJECTS IN THE CANADIAN ARCTIC BETWEEN 2001 AND 2010 180
Howe R.W.
181

Participant index 182