

Program of Second International Symposium on Environmental Research in the Arctic
and Fifth Ny-Ålesund Scientific Seminar, 23-25 February 2000, Tokyo

Session I: Overview of the Environmental Research in the Arctic (1)

1. NIPR Arctic Environment Research in 1990-1999. Y. Fujii.
2. Observations of the Arctic troposphere and lower stratosphere with the SOUSY Svalbard radar. J. Röttger.
3. Climate Change and its Impacts on the Arctic. G. Weller.
4. Greenland Summit Environment Observatory. A. Ohmura.
5. Circum-Arctic ice core records from small ice caps: a different view on Holocene climate. R.M. Koerner.
6. Chinese First Expedition to the Arctic Ocean. Z. Dong and W. Qin.
7. Greenland Sea in Winter. H. Ito and co-authors.
8. The International North Water Polynya Study (NOW) : an Early Synthesis. L. Fortier, M. Fortier, M. Fukuchi, Y. Gratton, L. Legenere and T. Odate.
9. Greenhouse gas fluxes in winter and thawing period at Arctic tundra Ecosystem. Y. Harazono, N. Ohta, A. Miyata, K. Nakamoto, R. Zulueta and W.C. Oechel.
10. Persistent organic pollutants in Arctic animals in the Barents Sea area and at Svalbard; levels and effects. G.W. Gabrielsen.
11. Global Change impacts on terrestrial plant communities: long-term studies in the northern Scandes. U. Molau.

Session II: Overview of the Environmental Research in the Arctic (2)

12. Activity and Development of Scientific Community Ny-Ålesund. K.J. Holmén.
13. What is needed in order to achieve a full scale environmental monitoring station in Ny-Ålesund? P. Prestrud.
14. Recent contributions to long-term atmospheric studies at Koldewey-Station. H. Gernandt and R. Neuber.

Session III: Upper Atmosphere Environment

15. Climatic mesospheric cooling: the importance of long time-series of ionospheric soundings. C.M. Hall.
16. Geomagnetically Conjugate Auroras between Iceland and Syowa Station. N. Sato.
17. Response of the Thermosphere to High-Latitude Energy Inputs. S. Maeda and H. Fujiwara.
18. Sounding rockets from SvalRak. I.K. Nyheim.
19. SS-520-2 Rocket Experiment Plan. T. Mukai and Y. Inatani.
20. Observations of the Arctic mesosphere and D-region with the EISCAT Svalbard radar and the SOUSY Svalbard radar. J. Röttger.
21. Noctilucent cloud observations with CCD cameras in both northern and southern hemispheres during 1997-1999. T. Sugiyama, G. Witt, N. Ueno, B.Z.O. Gjede, R.M. Mac-Mahon, S. Nikolashkin, G.A. Gavriilyeva and P. Ammosov.
22. Gravity waves simulated by a high-resolution GCM. K. Sato, T. Kumakura and M. Takahashi.
23. A study on the polar atmospheric tide by the EISCAT and cooperative observation network: comparisons with observation and theory. T. Aso.

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24. Ground based, balloon and aircraft measurements of greenhouse gases in the Arctic. S. Aoki, S. Morimoto, G. Hashida, M. Shiobara, T. Yamanouchi, S. Sugawara, T. Machida, H. Honda, K. Kawamura, S. Yoshimura and T. Nakazawa.
25. Ten years of Carbon Dioxide monitoring on Zeppelinfjellet (78°54'N, 11°53'E). K.J. Holmén and V. Bazhanov.
26. Global quality control for long-lived trace gas measurements. R. Francey, M. Groening, K. Holmén, K-R. Kim, J. Miller, P. Tans and N. Trivett.

Session V: Atmospheric Environment (2)

27. Forthcoming Arctic field campaign ASTAR 2000 (Arctic Study of Tropospheric Aerosol and Radiation). T. Yamanouchi and A. Herber.
28. Aerosol measurements at Ny-Ålesund/Spitsbergen and its possible climate impact. A. Herber, A. Rinke, R. Neuber, M. Fortmann, R. Schumacher, L.W. Thomason, M. Kriews, J. Notholt, T. Albrecht, T. Yamanouchi, M. Shiobara, K. Dethloff and H. Gernandt.
29. Arctic stratospheric aerosols -PSCs and background sulfate particles-. Y. Iwasaka, T. Shibata, H. Adachi, M. Watanabe, T. Sakai, K. Hara, Y. Inomata, M. Fujiwara, M. Hayashi and K. Shiraishi.
30. Chemical composition of total deposition samples from Spitsbergen. M. Kriews, I. Stølting and O. Schrems.
31. Measurement of atmospheric pollution in the Siberian Arctic. T. Fukasawa, S. Ohta, K. Enomoto, N. Murao, S. Yamagata, T. Shimizu and V.N. Makarov.
32. Preliminary measurements of CH₄ emission at a burnt forest in West Siberia. T. Nakano, M. Fukuda, M. Utsumi and G. Inoue.
33. Radiative forcing due to anthropogenic activities. F. Stordal and G. Myhre.

34. Natural variability of the surface spectral and total albedo in Svalbard. J.B. Orbek and S. Claes.
35. Three years spectral resolved UV measurements at Koldewey-Station. Ch.Groß, H. Tüg and O. Schrems.
36. Estimation of tropospheric Water Vapor content using a network of GPS receivers in Ny-Ålesund. A. Rius, G. Ruffini and L. Cucurull.
37. In-situ measurement for a polar low over the Norwegian Sea. Y. Asuma, Y. Fukuda, K. Kikuchi, M. Shiobara, M. Wada and G.W. Kent Moore.
38. Feasibility Study on Scientific Balloon Experiment at Ny-Ålesund. H. Honda, N. Izutsu and N. Yajima.

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102. Temporal variations of atmospheric CO₂ concentration and its carbon isotope in Ny-Ålesund, Svalbard. S. Morimoto, S. Aoki, S. Yoshimura and T. Yamanouchi.
103. An intercomparison campaign of ozone and temperature measurements in the Arctic (NAOMI-98, Ny-Ålesund/Spitsbergen). R. Neuber, G. Beyerle, P. von der Gathen, P. Wahl, A. Dahl, M. Gross, Th. McGee, U. Klein and W. Steinbrecht.
104. Ozone loss rates determined with Match. A. Schulz, M. Rex, N.R.P. Harris, G.O. Braathen, E. Kyrö, E. Reimer, R. Alfier, I. Kilbane-Dawe, M. Allaart, M. Alpers, B.R. Bojkov, J. Cisneros, H. Claude, E. Cuevas, J. Davies, H. DeBacker, H. Dier, V. Dorokhov, G. Fast, B. Johnson, B. Kois, E. Kosmidis, Z. Litynska, I.S. Mikkelsen, M. Molyneux, G. Murphy, H. Nakane, F. O'Connor, C. Parrondo, P. Skrivankova, C. Varotsos, C. Vialle, P. Viatte, V. Yushkov, C. Zerefos and P. von der Gathen.
105. Surface energy and radiation balances in the Kongsfjorden area. T. Georgiadis, M. Nardino, F. Calzolari, V. Levizzani and R. Pirazzini.
106. Field reflectance data on different snow covers at Ny-Ålesund. R. Casacchia, F. Lauta, R. Salvatori, S. Ghergo, J.B. Ørbæk, A. Cagnati and M. Valt.
107. Large cloud drops rimed on snow crystals observed at Ny-Ålesund, Svalbard, Arctic. H. Konishi and M. Wada.
108. Spectral reflectance of melting snow in a high Arctic watershed on Svalbard: Some implications for optical satellite remote sensing studies. J.G. Winther, S. Gerland, J.B. Ørbæk, B. Ivanov, A. Blanco and J. Boike.
109. Glaciological observation on Pioneer Ice Cap, Severnaya Zemlya in 1996. S. Takahashi, S. Matoba, A. Takahashi, O. Watanabe and L. Savatugin.
110. Leaching of chemical compositions in the snowpack at the dome of Austfonna ice cap, Svalbard. Y. Iizuka, M. Igarashi, K. Watanabe, K. Kamiyama and O. Watanabe.
111. The geochemical phenomenon - Local geochemical fields in the glacier. V.N. Makarov.
112. Regional characteristics of chemical constituents in surface snow, arctic cryosphere. O. Watanabe, H. Motoyama, K. Kamiyama, M. Igarashi, K. Goto-Azuma, Y. Fujii, Y. Iizuka, S. Matoba and H. Narita.
113. Chemical analysis of the shallow ice core and surface snow samples from North Greenland. M. Igarashi, M. Tagami, H. Motoyama, M. Takata, O. Watanabe, H. Narita, H. Shoji, J.P. Steffensen and H.B. Clausen.
114. On the detailed density profile of NGRIP-S1 shallow ice cores from Greenland. H. Narita, H. Shoji, H.B. Clausen and S.J. Johansen.
115. The North Water Polynya study : preliminary hydrographic results. Y. Gratton, H. Melling R.G. Ingram and R.F. Marsden.
116. Bio-optical characteristics in northern Baffin Bay. H. Sasaki, S. Saito, T. Hirawake and P. Larouche.
117. Pico and nanophytoplankton distribution in the North Water (76°- 79°N) as estimated by flow cytometry. S. Demers, B. Mostajir, J.N. Bouchard F. Vidussi, C. Vasseur and M. Fukuchi.
118. Species composition, biomass and photosynthetic activity of the bottom ice algae in the North Water Polynya during the springtime. M. Gosselin, C. Nozais and C. Michel.
119. Physiological study on photosynthetic pigments of phytoplankton in the North Water Polynya. Y. Hayashi, Y. Kashino, Y. Suzuki, T. Odate and S. Kudoh.
120. Feeding activities of Arctic copepods in the NOW Polynya.. H. Hattori, N. Kobahashi, M. Sanpei and K. Takahashi.
121. Respiration and excretion rates of *Calanus hyperboreus*, *C. glacialis* and *Metridia longa* in relation to environmental conditions at North Water Polynya during autumn. K. Takahashi, K. Takahashi and S. Taguchi.
122. Observation of downward particle flux in the North Water Polynya. M. Fukuchi, M. Sanpei, H. Sasaki, Y. Kashino, S. Kudoh and B. Hargrave.
123. Vegetation and soil relationships in the recently deglaciated terrains in Ny-Ålesund, Svalbard. S. Kojima and N. Wada.
124. Flora and vegetation of deglaciated area in Ny-Ålesund, Svalbard. H. Kanda, S. Imura, Y. Minami and S. Kojima.
125. Arctic *Polygonum viviparum*; Growth and reproduction in relation to preformation. S. Nishitani, T. Masuzawa, G. Gabrielsen, N. Misato, H. Kanda and J. Ishitsu.
126. Comparisons of germination pattern and seedling survival of *Potentilla matsumurae* (Rosaceae) between alpine fellfield and snowbed habitats. Y. Shimono and G. Kudo.

127. Variations in reproductive characteristics of two sympatric alpine shrubs, *Phyllodoce caerulea* and *Phyllodoce aleutica* along a snowmelt gradient. T. Kasagi and G. Kudo.
128. Ecological role of fungal infections of moss carpet in Svalbard. T. Hoshino, M. Tojo, H. Kanda and A.M. Tronsmo.
129. Occurrence of plants in northern Kuriles, a highly oceanic sector of the subarctic zone. I. Notes on distribution of bryophytes. Y. Minami, S. Okitsu, V.Ya. Cherdantseva and S.Yu. Grishin.
130. Occurrences of plants in northern Kuriles, a highly oceanic sector of the subarctic zone. II. Distribution of dwarf shrubs and herbaceous plants on Mt. Ebeko, Paramushir Island. S. Okitsu, Y. Minami and S.Yu. Grishin.
801. New persistent organic pollutants of concern. Ivan C. Burkow.

Poster Session II:

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202. Interhemispheric conjugacy of auroral poleward expansion observed by conjugate imaging riometers at ~ 67° and 75° ~ 77° invariant latitude. H. Yamagishi, Y. Fujita, N. Sato, M. Nishino, P. Stauning and L. Ruiyuan.
203. Conjugate imaging riometer observations at Polar Cusp/Cap Stations. M. Nishino, H. Yamagishi, N. Sato, L. Ruiyuan, P. Stauning and J.A. Holtet.
204. Haze layers and their characteristics observed over Spitsbergen during the AAMP 1998 campaign. M. Shiobara, S. Yamagata, M. Watanabe, T. Shibata, R. Neuber, G. Beyerle, R. Schumacher, A. Herber, P. Rairoux and D. Nagel.
205. Aircraft observation of carbonyl sulfide (COS) over mid-high latitude of Northern Hemisphere during AAMP98. Y. Inomata, K. Matsunaga, S. Sugawara, S. Morimoto, Y. Iwasaka, K. Osada, M. Watanabe and M. Shiobara.
206. Black carbon and common ionic species in the Arctic atmospheric aerosol. K. Eleftheriadis, S. Nyeki, K. Tørseth and I. Colbeck.
207. Event-induced aerosol sampling at Spitsbergen. M. Kriews, I. Stölting and O. Schrems.
208. The production of HONO in Arctic aerosols. H.J. Beine, F. Valentini, A. Ianniello, R. Sparapani and I. Allegrini.
209. The possible influence of local pollution sources on chemical compound measurements at Zeppelin: Using SODAR to identify flow pattern. H.J. Beine and S. Argentini.
210. Detailed stratigraphy analysis of a NGRIP shallow ice core using laser tomograph system. M. Takata, Y. Fujii, O. Watanabe, H. Shoji and N. Azuma.
211. Vertical distribution of heavy metals in Vestfonna, Svalbard ice core. S. Matoba, A.E. Eroglu, H. Motoyama, Y. Fujii, O. Watanabe and M. Nishikawa.
212. Contrastive anthropogenic acidification in Arctic and Antarctic cores. Y. Fujii, K. Kamiyama, F. Nishio, H. Shoji, K. Goto-Azuma, M. Kohno and O. Watanabe.
213. Preliminary results from 289 m ice core on Austfonna ice cap, Svalbard. O. Watanabe, H. Motoyama, M. Igarashi, K. Goto-Azuma, T. Nagasaki, L. Karlof and E. Isaksson.
214. Asynchronism of glacier fluctuations in the Arctic and in the Alps at the end of 20 century. T. Khromova and L. Chernova.
215. Climate Changes and its impact on Northern Eurasia Glaciers reduction by the scenarios of the former climates. M. Ananicheva, N. Davidovich and Y. Kononov.
216. Status report on the GPS Positioning at Ny-Ålesund, Svalbard in 1994. M. Kanao and M. Wada.
217. The determination of the "invariant point" of the VLBI antenna in Ny-Ålesund. P. Tomasi, M. Rioja and P. Sarti.
219. Climatic and biological forcing of the vertical flux of biogenic particles under first-year ice in the Canadian Arctic in spring. M. Fortier, L. Fortier and L. Legendre.
220. Observations of CO₂ partial pressure, total inorganic carbon and nutrients in the Greenland Sea in winter season. S. Yoshimura, S. Aoki, T. Nakazawa, S. Morimoto, G. Hashida, S. Ushio and H. Ito.
221. Oxygen isotope hydrography in Northeastern Greenland Sea in January 1999. M. Yamamoto, S. Tsunogai and N. Tanaka.
222. Seasonal difference in stable isotope compositions of arctic copepods. H. Sasaki, D. Kawai, H. Suzuki, M. Sato and M. Fukuchi.
223. The most important plankton grazers in Kongsfjorden, Ny-Ålesund. Spatial distribution patterns of three *Calanus* species in an Arctic glacial fjord. S. Kwasniewski, S.F. Petersen, H. Hop and G. Pedersen.
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226. Ecosystem Carbon Cycle on a Glacier Foreland in Ny-Ålesund, Svalbard. T. Nakatsubo, Y. Bekku, M. Uchida, H. Kanda and H. Koizumi.
227. Primary production of mosses in Ny-Ålesund, Svalbard. M. Uchida, Y. Bekku, T. Nakatsubo, T. Ueue, H. Kanda and H. Koizumi.
228. Structure and functional role of moss colony, *Sanionia ucinata* in different water environments. T. Ueno, Y. Bekku, S. Imura and H. Kanda.
229. Photosynthetic and water relational characteristics in two co-occurring *Polygonum* species at a scoria desert in an

- alpine timber line of Mt. Fuji. T. Nakano, A. Tanaka, T. Ohtsuka, Y. Abe, H. Tanabe, Y. Sato, C. Sakano and Y. Yamamura.
230. Biological characteristics of dark colored material in Canadian High Arctic glaciers. N. Takeuchi, S. Kohshima, K. Goto-Azuma and R.M. Koerner.
231. UV-B-Personal-related dosimetry at Koldewey-Station by using an electronic Dosimeter ELUV-14. S.E.Naggar.
901. Opportunities for European Research Collaboration under the Ny-Ålesund Large Scale Facility Program 2000 – 2002. J.B. Orbek.

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41. Determination of ice flow velocity in Svalbard from ERS-1 interferometric observations. B. Lefauconnier, D. Massonnet and G. Anker.
42. Effects on spectral reflectance from snow ageing. J.G. Winther and S. Gerland.
43. In-situ snowpack temperature monitoring at an Arctic tundra site: A comparison of manual and automatic measurements. S. Gerland and J.G. Winther.
44. Polythermal glaciers in Northern Scandinavia - an important source of paleo environmental records. P. Holmlund.
45. An ice core record from Lomonosovfonna, Svalbard: viewing the isotopic, chemical and structural data between 1920-1997 in relation to instrumental records. E. Isaksson, V. Pohjola, J. O'Dwyer, T. Jauhiainen, J. Moore, J-F. Ponglot, R. Vaikmāc, R.S.W. van de Wal, H.A.J. Meijer and J.O. Hagen.
46. Sedimentary environment of the glaciers in the northern part of Svalbard recorded in ice cores. O. Watanabe, H. Narita, S. Takahashi, N. Kameda, K. Kamiyama, H. Motoyama, M. Miyahara, S. Matoba, A. Furukawa, T. Shiraiwa, K. Azuma, M. Igarashi, Y. Fujii, E. Isaksson, S. Arkhipov and O. Hagen.
47. Ice-core chemistry variation on Penny Ice Cap, Baffin Island, Canadian Arctic over the last two centuries. K. Goto-Azuma, R.M. Koerner and D.A. Fisher.
48. The North-GRIP deep drilling project in Greenland. S.J. Johnsen, D.D. Jensen, N. Gundestrup and O. Watanabe.
49. Evolution of White Glacier, Canada, in 2xCO₂ climate, a numerical model study. O. Albrecht.

Session VII: Glaciological Environment (2)

50. Ocean tides and loading in the Arctic. M.S. Bos and T.F. Baker.
51. Inversion of global tide gauge data for present-day ice load changes. H.P. Plag.
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Session VIII: Marine Environment

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55. Physical and chemical indicators of changes in the Barents Sea ecosystem in the second half of the 20th century. O.V. Titov.
56. Wind and freshwater driven circulation in an Arctic fjord system. R. Ingvaldsen, M.B. Reitan, H. Svendsen and L. Asplin.
57. The arctic sea ice ecosystem controlling by global warming. I.A. Melnikov, L.S. Zhitina and E.G. Kolosova.
58. High latitude air-sea-ice interaction: The atmospheric forcing of deep ocean convection. G.W. Kent Moore.
59. Thermohaline structures observed in the Greenland - Barents Sea, January 1999. M. Naya and H. Nagashima.
60. Laboratory experiments on frazil ice formation and thermohaline convection with applications to the Arctic marine environment. A.G. Zatsepin, V.L. Didkovskii, S.N. Dikarev, S.N. Poyarkov and P.N. Golovin.
61. Temporal change of phytoplankton distribution in the North Water Polynya. T. Odate, T. Hirawake, S. Kudoh and M. Fukuchi.
62. Organic Carbon Mineralization by new Types of Psychrophilic Sulfate-Reducing Bacteria in Permanently Cold Sediments off the Coast of Svalbard. C. Knoblauch, K. Sahm, J. Sagemann, K. Ravensschlag and B.B. Jørgensen.

Session IX: Terrestrial Ecosystems

63. Algal primary succession on newly deglaciated Arctic moraine, Ny-Ålesund, Svalbard. J. Elster, K. Kubeckova, J. Kastovsky and H. Kanda.
64. Response of microbial biomass in arctic soil to artificial warming by using Open top chamber. Y. Bekku and H. Kanda.
65. The long-term influence of elevated temperature on biological production and carbon cycle in Arctic terrestrial ecosystems. D.G. Zamolodchikov and D.V. Karelin.
66. Plant speciation and phylogeography in the North Atlantic region. C. Brochmann.