

Atmospheric Science

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Title: Observation of greenhouse gasses in the Arctic**Discipline:** Atmospheric Science**Field leader:** Shinji MORIMOTO**Institution:** Arctic Environment Research Center, National Institute of Polar Research**Address:** 1-9-10 Kaga, Itabashi-ku, Tokyo 173-8515 JAPAN**TEL & E-mail:** +81-3-3962-4806, mon@nipr.ac.jp**Programme:** Variations of Atmospheric Constituents and Their Climatic Impact in the Arctic**Principal Investigator:** Takashi YAMANOUCHI**Proj. Period:** 1999 - 2005**Institution:** National Institute of Polar Research**Co-research Institution & Scientist (out of JPN):** Norwegian Polar Institute
(Norway)

Planned field activity**Invest. Area:** Ny-Ålesund (Svalbard)**Field Period:** Throughout the year**Logistics:** Observatory**Description:** [purpose] Weekly air sampling and continuous monitoring of surface ozone concentration at Rabben, Ny-Ålesund**Participants:** S. Morimoto, G. Hashida, T. Yamanouchi (NIPR), T. Nakazawa, S. Aoki (Tohoku Univ.)

Field activity of previous year**Invest. Area:** Ny-Ålesund (Svalbard)**Field Period:** Throughout the year**Logistics:** Observatory**Description:** Weekly air sampling and continuous monitoring of surface ozone concentration at Rabben, Ny-Ålesund**Number of participants:** 5

* See "Japanese Arctic Research Directory in 2001" P. 129

Title: Studies on the air-snow interaction in the Tundra region of Alaska

Discipline: Atmospheric Science

Field leader: Takeshi SATO

Institution: Snow and Ice Research Group, National Research Institute for Earth Science and Disaster Prevention

Address: 1400 Tokamachi, Takadan, Shinjo, Yamagata 996-0091 JAPAN

TEL & E-mail: +81-233-23-8006, tsato@bosai.go.jp

Programme: Studies on the snow disaster prediction

Principal Investigator: Atsushi SATO

Proj. Period: 2001 - 2005

Institution: National Research Institute for Earth Science and Disaster Prevention

Co-research Institution & Scientist (out of JPN): University of Alaska (USA): L. Hinzman

Planned field activity

Invest. Area: Caribou-Poker Creek (Fairbanks, Alaska)

Field Period:

Logistics: ATV and snow machine

Description: [purpose] Clarify the air-snow interaction based on the long-term automatic observations and snow conditions in the winter by the snow survey
[outline] Maintenance and data collection of the instruments for automatic observations and snow survey

Participants: Takeshi Sato, Shigeto Mochizuki

Field activity of previous year

Invest. Area: Caribou-Poker Creek (Fairbanks, Alaska)

Field Period: Throughout the year

Logistics: ATV and snow machine

Description: Maintenance and data collection of the instruments for automatic observations and snow survey

Number of participants: 2

* See "Japanese Arctic Research Directory in 2001" P. 124

Title: Studies on the air-snow interaction in the Taiga region of Finland**Discipline:** Atmospheric Science**Field leader:** Atsushi SATO**Institution:** Snow and Ice Research Group, National Research Institute for Earth Science and Disaster Prevention**Address:** 187-16 Maeyama, Suyoshi-cho, Nagaoka, Niigata 940-0827 JAPAN**TEL & E-mail:** +81-258-35-7522, asato@bodai.bo.jp**Programme:** Studies on the snow disaster prediction**Principal Investigator:** Atsushi SATO**Proj. Period:** 2001 - 2005**Institution:** National Research Institute for Earth Science and Disaster Prevention**Co-research Institution & Scientist (out of JPN):** Turku University (Finland): S. Neuvonen

Planned field activity**Invest. Area:** Kevo (Finland)**Field Period:****Logistics:** Snow machine**Description:** (purpose) Clarify the air-snow interaction based on the long-term automatic observations and snow melt process

(outline) Maintenance and data collection of the instruments for automatic observations and snow survey

Participants: Atsushi Sato

Field activity of previous year**Invest. Area:** Kevo (Finland)**Field Period:** Throughout the year**Logistics:** Snow machine**Description:** Maintenance and data collection of the instruments for automatic observations and snow survey**Number of participants:** 1

* See "Japanese Arctic Research Directory in 2001" P. 132

Title: Arctic Airborne Measurement Program**Discipline:** Atmospheric Science**Field leader:** Takashi YAMANOUCHI**Institution:** National Institute of Polar Research**Address:** 1-9-10 Kaga, Itabashi-ku, Tokyo 173-8515 JAPAN**TEL & E-mail:** +81-3-3962-5680, yamanou@pmg.nipr.ac.jp**Programme:** Variations of Atmospheric Constituents and Their Climatic Impact in the Arctic**Principal Investigator:** Takashi YAMANOUCHI**Proj. Period:** 1999 - 2004**Institution:** National Institute of Polar Research**Co-research Institution & Scientist (out of JPN):** NP: J. Orbeak, AWI: A. Herber,
NASA/Langley: L. Thomason, NOAA/CMDL: R. Stone

Planned field activity**Invest. Area:** Ny-Ålesund, Svalbard**Field Period:** Observatory**Logistics:** Follow up observations and data analysis**Description:** [purpose] To derive the behavior of greenhouse gases and aerosols, optical properties of aerosols and structure of clouds and disturbances (polar low) in the Arctic
[outline] Continue surface observation to fulfill the time variations after the intensive observation period, and analyze those data obtained at the campaign.**Participants:**

Field activity of previous year**Invest. Area:** Barrow, Arctic Ocean, Svalbard area, Greenland Sea, Norwegian Sea**Field Period:****Logistics:** Airborne (Gulf stream II), ground-based and satellite measurements**Description:** Airborne observations by Jet plane; trans Arctic stratosphere flight, profile flight near Barrow and Svalbard. Coordinated intensive observations at Ny-Ålesund Svalbard.**Number of participants:** 17

* See "Japanese Arctic Research Directory in 2001" P. 121

Title: Mt. Mckinly Weather Research Project**Discipline:** Atmospheric Science**Field leader:** Yoshitomi OKURA**Institution:** The Japanese Alpine Club Science Committee**Address:** #301 4-5-4 Iidabashi, Chiyoda-ku, Tokyo 102-0072 JAPAN**TEL & E-mail:** +81-3-5212-4656, tawashihige@nifty.com**Programme:** Mt. Mckinly Weather Research Project**Principal Investigator:** Yoshitomi OKURA**Proj. Period:** 2002 - 2005**Institution:** International Arctic Reserch Center**Co-research Institution & Scientist (out of JPN):** International Arctic Reserch Center: Syun-Ichi Akasofu

Planned field activity**Invest. Area:** Mt. Mckinly at 5715m**Field Period:** Yearly continuation**Logistics:** Automatic Weather Station**Description:** [purpose] Mt. Mckinly Weather W Mt. Mckinly Weather Reserch Yearly

[outline] Collect adequate intelligence data Wind Direction, Wind Speed, Temperature

Participants:

Field activity of previous year**Invest. Area:****Field Period:****Logistics:****Description:****Number of participants:**

Title: Observation of Arctic Stratus Cloud using Research Vessel MIRAI

Discipline: Atmospheric Science

Field leader: Yasushi FUJIYOSHI

Institution: ILTS, Hokkaido University

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TEL & E-mail: +81-11-706-5491, fujiyo@lowtem.hokudai.ac.jp

Programme: Arctic stratus cloud 02

Principal Investigator: Yasushi FUJIYOSHI

Proj. Period: 2002 - 2005

Institution: ILTS, Hokkaido University

Co-research Institution & Scientist (out of JPN):

Planned field activity

Invest. Area: Arctic Sea

Field Period: Sep. - Oct. 2002

Logistics: In situ measurement

Description: [purpose] Formation, maintenance and structure of Arctic stratus cloud

[outline) We will make observation by making use a tethered balloon and remote sensing.

Participants: Kazuho Yoshida

Field activity of previous year

Invest. Area:

Field Period:

Logistics:

Description:

Number of participants:

Title: Studies on the water vapor, precipitation, and meteorological disturbances around Norwegian Sea affected to the climate in the northern hemisphere**Discipline:** Atmospheric Science**Field leader:** Yoshio ASUMA**Institution:** Division of Earth and Planetary Sciences, Graduate School of Science, Hokkaido University**Address:** Kita-10, Nishi-8, Kita-ku, Sapporo 060-0810 JAPAN**TEL & E-mail:** +81-11-706-2763, asuma@ep.sci.hokudai.ac.jp**Programme:** Studies on the water vapor, precipitation, and meteorological disturbances around Norwegian Sea affected to the climate in the northern hemisphere**Principal Investigator:** Katsuhiko KIKUCHI**Proj. Period:** 2001 - 2004**Institution:** Akita Prefectural University**Co-research Institution & Scientist (out of JPN):** Forecasting Division of Northern Norway, Norwegian Meteorological Institute: Helge Tangen

Planned field activity**Invest. Area:** Bear Island (Norway)**Field Period:****Logistics:** Vertical Pointing Doppler Radar at observatory**Description:** [purpose] Studies on the water vapor, precipitation, and meteorological disturbances around Norwegian Sea affected to the climate in the Northern Norway
[outline] Observations on the meteorological disturbances on the Norwegian Sea using a pointing Doppler radar set up on the Bear Island**Participants:** Katsuhiko Kikuchi, Yoshio Asuma, Masahiro Kajikawa, Noboru Sato

Field activity of previous year**Invest. Area:** Bear Island (Norway)**Field Period:** Throughout the year**Logistics:** Vertical pointing Doppler radar**Description:** Same as the 2001**Number of participants:** 5

* See "Japanese Arctic Research Directory in 2001" P. 131

Title: Observational study on stratospheric minor constituents by millimeter-wave radiometer at Poker Flat, Alaska**Discipline:** Atmospheric Science**Field leader:** Satoshi OCHIAI**Institution:** Communications Research Laboratory / Applied Research and Standards Division / SMILES Group**Address:** 4-2-1 Nukuikitamachi, Koganei, Tokyo 184-8795 JAPAN**TEL & E-mail:** +81-42-327-6901, ochiai@crl.go.jp**Programme:** Japan-U.S. Cooperative Program --- Joint Program of the Middle and Upper Atmosphere Observation with Geophysical Institute, University of Alaska Fairbanks**Principal Investigator:** Yasuhiro MURAYAMA**Proj. Period:** 1993 - 2005**Institution:** Communications Research Laboratory**Co-research Institution & Scientist (out of JPN):** Univ. of Alaska Fairbanks**Planned field activity****Invest. Area:** Poker Flat Research Range (Alaska)**Field Period:** Dec. 2002, Jan., Feb., Mar. 2003**Logistics:** Millimeter-wave radiometer**Description:** [purpose] For studying distribution of minor constituents in the Arctic atmosphere.

[outline] A millimeter-wave radiometer developed in Communications Research Laboratory is operational at Poker Flat Research Range. After tuning and calibration, the system will be operated remotely and observe the atmosphere.

Participants: Satoshi Ochiai**Field activity of previous year****Invest. Area:** Poker Flat Research Range, Alaska, USA**Field Period:****Logistics:****Description:****Number of participants:** 2

* See "Japanese Arctic Research Directory in 2001" P. 123

Title: Observational study on stratospheric minor constituents by millimeter-wave radiometer at Eureka, Canada**Discipline:** Atmospheric Science**Field leader:** Satoshi OCHIAI**Institution:** Communications Research Laboratory / Applied Research and Standards Division / SMILES Group**Address:** 4-2-1 Nukuikitamachi, Koganei, Tokyo 184-8795 JAPAN**TEL & E-mail:** +81-42-327-6901, ochiai@crl.go.jp**Programme:** Japan-U.S. Cooperative Program --- Joint Program of the Middle and Upper Atmosphere Observation with Geophysical Institute, University of Alaska Fairbanks**Principal Investigator:** Yasuhiro MURAYAMA**Proj. Period:** 1993 - 2005**Institution:** Communications Research Laboratory**Co-research Institution & Scientist (out of JPN):** Meteorological Service Canada, Environment Canada: Hans Fast

Planned field activity**Invest. Area:** Eureka, Nunavut (Canada)**Field Period:** Oct. - Dec. 2002, Jan. - Mar. 2003**Logistics:** Millimeter-wave radiometer**Description:** [purpose] For studying distribution of minor constituents in the Arctic atmosphere
[outline] A millimeter-wave radiometer developed in Communications Research Laboratory is installed in Eureka Weather Station. After tuning and calibration, the system will be operated remotely and observe the atmosphere.**Participants:** Satoshi Ochiai

Field activity of previous year**Invest. Area:** Eureka, Nunavut, Canada**Field Period:****Logistics:****Description:****Number of participants:** 2

* See "Japanese Arctic Research Directory in 2001" P. 125