



Fairbanks halo display. Photo by Brain.M. Hartmann

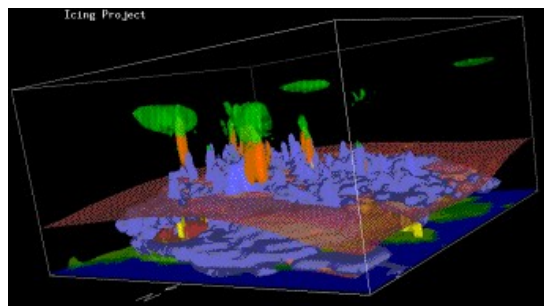
The Atmospheric Science Program at the University of Alaska Fairbanks is composed of an expanding group of energetic young faculty. We share a common interest in the physical, chemical, and dynamical processes of the polar atmosphere. Our interests cover a broad spectrum of topics in the atmospheric science, with research results often bearing directly on society and issues surrounding climate variability and change. Many of us also maintain research interests in other regions of the globe.

The Atmospheric Science Program provides opportunities to learn cutting-edge computer modeling techniques and to participate in exciting field experiments in Alaska. Program faculty and students have access to world class research facilities including the Arctic Region Supercomputing Center and Poker Flat Research Range, and several observational networks. Students can gain international exposure because many of the research activities are carried out in close cooperation with scientists from all over the world.

The group is housed in the newly constructed International Arctic Research Center (IARC). Faculty and students of the

Atmospheric Science Program are also integral parts of the Geophysical Institute and International Arctic Research Center. The Program has close ties to the National Weather Service forecast office just down the hall.

Our location in the sub-arctic positions us perfectly for Arctic research. Additionally, the local environment provides an excellent location for observation of unique scientific phenomena and outdoor exploration. Fairbanks' location allows for many opportunities for winter and summer recreation in a land of unspoiled beauty.



Three dimensional graphic showing results obtained by a regional atmospheric model showing cloud water (blue), rain water (yellow), ice (green) and snow (amber). Simulation and graphic by Gerhard Kramm

Educational Program

We offer M.S and Ph.D. degrees obtained through research plus course work. Graduate students accepted as research assistants are funded by competitive stipends that include a tuition waiver and funding for summer research. Teaching assistantships are available on a limited basis. Incoming students have the opportunity to pursue degrees with emphasis tailored to match their research interests. Students enter the program with a variety of academic backgrounds and,

as such decisions for acceptance into the Program are made on a case-by-case basis.

Research Activities

The atmospheric science research program strives to understand the polar atmosphere and its role within the earth system. Our research projects are generally in conjunction with UAF's Geophysical Institute and International Arctic Research Center. Projects utilize a variety of observational, modeling and remote sensing techniques and can be divided into several areas:

- Atmospheric Remote Sensing
- Chemistry transport modeling
- Cloud/Aerosol Physics
- Climate and Climate Dynamics
- Hydrometeorology
- Mesoscale Modeling
- Middle and Upper Atmosphere
- Radiative Transfer & Interactions



Servicing the UAF/IARC weather station on Mt. McKinley (just below the summit at 18,700 feet). Photo by Tohru Saito (IARC), members of the Japan Alpine Club assisting.

Financial Aid

Research assistantships and fellowships are available for graduate students on a competitive basis. Teaching assistantships are temporarily available. All carry a stipend and a tuition waiver. Students should contact faculty to learn more about open research or teaching assistantship positions.

Instructional and Affiliated faculty

Alexeev, V., Ph.D. (Univ. Moscow), Res. Assist. Professor, Climate Change

Atkinson, D., Ph.D. (Univ. of Ottawa), Assist. Professor, Coastal climate, storms

Bhatt, Uma, Ph.D. (Univ. of Wisconsin, Madison), Assoc. Professor, Climate Variability

Cahill, Catherine, Ph.D. (Univ. of Nevada, Reno), Assoc. Professor, Atmospheric Chemistry, Aerosols

Collins, R., Ph.D. (Univ. Illinois), Assoc. Professor, Middle and Upper Atmosphere, Remote Sensing

Kramm, Gerhard, (Humboldt-University Berlin), Res. Assoc., Boundary Layer Physics, Turbulence

Mölders, Nicole, Ph.D. (Univ. of Cologne), Dr. habil. (Univ. Leipzig), Assoc. Professor, Hydrometeorology, Chemistry Transport Modeling

Sassen, Kenneth, Ph.D. (Univ. of Wyoming), Professor, Cloud Physics, Remote Sensing

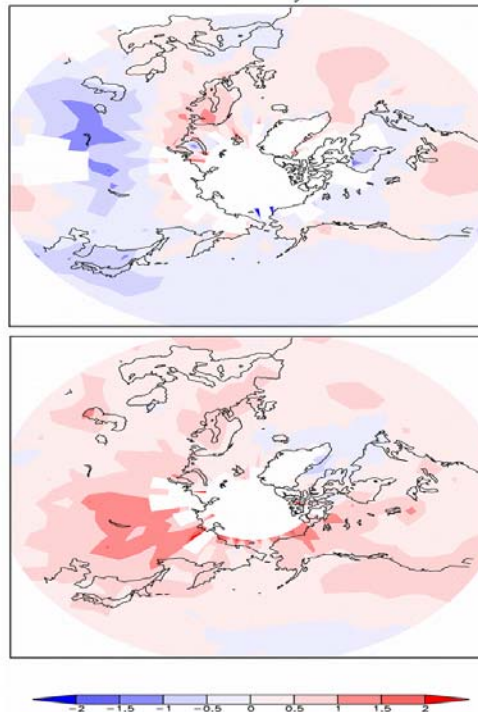
Shaw, Glenn E., Ph.D. (Univ. of Arizona), Professor Emeritus, Cloud Physics, Aerosols

Simpson, William R., Ph.D. (Stanford Univ.), Assoc. Prof., Atmospheric Chemistry

Untersteiner, Norbert, Ph.D. (Univ. of Innsbruck), Professor, Chapman Chair, Polar Climatology

Walsh, John, Ph.D. (Massachusetts Inst. of Technology), President's Professor, Arctic Climate and Weather

Wendler, Gerd, Ph.D. (Univ. of Innsbruck), Professor Emeritus, Climatology



Spatial pattern of Arctic Warming in the 1930's and 1990's as seen in air temperature (plots by Uma S. Bhatt)

To learn more about the research environment, our program and the application procedure, visit our web page at: <http://www.uaf.edu/asp/> or contact us at

Dr. Nicole Mölders
UAF Atmospheric Science Program
P.O. Box 757320
Fairbanks, AK 99775-7320
907-474-7368
atmos@gi.alaska.edu

ATMOSPHERIC SCIENCE

M.S. & Ph.D.



Students (Tim Stern (left), Tao Hou) working on laser system at UAF's Poker Flat Research Range.

Photo courtesy of Jeff Peterson, Geophysical Institute.