

Atmospheric Sciences

College of Natural Science and Mathematics

Department of Atmospheric Sciences (<https://www.uaf.edu/atmos/>)
907-474-7368

Department of Atmospheric Sciences

B.S., Climate and Atmospheric Sciences

The Climate and Atmospheric Sciences program at the University of Alaska Fairbanks offers a comprehensive education in understanding the atmosphere and its interactions with other Earth System components, such as the oceans and cryosphere.

Our undergraduate curriculum builds a solid foundation in mathematics, physics, and chemistry, while immersing students in specialized atmospheric sciences topics, including atmospheric thermodynamics, dynamics, radiation, cloud physics, precipitation systems, weather forecasting, and climate processes. Additionally, the program emphasizes the development of skills in written and oral communication, computer programming, and understanding Alaska-specific environmental issues.

Students will choose to concentrate in one of the following areas:

- Climate
- Forecasting

Graduates of this program will be well-prepared for careers in weather and climate forecasting within the state, federal, or private sectors, or for advanced study in atmospheric sciences and related fields.

Minimum Requirements for Bachelor's Degree in Climate and Atmospheric Sciences: 120 credits

M.S., Ph.D., Earth System Science

Earth System Science at UAF is a multidisciplinary degree program that provides the option for a disciplinary concentration in one of eight topics:

- Sustainability
- Ecosystems
- Hydrology
- Atmospheric and Climate Sciences
- Cryosphere
- Solid Earth Geophysics
- Geoscience
- Geospatial Science

The ESS program involves faculty participation from six departments and programs:

- Natural Resources and Environment
- Center for Cross-Cultural Studies
- Biology and Wildlife
- Civil, Geological, and Environmental Engineering
- Atmospheric Sciences
- Geosciences

and five research institutes:

- Institute of Agriculture/Natural Resources and Extension
- Institute of Arctic Biology
- Institute of Northern Engineering
- International Arctic Research Center
- Geophysical Institute.

Minimum Requirements for Earth System Science Degrees: M.S.: 30 credits;
Ph.D.: 26-41 credits.

Minor, Agrometeorology

This minor provides an opportunity for upper-level undergraduates from sciences (e.g., natural sciences and agriculture, geosciences, geography, physics), mathematics and engineering across the University of Alaska system to pursue a concentration and specialization in agrometeorology. The minor is established in the College of Natural Science and Mathematics and fostered by worldwide specialists in the fields of meteorology, climate and agriculture from the Department of Atmospheric Sciences and the Department of Natural Resources and Environment. This minor aims to provide the student with training in state-of-the-art experimental and computational methodologies and tools, as well as a deep theoretical understanding of the transdisciplinary process at the convergence and intersection between agriculture and meteorology/climate. All courses listed for this minor present a module for professional practices in the field and in computers so that the student can profile a pathway for workforce development.

With a minor in agrometeorology, the student would have a well-rounded and hands-on formation in all aspects involving agricultural systems that influence or are influenced by meteorological and climate processes. The program is fully compliant with the standard practices set by the U.S. Department of Agriculture, the U.S. National Weather Service and the World Meteorological Organization objectives in terms of seasonal analysis, forecasting activities and decision-making processes.

Minimum Requirements for Agrometeorology Minor: 24 credits

Programs

Degrees

- B.S., Climate and Atmospheric Sciences (<https://catalog.uaf.edu/bachelors/climate-atmospheric-sciences/>)
- M.S., Atmospheric Sciences (<https://catalog.uaf.edu/masters/atmospheric-sciences/>) (Admission to this program has been suspended)
- M.S., Earth System Science (<https://catalog.uaf.edu/masters/earth-system-science/>)
- Ph.D., Atmospheric Sciences (<https://catalog.uaf.edu/phd/atmospheric-sciences/>) (Admission to this program has been suspended)
- Ph.D., Earth System Science (<https://catalog.uaf.edu/phd/earth-system-science/>)

Minor

- Minor, Agrometeorology (<https://catalog.uaf.edu/minors/agrometeorology/>)