Colorado State University

Colorado State University (CSU) has been a UCAR member since 1964. The CSU Atmospheric Science Department is a focal point for atmospheric science research and education on campus. Graduate education in the Atmospheric Science Department at CSU includes both M.S. and Ph.D. programs. Each year the Department brings in approximately 15–20 new students. Research is an important component of the M.S. program and nearly all students complete a thesis-based M.S. degree. Completion of a thesis-based M.S. degree is required for entrance to the Department’s Ph.D. program. Between 30 and 40% of the Department’s M.S. graduates typically continue on for a Ph.D. with a few students entering the Ph.D. program after completing an M.S. at another institution. In support of its graduate programs, the Department of Atmospheric Science offers more than 40 graduate level courses. M.S. students are required to complete courses in Atmospheric Dynamics, Climate, Thermodynamics and Clouds Physics, Atmospheric Chemistry, Atmospheric Radiation, and either Synoptic or Mesoscale Meteorology. CSU does not offer undergraduate degrees in atmospheric science. The Atmospheric Science Department teaches two large enrollment undergraduate classes: Physical Basis of Climate Change and Introduction to Weather and Climate.

The Atmospheric Science Department is home to approximately 174 employees and students, including 16 tenured or tenure-track faculty, 61 research staff, 11 administrative staff, and 86 M.S. or Ph.D. students. Between 2006 and 2010, the Department graduated 72 M.S. and 41 Ph.D. students. Department graduates continue on to a variety of career opportunities in the academic, government, and private sectors. Many of the Department’s graduates have made important leadership contributions in government research laboratories and at other universities. Since 1982, 21% of tracked Ph.D. graduates have gone on to academic faculty positions at universities and 30% have taken civilian or military positions with the federal government. The Department has granted 645 M.S. and 279 Ph.D. degrees in its 49 year history. The Atmospheric Science faculty have very active and productive scientific research programs, publishing extensively in peer-reviewed journals and receiving external funding from federal and state agencies including the National Science Foundation, National Oceanic and Atmospheric Administration, National Aeronautics and Space Administration, Office of Naval Research, State of Colorado, Department of Interior, Department of Defense, Department of Health and Human Services, Department of Transportation, Department of Energy, and Environmental Protection Agency. Within the Atmospheric Science Department, key research focus areas include: radiation and remote sensing; atmospheric chemistry; climate and atmosphere–ocean dynamics; cloud microphysics, severe storms, and mesoscale meteorology; and global biogeochemical cycles and ecosystems.

CSU is home to many outstanding facilities that support research and education in the atmospheric sciences. Key facilities and initiatives include the following: Center for Multi-scale Modeling of Atmospheric Processes (CMMAP), an NSF Science and Technology Center; CloudSat support facility; CSU CHILL National Radar Facility; Center for Collaborative Adaptive Sensing of the Atmosphere (CASA), an NSF Engineering Research Center; Colorado Climate Center; CoCoRAHS (Community
Collaborative Rain, Hail, and Snow Network); a 12,000 square foot atmospheric chemistry research facility; Cooperative Institute for Research in the Atmosphere (CIRA), with 143 employees in Fort Collins and Boulder; and dedicated atmospheric science teaching laboratories, including a weather laboratory, an atmospheric chemistry teaching laboratory, and a spin tank laboratory.

CSU faculty members maintain an active relationship with both UCAR and NCAR. In addition to service as member representatives, CSU faculty (e.g., Steven Rutledge, Richard Johnson) have recently also served on the UCAR Board of Trustees and as members of UCAR committees. CSU faculty members are actively engaged with NCAR scientists in almost all NCAR laboratories and programs, through both education and research activities. Numerous individual interactions occur each year, especially with the NCAR Earth Systems Laboratory, Earth Observing Laboratory, and Research Applications Laboratory. These include collaborative research activities, joint publications, student visits, and scientific exchanges (e.g., seminars at CSU or NCAR). CSU faculty and scientific staff are also frequent users of NCAR/NSF facilities, including the C-130, the G-V (HIAPER), S-POL, and the CSU-CHILL radar.

The UCAR Membership Committee concludes that the membership criteria are fulfilled, and recommends to the Members’ Representatives that the membership of Colorado State University be continued as provided by the bylaws.