Report on the site visit to the University of Georgia

By
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On behalf of the University Corporation of Atmospheric Research (UCAR) Membership Committee, Tom Bogdan, Nicole Mölders, and Todd Sikora (hereafter, evaluation committee) visited the University of Georgia (UGA) on April 12, 2012 to evaluate its application for UCAR membership. UGA is one of the oldest universities in the United States (founded 1785) and is Georgia’s flagship land- and sea-grant institution.

The evaluation committee met with UGA’s Provost Jere Morehead, Vice President for Research David Lee, Interim Dean of the Franklin College of Arts & Sciences Hugh Ruppersburg, Scott Angle, Dean of the College of Agricultural and Environmental Sciences, Atmospheric Sciences Program (ASP) Director Marshall Shepherd and various faculty of the Department of Geography and other departments that contribute to UGA’s education in the atmospheric sciences and related fields.

Nicole and Todd meeting with Dr. Andrew Grundstein (right) on the green roof of UGA’s Geography-Geology Building. Photo courtesy of Tom Bogdan.

UCAR Connection History

UGA presented the role UCAR has in UGA’s education, service and research in the atmospheric sciences and related fields. UGA students and faculty have benefited from UCAR education modules, data streams, and research opportunities. Therefore a formal membership is desired to
further enhance the strengths of UGA’s ASP and related programs of study (e.g., agricultural engineering, marine sciences and forestry).

**Program of Studies and Research**

At UGA, the ASP has granted certificates in cooperation with several parent departments (Geography, Biological and Agricultural Engineering, and Counseling and Human Development) since 2000. Undergraduate students who elect an ASP track graduate with a B.S. in the parent department and a certificate in one of the four ASP tracks (operational/applied meteorology, climate science, natural resources hydrology, and engineering hydrology). There are seven core ASP faculty from the parent departments. In addition to the parent department faculty, affiliate faculty from various other departments and schools (Marine Sciences, Anthropology, Crop and Soil Sciences, Forestry and Natural Resources, and Ecology) contribute to the curriculum in a very interdisciplinary way, as is ideal for current and future tasks and challenges in the atmospheric sciences and related fields.

The curriculum for the operational/applied meteorology track meets the American Meteorological Society (AMS) / federal civil service standards for a B.S. degree / federal employment in atmospheric sciences. UGA’s ASP offers certificates for M.S. and Ph.D. students as well, although it is not necessary for a graduate student in the atmospheric sciences or related fields to complete a certificate. UGA has a healthy record of granting M.S. and Ph.D. degrees in the atmospheric sciences and related fields. In the last five years, they have granted 15 M.S. degrees and three Ph.D. degrees in the atmospheric sciences and related fields through the Department of Geography. Various other departments have granted 12 M.S. degrees and 10 Ph.D. degrees in the atmospheric sciences and related fields between 2003 and 2011. Currently, there are five M.S. students and seven Ph.D. students pursuing atmospheric sciences-related degrees within the Department of Geography. The evaluation committee met with several of those graduate students and found them to be passionate about their programs of study.

Undergraduate and graduate students in the atmospheric sciences and related fields have moved on to complete higher degrees at leading atmospheric sciences programs across the country. Moreover, several received honors such as the NOAA Hollings Scholarship, AMS Industrial Fellowship, and the NASA Earth System Science Fellowship. Several Ph.D. recipients are now faculty members at other universities.

UGA ASP stands out as a truly innovative program. Their application lists many corresponding pedagogical and research accomplishments, such as collaborations with the public sector (e.g., United States Department of Agriculture Forest Service Southern Region Smoke Management Team) and private sector (e.g., Delta Airlines). UGA ASP boasts state-of-the-art instructional and research facilities. Examples include the Climatology Research Laboratory atop the Geography-Geology Building and associated NOAAPort receiver, weather and climate modeling systems, micrometeorological field instrumentation, and ample personal computers and workstations.

UGA ASP is also forward thinking. For example, the ASP faculty is active in course development, the ASP is planning to increase their faculty complement, and the ASP will be
taking advantage of the upcoming expansion of the UGA engineering program by fostering strong linkages with civil and environmental engineering.

Progress in the Atmospheric Sciences

UGA is a top 50 American Research University according to the Arizona State University’s Top American Research Universities. The application and site visit underscore ASP’s fundamental contribution to this recognition. UGA administration, faculty and students who met with the evaluation team demonstrated a strong commitment to atmospheric sciences and related fields. In fact, much of the site visit involved stimulating and informative research presentations by various faculty members.

The ASP core and affiliate faculty and students have a solid publication record in atmospheric sciences and related fields. In the past five years, they have published approximately 110 journal articles and have secured over $10.5 million in extramural funding.

The ASP faculty and students are involved in a NOAA-funded Regional Integrated Sciences and Assessment program (RISA) and collaborate with the UGA NOAA Sea Grant Office. Partnerships also include the United States Department of Agriculture Forest Service in the Southern High Resolution Modeling Center, and a medical school of the Georgia Health Sciences University. They have access to/manage various networks relevant for atmospheric (weather and climate) and marine sciences.

Because of the high regard in which the UGA ASP faculty is held by their peers, many serve on committees and panels, and in community leadership roles. For example, Marshall Shepherd is the President-Elect of the AMS, John Knox is a member of the AMS’s Board on Higher Education, and Pamela Knox is the chair of the AMS’s Board on Continuing and Professional Development. Moreover, she was the first woman president of the American Association of State Climatologists. Many faculty members have served as editors or associate editors of major journals.

Many UGA ASP and affiliate faculty have received prestigious awards in atmospheric sciences including AMS Fellow (Marshall Shepherd), D.W. Brooks Award for Excellence in Research (Monique Leclerc), the National Weather Association’s T. Theodore Fujita Research Achievement Award (John Knox) and the AMS Charles E. Anderson Award (Marshall Shepherd), just to mention a few.

Participation in UCAR Activities

Despite UGA not being a UCAR member, UGA ASP faculty members have been actively involved in numerous UCAR activities. For example, they make use of the COMET program for instructional purposes and they employ NCAR-related models in their research and teaching. In terms of service to UCAR, John Knox was a presenter and panelist in the 2008 AMS/UCAR Department Heads and Chairs meeting, Alan Stewart participated in the Weather and Society – Integrated Studies, and Thomas Mote served on the Unidata User’s Committee. Finally, various UGA ASP faculty members have sustained records of collaboration with UCAR/NCAR
scientists on grants, research papers and instructional opportunities. Thus, we may anticipate that these participations will only grow in the future with membership.

**Recommendation and Assessment of the Evaluation Committee**

UGA administration and the ASP faculty prepared a superb application and provided an outstanding site visit experience for the evaluation committee. It was convincingly demonstrated that the UGA ASP has a very modern, collaborative approach to teaching and research in the atmospheric sciences and related fields. That approach consists of ample breadth while not forfeiting fundamentals. Such an approach is admirable and forward-thinking.

The evaluation committee found that UGA fulfils the UCAR criteria for membership and hence recommends them for UCAR membership.