

A New Department of Atmospheric Sciences at the University of Illinois at Urbana-Champaign

A Department of Atmospheric Sciences was recently established at the University of Illinois Urbana-Champaign, replacing the Laboratory for Atmospheric Research. The celebration of the inauguration of the new department on 23 April 1982 featured guest speaker Joseph Smagorinsky, Director of the National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory, Princeton University. He spoke about the effects of carbon dioxide in the atmosphere on changes in climate.

The Department has a faculty of 11 (Fig. 1), who are carrying out a wide range of research projects and supervising both M.S. and Ph.D. degree candidates in atmospheric sciences. Currently there are 22 graduate students enrolled in the program, all of whom are receiving financial support through graduate assistantships or fellowships. Although no formal undergraduate program exists, the Department does offer several undergraduate courses on weather forecasting, weather and climate processes, and the physics and dynamics of the atmosphere. Undergraduate students may specialize in meteorology through the College of Liberal Arts and Sciences Individual Plans of Study program.

As an initial step toward the establishment of a Depart-

ment of Atmospheric Sciences, the Laboratory for Atmospheric Research was created in 1969 under the direction of Yoshi Ogura. A year later the University was elected to membership in the University Corporation for Atmospheric Research. The graduate degree programs leading to the M.S. and Ph.D. in atmospheric sciences were developed and approved by the Illinois Board of Higher Education (IBHE) in 1973. By January 1982, 23 M.S. and 11 Ph.D. degrees had been awarded. With strong educational and research programs in place, the IBHE approved the establishment of the Department of Atmospheric Sciences in December 1981 and Ogura was chosen to head the Department (see p. 791).

The current research interests of the faculty are summarized in Table 1. Almost all faculty research projects are supported by federal agencies, including the National Science Foundation, the National Oceanic and Atmospheric Administration, the National Aeronautical and Space Administration, and the U.S. Air Force. All but two of the faculty have full-time appointments in the Department. Beard has a 50% appointment with the Department and a similar appointment as a Professional Scientist at the Illinois State Water Survey (ISWS). Semonin, an Adjunct Professor, is head of

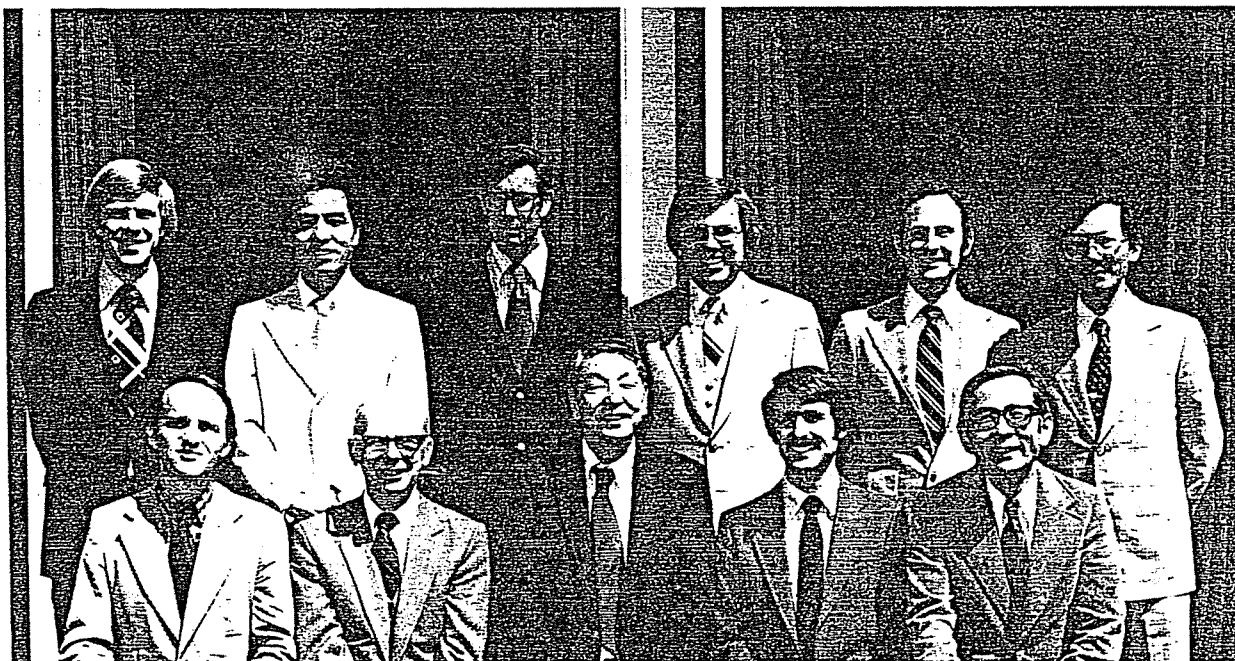


FIG. 1. The Faculty of the Department of Atmospheric Sciences: Standing (from left to right): John Gyakum, Man-Kin Mak, John Walsh, Robert Wilhelmson, Stanley Kidder, Su-Tzai Soong; sitting (from left to right): Kenneth Beard, Richard Semonin, Yoshi Ogura, Kevin Trenberth, Takashi Sasamori.

TABLE 1. List of faculty in the Department of Atmospheric Sciences, their degree, and principal research interests.

Faculty	Degree		Research interests
Assoc. Prof. Kenneth Beard	Ph.D. UCLA	1970	cloud and aerosol physics; radar meteorology
Asst. Prof. John Gyakum	Ph.D. MIT	1981	synoptic meteorology; extratropical cyclogenesis
Asst. Prof. Stanley Kidder	Ph.D. CSU	1979	satellite meteorology; tropical cyclone forecasting
Prof. Man-Kin Mak	Ph.D. MIT	1968	tropical meteorology; general circulation; dynamic meteorology
Prof. Yoshi Ogura	Sc.D. Tokyo	1953	convection; turbulence; dynamic meteorology
Prof. Takashi Sasamori	Sc.D. Tohoku	1959	radiation; large-scale dynamics; boundary layer meteorology
Adj. Prof. Richard Semonin	B.S. Washington	1955	weather modification; atmospheric chemistry; cloud physics
Assoc. Prof. Su-Tzai Soong	Ph.D. Missouri	1971	mesometeorology; simulation of convective systems
Assoc. Prof. Kevin Trenberth	Sc.D. MIT	1972	climate dynamics; southern hemisphere circulation; atmospheric modeling
Assoc. Prof. John Walsh	Ph.D. MIT	1974	polar meteorology and climatology; short-term climatic variability
Assoc. Prof. Robert Wilhelmson	Ph.D. Illinois	1972	cloud and storm dynamics; numerical techniques and modeling

the Atmospheric Sciences Section at the ISWS and also Assistant Chief for Administration and Research. He was formerly a Chief Editor of the *JOURNAL OF APPLIED METEOROLOGY*. Trenberth is an Editor of the *MONTHLY WEATHER REVIEW*.

The Department of Atmospheric Sciences is housed in the modern six-story Coordinated Science Laboratory building. Extensive facilities have been set up to support teaching and research activities. In addition to the continuous weather facsimile (DIFAX) equipment on line with the National Weather Service (NWS), upper air and hourly surface data and other current weather information are directly received from the FAA/NWS 604 line and stored on an LSI 11/23 minicomputer. Faculty and students have access to the CYBER 175 computer on campus through computer terminals located in the Department. The terminals are also linked to the computer and data banks at the National Center for Atmospheric Research. In cooperation with a few other units on campus, the Department has established a sophisticated interactive graphics display and image processing system built around a VAX 11/780 computer, which is linked to the LSI 11/23 and other computers. A number of graphics devices and alphanumeric terminals are available, including a COMTAL color image display. This system will be used for displaying and further processing current weather data and will be invaluable for manipulating the vast amount of data available from observational programs and numerical models.

Within the Department, there is a specialized library with several hundred text and reference books in atmospheric and allied sciences, many current and past journals, and many specialized series of research reports. Additional resource material can be found in the University of Illinois library, the

third largest of any public institution of learning in the United States.

Research and education dealing with some areas of atmospheric sciences are also being conducted in several other departments on the campus. Studies are being conducted into various aspects of the upper atmosphere in the Aeronomy and the Ionosphere Laboratories (both in the Electrical Engineering Department), into atmospheric pollution and environmental science in the Department of Civil Engineering, and into climatology in the Department of Geography. The Institute for Environmental Studies conducts research, education, and public service programs dealing with the environment. It emphasizes interdisciplinary and multidisciplinary activities, bringing together experts and students from a wide range of disciplines.

The Illinois State Water Survey, located on the campus, which maintains extensive data collections of various kinds and a comprehensive meteorological library, offers a wide variety of services to the public. The five sections (Atmospheric Chemistry, Climatology, Meteorology, Groundwater Research and Information, and Surface Water) carry out major research into cloud physics and dynamics, hydro-meteorology, planned and inadvertent weather modification, severe weather, climatology, and chemical composition of atmospheric particulate matter and precipitation.

Arrangements may be made for students enrolled in the Department of Atmospheric Sciences to do their advanced degree thesis work under the supervision of faculty and staff in other units mentioned above. Additional information about the Department and its activities may be obtained from the Department of Atmospheric Sciences, 1101 West Springfield Avenue, Urbana, Ill. 61801.