

GRADUATE MANUAL



ATMOSPHERIC SCIENCES PROGRAM

THE OHIO STATE UNIVERSITY

2008 - 2009

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Atmospheric Sciences Program

The Ohio State University

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PREFACE

The purpose of this Graduate Manual is to collect together the policies, rules and procedures which affect graduate students in the Atmospheric Sciences Program at The Ohio State University. It should be used as a reference source in conjunction with the Graduate School Handbook. No attempt has been made to duplicate the information available in that publication. In this document the emphasis is on those policies, rules and procedures which refer specifically to this program. In the case of a conflict between this Graduate Manual and the Graduate School Handbook, the policies of the latter should be followed, except in those instances where academic units are empowered to promulgate rules of a more restrictive nature than the Graduate School regulation. In such cases, this Graduate Manual serves as the source of such extended rules.

GRADUATE PROGRAMS

The Atmospheric Sciences Program at The Ohio State University was established in 1971 and is currently a separate graduate program in the Department of Geography with its own Graduate Studies Committee and program requirements. The Atmospheric Sciences Program offers Master of Science and Doctor of Philosophy degrees. For the Master of Science degree, all students will be required to complete courses in atmospheric thermodynamics, dynamics and radiation. These have prerequisites of courses in ordinary and partial differential equations and basic science sequences in physics and chemistry. However, the degree program is flexible and students may thereafter select from a variety of subfields for specialization in the atmospheric sciences and related areas. These include topics such as the dynamics of atmospheric systems (general circulation, hurricanes and tornadoes), urban and boundary layer meteorology, synoptic meteorology and climatic change. Students should choose a course of study in consultation with their adviser. It is expected that this course of study will fulfill all of the requirements listed in the Graduate School Handbook for the Master of Science degree.

Those students who successfully complete a Master of Science degree and continue in pursuit of a Doctor of Philosophy degree will be expected to design a course of study that fulfills all of the requirements for the Doctor of Philosophy degree that are listed in the Graduate School Handbook. Incoming students with Masters degrees from other institutions and who have not completed courses in atmospheric thermodynamics, dynamics and radiation will be expected to do so in their first full year of enrollment in the Atmospheric Sciences Program.

THE MASTER OF SCIENCE PROGRAM

Section II.5 of the Graduate School Handbook describes the regulations and policies for Master's degree programs. Students pursuing a Master of Science degree in the Atmospheric Sciences Program are under Plan A in which they are expected to write a thesis. To receive a Master of Science degree students must complete all of the requirements in the Graduate School Handbook that pertain to Plan A. All requirements for the degree must be completed within three years of enrollment into the program.

The Master's degree program of the Atmospheric Sciences Program is designed to provide the student with: (a) a basic foundation in the physical principles which operate in the atmosphere; (b) the skills and methods necessary to conduct basic research in the atmospheric sciences; and (c) a deeper understanding of the area of the atmospheric sciences which is the student's chosen area of specialization.

In order to operate successfully in the atmospheric sciences, students must have a solid foundation in the basic processes that are at work in the atmosphere. For this reason, students who are pursuing a Master's degree are required to complete a four course sequence on atmospheric thermodynamics, dynamics and radiation.

Atmospheric Thermodynamics. During their first autumn quarter students are expected to complete Atmospheric Sciences 631 (Au 5 credit hours) or Aero. Astro. Eng. 505. This course introduces students to the basic principles that determine the thermodynamic state of the atmosphere. It also serves as a prerequisite for the following two courses on atmospheric dynamics. This course has prerequisites in calculus and physics which should be completed prior to enrollment.

Atmospheric Dynamics. Upon completion of Atmospheric Sciences 631, students are expected to take Atmospheric Sciences 637 (WI 5 credit hours) and Atmospheric Sciences 638 (Sp 5 credit hours). This two course sequence discusses the processes that determine motion in the atmosphere at the meteorologically significant spatial and temporal scales. These courses have additional prerequisites in mathematics beyond those for Atmospheric Sciences 631, which should be completed prior to enrollment.

Atmospheric Radiation. Radiation is a major factor in many of the daily and annual cycles that are evident in the atmosphere. Currently, no specific course on radiation exists in the Atmospheric Sciences Program but to fulfill this requirement, students can register for Geography 622.01. Prior to registration, students should check with their advisers to insure that the course in which they enroll meets this requirement.

In addition, students should take the Geography 520 (climatology) course, courses in FORTRAN or C programming languages, Geography 622.01 (Boundary Layer Climatology), and any 800 level seminar in ASP or Geography/climatology.

Specialization. Although the Atmospheric Sciences Program is an interdisciplinary program, it is expected that students will specialize in an area of the atmospheric sciences in preparation for their thesis. Thus, a course of study that fulfills the requirements for the Master

of Science degree as listed in the Graduate School Handbook and which prepares the student for doing the research for the thesis should be designed by the student and the adviser. This course of study should include those courses necessary to provide a sufficient background in the area of specialization and the techniques of research necessary to complete the thesis.

Thesis. The thesis is the primary evidence of research ability in the Master's program. The topic of the thesis should be determined by the student in consultation with the adviser. The thesis draft must be approved by the Master's Examination Committee consisting of the adviser and two or more other members of the graduate faculty, to be chosen by the adviser. The thesis must conform to the Graduate School format requirements as described in Section III of the Graduate School Guidelines for Preparing and Submitting Theses, Dissertations and D.M.A. Documents. On questions of style, such as the format of the list of references, students are advised to refer to the "Information for Contributors" which is found on the inside covers of the journals published by the American Meteorological Society. Upon completion of a draft that is approved by the Master's Examination Committee, the thesis will be defended as part of the oral component of the Master's Examination. A final draft of the approved thesis must be submitted to the Graduate School no later than one week before commencement and an additional copy should be submitted to the office of the Atmospheric Sciences Program.

Master's Examination. The Master's program requires a four-hour written comprehensive examination followed by a final two-hour oral comprehensive examination. The examination will cover topics from the required courses in the Atmospheric Sciences Program as well as material from the student's area of specialization. The candidate must have an understanding of the fundamental concepts of the atmospheric sciences and the examination questions are designed to determine if level of competence has been achieved. The student in consultation with the adviser is responsible for the choice of the date of the Master's Examination. Once a date for the Master's Examination is chosen, a student must submit an Application to Graduate form to the Graduate School no later than the second Friday of the quarter in which graduation is expected. This form must be signed by the student, the adviser and the Graduate Studies Chairperson. It is the responsibility of the adviser to inform all members of the Master's Examination Committee of the date, time and location of the Master's Examination. The final oral comprehensive examination should occur no earlier than one week after the acceptance of the thesis draft and normally no later than one month after the acceptance of the thesis draft.

At the conclusion of the final oral comprehensive two decisions are made: (a) whether or not the performance was satisfactory and (b) whether or not the student is recommended to continue for Ph.D. work. These decisions are discussed with the student and a written copy of each is filed by the adviser with the Chairperson of the Graduate Studies Committee. Additionally, each examiner indicates judgment by signing the Master's Examination Report form that must be submitted to the Graduate School no later than two weeks before commencement.

THE DOCTOR OF PHILOSOPHY PROGRAM

Section II.6 of the Graduate School Handbook describes the policies and regulations for doctoral degree programs. Doctoral students are expected to attain a broad knowledge of the field of atmospheric sciences and to develop a fundamental understanding of the important concepts in their areas of specialization. In addition, students in consultation with their adviser should design a course of study which also provides a solid foundation in the methodologies of research in the atmospheric sciences and that will prepare them for advanced research in their specializations. This course of study should comply with all of the requirements for Doctoral Degree Programs as listed in the Graduate School Handbook, and should assist the student's preparation for the Candidacy Examination and the dissertation.

Program Adviser. A student pursuing a doctoral degree is free to choose any qualified member of the graduate faculty as an adviser, providing only that the consent of the faculty member is obtained. The student should choose an adviser whose interests are in the desired area of specialization and who can offer guidance in the design of the student's advanced academic program. In proceeding from the Master's program to the Ph.D. program, or during the course of the doctoral program, it is conceivable that the student's interests may change. Accordingly, all students are free to change advisers at any time. No formal petition to the Graduate Studies Committee is necessary. However, it is expected that the student will extend to the previous adviser the courtesy of notification of the change and the student must secure the consent of the faculty member who is to become the new adviser. Upon a change of advisers, the student must notify, in writing, the Chairperson of the Graduate Studies Committee.

Transfer Students. Students entering the Ph.D. program with Master's degrees from other institutions or other departments at Ohio State are expected to have completed courses in atmospheric thermodynamics, dynamics and radiation, which are equivalent to those courses required of Master's students in the Atmospheric Sciences Program. If these courses have not been completed prior to enrollment in the Atmospheric Sciences Program, then the appropriate courses should be included as part of the course of study and should be completed at the earliest possible date.

Foreign Languages. There is no formal foreign language requirement in the Atmospheric Sciences Program. Students are free to study foreign languages, but no proof of competence in a foreign language is required.

Candidacy Examination. The Candidacy Examination is a test of the student's knowledge of the field of atmospheric sciences and allied areas of study, of the capacity to undertake independent research, and of the ability to think and express ideas clearly. It is designed to determine if the student is qualified to conduct independent research at the doctoral level. The Candidacy Examination consists of both a written and an oral portion.

The Candidacy Examination may be taken at any time judged appropriate by the student's Advisory Committee and the Graduate Studies Committee. No less than four members of the graduate faculty participate in the preparation of the written portion of the examination, and five graduate faculty (the Candidacy Examination Committee) administer the oral examination, including a Graduate School Representative chosen by the Dean of the Graduate School.

Members of the Advisory Committee are chosen by the adviser in consultation with the student. It is recommended strongly that the Advisory Committee be formed several quarters prior to the intended date of the General Examination and that procedures be followed to ensure that both the student and the committee have a clear idea of admissible areas of questioning. Such procedures might include practice examinations, the preparation of reading lists, etc. It is intended that, on the initiative of the student, continuous consultation with all members of the Advisory Committee should occur to ensure that the examiners and the examinee share a common view of the scope and format of the Candidacy Examination.

The Advisory Committee has the responsibility to specify the precise format and timing of the written portion of the examination. Once the format and the date for the examination are determined by the committee, the adviser will provide this information in writing to the Chairperson of the Graduate Studies Committee. At least one month must be allowed between the notification of the Graduate Studies Committee and the actual administration of the written portion of the Candidacy Examination.

The written portion of the Candidacy Examination may be administered in one day or over a period not to exceed ten working days. Copies of the completed examination are to be distributed to the examining committee for evaluation. It is recommended that these copies be typed. If, based on the evaluation of the written portion, the Advisory Committee members see no possibility of a satisfactory overall performance in the Candidacy Examination, the student may waive the right to take the oral portion. However, the Advisory Committee cannot deny the student the opportunity to take the oral portion of the Candidacy Examination.

Before an oral examination is to be held, a typed copy of the written examination is sent to the appointed Graduate School Representative. At least two weeks must be allowed between the receipt of the approved copy of the written portion of the Candidacy Examination and the holding of the oral portion of the examination. Following the oral portion of the Candidacy Examination the adviser notifies in writing the Graduate Studies Committee Chairperson as to the results of the examination. The decision of the examining committee on both the written and the oral portions of the Candidacy Examination must be unanimous. If for any reason a failure is recorded, or the student waives the right to take the oral, the student may be permitted to take a second Candidacy Examination. The nature of the second examination is to be determined by the examining committee, but it must include an oral portion. The Candidacy Examination Committee must be the same as for the original examination unless substitution(s) are approved by the Dean of the Graduate School.

Students must be registered for at least three credit hours during the quarter in which the Candidacy Examination is held, and must be in good academic standing as defined in the Graduate School Handbook. The Ph.D. Candidacy Examination will be announced to the faculty at the time that the "Notification of Candidacy Examination" is sent to the Graduate School. Graduate School regulations limit attendance at the Candidacy Examination to the student and members of the Candidacy Examination Committee. Upon successful completion of both the written and oral portions of the Candidacy Examination the student is admitted to candidacy for the doctoral degree and formally begins work on the dissertation.

Dissertation Proposal. Students are required to prepare a dissertation proposal prior to the Candidacy Examination. The purpose of the proposal is to provide the examining committee with an indication of the student's competence to pursue the independent research which is required for the doctoral dissertation. While the exact format of the dissertation proposal is to be determined by the student and the adviser, it should provide sufficient information for the Candidacy Examination Committee's evaluation of the suitability of the proposed research. It is recommended that the tentative approval of the dissertation proposal by the Candidacy Examination Committee be obtained prior to the Candidacy Examination. Part of the oral portion of the Candidacy Examination may be devoted to the dissertation proposal.

The Dissertation. The writing of a doctoral dissertation is the culmination of the Ph.D. program. As stated in the Graduate School Handbook, "The dissertation is a scholarly contribution to knowledge in the student's field of specialization. By researching and writing a dissertation, the student is expected to demonstrate a high level of knowledge and the capability to function as an independent scholar." The dissertation must conform to Graduate School format requirements as described in Section 3 of the Graduate School Guidelines for Preparing and Submitting Theses, Dissertations and D.M.A. Documents, which is available at the Graduate School. On questions of style, such as the format of references, students are advised to refer to the "Information for Contributors" which is found on the inside covers of the journals published by the American Meteorological Society.

Initially the student prepares a working draft of the dissertation for Dissertation Committee. This draft may undergo several revisions. After the working draft is approved by the Dissertation Committee, the candidate prepares a preliminary draft that must present the research material in the approved style and format. If this preliminary draft is approved by the Dissertation Committee, the "Draft Approval/Notification of Final Oral Examination" is signed and filed with the Ph.D. office of the Graduate School. This form must be submitted to the Graduate School no less than two weeks prior to the date of the Final Oral Examination. The student must submit a complete, typed dissertation draft to the Graduate School at the time the Draft Approval form is submitted.

After the Draft Approval form has been filed with the Graduate School, the candidate will prepare the final draft of the dissertation and submit it to the Dissertation Committee. All members of the Final Oral Examination Committee, including the appointed Graduate School Representative must receive a copy of the final draft at least one week before the Final Oral Examination. One copy of the dissertation with an abstract of 350 words or less must be deposited with the Graduate School. Another copy of the dissertation must be filed with the Chairperson of the Graduate Studies Committee.

Final Oral Examination. The purpose of the Final Oral Examination is to test "originality, independence of thought, the ability to synthesize and interpret, and the quality of research presented." The examination is taken by doctoral candidates who have satisfied all other requirements for the degree. This examination is largely concerned with the dissertation, but it may range over the entire field of the candidate's specialty. The Final Oral Examination must occur within five years of the successful completion of the Candidacy Examination. The student must be registered during the quarter in which the examination is taken. The Final Oral Examination Committee consists of the Dissertation Committee plus a Graduate School

Representative. By decision of the Graduate Studies Committee, the candidate is considered to have successfully completed the Final Oral Examination only if the decision of "satisfactory" is unanimous.

Graduate School regulations permit the attendance at the Final Oral Examination by persons other than the candidate and the Final Oral Examination Committee, subject to the regulation by the Department concerned. In the Atmospheric Sciences Program, such attendance will be permitted, subject to the following limitations:

- (i) that the permission of the candidate and the adviser be sought and obtained,
- (ii) that visitors be permitted to question the candidate with the concurrence of the adviser,
- (iii) that all visitors withdraw prior to the decision-making process, and
- (iv) that the adviser will make decisions regarding outside attendance at the Final Oral Examination in all cases not covered by (i) - (iii) above.

On completion of all changes which arise from the Final Oral Examination, the candidate must file a copy of the dissertation and a signed copy of the Final Approval form with the Graduate School. Students planning to graduate in a given quarter are required to submit the "Application to Graduate-Doctoral Degree" by the second Friday of that quarter. All additional graduation requirements as specified in the Graduate School Handbook must be met prior to graduation.

DEPARTMENTAL AWARDS

The E. Willard and Ruby S. Miller Fellowship Award

The E. Willard and Ruby S. Miller Fellowship Award is the highest recognition the department can bestow on a Graduate student. The award is given in recognition of outstanding potential in making a major contribution to advancing geography or its subfield(s). The major component of this award is quality in scholarship and scholarly writing. An award recipient is designated as an E. Willard and Ruby S. Miller Fellow for one year. The award can be received only once during an individual's graduate studies, and under some circumstances, may be bestowed on a recent graduate. The award will vary in amount from year to year, but be of substantial size. In this regard, the award can be used in any way the Miller Fellow deems appropriate and need not be used immediately or even during the Fellow period itself. The purpose of the award is to not only recognize the student, but also to facilitate his or her progress and success in our program.

Eligibility

Students who have at least one single-authored or first-authored paper in either of the following categories may enter the E. Willard and Ruby S. Miller Fellowship Award competition: (a) published or forthcoming in a major professional journal in Geography or Atmospheric Science; (b) submitted to a major professional in Geography or Atmospheric Science by the competition deadline. The quality and likelihood of success in being accepted for publication will be a central

criterion in judging submitted papers. All papers to be considered must be largely (if not entirely) carried out during tenure in the Ohio State University Department of Geography and/or Program in Atmospheric Sciences. Previous nominees are eligible to re-compete.

Evaluation Criteria and Procedures

The Graduate Studies Committee will make recommendations to the department chair based on the quality in scholarship and the potential in making a major contribution to advancing geography or its subfield(s). The decision of the chair is final. Evaluation criteria will include theoretical significance, methodological innovativeness, and potential in making major breakthroughs or being widely recognized. The Committee may solicit comments on selected papers or on aspects of one's record from departmental faculty. The award will be presented near the end of the academic year (May).

Application

Please submit the following to the Chair of Graduate Studies for entry into the Miller Fellowship Award competition:

1. A complete and professional curriculum vitae featuring research accomplishments, teaching activity, awards, presentations, and departmental service
2. A letter of nomination from the student's advisor describing the significance and contribution of the applicant's research and publication(s)
3. Published, forthcoming or submitted paper(s) of the applicant

The Huntington Award

The Charles Clifford Huntington Memorial Fund was the first Endowment of the Department of Geography, established in 1957 by Helen Hughes Huntington, in memory of her husband. The Huntington Award is a Departmental recognition of scholarly achievement, professional development, and departmental service by Graduate students in Geography or the Atmospheric Sciences (ASP) and undergraduate Geography Majors. All Graduate Student nominees for the Huntington Award must be nominated by a faculty member who has submitted a brief written statement to the Graduate Studies Chair outlining the merits of the nominee. Nominations by faculty are encouraged for students who are their advisees and/or have been outstanding in their courses and seminars. Undergraduate nominees are put forth by either individual faculty or by the Undergraduate Major Program advisor. The Huntington Award will only be given when the Graduate Studies Committee agrees that nominees merit final consideration, and it will then choose one or more winner(s) from the pool of nominees.

In evaluating candidates for a **Graduate Student** Huntington Award, the following criteria will be employed:

The nominee must have a GPA above 3.70

The nominee should have made useful contributions to the department in terms of either service, departmental citizenship, technical support, or quality teaching.

In evaluating candidates for an **Undergraduate Student** Huntington Award, the following criteria will be employed:

The nominee must have a GPA above 3.50 overall, and 3.70 in the Geography major.

The nominee should have contributed significant service to the Department, shown considerable departmental citizenship, or plan on continuing toward a professional degree in Geography, Atmospheric Sciences, or related area.

FINANCIAL ASSISTANCE

The Atmospheric Sciences Program recognizes the importance of its contribution to graduate scholarship by reducing the financial burden of graduate education. For this reason, every effort is made to provide qualified candidates with financial assistance. The major forms of assistance are Teaching Associateships, Research Associateships and University Fellowships.

Teaching Associateships and Stipends

A limited number of Teaching Associateships are available for students working toward degrees in the Atmospheric Sciences Program. The Teaching Associateships will generally be appointments in the Geography Department working as an assistant in the Geography 120 course (Earth Systems II: The Atmosphere). Teaching Associateships are made on a competitive basis among a large pool of other qualified students applying for positions in the Geography Department. The candidate for a Teaching Associateship must have a proven proficiency in spoken English. This proficiency is often presumed to exist if the student applicant is from an English-speaking country. Students from non-English speaking countries generally will only be considered for Research Associate positions, and all foreign students must take the Test of Spoken English upon arrival to Ohio State if the quality of their spoken English is in question. Students cannot teach at Ohio State University until they have passed the Test of Spoken English or received an exemption from the Test.

The basic stipend for a first and second year Masters Degree student (9 months) is \$10,566 (\$1174 per month); Ph.D. students will receive \$11,880 (\$1,320 per month); Ph.D. students that have successfully passed the candidacy exam will receive \$12,600 (\$4200 per quarter); Ph.D. students that have published a paper as first author will receive \$13,203 (\$1467 per month) for three quarters. Checks are available on the last working day of the month, the first being paid in October. Teaching Associates normally receive an appointment for three quarters at 50 percent time, a workload that entails service for approximately 20 hours of work per week. Financial assistance for summer quarter may also be available, subject to budgetary constraints. In addition to a basic stipend, a Teaching Associateship provides a waiver of general fees, out-of-state fees, and university tuition, provided the student is enrolled for nine or more credit hours in a given quarter. Teaching Associates who are under contract for three consecutive quarters are granted a waiver of general fees, out-of-state fees and university tuition for the fourth quarter (usually summer). In 2008-2009 these fee waivers amount, on an annual basis, to \$32,168 (4 qtrs) for out-of-state students and \$13,496 (4 qtrs) for Ohio residents. Three fees are not paid by the department. These include a \$9.00 COTA fee charged quarterly by the

University for Campus and City bus service, a \$15.00 per quarter student activity fee, and a \$78.00 per quarter recreational facilities fee.

Under no circumstances will more than two academic years of financial support as a Teaching Associate be provided at the Master's level. In order to receive support in the third year of graduate study, the student must receive the Master's degree by the end of spring quarter of the second year and must be recommended for Ph.D. work by the Master's Examination Committee. Ordinarily, Ph.D. candidates, who have received their Masters Degree at Ohio State with a favorable recommendation, will receive two additional years of financial support as an Associate. A third year of support may be possible under unusual circumstances. Entering Ph.D. students with a Masters Degree from another institution are typically eligible for three years of financial support with a fourth year being unusual. Entering Ph.D. students who have *not* received a Master's degree at the time of admission, must complete all Master's requirements at their former institutions within three quarters in order to be considered for a second year of financial support. Ph.D. candidates are encouraged strongly to participate in sponsored research programs and to secure outside grants or fellowships that will provide support for the third and fourth years.

All financial support is conditional upon remaining in good standing with the Graduate School and upon progress toward the Masters or Ph.D. degree. Graduate student progress is evaluated each January through the use of a questionnaire asking students to describe their upcoming academic plans, their research and overall progress toward their degree. Reappointment to a Teaching Associate contract is therefore dependent upon the student's academic record and performance as a Teaching Associate. During the Winter Quarter, the Graduate Studies Committee will meet to evaluate all candidates for reappointment. Graduate students with a cumulative grade point average of 3.50 or higher will be notified of their reappointment by March 15. Students who are in the first year of their graduate study and whose grade point average is 3.00 or higher will also be notified of their reappointment shortly after March 15. All students receiving offers of reappointment must submit a written acceptance to the Director of the Atmospheric Sciences Program by April 15. Failure to comply with this acceptance requirement will be interpreted as a rejection of the offer of reappointment.

Graduate students (i) who are beyond their first year of study and whose grade point average is below 3.50 and (ii) students that are beyond the normal period of support (described above), will be evaluated for financial support in the same group as new applicants for funding. Notification of the results of this evaluation will be made after March 15. This evaluation will be based not merely on the grade point average, but it will also include a consideration of the nature of the student's course of study. In addition, the adviser will be asked to supply a written evaluation of the student's overall performance.

Research Associateships

Research Associateships may be obtained through appointment to a sponsored research project of an individual faculty member associated with the Atmospheric Sciences Program. These research projects, often funded by government agencies, offer financial support (including fees) for graduate students with the necessary competence in research methodology and computer operations.

Research Associateship positions may also be funded directly by the Department, as in cases where a student may be assigned to work with the Departmental Technician. The Research Associateship often carries a stipend that is as large as that for a Teaching Associate. All Research Associates will follow the same rules and guidelines, indicated above for Teaching Associates, in terms of continuation and duration of financial support. The Chairperson of the Department of Geography, in consultation with the Graduate Studies Committee Chair, decides on an annual basis whether a student will be appointed to either a Teaching Associateship or a Research Associateship, unless the student is directly involved with sponsored program research of another faculty member in the Atmospheric Sciences Program. `

According to Graduate School regulation, no student who has accumulated 260 hours of graduate enrollment may be appointed to a position as a Research Associate. No graduate student who is currently on probation in the Graduate School may be awarded a graduate associateship appointment. A graduate student may petition the Graduate Studies Committee for an extension or waiver of these conditions for reappointment. The Graduate Studies Committee will determine the student's eligibility for reappointment. Students receiving University, Minority or Special Fellowships will serve as Associates during their subsequent years.

All appointments and stipends are subject to approval by the Board of Trustees.

Fellowships

Fellowship programs are administered by the Graduate School and are described in the Graduate Bulletin. A limited number of University fellowships are awarded each year. The current stipend is \$14,400 for twelve months plus all academic tuition and fees for a total of \$26,984 (resident) or \$44,788 (non-resident). A University Fellow is eligible for a Research Associateship in the second and third years. The stipend will correspond to the level of responsibility. Applicants for University Fellowships must have a point hour ratio of 3.60 or higher.

Each year, as part of its Affirmative Action Program, the University awards approximately 100 fellowships to minority students. Information and application forms, relative to this program, are available from the Graduate School, 247 University Hall, 230 N. Oval Mall.

Advanced doctoral students may be eligible for a Presidential Fellowship, a prestigious award made by the Graduate School to students completing their dissertation work. Students may not apply for these fellowships, but must be nominated by the Graduate Studies Committee. Eligible students should have a superlative academic record, including published research, must have completed the Candidacy Examination, and must be sufficiently advanced in dissertation research to permit evaluation of its methodology and contribution.

Other Sources of Funding

The College Work Study Program, under the Economic Opportunity Act of 1964, provides financial aid through employment as Research Assistants to graduate students, who, without such aid, would not be able to obtain a higher education. Detailed information and applications are available for the Work Study Program in Lincoln Tower, fourth floor, 1800 Cannon Drive.

Tax Exemptions

Students should be aware of the following situation under which stipends may be tax exempt.

Certain countries have agreements with the United States such that their citizens, when getting an education and being employed by the educating institution, are exempt from income taxes for the first two years here. This affects persons appointed as GTAs, but GRAs and hourly employees may also be eligible. With regard to countries of origin, citizens of the United Kingdom are affected by this, but other countries may also have such agreements. If you are eligible for this exemption but paid taxes in the past, it may be possible to file an amended return to recoup those taxes for your first two years here. For information, call the Tax Office, 2-2521.

Health Benefits

1. The Student Health Services component of the General Fee at The Ohio State University is part of the tuition and fee authorization that Graduate Associates receive with their appointments. This fee, which covers about 40% of the total operating expenses of the Wilce Student Health Center, serves in place of the mandatory prepaid health fee at many other universities. Student Health Services at OSU is a fully accredited, outpatient health facility.

2. Students have the option of purchasing Student Health Insurance or University PrimeCare. In 2007- 2008 the graduate student fee was \$406.30 per quarter, which was deducted from their monthly salary on a pro-rated basis. Students who signed up for health insurance in 2007-2008, were however are required to be enrolled at least 9 credit hour and have a TA assignment at least 50%, in order to receive the subsidy that is given by the Graduate School. Student should contact the Student Health Insurance for the exact amount of the subsidy. The Graduate School has stated its commitment to increasing the graduate student health insurance subsidy in future years. However, students should probably plan on insurance premium increases also. A graduate student must assume full responsibility for health insurance payments (i.e., no subsidy) if they are unemployed during a month or a quarter (e.g., summer quarter). For specific information on health insurance go to <http://shi.osu.edu/graduate.asp>

3. The health insurance fee also includes medical, pharmacy, dental and vision coverage. There may be co-pays involved for visits to specialists and for prescription drugs. Some details of these charges are described at this website: www.shc.ohio-state.edu/SHI.

Retirement Benefits

1. Graduate Associates (as student employees of the University) have the option to either elect to participate in the applicable state retirement system or to exempt from retirement withholding. The election must occur within 30 days of becoming a new student employee. Additional information, including details of the benefits provided by the state retirement system and election form(s), can be found in the *Student Retirement Handbook*.

2. It is important to note that Ohio public institutions do not participate in the federal Social Security system, other than contributions to the Medicare Hospital insurance fund (Medicare Part A). The Medicare contribution rate is currently 1.45% of earnings.

Continued Support

1. Under normal circumstances, GTAs can expect to receive continued support for the second year (three quarters, usually Autumn, Winter and Spring), provided their grade-point average is satisfactory, their performance as a GTA is adequate and departmental funds are available. Foreign students that are required to do so, must have passed the Test of Spoken English (TSE) by their third quarter in order to be considered for further funding as a teaching assistant. Students being assessed on the basis of one or two quarters of course work are required to have an average of 3.0. Decisions on continuation of funding are made in March. Reappointments after the first year depend on a 3.5 grade point average.
2. A student entering the Master's program can expect to receive no more than six quarters of GTA support. Some Master's students may however be offered summer funding on a competitive basis, or in their original letter of offer. This additional funding does not count toward the six quarter limit.
3. A student entering the Master's program and continuing to the doctoral program can expect to receive a total of twelve quarters of GTA support, not including summer appointments, with a possibility of a further three quarters.
4. A student entering the doctoral program can expect to receive a total of nine quarters of GTA support, not including summer, with a possibility of a further three quarters.
5. Beyond the period of entitlement, GTAs may request additional funding. Decisions on such matters, which are generally made in March or later, will be made on the basis of individual merit, departmental teaching needs and the availability of funds.
6. Summer GTA appointments are available on a competitive basis for those students who possess Master's degrees in geography and, who have had prior experience of full responsibility teaching. Students entering the Master's program should not expect to be funded the first summer.
7. This offer may be renewed each year of your graduate study, dependent upon Department needs and satisfactory performance. The Department also awards a limited number of associateships for summer teaching. Summer associateships are separate from this offer and result from applications during the spring of each year. While your appointment typically runs October 1 through June 30 of each year, unsatisfactory or unethical performance of your duties may result in withdrawal of the associateship at any time.

RESEARCH FACILITIES

Research is supported by an excellent library system housing some 3.8 million volumes, 2.3 million microforms, and 200,000 map sheets. Current serial subscriptions number 28,000 series and include virtually all journals of value in atmospheric research. A computer-based circulation system provides access to catalog data and information on location and availability of material via public or personal terminals. Computer-based literature searches are also available.

As well as the usual range of academic departments, the University also supports a variety of specialized research centers and programs. These include the Byrd Polar Research Center, the Center for Lake Erie Research and the Water Resources Center.

University computer facilities are provided on a Hitachi Pilot 27 enterprise server, with logical partitions and RAID-5 storage. The system supports advanced software and graphics terminals and plotters. More than 1000 micro computers in 32 campus sites are also available. Access is also possible to a CRAY T90 through The Ohio Supercomputer Center.

The Department of Geography supports a small atmospheric science library and the office and library of the State Climatologist for Ohio. A large range of meteorological instrumentation is available, including radiometers, humidity, temperature and wind profile systems, an infrared thermometer, and a variety of analog and digital electronic recording devices. The climatology/meteorology laboratory supports 4 PCs that are integrated in the Department's Microsoft NT local area network as well as 3 UNIX workstations which are connected with the Department's multiprocessor UNIX server. One of the UNIX workstations (a Sun Ultra 60) receives National Weather Service products including numerical model output. This workstation is also a World Wide Web site for the Atmospheric Science Program's weather server that provides meteorological information via the Internet to users around the world. This website, with information about the Atmospheric Sciences Program, is at twister.sbs.ohio-state.edu.

The Ohio State University is a member of the University Corporation for Atmospheric Research (UCAR) with its laboratory, the National Center for Atmospheric Research (NCAR), located in Boulder, Colorado.

GRIEVANCE PROCEDURE

To insure fairness, the Atmospheric Sciences Program has established the following grievance procedure. Students who feel that they have a grievance are urged to make every attempt to find a satisfactory solution with the faculty member involved in the case before proceeding with a formal grievance complaint. However, if the student feels that a formal grievance complaint is necessary then the student should file the complaint in writing with the Director of the Atmospheric Sciences Program. At that time the Director will appoint a grievance committee consisting of the Director, the Student's adviser and a third member of the faculty to be selected by the Director of the Atmospheric Sciences Program. The grievance committee will hold a formal hearing of the grievance complaint and will recommend a resolution to the grievance. If the student is not satisfied with the recommended resolution, then further redress may be sought in line with established University policies in this area.

ACADEMIC MISCONDUCT

The goal of graduate education is to train the student to do independent research and scholarship; the process includes training to think clearly and critically, to conceptualize, argue,

debate, challenge and give an opinion, to understand and follow the ethics of the field; and where appropriate, to teach. (Cited in LaPidus and Mishkin, p. 285)

Academic Misconduct is formally defined in the Rules of the University. In general terms misconduct includes:

- A. falsification, fabrication, or dishonesty in reporting research results;
- B. submitting plagiarized work for an academic requirement. Plagiarism is the representation of another's work or ideas as one's own; it includes the unacknowledged copying and/or paraphrasing of another person's work, and/or the inappropriate unacknowledged use of another person's ideas;
- C. unauthorized exchange of information during quizzes and examinations such as course examinations and general examinations; or providing or using unauthorized assistance in the laboratory, at the computer terminal, or on field work.
- D. deliberate violation of course rules as contained in the course syllabus or other information provided the student; violation of program regulations as established by departmental committees.

All member of the University community are expected to observe high standards of academic integrity and ethical behavior in research and publication.

For information regarding ethical academic conduct, please read the following articles:

- 1. "Values and Ethics in the Graduate Education of Scientists," by Jules B. LaPidus & Barbara Mishkin (available for the Geography office)
- 2. "Ethics in Geographical Research," Mitchell, B. & Draper, D. Professional Geographer, Vol.35,#1.
- 3. "Ethics in Word and Deed," Brunn, S.D., Annals Association of American Geographers, 79(3), iii-iv.1989.
- 4. Code of Student Conduct.
- 5. University Rule 3335-5-487.

ATMOSPHERIC SCIENCE PROGRAM GRADUATE FACULTY:

Keith W. Bedford, Ph.D., Cornell, 1974, Professor, Civil Engineering. Coastal engineering; environmental turbulence; numerical models.

Jason Box, Ph.D., Colorado, 2002, Assistant Professor. Boundary layers of polar ice caps; polar climatology.

David H. Bromwich, Ph.D., Wisconsin, 1979, Associate Professor, Geography, and Senior Research Associate, Byrd Polar Research Center. Polar boundary layer dynamics; polar precipitation studies.

Jean-Michel Guldmann, Ph.D., Israel Institute of Technology, 1977, Professor, City and Regional Planning. Air pollution/quality; applied meteorology and atmospheric chemistry.

Jay S. Hobgood, Ph.D., Ohio State, 1984, Associate Professor, Director, Atmospheric Sciences Program. Tropical meteorology; atmospheric dynamics; numerical weather prediction.

Kenneth C. Jezek, Ph.D., Wisconsin, 1980, Professor, Geological Sciences. Remote sensing of polar ice, ice sheet dynamics.

Jialin Lin, Ph.D., SUNY-Stony Brook, 2001, Assistant Professor. Tropical climate dynamics, numerical modeling of ENSO, monsoons and tropical convection.

Bryan Mark, Ph.D., Syracuse, 2003, Assistant Professor. Paleoclimatology, hydroclimatology, glacial geomorphology.

Ellen Mosley-Thompson, Ph.D., Ohio State, 1979, Professor, Geography and Research Scientist, Byrd Polar Research Center. Paleoclimatology, glaciology, polar and alpine environments.

David Porinchu, Ph.D., UCLA, 2002, Assistant Professor, Geography. Environmental change, paleoclimatology, paleolimnology and paleoecology.

Jeffery C. Rogers, Ph.D., Colorado, 1979, Professor, Geography. Synoptic meteorology; climate change of the United States and polar regions.

Lonnie G. Thompson, Ph.D., Ohio State, 1976, Research Scientist, Byrd Polar Research Center and Research Foundation; Professor, Earth Sciences. Glaciology; paleoclimatology.