

APPENDIX F: THE DEPARTMENT OF GEOSCIENCES AT MISSISSIPPI STATE UNIVERSITY--A BRIEF HISTORY

by

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Acknowledgements

Portions of the material contained herein is adapted from several sources, including a 1988 report by Martha C. Sparrow entitled "A History of the College of Arts and Sciences--Mississippi State University" and a 1971 report by former department head Dr. Troy Laswell entitled "A Brief History of the Department of Geology and Geography, Mississippi State University." The latter was reprinted in the departmental newsletter **GeoNews** (Vol. 9 no. 6 [March 1992] & Vol. 9 no. 8 [May 1992]) in a commemoration of the 75th anniversary of the department. The annual university catalogs were also consulted.

Introduction

Geosciences--which encompass geology, geography, and meteorology/climatology--have comprised an integral part of academic study at Mississippi State University since the establishment of the land grant college in 1878. In tracing the evolution of the geosciences, four distinct phases are identified: the Early Years, the Department of Geology, the Department of Geology and Geography, and the Department of Geosciences.

Geosciences in the Early Years, 1880-1902

In the first annual catalog (1880-81) of Mississippi Agricultural & Mechanical College, the mission of the college emphasized a special stress on the sciences, **including geology**. A senior-level class entitled Geology, taught by D. L. Phares, M.D. in the Department of Biology, **was required** of all A&M students. Dr. Phares, considered to be one of the foremost experts in botany in the South, also taught zoology, anatomy, physiology, and even veterinary science. By 1884-85, the name of the department had expanded to the Department of Biology and Geology, a name that stood until 1900-1901 except for 1887-1888 when it was listed as the Department of Biology, Geology and Moral Sciences. Dr. Phares was succeeded as department head by G. C. Creelman and R. W. Herrick, respectively. **Meteorology, also a required course** for all students, was offered through the Chemistry Department. From 1880 until 1887 the course was taught by W. L. Hutchinson. From 1898 until 1904, Meteorology was not listed in the catalog, perhaps because of the absence of a qualified instructor. **Geography was considered a prerequisite** to a college education, and students with little background were required to take a physical geography course titled Geography (using a textbook by Matthew F. Maury, the eminent ex-Confederate and internationally known geographer) offered through the Preparatory Department.

a course in **Commercial Geography** was added to the curriculum.

The Department of Geology, 1902-1936

During the first three decades of the twentieth century, the discipline of geology became well established at Mississippi State, and geography became an increasingly important component of the "geoscience" curriculum. In 1902, a **Department of Geology and Mining Engineering** was established in the School of Engineering. William N. Logan (Ph.D.) of St. Lawrence University in New York was hired in 1903 to head the new department. Logan had done considerable work on the State Geological Surveys in Kansas, Michigan, and New York. Logan was also appointed Assistant State Geologist in 1903, a position he held along with his teaching duties until he left Mississippi A&M in 1916. Throughout those years, the course offerings in geology became increasingly diversified, and a new staff position was created in 1909. In addition, **Meteorology and Climatology** fell under the academic umbrella of **Geology** in 1905. The old Physical Geography course remained a Preparatory Department offering until 1904, but its scope was expanded from "knowledge of the principal divisions of the earth and their economic bases" to a "nature study" in which soils, climate, and other physical factors were tied in to understanding the variations in world regions. After 1905, Physical Geography was phased out, and a **Physiography** course replaced the earlier General Geology and Physical Geography courses. In 1915, a year before Logan left the college,

The incipient importance of geography was temporarily recognized when the **Department of Geology and Geography** was created in 1916, a date

often cited as the beginning the present department. Headed by C. W. Tomlinson, courses in Agricultural Geography, Industrial Geography, and Advanced Map Interpretation were added to the curriculum. (This interest in geography was undoubtedly partly stimulated by World War I and its global implications.) In 1917, however, the department name reverted back to Geology, E. L. Packard was made head, and the department was moved into the School of General Science from the School of Engineering.

In 1918, W. C. Morse (Ph.D., M.I.T., 1927) became head of the **Department of Geology**. Perhaps because of training at the University of Chicago, where he had taken courses from Rollin Salisbury, the preeminent geologist who was responsible for establishing the oldest separate Department of Geography in the United States (at Chicago in 1907), Morse endorsed geography as an important component of the geoscience curriculum. Early offerings in Industrial Geography and Commercial Geography were replaced by Economic Geography in the mid-1920s, and a course titled Geography of Latin America appeared in 1920. **The broadening of the Department of Geology** was in line with the mission of the college which was upgraded from Mississippi A&M College to Mississippi State College in 1932. In 1934, W. C. Morse left A&M to become State Geologist and Chairman of the Department of Geology at the University of Mississippi. His replacement was Paul H. Dunn (Ph.D., University of Chicago, 1932), whose tenure as department head was to last until 1962. (Sixty-seven years after first arriving, Mrs. Paul Dunn made her home in Starkville, until her death in 2001).

The Department of Geology and Geography 1936-1993

Perhaps because of his training at Chicago and/or his recognition of the importance of geography, Paul Dunn was responsible in making permanent the department name that subsequently stood until 1993. In March 1936, Dunn put in a request to change the name to **Department of Geology and Geography**, a request that was granted and made effective in the Fall of 1936. Several new geography courses were added—including Conservation of Natural Resources, Principles of Geography, a Geology/Geography Seminar and regional courses on Europe and South America—and students were given options of majoring or minoring in geography. In 1937, Franklin Seiler joined Dunn in teaching geology courses, and Roger Prior was hired as the first full-time geographer. Although

Prior left after only three years, he added several more courses to the geography curriculum, including Geography of Mississippi and Geography of the South. (At the University of Chicago, Prior completed his Ph.D. dissertation in 1947 on **Urban Land Use along Mississippi Sound.**)

Under Dunn's leadership, both geology and geography flourished. Petroleum geology became increasingly important, especially after a graduate and former student instructor—Frederic F. Mellen (1911-1989, Class of '34)—discovered Mississippi's oil-rich Tinsley Field in 1939 while an employee of the Mississippi Geological Survey, then directed by W. C. Morse. After Prior departed, Merle W. "Duke" Myers filled the geography vacancy in the department after teaching stints at Troy State and Michigan State. He was to remain the senior geographer in the department until his retirement in 1978, in what was to become the longest tenure ever of any faculty member in the department.

The onset of World War II left both positive and negative impacts on the department. During the war years, the Department of Geology and Geography provided service courses in geography to members of the United States Military forces, including army cadets and military engineers, as part of the Armed Service Training Program. At its wartime peak (1943-1944), the department boasted of an **annual enrollment of 1300 students** in geography classes, a development which required the staffing of many class sections with graduate students and part-time instructors. Except for 15 civilians, all of these students were in the military. (An annual enrollment of 1300 in geography alone has not been exceeded since, although 1991-1992 enrollments of 1200 approached the record). Among the faculty, department head Paul Dunn was on military leave from 1943 to 1945. Franklin Seiler, a member of Dunn's pre-war teaching staff, was killed in Germany in 1945. In early 1946, the staff of the Department of Geology and Geography consisted only of Dunn and Myers, but by 1947 two assistant professors had been added (including one who taught **Geography for Teachers**).

The study of geosciences boomed in the postwar years for a variety of reasons. One, World War II stimulated renewed interest in geography, and in 1946 a new curriculum for an undergraduate major in geography (described in the 1948-1946 catalog) was set up. Two, continued high potential of petroleum discoveries maintained high interest in geology as a major. Three, returning servicemen led to increased college enrollments nationwide. In the late 1940s, Mississippi State's Department of

Geology and Geography boasted of approximately 140 undergraduate majors and 20 graduate students. Between 1950 and 1965, the number of majors fluctuated from as few as six to as many as one hundred fifty, stabilizing in the late 1960s in the 25-35 range.

The "**field experience**" became an important component of both geography and geology during the 1950s and 1960s. Dr. Myers conducted several summer field geography courses, which gave students field experience in the western United States, Alaska, Mexico, and Europe. During two summers (1965 and 1966) the department hosted the NDEA Summer Institute, a geography education program which attracted geographers and social studies teachers from throughout the country. During part of the 1950s, the department also conducted its own summer field course in geology in Wyoming and New Mexico. The geology field program, open to out-of-state students, was terminated in the early 1960s because of integration issues. (Summer field camp is still required for MSU geology students, who must sign up with other universities to fill their requirement.)

Except for Paul Dunn and Duke Myers, there was frequent turnover among Geology and Geography faculty from the early postwar period until the mid-1950s, when a period of continuity began and a relatively strong department emerged. Geologists Ernest E. Russell, John M. Kaye, Donald M. Keady, and Richard H. Herron, and geographer Doris Howell all joined the department in the mid-to-late 1950s and remained throughout the 1960s. Russell and Kaye retired in 1985, and Keady in 1990.

In 1960, the Department of Geology and Geography moved into the newly constructed Hilburn Hall which was the first centrally air-conditioned building on the newly renamed (in 1958) **Mississippi State University** campus. The 3-floor, dogtrot-style brick device became home to the Departments of Physics and Geology/Geography, with the ground-floor breezeway serving as a divide. A 2nd-floor geology museum--containing accumulated fossils, rocks, minerals, and Indian relics--was designated the **Dunn-Seiler Museum** in 1962 as a memorial to Franklin Seiler and in honor of Paul Dunn, who retired in 1962. Geologist Troy Laswell was hired as department head in 1962, and his term of office lasted until 1985.

The period from the late 1960s until the early 1980s was relatively stable on the geology side of the Department of Geology and Geography, but there was frequent turnover of geographers. Among

geologists, Karl Riggs joined the department in 1968 (retired in 1998), and Wes Lins joined in 1972 (retired in 1988). Several geographers came and went during that period, and many of the geography courses added to the curriculum--Remote Sensing, Quantitative Methods, Land Use and Location Theory--reflected the interests of individual professors. Upon the retirement of Duke Myers in 1977, climatologist Charles Wax joined the department, and his re-introduction of Meteorology into the curriculum revived a course as old as the university. Wax was appointed **State Climatologist** for Mississippi in 1983.

The 1980s were a time of adjustment for the department. Degree programs in geography were suspended in the spring of 1982-83, as a result of misdirected fiscal belt-tightening. Beginning at the same time, the "old guard" began to be replaced by a "new guard," **a cadre of geologists and geographers that initiated a new phase of stability in the department.** Micropaleontologist Chris Dewey joined in 1984. When Troy Laswell retired in 1985, he was replaced as department head by karst geologist John Mylroie, who subsequently guided the department through a major restructuring. By the end of the decade, sedimentologist Mario Caputo (1986-1993), meteorologist Mark Binkley (1986), cultural/environmental geographer Klaus Meyer-Arendt (1987-1998), structural geologist Bruce Panuska (1988), and hydrogeologist Darrel Schmitz (1990) had joined the department. In 1989, Charles Wax was appointed department head.

From the mid-1980s until the early 1990s, research activity increased and several new programs were developed, notably a field program in karst geology at the Bahamian Field Station (San Salvador Island) and the Broadcast Meteorology Program (BMP) for the training of weathercasters for national media markets. A coupling of the BMP with the Office of the State Climatologist led to the creation of the Mississippi State University Climatological Laboratory (MSUCL). On the basis of faculty interests, research programs were begun in micropaleontology (northern Mississippi and Alabama), tectonic environments (Alaska), environmental management (coastal Mississippi, Mexico), and hydrogeology (Mississippi-based). Continuing past departmental traditions, the "field experience" in the geosciences is considered important in the educational processes, and student participation (both graduate and undergraduate) in the far-flung research arenas has been strongly encouraged.

Undergraduate enrollments in undergraduate geology and geography courses climbed steadily in the late 1980s and early 1990s, and Masters' level instructors were temporarily hired to assist the regular faculty in fulfilling enrollment demands. (One of these "part-time temporary" instructors--Mr. Dalton Miller--was appointed full-time instructor in 1993.) Sixteen specialized broadcast meteorology courses were added to the curriculum, and the nationally acclaimed new programs at MSU were attracting off-campus (via correspondence through the Division of Continuing Education) and on-campus undergraduate and graduate enrollment demands. Innovative and experimental courses such as **Geography of Tourism** and **Planetary Geology** attracted many non-majors, many of whom subsequently developed an appreciation for the geosciences. Geology graduate enrollments remained moderately low in the wake of the worldwide petroleum recession, but the emphasis in geology increasingly was shifting to the arena of environmental sciences.

The Department of Geosciences, 1993-present

In spite of the longevity of the geosciences at MSU and recent advances in all indicators of teaching, research, and service, the department barely survived elimination in the aftermath of a 1991-1992 fiscal crisis. As a result of this survival, a decision was made to set the department upon a direction that would come to be seen as the fourth phase in the history of the department.

At a retreat held in 1992, the faculty of the Department of Geology and Geography agreed to streamline the department into an environmental earth science department--the **Department of Geosciences**--that will address innovative environmental geoscience concerns of the 1990s and at the same time maintain the traditional **integral component fields of geology, geography, and meteorology/climatology that have been in place at Mississippi State University since its founding**. Many of the old courses and course requirements that had become obsolete were discarded from the 1993-1994 MSU catalog, while at the same time new "hands-on" courses were approved (including Computer Applications in Geoscience, Maps and Remote Sensing, and Coastal Environments).

The offering of B.S. and M.S. degrees in **Geoscience** was especially attractive to prospective Broadcast Meteorology/Climatology and Environmental Geography students as well as "non-traditional" geology majors with career goals in environmental fields. The departure of Mario Caputo

in May 1993 required a restructuring of geology faculty specialties and also facilitated the hiring of a new meteorologist/climatologist (David Arnold, who joined in early 1994) to strengthen the existing Broadcast Meteorology/Climatology program.

The name change, new curriculum and degree program were officially approved in late Spring 1993, and for the spring 1994 semester, a record-high number of graduate students in Geosciences was attained (29 in residence, 7 not in residence). This rapid expansion has continued into the mid-1990s and precipitated a minor crisis in terms of how to better use the existing facilities to accommodate new students and new course demands.

Further major changes occurred in 1997, 1998 and 1999. A new position was added to the Department in 1997, and Dr. Doug Gamble, a physical geographer, was hired to address program needs in that area. Dr. Karl Riggs retired and David Arnold and Klaus Meyer-Arendt left for other jobs. Dr. Leo Lynch was hired to replace Dr. Riggs, Dr. Mike Brown was hired to replace Dr. Arnold, and Dr. Taylor Mack was hired to replace Dr. Meyer-Arendt. In addition, the department hired four new instructors, Joan Mylroie, Doug Gillham, Jeff Haby, and Christa Meloche. The distance learning programs also hired several staff members and now have five full time staff members, in addition to the instructors. In the spring of 1999, two more instructors were hired: Tim Wallace as Climate Laboratory Coordinator, and Nel Ruffin as a distance learning instructor and on-campus instructor for Maps and Remote Sensing.

The Department moved out of Hilbun Hall and into Allen Hall and Lloyd Ricks Annex in the late fall of 1998 to accommodate the renovation of Hilbun Hall. That renovation was completed in the summer of 2000, and the Department moved back into a building that was much improved. Program growth in the intervening 18 months, however, meant that space was at a premium, but now it is good space.

Dr. Doug Gamble departed in the summer of 2000, and his position was filled by former MSU graduate student Jeremy Wheeler while a search was conducted. Searches for an additional three instructor positions were also run in 2001: one in the BMP, and two in Distance Learning. Dr. John Rodgers filled the physical geographer position, Mr. Wayne Verno filled the BMP position, Dr. Sally Zellers filled the geology Distance Learning position, and Mr. Bill Gustin filled the meteorology Distance Learning position. Dr. Mark Binkley became

Department Head in July 2001. Dr. Wax returned to the classroom and duties as State Climatologist after an extremely successful twelve years as Head.

During the fall of 2002, Climate Laboratory Coordinator Tim Wallace left to pursue other career opportunities, and searches were conducted to fill that position, now reclassified, and a new GIS faculty position that had been developed as part of the Mississippi Space Commerce Initiative. In January 1, 2003, John Cartwright joined the Department as the new GIS Laboratory Coordinator, and Dr. Bill Cooke joined as a new assistant professor to teach GIS and remote sensing. In addition, three more instructors were added in the distance learning program in January 2003: Joe Gilbert to assist geology instruction, Tracy Norton to assist delivery technology, and Dr. Kathy Sherman-Morris to assist meteorology instruction. In June 2003, Dr. Sally Zellers left to take a tenure-track position at another institution, and MSU alumnus Jon Harris was hired to pick up her duties in geology instruction. These additions to the Department reflect the continued growth and success of both the on- and off-campus operations.

Summer 2004 brought more changes, Dr. Mark Binkly left the Department of Geosciences to become the Director of Academic Outreach and Continuing Education at Mississippi State University, and Dr. Bruce Panuska retired. Dr. Brenda Kirkland, a carbonate sedimentologist, joined the tenure-track faculty after acting as an adjunct and instructor for several years. Dr. Darrel Schmitz, Professor of Geology, is the Interim Department Head.

APPENDIX G: FACULTY AND TEACHING/RESEARCH SPECIALTIES

Michael E. Brown, Ph.D., University of North Carolina-Chapel Hill, 2000, Assistant Professor C severe storm development, mesoscale meteorology, physical geography

John H. Cartwright, M.S., Mississippi State University, 2002, Instructor/GIS Support Coordinator --- geospatial applications

William H. Cooke, III, Ph.D., Mississippi State University, 1997, Assistant Professor/Assistant Extension Professor --- geographic information systems/remote sensing

Craven, Tracy N., M.S., Mississippi State, 2002, Instructor – meteorology, educational technology

Christopher P. Dewey, Ph.D., Memorial, 1983, Associate Professor C paleontology, micropaleontology, paleoecology

Joseph J. Gilbert, M.S., 2001, Instructor --- GIS theory/application, geologic mapping, soil/landform analysis, structural geology

Douglas M. Gillham, M.S., Mississippi State, 1999, Instructor C climatology, physical geography

William A. Gustin, M.S., Indiana State, 1988, Instructor C meteorology, physical geography

Jeffrey S. Haby, M.S., Mississippi State, 1998, Instructor C meteorology, weather forecasting

Jonathan G. Harris, M.S., Mississippi State, 1996, Instructor -- geology

Brenda L. Kirkland, Ph.D., Louisiana State University, 1992, Assistant Professor – carbonate sedimentology and petrology, general, field and structural geology

F. Leo Lynch, Ph.D., University of Texas-Austin, 1994 Associate Professor C mineralogy, sedimentology, diagenesis, geochemistry

Taylor E. Mack, Ph.D., Louisiana State, 1997, Assistant Professor C historical geography, Latin America, geographic education

Christa R. Meloche, M.S., Mississippi State, 1998, Instructor C climatology, hydrology

Dalton E. Miller, Jr., M.S., University of Mississippi, 1979, Instructor C regional geography, Latin America, geographic education

Joan R. Mylroie, M.S., Murray State, 1979, Instructor C regional geography, earth science

John R. Mylroie, Ph.D., Rensselaer, 1977, Professor C karst geomorphology, Quaternary sea-levels, carbonate deposition

John C. Rodgers, Ph.D., University of Georgia, 1999, Assistant Professor C human-environmental interactions, biogeography, vegetation change

Nel Ruffin, M.S., University of Alabama, 1996, Instructor C physical geography, hydrology

Darrel W. Schmitz, Ph.D., Texas A&M, 1991,
Interim Department Head and Professor C
hydrogeology, engineering geology

Kathleen M. Sherman-Morris, Ph.D., 2003,
Instructor --- spatial data analysis, global changes,
world regional geography, severe weather

Wayne A. Verno, M.S., Mississippi State, 1999,
Instructor C broadcast meteorology

Charles L. Wax, Ph.D., Louisiana State, 1977,
Professor and State Climatologist Climatologist,
--- climatology, physical geography, water resources