

Up and Down but Not Out: A History of the Geography Department at the University of New Mexico

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Geography at the University of New Mexico has gone through a series of transformations. In the early days, geography courses were taught by faculty trained in other disciplines. When the first geographers were hired, they were in other departments, since no formal geography department was established until 1961. Prior to 1961, a minor was established and after World War II many regional courses were offered as a service function to the university. Once the Department was established, it went through several periods of expansion but was never able to maintain a critical size for long. When small departments lose a few key faculty members, they can be put at risk by Dean's looking for convenient ways to save money. Several periods of shrinkage reduced the Department to dangerously low levels. This required creativity on the part of the faculty to reinvent themselves in ways that would receive university support. These ups and downs are the story of the Geography Department at the University of New Mexico (UNM).

The Early Years-Geography without a Department

Geography first appeared as an academic subject at the University of New Mexico in 1917. From that time on, it appeared and disappeared, sometimes as a "minor," sometimes as a "division," and, finally, in 1961 a department was established. Why it had such a fluctuating presence is anyone's guess. However, the discipline has had a similar history in other American universities. Because geography is both a physical and a social science, it is difficult to place in the rather rigid departmentalization that has characterized American institutions of higher learning. This dual personality has probably frustrated many a university administrator.

C. T. Kirk of the Geology Department offered four courses in 1917 that would normally be considered geography. They were Climatology, Geography of New Mexico, Commercial Geography, and The Interpretation of Maps. The year is so closely identified with the role of the United States in World War I that one assumes

* In 1986 Robert Campbell wrote a history of the UNM Geography Department (Campbell 1986). It survives as a small mimeographed copy in the Department's files. When asked to write a history of the Department, Brad Cullen remembered it. On examination the history had many parts that could be used without modification. Because Bob died in 1993, the other two authors of this article consulted with his 'family'. We were given permission to use parts of his earlier work and were told Bob would be pleased to have his name appear on this publication.

a relationship: interest in geography often picks up during a war. But it is also possible that Kirk had a strong interest in geography. Many early geographers, such as William Morris Davis, were geomorphologists (or physiographers) trained in geology departments.

In 1919, Robert W. Ellis replaced Kirk (both Ellis and Kirk received their training at the University of Wisconsin). Ellis continued to teach the Geography of New Mexico and added a course on the Geography of North America. In 1929, Stuart A. Northrop (Yale) joined the Geology Department teaching courses in Geomorphology and Geomorphology of the United States.

In 1934, a significant change occurred expanding geographic offerings beyond the Geology Department. Donald Brand was appointed Professor of Anthropogeography and, shortly thereafter, Chair of the Anthropology Department. Brand was an early graduate of the University of California, Berkeley, where the Department was headed by Carl Sauer. The courses Brand taught all had a strong geographic component. For example, in 1934 he taught Anthropogeography, Geography and Archaeology of New Mexico, Climatic Factors in Anthropology, and Cultural Geography of the World. At that time, Anthropology was a fairly inclusive department also offering Sociology, Criminology, and Social Organization.

Meanwhile, other departments began offering courses that are generally considered geography or that have a strong geographic component. Geology listed courses in Geography of North America (a standard summer course for many years), Meteorology, Conservation of Natural Resources, and Geomorphology of the United States. In 1937, J. L. Bostwick, a geographer who had graduated from Columbia University, joined the Geology Department and began to offer a course titled Principles of Geography. Biology listed courses in Plant Ecology and Physiographic Ecology. Throughout the thirties, there must have been a demand for such courses, and it is rather astonishing that they were not pulled together in some form until 1941.

The Geography Minor

In 1941, probably in response to the war we would inevitably enter, geography offerings were brought together, administered by a committee chaired by Professor Brand, and described as a “minor” in geography. The courses were:

Department	Course
Anthropology	Anthropogeography
	Human Geography of New Mexico
	Climatology
	Races and Cultures of Europe
	Cultural Geography: Old World

	Cultural Geography: Latin America
Biology	Physiographic Ecology
	Plant and Animal Geography
Economics	Economic Resources
Geology	Geography of North America
	Principles of Geography
	Geomorphology
	Geomorphology of the United States
Physics	Descriptive Meteorology
	Meteorology

The committee appointed to administer this program consisted of the people from the departments who taught the courses: Brand of Anthropology, Northrop and Bostwich of Geology, Bell of Biology, Sorrell of Economics and Business Administration, and Holzer and Workman of Physics. As time went on, various courses were added to the minor: Dynamic and Synoptic Meteorology (1942), Geography of the Pacific Area (1942), Economics and Trade of Latin America (1943), Maps and Charts (1943), and World Economic Geography (1944).

In 1947, the 'minor' disappeared from the catalog, to be replaced in 1948 by three courses listed under the ambiguous title, "Geography - Not a Department." Under this rubric, it was explained that neither minor nor major was offered. The three courses listed were Brand's, but by that time Brand had left the university. So with the end of the war and Brand's departure, geography as a separate discipline disappeared for a time. As individual courses offered in other departments, however, it never disappeared.

Regional Geography - Introducing the "Service" Function

In 1950, Wilfrid Kelley, a graduate of the University of Michigan and an Assistant Professor of geology, was named "coordinator" of a set of geography courses that would satisfy "group requirements" in the College of Arts and Sciences. These courses did not constitute a major or a minor. They were:

- General Geography 1 and 2
- North America
- South America
- Middle America
- Economic Resources
- Land Utilization
- Cultural Geography: Old World and Cultural Geography of Latin America
- General Geography 1 - Physical Geography

The Physical Geography course counted toward the fulfillment of Group IV (Science and Mathematics, non-laboratory) requirements in the university. All of the other courses could be used to satisfy Group III (Social Sciences) requirements.

A new emphasis on regional courses is evident in this list. A pattern was established that continued for almost two decades. A reason for this shift in emphasis may be found in the 1953 catalog, which says that the geography curriculum was designed to meet the educational requirements for "geography" in the U.S. Civil Service examinations. At that time, the Foreign Service examinations included a significant emphasis on places and place names. From the point of view of the professional geographer, an offering of largely regional courses makes a statement that the science is primarily descriptive and idiographic. It also brands the geography curriculum as basically one that provides services to other schools and disciplines - education, history, and political science, for example. It tends to emphasize factual information and downgrades geography as a science. In fact, the "minor" group created at the beginning of World War II was more systematic and topical, and more scientific, and, therefore, more representative of modern geography, than the postwar "group requirements" offered.

In 1952, geography became a "division" in order to meet a growing demand for the subject, and this status continued for the next nine years. Changes in the size of the division and course offerings were not substantial over this period. By 1959, the curriculum included regional courses in Eastern Asia and Western Europe and two "problems" courses to cater to students' interests not met by standard course offerings.

In 1955, Kelley was replaced by Burton L. Gordon. Gordon had taken his Ph.D. in geography at Berkeley, as had Brand. Three years later, Gordon was joined by Yi Fu Tuan, another Berkeley Ph.D. The emphasis on regional courses continued, although one wonders why Gordon and Tuan, educated in the same Carl Sauer tradition as Brand, did not introduce more systematic and topical courses. Tuan later commented that they believed regional courses would attract more students, and numbers were important. It is true that an emphasis on "regional" education flourishes and declines cyclically, not only in geography departments but also in various kinds of "institutions" and "programs." The mid-1950s was a period of growth in interest in foreign places.

Meanwhile, substantive courses of a geographic nature were still offered by other departments. Two courses, Territorial Ecology and Geography and Conservation, appeared in the Biology curriculum for many years, with the latter eventually moving to Geography. Geology continued to offer Geomorphology and Geomorphology of the United States. Economics offered Introduction to Latin America until 1963; it also cross-listed the geography course Economic Resources until 1964. Civil Engineering offered a number of drafting courses, as well as field mapping - courses frequently found in geography curricula. Cartography, an

engineering course, was a Geography Department requirement from the mid-1960s until the mid-1970s.

Departmental Status

Finally, in 1961 the division was advanced to the status of a department, and students could graduate with a major in geography. Gordon and Tuan constituted the entire faculty at first; in 1963 they were joined by Conrad Aub, a Cambridge graduate. The geography curriculum included two 100 level courses: Physical Geography and World Geography; two 200 level courses: Physical Geography and Economic Geography; four 300 level courses, all of them regions: South America, Middle America, North America, and Western Europe; two 400 level courses, one of which, Conservation, was taught in the Biology Department and the other was a Problems course; and a 500 level Problems course was also listed.

Requirements for the undergraduate degree in geography included the two introductory courses, Physical Geography at the 200 level, Anthropology 101 and Geology 101, as well as eight upper division courses, including one Problems course; it was possible to substitute two upper division courses from other fields.

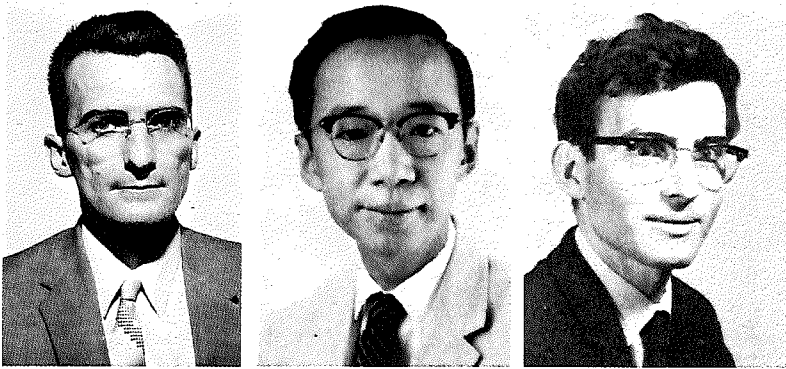


Figure 1. The three earliest members of the Department of Geography, University of New Mexico. From left to right: Burton L. Gordon, Yi Fu Tuan, and Conrad Aub.

Gordon, Tuan, and Aub did not stay long after the major was introduced. Gordon left at the end of the 1964-65 academic year and Richard E Murphy (Ph.D., Clark) was hired as Professor and Chair to replace him. Tuan left in midyear, 1965-66, and his courses for the second semester were taught by Elinore Barrett, who was at the time working toward a doctorate at Berkeley. She rejoined the faculty full time in 1969. Aub left in 1966.

The growth of geography as a separate discipline at the University of New Mexico began with Murphy's appointment as Chair. He had taught at Wyoming and Hawaii, where he had seen the two extremes of departments: one was small, providing only a service function; the other was large and well-established, offering the Ph.D. He envisioned the latter for the only institution of higher learning in New Mexico that offered a geography degree at the time.

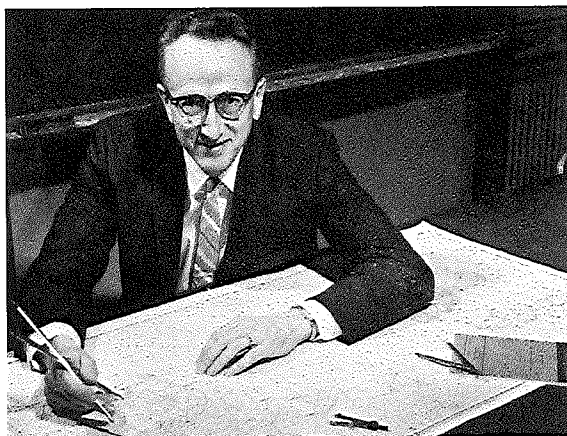


Figure 2. Richard Murphy, Chair, Department of Geography, 1965-81.

The Boom Period – The Growth of a Modern Department

Dean Trowbridge, who hired Murphy, and Dean Wollman, under whose administration a major expansion of geography took place, were interested in geography and very supportive. So in Murphy's first annual report, after he had been Chair for only one semester, he suggested a number of changes that would begin to move the Department away from solely a service function toward a substantive program emphasizing the science of geography. He recommended the following course changes be made as soon as possible:

- a. The addition of a course in *Political Geography* (his field);
- b. Replacing the advanced course in *Physical Geography* with a course in *Climatology*;
- c. The introduction of a six credit course in *Economic Geography* to replace the three credit course in *Economic Resources*; and
- d. The addition of a course in *Cartography*.

For the future, he recommended adding courses in regional physiography, urban geography, land use, arid lands, and more regional courses. Murphy was able to add two people to the faculty in the fall of 1966: Iven Bennett (Ph.D., Boston), whose specialty was Climatology, and Reynaldo Ayala (M.A., Southern Illinois).

Murphy moved quickly to establish a sound geography program. Within five years he had: 1) added four more full time faculty members, 2) introduced a graduate program leading to the M.A. degree, and 3) systematized and greatly increased course offerings, including graduate level seminars. At the end of a decade (1975), the faculty had been increased to eight. The Department offered four introductory courses, ten regional courses, twenty-seven upper level topical courses, and six seminars. Courses were organized according to whether they were: 1) introductory, 2) regional, 3) advanced courses in physical geography, 4) advanced courses in human geography, 5) advanced courses in geographical methodology, or 6) seminars, workshops, and problems. These courses, together with relevant courses from other departments, could be assembled in such a fashion that students seeking a major in geography could also to some extent emphasize one or another aspect of geography. These options included climatology, economic/urban, geomorphology, cartography, remote sensing, and urban and regional land-use planning. This program provided fundamental support for both the undergraduate and graduate degrees.

In 1966, Murphy, Bennett and Ayala were the only members of the Department. Beginning in 1968, additions were frequent: Rodman Snead (Ph.D., Louisiana State; geomorphology) in 1969 (Snead was a visiting professor in fall 1967 and returned full-time in spring 1969); Elinore Barrett (Ph.D. Berkeley; 1967 and returned full-time in spring 1969); Robert Campbell (Ph.D. Clark; psychological geography, philosophy of geography) in 1970; Delbert Dyreson (Ph.D., Denver; mathematical geography) in 1971. Thereafter, a somewhat greater shift in personnel took place, with some people leaving and others replacing them as is seen in Table 1.

Changes in personnel brought changes in program emphasis. The post-war 'quantitative revolution' in Geography arrived in New Mexico. Dyreson was the first to introduce quantitative methods; he was followed by Redfield and Cullen, the latter also an economic geographer. Williams (who also has a strong background in mathematics) introduced urban and regional planning. Morain brought remote sensing and biogeography. Fitzsimons and King introduced the modern techniques and applications in cartography. Place brought a strong background in cultural ecology and the geography of economic development, particularly in Latin America. Thompson was a specialist in water resources management, emphasizing agricultural water use and drought impact—very relevant topics for New Mexico.

During this time, the Department developed a research and publication focus as the university changed into a major research institution. For example, Barrett published two volumes on land tenure and agricultural development in southwestern Mexico and a book *The Mexican Colonial Copper Industry*. Morain published a

textbook titled *Systematic and Regional Biogeography*. Snead co-authored a book on coastal flood hazards and published two atlases. Williams published the second edition of his atlas, *New Mexico in Maps*. Bennett was co-author of *The Climate of New Mexico*. Faculty members at this time were active and productive.

Table 1. Tenure Track and Official Appointments (1955-2006)

Faculty Member, Ph.D. Institution

Field(s) (Joined Faculty - End Date or Current Status)

Burton Gordon, Ph.D. Berkeley

Regional Geography (1955-1965)

Yi Fu Tuan, Ph.D. Berkeley

Regional Geography, Physical Geography (1958-1966)

Conrad Aub, Cambridge

Regional Geography (1963-1966)

Richard Murphy, Chair 1965-1981, Ph.D. Clark

Political, Europe (1965-1983)

Iven Bennett, Ph. D. Boston

Climatology, Southwestern U.S., North America (1966-1984)

Raynaldo Ayala, M.A. Southern Illinois

Latin American (1961-1968)

Rodman Snead, Chair 1981-1983, Ph.D. Louisiana State

Geomorphology, South Asia (1969-1995)

Elinore Barrett, Ph.D. Berkeley

Mexico, Cultural, Historical (1969-1993)

Robert Campbell, Ph.D. Clark

Psychological, Philosophy of Geography (1970-1980)

Delbert Dyreson, Ph.D. Denver

Mathematical, Systems Approach (1971-1973)

Douglas Gordon, A.B.D. Hawaii

East Asia, Cartography (1973-1978)

Stanley Morain, Chair 1983-1992; 2003-2006, EDAC Director, Ph.D. Kansas

Remote Sensing, Biogeography, Soils (1974-2006)

Wesley Redfield, Ph.D. Indiana

Quantitative, Transportation (1975-1977)

Jerry Williams, Ph.D. Oregon
Urban, Land Use Planning, Africa (1977-Associate Professor)

Alastair Shedden, A.B.D. Berkeley
Cartography, Field Methods (1978-1981)

Bradley Cullen, Chair 1992-1995; 2001 - 2002, Ph.D. Michigan State
Economic, Environmental, Marginality (1980-Professor)

Dennis Fitzsimons, Ph.D. Kansas
Cartography (1981-1984)

Stuart White, Ph.D. Wisconsin
Latin America (1982-1984) Currently Adjunct Professor

Susan Place, Ph.D. UCLA
Latin America, Development, Cultural Ecology (1984-1988)

Stephen Thompson, Ph.D. Colorado
Water Resources Management (1984-1991)

Guy King, Ph.D. Utah
Cartography, GIS (1984-1988)

David McGrath, Ph.D. Wisconsin
Latin America (1988-1990)

Louis Scuderi, Ph.D. UCLA
GIS, Climatology (1994-2001)

David Gutzler, Ph.D. MIT
Meteorology, Climatology (1995-1997)

Olen Paul Matthews, Chair 1995-2001; 2002-2003; 2006, Ph.D. Washington
Water Resources, Public Lands, Geography and Law, (1995-Professor and Chair)

Theresa Mulhern, Ph.D. Maryland
Biogeography, Remote Sensing (1996-1997)

Kirk Gregory, Ph.D. Kent State
Water Resources, GIS (1998-2001)

Seth Snell, Ph.D. Boston
Climatology, GI Science (1999-2001)

Richard Watson, Ph.D. Texas
Remote Sensing, GI Science, Archeology (2004-Research Associate Professor)

Danielson Kisanga, Ph.D. Clark
GI Science, Environmental (2006-Instructor)

Sometime in the early or mid-1970s, Murphy asked the faculty whether a doctoral program should be introduced. After considerable thoughtful debate faculty members declined, much to Murphy's disappointment. They argued that the resources for offering the Master's degree were barely adequate, and they were concerned that the considerable support needed for the doctorate would not be forthcoming. All members of the faculty very much wanted the Department to offer the degree; there was no question about that. But they saw the lack of laboratory equipment and space, the lack of proper facilities for a cartographic program, the lack of field equipment, and – of paramount importance—inadequate scholarships and fellowships as extremely inhibiting. In hindsight, this was probably a mistake. No one could have predicted the move to new space and the development of a modern cartography production lab. This occurred in 1982. Had the doctoral program been pursued at that time, the Department may have been able to withstand some of the problems that beset it later.

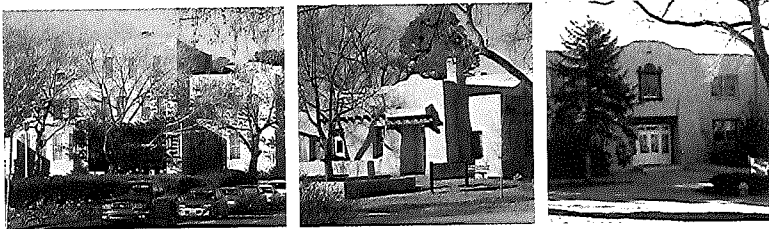


Figure 3. The Department of Geography moved from Hogan Hall the oldest building on campus) to Bandler East (Geogrpahy Laboritories) and Banlier West (Geography and the EDUC offices) in the early 1980s.

Murphy's long term as Chair ended in 1981 when he went to England on sabbatical. Tragically, Murphy died a few months after his return. Rodman Snead was made Chair in 1981 and served for two years until he left for a term as a visiting professor of geomorphology at the University of Otago, New Zealand. Snead was replaced by Stanley Morain. Morain was a part-time member of the Geography Department and the Director of TAC (Technology Application Center), a NASA funded center designed to transfer technology to the private and public sector. TAC was later renamed, becoming the Earth Data Analysis Center (EDAC).

In the early 1980s, faculty members voted to emphasize "applied geography." This was fortuitous, because there were already in place strong programs in cartography, photogrammetry, remote sensing, and land use planning. In part it was a response to the students of that time who wanted degrees that prepared them for career positions. Many other departments of geography were moving in that direction as well. One very tangible aspect of this commitment was Williams' creation of an internship program.

When Morain assumed the Chair, he was asked by the Graduate Dean to do a self-study in preparation for a graduate program review (Geography 1984). In 1984, when the self-study was completed, an outside review team was brought in to evaluate the Department (Lounsberry, Smith & Anderson 1984). Their report was positive, supportive, and encouraging. The self-study was updated in 1985 (Geography 1985). The two studies reveal a capable, dedicated, overworked and underpaid, forward-looking faculty, determined to push the growth of the Department to full professional status as soon as possible. It was felt by the faculty that the university's commitment to a strong and growing Geography Department would continue into the future.

Deans Make Rotten Decisions - First Crisis

But the optimism of the early 1980s quickly faded. Assistant Professors Place and King both left the Department and took jobs at California State University, Chico. The reasons given were pay and expectations. UNM was a publish or perish institution with low salaries. Of its 18 self-identified peer institutions, UNM's pay scale was second to the bottom. In contrast, California State University, Chico had a unionized faculty with a set pay scale. Furthermore, teaching, not research, was the focus at Chico. Shortly after Assistant Professors Place and King left the Department, Assistant Professor Thompson was denied tenure, because his publication record did not meet expectations. These three losses devastated the Department, because it was not given permission to fill any of the vacant lines. The size of the faculty declined to 4.5 FTEs (Full Time Equivalents) partly because the Department lost the support of the College Dean.

In 1987, B.H. Wildenthal was hired as the new, outside Dean of the College of Arts and Sciences. As a result, the Geography Department was requested to develop a strategic plan. (Geography 1988). He was a physicist who could see the value of remote sensing and GIS, but failed to recognize the contribution that the field of geography could make to the college. The lack of departments of geography at most of the Ivy League institutions and universities such as Michigan, as well as poor grants-man-ship within the Department at UNM were used to justify the elimination of geography lines. When the university began a debate over "reallocation," one of the major foci of the discussion was whether or not the Department of Geography should be eliminated. Professor Barrett and Associate Professors Williams and Cullen defended the Department at various forums around campus. The Dean retaliated by assigning geography faculty to teach courses they has never taught before, as well as planning for the dispersal of geography faculty members. Associate Professor Cullen, for example, was to move to the College of Architecture and Planning; Associate Professor Williams to the Department of American Studies; and Professor Morain to the Biology Department. The survival

of the Department can be attributed to the lobbying efforts of Barrett and Cullen, and the departure of Dean Wildenthal. Barrett and Cullen were able to garner support for the Department from the discipline, alumni, and colleagues. Letters supporting the Department were written to the President, Provost, Dean, and Board of Regents. One very important supporter of the Department was the New Mexico State Senate. It passed, unopposed a memorial supporting the existence of a Department of Geography at UNM (New Mexico Senate 1992). When Dean Wildenthal left UNM to take a job at the University of Texas, Dallas, the Department was given a reprieve.

Professor William Gordon, the Chair of the Psychology Department, was appointed Interim Dean in 1992. One of his first acts was to appoint Associate Professor Cullen acting chair of the Department. Cullen was charged with developing a *Long-Term Development Plan* that would turn the Department around (Geography 1992). The *Plan* initially called for focusing the Department. Prior to the 1990s, courses and seminars in physical geography (climate, landforms, biogeography); human geography (economic, urban, resource management, conservation); and theory and methods (spatial organization, human-environment systems, location theory, cartography, GIS, remote sensing) were created for the Department's B.A. and M.A. students in order to provide them with the fundamentals of the discipline. The emphasis was on breadth with only limited scope for specialization. In 1992, the mission shifted to an emphasis on environmental analysis and geographic information science (GI Science). The new mission of the Department was to prepare students for more advanced degree programs and careers in those aspects of environmental analysis/resource management that were related to their background in physical geography, human/environment interaction, and GI Science.

In the early 1990s, the demand for individuals with a background in environmental analysis and GI Science was expanding rapidly. The conflict between society and the environment was possibly the most pressing issue facing humankind. Across the country, public opinion polls showed environmental issues near the top of people's concerns. Geography's long and rich tradition of focusing on human/environment interaction made the environmental debate a perfect focus for geographic research and teaching. As aptly put by Hansen in 1990: "Geographers bring to the study of environmental issues a synthetic, integrative view and an ease with complexity that others often lack" (Hansen 1990). We also brought a set of geographic techniques that facilitated the analysis of complex environmental problems. Great strides had been made in the development of geographically referenced databases and the analysis of remotely sensed data. But the application of these techniques to environmental problems was still in its infancy in the early 1990s. The Department of Geography at UNM wanted to help open this research frontier.

Besides the timeliness of the foci, there were pragmatic reasons for their

selection. The environmental geography/GI Science foci interfaced well and complimented the Biology, Earth and Planetary Sciences, and Economics programs at UNM. Even before the Department began to refocus its programs, many of its graduate students emphasized environmental analysis and GI Science in their M.A. programs. The great majority of them found employment related to their training, largely because of its applied nature. Contacts made through work at EDAC (formerly TAC) or an internship were helpful. Most of those who did not continue on to Ph.D. work found employment in New Mexico. The categories of employment for M.A. students between 1971 and 1990 are summarized in Table 2. During this 20 year period the Department of Geography produced 57 M.A. students or an average of 2.5 graduates per year.

Table 2. M.A. degrees and last known employment (1971- 1990)

Category	Number
Federal Agency	13
Consulting Firm/Business	11
PhD Program	7
College Faculty and Post Secondary Teaching	5
Local Government	5
University Research Facility	3
State Agency	2
K - 12 Education	2
National Research Lab (Sandia)	1
International Agency	1
Other/Retired/Unknown	7

Dean Gordon, who made a pledge to help rebuild the Department, embraced the *Long-Term Development Plan*. The following are some of the most important elements of his commitment: 1) two lines for each line vacated through retirement; 2) startup money for each new hire; 3) return of the college's portion of all overhead generated for a period of 5 years; and 4) funding for a GIT laboratory. At the end of the 1992-3 academic year, Professor Barrett retired, which opened up two lines. In the fall of 1993, the Department advertised for an Assistant Professor with a background in GI Science and physical geography, as well as a Chair, who also had a background in GI Science and physical geography. Louis Scuderi was hired into the Assistant Professor position, but the candidate selected to become the new Chair demanded untenable guarantees from the Dean. The Chair position was, therefore, not filled. The Department was the beneficiary, however, of a spousal hire in 1993. David Gutzler, a climatologist, was hired half-time in Earth and Planetary Sciences and half-time in Geography. But his appointment was delayed

until fall, 1995.

In fall, 1994, the position of Chair of the Department was re-advertised, but with a new job description. In order to change the composition of the pool, the advertisement was broadened to encompass all environmental geographers, including those specializing in human/environment interaction. In spring, 1995, Olen Paul Mathews was hired to be the new Chair of the Department. During this period, a *Five-Year Plan* had been written by Cullen and approved by the Department and Dean (Geography 1995). Professor Mathews was charged with implementing the *Plan*.

Rebuilding

Mathews arrived in Albuquerque with strong commitments from Dean Gordon to rebuild the Department. New faculty members had been promised and a fairly substantial part-time faculty budget was provided until that could be achieved. The task of rebuilding was not simple, however. The Department had very few computers at this time and an anemic budget. A NSF undergraduate lab equipment grant had been written by Louis Scuderi in the 1994-95 academic year with a promise of a two-to-one match by the University. The grant was successful and the equipment began arriving in the fall of 1995. The manual cartography lab was converted to a modern UNIX based computer lab. During the fall of 1995, Rodman Snead announced his retirement meaning the Department would have two new positions according to the Dean's earlier agreement. In January, Dean Gordon moved on to become the Provost, but his replacement, Michael Fischer (1996-2000), honored his commitments to the Department.

Because of budget difficulties within the university, only one of the positions was to be filled during the 1995-96 academic year. Theresa Mulhern, a biogeographer and remote sensor from Maryland, was the choice. Dr. Mulhern only stayed a year (1996-97) before taking a job at Kent State. One of her reasons for leaving was the lack of support in the Department's main office. The long-time Department administrator/secretary was placed on administrative leave in January of 1997 and could not be replaced until the administrative leave terminated. This placed a substantial amount of additional work on the Chair and faculty members.

During the summer of 1997, EDAC moved from their off campus location and began to share space with Geography. We also shared an accountant who spent about ten hours a week on departmental affairs. The accountant and a work study student were the only staff in Geography's main office. When the accountant retired, the Department was faced with a choice: hire a full time department administrator or a half-time one. The advantage of the half-time position was that the difference in salary could be used for systems administration. The decision to use the NSF grant to build a UNIX system in the teaching lab also meant expensive fixes when

the system broke down. The Department's budget had not been increased to cover these costs. The Department chose a half-time person and the position remained at that level until the UNIX system was replaced in 2001.

The commitment to hire two additional faculty members was honored, but it took time. In 1996 when Dr. Mulhern was hired the Department had grown to 7 faculty members (6 FTEs) with two being half-time (Gutzler and Morain). Mulhern left in 1997 and Dr. Gutzler asked to have his position moved full-time to Earth and Planetary Science. Dr. Gutzler was a climatologist but was not a geographer. He did not seem comfortable having social scientists as colleagues. By the summer of 1997, the Department was once again reduced to 4.5 FTEs. During the 1997 academic year, two things happened to improve this picture. Stan Morain was made full-time in the Geography Department for the first time in his long stay at the University. This was in part looked on as a replacement for the half-time position lost when Dr. Gutzler left the Department. The second event was the search for a replacement for Mulhern. The Department concentrated on trying to find a physical geographer with modeling skills in GI Science. As a result of the search, Kirk Gregory was hired with a starting date in August 1998. Dr. Gregory's expertise was in water resources and GIS. During the 1998-99 academic year, the Department advertised for the last of the promised positions, seeking another physical geographer with modeling skills. In August 1999, Seth Snell joined the Department, bringing an expertise in climatology and GI Science. This put the Department at 7 FTEs.

One of the goals for the Department was to increase grant productivity. In 1998 with some of the new faculty on board, Department members began to look seriously for grants. The idea was to couple environmental modeling within a GIS context so that water transfers and their economic consequences could be examined. Five members of the Department were included with the unidentified prospective hire being penciled into the grants. To round out the research team, a groundwater hydrologist and three economists were added. To the great joy of the Department, both a NSF and an EPA grant were funded that year at a combined total of \$1.1 million. Thus in 2000, things were looking-up for the Department, and it seemed on the verge of takeoff. Five members of the Department were working as a research team. Although the need for part-time faculty members had not completely disappeared, it had been substantially reduced. The university's hiring commitment to the Department had been honored. Although some issues remained such as an anemic budget and a part-time department administrator, department members once again seemed optimistic about the future.

There was additional reason for optimism. During the 1999-2000 academic year, Dean Fischer agreed to allow Geography to hire an additional faculty member if Stan Morain would go back to half-time. After much discussion, an agreement was made which would allow this additional hire. The new faculty member would have brought the Department to 7.5 FTEs. That hire was scheduled for the 2000-



Figure 4. The Faculty of the Department of Geography, 2000, (from left to right, Mathews, Willimas, Sneel, Scuderi, Gregory, and Cullen; missing Morian)

01 academic year, but it never took place. Dean Fischer left his position and his replacement, Acting Dean Fritz Allen, had different ideas for Geography.

Crisis Again - Rebuilding

Before the academic year began in 2000, the Department had volunteered to be in the first round of new graduate program reviews for the university. During the preceding spring and summer, the Department did a self-study (Department of Geography 2000) and in the fall brought in an outside review team. The review team was impressed with the progress that had been made and suggested the Department be allowed to bring the faculty up to 9 FTEs and then establish a Ph.D. program (Nellis et. al 2000). When the review process started, Michael Fischer was Dean, but the situation was very different when the review was completed. A new Provost had just been selected and an Acting Dean was in place in the College of Arts and Sciences. There was uncertainty whether the recommendations made by the review team would be followed. The Provost and Acting Dean concluded that resources were tight and nothing special was to be done for Geography.

This was the beginning of the second crisis. When it became evident there would not be any infusion of resources, Dr. Scuderi asked the Acting Dean to move his position to Earth and Planetary Sciences. The Acting Dean favored this idea and pressured Earth and Planetary Sciences to accept not only Dr. Scuderi but also

Dr. Snell and Dr. Gregory, who had not asked to be moved. The Department was not informed of any of these potential changes until Earth and Planetary Sciences had agreed to accept the three geography faculty members. Even then the Department was not officially informed of the plot. The Acting Dean intended to dismantle the Department without going through any of the required University procedural requirements for programmatic changes. Although actions by Dr. Matthews and Dr. Cullen prevented this from happening, the progress of the previous years was undone. By the summer of 2001, Dr. Scuderi had been moved to Earth and Planetary Sciences, Dr. Gregory resigned, and Dr. Snell went on leave never to return. The Department lost its computer equipment and almost lost its lab space. The Department faculty shrunk to 4 FTEs.

The Acting Dean was replaced the following year by Dean Reed Dasenbrock, but the damage had been done. The faculty lines that once existed in Geography had been wiped out by the Acting Dean. To replace them the Department was given double their normal part-time budget. This was sufficient to teach 20-25 courses each year, which exceeded the number of courses taught by the regular faculty. The Department was also given some funds to piece together a PC based computer lab. Thus began a rebuilding effort with severely diminished laboratory capability, but excellent part-time faculty.

New Mexico is blessed with many virtues and is a wonderful place for retired geographers. The Department survived by taking advantage of local retired talent



Figure 5. Department faculty and staff in 2006. (from left to right, Rick Watson, Jazmen Knight, Stanley Morain, Olen Paul Matthews, Elinore Barrett, Bradley Cullen; missing, Jerry Williams, Danielson Kisanga, Rodman Snead.)

such as Don McTaggart, John Campbell, Hal Jackson, Frank Pucci, and many others. This was not a new idea for the Department and had been a practice dating from the first shrinkage in the Department in the late 1980s and early 1990s. As a result of this infusion of talent, students did not see any major changes, and the Department continued to turn out the same number of graduate students and majors as before.

The graduate program has been particularly successful in weathering reductions in faculty members. Table 3 illustrates the number of M.A. students categorized by their last known employment who completed their degrees from 1991 to 2005. Many of the students during this period of time combined the use of environmental analysis and GI Science. Between 1991 and 2005, the Department produced 80 Master's students or 5.33 graduates per year. This is almost twice the rate of graduates as during the first 20 years of the graduate program. Table 4 shows a breakdown of the number of masters degrees granted in five year intervals for the entire history of the Department. Tables 2, 3, and 4 show some interesting trends in the evolution of geography at the University of New Mexico. With a concentration on GI Science and environmental analysis the value of a master's degree became more important as can be seen by the increasing number of graduates. There is also a shift in types of employment with the growth of GI Science in National Research Laboratories and in University Research Facilities. These two areas provided major sources of employment for graduates.

Table 3. M.A. and M.S. degrees and last known employment (1991- 2005)

Category	Number
Federal Agency	15
Consulting Firm	13
PhD Program	11
University Research Facility	9
National Research Lab (Sandia, Los Alamos)	9
College Faculty and Post Secondary Teaching	5
Local Government	5
State Agency	4
K – 12 Education	3
Other/Retired/Unknown	6

At the end of his second term in 2002, Paul Matthews stepped down as Chair and was replaced by Stan Morain. For three frustrating years, Dr. Morain tried to get Dean Dasenbrock to increase the number of faculty members in the Department. His efforts were to no avail. The one exception was the creation of a Research Associate Professor position within the Department, which is filled by Richard

Table 4. Number of Master's Students Produced in Five Year Intervals

Years	Number
2001 - 2005	26
1996 - 2000	31
1991 - 1995	23
1986 - 1990	19
1981 - 1985	14
1976 - 1980	8
1971 - 1975	16

Watson. Dr. Watson has expertise in archeology and remote sensing. This is a soft money position resulting from entrepreneurial efforts rather than the benevolence of the Dean. In 2005, Dean Dasenbrock became Acting Provost and the new Acting Dean, Vera Norwood, agreed to allow the Department to hire an lecturer starting in January 2006. This was the first positive news the Department had received since 2001. The crisis is not over, however. Stan Morain may be retiring from the Department in June 2006, but intends to remain as Director of EDAC. Paul Matthews will once again take over as Chair. The challenge ahead is to insure that upcoming retirements are filled with qualified new faculty.

The Future

Geography at the University of New Mexico has weathered two major crises since its formation in 1961. Malevolent neglect on the part of several Deans has been the principle cause. In spite of these setbacks, the program is healthy. Part-time faculty who are very qualified have helped. A new instructor, Danielson Kisanga, is being brought in to help with the GI Science curriculum and physical geography. Discussion is ongoing about the replacement of retiring faculty members. The rebuilding process has begun once more.

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