Units to be transformed/consolidated:
Department of Geography and Regional Development
Center for Applied Spatial Analysis

Existing academic undergraduate, graduate, and professional programs
Geography undergraduate major, B.A., B.S.
Regional Development undergraduate major, B.S.
Geography graduate major, M.A., Ph.D.
Geography graduate minor, Ph.D.
Graduate Certificate in Geographic Information Science (collaborative with SNR and SWES)

Proposed academic programs
Professional Masters in GISci (collaborative with School of Natural Resources)
Professional Masters in Development Practice (collaborative with BARA)
Professional Masters in Water Policy (collaborative with SNR, SWES, and WRRC)
This paper describes the creation of a School of Geography and Development (SGD) and the expansion of linkages between that new unit and the centers and schools that emerge from the current restructuring. These linkages are reinforced and facilitated by the recent move of the Planning Degree Program from the Department of Geography and Regional Development to the College of Architecture and Landscape Architecture. It is also greatly enabled by Geography's impending move to the new ENRII building and the shared facilities this will provide with the School of Natural Resources, and the Institute for Environment and Society (and later the Office of Arid Lands Studies and the Department of Atmospheric Sciences).

The Geography and Regional Development Program is a unit with 21 core faculty, 379 undergraduate majors and 78 graduate students. The program is interdisciplinary by nature, with 7 faculty holding joint appointments (% effort) in other units including The Center for Latin American Studies (SBS), Office of Arid Lands Studies (CALS), and the Udall Center for Studies in Public Policy (VPR), among others. In the last five years, the department has received or supported grants totaling $19,922,673 (GRD's total share of Co-PI awards: $3,219,764) from a wide range of sources, including: National Science Foundation, United States Department of Agriculture, National Parks Service, National Oceanic and Atmospheric Administration, Environmental Protection Agency, National Aeronautics and Space Administration, Arizona Department of Environmental Quality, Arizona Water Institute, United States Geological Survey, Bureau of Land Management, and others.

The program's teaching and research foci are environmental change and sustainability; climate, vegetation, and water, with special emphasis on the US Southwest; policies impacting the social-physical nexus; urban and regional systems, economic development, population growth, and transportation; social and environmental justice; cultural and political aspects of globalization; area studies and fieldwork; critical social theory; and geographic information science and technology (GISci). In this latter field, GRD has the most extensive curriculum on campus.

The Center for Applied Spatial Analysis (CASA) supports and develops research projects and encourages the wider use of GISci and related techniques in the social sciences through collaboration on grants, demonstration, training, teaching and internships.

Intellectual justification for the transformation

The GRD Program and the Center for Applied Spatial Analysis have successfully launched a range of curricula and research initiatives across the human and physical sciences in the past two decades. Notable among these have been the efforts to develop key spatial analytic tools from Geographic Information Science (encompassing Geographic Information Systems, spatial statistics, and remote sensing) and develop new theoretical and analytical languages for understanding space, scale, and the environment. These have been further integrated both across the breadth of cooperating units (e.g., the School of Natural Resources, the Office of Arid Lands Studies, and the Statistics GIDP). In addition, we have worked to extend the power of geospatial technologies and theory into a wide range of fields (environmental sciences, archaeology, public health), but especially in the critical areas of green development, sustainable development, and international development.

Appreciation for these technologies and theories has increased among faculty and students, with significant growth in instruction and research. New areas of engagement and application in solving spatial problems are found in sustainable development, public participation, urban development,
international development and the integration of advanced spatial analysis with social theory. These developments show not only the linkages of technology and theory to environmental and social problems (e.g. water use planning, protected area management, disease control), but also the increasing scope of these technologies in merging with broader questions of public outreach, ecological sustainability, and social justice. GRD is leading these conversations in new directions, just as we have already demonstrated our commitment to integrating diverse publics into the appropriate use of geospatial technologies. Our proposed School of Geography and Development would facilitate these activities by 1) providing a broader administrative platform, 2) expanding professional training opportunities in areas of sustainable and green-growth, and 3) uniting these with social and environmental justice emphases, in local, regional, and international contexts.

Changes to the existing undergraduate and graduate programs

The School of Geography and Development would consist of the following divisions and programs:

- Geography (GEOG - undergraduate and graduate major and minor: BA, BS, MA, PhD)
- Regional Development (RD - undergraduate major: BS)
- Center for Applied Spatial Analysis (CASA: an enterprise initiative)

The School would enable participating members to expand curricular linkages and joint programs with newly proposed units and maintain ongoing research linkages with existing units. The School would further encourage an increase in outreach activities and would articulate with several academic programs on campus, all of which focus on professional training for constituents in Arizona and internationally. These activities include:

- Professional Masters in GISci (collaborative with School of Natural Resources)
- Professional Masters in Development Practice (collaborative with BARA and CALS)
- Professional Masters in Water Policy (collaborative with SNR, SWES, and WRRC)

The Department of Geography and Regional Development and the School of Natural Resources already offer state-of-the-art training in Geographic Information Science through courses and hands-on application in a graduate certificate program in GISci. The increased program capacity formed in the creation of SGD will facilitate ongoing cooperation with SNR for the creation of a joint professional Masters degree in Geographic Information Science: a fee-based, online system supported by adjunct appointments and overseen by senior faculty in both the School of Natural Resources and SGD. Return revenue (beyond that to the University as a whole) to the two programs would be shared based on instructional and design effort. The potential for this unified professional Masters lies also in its intention to become the first-ever on-line educational GISci websource in Spanish language, with a large international audience and client-base. The prospects of this program are enhanced significantly by our culture of interdisciplinary curriculum sharing and cooperation; the success of this new curriculum is predicated on the program building and administrative experience from the highly successful Graduate Certificate in GIS, currently offered jointly by GRD, SNR, and SWES. Should this initiative prove successful, a similar effort, with our cooperating university institution in Nanjing, could produce a parallel program for China.

Working with the Bureau of Applied Research in Anthropology as well as with faculty and units in CALS and elsewhere on campus. SGD will also help support a professional Masters degree in Development Practice. This is envisioned as a two-year Masters that would bring an important
interdisciplinary approach to the complexities of sustainable international development. This proposed Masters is under development in cooperation with faculty in the College of Agricultural and Life Sciences, the College of Social and Behavioral Sciences, the College of Science, the College of Public Health, and the Eller College of Management. Initial support for its development is being sought through a Macarthur Foundation Grant. Creation of SGD will encourage program development through freeing of faculty time (by curriculum rationalization) for the development of key courses in this area.

A proposed professional Masters degree in Water Policy, involving SNR, SWES, and WRRC, among others, is already being developed across campus. The creation of the SGD, given current curricular cooperation with allied units, will position it to optimize teaching resources (faculty time) as well as advising support for program enrollees.

The formation of SGD would support a diverse agenda of cross-cutting, cross-campus pedagogy: We envision a significant increase in shared teaching with the proposed School of International Studies (SIS). We anticipate maintaining and expanding the unified curriculum in Geographic Information Science currently shared with School of Natural Resources. SGD faculty will continue to enhance existing affiliations with the science units that form the proposed (and yet to be named) school of environmental sciences. Emerging programs in geographic epidemiology with the School of Public Health would continue. Our affiliations with GIDPs (e.g., Global Change; Remote Sensing & Spatial Analysis) will remain a continuing priority. Also envisioned is a potential unified curriculum in environmental writing, in concert with English and Creative Writing, with eventual creation of a professional Masters degree in Nature Writing.

Finally, the School is conceived as a potential administrative location for yet unanticipated majors, departments, or divisions associated closely with the unit mission. As a School, SGD would provide administrative support and oversight for units mobilized through the current transition, with no increase in administrative costs, remaining under the directorship of a single administrator and staff (equal to current departmental commitments).
Advantages to The University of Arizona and strengthening of unit activities

The consolidation of ongoing activities in the fields of Geography and Development in the School will provide a critical career resource for students, especially in the area of professional development opportunities. GRD already has a successful internship program, which will be expanded (beyond its current land development emphasis) to include green development and community outreach activities. Further advantages to students will come from curricular and lab space efficiencies as well as shared staff made possible by co-location in the new Environment and Natural Resources II (ENRII) building (slated for construction). ENRII will cluster the School of Geography and Development, the School of Natural Resources and the Institute for Environment and Society (formerly ISPE). A shared business officer represents an opportunity to cut unit costs. By working now to make arrangements for teaching lab space in the new structure and by sharing arrangements between units, we can maximize introductory course sizes in GISci, freeing faculty resources for other activities in teaching and research. The current arrangement of GISci teaching, for example, precludes instruction of the keystone basic prerequisite GISci class (SNR/GEOG 417) more than once a year. This bottleneck increases time to graduation and limits enrollment in advanced courses. By reducing redundancy between current SNR and GRD courses in GISci, (GIS; remote sensing; and spatial analysis), we will optimize faculty time, add new courses, and develop revenue-generating opportunities. We see further opportunities for summer instruction.

Shared affiliations and commitments of some portion of current lines in other units (specifically in Latin American Studies and the proposed School of International and Area Studies) enable us to maintain a rich catalog of course offerings, synergistic research linkages, and study abroad revenue. By working even more closely with this proposed new school, we would constitute a more coherent curriculum to decrease course redundancies between Geography and LAS (among others) and conserve faculty teaching time to develop new courses, increase enrollments, and focus on grant development and other activities.

Given the current curricula, we believe similar gains can derive from affiliation of the School with the proposed Consortium in Critical Analysis and Social Change (a transformation proposal currently under review), which establishes a unified focus area in critical theory. That consortium, formed with faculty and curriculum in related fields in the social sciences and humanities would draw upon and consolidate graduate and undergraduate instruction shared with geography (including key course contributions like Geography & Gender and Exploring Radical Geography). Future hires in the focus area could be made jointly. Modest savings would be realized by sharing a number of existing functions and activities (e.g. lecture series) and so decreasing demands on operations and staff. More significantly, the reduced redundancy in course listings would enable larger/unified courses in shared areas and so free faculty time to both increase the service to students and maximize curricular diversity. For example, current instruction in qualitative methods occurs in at least four units in SBS. Unifying graduate instruction in this area would immediately result in released faculty time.

We anticipate coordination with the emerging yet-to-be named environmental school (where we will likely share faculty FTE) in the development of curricula for undergraduate studies. Our core physical science courses (e.g. Geog 430 - The Climate System) are appropriate prerequisites for curriculum in such an environmental undergraduate program and undergraduate majors in SGD may benefit from classes consolidated with that unit.
The School of Geography and Development also may assume a cooperating role in the teaching of large sections of upper division undergraduate and beginning graduate courses in statistics across the social sciences, particularly in partnership with sociology, political science, psychology, and anthropology, resulting in parallel savings of faculty time. An intensified shared curriculum in these courses to yield economies of scale, increasing the number of instructional seats with the same FTE faculty. SGD will also enhance and expand direct outreach opportunities to the Arizona and Tucson communities, specifically though online education, and professional educational opportunities (as described above). The University will benefit from the SGD through both curriculum enhancement and modest cost savings.

Increasing unit and university ranking or reputation

The Department of Geography and Regional Development is already an NRC ranked program, with significant opportunities to enter top-10 status (per comments from its most recent APR in 2007). The development of a School will significantly enhance the visibility and recruitment opportunities for the unit. CASA, an enterprise initiative already in service of the University and state communities will serve a broader clientele through incorporation in the School; increased community exposure and incorporation in outreach activities will generate increased demand for services, leading to increased revenue and enhanced University stature. Establishment of a School of Geography and Development will mark a significant step forward; we believe that such restructuring will enhance undergraduate student training, enrich faculty and student research opportunities, and support the University of Arizona’s reputation as a world-class academic institution.

Vetting the proposal

The initial development of this proposal took place over Fall 2008 semester, with multiple iterations vetted in three faculty meetings between September 15th and October 15th. That initial white paper was presented to the Provost’s office and SPBAC after unanimous voice vote approval in a faculty meeting of October 8th. The current final proposal was distributed to faculty and received a voice vote in a faculty meeting of January 14th 2008, followed by an online vote for those not-present, amongst Assistant, Associate, and Full professors in the Department of Geography, as well as the Director of CASA. The final vote was a unanimous 20 in favor out of 20.

Graduate student feedback was sought on the final draft from officers of SAGA (Southern Arizona Geographers’ Association), the affinity group of graduate students at the University of Arizona. Graduate students expressed the sense that status as a school would enhance visibility and value to the graduate degree.

Throughout the development of this proposal, meetings were held with units that currently share curriculum with GRD, as well as those who are working in the development of the key new curricula (described above), especially including the Bureau of Applied Research in Anthropology, the Center for Applied Spatial Analysis, and the School of Natural Resources. Their signatures append this document.

1 This effort will be effected in concert with departments of Mathematics and Statistics, who are together seeking unified statistics training in the environmental and bio-sciences.
Budget Page

This page should list the number of persons by category (staff members, appointed personnel, faculty, and administrators) in the existing units who will be impacted by the reorganization. Please indicate the positions that you expect will be eliminated or redefined during the reorganization. Information about the projected savings due to the reorganization should be provided.

We envision being able to pursue the initiatives described here, despite recent staff reductions in GRD, without significant new resources. Ultimately, we are seeking to position SGD with an expanded mandate to seize opportunities (including external support such as MacArthur as mentioned) as re-investment once again becomes possible.

Estimated annual saved costs from freed FTE through unified curricular activities:

$80,000

Total estimated annual saved costs $80,000

Potential annual revenue from professional GIS Masters

25 in-state students at conservative 6 credits/year ~$50,000

Potential annual revenue from professional Masters in Development Practice

12 in-state students at conservative 6 credits/year ~$25,000