Abstracts of Papers Presented
1999 APCG Meeting, Reno, Nevada

DOROTHY ALBRIGHT
Fire Response GIS Application
Geographic information system (GIS) support for the Incident Command System (ICS) has been evolving over the past several years. The U.S. Forest Service and Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE) are spearheading an effort to create a standard approach to the problem. The result is an application designed to streamline the process to map and produce products for fire suppression. The application is a customized version of ARCVIEW, an off-the-shelf product widely used in the fire management community. A product suite of maps and reports has been developed that provides critical decision support tools for both field and command staff. This effort also will provide a platform for modeling programs such as FARSITE that require GIS inputs. Many agencies are involved in this effort, developing standardized framework data, fuel inventories, deployment protocols, and ICS position descriptions. Long-term goals also include integration of real-time infrared fire perimeter mapping.

JAMES P. ALLEN, California State University, Northridge
Studying Ethnic Patterns in Local Areas
Geographers have much to offer local communities. Other academics and the public are eager to see maps of and learn about their locality. Because making maps is the one distinctive thing that geographers do, it makes sense for geography departments to produce an abundance of local area maps covering a range of topics relevant to people’s lives. The second task is to learn as much as possible so as to be able to explain the patterns on the map in nonacademic publications and in talks to local audiences. I provide examples of local area map-making, research, and teaching on ethnic populations, an especially hot topic in my locality, greater Los Angeles.

NATALYA V. ANTONOVA and DAVID O. WALLIN, Western Washington University
Mapping Potential Ferruginous Hawk Habitat Using Satellite Data
Land-use change in the western United States is one of the major factors affecting the structure and function of natural systems. In recent decades, the lands of northwestern Utah have undergone tremendous changes,
resulting from grazing, increased recreational use, and replacement of natural plant communities by exotic species. The land-use and biological changes greatly influence wildlife habitat distribution and abundance, eventually resulting in habitat alteration and loss. Vegetation structure and patterning are important factors in predicting wildlife habitat quality and distribution. This research attempts to map potential habitat for ferruginous hawk populations in northwestern Utah based on the spatial pattern of vegetation derived from satellite imagery. Using 1993 imagery, a vegetation cover classification of the 2,500 ha study area in northwestern Utah is developed. The classification results are then used to develop a model of ferruginous hawk habitat and determine habitat’s distribution and abundance. The methodology used in this research tests the utility of remotely sensed data in assessing vegetation structure and patterning. The results provide information for management of wildlife habitat in the study area.

MIKE APPLEGARTH, Arizona State University
Use of Debris Characteristics and Soil Development to Assess Stability on Bedrock Hillslopes, South Phoenix, Arizona
I used debris characteristics and soil catenas to assess the surface stability of some bedrock hillslopes in south Phoenix, Arizona. With growth occurring in many metropolitan areas of the desert Southwest, urban development is progressively expanding out of the central valleys and into the foothills of surrounding mountains. Problems associated with slope instability and overland flow may arise at those structures built near or on these hillslopes. Change in characteristics of debris mantles downslope aid in determining the presence of fluvial and colluvial processes along a slope. Soil catenas allow an interpretation of variations in soils and soil development along a slope. Data acquired indicate that the slopes assessed are stable in their present conditions and apparently adjusted to contemporary hillslope processes. Debris mantle characteristics show little change with slope position, and soils developed at lower slope positions exhibit signs of increased development including carbonate and clay accumulation. Furthermore, many grussified clasts found in the soil profiles indicate that in situ weathering is occurring. Results suggest that this field-based technique is one method available to evaluate surface stability on slopes.
DANIEL D. ARREOLA, Arizona State University

Iconography and Toponymy as Regional Diagnostics in the Border Cityscape

Icons and place names in Mexican border city landscapes are surveyed to assess regional origins and place identity projected by residents. Mexican state names as well as symbolic icons suggestive of Mexican regional identity are documented for selected Sonora-Arizona border towns. These imagery are compared to demographic data on state of origin for residents of the border towns to determine the impact of regional homelands on border city space. Because border city populations are fluid, these landscape signatures provide telling evidence of migrant identity and regional pride in a dynamic border cityscape.

KURT BAUMGARTEN, ANDREW BACH, and JON RIEDEL, Western Washington University


This research evaluates glacier mass-balance of glaciers in the Skagit River watershed, North Cascades, Washington during the period 1992–1999. Noisy glacier is one of 318 glaciers in the North Cascades National Park, which represent about one-third the total glacier inventory in the contiguous U.S. Several independent studies of western U.S. glaciers have indicated that they are diminishing in size at an alarming rate. This research evaluates whether or not an energy balance approach can be used to explain ablation on this glacier, as well as others in this region. Local influences on Noisy Glacier such as shading (aspect), snow redistribution by wind and avalanches, and regional patterns of precipitation, temperature, and solar radiation will be assessed for their impact on mass-balance. An array of 5 ablation stakes has been used to measure mass-balance across the 0.5 km² surface of the glacier. Additional snow accumulation depths were probed to increase the spatial resolution of data collection to evaluate shading and windblown snow deposition. Solar and net radiation data have been collected on Noisy glacier, as well as at two other sites in the park. Mass-balance changes over the period 1992–1999 are consistent with precipitation patterns observed in the Pacific Northwest as a component of the Pacific Decadal Oscillation, where precipitation totals fluctuate greatly from year to year. The net mass-balance change over this period has been \(-5.53\) m of
water equivalent. If the recession continues, there is potential for the total loss of the glaciers and their summer meltwater. If this were to occur, late summer stream flows will decrease and water management policies within the watershed will need to drastically change.

MARC BECKEL, Portland State University
Mapping Bus Stops for an Existing GIS: Issues in Enhancing Collection, Integration, and Management
The Tri-County Metropolitan Transportation District of Oregon (Tri-Met), in an effort to create “accurate” point data for its GIS, is using Differential GPS technology to update its bus stop database. The initial project is a result of the need to fulfill bus stop information requirements for three internal departments: Bus Dispatching, Facilities Maintenance, and Customer Service. The term “accuracy” refers to both the coordinates and attributes of the bus stops. This paper examines three issues related to enhancing GIS data: collection, integration, and management. During the collection process, more than 8,500 bus stops were surveyed using DGPS equipment (Sokkia 1000 GPS units). This process serves as a means of geocoding each bus stop’s coordinates to its unique location identification number. Tri-Met converted all the collected data into a complete GIS database and integrated the data into the existing GIS mainframe. Management of the system allows data sharing for different departments as needed. Enhancement of the bus stop database fulfills the needs of the primary departments. Bus Dispatching has a database of accurate coordinates of the bus stops to use in the on-board system. Facilities Maintenance and Customer Service has an accurate location and the necessary attribute data to serve their needs.

FRANCO BIONDI and JULIANNA E. FESSENDEN, UCSD-Scripps Institution of Oceanography
CO₂ Degassing and Lodgepole Pine Growth at Mammoth Mountain, California, USA
We conducted dendroclimatic and stable isotope analyses of lodgepole pines (Pinus contorta) located in high mortality sites at Mammoth Mountain (California, USA) to test for tree responses to magmatic degassing. Existing climatic and tree-ring data from nearby Yellowstone National Park were used for comparison. Sampled trees were scarcely sensitive to climate, and their growth showed an overall decline during the twentieth century. Past growth rates of currently dead and stressed pines plummeted after 1990, when degassing of magmatic CO₂ was first reported in the area. No consistent or strong correlation was found with monthly and seasonal
climatic parameters. Stable carbon isotopes were measured on holocellulose extracted from annual rings of a dead, a stressed, and a live pine. The $^{13}$C signature of the dead and dying pines showed enrichment in heavy carbon beginning in 1990, which could be related to stomatal closure following impairment of root systems by high CO$_2$ levels in the soil.

PAUL W. BLANK, Humboldt State University

The Big Map: Using Large-Scale Maps in Geographic Education

Defense Department maps that cover the entire land area of the Earth at scales of 1:1,000,000 or 1:500,000 (sixteen or eight miles to the inch) can be assembled into a large composite map that covers a floor area the size of a large gymnasium. When students are invited to kick off their shoes and crawl around on the world, they get a graphic sense of “facts on the ground” in a way that other instructional modes cannot provide.

SARAH A. BLUE, UCLA

Theoretical “Placement” of a Guatemalan Refugee Women’s Organization

The extreme violence experienced during Guatemala’s counter-insurgency war (1960s–1996) displaced almost a million Guatemalans, including 150,000 to 200,000 who fled the country to become refugees. In 1994, the year I did field research for my master’s thesis, there were approximately 47,000 refugees remaining in UN-assisted camps along the Guatemalan-Mexican border. The Guatemalan president elected in 1986, the first civilian to be elected after a long string of military dictators, encouraged the return of the Guatemalan refugees and agreed to negotiate conditions of the return with the refugee population itself. The prospect of a collective return to Guatemala initiated widespread debate and organization within the refugee population. In this population of largely indigenous Mayan peasants, women’s illiteracy, lack of Spanish language skills, and lower societal position effectively barred most women from actively participating in the decision-making process regarding the return to Guatemala. Women’s desire to be informed of and involved in planning for the return served as an impetus for the formation of a refugee women’s organization in 1990. The refugee women’s organization Mamá Maquín was remarkable in its widespread success in involving women in literacy programs, in educating women about the return process, and in its overt political goals of obtaining equal rights and representation for women both in the return process and in society in general. In this paper, I will evaluate and discuss the usefulness of recent geographical analyses focusing on place (e.g., Harvey 1989 and Agnew 1987) as well as sociological and political studies literature on social
movements (e.g., Routledge 1993; Scott 1985; and Tarrow 1998) in an analysis of the theoretical options available for an interpretation of the experience of the refugee women’s organization Mamá Maquín.

WILLIAM A. BOWEN, California State University, Northridge

The California Geographical Survey: Creating and Distributing Geographical Information on the Internet

The Internet provides geography departments with dramatic new opportunities for the creation and worldwide dissemination of materials useful for research and instruction. This poster will describe the current resources of the California Geographical Survey (http://geogdata.csun.edu/) based in the Department of Geography at California State University, Northridge. Particular emphasis will be placed upon materials that deal directly with the area served by the APCG. The Electronic Map Library (http://130.166.124.2/library.html) and its digital atlases of the United States, California, San Francisco, Sacramento, San Diego, Los Angeles, Seattle, and Oahu will be featured, as will the California-Nevada Road Atlas (http://130.166.124.2/ca_nv_rd1.html). Attention also will be paid to the Survey’s extensive archives of California and Nevada 30-meter digital elevation models (http://130.166.124.2/cart.html) and a newly developing archive of maps and instructional materials (http://130.166.124.2/edarchive.html) aimed at supplementing instruction in the public schools of California.

PATRICK HENRY BUCKLEY, Western Washington University

Involuntary Resettlement: The Dark Side of Development

Involuntary resettlement is a problematic outcome of large-scale waterworks development projects. Recently it has again entered the public consciousness with the debate over the Three Gorges Dam in China and the displacement of up to 2 million people. However, this is neither a new nor spatially limited problem. This paper seeks to put the issue into broader historical and spatial context. It notes that in China more than 10 million people have been displaced since 1949 by water projects, of which only a third have been favorably resettled. Around the Third World are multiple examples of similar problems. After providing a broad view of the problem, the paper synthesizes the main factors found in creating successful resettlement, and the lessons to be learned from the failures.
DAVID R. CLARK and ROBERT PHILLIPS, University of California, Davis

Deadly Legacy: Landmines and Unexploded Ordnance (UXOs) in Laos

Laos, one of the poorest countries in the world, still suffers from the deadly legacy of the war in Indochina, decades after the war ended. Landmines and unexploded ordnance still lie scattered across the landscape. They continue to injure and kill every month, and, increasingly, the victims are young children. The hazards are not uniform across the country but are concentrated in certain areas, especially in Savannakhet and Xieng Khouang Provinces. Antipersonnel “bombies” in lowland rice fields, large bombs dropped on the Ho Chi Minh Trail, and landmines hidden in village centers each present a different danger. This paper examines the geographic distribution and impacts of landmines and UXO in Laos. Based on field observations and interviews with mine clearance experts of the Mines Advisory Group and analysis of survey reports of the Lao National Unexploded Ordnance Programme (UXO LAO), the paper considers both broad socioeconomic and development impacts, as well as some of the more direct human impacts that affect everyday life in the villages.

CRAIG B. CLEMENTS, University of Utah

The Role of Slope Flows on the Evolution of Cold Air Pools in Basins

A recent panel on mountain meteorology has called for new observational and numerical modeling research on cold air pools and temperature inversions in basins and valleys. This research was considered a high priority because regions of high populations are found within valleys and basins where cold air pooling can cause persistent periods of air pollution that can reach hazardous levels. As population growth increases rapidly during the next several decades in many urban basins such as Mexico City, Salt Lake City, and Reno, there is increased interest in determining how air quality in those basins will evolve. Considerable fundamental work remains to understand how periods of poor air quality develop and how these periods might occur more frequently in the future. This paper examines the evolution of a cold pool from slope winds in a remote high-altitude basin in the Wasatch Mountains of northern Utah. This basin, known as the Peter Sinks, is the site of the Utah state minimum temperature of -56°C which is the second-coldest temperature recorded in the contiguous United States. Both theoretical and numerical investigations are being conducted prior to an intense observational field study that was scheduled to take
place 9–15 September 1999. Results from simplified mass budget calculations of the Peter Sinks have shown that the topography of this small basin is not trivial. There are two lobes of the basin, each a different depth. Preliminary conclusions show that, based on assumed flow characteristics, the volume flux from the south lobe to the north portion of the sink is approximately $11,773 \text{ m}^3 \text{s}^{-1}$. In addition, by using a simple topography and the mass continuity equation, a downslope flow of $1.0 \text{ m s}^{-1}$ would result in a vertical velocity ($w$) of $0.045 \text{ m s}^{-1}$ directed out of the basin top. Conclusions will be more defined when results from the numerical simulations and field data are combined.

JIM CRAINE, California State University, Northridge

Home Prices in LA
The median selling prices of homes in Los Angeles County have gone through a series of changes in the period from 1980 to 1999. Previous research in Collin County, Texas by Berry (1995) found that there were significant submarket differences in the rise and fall of nominal housing prices during economic cycles. During periods of upswing, homes in affluent sectors appreciate faster than homes in poorer, segregated neighborhoods. In periods of downswing, prices in wealthier sectors declined less and experienced a speedier turnaround. This is not the case in Los Angeles County. An examination of the relative rates of change in the price increase and decrease of the median home selling prices in Los Angeles County census tracts shows distinct spatial patterns that can be attributed to specific variables. Recognizing the place characteristics of those tracts that offer the greatest variance from the overall rate of housing price change found in the county as a whole provides much-needed insight into the locational choices undertaken by the population of those tracts. The study of these characteristics aids in the understanding of the dynamic processes of decentralization and redistribution that determine the spatial distribution of the population living in Los Angeles County.

STEPHEN F. CUNHA, Humboldt State University

Tajikistan’s Sarez Lake: A Central Asian Time Bomb
The Pamirs have a long history of catastrophic earthquakes, landslides, and epic floods. Large and often seismic-induced earthflows have created several elongated lakes that inundate Southeastern canyons. Drawing from field study, high-altitude imagery, and archival research, this paper describes these lakes and then analyzes the Sarez problem in detail. Sarez is the largest natural-sediment reservoir in Central Asia. Situated east of the Pamir crest in Badakshan, the lake formed when a 1911 tremor shook
loose 6 billion metric tons of debris, damming the Murgab River. The water level rose 240 meters in three years and inundated 60 km before filtration through a subterranean outlet reestablished the river. The lake level currently rises up to 20 cm annually. Failure of the Sarez landslide dam—a potential cataclysmic disaster—would alter the economy and sociopolitical environment of Tajikistan. The resulting flood would quickly reach the Amu Darya system, and then affect 3 million downstream inhabitants from Badakshan to the Aral Sea. Sarez Lake is only one of many significant geomorphic threats here where smaller sediment dams, mesoscale landslides, slumping, and bridge washouts are pervasive. The recent civil war, economic uncertainty, and the regional demographic caldron complicate field research and cooperative efforts in this politically sensitive multifrontier.

TIM DAGODAG, California State University, Northridge

Medical Indigency in Los Angeles County
In 1996, almost 1 million uninsured and poor people in Los Angeles County used indigent health-care services provided by the county. These people represent the largest concentration of the medically indigent in the State of California. Using data provided by the Medically Indigent Care Reporting System (MICRS) of the California Department of Health Services, the distribution of the medically indigent population was mapped according to age cohorts (by zip codes) in order to provide an initial basis for analysis. Preliminary findings show that: 1) major concentrations of the medically indigent reside within 5 to 10 miles of the Los Angeles central business district in communities such as south-central Los Angeles, Bell, Florence, Huntington Park, Watts, and Hawthorne; 2) other concentrations are found in outlying areas in communities such as Pacoima-Arleta, La Puente, and parts of Long Beach; 3) these major concentrations are notably minority in composition, with populations ranging from 53.6 to 98.6 percent Black and Hispanic; 4) the young Black and Hispanic population, less than 21 years of age, constitute the major recipient group. These findings have significant implications for public hospitals that bear a disproportionate share in serving the indigent and any remedial, spatially based policies.

JAMES J. DAMRON, U.S. Army Topographic Engineering Center

Techniques for Digital Elevation Model (DEM) Fusion Using ARC/INFO: Using IFSAR and LIDAR DEM Data
Data fusion has been used for many years with satellite imagery. LANDSAT imagery and SPOT panchromatic imagery were some of the first imagery-based data sets to be called fused data. One data set initially has to be of a
coarser resolution, such as 30-meter resolution LANDSAT imagery. The other data set used in the fusion technique is of a finer resolution, such as 10-meter SPOT panchromatic imagery. Both data sets are rectified and fused together to return a finer-resolution, 10-meter data set. The traditional cartographic- and photographic-derived DEMs require different data fusion techniques than imagery-based applications. The generation of DEMs collected from the emerging single-pass Interferometric Synthetic Aperture Radar (IFSAR), LIght Detection And Ranging (LIDAR) technologies are utilizing common IMU and GPS devices. The advantages of these positional devices are that they place the IFSAR- and LIDAR-derived DEMs in a common coordinate system and datum. Fusion of IFSAR (10-meter resolution), with LIDAR (1-meter resolution) are simplified because of these common collection methods. Using off-the-shelf software, such as ESRI’s ARC/INFO, the IFSAR and LIDAR DEMs can be fused together using a seven-step process.

TERESA L. DILLINGER, University of California, Davis

“We Live in Two Worlds...”: Experiences of Urban American Indians Seeking Health Care Services in Sacramento

American Indians residing in urban areas in California constitute one of the most medically underserved populations in the United States. Underfunding of urban Indian health care services, cultural isolation, transportation difficulties, and a lack of information regarding available health-care options combine to create formidable barriers to obtaining health care. But equally problematic, and too often ignored, are the clients’ personal experiences of urban Indian health clinics. In a survey conducted among the Sacramento urban Indian community, a variety of health-care experiences emerged—some positive, but many others problematic. This paper seeks to amplify the voices of Indian clients seeking health care and Indian health clinic staff (many of whom are themselves urban Indian community members). Narratives are used to illustrate concerns faced by Sacramento urban Indians in their search for culturally appropriate and personally acceptable health care.

DENNIS J. DINGEMANS, University of California, Davis

Davis as a Model Community: Results of Thirty Years of Growth Controls

Beginning in the early 1970s, Davis, California, became known as a progressive place and its policies cited as regional, national, and international prototypes. Its reputation is due primarily to land-use controls that limit the size, shape, and form of this freestanding community of about 65,000 residents in the exurbs of the Sacramento area. This paper explores
the motivations, the means, and the results of public policy. The core concerns have been to limit the resident population and the areal extent of urbanization. Today, the compact, built-up area extends nowhere beyond the several leapfrog subdivisions of the 1960s that raised initial concerns about sprawling absorption of agricultural lands. Population has merely doubled since a landmark General Plan of 1974 reversed the previous era’s desire for maximum growth. A second major goal has shaped commercial patterns to retain a strong downtown and nucleate other retailing in a grid of limited-size, neighborhood-oriented shopping centers. Commercial strip/ribbon areas survive mainly as relicts. No regional shopping centers or “edge city” commercial clusters have been permitted, despite the potential that comes with being astride a major (120,000 vehicles per day) interurban freeway connecting the 2 million of the Greater Sacramento Area with the 6 million of the Greater Bay Area. Other areas of concern resulted in unusually well-planned features throughout Davis that serve the goals of efficiency, equity, and environment. A network of bike paths and a requirement for passive-solar energy siting were among the achievements of the emphasis on energy conservation during the 1970s. The town has many meandering residential-area greenbelts and a well-funded network of recreational parks and open spaces that are closely linked to schoolyard sites. Close attention to patterns of social geography has caused expensive housing to be distributed throughout all quadrants of the city and has dispersed the high-density and the low-cost housing. A centerpiece of Davis’s progressive reputation since 1975 is Village Homes, the brainchild of an enlightened developer (and later the mayor of Davis) who used 70 acres of infill to build a successful subdivision of 200 homes and apartments that has received international attention for its required community participation and for its integration of housing with mini-scale agriculture and open spaces on the Radburn plan. Being a university-centered community located within commuting distance of the center of state government contributed much to the pool of talented and activist citizens that shaped Davis through contested local politics, ambitious city councils, skilled city staff, a beleaguered but flexible local building community, frequent referenda and protests, and prolific citizen participation.

LES DOAK, Cypress College
GIS Access—A Progress Report—Findings and Discoveries along the Way
GIS Access is a 2-year (1999–2000) nationwide National Science Foundation Advanced Technology project created, written, and implemented by the Department of Geography, Cypress College, Cypress, California. New
pedagogy, combined with Geographic Information Systems, presents the possibility for adopting GIS into nearly all disciplines, and with almost no limit on the scope of student projects. One year of Summer Institutes has taken place (in Minnesota, New York, Texas, Sacramento, Los Angeles, and Cypress), with new findings and learning assessments, as well as modules developed by participants for their own classrooms across the United States. Opportunities for involvement during the summer of 2000, plus findings and discoveries will be presented.

PATRICK GAVIN DUFFY, University of California, Berkeley
Agriculture, Aquaculture, Landscape and Culture along the Faultline: the Emerging System of West Marin County, California
A more pastoral and pleasant landscape hardly exists along the California coast than that which lies along the San Andreas Fault in West Marin County. Much of this land is under the stewardship of the Golden Gate National Recreation Area and the Point Reyes National Seashore; a fair portion of that which remains in private hands is protected by conservation easements secured by the Marin Agricultural Land Trust. This peaceful scene was not always so secure; in the 1960s proposals existed for the construction of a freeway along this stretch of Hwy. 1, which would have opened the area to massive development. The citizens of Marin County mustered the political will to stop these plans, though there is still considerable pressure on the area as land values have soared beyond the ability of local ranchers to make a profit. Many of the older houses of Inverness and Pt. Reyes Station have been converted to Bed and Breakfast Inns, leading some to refer to the area as the “Hamptons of the West.” West Marin is still an area of contestation at the edge of the continent. A sometimes uncomfortable entente exists between the various factions that have overlapping interests in the area. There are signs of progress, and an integrated agricultural system appears to be developing. Organic farms supply produce to area restaurants, distributors, and residents through new outlets; organic dairies supply the milk of sheep, goats, and cows to local artisan cheesemakers or produce specialty cheese themselves. The small population allows for lively discussion of issues. If West Marin is to continue to preserve its rural yet cultured character, the cooperation and involvement of all parties is essential, from the federal government through state and local agencies to the farmers, ranchers, and other local residents.
CHRISTOPHER H. EXLINE, University of Nevada, Reno
The Mining Law of 1872: Land Use and the Legacy
The Mining Law of 1872 was created in an attempt to spur on the search for minerals on public lands in the western United States. The legal aspects of mining for minerals such as gold, silver, lead, copper, zinc, and cobalt found on lands in the public domain was made relatively simple and amazingly inexpensive under this legislation. One simply had to make improvements of a certain dollar amount and demonstrate the value of the discovery, and a patent could be obtained. Originally, a placer claim could be purchased for $2.50 an acre and a load claim for $5.00 an acre. To say that this law has been controversial would be an understatement of epic proportion. There are concerns to this day that, even with the many revisions of law and process over the years, the elements of the original law may have been used for purposes that are far from legitimate. This paper examines this contention with a focus on BLM lands in Nevada and the use of the Mining Law of 1872 as a tool for land speculation.

JED FEHRENBACK, Cypress College
Hydrographic Analysis of the Santa Ana River in California’s South Coast Basin using GIS
The purpose of my project will be to determine the most dangerous regions of the Santa Ana River watershed as far as flooding risks and dangers using desktop GIS. I will display a 3D model of the watershed using ArcView’s 3D Analyst, and drape the digitized river on top of it, providing a way to raise the water level. This will be done for a visual image of the rise of the water level. Next, points will be placed on the images of nearby important landmarks, such as schools, government buildings, hospitals, and large roadways. My aim is to answer a few key questions, such as: 1. How dangerous is the Santa Ana River as far as flooding? 2. If the river were to rise 10 feet, what areas would be the first to be affected or damaged by the flood waters? What about 20 feet? 50 feet? The answer requires digitizing the river using Arc/INFO and importing the data into ArcView. Also, a digital elevation model (DEM) of the Santa Ana River watershed and geospatial data of the other layers (themes) are used in the project. Finally, I will convert the DEM image into a TIN—triangulated irregular network—viewable in ArcView’s 3D Analyst. Using this TIN, I would like to analyze the drainage patterns by creating slope and aspect, discharge, direction of
flow, and as many other themes as possible to determine flood patterns and changes, and to produce a more informative project. I plan to have a 3D analyst presentation ready.

ROSS M. FENTON, Western Washington University
Three Gorges Resettlement
The Three Gorges Dam, projected to be completed in 2009, will be known when completed as the Eighth Wonder of the World. Located in China, the reservoir created by the dam will extend approximately 307 miles, undoubtedly producing both negative and positive impacts. Critics of the project, specifically nongovernmental organizations (NGOs), identify negative environmental, ecological, economic, and specifically human-rights consequences regarding forced migration from areas affected by the dam. With approximately 2 million people to be involuntarily resettled away from the Yangtze Basin, fierce domestic and international controversy has occurred. Where will they be resettled? Will traditional livelihoods be affected? These are questions that constitute the key focus of this paper. Whether future resettlement will be successful in the Yangtze Basin remains to be seen; only time will reveal the results. The full text of this paper will describe the social effects on relocatees being displaced from the areas inundated by the Three Gorges Project (TGP) and the environmental impacts that will occur due to resettlement and reservoir flooding. The author discusses his recent study abroad in China’s Yangtze River Basin in order to understand the personal perspectives of the local inhabitants.

LARRY R. FORD, San Diego State University
Alleys: Testing the Tenets of New Urbanism
Over the past decade or so, a debate has arisen over the issue of New Urbanist planning ideals, or the return to old-fashioned urban design concepts featuring such things as a grid pattern of small streets, romantic house types with front porches and white picket fences, traditional “main street” commercial areas, corner stores, and alleys. While some argue that something is very wrong with our suburban developments and that New Urbanist planning procedures will help to create better, more coherent neighborhoods, others argue that New Urbanism is just another way to segment the market, promising a nostalgic utopia that cannot exist in modern society. My goal in this paper is to begin an exploration of how residents in older communities with some of the features touted by New Urbanists feel about those features. In this way I hope to add some insight into how particular landscape elements such as alleys work, rather than joining the general debate over whether traditional neighborhoods can or
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should be recreated. I surveyed four very different types of neighborhoods and asked people a variety of questions about their use of and feelings about alleys. In this paper, I discuss the findings.

BARBARA FREDRICH, KARYL FULLER, SIRENA MCCART, and ALAN RICE OSBORN, San Diego State University

Analyzing Slide Tests on Vegetation Formations: Students and Instructors, Mistakes and Delusions

Do slides of natural vegetation communicate what we believe they communicate? Do students see the same formations the instructor does? In a pilot study conducted in May 1996, twenty-seven students in an upper-division “geography of natural vegetation” class were asked to identify several major vegetation types as depicted on slides. These results were scale-evaluated, analyzed, and summarized. We compared these preliminary results with an identical slide test given both at the beginning and at the end of the semester to a 1997 vegetation class (N= 35). We will show all of the slides employed in this study. We will select examples and discuss the probable reasons for student misidentification of vegetation types. We also will present examples where students apparently had little difficulty in characterizing vegetation. Student performance improved during the course of the semester. Differences in results by gender could not be detected. However, our results suggest that slides presumed to depict major vegetation types may, in fact, suggest other features to students. There is a contextual aspect to the interpretation of vegetation slides. What is manifest to the instructor is too easily misconstrued by students who do not have direct experience of the landscape depicted. Thus, single-species slides, while attractive, may not be useful; slides lacking a common element to depict height may not contribute to the learning process.

DOROTHY E. FREIDEL, Sonoma State University

Paleoenvironmental Variation in the Maya Preclassic of Highland Guatemala

Stratigraphic and sedimentological evidence of variations in surface hydrology in the Laguna Quilimaste in Antigua Valley, Highland Guatemala, suggest changes in climate and/or land use during the Early and Middle Preclassic, beginning around 1300 B.C. Field data from sediments augured in the now-drained lakebed suggest a climate moister than present during the Early Preclassic, then increasing dryness, culminating in a drought sometime after 710 A.D. Sedimentation in the lake was enhanced by several volcanic eruptions from nearby Volcan Fuego that deposited four layers of black cinder, interbedded with diatomite.
Although sedimentation rates were not high even with the volcanic deposits, infilling of the lake also may have been augmented by initiation of land clearance and cultivation in the watershed around 1300 B.C. My ongoing research investigates questions regarding human versus natural influences on paleoenvironmental conditions in the Antigua Valley 3,300 to 1,300 years ago.

STEPHEN FRENKEL, Humboldt State University

Home, Virtual Home: Recreating the Panama Canal Zone in Cyberspace

Over the past century, millions of people have been displaced from places they call home. These lost landscapes resonate strongly in the imagination of displaced communities, and their memories become a powerful source of identity, particularly when “home” is no longer accessible. An interesting example of this phenomenon in the 1990s is the case of former American residents of the Panama Canal Zone (“Zonians”). Forced to leave their protected suburban enclave as control (and jobs) reverted to Panama, many are now dispersed throughout the United States. In the absence of physical community, some Zonians have created a “virtual” homeland in cyberspace, including a listserv called “Zonelink” and a Web site called “Lost Paradise.” Through its virtual recreation, they have been able to deal with their loss of a “homeland,” and to negotiate a new, and indeed postmodern, identity. In this talk I look at this cyber discourse surrounding questions of home and identity. I pay special attention to discussions of what it means to be Zonian, Panamanian, and/or American, and explorations of such sensitive topics as what to think about the U.S.-Panama treaties, and how to reconcile American prejudices against Panamanians. The Internet has offered a unique vehicle for building an identity within a widely scattered community.

ROXANNE FRIDIRICI and M. L. SHELTON, California State University, Sacramento

The Elusive 1998 Flood in California’s Central Valley

The Central Valley historically has been flood-prone, but the construction of extensive flood-control facilities and the development of flood-management strategies have attempted to minimize damage. Simultaneously, land-use changes and regional population increases have placed more people and property at risk. In 1986 and 1997, powerful subtropical storms delivered heavy rainfall to watersheds draining into the Central Valley, resulting in widespread and destructive flooding. In 1998, there was acute concern that El Niño-related precipitation patterns would create floods as extensive and expensive as those in earlier years.
Heavy rains in 1998 drenched much of northern and central California, causing flooding along many rivers, but as flood damage and mudslides occurred throughout the state, the Central Valley remained virtually free of major flooding. Precipitation, snowpack, and stream discharge, in conjunction with water management and land-use decisions, are examined as they relate to the destructive 1986 and 1997 floods, and the absence of Central Valley flooding in 1998. Flooding resulted from heavy precipitation in 1986 and 1997, but the timing and spatial characteristics of precipitation and the performance of flood control facilities exacerbated the flood conditions. Despite early concerns, the 1998 El Niño-related precipitation produced little flooding in the Central Valley.

JOEL GEFFEN, University of California, Santa Barbara

Who We Were...Who We Are: Reading Cultural Change in the Landscapes of the Yakama Nation Reservation

Landscapes all have a tale to tell. Historical geographers, geomorphologists, archaeologists, plant ecologists, and many others have long engaged in the description and interpretation of places. Among the fascinating landscapes that one might study are those encountered on Indian reservations. Traditional Native American beliefs and values coexist with the beliefs and values inherent in mainstream American culture. Within a given tribal population, the two systems are sometimes in direct opposition to one another. At other times, traditional ways yield to those common to American society as a whole. This paper focuses upon landscapes of the Yakama Nation reservation in Washington State. Through an examination of common living environments such as homes and longhouses, along with current land-use activities such as intensive agriculture and forestry, an effort is made to interpret the particular appearance of these features in a manner that reveals the complexity of beliefs and values underlying contemporary lifeways. Such an examination is important not only for furthering understandings of physical and cultural landscapes, but also for the key role it can play by assisting in the comprehension of culture conflict and assimilation issues in a Native American community.

PAUL GROTH, University of California, Berkeley

Guidebooks and Surveys as Community Service

Two very traditional geographical skills—providing written guides to local places, and conducting architectural resource surveys—are often overlooked as genuine services that geography departments can offer to residents of ordinary sections of nearby communities. A self-guided student tour of the city, using a photocopied class guidebook and following a single
city bus line, has proven an effective way to interest students in the American center city in general, and in Oakland, California, in particular. Student research about the city, and volunteering for urban service, have increased substantially among students who have taken a half-day cross-sectional tour of the city. Similarly, a Caltrans-funded survey of workers’ cottages in the West Oakland neighborhood has had surprising uses for community activism and preservation. In addition to “how-to” and “what-not-to-do” hints, these two case studies explore a cultural landscape approach to the city, Grady Clay’s cross-sectional study techniques, and social-class analysis of houses whose exteriors seem to be very much alike but whose interior floor plans reveal sharp cultural divides.

JOHN HEPPEN, Stephen F. Austin State University

The Geopolitical Basis and Electoral Implications of the Admission of Alaska and Hawai‘i

This paper examines the geopolitical basis and electoral implication of the admission of Alaska and Hawai‘i as states. My research into this question grew from a frustration over the lack of geographic research in historical and political geography regarding the admission of Alaska and Hawai‘i for my historical and political geography courses. While security and defense specialists have studied the geopolitical position of Alaska and Hawai‘i, geographers have not fully placed them within the larger framework of the historical and political geography of North America. The admission of Alaska and Hawai‘i into statehood during the height of the Cold War can be understood as forward territorial expansions into the contested frontiers of the North and South Pacific. The extension of American political and military power into the Pacific was a sign of America’s commitment to being a naval and air power in the Pacific. But electoral geography has ignored Alaska and Hawai‘i in national contests. The geopolitical importance of these two states makes paramount an analysis of their electoral geography in relation to the continental U.S., despite the low number of electoral votes. An analysis of the electoral histories of Alaska and Hawai‘i reveal that distance, the states’ few electoral votes, and predictability can be offered as reasons for this lack of study—even with their geopolitical importance to the rest of the country.

JAMES HERINK, San Diego State University

Medical Tourism

Tourism has evolved over time from simple vacations to “adventure” and “cultural” tours. Tourists are not necessarily looking to escape reality, but to learn, educate, and discover the world around them. One aspect of this
change has been the advent of medical tourism. Travelers want to experience traditional healing techniques, learn about medical herbs or even seek out alternative medical treatment. I have examined the various tour companies offering experiences in medical tourism. I have examined what they offer, where travelers are going and what they are doing on their vacations. I have also looked at the trend of growth of these types of tours. I have done this through the surveying and examination of both the tour companies and the travelers participating in the experience. Alternative medical practices have grown significantly over the past decade as a result of higher medical costs, an aging populace, and frustration among the established medical community’s lack of results with certain ailments such as AIDS. All these factors have helped to fuel a growing market for travel oriented toward traditional medicine, alternative therapies, and shamanistic experiences.

DOUG WARREN JOHNSON, San Francisco State University

Beavers as Partners in California Stream Restoration
In their study of how animals affect landforms, zoogeomorphologists single out the dam-building activities of the North American beaver (*Castor canadensis*) as a particularly noteworthy example of their subject. Ponds formed by beaver dams greatly alter stream hydraulics, local geochemistry, and ecosystem patch dynamics. The ontogeny of sediment-filled beaver ponds becoming meadows has been a major morphological factor in the evolution of the continent’s waterways. Conversely, the removal of beavers has had critical effects on watersheds. In western states, land management agencies have attempted to use beavers as partners in restoring degraded riparian areas. In California, restorationists favoring the introduction of beavers in disturbed Sierra watersheds disagree with state agencies about the historic distribution of beavers, a crucial factor since the agencies restrict nonnative species. Key questions, then, are (1) how might the introduction of beavers affect these watersheds geomorphologically? (2) ... ecologically? (3) if the effects are foreseen to be positive, how important is it that beavers be proven indigenous? and (4) what is the evidence that the historic range of beavers included or did not include this region? Interviews with public and private experts provide preliminary answers to these questions, leading to further research directions.

SHARON G. JOHNSON, University of California, Berkeley

Map Page Data in GIS Analysis for Predicting Rural Land Use Change
The literature on rural land-use change identifies characteristics of landowners most likely to sell their land for development, contributing to
the shift away from agricultural uses towards suburban uses in many areas. County assessors’ records include information on many of these variables and can be used readily to investigate the likelihood of regional change. In this study, assessors’ records provided information on major land owners, out-of-area owners, duration of ownership, parcel subdivision, and degree of business or corporate ownership. These data are available for each parcel and were grouped by assessor’s map page and imported into a GIS data base. As part of a larger study assessing change in two rapidly developing Sierra foothill counties, El Dorado and Amador, this technique proved useful in evaluating the potential for change in these areas. Although dominated by livestock grazing today, analysis revealed that the nature of underlying land ownership positions broad areas of the undeveloped foothills for future land use change.

DAVID KAPLAN, University of Toledo
My Search for William Bunge
William Bunge showed the power of human nature over human effort to manipulate fragments of a failed academic career to describe the absurdities, ironies, and unpredictabilities of everyday survival in uncertain times and places exhibited in his fall from the Discipline of Geography. This has led to the geographic lore of rumor and controversial remarks for which he is famous and notorious. His career has paralleled the major paradigm shifts in the geography discipline over the past 50 years. R. J. Johnston’s Four Approaches (empiricist, positivist, humanist, structuralist) provide a current model against which to examine the highlights of Bunge’s colorful career. I gained insight from face-to-face interviews with Dr. Bunge and major geographers with whom he associated (and who both vilified and valorized his career) during his remarkable journey. My search for William Bunge emphasized how his life reflects the trials and tribulations of the Discipline of Geography, which we all must reflect as we approach the new millennium.

JOHN L. KEANE, Arizona State University
The Towns that Coal Built: Post Mining Evolution of Landscapes and Communities in Southern Colorado
Geographers have long taken interest in communities created for intensive exploitation of natural resources. More recently, geographers have looked at these “landscapes of production” after the resource is exhausted. Do these communities maintain themselves afterward? How? The literature has identified three alternative fates for mining towns in the United States that exhausted their primary resource during the late 1800s and early 1900s:
prompt abandonment; slow, stubborn decline; or post-industrial survival by repackaging and marketing their old landscapes. Lacking is a comprehensive view of the specific factors that might promote the long-term sustainability of these resource-extraction communities. This paper examines a former coal-mining region in southern Colorado to see how its post-mining landscape fits into the patterns previously identified in the geographic literature. Historical census data, regional and corporate histories, historical photographs, and site visits were used to reconstruct the evolving mining community landscapes. Several very different kinds of factors appear to be likely predictors of community sustainability. The relative geographic dispersal or concentration of the resource exploited, as well as the location of subsequent resource processing and use, appear to be profoundly important. Multiple versus single controlling companies and capital sources may be another key variable. Finally, a community may be more likely to outlive its mines if the community’s built environment or cultural landscape provides inhabitants more and different meaning than that provided by the oppressively hegemonic landscapes of the most rigorously controlled “company towns.”

JAMES R. KEESE, Cal Poly State University
Watershed Management, Conservation, and Enhancement Initiatives for the Morro Bay National Estuary
Watershed management is a dominant theme among current policy and natural resource management concerns. As distinct geographic regions with complex human and environmental interactions, geographers have much to contribute to the study of watershed function and change. This paper focuses on the Morro Bay National Estuary and the locally led initiative to manage the resources of the bay and watershed. The paper addresses the beneficial and competing uses of the area’s resources, the priority problems affecting the bay, existing watershed enhancement projects, and an analysis of the effort to write and implement a comprehensive conservation management plan.

DAVID. KEHRLEIN, Governor’s Office of Emergency Services
Integration of IFSAR Technology into Flood Management Using High Resolution GPS Verification and Adjustment
New technologies are making massive amounts of high resolution data such as Interferometric Synthetic Aperture Radar (IFSAR) available to GIS practitioners, but the accuracy of the data is often undocumented. High-accuracy GPS can be used to field-check these data. A large number of points need to be collected to adequately analyze a raster data set.
Techniques used for this purpose fit into a new category of GPS activity, somewhere between survey-grade and traditional GIS level methods. Other devices, such as laser rangefinders added to the GPS units, can extend their range and increase the data collection opportunities. The combination of the new data sets and GPS collection techniques bring the possibility of precise and real-time flood modeling into reality.

CHRISTINA KEMP, Cosumnes River College
Deforestation and the Loss of Biodiversity in Madagascar
Madagascar is an island located off the coast of southeastern Africa, having separated from the mainland 165 million years ago. The island is ecologically diverse, providing a rainforest habitat for species of plants and animals found nowhere else in the world. Deforestation of the country’s rainforest is causing many environmental problems, including the loss of biodiversity and soil erosion. This poster will explain why and where deforestation is occurring within Madagascar, its cumulative impact upon the country’s natural and human environment, and efforts being taken to preserve the remaining rainforest.

ROBERT M. KERR, University of Oregon
Micro-Diplomacy, Micro-Networking, and Micro-Governance: The New Political Geography of Western Europe
Since the fall of the Soviet Union and the end of the Cold War, the world political map has been rapidly changing. Not only have new countries emerged and political boundaries changed, the idea of the nation-state as the ideal form of governance is being challenged. One area of the world in particular, Western Europe, is in the midst of profound political geographic change. Western Europe serves as a fascinating laboratory in which to observe an emerging system of government that transcends the constraints of the nation-state model. Political scientists have identified a process of micro-diplomacy in which non-state actors such as regional and local governments or businesses form partnerships with non-state actors from other countries. This process results in the formation of exchange programs or tax-free entrepreneur zones. This paper takes this concept a step further by illustrating how the European Union allows for elements of micro-diplomacy, and also shows how geography can help us to understand two other related processes, micro-networking and micro-governance. The ability of non-state actors to network with one another through offices in Brussels, to form diplomatic links through various European Union institutions, and to create legislation in the European Parliament all represent a new and dynamic political map in Europe. The European Union
PETER KILLORAN, University of Oregon
Circulation Controls of Warm Season Precipitation for the Asian Continent: Implications for Paleoclimatic Reconstructions
Analysis of a precipitation climatology for the Asian continent shows a variety of seasonal precipitation regimes due to large-scale circulation controls and the mediation of smaller-scale controls (e.g., coastlines, topographic barriers, etc.). Intermonthly changes in precipitation for the warm season and summer precipitation maxima for 1,077 stations show the Asian monsoon’s northward progression from Southeast Asia to Siberia from April to August. Although this pattern is readily apparent at continental-scales, regional responses are rarely homogenous. Analysis of 500 mb heights and sea-level pressure patterns illustrate how circulation controls influence this spatial variability, particularly with influence from the monsoon low and East Asian trough. Precipitation responses and associated circulation patterns during monsoon extremes demonstrate the possibility of widespread monsoonal influence, but such responses are generally regional in scale. Temperature responses during selected extremes reveal spatial patterns of different anomaly signs, perhaps related to variations in the 500 mb longwave pattern and connections to sea-surface temperature variations in the North Pacific, Arabian Sea, and Sea of Okhotsk. Results provide important information for assessing the spatial and temporal variability of the Asian Monsoon and illustrate the danger of extrapolating regional paleoclimatic information from a limited number of sites.

GUY KING, California State University, Chico
Selection of the Truckee versus Carson River Routes by California Trail Emigrants, 1849–1859
During the mid-nineteenth century, the vast majority of the almost 200,000 overland emigrants bound for California crossed western Nevada and the Sierra Nevada by the Truckee or Carson River Routes. Most California Trail historians have assumed that the Carson River Route was preferred by most emigrants after it was opened in 1848. However, analysis of emigrant diaries/reminiscences suggests that over a third of the emigrants between 1849 and 1859 still used all or portions of the Truckee River Route to reach California. Emigrant reasons for route selection included: 1) conversations with fellow emigrants, 2) use of written trail guides or other documents, and 3) trail conditions where the routes split in the Forty-Mile Desert of
Nevada. The available evidence indicates that the Truckee River Route was a very important avenue to California during the entire overland trail period.

R. ALAN LLOYD, Western Washington University

A Comparative Analysis of State Brownfield Redevelopment Programs

The topic of my research is the comparison of state government brownfield redevelopment programs on the basis of their capability to successfully remediate and redevelop contaminated sites. My research question is framed around which states have the most developed programs and what regulatory and political variables seem to be of most importance to these programs. The significance of this project is starting a discussion of the federal initiative (itself having received little academic attention) at the state level, emphasizing the regulation and politics behind its implementation. My methods are to use several previous state environmental comparison models and to develop a relevant list of criteria on which to base the strengths and weaknesses of individual programs. My findings are still uncertain but are expected to show a wide range of program capabilities across a large political, physical, and human geographical spectrum. My conclusions will be based on the criteria determined to be the most relevant and the states that show the strongest and weakest programs.

CHRIS LUKINBEAL and LARRY FORD, San Diego State University

Mapping Urban Cinematic Space

With this presentation we will explore the difficulties of mapping urban cinematic space in San Diego. Rather than using “mapping” as a spatial metaphor, we propose that cinematic space is an active social process that can be traced using traditional cartographic techniques. Our research centers on the use of “on location” filming sites. These sites are where different television shows and motion pictures have filmed in San Diego. With the aid of the San Diego Film Commission, we have created a point pattern database in ArcView that accounts for more than 1,400 “on location” filming occurrences in San Diego for the years 1985–1997. Using this database, we have identified the most densely filmed regions within San Diego. A typology of these regional “backlots” of urban cinematic space are explored in this presentation. We show how urban cinematic space functions in both the “real” spaces of everyday life and the “imagined” spaces of fictional representation.
KENNETH MADSEN, Arizona State University
Perceptions of a Linear Space: The Border Fence in Ambos Nogales
While international borders are primarily the domain of nation-states, they are situated locally. The local context is politically subordinate to national desires with regards to border policy, but it does exert an impact on both policy and linear border landscapes. This paper presents the results of ethnographic interviews in Nogales, Arizona and Nogales, Sonora as part of a broader investigation of fences along the U.S.-Mexico border. The primary study question is “How do local individuals feel about recent border fence construction?” The answer is important because in order for any national or international border project to be successful, it must succeed in the locality in which it is set. As a situation in which so much is at stake—sovereignty and control for federal governments and interaction with neighbors and a nice place to live for local residents—lessons learned from listening to local perspectives can be applied to the solution of other border problems as well. Preliminary results indicate that class distinctions are the factor most likely to account for an individual’s overall attitude toward the blocking function of border fences. Surprisingly, lower socioeconomic classes on both sides of the border are most likely to accept U.S.-constructed fences as a natural given, while higher socioeconomic classes are more likely to be offended by and antagonistic toward such structures.

BARBARA YABLOMAIDA, California State University, Northridge
Temporal and Spatial Documentation of Epidemic Disease: The Strengths of Writing as a Geographer
Medical geography, initially focused on the spatial identification of infectious diseases, now embraces such concerns as public health, poverty, and malnutrition. This systematic study of human geography, within the spectrum of the social sciences and most especially history, provides the spatial distribution for epidemic disease, something usually viewed from within a temporal context. The cognate fields of medical geography, e.g. microbiology, epidemiology, and biostatistics, provide the quantitative data. Traditionally, geographic perspectives on disease took the form of map making and not much more; research trends in chronic and infectious disease were left to physicians and epidemiologists. Even with the emphasis on statistical mapping, there is room for the story. How history and geography have been used to determine the complex, multi-causal explanations of an epidemic (a phenomenon of both time and space) reveals
some of the consequences for geographic research of using perspectives from one discipline to frame hypotheses in another. This interdisciplinary approach may be the best way to embrace the core, synthetic nature of geography, in order to encourage a more complete written record of epidemic disease.

SUSAN P. MAINS, University of Kentucky

Migrating Spaces: A (Con)Census of Exclusion

Undocumented immigration has been cited by immigration control organizations in southern California as a crucial concern for policy makers, resulting in calls by some groups to physically reinforce the U.S.-Mexico border and to intensify deportation procedures. In order to understand the present-day California immigration landscape, however, it is important to examine the geo-historical context in which demographic, social, and economic changes have taken place. In this paper, I explore the key legal and demographic changes in California during the twentieth century. By focusing on specific changes in immigration policy, I illustrate the means by which desires to “bind” a Californian (and American) identity and to exclude specific populations (physically and socially) have necessarily been intertwined with efforts to define desirable residents through legal codes. Through an examination of legal statutes, immigration hearings, and demographic data it can be seen that access to citizenship and residency rights has been a cornerstone of arguments about population mobility and the control of neighborhoods in specific Californian cities. In addition, an historical analysis of legal and immigration data suggests that the categories used by policy makers to differentiate between social groups create and reproduce specific social geographies of exclusion.

WILLIAM F. MANGER, Arizona State University

Mexican-American Housescapes of Phoenix, Arizona

Despite the large number and longtime settlement of Mexican-Americans in the Southwest, a number of scholars have noted the lack of vestigial reminders to attest to their historical presence in the region. This is particularly true of the residential landscape, where it has been observed that few cultural signatures exist to distinguish Hispanic neighborhoods from those of their Anglo neighbors. In this paper, I test the applicability of Arreola’s (1988) “Mexican-American Housescape” concept to a Mexican-American and adjacent Anglo-American residential neighborhood in Central Phoenix by systematically surveying each neighborhood for the occurrence of enclosures, vivid exterior colors, and yard shrines, as well as the existence of grass lawns and front yard living. Ethnographic methods
Abstracts

also are utilized to determine how differing use of space and front yard aesthetics are perceived by residents of both neighborhoods. Although individual housescape elements associated with Mexican-American neighborhoods also are employed by other ethnic and/or socioeconomic groups, by focusing on the Mexican-American housescape as a symbolic landscape, I demonstrate that it results from an adaptation of traditional Mexican use of space to a preexisting “domestic ideal.”

SARA MARCELLINO and CHRISTOPHER CAMPBELL, San Francisco State University

What’s Dangerous Here? Perceptions on Danger and Safety in a Homeless Environment

Sheltered and unsheltered inhabitants—all persons—share problems and promises regarding danger and safety, but homelessness offers its own unique set of dangers. Our research explored homeless people’s perceptions of danger and safety through humanistic interviews. We focused on different geographic locations of San Francisco, including park and street environments, and gained insight from men and women. Data illustrate both dangers common to most homeless people interviewed as well as specific dangers reflecting the physical and socioeconomic characteristics of the location. Homeless people gravitate to a location knowing what dangers are present and acknowledge these dangers — while creating home in the chosen space. We found both cohesiveness and disjunction among the various homeless communities visited and learned through in-depth conversations that danger’s perception can be as real to one as it is opaque to another.

CAROL ANN MEDLICOTT and MICHAEL HEFFERNAN, UCLA

The First American Madonna: Gender, Race, and the Commemoration of the American Frontier, 1890–1930

This paper analyzes the shifting role of gender and race in the commemoration of the American frontier during the opening decades of the twentieth century. It does so by examining a series of statues portraying women in the American West, erected between roughly 1905 and 1930. The remarkable iconography of the first Sacagawea statue, dedicated in 1906, and that of the “Madonna of the Trail” series erected by the D.A.R. in the late 1920s, has scarcely been remarked upon. These two images commemorated different stories from the conquest of the American West, and the landscape on which these statues appear, like virtually all American territory, is deeply contested ground. We argue that the D.A.R., leading members of which were deeply influenced by the first Sacagawea statue,
appropriated the Sacagawea myth and unconsciously manipulated it in the Madonna of the Trail project. This redirected the story of the frontier away from a cult of the American native woman and represented an effort to reassert the American West as a white project. For the D.A.R., the American West was “still unstoried, artless, unenhanced…” The American West of Sacagawea had been a narrative of encounter and cooperation—between civilizations, albeit ones perceived to be at varying levels of cultural advancement. But the American frontier promoted by the D.A.R.—and made manifest in the iconography of the Madonna of the Trail—was an encounter only with rude nature, a tabula rasa on which nationalism could be inscribed.

THOMAS MINCKLEY and CATHY WHITLOCK, University of Oregon
Correlations between Modern Pollen Percentages and Environmental Gradients in Oregon and Southern Washington
Modern pollen percentages from surface sediments from a network of 95 lakes in Oregon and southern Washington are compared to climate variables to examine how pollen represents the environmental gradients of the region. Detrended correspondence analysis of pollen data identified two primary environmental gradients: temperature and effective moisture. Principal component analysis identified 10 climate variables that were highly correlated to regional temperature and effective moisture gradients. Comparisons of pollen percentages to climate variables show that Pinus, Abies, and Tsuga mertensiana percentages are generally higher at high elevations and lower with warmer mean temperatures. Pseudotsuga/Larix, Cupressaceae, and T. heterophylla percentages show the opposite pattern, with higher pollen percentages at lower elevations and cooler mean temperatures. Low percentages of Pinus, Cupressaceae, Artemisia, and other Asteraceae occurred where mean annual precipitation is high and the proportion of July to annual precipitation is low. Pseudotsuga/Larix, Abies, T. heterophylla, and Alnus percentages are higher with higher annual and winter precipitation. The results of this study are important for understanding present-day relationships between pollen and climate data and are useful in the reconstruction of climate histories using fossil pollen data from the Pacific Northwest.

LORETTA GALE MORGAN, Northern Arizona University
An Analysis of a Tourism Theme using GIS
Tourism themes that attract travelers to remote areas range from the extravagant to the absurd. The community of Roswell, New Mexico, is no exception. Evidence of comic-book alien craft objects abounds in curio shops
packed with consumers eager to purchase a souvenir. The UFO tourist phenomenon has not been fully embraced by residents as a welcome element of Roswell’s economic base, but few would deny its impact. Clearly, the downtown area of Roswell is making a “comeback.” The question is whether the UFO theme has made a significant positive contribution to the economy of the community. The challenge of this research is to isolate the impacts of tourism from overall growth. The initial site survey consisted of dividing the central business district into a block grid. Data were collected in March 1999, a period with no festivals. Information concerning the types of businesses was gathered and a general sketch of each city block was made. Assessor’s maps were converted into ArcView shape files for analysis. Additional data collected during the 1999 UFO Festival will examine any changes in the degree of participation by businesses. The off-season control data will be compared to that of the theme season and incorporated into the GIS analysis. This paper investigates the characteristics of the UFO tourism theme in Roswell. Initial statistical analysis has demonstrated a clustering of businesses that “buy in” to the theme. Other analyses compare businesses with and without “buy in,” resulting in evidence of spatial independence of the distribution.

RON MORGAN, The Hopi Tribe
Evolving Water Use Patterns on the Hopi Indian Reservation of Northeastern Arizona
The Hopi Indians have lived on and around the mesas that form Black Mesa in northeastern Arizona for more than a thousand years. The Hopis continue to practice the essentials of their religion, despite extensive modernization during the twentieth century. The operation at the Peabody Western Coal Company mine uses 4,000 acre-feet of water annually from the N-Aquifer to transport coal through a slurry pipeline to its point of use in Nevada. The Hopi Tribe’s 10,000 members use about 400 acre-feet of water per year. Present groundwater extractions are in excess of the recharge, resulting in groundwater mining. Many water wells on the reservations will be dry by the year 2090 at projected water-use increases. Ironically, the water supply that has sustained the traditional Hopi lifestyle for over a millennium will slowly vanish in the next century. The best hope for survival of the Tribes in their homelands is to import water from Lake Powell, an expensive and politically uncertain proposition. The involvement of federal officials, state agencies, Anglo-American communities, and four Native American Tribes injects a geopolitical component into the realization of urgent and necessary plans to import water. This paper chronicles the growth and distribution of traditional Hopi water source development over
the centuries, and projects a precipitous decline of water availability in the next century. The distributions of water source utilization are described utilizing GIS methodology, and the analysis utilizes projections output from computer models of groundwater levels and flows.

GEORGE N. NASSE, California State University, Fresno

Kosova (Kosovo): Ethnic Cleansing

Kosova (Kosovo) is a province of the Federal Republic of Yugoslavia (FRY). The FRY consists of two republics, namely Montenegro and Serbia. Kosova had 2,000,000 inhabitants before the NATO military campaign began in February 1999. Ninety percent were ethnic Albanians and the rest were mainly Serbs. The FRY and four other republics came into existence in the early 1990s after the breakup of The People’s Republic of Yugoslavia. Political instability was evident in the FRY due to non-Slavic minorities such as the Magyars in the north and the Albanians in the south. Both minorities had hoped for self rule, but Serbian leaders rebuffed any attempt along these lines. Albanians are descendants of the Illyrians, who resided in southeastern Europe since the days of ancient Greece. Albanians speak a language (Shqip) that is related to that of the ancient Illyrians. Except for differences in dialect, it is readily understood by Albanians residing in Albania, Serbia, Macedonia, Greece, and Italy. Shqip is a strong ethnic bond among all Albanians, though there may be differences in religion and other cultural traits. Presently, a pan-Albanian movement does not exist in the Balkans, but Slobodan Milosevic’s attempt to eradicate the ethnic Albanians of Kosova has reawakened ethnic awareness in southeastern Europe. Compared to the Albanians, the Serbs and Magyars are “newcomers” to this area. The Serbs arrived in 700 A.D., the Magyars in 900 A.D., while the Illyrians were noted by the Romans as early as 228 B.C.

BRUCE A. NEMENOFF, University of Nevada, Reno

The Lincoln Highway: The Biggest Little Influence on Reno

Of all the East-West travel routes that came through Reno, the Lincoln Highway had the biggest influence on the current geography of Reno. This paper breaks down the routes into four eras: the “Dirt,” pre-1860 of wagons, horses, and foot traffic; the “Steel,” 1860–1910, the railroads; the “Concrete,” 1920–1960, The Lincoln Highway; and the “Asphalt,” era of the Interstate Highways and jet runways. This paper compares Reno to other landlocked cities in the West that had similar East-West travel routes. I attempt to show how these routes affected these cities and Reno in particular. These cities had different types of East-West travel routes and their current geographic patterns are different and were formed in different eras.
DAVID NEMETH and DAVID HOWARD, University of Toledo

Routes 666: The Devil’s Highways
Geographers are foremost among road scholars in a mobile nation where road stories are so ingrained in its twentieth-century popular culture that they are the mainstays of nearly everyone’s everyday conversations. Since its decommission and dismemberment, Route 66 has been especially valorized, eulogized, scrutinized, harmonized, and otherwise pickled in outsized vats overflowing with minuitia and nostalgia. Enough already. By moving one digit beyond Route 66 we can escape sentimentality and expand the conversation to include the more sinuous and sinister routes 666 throughout the United States—the Devil’s highways. Whereas a crossroads in multicultural myth and legend is a land that belongs to no one, routes numbered 666 can be mapped as the highways and byways belonging to that Other One called “the Beast” in New Testament Scripture. According to Revelations Chapter 13, verse 18: “Here is wisdom. Let him that hath understanding count the number of the Beast: for it is the number of a man, and his number is Six hundred threescore and six.” Is the Beast at home? Finding out seemed excuse enough for a road trip during the summer of ’99. In the spirit of a more extreme geography, we visited America’s triple-6 routes, slouching along the way with anticipation to the tune of John Fogerty’s “Old Man Down the Road.” We share our field experiences in Ohio, Pennsylvania, and Virginia in this presentation. We discuss them in the context of emerging philosophical and methodological issues that challenge the geographic discipline on the threshold of the new millennium.

ALEX P. OBERLE, Arizona State University

The Role of Place in Minority Health Promotion
Establishing equity and improving access are two of the most salient issues in the American health care system debate. Many minority groups, especially Hispanics, represent a disproportionate share of the medically underserved. In response, health promotion programs have emerged to better serve these at-risk populations. Often utilizing lay health workers or community health advisors, these programs operate by bridging the gap between the neighborhood or cultural community and the health care system. Although these health promotion endeavors have been extensively discussed and analyzed in other disciplines, geographers have only recently begun to become involved. This paper explores the role of place in minority health promotion by examining a Kansas City area non-profit organization that seeks to improve Hispanic women’s health knowledge and access to health care. The program uses lay health workers (promotoras) to conduct
health presentations to small audiences. Operating out of homes, libraries, restaurants, and community centers, promotoras choose the locales that they deem to be the most appropriate for the presentations. Yet, the type of site they select may have considerable bearing on the social dynamics of these sessions. By incorporating interviews of a core group of promotoras, this paper illustrates some of these place associations and suggests ways in which people’s sense of place may affect the success of similar types of health promotion programs.

JOHN PASSERELLO, Governor’s Office of Emergency Services, California

Disaster Relief Planning: The Geographic Implications of Large-Scale Evacuations in California

Floods, fires, and earthquakes have caused major evacuations in California that resulted in state support of local government and Red Cross care and shelter efforts. The largest single evacuation, of some 130,000 people from the rural counties of Sutter and Yuba, north of Sacramento, occurred in 1997. More than 65,000 people required some sort of shelter support. Evacuees seeking shelter were affected by many geographic variables: storms; high water; flooded transportation routes; the lack of shelters that can handle 5,000 or more people at a single site; and the fact that rural areas are not rich in needed care and shelter resources such as food, water, cots, blankets, medical, health, and sanitation facilities. The Sacramento metropolitan area served as a major care and shelter site for the evacuees coming from the north; however, a population of more than 250,000 along the American River in Sacramento is the largest single population center at threat from a major flood in the nation. In the past two years, the state has undertaken planning for the care and shelter of the medically fragile and for intergovernmental cooperation and support of large-scale evacuations, and is planning for reception, shelter, and logistical sites that will support more than 5,000 evacuees at single locations. The locations of these sites are still affected by geographic variables such as floodplains, the distance to high ground from valley urban centers, and the mobility of state resources from widely scattered sites to come together and support these sites.

ROGER W. PEARSON, Institute of the North, Alaska Pacific University

Alaska in Maps

Alaska in Maps is an atlas designed to meet the needs of middle school and high school classes in Alaska. The formal K–12 study of the state is covered under the rubric of “Alaska Studies.” This atlas attempts to highlight the geography of Alaska in five sections: Perspectives on Alaska; Physical Geography; Human Geography; Environment and Society; and
Uses of Geography. The maps were designed using GIS technology, specifically, ESRI’s ArcInfo. The atlas was produced in both hardcopy and CD-ROM formats. The CD-ROM format allows the user to overlay selected map features.

KRISTINA PERRY, San Francisco State University
The Nature of Food and Nature: Shoppers’ Perceptions of Farmers’ Markets
As industrial agriculture becomes larger and more concentrated, there is a growing disconnection between people, the source of their food, and the ecological processes of food production. For some, an antidote for this disconnection is a direct relationship with farmers at the farmers’ market. This pilot study asks the research question: “Do people shop at the farmers’ market out of a desire to get closer to nature? And does shopping at the farmers’ market cause people to re-connect with nature?” The findings demonstrate that indeed the experience of shopping at a farmers’ market reinforces consumers’ perceived connection to nature while not really educating about the true connections between eating and the land.

GARY PETERS, California State University, Chico
Grape Expectations: Trends in California Viticulture in the 1990s
In 1990 it would have been impossible to foresee sweeping changes that would occur in California viticulture over the decade ahead. Now, major trends are clearly visible in the landscape and documented by analyzing data collected by the California Agricultural Statistics Service. My purpose is to highlight and explain some of those new trends. Among white cultivars, Chardonnay surged ahead of all others; its bearing acreage has more than doubled since 1990. More dramatically, the acreage of red cultivars surpassed that of white ones, as consumers discovered the health benefits of red wine. No cultivar has experienced as rapid an acreage increase as has Merlot. Geographically speaking, wine grape acreage has increased in many traditional growing regions and also has spread into a number of newer, less tested places. San Joaquin County has become the most heavily planted wine grape region in the state; Chardonnay and Merlot are being planted almost everywhere, it seems. Within viticultural landscapes, new trellis systems have appeared, vine densities have increased, and conflicts with other land uses have arisen in such places as the Central Coast. Driven by high prices, expansion of wine grape acreage continues unabated. Nonetheless, it is worth considering how long this current “golden age” can last because per capita wine consumption in the United States is
increasing little, if any, and foreign markets may not expand fast enough to absorb wines from all of those new vines.

WILLIAM PRESTON, *Cal Poly, San Luis Obispo*

**The Southern San Joaquin Valley as Portrayed by Lithographs in the 1880s and 1890s: Mirror or Mirage?**

During the 1880s and 1890s the southern San Joaquin Valley was described and mapped by a number of county histories and atlases. The land was inhabited at this time by townspeople, businessmen, and homesteaders who were willing to pay to have themselves, their possessions, and their localities written about and visually chronicled. As a result, the histories and artwork are biased toward the landscapes and preferences of those who could afford to pay. Despite the selective content and the perceptual filters inherent in the narratives and lithographs, these works provide instructive testimonies to the historical and geographic processes that had fashioned the South Valley’s landscapes throughout the later half of the nineteenth century. This paper will examine the displayed scenes and interpret the unrevealed settings of these lithographic representations. The interpretations of these visual depictions and their unrevealed contexts provide a viable approach and an additional tool for geographic reconstruction.

ERIK PROUT, *Louisiana State University*

**Imaginary Ethnicity: the Invention of Rhaetian**

The Romansh speakers of Switzerland can without question look to Roman expansion in the central Alps for some of their cultural heritage, but they also have been an object of scientific study, which has left a different kind of legacy. Romansh origin stories have incorporated academic elements, including the linguistic fallacy of a “Rhaetian” substratum to their language. Since language is a crucial component of their identity, this illusion of unity with Ladin and Friulian strengthens their political position as a culture group in Europe. Being Rhaetian serves a useful cultural function of simultaneously situating themselves as indigenous and differentiating themselves with the Helvetian origins of northern and central Switzerland. This research explores the idea of imaginary ethnicity and the evidence of Rhaetians as a crucial part of Romansh culture. The initial conclusion is that early ethnologists and linguists classified people with little regard to geographical understanding such as Alpine ecology and historical place-names of the region. Furthermore, the invention of tradition theory, better associated with nationalism, also can be used in a broader context of culture. The more important conclusion is the humanistic understanding we can
obtain from the need to root our ethnicity in the past both for identity and territorial aspects of differentiation.

PHILIP R. PRYDE, San Diego State University
Achieving Academic Synergism from Personal “Town-Gown” Interactions
It is unfortunate that many geographers, in the course of their academic career, interact very little with their local or regional communities. Yet this kind of interaction can have very positive pay-backs for the geographer, his or her department, and the community at large. The most common form of interaction today may be funded projects, particularly those that are GIS related, but an individual’s geographic expertise can be applied to community issues in a great many other ways as well. Ways of establishing “expertise” within the community are numerous, ranging from writing op-ed pieces for newspapers, to volunteering for citizen advisory groups, to getting to know some of the local elected officials. Once a geographer has established expertise in some aspect of community or regional affairs, a strong synergistic effect is possible between their academic classes, their research, and the relevant community agencies and organizations.

PAULIINA RAENTO, Academy of Finland/University of Nevada, Reno
Coping with Competition: Recent Tourism Development in Northern Nevada
As gambling spreads across the United States, economically depressed urban centers have sought help from gambling to revitalize their downtowns. These processes have been followed closely by social scientists, but less attention has been paid to ways old gambling towns have reacted to the increasing competition over customers and their entertainment dollars. The spread of Indian gaming in the Pacific Northwest and the continuous growth of tourism in the Greater Las Vegas area pose a particular challenge to Reno, Northern Nevada’s old resort town. Subsequently, Reno’s previously rather strict focus on gambling has shifted towards attracting customers by creating a holistic recreational experience. Central in this new marketing strategy have been the improvement of the town’s image, construction of new recreational amenities to support gambling tourism, and a more regional approach in marketing both the new and the existing attractions. Special foci include Reno’s Downtown, golf, history, and nature in Northern Nevada. Behind Reno’s emphasis on tourism redevelopment are concerns regarding local community issues. The examination shows that “established” gambling towns tackle issues similar to those of towns that have adopted gaming more recently. The
challenges raised by Reno’s case for geographers who study gambling-
and tourism-related issues include the need for broader regional foci and
fresh comparative perspectives.

MICHAEL REIBEL, California State Polytechnic University
The Decline of Black Los Angeles? Migration and Neighborhood Change
The geography and demography of black Los Angeles have changed
dramatically in recent years. In the wake of the 1968 Fair Housing Act,
blacks have emerged from their traditional core areas of South Central,
Watts, and Compton and diffused far and wide across the greater Los
Angeles metropolitan area. Many have left southern California for
destinations elsewhere in the state and in other states. At the same time,
rapid growth and especially large influxes of Hispanics and Asians have
transformed the ethnic geography of Los Angeles, and of black Los Angeles
in particular. Finally, the center of gravity of the remaining core black area
has continued a westward shift that began decades ago.

SUSAN P. REYNOLDS, Southern Oregon University
Water Cures: The Mineral Springs of Ashland, Oregon
Ashland and its environs contain an assortment of mineral springs with
different physical and chemical characteristics. Initially used by Native
Americans and Euro-American settlers for drinking and bathing as a form
of folk medicine, several of the springs were developed for commercial
therapeutic and social uses in the late nineteenth century. Ashland’s
business elite promoted health tourism based on the mineral springs, but
the rise of biomedicine led to the decline of most spring-based commercial
enterprises by the mid-twentieth century. Currently, only two of the springs
are publicly used; however, several significant features of the Ashland
tourist landscape were developed during the springs’ promotion period.
Cultural reassessment of the mineral springs and associated landscape
features illustrates changing discourses related to health care, tourism, and
historic preservation.

RICHARD H. ROWLAND, California State University, San Bernadino
Geographic and Demographic Perspectives on Military-Industrial
Complex (MIC) Towns of Russia, 1989–1998
This paper identifies military-industrial complex (MIC) towns of Russia
and investigates their chief geographic and demographic patterns and
trends in 1989 and during the 1990s. MIC towns are operationally defined
as ones with defense manufacturing industries; defense research and
development facilities; military bases; and/or the mining of strategic
minerals. Population patterns and trends are based upon data for the official urban centers of Russia from the 1989 census of the former Soviet Union and post-census estimates for such centers in 1998. Sex composition patterns in 1989 and 1989–1998 population trends are particularly investigated. Patterns and trends for MIC town subtypes (industrial and military base towns) also are considered. Attention also is given to newly formed official urban centers of post-1989 that also have MIC activities. Results indicate that more than 500 towns of 1989 were classified as MIC towns. Although this represented only roughly one-sixth of all urban centers of Russia, such towns contained the clear majority (more than two-thirds) of the urban population of Russia. Regionally, roughly one-half of the MIC towns were concentrated in three regions: the Center (Moscow), Northwest (St. Petersburg) and Urals. As with the urban population as a whole, MIC towns overall had female majorities and declined in population during 1989–1998.

SUSAN RICHES SARGENT, Arizona State University
Neotraditional Urbanism and the Reinvention of the Street: Tempe’s Mill Avenue Streetscape Program
Streets are among the most significant features of the urban landscape and lie at the intersection of the physical, social, and symbolic spaces that define the city. They are the preeminent form of public space and have the capacity to function as outdoor rooms. In neotraditional urban ideology, the street is understood to be the unifying design element that links the use of old-city urban form to the attainment of desired outcomes of social interaction, community building, and image making. In this paper, I consider three elements of the street deemed essential to neotraditional urban planning; the roadway, sidewalk, and building façades, as they combine to present the visually coherent streetscape. I make use of photo archives and a series of interviews to examine the role of a streetscape beautification program in the redevelopment of a blighted suburban commercial corridor. I show how neotraditional planning principles and practices were woven into this retail revitalization project to produce significant effects in the place-making process.

JEFFREY P. SCHAFFER, Napa Valley College
Additional Constraints on Extents of Past Glaciers, Glacial Erosion, and Uplift in the Sierra Nevada
In my 1997 book, The Geomorphic Evolution of the Yosemite Valley and Sierra Nevada Landscapes, I presented extensive evidence that the areal extents and thicknesses of past glaciers, especially of Tioga age (which generally were larger), have been mismapped; that past glaciers, despite being huge,
performed very little erosion; and that the last uplift of the range was late Cretaceous, not late Cenozoic (recent work by David Jones, Brian Wernicke, and others support this conclusion). Additional field work supports the book’s findings, including the following: 1) no glacier in Yosemite Valley was thick enough to top its rim (Matthes’ rim tills and moraines do not exist and his rim “erratics” are locally derived); 2) the Tuolumn’s Tioga-age glacier was about 4–5 miles longer than shown on Alpha et al.’s USGS map; 3) the same glacier was thick enough to completely override Moraine Ridge, in northwestern Yosemite National Park (the USGS’s park geology map shows the ridge protruding above Tahoe-age lateral moraines, which do not exist); 4) the pre-Tahoe glacial deposits 2 miles east of Hume Lake (Tehipite Dome quadrangle) do not exist; 5) evidence of minimal glacial erosion (and constraints on uplift) includes remnant volcanic deposits on the floor of Bear Valley near I-80’s Emigrant Gap, and on lower slopes above Hetch Hetchy Reservoir near Rancheria Falls; 6) finally, the Middle Fork San Joaquin River canyon between Devils Postpile National Monument and Fish Creek is a classic V-shaped canyon, despite glaciers up to 3,000+ feet thick.

GWEN GUSTAFSON SCOTT, University of Oregon

“The Pacific Way”: An Analysis of Regional Process and Emerging Identities

Cultural identities, whether at a local, national, or regional scale, are continuously under construction within particular social and cultural contexts at specific points in time. In light of this, Manuel Castells suggests that the “real issue [regarding the construction of identities] is how, from what, by whom, and for what.” He hypothesizes that who constructs a collective identity, and for what purposes, ultimately shapes and controls that same identity. Using Castells’ building blocks of resistance identity, legitimized identity, and project identity, in this paper I analyze “the Pacific Way” as both a regional process and an emerging identity, in an attempt to better understand the complex relationship between the affective and effected actors. Working from this theoretical framework, I argue that “the Pacific Way,” as a regional extension of Pacific ethnic (and subsequently, national) identities (i.e., fa‘a Samoa, vakaviti, and fa‘a Toga), was conceived of and presented by elite indigenous leaders. Citing examples from throughout the Pacific, I will demonstrate that through the objectification of Pacific “culture” and differentiation from the “other,” these leaders have not only secured both rank and economic status for themselves, but in the process also are forging a place for the south Pacific in the global economy.
JACQUELINE J. SHINKER, University of Oregon

Global Climate Animations: A New Tool for Visualization of the Climate System

Computer-generated map animations of global energy-balance, water-balance, and circulation variables have been placed within a Web-based environment for use as teaching tools (http://geography.uoregon.edu/envchange/clim_animations). The animations were developed using gridded, global climate data from the NCAR/NCEP 40-year Reanalysis Project. The Web-based animations show the climatology, for the time period 1959–1997, of the seasonal cycle for selected climate variables. Individual frames in each animation show the map pattern of the long-term average of a particular monthly climate variable. When the frames are displayed in a loop, they reveal the temporal and spatial variations in that climate variable over the seasonal cycle. These animations are useful for visualizing the seasonal variations of, and interactions among, a set of climate variables that describe surface water-balance, energy-balance, temperature, and atmospheric circulation. The animated processes are also an effective means of demonstrating the spatial and temporal aspects of the climate system in physical geography, climatology, global environmental change, and Earth system science courses.

TERRY SIMMONS

Diplomatic Plans for Lunatics Visiting Nevada: A Pedagogical Exercise in Local Introspection and Tourism

Western Nevada Community College and Truckee Meadows Community College students prepared a travel itinerary for an introductory Cultural Geography course. The pedagogical exercise required students to examine their own images of Northern Nevada as local residents, and as prospective hosts for distinguished visitors. “Governor Kenny Guinn appointed you Chief of Diplomatic Protocol for the State of Nevada. Your old friends, Peter and Patricia Lunatic, the Prince and Princess of the Sovereign Principality of Lunacy, located on the backside of the Moon, will arrive soon for a 2-week state visit. The Lunatics are respectable, energetic, curious, fun loving, and informed geographers. In addition to the usual diplomatic events, such as the formal dinner at the Governor’s Mansion, the Prince and Princess want to see the sights and learn what is important about Northern Nevada. Please plan their stay.” The resulting travel itineraries ranged greatly in quality, care, and insight. Students responded well to being tour guides in their home territory. Most used travel guides, maps, and brochures as well as personal knowledge of northern Nevada.
Nevertheless, specific content could be quite personal. Often, the itineraries stated more about the students’ own local introspection and personal experiences than about standard tourist venues. Students’ presentations varied from the mundane to the spectacular, depending upon the students’ opportunities and upon their photographic, graphic, or cartographic skills. The travel itinerary is a successful pedagogical exercise, especially when students apply their creative talents.

TERRY SIMMONS

Secular Purgatory: Y2K, Computers, Bombs, and Calendars in Anticipation of Apocalypse

The millennium bug or the Year 2000 computer problem, commonly known simply as Y2K, may cause major global catastrophe or a series of major and minor inconveniences, depending upon highly specific, technical circumstances of one’s hardware and software, computer systems, and infrastructure configurations. Computer programmers are busy correcting or replacing old computer code that may malfunction due to the inability to distinguish between dates or to resolve ambiguities in the code. Y2K will trigger a major breakdown of societal infrastructure or it will not. The Y2K problem was not and will not be triggered by the beginning nor by the end of millennia, for the calendar does not denote dates only. Still, Y2K prophets and profiteers, who proclaim secular purgatory, have historical and theological precursors, nevertheless. The Four Horsemen of the Apocalypse ride daily. Some secular Y2K prophets predict TETWAWKI (The End of The World As We Know It). Meanwhile, in the Christian tradition at least, All Souls await the Millennium; i.e., the final judgment at the end of time, which will not necessarily occur during 2000 A.D. Despite its notoriety and symbolic meaning, the millennium bug is a temporal coincidence without mathematical, theological, or historical significance.

THOMAS SIMON

Location of Microbreweries in Urban Centers

The first brewpub in the United States opened in 1982 in Yakima, Washington. Since that time, the craft brewing industry has grown dramatically. As of the end of 1997 there were 720 brewpubs operating in the continental United States. This study examines the distribution of brewpubs in the 46 contiguous states in which they are permitted by law, plus the District of Columbia. Brewpubs are studied as they serve as indicators of the distribution of the craft brewing industry as a whole. States and counties are the spatial units chosen. The distribution of brewpubs is examined, to identify the spatial pattern. An attempt is then made to explain
the pattern in terms of selected sociocultural factors. Using overall beer consumption as a stand-in for ethnic character, this study tests whether brewpubs follow the spatial pattern of traditional beer consumption. Recent trends in beer consumption also are considered. Brewpubs distribution differs from beer consumption patterns overall, and more brewpubs are located in states with declining beer consumption. Though they were initially clustered, the spatial distribution of brewpubs is approaching a random pattern. Still, general patterns were identified. Relative to population, brewpubs are most prevalent in the western states, New England, and Wisconsin. Relative to beer consumption overall, brewpubs do not exhibit a meaningful pattern. The patterns found are compared to patterns of income, education level, and a number of state-level legal restrictions. Rank correlation and Chi-Square analyses are used to test for meaningful relationships between brewpub location and each variable. The results show some relationship between brewpub location and education levels, as well as income. Legal limits on production volume show statistically significant relationships. In addition to these factors, brewpub locations are analyzed in relation to elements of popular culture in several regions of the United States.

EMILY H. SKOP, Arizona State University

The Construction of Community and Identity: Asian Indian Immigrants in Metropolitan Phoenix

Zelinsky and Lee have suggested that heterolocalism is an alternative model of the sociospatial adaptation of immigrants. They propose that recent immigrants arrive and enter an area, then quickly adopt a dispersed pattern of residential location, all the while managing to remain cohesive through a variety of means, at a variety of scales. This research evaluates Zelinsky and Lee’s thesis, and determines its applicability in understanding the sociospatial behavior of Asian Indian immigrants in the Phoenix metropolitan area. Utilizing both primary and secondary data sources, I discover that heterolocalism is a useful model for assessing the sociospatial behavior of Asian Indian immigrants in Phoenix at the group level. When I conducted in-depth interviews with individual immigrants, however, I discovered interesting variability in the degree to which immigrants are integrated in the Asian Indian community. As my attention was drawn to these variations, I realized that heterolocalism should be expanded and more fully developed for application at the individual level. As a result, I have created a typology of characters according to their sociospatial behavior, including the enduring heterolocal, the retiring heterolocal, the dissenting heterolocal, and the stranded heterolocal.
BENJAMIN STABLER, Western Washington University
The Path to Three Gorges Dam: The Impacts of China’s Historical Dealings with Involuntary Resettlement

The Three Gorges Project, which is set to be the biggest dam ever constructed, is the ultimate test of China’s involuntary resettlement projects associated with the construction of large dams. Since the 1949 revolution, China has built almost 300 large dams and more than 340 large-scale reservoirs, which has resulted in approximately 10.2 million “reservoir relocatees,” according to the Chinese government. The World Bank, in a 1994 report on reservoir resettlement issues, concluded that the Chinese “look upon a resettlement recovery program as an opportunity rather than a burden [for economic development].” Because of China’s vast experience with resettlement associated with dams, and because of its pioneering efforts, most notably Developmental Resettlement, the World Bank gave China a number one rating in 1994. However, this has not always been the case, and, as this paper will show, China’s resettlement associated with dam construction is improving, but some questions still remain. This paper explores the historical change in China’s involuntary resettlement projects associated with the construction of large dams through the analysis of selected dam projects.

CECILIA STAY, University of Nevada, Reno
Four Sacred Mountains Conflict with Modern Land Uses

In contrast to the Judeo-Christian religions, which tend to celebrate people and events and thus can be practiced anywhere, the Navajo religion is founded on relationships to specific places. The Navajo religion is defined by and cannot be separated from its relationship to specific geographical places. The Navajo people believe that the Creator placed them on land between four sacred mountains: Blanca Peak in Colorado, Mount Taylor in New Mexico, the San Francisco Peaks in Arizona, and Hesperus Peak in Colorado. According to their own history, the Navajos have always lived between these mountains. In recent decades, the four sacred mountains have clashed with modern society in distinct ways, from skirmishes with mining companies to the development of a ski area. This poster examines the sacred mountains of the Navajo and each mountain’s conflict between modern uses and the venerable interpretation of the mountains as sacred places in the Navajo religion. Using newspaper accounts, magazine articles, and other accounts, the history of changing land use for the four mountains can be depicted—from revered sacred spaces to varying commercial uses. Although this poster is only a view of four mountains, the problems found
in these sites are mirrored throughout the world as values change and the
desire for land and prosperity increase.

NATHANIEL S. TRUMBULL, University of Washington
Transportation, Urban Form, and the Environment in the Transition Economies: Challenges and Opportunities
Urban planners of the transition economies have inherited advantages as well as profound problems from the legacy of centralized planning. Efforts to reduce pollution levels and overall energy use depend in large part on the success of urban planners to limit the rapidly growing dependence on the private vehicle and to promote the city’s public transportation system. The case of St. Petersburg reveals the particular importance of those factors in urban planning in the transition economies. The Strategic Plan for St. Petersburg, a comprehensive plan for the city’s development and the first such urban plan to be prepared in Russia, recommends a policy of compact urban form and an emphasis on public transportation. But the Strategic Plan fails to make an explicit connection between those recommendations and environmental protection. Russia’s economic difficulties play an important role in shaping urban planners’ views. Policy-makers of the transition economies continue to be more concerned with perceived obstacles to economic growth than with environmental impact. Working within the rapid pace and unpredictability of the city’s economic conditions is another factor of difficulty for the city’s urban planners.

DANIEL E. TURBEVILLE III, Eastern Washington University
When the Irresistible Force Meets the Immovable Object: Free Trade and the Drug Trade on the Washington-British Columbia Border
The passage of the Canadian Free Trade Act (CFTA) in 1989 and the subsequent North American Free Trade Act in 1994 (NAFTA) have greatly accelerated trade across the northern border. However, there also have been negative side effects to this legislation, including serious overloading of the western highway network and border crossings, and the creation of what might be termed “unrealistic expectations” among politicians, business interests, and the academic community that the 49th parallel will soon wither away and the U.S. and Canada—and eventually Mexico—will come to resemble the European Community. Two frequently overlooked factors mitigating against this rosy future are the issue of Canadian sovereignty—which few Americans comprehend—and the increasing trade in illegal drugs, especially British Columbia marijuana—a commodity trade invisible to most Canadians. This paper will contrast the congressionally
mandated law enforcement policies of U.S. border agencies with the continentalist perspectives of free-trade planners and dreamers, and suggest that NAFTA is a law enforcement minefield of unappreciated proportions.

DAVID UNTERMAN

Roundtable on Teaching Freshman Geography
Many people who teach introductory geography classes—freshman-level physical or cultural geography and high school—notice that each year, a topic or a chapter gets added to the curriculum. The subject matter has become so broad and fragmented that many students come away confused and snowed under. We explain natural hazards and disasters, but do our country’s future voters and leaders realize that their decisions affect the impact of these physical events? In this session, instructors evaluate which topics are high and low priority for students who might never again be exposed to geography. Response and discussion by the audience will be encouraged.

PAUL VAN ZUYLE, University of California, Santa Barbara

Using Weights of Evidence (WofE) in a GIS for the Prediction of Tuberculosis Cases
Recent advances in the implementation of statistical software for GIS have made possible new applications for Public Health. The “Weights of Evidence” (WofE) technique is an application of Bayes Rule for calculating posterior probabilities. A geographic application for mineral exploration was described by Bonham-Carter, et al. in 1988, and implemented in an ArcView extension in 1999. In this study, disease occurrences and population characteristics from the Census have been input in order to calculate the probability of tuberculosis cases in various parts of Ventura County, California. Since multiple years of TB incidence data at the address level were obtained for the study, the predictions of the model have been compared against actual incidence, as well as with other techniques, including logistic regression.

PETER WALKER and LOUISE FORTMANN, University of Oregon

Exurban Land Use in the “New West”: A Case Study of Nevada County, California
Since the 1970s, the western foothills of California’s Sierra Nevada mountains have become one of the most popular destinations for commuters, retirees, and vacationers fleeing large urban areas. Nevada County has been the fastest-growing county in the fast-growing foothills region. The economy of the county is now dominated by rural-residential
landowners and the tourism/recreation industry. This represents an enormous shift from 40 years ago, when the county was still dominated by ranching and timber production. Nevada County is typical of many areas in the rural American West, where older resource-based economies are being replaced by residential/recreational economies that value nature primarily for its scenic and pastoral qualities. This process presents a paradox: although rural-residential landowners value nature highly, rural-residential development is widely considered a major threat to rural ecosystems. Few studies, however, have documented these changes. This paper presents data from a longitudinal study using transect sampling methods to document changes in land use between 1957 and 1999. Data on land use and land ownership in 1957 are compared with 1999. The paper documents the shift in types of land ownership and land use, as well as the diversity of practices and ideologies of rural-residential owners. The paper suggests the importance of recognizing that rural-residential land use is not a homogeneous category, and that understanding the diversity of land-use practices among rural-residential owners is a prerequisite for effective natural resource management.

JUDITH WALTON, Humboldt State University

“Neotrad”—Truly Rad or Just a Fad?

Across the urban landscape today we are beginning to see the imprint of neotraditionalism—the latest design philosophy that offers to reinstate a lost sense of “community” in America while reducing sprawl and car use. Few urban design philosophies have promised so much since the good old days of modernism. Most often associated with the New Urbanism movement, this nostalgic philosophy has widely influenced the aesthetic ideology of planning. New suburban pods, model towns, infill projects, and revitalized main streets suggest a utopian vision of shiny, happy neighbors exchanging greetings from front porches, bus stops, and corner shops. In this talk, I show how neotraditional ideas have been used in different contexts, ranging from commercial district revitalization to neighborhood planning efforts. I conclude with some speculations about the true impact of these ideas.

CALVIN WILVERT, California Polytechnic State University

The “San-San Gap”: In-filling by Sprawl and Vineyards

The term San-San was coined decades ago to describe an emerging urban swath linking San Francisco and San Diego. However, the midsection of San-San, stretching the 225 miles between Santa Barbara and Salinas, is still mostly rural. Yet to anyone who has driven along Highway 101 recently,
it is obvious that major changes are occurring. At the heart of this gap lies San Luis Obispo County. During the past 30 years, the county’s population has grown at double the rate for California. Expanding cities and rapidly proliferating vineyards and hobby ranches are consuming oak woodlands and cattle ranches at an accelerating pace. Is the filling in of the San-San Gap inevitable? The loss of the bucolic landscape to development is a source of continuing conflict between pro- and anti-growth elements. In the 2000 election, the county will vote on a SOAR (Save Open Space and Agricultural Resources) initiative. If passed, it would require a majority vote of the electorate to authorize any development not permitted by the existing general plans. Two other counties, Ventura and Napa, have recently passed SOARs. Even if the initiative fails, a physical constraint—water scarcity—evenually would impose a limit on development.

LOCHEN WOOD and CHRISTINA KENNEDY, Northern Arizona University
Contested Land-Use Changes and Biologically Sensitive Habitat in the Arizona-New Mexico Mountains Ecoregion
The Arizona-New Mexico Mountains Ecoregion is an area of stunning beauty, bountiful natural resources, and isolated rural communities whose residents traditionally have had strong social ties among themselves and close connections to the land. People in these communities traditionally have eked out a hard-scrabble living from public lands and small private holdings. Today, due to pressure from environmental interest groups, changing state and federal land-use policies, and changing economic conditions, the region is in a state of transition. This paper discusses changes occurring in management of rangeland as well as the fact that both agency employees and ranchers currently find themselves in a state of limbo. The questions “To what extent will the ranching industry be able to continue in the region,” and “What is the role of the Endangered Species Act in the health of the ranching industry?” are addressed. Information is based primarily on informal personal and telephone interviews of the following groups: grazing permittees on Forest Service land, Fish and Game staff, and Forest Service wildlife and range staff.

SIMON X.B. ZHAO, Hong Kong Baptist University
New Patterns of China’s Urban Development in 1990s
The paper reviews the recent changes of urban systems and urban development in China in the 1990s. Contrasted with the experience of the 1980s, China’s urban system development changed from large-city-dominated to intermediate-city-dominated. A more “rank-size” distribution has been formed. The underlying reason also has been analyzed.