

Schedule of Events
67th Annual Meeting
Association of Pacific Coast Geographers

September 8-11, 2004
Cal Poly State University
San Luis Obispo, California

NOTE: Most events will be held in and around the Business Building. See the maps on the last pages of program.

Wednesday, September 8

Registration: 5 PM – 7 PM Business Breezeway

Reception: 5 PM – 7 PM Business Breezeway

Opening Session: 7 PM – 9 PM Business, Room 213

Conserving Open Space and Resources on the Central Coast

Neil Havlik, City of San Luis Obispo
San Luis Obispo's Greenbelt Program

Dan Berman, Morro Bay National Estuary Program
The Morro Bay National Estuary and Managing the Watershed

Kara Blakeslee, American Land Conservancy
The Hearst Ranch Conservation Agreement

Thursday, September 9

Field Trips: Field trips depart from the parking lot at the Veteran's Memorial Building on the corner of Monterey St. and Grand Ave. (one block from the conference hotels). The fee for trips 1 and 5 includes lunch. All others will purchase lunch in route. Water and snacks will be provided in all vehicles. Wear shoes that are comfortable for walking.

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| 1. Hearst Castle Tour, San Simeon, Coastal Open Space | 8:30 AM - 5:00 PM |
| 2. Mission San Antonio, Southern Big Sur Coast | 8:00 AM - 5:00 PM |
| 3. Morro Bay National Estuary, Montaña de Oro | cancelled |
| 4. Pismo Dunes, Oso Flaco Preserve, Guadalupe | 8:30 AM - 4:00 PM |
| 5. Paso Robles Wine Tour, Old California/New Grapescape | 9:00 AM - 4:00 PM |

Registration: Thursday, 5:00 PM – 7:00 PM
 Novo Restaurant Bakery, 726 Higuera St., Downtown (creekside terrace in back)

Reception: Thursday, 6:00 PM – 8:00 PM
 Novo Restaurant Bakery, 726 Higuera St., Downtown (creekside terrace in back)
 The city operates a shuttle from the Monterey St. motel area to Farmers' Market that functions on Thursday night. Novo will provide gourmet lite fare and soft drinks. Beer and wine are extra. You may purchase food from Farmers' Market street vendors and eat it in the reception area.

Friday, September 10

Executive Council Breakfast: Friday, 7:00 AM -8:15 AM
 Apple Farm Restaurant, 2015 Monterey St.

Registration: Friday, 8:00 AM – 5 PM
 Business Breezeway

Exhibitors: Friday, 9:00 AM – 5:00 PM
 Coffee, tea, lemonade, and water available in exhibitors' area

Paper Session I-A: **Politics in Place and Space**
 Friday, 8:35-10:00
 Business, Room 111

Chair: Terry Simmons

- 8:35 Eric H. Honda, California State University, Sacramento, *Surveying the Heartland: Mackinder's Legacy a Century Later and the Geopolitics of International Relations.*
- 8:55 Henderson, Michael, California State University, Fullerton, *The Ebb and Flow of Quebec Nationalism: A Geographic Analysis.*
- 9:15 Dennis J. Dingemans, University of California, Davis, *The Isla Vista Disturbances of 1970: Causes, Consequences, and Place Characteristics.*
- 9:35 Terry Simmons, Center for Global Policy Studies, *Simple Lines of Ambiguity: Transboundary Environmental Relations Between Alaska, British Columbia and the Pacific Northwest.*

Paper Session I-B: **Environmental Hazards and Management**

Friday, 8:35-10:00

Business, Room 112

Chair: Jenny Arkle

- 8:35 Michael M. Folsom, Eastern Washington University, *The Science and Management of Critical Areas: An Opportunity for Geographers*.
- 8:55 Kimberly Olson, California State University, Chico, *Disaster Management: Disaster-Resistant and Disaster-Resilient Community Paradigms*.
- 9:15 Crystal A. Kolden and Gene Lohrmeyer, University of Nevada, Reno, *Using GIS Spatial Modeling to Predict Potential Fire Hazard for Future Urban Development in San Diego County, California*.
- 9:35 Edward F. Woch, San Diego State University, *Pink Cascade: When Invasive Plant Species Become Benign*.

Paper Session I-C **Tourism and Frontiers**

Friday, 8:35-10:00

Business, Room 114

Chair: Tim E. Schultz

- 8:35 Jacob Sowers, Kansas State University, *Shacks Amongst Chateaus: An Exploration of the Residential Landscape of Telluride's Working Class*.
- 8:55 Christopher M. Moreno, San Diego State University, *Localizing the "Last Frontier": Cultural Brokering and Touristic Practices in Skagway, Alaska*.
- 9:15 Roger Pearson, Institute of the North, Jody Smothers Marcello, Sitka School District, *Meeting of Frontiers: Geography in Alaska Studies*.
- 9:35 Tim E. Schultz, Western Washington University, *Establishing User Preference among Human Waste Management Alternatives on Coleman Glacier Route, Mount Baker, Washington*.

Paper Session II-A: **Theorizing and Teaching the Region**

Friday, 10:15-12:00

Business, Room 112

Chair: Vincent Del Casino Jr.

- 10:15 John Paul Jones III, University of Arizona, *Meta-theories of the Region*.
 10:35 Dereka Rushbrook, University of Arizona, *Sonoran Cartographies*.
 10:55 Vincent J. Del Casino Jr., California State University, Long Beach, *Rethinking Regions and Regionalization in the Context of World Regional Geography*.
 11:15 Sallie A. Marston, University of Arizona, *Alternative Approaches in K-12 Teaching about the Islamic World*.

Paper Session II-B: **Mapping and Managing Wetlands**

Friday, 10:15-12:00

Business, Room 114

Chair: Dolly Freidel

- 10:15 Shawna Dark, Regan Maas, Namrata Belliappa, John Davenport, Jason Mejia, California State University, Northridge. *Mapping the Wetlands of Ventura County, CA: An Application of the Cowardin Classification System*.
 10:35 Regan Maas, Shawna Dark, Jason Mejia, Namrata Belliappa, John Davenport, California State University Northridge, Jon Hall, Justin Miner, National Wetlands Inventory. *Using Hydrogeomorphic Classifications to Map the Wetlands of Ventura County: An Application of GIS*.
 10:55 Robert R. Quinn, Eastern Washington State University, *Wetland Mitigation, "Success and Failure" in the small Eastern Washington Town of Cheney*.
 11:15 Derek W. Eysenbach, University of Arizona, *Destruction to Restoration (and back again?): The Political Ecology of the Florida Everglades Comprehensive Ecosystem Restoration Plan*.
 11:35 Jim Fraser and Danny De Vries, University of North Carolina at Chapel Hill, *The Politics and Governance of Space in Floodplain Mitigation*.

Paper Session II-C **Historical Geography and Evolving Cultural Landscapes**
 Friday, 10:15-12:00
 Business, Room 111

Chair: Ray Sumner

- 10:15 Marshall E. Bowen, Mary Washington College, *A Russian Molokan Farmers' Village in Northwestern Utah*.
- 10:35 Kevin S. Blake, Kansas State University, *Native American Representations Along the Lewis and Clark Trail*.
- 10:55 Yolonda Youngs, Arizona State University, *Cultural Landscape Evolution in Yellowstone National Park: A Case Study of the West Thumb Developed Area at Yellowstone Lake*.
- 11:15 Douglas A. Hurt, California State University, Fresno, *The New NASCAR: Tradition, Nationalization, and Regional Identity*.
- 11:35 Ray Sumner, Long Beach City College, Joan Clemons, UCLA, *Tom Down Under: McKnight's Relationship with the Fifth Continent*.

Lunch 12:00 PM -1:15 PM
 See insert in registration folder for on and off-campus lunch options.

Women's Network Luncheon Friday, 12:00 PM - 1:15 PM
 Veranda Restaurant, Cal Poly
 Van shuttle available down the steps past room 111

Paper Session III-A **Sights and Sounds: Symbolism, Society, and Place**
 Friday, 1:30-3:15
 Business, Room 111

Chair: Edward L. Jackiewicz

- 1:30 Edward L. Jackiewicz, California State University, Northridge, James Craine, San Diego State University, *Billy Bragg and Soundscapes of Activism*.
- 1:50 John Davenport, California State University, Northridge, *Consuming the Dark Landscape: Meaning and Motivation in the Visitation of Dark Tourism Sites*.
- 2:10 Zia Salim, California State University, Fullerton, *The Murals of East Los Angeles*.
- 2:30 Tina Kennedy, Northern Arizona University, *Film, Identity and Place*.
- 2:50 Larry Ford, San Diego State University, *Color Comes to Irish Towns*.

Paper Session III-B **Methods for Teaching Geography**

Friday, 1:30-3:15

Business, Room 112

Chair: William Selby

- 1:30 Margaret Campbell-McCrea, Portland Community College, *“Club Dred” and the Cook Islands: Interactive Exercise in the College Classroom.*
- 1:50 John Douglass, Arizona State University, *Linking On-Line Education, Field Trips, and Research: Exploring a Newly Discovered Rock Avalanche and the Merits of Virtual Learning.*
- 2:10 Jonathan S. Taylor, California State University Fullerton, *Using an Integral Approach in Teaching Geographic Thought.*
- 2:30 Shaun Huston, Western Oregon University, and Anne-Marie Deitering, Oregon State University, *Teaching Through the Blogosphere: New Spatialities and the Classroom.*
- 2:50 Alex P. Oberle, Arizona State University, Wendy Bigler, Southern Illinois University-Carbondale, Timothy W. Hawkins, Shippensburg University, *The Role of a Ph.D. Field Exam in Assessing and Developing Geographic Skills and Preparing Graduate Students for Academic Careers.*

Paper Session III-C: **Holocene Paleoenvironments and Human Interactions: Evidence from California and Guatemala**

Friday, 1:30-3:15

Business, Room 114

Chair: Liam Reidy

- 1:30 Elizabeth B. Watson, University of California, Berkeley, *San Francisco Estuary Tidal Marsh Vegetation Change.*
- 1:50 David Wahl, University of California, Berkeley, *A 9500 yr Record of Climate Change and Human Impacts from the Northern Peten, Guatemala.*
- 2:10 Khaled Bloom, University of California, Davis, *The Arbuckle-Hershey Chamisal: A Significant Anomaly in California Plant Geography.*
- 2:30 Jim Wanket, California State University, Sacramento, *Holocene Vegetation Change Across a Maritime-Continental Climatic Gradient in Northern California.*
- 2:50 Liam M. Reidy, University of California, Berkeley, *European Weed Invasions in California and Dating Recent Large Earthquake Events in the San Francisco Bay Area.*

President's Plenary Session**Major Directions in the Future Population Geography of the Pacific Coast**

Friday, 3:30 PM – 5:00 PM
 Business, Room 213

Moderator: David Plane, University of Arizona, Tucson

Panelists: James Allen, California State University, Northridge
 Patricia Gober, Arizona State University, Tempe
 Waldo Tobler, University of California, Santa Barbara

President's Reception & Poster Session

Friday, 5:00 PM - 6:30 PM
 Education Building Entrance Terrace

POSTERS:

Jenny Arkle, California State University, Fullerton, *The San Joaquin Freshwater Reserve: GIS Vegetation Map and Analysis.*

Ronnie I. Caluza, California State University, Sacramento, *Exploring the Presence of Filipinos in South Sacramento.*

John C. Carroll, California State University, Fullerton, *Where are They from and Where are They Going? County-to-County Migration in the U.S.*

Peter Kirchner, University of Nevada, Reno, *Trace Elements in Tree Rings of the Tahoe Basin.*

Coralyn C. Peirson, California State University, Northridge, *Are There Areas That Are Not Being Adequately Served By Licensed Daycare Facilities In The San Fernando Valley?*

Rhea Presiado, University of California, Davis, *The Biogeography of the Marine Invertebrate *Ophioplocus Esmarki*.*

Jamie Trammell, University of Nevada, Reno, *Relationships Between Fish Communities and Stream Habitat Characteristics in the Eastern Lake Tahoe Basin.*

Ronald Whisler, University of Arizona, *Secondary Migration Patterns of Somali Immigrants between 1995 and 2000.*

Leigh Ann Wolfe and Karen Furuya, University of Washington, Tacoma, *Mapping Breast Cancer Incidence and Mortality in Washington State: Counts, Rates and Possible Clusters.*

Saturday, September 11

Registration: Saturday, 8 AM – 3:30 PM
Business Breezeway

Exhibitors: Saturday, 9:00 AM – 3:30 PM
Coffee, tea, lemonade, and water available in exhibitors' area

Paper Session IV-A **Natural Resource Management in the American West**
Saturday, 8:35-10:00
Business, Room 114

Chair: Carolyn M. Daugherty

- 8:35 Gary Cummisk, Dickinson State University, *As Far East as West Gets: Logging Camp Ranch and the Dakota Forest.*
- 8:55 David Banis, Portland State University, *The Wilderness Problem: A Narrative of Contested Landscapes in San Juan County, Utah.*
- 9:15 Marissa Smith, Arizona State University, *The Evolution of Social Capital During Environmental Conflict in the Lower San Pedro River Valley.*
- 9:35 Carolyn M. Daugherty, Northern Arizona University, *Palmerita Ranch: From Private Property to National Treasure?*

Paper Session IV-B **Thoughts about Geography and GIS for K-12 Students**
Saturday, 8:35-10:00
Business, Room 112

Chair: Sriram Khé

- 8:35 Reginald Golledge, Meri Marsh, Sarah Battersby, Pete Hayward, University of California, Santa Barbara, *Determining a Primitive-Based Concept Lexicon and Task Ontology for Guiding K-12 Geospatial Thinking.*
- 8:55 Meri Marsh, Sarah Battersby, Pete Hayward, Reginald Golledge, University of California, Santa Barbara, *Geospatial Concept Recognition by K-6 Students.*
- 9:15 Sarah Battersby, Meri Marsh, Pete Hayward, Reginald G. Golledge, University of California, Santa Barbara, *Geospatial Concept Recognition by College Students.*
- 9:35 Sriram Khé, Western Oregon University, *Blessing or Curse?: The Geography Bee and Geography's Identity.*

Paper Session IV-C **Population and Migration**

Saturday, 8:35-10:00

Business, Room 111

Chair: James P. Allen

- 8:35 Steven Kemble, California State University, Fullerton, *The Olympics and Urban Development in Global Cities*.
- 8:55 Gordon F. Mulligan and Jason Crampton, University of Arizona, *Recent Population Growth in the World's Largest Cities*.
- 9:15 Gina K. Thornburg, California State University, Northridge, *Current Responses to Economic and Population Change: A Study of Four Small Towns in Jefferson County, Kansas*.
- 9:35 James P. Allen and Eugene Turner, California State University, Northridge, *Migrants Who Left California Between 1995 and 2000*.

Paper Session V-A **Ethnic Geography in the U.S.**

Saturday, 10:15-12:00

Business, Room 111

Chair: Jennifer Helzer

- 10:15 Carol Ann Gregory, University of California, Davis, *Geography, Perception, and Preservation of Portuguese-American Landscapes in California*.
- 10:35 Robin E. Datel and Chris Dougherty, California State University, Sacramento, *Identifying Important African-American Places in Sacramento*.
- 10:55 Linda Quiquix, California State University, Northridge, *A Study of Guatemalan Transnationalism*.
- 11:15 Victoria A. Lawson, Lucy Jarosz, and Anne Bonds, University of Washington, Jennifer Devine, London School of Economics, *Geographies of Race and Poverty in the American Northwest*.

Paper Session V-B Climatology and Biogeography

Saturday, 10:15-12:00

Business, Room 114

Chair: Ross K. Meentemeyer

- 10:15 Helen M. Cox-Steele, California State University, Northridge, *Stratospheric Ozone Depletion and Recovery*.
- 10:35 Richard D. Hunter, Department of Biology, Sonoma State University, *Predictive Mapping of Daily Weather Conditions at Broad Scales*.
- 10:55 Dorothy E. Freidel, Sonoma State University, *Evidence of an Early Holocene Lake Level Oscillation in Winter Lake, South Central Oregon*.
- 11:15 Ross K. Meentemeyer and J. Hall Cushman, Sonoma State University, *Humans as Dispersal Agents of an Invasive Pathogen that Causes Sudden Oak Death*.

Paper Session V-C Urban Landscapes: Phoenix and San Diego

Saturday, 10:15-12:00

Business, Room 112

Chair: Brenda Kayzar

- 10:15 Ann Fletchall, Arizona State University, *As Youngtown Grows Young*.
- 10:35 Matthew Alan Lord, Arizona State University, *History, Authenticity, and Community Identity in the Urban Fringe Landscapes of Greater Phoenix, Arizona*.
- 10:55 Evelyn Ng, Arizona State University, *Active Adults Wanted: Lifestyles of Recent Migrants in an Age-Segregated Resort Community*.
- 11:15 Alicia Cox, San Diego State University, *A Tale of Two Veg Frags*.
- 11:35 Brenda Kayzar, San Diego State University, *Downtown Revitalization and the Arts: Formality and Permanence in Public Space Versus Informality and Impermanence in Private Space*.

Lunch: 12:00 PM -1:15 PM

See insert in registration folder for on and off-campus lunch suggestions.

Department Chairs' Lunch:

Saturday, 12:00 PM -1:15 PM

Veranda Restaurant, Cal Poly

Van shuttle available down the steps past room 111

Paper Session VI-A **Cinematic Landscapes**

Saturday, 1:30-3:15

Business, Room 111

Chair: Chris Lukinbeal

- 1:30 Chris Lukinbeal, Arizona State University, *Cold Mountain, Romania*.
 1:50 Daniel Arreola, Arizona State University, *Forget the Alamo: Place as Cinematic Space in John Sayles' Lone Star*.
 2:10 Paul F. Starrs and Gary J. Hausladen, University of Nevada, Reno. *LA Noir*.
 2:30 Jim Craine and Stuart C. Aitken, San Diego State University, *Street Fighting: Habitus and the Crisis of Masculinity in Fight Club*.
 2:50 Stuart C. Aitken, San Diego State University, *Encountering The Stoic Heart Of Men Through Cinematic Spaces Of Violence*.

Paper Session VI-B: **Outre-mer: Latin America and Europe**

Saturday, 1:30-3:15

Business, Room 112

Chair: Robert A. Voeks

- 1:30 Robert A. Voeks, California State University, Fullerton, *Measuring Medicinal Plant Erosion in Brazil's Diamond Highlands*.
 1:50 Maria G. Fadiman, Florida Atlantic University, *Food Plants and Gendered Spaces of Colonists and Indigenous people of Ecuador*.
 2:10 Heidi Hausermann, University of Arizona, *Adapting to Economic Stress: The Coffee Crisis and Land-use Changes in Coatepec, Mexico*.
 2:30 Patrick V. Barron, City College of San Francisco, *Between Lama dei Peligni and Colledimacine, Abruzzo, Italy*.

Paper Session VI-C: **Applied Geography: Assessing and Coping with Growth**
 Saturday, 1:30-3:15
 Business, Room 114

Chair: Nancy Summers

- 1:30 Carol Atkinson-Palombo, Arizona State University, *Taking a Combined Place- and Space-based Approach to Understanding Economic Development Impacts*.
- 1:50 Brian Colson, University of Nevada, Reno, *The Many Effects of the ReTrac Project on Reno, Nevada*.
- 2:10 Nancy Summers, Tierra West Appraisal & Land Use Dynamics, Inc., *Case Study in Real Estate Appraisal: Temecula Olive Oil Company*.
- 2:30 Julie Cidell, California State University, Sacramento, *Challenging the Contours: Critical Cartography, Local Knowledge, and Airport Noise*.
- 2:50 William A. Selby, Santa Monica College, *Accommodating Growth in California*.

Geography Bowl: Saturday, 3:30 PM - 4:30 PM
 Business, Room 111

Applied Geographers' Specialty Group: Saturday, 3:30 PM – 4:30 PM
 Business, Room 113
 Panel Discussion: “Independent Scholarship in Geography”
 Business Meeting

Annual Business Meeting: Saturday, 4:30 PM –6:00PM
 Business, Room 112

Reception: Saturday, 6:30 PM – 7:30 PM
 Madonna Inn, Garden Room, Highway 101 and Madonna Road

Annual Awards Banquet: Saturday, 7:30 PM – 10:00 PM
 Madonna Inn, Garden Room, Highway 101 and Madonna Road
 Presidential Address: David Plane, University of Arizona
 “The Conditions of Coastality”

Stuart C. Aitken, San Diego State University, saitken@mail.sdsu.edu. **Encountering The Stoic Heart Of Men Through Cinematic Spaces Of Violence.**

With this essay, I focus on men's emotional involvement with violence through a discussion of leading men as victims of cinematic violence and the ways that this notion challenges the conventional wisdom from feminist film theory and elsewhere that male-scorpic pleasure must center on control. My intent is not to resolve and subvert patriarchal ways of knowing, but to try to spin this two-sided Janus-coin so as to blur the edges and features that define it. I focus on leading men and cinematic contrivances between emotions and violence with intent, ultimately, on saying something about how masculinities are differentiated spatially. I begin with a brief and general discussion of the emotive experience of movie going. I then elaborate some conventional wisdom from feminist psychoanalytic studies that situates masculinity in terms that point to sadistic control and castration fear. This is followed with a fuller discussion of men and violence in cinema with intent to elaborate the multi-faceted complexity of representations that are, following Deleuze, best articulated from non-representational standpoints that focus on affect. The final part of the essay looks at movies that cast leading men in violent roles and yet treat violence in different ways as a foil against which larger theoretical issues find form. As I hope to show, affection-images not only invite visceral reactions from viewers, they also say something important about space and differentiated masculinities.

James P. Allen, California State University, Northridge, james.allen@csun.edu, **Eugene Turner**, California State University, Northridge, eugene.turner@csun.edu. **Migrants Who Left California Between 1995 and 2000.**

We use Census 2000 files to study the destinations and characteristics of people who lived in California in 1995 but were living in other states in 2000. The county-to-county migration file identifies the number of migrants between each two counties in the United States, making possible detailed maps of flows between selected regions in California and individual counties. These maps demonstrate that Californians were most likely to move to those Oregon, Nevada, and Arizona counties closest to California, where they comprised between six and eighteen percent of the total population in 2000. Migrants from various regions within California were also most likely to settle in nearby counties, both in California and in adjacent states. The PUMS file permits analysis of characteristics of White, Black, Asian, and Hispanic out-migrants from five regions of California to leading destination states in comparison to the characteristics of Californians in the same groups who lived in those regions in both 1995 and 2000. We compare migrants with stayers in terms of age, state of birth, educational attainment, and occupation.

Jenny Arkle, California State University, Fullerton, jennyarkle@hotmail.com. **The San Joaquin Freshwater Reserve: GIS Vegetation Map and Analysis.**

The San Joaquin Freshwater Reserve is located in Orange County within the heart of urban sprawl. The reserve acts as a mitigation area to surrounding businesses, which is easily accessible for researchers, educators and students attending field classes. The development of a detailed vegetation map, using Arc View GIS, will aid researchers in analysis of the elaborate ecosystem. Using a visual representation enables spatial relationships and the location of specific plant species to be easily referenced. In cases where planning defines that an explicit amount of acreage be dedicated to indigenous species, GIS applications can quickly perform calculations to find such variables as: net occupied area, standard deviations, average area and individual polygon area. The flexibility of a GIS to display desired elements on the map, allows educators to easily demonstrate complex natural occurrences. Long term goals embrace the integration of annual documentation and mapping to produce an extensive data base and visual representations of the successional phenomena that the reserve undergoes. "poster"

Daniel Arreola, Arizona State University, daniel.arreola@asu.edu. **Forget the Alamo: Place as Cinematic Space in John Sayles' Lone Star.**

A title search summary statement to a videorecording or DVD of Lone Star might read as follows: "An unsolved murder in a Texas border town uncovers a tale of corruption, intrigue, and forbidden love." John Sayles' 1996 masterpiece film is far more than an ordinary murder mystery. Lone Star is a veritable cinematic cultural geography of the U.S.-Mexico border organized around four fundamental place themes: water, who, mobility, and memory. In this presentation, I explore both visually and through excerpts from the screenplay, the places and peoples of Lone Star.

Carol Atkinson-Palombo, Arizona State University, carol.palombo@asu.edu. **Taking a Combined Place- and Space-based Approach to Understanding Economic Development Impacts.**

In this paper I seek to show how using the geographic lenses of space- and place can provide insight into the differential impact over space of changes spurred by urban economic development projects piloted by public-private partnerships. My case study examines the complementarity of existing historic downtown Glendale, Arizona and a new arena that forms the first stage in the city's sport-oriented growth strategy. Research shows substantial overlap between the two locations, contradicting official expectations that these areas would function as separate markets. The intersection is already leading to expenditure switching that will accelerate as additional developments come on-stream. This 'dual' space and place-based approach bridges two subsets of the literature on sports-oriented economic development – one coming from urban studies that stresses the intangible benefits created by amenities-driven urban development via place-making and public image enhancement; the second coming from economists, who primarily compare pre- and post-build measures of per capita income at the metropolitan area.

David Banis, Portland State University, dbanis@mindspring.com. **The Wilderness Problem: A Narrative of Contested Landscapes in San Juan County, Utah.**

Wilderness preservation has been at the center of debates about public land policy for almost half a century, and nowhere has the controversy been more intractable than in Utah. Despite its vast expanses of undeveloped red rock desert, managed primarily by the Bureau of Land Management (BLM), Utah has less designated wilderness than in any other state in the West. In this study, I focus on San Juan County in southeast Utah to explore the conflict over the designation of wilderness. I analyze and interpret this wilderness debate from three different perspectives. The first explores the history of the Utah wilderness debate from the first BLM wilderness inventory in the 1970's through its re-inventory in the 1990's. The second perspective incorporates the spatial analytical techniques of geographical information systems to provide a relatively objective view of landscape characteristics used to define wilderness. Lastly, I examine the personal views of the meaning of wilderness through the words of actual participants in the debate.

Patrick V. Barron, City College of San Francisco, pbarron@ccsf.edu. **Between Lama dei Peligni and Colledimacine, Abruzzo, Italy.**

This paper examines the oftentimes porous boundaries that define space. Specifically, it is based on the form, function, and meaning of the boundaries of the Aventino Valley, the Majella Massif, Lama dei Peligni, and Colledimacine in Abruzzo, Italy, and emerges from the broad intersection of cultural geography, photography, literature, folklore, spatial theory, and boundary theory. In constructing a regional geographic portrait of the study area by analyzing its prominent and hidden edges, the paper demonstrates how boundaries, as definers of physical space, are also key indicators of cultural activity. A central claim is that the analysis of a vernacular landscape's multifaceted human and nonhuman boundaries at once reveals and helps to interpret many subtle, overlapping processes and meanings of that landscape's intertwined natural and social spaces. It provides guidance through a particular, very localized portion of space, yet also encourages the exploration of vernacular landscapes of many types.

Sarah Battersby, Meri Marsh, Pete Hayward, Reginald G. Gолledge, University of California, Santa Barbara, golledge@geog.ucsb.edu. **Geospatial Concept Recognition by College Students.**

In light of Goodchild's suggestion that "geographic" and its synonym "geospatial" are the subsets of "spatial" thinking relevant to the geographic domain, we examine sets of geospatial concepts to determine the extent to which they are "naively" (or "generally") and "technically" (or "expertly") understood. The ultimate purpose of this research is to contribute to building a geospatial concept lexicon and task ontology that could be instrumental in suggesting the operations content of a "minimal" GIS. The latter product could be developed in a low-tech format for integration into the earlier years of the K-12 educational system, and a higher-tech version that would be appropriate for 6th-12th grade and introductory college students. To achieve these goals, we conduct a series of experiments that provide suggestions for a geospatial concept lexicon and task ontology. The experiments described herein take the following form:

1. Word/Image Association: Students are given simple, abstract representations consisting of points, lines, or areas, and are asked to associate words (from their own knowledge base).
2. Word/Image Association: Students are given abstract (point, line, area) representations and are asked to select words from a concept list that (to them) best describe the representation.
3. Image/Word Association: Experiments 1 and 2 are repeated, but with familiar real-world occurrences replacing the abstract symbols, along with a select list of geospatial concepts.
4. Concept Definitions (e.g., "projection"; "digitize"; "node"; "nearest neighbor").

5. An overlay experiment.
 6. A density interpretation experiment.
 7. A map identification experiment.
- Results are examined in light of a desire to produce a “minimal GIS.”

Kevin S. Blake, Kansas State University, kblake@ksu.edu. **Native American Representations Along the Lewis and Clark Trail.**

This study examines how Native Americans are portrayed at the interpretive sites along the Great Plains portion of the Lewis and Clark National Historic Trail. With the Lewis and Clark bicentennial commemorations, the significance of American Indians in the social memory of the expedition is strongly debated. Some Natives express concern over how their history is memorialized in the landscape and see the bicentennial as an opportunity to tell their side of the story. Most interpretive sites along the trail were studied in 2003 for any content of Native American representations. Four themes emerge: *Councils of Power*, relating to the first councils with Plains Indians and images of acquiescence; *Hostile Encounters*, relating to potential or actual violence in encounters with the Teton Sioux and Blackfeet; *Good Neighbors*, relating to Mandan-Hidatsa assistance and the expedition’s ethnography; *Sacagawea Reinterpreted*, relating to the multiple versions of her role, ranging from guide to harbinger of peace. Native American cultures are typically conflated along the trail and the Native American voice is rarely present. Surprisingly, the newest interpretations are not necessarily more likely to include a Native American perspective, nor are those sponsored by federal agencies.

Khaled Bloom, University of California, Davis, kjbloom@ucdavis.edu. **The Arbuckle-Hershey Chamisal: A Significant Anomaly in California Plant Geography.**

In a 1922 monograph on the California chaparral, ecologist William S. Cooper called attention to some patches of chamise (*Adenostoma fasciculatum*) growing thriftily on deep alluvial soils on the west side of the lower Sacramento Valley. He submitted that these patches were relicts of "the true regional climax," suggesting that centuries of Indian burning accounted for the prevalence of grass, not brush, when the Sacramento Valley was first seen by Europeans. We examined available historical evidence and found that Cooper was right in concluding that the chamise patches he saw were vestiges of a much more extensive (ca 4,000 ha) natural stand. Whether the controlling local influence was edaphic or anthropogenic, and whether the local pattern had any wider regional implications, are questions that remain open to speculation.

Marshall E. Bowen, Mary Washington College, dbowen@mwc.edu. **A Russian Molokan Farmers' Village in Northwestern Utah.**

Most agricultural villages in the Intermountain West are classic Mormon settlements, laid out in the form of a grid, surrounded by cultivated land and pastures. Elongated farming villages, with houses and lots oriented to a single street, are much more common in lands settled by Mennonites. Few would expect to find a street village resembling those of the Mennonites in Utah. But in 1914 Russian Molokans laid out a traditional street village in Park Valley, near the northwestern corner of the state, and lived here for periods of one to four years. Unfortunately, crop failures thwarted their plans, and today the village lies completely abandoned and almost forgotten, a symbol of this distinctive group's attempt to recreate a familiar pattern of settlement in an unforgiving land.

Ronnie I. Caluza, California State University, Sacramento, RCaluza@aol.com. **Exploring the Presence of Filipinos in South Sacramento.**

According to the 2000 U.S. Census, Filipinos are the second largest Asian group in the city of Sacramento and the largest Asian group in Elk Grove, an incorporated suburb to the south of Sacramento. Over time the presence of Filipinos is expected to increase as some demographers predict that Filipinos will eventually surpass the Chinese as the largest Asian-American group nationwide. This poster explores population patterns of the Filipino community in southern Sacramento and Elk Grove, and the subtle yet evolving cultural landscape that the Filipino community has created in the South Sacramento area. Recent field observations and U.S. Census data from 1990 and 2000 were used to map the locations of places significant to the Filipino community in comparison to Filipino population distributions. These maps show that Filipino places are prominent in the older South Sacramento area despite an apparent shift of the Filipino population southward toward Elk Grove from 1990 to 2000. The poster also includes photos of Filipino places (e.g. restaurants, grocery stores, money remittance services, and meeting places) that illustrate a Filipino business landscape of locally owned businesses and Filipino themed franchises that progressed from a Filipino business landscape that was virtually nonexistent in the 1980s. “poster”

Margaret Campbell-McCrea, Portland Community College, mcampbel@pcc.edu. **“Club Dred” and the Cook Islands: Interactive Exercise in the College Classroom**

To avoid heavy lecturing in an Introduction to Geography class, I used a case study exercise in which students played the various parties involved in a difficult social issue, participating in a “conference” in which they - - as the stakeholders - - had to make a decision: should Club Dred be allowed to obtain a waiver of local laws in order to bring jobs and development to a region badly in need of investment? The exercise brought to life several complex issues: economic development, tourism, dependency, transnational corporations, post-colonial relationships, ethnic identity and relationships, and environmental issues. In addition, it introduced an area of the world the students did not know well. The exercise required background work for both the instructor and the students, but it was worth it. And it was fun.

John C. Carroll, California State University, Fullerton, jcarroll@fullerton.edu. **Where are they from and where are they going? County-to-County Migration in the U.S.**

This study explores county-to-county migration patterns in the United States using the immense 5-year mobility data from Census 2000. For each county (or county level equivalent), this dataset contains total inflow from every other county in the U.S. and total outflow to every other county in the U.S. Understanding the various components of population change is critical for short and long-term planning for infrastructure, services, businesses and housing at the federal, state and local level. One component of population change is inter-jurisdictional mobility, county-to-county migration in this instance. Overall observations include significant regional variation in both rate of mobility and net migration, metropolitan to nonmetropolitan movement, and direction of migration flow. Case studies of selected individual counties highlight unique local patterns. “poster”

Julie Cidell, California State University, Sacramento, julie_cidell@yahoo.com. **Challenging the Contours: Critical Cartography, Local Knowledge, and Airport Noise.**

As with many environmental issues, conflicts over airport noise are often grounded in the different experiences of those who measure it and those who suffer its effects. The mapped contours that officially designate where airport noise is a problem (and where funds may be spent to mitigate it) are drawn according to a complicated mathematical model, not direct observation. In contrast, residents' complaints about airport noise are based on direct, local knowledge of their environment. Residents' concerns are usually treated as anecdotal, not as indications that modeling or mitigation processes need to be changed. The ways that residents challenge the noise contours reflect critical cartography literature, which does not take the truth of maps for granted but instead considers the political and other biases behind their construction. At the same time, work in political ecology shows that conflicts between local residents and state officials and/or scientists are in part based on their different types of knowledge about a place, with state-centered scientific knowledge considered to override local knowledges. This paper brings together these two literatures in an analysis of conflicts over airport noise at Minneapolis-St. Paul International Airport.

Brian Colson, University of Nevada, Reno, bhs2unr2000@yahoo.com. **The Many Effects of the ReTrac Project on Reno, Nevada.**

Since the 1930's the City of Reno, Nevada has tried to do something about the eleven street crossings that exist at the railroad tracks in downtown Reno. Due to recent extraneous circumstances the city proposed a project called the Reno Transportation Rail Access Corridor (ReTrac). This project lowers the railroad tracks into a trench through downtown Reno. This study examines three different topics of the ReTrac project; the economic effects, the urban landscape changes, and the historic changes of downtown Reno near the railroad tracks. The economic effects include the cost of the project and how the project will affect the economics of Reno. The urban landscape changes include the roads, railroad tracks, buildings, and landmarks in Reno. The historic changes include examining how buildings near the railroad tracks have changed, and how they are going to change with the ReTrac project. Results show that the ReTrac project is going to have a number of effects on Reno, Nevada. Although these effects are not entirely negative, the ReTrac project is causing changes in the economy, history, and overall urban landscape in Reno. In conclusion the ReTrac project is changing the overall appearance of Reno, Nevada forever.

Alicia Cox, San Diego State University, acox@rohan.sdsu.edu. **A Tale of Two Veg Frags.**

Errors in geographic design of cities can leave fragments of urban space that are empty and overlooked, called ‘frags’ by Grady Clay and Larry Ford. Vegetated frags, or veg frags, are “green” pockets of undeveloped and undefined space

in the city. They are seen in the eye of the beholder: a weedy pathway to one person; a future park to another; an affordable housing development project to still another. This paper explores the role of veg frags in the urban environment and the nature-culture hybridity that they represent. This is the story of two veg frags in San Diego.

Helen M. Cox-Steele, California State University, Northridge, helen.m.cox@csun.edu. **Stratospheric ozone depletion and recovery.**

This is a review of the current status of the stratospheric ozone layer and its progress towards recovery. We present an overview of the chemical processes responsible for stratospheric ozone depletion over the past two decades and discuss the measures which have been taken to mitigate it. Satellite measurements of Antarctic and global ozone are presented and their evolution since the early 1980s, analyzed. Recent data suggest that upper stratospheric ozone is showing signs of recovery, but there still remain many questions regarding the future of the ozone layer as concentrations of greenhouse gases continue to increase. Greenhouse gas emissions and the warming of the Earth are likely to cause dynamical and chemical changes which may slow the recovery of the ozone layer even under conditions of reduced CFC emissions.

Jim Craine, San Diego State University, jwc53531@rohan.sdsu.edu, **Stuart C. Aitken**, San Diego State University, saitken@mail.sdsu.edu. **Street Fighting: Habitus and the Crisis of Masculinity in *Fight Club*.**

Recent writing in geography and its cognate disciplines suggests that the crisis of masculinity is in large part about the marginalization of men. Men exist in a predetermined space, what Bourdieu describes as the habitus, in which men are the creators and the purveyors of patriarchal spatial relationships. We use this paper to engage the cinematic geographies of David Fincher's film *Fight Club* by uncovering new possible masculine urbanities that evolve from Fincher's film. The spectacular violence that defines the masculine spaces of *Fight Club* can be seen as an attempt to resolve this crisis of masculinity by first destroying then recreating the *habitus*. Fincher's film confronts the spatialities of the *habitus* and offers the occupants of *Fight Club's* geographies the opportunity to overcome the crisis of masculinity. New masculine urban spaces emerge and the previous hopelessness of male anomie is overcome.

Gary Cummisk, Dickinson State University, Gary.Cummisk@dsu.nodak.edu. **As Far East as West Gets: Logging Camp Ranch and the Dakota Forest.**

Logging Camp Ranch is a private landholding and working ranch situated amid a checkerboard of public lands, including National Grasslands, and North Dakota Public School lands. The Dakota Forest is the eastern-most stand of ponderosa pine (*Pinus ponderosa*) in North America. This disjunct stand of pine, comprising only 22 sections, was recognized by President Theodore Roosevelt during his Dakota years in the 1880s and designated by him a National Forest in 1908, only to be withdrawn from such designation in 1917 by Woodrow Wilson. Management at Logging Camp has recently shifted from only cattle production, to the raising of bison for market, and recreation and ecotourism. The Hanson's, owners of the ranch, have employed controlled burning and rotational grazing to restore species diversity and recreate the open habitat characteristics of a healthy ponderosa pine forest. This study examines the history of the Dakota forest and the role of the Hansons and various agencies in managing the landscape over the past century.

Shawna Dark, shawna.dark@csun.edu, **Regan Maas**, **Namrata Belliappa**, **John Davenport**, **Jason Mejia**, California State University, Northridge. **Mapping the Wetlands of Ventura County, CA: An Application of the Cowardin Classification System.**

The importance of wetlands in serving essential ecological functions has been extensively documented (Duda 1991, Park et al. 1991, Meffe and Carroll 1997). However, during the past two centuries over 53% of the wetland area of the contiguous United States has been destroyed with the state of California having lost the greatest proportion of wetlands at 91% (Dahl 1990). Critical to restoring and protecting such a vital resource is knowledge of the type and extent of wetlands currently in California. Unfortunately, the most recent documentation of wetlands in southern California was performed over 10 years ago. The objective of our study was to map, classify, and summarize the distribution of wetlands within Ventura County. This research is being performed as part of a larger nationwide effort conducted by the National Wetlands Inventory (NWI). As such, NWI mapping protocol was utilized, and the Cowardin system of classification for wetlands and deepwater habitats was applied. Our presentation will provide a general discussion of the techniques used to map the distribution of wetlands in Ventura County and an assessment of potential complications when using a system based on a large (national) geographic scale.

Robin E. Datel, California State University, Sacramento, datel@csus.edu, **Chris Dougherty**, California State University, Sacramento, cbdougher@yahoo.com. **Identifying Important African-American Places in Sacramento.**

The shifting pattern of African-American residential space in Sacramento is depicted in a series of maps using decennial census data from 1950 through 2000. Archival sources and interviews are used to explain map patterns and to identify places with importance in the experiences and memories of Black Sacramentans. African-American residential patterns have been influenced by urban renewal, employment nodes, and black institutions and businesses, as well as by the evolving racial attitudes and laws of the dominant white society. Interviews with long-time residents of Oak Park, which became the major reception area for African Americans displaced by downtown urban renewal starting in the late 1940s, help to identify memory-rich places in the neighborhood. One theme that has emerged is the importance of public and commercial places, such as parks, fairgrounds, schools, auditoriums, theaters, and shops, in many of these memories. While more exclusively African-American places (homes, clubs, churches) also are important, places used by all races often have been the settings for memorable events in the lives of Oak Park African-Americans. Similar series of maps will be produced and interpreted for Asians and Hispanics in Sacramento.

Carolyn M. Daugherty, Northern Arizona University, carolyn.daugherty@nau.edu. **Palmerita Ranch: From Private Property to National Treasure?**

Palmerita Ranch is located on the Santa Maria River in west-central Arizona, just upstream from where the Santa Maria and Big Sandy Rivers join to form Alamo Lake and its outlet, the Bill Williams River. Hispanic homesteaders first settled the ranch in 1899. In the 1930s, these Hispanic homesteaders sold out to Anglo-American investors and the ranch was incorporated into a larger ranch used for cattle grazing. In 2000, the Bureau of Land Management (BLM) acquired 200 of the ranch's original 600 acres. Currently, the BLM is grappling with numerous management issues for Palmerita Ranch. This presentation relates the historical geography of the ranch and introduces the management issues confronting the BLM, with particular focus on the appropriate "interpretation" of this historic ranch property.

John Davenport, California State University, Northridge, jjdavenport@excite.com. **Consuming the Dark Landscape: meaning and motivation in the visitation of dark tourism sites.**

In recent years a niche market within the tourist industry known as dark tourism has enjoyed growing popularity. Consisting of preliminary research, this paper aims to present several of the motivations driving tourists/consumers to seek out this type of destination/commodity. The relationship between local and global experiences set against the backdrop of a mass mediated world are explored, and the existence of a spatial component to human mourning and reflection is proposed. Additional topics addressed include; the function of dark tourism sites as meeting grounds for an extended bereavement community, consumer pursuit of the sublime or subliminal, visitation as a socially structuring process, and questions of authenticity and the directed experience. Sites of interest are restricted to North America and draw largely from the Los Angeles area.

Vincent J. Del Casino Jr., California State University, Long Beach, vdelcasi@csulb.edu. **Rethinking Regions and Regionalization in the Context of World Regional Geography.**

In recent years there has been an attempt to integrate a more critical human and environmental geography into the ways in which geographers teach world regional geography. The proliferation of world regional geography textbooks with theoretical frameworks that are organized around themes such as globalization and incorporate feminist and developmentalist geographies bears witness to this change. Yet, for all these innovations world regions remain fairly static in the discipline's rendering of world regional geography. Little discussion can be found in world regional geography textbooks, at least within the substantive 'regional chapters,' as to how world regions have shifted over time and in relation to each other. Moreover, world regional geography remains relatively timeless, utilizing sweeping narratives to render the history of places in both their environmental and temporal contexts. Through a meta-analysis of world regional textbooks, this paper offers a critique of world regional geography through a discussion of 'new world history.' Ironically, it has been world historians, not geographers, who have challenged the hegemony of a world regional approach. This is not to say that regions are not important organizational structures, rather this is to suggest that regions, as fluid and dynamic processes, need to be theorized in our classrooms and textbooks in the same ways in which regions and regionalization are theorized in the broader discipline of geography.

Matthew A. Derrick, University of Oregon, matthewderrick@hotmail.com
Tatarstan's "hidden war" as revealed in the urban contours of Kazan, Russia.

My paper explores the state of interethnic relations between Tatarstan's two major populations – the titular Muslim Tatars and the Orthodox Russians – as revealed by a critical reading of the city landscape of Kazan, the republic's capital. Situated in the heart of the Russian Federation, Tatarstan declared its sovereignty in 1990; this status was confirmed by a republic-wide referendum two years later and subsequently recognized by Moscow. Throughout the '90s, Tatarstan confronted the dual task of maintaining interethnic peace at home and avoiding conflict with the federal center. By most accounts, the republic found success in melding a unifying identity – the “multinational Tatarstani people” – while Moscow was in a comparatively weak condition under Yeltsin. But it is unclear how the republic's national dialog has developed since the arrival of Putin, a period characterized by rapid recentralization of the federation and diminishing ethnic tolerance throughout the country. Although the political leadership of Tatarstan insists on the existence of a unifying “Tatarstani” identity, I challenge this self-image. Analyzing found signs in Kazan's urban text, such as graffiti and advertisements, I show that a fissure has developed between the republic's Tatars and Russians. This fissure, I posit, has been exacerbated by the politics of a reinvigorated federal center that has systematically dismantled the republic's sovereignty.

Dennis J. Dingemans, University of California, Davis, djdingemans@ucdavis.edu. **The Isla Vista Disturbances of 1970: Causes, Consequences, and Place Characteristics.**

The University of California's Santa Barbara campus was the center of major episodes of student and community activism that peaked during the 1969-1970 academic year. The killing of one student by police, the burning of a Bank of America office under riot conditions, and the arrest of 667 protesters are highlights marking these disturbances as significant events in our country's erratic history of college related disorder. This presentation reviews the roots and heritage of a level of turbulence that we more often associate with the Berkeley campus. Locally, a key factor was the distinctive campus-related housing area known as Isla Vista, where 14,000 lived in densities and conditions that generated a strong sense of community and were supportive of collective action. Regionally, Ronald Reagan's political leadership (including his statement from the governor's office welcoming a "a bloodbath" at UCSB) exacerbated California's decade of campus-community tensions festering since the 1964 events of the free speech movement. Nationally, the turbulence and debates over our country's military, environmental, and civil rights policies contributed to events at UCSB. Blake Gumprecht's recent description of the American college town provides an apt context for thinking about Isla Vista as a place that might well provide additional headlines.

John Douglass, Arizona State University, John.Douglass@asu.edu. **Linking on-line education, field trips, and research: Exploring a newly discovered rock avalanche and the merits of virtual learning.**

An Arizona Board of Regents (ABOR) grant sponsored an on-line geomorphology course suitable for disabled and place bound students. Two modules from this course grew into research projects. The first examined one of the largest landslides in Arizona. The second looked at whether students learn desert geomorphology better in the field or virtually. The landslide study examines a newly discovered granitic rock avalanche with a volume more than seven million cubic meters. Even though the slide is possibly mid-Pleistocene in age, discovery of a large landslide close to the extending Phoenix urban fringe argues for a careful assessment of regional landslide hazards, especially where rapid development excavates bedrock at the base of steep mountain slopes. The pedagogy research focused on how introductory physical geography students learned desert geomorphology virtually or in the field. The virtual field trips were statistically indistinguishable from physical field trips in establishing knowledge about key concepts. The geographic context of physical features surfaced as the only factor favoring field based instruction. The conclusion rests in uniting personal fieldwork, state-of-the art technology to reach new types of geography students, and testing this technology against the tried and true method of enticing new geography students through traditional field trips.

Derek W. Eysenbach, University of Arizona, dereke@email.arizona.edu. **From Destruction to Restoration and Back Again: Political Ecology and the Florida Everglades.**

The Florida Everglades, one of the most unique landscapes and ecosystems in the world, has been subjected to decades of management and mismanagement. After years of drainage, the swampy River of Grass is to be restored by the very agency responsible for its destruction: The US Army Corps of Engineers. The keystone to the 30-year plan is the implementation of an adaptive management strategy. This paper examines the theoretical framework of adaptive management, and introduces a discussion of First World political ecology to critique the tenets of adaptive management

that purported to be the keys to successful ecosystem restoration. The paper will then illustrate these arguments by exploring the political processes that are being translated into ecological experiments on the Everglades.

Maria G. Fadiman, Florida Atlantic University, maria.fadiman@sonoma.edu. **Food Plants and Gendered Spaces of Colonists and Indigenous people of Ecuador.**

This study looks at the cultivation, collection and management of food plants, in the Mache-Chindul Ecological Reserve, Ecuador. This area is of particular interest, as the reserve encompasses coastal rainforest of high biodiversity, most of which has been cleared in Ecuador. Various groups are looking into ways of maintaining a balance between the needs of the local residents, *mestizo* and Afro-Ecuadorian colonists and the indigenous group, the Chachi, while protecting the ecosystem. This study compares the plants and the spaces in which edible vegetation is grown. Particular attention is paid to the gendered spaces in relation to the growing of plants within each household, and also between ethnic groups. This paper explores the culture surrounding the edible flora. Differences and similarities between ethnic groups' regard for edible vegetation, such as: nutritional, medicinal, or merely for flavor, are discussed. Understanding natural resource use, such as food collection, helps researchers and conservationists to better comprehend these ecosystems and the people who depend on them.

Ann Fletchall, Arizona State University, ann.fletchall@asu.edu. **As Youngtown Grows Young.**

This research examines the vast changes taking place in the town of Youngtown, Arizona. Youngtown, located on the northwestern fringe of the Phoenix Metropolitan Area, was the first retirement community in America and in 1998 became the first to lose its age restrictions. Profound demographic change followed their fall, and thus Youngtown found itself without the main protector of its lifestyle, and longtime residents were seemingly stripped of their sense of place. New place identities are now emerging in Youngtown, and Youngtown presents a unique opportunity from which to assess the efficacy of age restrictions and their role in maintaining quality of life in old age.

Michael M. Folsom, Eastern Washington University, mfolsom@ewu.edu. **The Science and Management of Critical Areas; an opportunity for geographers.**

A rising tide of environmental consciousness in American society is being expressed by increasingly widespread regulation of what are called critical areas. Critical areas, in the broad sense, include wetlands, other important habitats, geological hazard sites and locations with a high potential for soil erosion. The regulations are based on scientific information written into law. In most jurisdictions the regulations apply to all property as it becomes subject to application for building permits. Typically, a scientifically competent observer, usually a private consultant, records specific field criteria, and those data are included in a consultant's report that describes the evidence, the applicable regulations and an appropriate management plan for the site. This is a developing field of exciting research and widespread employment that inherently bridges and integrates the same physical-cultural dichotomy that geographers celebrate. It is necessary to be able to perform highly competent field investigation of physical geography and to fit those scientific findings into the social fabric of legal regulations, of community values and of the aspirations of individual landowner.

Larry Ford, San Diego State University, larryf@mail.sdsu.edu. **Color Comes to Irish Towns.**

Traveling In Ireland during the 1960s and 1970s, the dominant color in nearly every town was gray. The pubs were lively and the music captivating but the built environment was dreary. This has changed in recent years as the facades of town houses and businesses throughout Ireland have been painted a variety of very bright colors including yellow, purple, green, blue, orange, pink, and gold. This is true even in places designated as Heritage Towns where restrictions on signage and building modification makes some kinds of changes impossible. The purpose of this paper is to contrast the Irish experience with the situation that increasingly prevails in the United States in both new and historic districts—the mandating of nothing but bland and “tasteful” colors such as beige and natural brick. What is the relationship between color, taste, history, and sense of place?

Jim Fraser and Danny De Vries, University of North Carolina at Chapel Hill, pavement@unc.edu. **The Politics and Governance of Space in Floodplain Mitigation.**

This paper examines the processes, tensions, and outcomes surrounding the Federal Emergency Management Agency's (FEMA) attempts at developing a neoliberalist approach toward floodplain management. Three interrelated areas are discussed: increased legal-judicial emphasis on compliance; re-scaling and privatization of floodplain governance;

and, the cultural politics of representing actors involved in mitigation. We conclude with theorization on the unevenness of these efforts with an emphasis on risk, desire, and power.

Dorothy E. Freidel, Sonoma State University, freidel@sonoma.edu. **Evidence of an Early Holocene lake level oscillation in Winter Lake, South Central Oregon.**

Three transects of backhoe trenches across low beach ridges at 1310 m, 1321 m, and 1337 m levels reveal an oscillation in level of Winter Lake about 12,000 years B.P. Winter Lake is a climate-sensitive sub-basin of Pleistocene Lake Chewaucan, one of a system of close-basin paleolakes formed in the northwestern reaches of the Great Basin in South-Central Oregon. Sediments in the trenches indicate a single sequence of deep water regression to cobble beach, then a return to deep water, then a final regression. A chert artifact found in beach gravels just above the earliest deep water sediments suggests that humans were inhabiting the valley before the final transgression and retreat of the lake, a hypothesis supported by human deposits at Paisley Caves 1.5 km to the east. The lake oscillation may have been in response to the mean path of the polar jet retreating north as the ice sheets melted at the end of the last glaciation.

Reginald Golledge, Meri Marsh, Sarah Battersby, Pete Hayward, University of California, Santa Barbara, golledge@geog.ucsb.edu. **Determining a Primitive-Based Concept Lexicon and Task Ontology for Guiding K-12 Geospatial Thinking.**

A recent National Research Council Committee (Downs & De Sousa, 2004) has been examining the possible use of GIS as a support system for encouraging spatial thinking in K-12 curricula. This charge has been interpreted not as a way to expand existing curricula, but as a way of enhancing and encouraging spatial thinking in a variety of domains ranging from astronomy to zoology. Given the aim of integrating spatial thinking rather than imposing it on an already crowded curriculum, the committee has emphasized the importance of concept-based learning, developmentally consistent with student abilities. In this paper, we endorse and follow these suggestions by exploring a multi-level basis for developing a geospatial (geographic) concept lexicon and a geospatial task ontology. Their purposes are to show how simple and complex geospatial concepts can be developed from a base of four primitives—identity, location, magnitude, and time. We explore and highlight examples of “first order” derivatives from the primitives, then use GIS (and object-oriented) principles of inheritance tracing to suggest how a five-level concept lexicon might be developed. In association with this, we suggest components of a geospatial task ontology that provides insights into what low-tech and higher-tech formats might be used to introduce fundamental components of vocabulary needed for illustrating spatial thinking processes for different age-grade levels. Suggestions are made as to which concept/task combinations are suited for low-tech and higher-tech (computer assisted) use, and as to the possible components for a minimal GIS.

Carol Ann Gregory, University of California, Davis, carolagregory@sbcglobal.net. **Geography, Perception, and Preservation of Portuguese-American Landscapes in California.**

This is a study of the presence and location of Portuguese-American cultural features in the California landscape, using techniques of qualitative and quantitative analysis. The 2000 U.S. Census identified 330,974 persons of Portuguese Ancestry in California, of which over 90% claim ancestry from the Azores Islands. An inventory of buildings, structures, and features commonly associated with Portuguese-Americans reveals California currently has 99 Portuguese halls; 3 Portuguese National Churches; 3 Portuguese-oriented parks; 6 Portuguese fraternal buildings/museums/libraries, 2 Portuguese-themed commercial districts; over 800 street, school, and feature names bearing Portuguese place and family names; almost 50% of all California Grade A Dairies; and 15 bullrings. Perceptions of these landscapes were studied. Both Portuguese and non-Portuguese Americans, varying by gender and age were evaluated through focus groups, questionnaires, and in-depth interviews. The goal of this work is to identify the ways that Portuguese-American landscape features are culturally distinct and worthy of preservation. Portuguese-American landscape features are found throughout California and are located based upon the settlement patterns of this ethnic group. Portuguese-American populations in urban areas are declining, so commemoration activities are often part of a recreated landscape. In rural areas, the population remains steady and presents an authentic landscape atmosphere.

Heidi Hausermann, University of Arizona, hhauserm@email.arizona.edu. **Adapting to Economic Stress: The Coffee Crisis and Land-use Changes in Coatepec, Mexico.**

The international coffee crisis, fueled largely by neoliberal reforms at both national and international level, has had significant impacts on coffee producers and seasonal laborers in Veracruz, Mexico, where the price of coffee has dropped to historical lows. This paper examines differences in vulnerability and coping strategies between a coffee-

producing community and a community composed largely of seasonal laborers. The paper also investigates forms of livelihood diversification employed by both communities in response to the crisis. The methodologies in this investigation were largely qualitative and include interviews with coffee producers, coffee laborers, government officials, representatives of coffee organizations and academic researchers. Preliminary analysis of the data demonstrates that vulnerability and responses to changing economic policies and falling coffee prices differs between coffee producers and laborers in the region of interest. Introduction of new shade-grown alternatives within coffee plantations, replacement of coffee with new cultivations, migration and deforestation for use of forest products are some of the trends that are emerging as the two communities adapt to the crisis.

Michael Henderson, California State University, Fullerton, mh99afc@aol.com, **The Ebb and Flow of Quebec Nationalism: A Geographic Analysis.**

French-Canadian nationalism entered a modern phase in the 1960s. The “Quite Revolution” of this period resulted in the modernization of Quebec as French-Canadians tried to “catch-up” with the rest of Canadian society. However, the limitations of what the government of Quebec could do left people wanting more and some felt the only answer was separatism. Others preferred remaining loyal to Canadian federalism. Two political parties, the federalist Liberals and the nationalist Parti Québécois, have clashed in provincial elections since the 1970s. Nationalism peaked with two referendums on sovereignty in 1980 and 1995, when the PQ was in power. I will discuss the reasons for the ebb and flow of Quebec nationalism, and show how the ethnic, historic, and social-economic geography of Quebec is related to spatial patterns in support for nationalism.

Eric H. Honda, California State University, Sacramento, Jishuro@aol.com, **Surveying the Heartland: Mackinder’s Legacy a Century Later and the Geopolitics of International Relations.**

This year marks the one-hundredth anniversary of “The Geographical Pivot of History.” While Mackinder has made a considerable impression on a variety of schools, sub-fields, and disciplines, ranging from the study of geopolitics, to political geography, to international relations, there is some doubt as to whether this impression was really that influential in comparison to others. This is reflective in the difficulties in explaining the heartland due to the disjunctures in geography, history, and technology; the difficulties in expanding the heartland attesting to the discontinuities in 1904, 1919, and 1943; and the difficulties in espousing the heartland as a case for grand strategy. Yet because Mackinder always identified the Eurasian landmass as a threat to global stability, and that he did not want a situation of heartland hegemony to ever emerge, his writings and warnings led to the very conceptions that enabled later generations of scholars and statesmen to do what he could not—namely to successfully establish a plausible, all-pervasive, thesis that became a guidebook for policy. Thus, it is here that Mackinder’s influence ends, and others—such as Spkyman, Kennan, Kissinger and many more—clearly begin; though not without first surveying the heartland.

Richard D. Hunter, Department of Biology, Sonoma State University, hunterrr@sonoma.edu, **Predictive mapping of daily weather conditions at broad scales.**

Accurately mapped meteorological data are a basic necessity for hydrological and ecological research conducted at broad-scales. However, such data are not often incorporated due to complex mathematical equations and programming typically required. The objective of this study is to develop a simple, yet effective methodology designed for mapping daily weather conditions across heterogeneous landscapes. To achieve this goal, daily weather data recorded at point locations are integrated with long-term average climate maps to reconstruct spatially-explicit estimates of daily weather conditions over the past twenty years in California. Variables mapped include daily precipitation, minimum and maximum temperature, and relative humidity. The methodology uses kriging to spatially interpolate weather data from first-order base stations at a 2 km grid cell resolution. These grids are adjusted by 30-year average climate maps (PRISM; Parameter-elevation Regression on Independent Slopes Model), which incorporate adiabatic lapse rates, rainshadow effects, coastal proximity, and other environmental factors. The predictive accuracy of the weather model is evaluated by withholding 25 percent of the weather stations from model development and comparing predicted versus observed values. The weather maps produced from this work are being actively used as input variables for a simulation model of Sudden Oak Death disease spread.

Douglas A. Hurt, California State University, Fresno, dhurt@csufresno.edu. **The New NASCAR: Tradition, Nationalization, and Regional Identity.**

In recent years, NASCAR (National Association for Stock Car Auto Racing) has undergone massive change. With the hopes of becoming a national sport, new races have been held in the Chicago, Dallas-Fort Worth, Kansas City, Las Vegas, Los Angeles, and Miami markets. While the traditional Southeastern United States core continues to host the majority of races, some argue that expansion has resulted in a re-writing of stock car history and a decline of Southern distinctiveness in the sport. Changing NASCAR Nextel (formerly Winston) Cup race locations, driver hometowns, and fan club membership will be considered as part of an attempt to assess the ties between NASCAR expansion and Southern regional identity.

Shaun Huston, Western Oregon University, hustons@wou.edu and **Anne-Marie Deitering**, Oregon State University, anne-marie.deitering@oregonstate.edu. **Teaching Through the Blogosphere: New Spatialities and the Classroom.**

This paper discusses the potential for expanding or refiguring the space of the college classroom offered by new communications technologies. Popular course management packages, like WebCT and Blackboard, are often used as virtual adjuncts to classrooms, or as substitutes for classrooms in distance education situations. Social networking tools, like web logs, provide an opportunity to build a different, more social and collaborative, virtual classroom space. This comparison draws on recent experience using a blog to extend the traditional classroom in a Writing Intensive geography course at Western Oregon University, including both faculty and student evaluations of the technology. A key difference between traditional course management software and web log programs is in their assumptions and purposes. Programs which are deliberately structured to mimic the traditional classroom environment, replicate the organization, hierarchy and structure of that environment. Weblogs, with their genesis in online communities, offer unique possibilities for creating extensions of the classroom that can be more fully ‘owned’ by students than traditional course management software. This can have important pedagogical benefits as students engage with, and write about, course content.

Edward L. Jackiewicz, California State University, Northridge ed.jackiewicz@csun.edu, James Craine, San Diego State University, jwc53531@rohan.sdsu.edu. **Billy Bragg and Soundscapes of Activism.**

Billy Bragg, from London, England, is a highly politicized folk singer with a strong punk rock background. Throughout his career he has been a pro-labor advocate and we argue that his music and actions have helped to create multiscalar spaces for antiglobalization and anti-union resistance. Unlike, many politically-oriented musicians (particularly those categorized as punk rockers), Bragg has established himself as a legitimate and intelligent voice for the political left. In this paper, we demonstrate how Bragg creates and sustains multi-scalar spaces of resistance through his music and political activities. We use his lyrics and his performative and spectacularized activities to illustrate how resistance is placed upon the landscape at a number of different scales.

John Paul Jones III, University of Arizona, jpjones@email.arizona.edu. **Meta-theories of the Region.**

Is there a concept – or an object? – more central to geography than the region? Is there one that has been subjected to more scrutiny in modern geographic thought? For the region has been defined and demarcated, analyzed and fetishized; ridiculed as mere taxonomy, a hopelessly idiographic frame of reference; theoretically ‘unpacked’ and peopled through social theory; and pushed to the precipice of deconstruction. And yet, through both the imaginaries and materialities etched into social space, this curious, plastic object persists. The region simply won’t go away – just as Hartshorne would have predicted over 60 years ago. Picking up from the incomplete project of a reconstructed regional geography, this paper offers a synoptic, meta-theoretical account of the region in terms of four dominant perspectives or ‘paradigms’ in contemporary geography: spatial science, critical realism, humanism, and poststructuralism. The main body of the paper conceptualizes the region in terms of the coherences within and the incommensurabilities among these meta-theories. I conclude by asking whether and how we should adjudicate the differences that emerge from these perspectives.

Brenda Kayzar, San Diego State University, kayzar@rohan.sdsu.edu. **Downtown Revitalization and the Arts: Formality and permanence in public space versus informality and impermanence in private space.**

This paper explores the contrasts between formal and informal attempts to incorporate art into the downtown landscape through an examination of the cultural capital policies in San Diego. Formal efforts are generally targeted to public space thereby obtaining a sense of durability for the installation, while informal efforts are often associated with the

impermanence of private property. During the early stages of revitalization informal efforts by local artists were encouraged by the redevelopment agency because the installations acted as catalysts, beautifying the decaying landscape. The agency's commitment to this work was limited however, since much of it was installed on private property. Continued development activity has resulted in the loss of many installations prompting the local arts community to re-evaluate the relationship between property ownership and project durability. While actual property ownership remains beyond the reach of many artists, various groups have sought alternative methods to ensure some form of permanence for their work and these efforts will affect future cultural representations in the changing landscape.

Steven Kemble, California State University, Fullerton, stevekemble@earthlink.net. **The Olympics and Urban Development in Global Cities.**

Every four years, the world comes together to celebrate athletic achievement at the Olympic Games. The games have gone through many changes in their one hundred and eight years, from the original connection with World Fairs to the current standalone event. With the evolution of television, the games have taken on a larger role in giving the public an impression of the host city. Accompanying this is the emerging view of the games as a conductor of urban redevelopment. This paper examines past trends in the Olympic Games and their relation to the cities that hosted the games. Barcelona is used as a case study of how a city can improve its global status through urban redevelopment related to hosting the games. This paper also looks at what the future holds for cities hosting the Olympic Games.

Tina Kennedy, Northern Arizona University tina.kennedy@nau.edu. **Film, Identity and Place.**

Film geographers argue that our lives are so entwined with film and representations that it is difficult to tell what is real and what a reflection of that learned in film. Also discussed is how cinema impacts personal identity and our images of places. What is largely missing geographic research on film is information on audience response to specific films or to film genres. One approach to better understanding audience response is to examine our own experience and search for patterns. In this paper I suggest that autobiography is one approach to the exploration of film's power to affect our everyday lives by exploring the probable impact of cinema on my own. I suggest that films can affect us deeply in both positive and negative ways. I approach my living with film from two angles: films seen during my formative years which can be loosely classified into "safe movies", film noire, films of war, westerns, and science fiction; and how movies were experienced and how they likely affected my preferences for, or aversion to, certain types of places and behaviors.

Sriram Khé, Western Oregon University, khes@wou.edu. **Blessing or Curse?: The Geography Bee and Geography's Identity.**

While geography is an old discipline, the non-academic population appears ill- and perhaps even mis-informed about geography as a field of study. The eighteen National Geography Standards that were developed in 1994 and the "Geography Bee" championships have contributed to increasing the public awareness of geography. However, the author's perception is that most students and the general population tend to view geography as an academic subject about places and capitals. In such a view, does "Geography Bee" reinforce the incorrect understanding that geography is merely a collection of facts about places? If so, does "Geography Bee" help educate the populace about the breadth of the discipline?

Peter Kirchner, University of Nevada, Reno, kirchner@qnet.com. **Trace Elements in Tree Rings of the Tahoe Basin.**

Tree rings are a repository of information on the historic levels of trace metals in our environment as well as a record of natural events such as fire and volcanic activity. With the advent of better technologies precise, ppb to ppt, measurements of trace metals are now possible and can be applied to many questions. The purpose of this study is to measure the level of several elements stored in the growth rings of Jeffery Pines (*Pinus jefferyi*) of the Lake Tahoe Basin and answer the following questions: Do the lead (Pb), palladium (Pd), and platinum (Pt) concentrations in tree rings demonstrate a coherent record of auto emission pollution that corresponds to the actual records of deposition in the Tahoe Basin? Are concentrations of metals that become mobilized with changes in soil pH correlated with historic occurrences of fire? Is significant volcanic activity characterized by a signal from trace metal isotopes? "poster"

Crystal A. Kolden, kolden@unr.edu, Gene Lohrmeyer, University of Nevada, Reno, lohrmeyer@unr.nevada.edu. **Using GIS Spatial modeling to predict potential fire hazard for future urban development in San Diego County, California.**

There is an increasing need to assess potential wildfire hazard for communities and wildlands, which has been addressed with numerous fire hazard models that use Geographic Information Systems (GIS) spatial analysis. All of these models, however, are knowledge-driven models based on principles of fire behavior that are often not agreed upon in the fire community. The Spatial Data Modeler extension for ArcView was used to create a data-driven model for predicting wildfire hazard. Data layers for fire history, land ownership, vegetation cover, road networks, aspect, and elevation were utilized to model the means by which fires ignite in western San Diego County, California. The model was applied to four potential future urban landscapes for San Diego County to predict future hazard of fire ignition with increasing urban expansion. Future urban and rural development in San Diego County was predicted to decrease fire ignition hazard in and around current developed areas, but fire ignition hazard increased slightly in new low-density developments in rural regions. We concluded that data-driven spatial models for fire hazard are a viable alternative to the current knowledge-driven models, but require higher spatial resolution data for more accurate analysis.

Victoria A. Lawson, University of Washington lawson@u.washington.edu and **Lucy Jarosz**, University of Washington jarosz@u.washington.edu, **Anne Bonds**, University of Washington abonds@u.washington.edu, **Jennifer Devine**, London School of Economics. **Geographies of Race and Poverty in the American Northwest.**

This paper draws from a larger research project in which we reinterpret geographies of poverty across the American Northwest through the lens of the cultural and political-economic processes producing poverty differences. We begin from the idea that both popular and academic understandings of poverty are often constructed on the basis of racialized and geographically specific understandings of poverty, even as these are constructed as generalized knowledge. For example, rural white poverty is all too frequently understood through generalizing insights from Appalachia, whereas rural poverty is otherwise racialized through the invocation of African-Americans in the deep South, Hispanics in the Southwest and Native-American populations elsewhere. We focus on patterns of racialized poverty in the American Northwest both because this region has been relatively neglected in poverty research, and because looking at different regional productions of poverty by race, can reveal new understandings of poverty/race dynamics. We begin exploring geographies of poverty across non-metropolitan counties of the American Northwest (Washington, Oregon, Idaho, Montana) by separately mapping and analyzing county-level patterns of white and Latino poverty across the region. We then examine each poverty pattern in relation to typologies of county-level economic restructuring during the nineties that measure the shifting importance of farming, manufacturing, retail, services and government employment and earnings. Through these analyses, we answer a series of questions about how understandings and experiences of white and Latino poverty are linked to specific processes of economic change across space.

Matthew Alan Lord, Arizona State University, Matt@asu.edu. **History, Authenticity, and Community Identity in the Urban Fringe Landscapes of Greater Phoenix, Arizona.**

Builders in the Phoenix, Arizona have been national leaders in master planned communities since the days of Sun City. The Verrado development continues this pattern of being at the forefront of marketing and constructing such places. By contrast, Laveen, Arizona has a history as an agrarian community dating back more than a century. Current fashions in architecture and urban design will be reflected in the landscapes of these communities as suburbanization arrives at the same point in time. The result will be two places with some striking similarities in their built environments. Despite this shared resemblance, the paths by which they arrive at their planned futures likely will result in very different community identities. Community involvement in the planning process in Laveen has had a substantial impact on the course development will take there. Activists have been particularly keen to retain a rural, small-town identity even as tens of thousands arrive in the next few years and subdivisions replace farms. Despite their shared superficial similarities and design elements, this paper argues that the radically different histories of these places will imbue Laveen's landscape with greater authenticity than Verrado's.

Chris Lukinbeal, Arizona State University, lukinbeal@asu.edu. **Cold Mountain, Romania.**

Cold Mountain (2003) based in North Carolina in the 1860s, is a movie about the American Civil War. A wounded confederate soldier leaves his hospital bed in Raleigh to make a treacherous journey home to Cold Mountain and his sweetheart. Cold Mountain, in the Pisgah National Forest, is unreachable by road and remains undeveloped. Yet for all its unique natural beauty and cultural heritage, Anthony Minghella, the film's director, choose not to film in North Carolina. Anthony opted instead to film in the Carpathian Mountains of Romania. For five years, Bill Arnold, Director

of the North Carolina Film Commission worked with Minghella and the movie's location scouts. But when it came time to choose a film site, two items lead them to choose Romania: economics and geographic realism. These two items dominate the discourse of runaway production. In this presentation I examine Hollywood's runaway production as it relates to economics and geographic realism. I will then look at how these two issues play out in the film *Cold Mountain*.

Regan Maas, regan.maas@csu.edu, **Shawna Dark, Jason Mejia, Namrata Belliappa, John Davenport**, California State University, Northridge, **Jon Hall, Justin Miner**, National Wetlands Inventory. **Using Hydrogeomorphic Classifications to Map the Wetlands of Ventura County: An Application of GIS.**

Wetlands exist as a hydrogeomorphic product of the landscape and therefore, the spatial context from which they arise remains an inextricable component of any critical analysis concerning their classification. Presently, the delineation of wetlands at a large scale has been based on the Cowardin system which does not include a specific hydrogeomorphic classification. The objective of our study was to map the wetlands within Ventura County, California as part of a larger nationwide effort conducted by the National Wetlands Inventory (NWI) using the hydrogeomorphic (HGM) classification system. The HGM classifications, when applied to wetlands, account for the physical/abiotic characteristics which define the dominant hydrology of such features. In turn, greater insight as to the origin and structure of specific wetlands may be derived, enabling sound management and effective restoration practices. As a beta test for improving the classification of wetlands, the addition of HGM attributes to the Cowardin classification system interjects qualifiers such as landscape and local geomorphic context, geologic origin, and gradient into the equation, thus broadening the scope of wetlands inquiry. In this presentation, we will outline an approach for delineating wetlands based on the HGM classification system using GIS, digital elevation models, and color infra-red aerial photography.

Meri Marsh, Sarah Battersby, Pete Hayward, Reginald Golledge, University of California, Santa Barbara, golledge@geog.ucsb.edu. **Geospatial Concept Recognition by K-6 Students.**

GIScience experts are distinguishing between the general concept of "spatial" which spans all scales from the nanoscale to the universal, and "geospatial" which is that subset that is most relevant to the geographic domain. Some universals (such as spatial prepositions and prepositional phrases) are widely used and naively understood. However, when used explicitly in the geospatial domain, some confusion arises. Since concepts of this type are extremely relevant to the teaching of spatial thinking and reasoning, and since a common understanding of these is necessary for comprehension of many simple GIS operations, we herein examine the extent to which K-6 students can recognize and comprehend a selection of such terms. We argue this understanding is needed even for the successful introduction of low tech GIS-related functionalities. We present the results of several experiments undertaken in a local elementary school with a 6th grade class of 31 students. Tasks are presented in the following format:

1) Matching Methods: given an image with an abstract representation of phenomena (e.g. 2 dots joined by a line), students were asked to write down any relevant words they associated with the image); 2) Word/Image Association: given the above set of images and a word list of simple geospatial terms, circle the ones most readily depicting the image; 3) Simple Concept Definitions (e.g. point, line, polygon). Images in each case were presented in two different forms: the first as a set of points, lines and polygons, the second as a set of real world phenomena (e.g. cell phone towers, street systems). Results of the study are interpreted in the light of what geospatial concepts might be introduced to K-6 students that would support geospatial thinking and help pave the way for introducing a minimal GIS to such students.

Sallie A. Marston, University of Arizona, marston@email.arizona.edu. **Alternative Approaches in K-12 Teaching about the Islamic World.**

Due to changes brought about by the standards based education movement in the US, teaching about world regions has become a central concern and challenge for K-12 teachers across the country. The National Council for Geographic Education is committed to providing US teachers with the tools they need to help students learn about the complexity of the globally connected world they will inherit. This presentation is based on a learning module prepared for inclusion in the first of a series of NCGE publications on teaching world regional geography in US schools. The question of how to approach the "Islamic World"—those countries where Islam is practiced by a majority of the population—is a particularly challenging one given the preponderance of popular misconceptions about it. This presentation offers some teaching strategies and exercises that are aimed at debunking the stereotypes about global Islam providing students with more thoughtful and nuanced understandings about the people who live there and the multiple worlds they inhabit. The exercises are organized around the world wide web and are intended as the starting points for sustained exploration about Islamic peoples and places.

Ross K. Meentemeyer, Sonoma State University meenteme@sonoma.edu, **J. Hall Cushman**, Sonoma State University, cushman@sonoma.edu. **Humans as dispersal agents of an invasive pathogen that causes Sudden Oak Death.**

Biological invasions are increasingly recognized as major forms of environmental change that can dramatically alter ecological systems. Understanding factors that influence the success of invasive organisms is critical for effective preservation and management of ecosystems. Here, we summarize results from a study conducted in northern California that evaluates the degree to which humans influence the distribution and abundance of *Phytophthora ramorum*, an emerging and probably exotic plant pathogen that causes a lethal canker disease known as Sudden Oak Death in several oak (*Quercus*) species and tanoak (*Lithocarpus densiflorus*). Our research shows that *P. ramorum* is much more likely to occur in soil samples found on hiking trails than from adjacent samples collected 2 meters off trail. This finding suggests that humans could play an important role in the spread of this invasive pathogen. To address the significance of this finding, we also collected and analyzed data on *P. ramorum* infection level from 203 plots located on both public and private land to determine if pathogen infection is greater in areas heavily frequented by humans. In conclusion, our data suggest that there may be conflicts between recreation and disease spread, and that efforts to address this epidemic may require active management of human activity.

Christopher M. Moreno, San Diego State University, moreno10@cox.net. **Localizing the “Last Frontier”: Cultural Brokering and Touristic Practices in Skagway, Alaska.**

This paper examines the way in which the community of Skagway, Alaska both supports and negates its localized identity as part of the Alaskan “Last Frontier” as a result of the communities long standing relationship with the Alaskan cruise ship tourism industry. Specifically, it addresses the nature of touristic-based cultural production and consumption and how the negotiation processes of Skagway’s identity occurs in space and time both within and outside the community boundaries. Included in this qualitative analysis is the investigation of the agents of tourism marketing, agents of cultural projection (both tourists and locals), and agents of the actualized historical and contemporary cultural landscapes within Skagway. Results show that Skagway has come to mediate its own localized identity in order to meet the demand of its hegemonic ties to the larger expanding Alaskan tourism industry. As a result there remains inherent tension between Skagway’s constructed and lived identities that has direct tourism management and developmental issues pertaining to its long term localized investment strategies. Research findings are based on ethnographic and qualitative research performed over four tourist seasons (2000-2003) in Skagway.

Gordon F. Mulligan, University of Arizona, mulligan@email.arizona.edu and **Jason Crampton**, University of Arizona, jasoncrampton@yahoo.com. **Recent Population Growth in the World’s Largest Cities.**

This study examines population growth in the world’s 485 largest cities between the years 1950 and 2010. Recently disclosed United Nations data are used in the analysis of the so-called “million cities.” Three themes guide the discussion. First, we address the changing population size distribution of these cities. Considerably more population size-class instability took place during 1980-2010 than during 1950-1980, reflecting the very rapid population growth experienced by many Third World cities at the end of the 20th century. Second, we calculate the changing global urban center of gravity. Maps of our solutions show how the “million city” centroid, which was located in the eastern Mediterranean in 1950, has migrated steadily to the south and to the east since that time. Third, we group the cities into 10 relatively homogenous clusters based on their 5-year growth rates during 1950-2010. Generalizations are given about the sizes and locations of the cities in these different population-growth clusters.

Evelyn Ng, Arizona State University, Evelyn.Ng@asu.edu. **Active Adults Wanted: Lifestyles of Recent Migrants in an Age-Segregated Resort Community.**

As aging baby-boomers begin to migrate to the Sunbelt region, developers have capitalized on age-segregated ‘active adult’ resort communities in the Southwest to meet the demands of these healthier, wealthier, more educated and physically active retirees. Offering communities based on tourist lifestyles and same-interest peers, ‘active adult’ resorts are promoted by vibrant advertising and distinctive place-making. Through landscape observation and a survey administered to 453 original residents of “Activetown”, this paper puts together an initial exploration of place and residents in an upscale retirement resort on the outskirts of the Phoenix metropolitan area. The results show a community that is age-segregated by residential requirements but not by activity or landscape. Interviews with residents and the developer also reveal that different forms of tourism bring new residents to the community. Managing change in

place identity and reestablishing social networks are issues that residents face as they take resort-living beyond the short tourist experience and into permanent daily life.

Alex P. Oberle, Arizona State University, Alex.Oberle@asu.edu, **Wendy Bigler**, Southern Illinois University-Carbondale, Wendy.Bigler@asu.edu, **Timothy W. Hawkins**, Shippensburg University, twhawk@warf.ship.edu. **The role of a Ph.D. field exam in assessing and developing geographic skills and preparing graduate students for academic careers.**

The Geography Department at Arizona State University implemented a “field exam” as part of its Ph.D. program requirements. This field exam requires students to develop an independent field-based research project based on a general question in the student’s specialty area. A survey of current and former Ph.D. students and faculty members document how the field exam assists students in developing skills necessary for continuing graduate research and for preparing them for the rigors of academic employment. The outcomes of the exam include both long-term process-related benefits and more immediate tangible rewards. For some students, the preliminary fieldwork and results redirect student interests and form the basis for their eventual dissertation. The field exam is adaptable to a diversity of geography research methods, subject areas, and graduate degree programs, while remaining grounded in the discipline’s vibrant, widely respected fieldwork tradition.

Kimberly Olson, California State University, Chico, Momentum2u@aol.com. **Disaster management: Disaster-resistant and disaster-resilient community paradigms.**

Research projects the cost of disasters for the United States between the years of 1995 and 2010 will be near \$100 billion and cost potentially 5,000 lives. Therefore, it is understandable that emergency management is receiving increased attention and researchers are calling for new theoretical perspectives and policy guides. In 2000, The Disaster Mitigation Act replaced the 1988 Stafford Disaster Relief and Emergency Assistance Act as the guiding disaster management policy in the US. It brought with it a major policy shift from post-disaster recovery efforts to mitigation as the focus of disaster management. Currently, the two most academically accepted disaster management paradigms are a testament to this. They are the disaster-resistant and disaster-resilient community designs. A disaster-resistant community is one that takes proactive measures by first recognizing potential threats and then taking steps to mitigate those possible effects. This paradigm relies heavily on hard capital. The disaster resilient community, however, is one that is reported to be able to withstand a disaster event without experiencing devastating losses, reduced productivity or a diminished quality of life without a large amount of assistance from outside of the community. In this paradigm, a greater emphasis is placed on human capital.

Roger Pearson, Institute of the North mapping@alaska.net, **Jody Smothers Marcello**, Sitka School District, marcelloj@mail.ssd.k12.ak.us. **Meeting of Frontiers: Geography in Alaska Studies.**

Alaska is one of a small minority of states in which the study of the state in the K-12 curriculum is not required. However, a strong effort is underway to make Alaska studies required for high school graduation statewide. Legislation through the Alaska State Legislature and proposals through non-governmental groups have focused on “Alaska History and Cultural Studies”. The word “geography” is left out of the title. This paper provides an overview of the effort to incorporate Geography into the Alaska studies program. One important approach involves a cooperative effort between the Alaska Geographic Alliance of the Institute of the North and the U.S. Library of Congress. The Library of Congress “Meeting of Frontiers” program provides a substantial web site of primary documents focused on Alaska as the meeting point of Russian and American cultural expansion. Teaching units developed by the Alaska Geographic Alliance focus on the importance of Geography in interpreting Alaska’s history. Other efforts to highlight geography in Alaska studies are also reviewed.

Coralyn C. Peirson, California State University, Northridge, coralyn_peirson@yahoo.com. **Are There Areas That Are Not Being Adequately Served By Licensed Daycare Facilities In The San Fernando Valley?**

This poster examined the relationship between and the spatial patterns of licensed daycare facilities and daycare age children in the San Fernando Valley, and outlined areas that are not being adequately served by licensed daycare facilities. Specifically, the poster examines the relationship between the number of daycare age children per census tract and the number of potential available seats in licensed daycare facilities per census tract. The objective of the poster was to locate areas in the San Fernando Valley where there was a high discrepancy between these two items. A secondary objective was to determine the ethnicity and income characteristics of the areas where there was a deficiency

between the number of daycare age children and the number of available seats at a licensed daycare facility. The results showed that there are areas in the San Fernando Valley that are not being adequately served by licensed daycare facilities. These areas are mainly low income with a high Hispanic population. This may occur because the families in this area cannot afford to place their children into daycare and they are instead looked after by relatives. Another reason could be that they are being placed into "unofficial" and unlicensed facilities. "poster"

Rhea Presiado, University of California, Davis, rheasuzane@aol.com. *The Biogeography of the Marine Invertebrate *Ophioplocus Esmarki**.

Rocky shore communities support the most biologically diverse and the most densely populated coastal habitats in North America. *Ophioplocus esmarki*, or the smooth brittle star, is a rarely studied and little understood echinoderm that inhabits the coastal waters of the Pacific Coast. This lack of information on *O. esmarki* is alarming. As an intertidal and subtidal invertebrate largely occurring along the southern California coast, is likely experiencing a host of increasing human and environmental pressures. This poster investigates the accuracy of its known range, examines the causes of its range boundaries, researches its historical distribution, and investigates the species genetic, morphologic, and age structure. This biogeographic analysis illustrates change over time, latitude, and depth. "poster"

Robert R. Quinn, Eastern Washington State University, rquinn@ewu.edu. **Wetland Mitigation, "Success and Failure" in the small Eastern Washington Town of Cheney.**

This study examines a sequence of development projects in the City of Cheney over a 10 year period that has impacted a series of interconnected seasonal wetlands. The development projects have occurred under two sets of "Critical Areas Ordinances" that required mitigation but in most cases the mitigation requirements were not fully completed or were simply ignored. The economic benefits of a million dollar plus series of projects in a small town can strain the best efforts of a Planning Department and the mitigation requirements fall victim to local politics, particularly when the city is in financial crisis. The mitigation "failure" also illustrates the structural problem in local ordinances of the lack of bonding or enforcement criteria for wetland mitigation projects. All is not lost, as two of the mitigation projects performed by the city off site are succeeding in spectacular fashion by all measures of wetland functions and values.

Linda Quiquívix, California State University, Northridge linda@lindaquiquivix.com. **A Study of Guatemalan Transnationalism.**

Perhaps surprising to some, immigrants working and making new lives in the United States do not always renounce their previous nationality and completely assimilate into American lifestyles. Rather, they continue to participate in the economic, political, and social aspects of their country of origin. This concept has been branded as "transnationalism" and is increasingly gaining popularity in the field of migrant studies. Because transnationalism is based on the creation and sustenance of informal networks, it is near impossible to assess its impact without conducting surveys and interviews. As part of my Masters thesis, my research is divided into two phases. The first, which I began this Winter Break, is a series of interviews and surveys with individuals in the Guatemalan community here in Los Angeles (Note: my family is Guatemalan and therefore I have extensive links to the community). The second phase of the research required me to travel to Guatemala this past summer to conduct surveys and interviews with people there who are linked into the transnational community. The social and economic impacts of these communities are increasingly important to understanding the assimilation process of immigrants to the US as well as the development of sending communities. Additionally, this topic is of personal interest, as my own relatives are part of a Guatemalan transnational community.

Liam M. Reidy, University of California, Berkeley, lreidy@socrates.berkeley.edu. **European Weed Invasions in California and Dating Recent Large Earthquake Events in the San Francisco Bay Area.**

The use of non-native pollen types as chronological markers in sediment cores from California is well documented. Many plant species not indigenous to California have been introduced in historic times, and in some cases their pollen can be readily identified. The first appearance of European weeds such as *Erodium cicutarium*, *Rumex acetosella* and *Plantago lanceolata* pollen in sediment cores provides useful chronological markers, as their history of local introduction is relatively well known from the botanical record. Pollen analysis on sediment samples recovered from earthquake trenches as part of the BAPEX (Bay Area Paleo-earthquake Experiment) investigation has helped constrain the timing of recent large earthquake events along the San Andreas, Hayward and Rodgers Creek faults. The research indicates that non-native pollen types can provide fairly reliable estimates of historic ages in earthquake trench sediments.

Dereka Rushbrook, University of Arizona, dereka@u.arizona.edu. **Sonoran Cartographies.**

Over the past decade, the U.S.-Mexico border region has elicited increased interest in academic and policy circles. This attention often stops at the border, both in the sense of failing to cross the formal national boundary and by limiting inquiry to the area immediately along the boundary. At the same time, despite the wealth of case studies of particular sites along the U.S.-Mexico border, there have been few comparative analyses of the ways in which distinct border regions differ from one another. This paper considers the necessity of and challenges faced in studying the Arizona-Sonora border as a region, highlighting the multiple scaled processes that (re)construct the region. I use two case studies to illustrate the ways in which He's currently involved in a project looking at satellite images of Zambia to monitor the deforestation of the landscape by the people of the southern African state. A regional approach can enhance our understanding of local change.

Zia Salim, California State University, Fullerton, ziasalim@hotmail.com. **The Murals of East Los Angeles.**

This study examines how murals mark the cultural landscape and develop a sense of "place" in the city of Los Angeles, in an approximately sixteen-mi² study area in a Hispanic barrio in East Los Angeles. The objectives were to identify broad themes that the murals address and to interpret their relevance in terms of the neighborhood's demographics. To do this, an analysis of about 100 murals was conducted. The results indicate two main findings. First, most of the murals in the study area convey one of three main subjects (common cultural and historical images, social challenges, and religious themes). Second, there are new directions being pursued in terms of subject material. These two findings, taken in the context of the community's demographics, help develop an understanding of the neighborhood and its sense of "place". I conclude that an understanding of the murals of East Los Angeles helps to better appreciate the community. The use of murals to interpret the landscape is significant because of their reflection of issues significant to the community – murals are a valuable tool for the cultural geographer. These works of art provide vital functions and establish a unique sense of place in East Los Angeles.

Tim E. Schultz, Western Washington University, Tim.Schultz@wwu.edu. **Establishing User Preference among Human Waste Management Alternatives on Coleman Glacier Route, Mount Baker, Washington.**

This study establishes user preference among three classifications of human waste management on a popular climbing route on Mount Baker, a glaciated volcano in northwest Washington. Climbers were approached on the mountain and asked to complete a survey with a series of contingent-valuation style questions from economics to elicit preference among classifications of human waste management. The results indicate a user preference for the placement of receptacles for bagged human waste in high camps over the other classifications, which were an enforced pack-it-out system and toilets in high camps. This study also measured users' attitudes about the waste management problem and the recreational resource more generally, as well as users' basic demographic characteristics. A majority (70.5%) of respondents felt that there was a problem with waste management on the route, with 65.6% of those respondents classifying the problem as "moderate" or "severe" and 34.4% considering the problem "slight." Respondents reported engaging in a number of inappropriate waste management practices, including burying waste under snow or rock, leaving waste in the open, and holding their bowel movements until out of the alpine area.

William A. Selby, Santa Monica College, wselby@smc.edu. **Accommodating Growth in California.**

In the face of economic uncertainty, housing shortages, inadequate infrastructure, congestion, traffic gridlock, and environmental problems, California's population continues to grow. How can Southern California accommodate the additional 6 million people expected by 2030, not even including San Diego's growth? How can the Bay Area and Central Valley absorb millions more and how will this change California's landscapes and living conditions? Our state's geographers must be engaged in answering these questions vital to the future of California.

Terry Simmons, Center for Global Policy Studies, terry@environment-lawyer.com. **Simple Lines of Ambiguity: Transboundary Environmental Relations Between Alaska, British Columbia and the Pacific Northwest.**

Simple lines on the map can be brutally straightforward and dangerous. Few Nineteenth Century diplomatic acts of ignorance and convenience have created as many myths, ambiguities and inconsistencies as the straight line drawn across North America. Transboundary relations between Canada and the United States are common and peaceful under the shadow of the Peace Arch. Boundaries provide opportunities for cooperation and innovation in pursuit of ordinary mutual interests. Simultaneously, boundaries articulate and allow for enforcement of stark differences in political and legal power, in cultural values, and in economic and social circumstances. Boundaries invite both legitimate commerce

and smuggling, and incite cooperation and conflict. The Forty-ninth Parallel is the World's longest, undefended boundary except when it is not. Transboundary environmental conflicts can be as plain as the Trail Smelter case, the first international environmental law case, where air pollution from the smelter destroyed farmers' crops in Washington. Other conflicts border on the incomprehensible. Still controversial, downstream benefits, derived from the system design of the Columbia River Treaty hydroelectric dams, redefined hydroelectric power in British Columbia and in the Pacific Northwest. Currently, Teck Cominco, a major Canadian mining and smelting company, and the U.S. Environmental Protection Agency argue about appropriate environmental assessment of and regulations and standards for clean-up of Trail Smelter waste deposits in Lake Roosevelt, just south of the international border, on the Columbia River. Effectively, a Canadian corporation and a U. S. federal agency act as subnational disputants in a situation that may be the subject of the International Joint Commission's next major reference. Dynamic transboundary disputes are rarely bilateral as the a simple, straight line might imply.

Marissa Smith, Arizona State University marissa.l.smith@asu.edu. **The Evolution of Social Capital During Environmental Conflict in the Lower San Pedro River Valley.**

The San Pedro River, located in Southern Arizona, is the last free flowing river in the Southwest and an important migratory corridor for neo-tropical birds. In addition to its avian devotees, the Lower San Pedro watershed attracts diverse organizations and individuals to its banks including The Nature Conservancy (TNC), the Bureau of Land Management (BLM) and cattle ranchers. The purchase of substantial amounts of land by TNC and the BLM formerly used for ranching and farming altered the composition of the social capital that structured collective management of the watershed. These organizations whose livelihoods do not depend upon the watershed and whose goals for the area focus on watershed and wildlife conservation, introduced new networks and norms that are frequently incongruent with those of the remaining cattle ranchers. This paper examines the evolution of the ranchers' social capital in response to the changing dynamics along the Lower San Pedro River.

Jung Won Sonn, University of California, Los Angeles, jungwson@ucla.edu. **Decreasing Importance of Proximity in Knowledge Diffusion? Yes and No.**

In recent years, regional economists have debated the effect of distance on knowledge diffusions. Some authors report that due to increasing efficiency in transportation and telecommunication, distance's effect has faded, if not completely vanished. Others, on the other hand, argue that knowledge diffusions are more likely to occur when two parties are geographically proximate. This paper argues that the importance of the city as the geographical site of innovation is increasing but in communication between cities, distance between cities matters less. To support this argument, I estimate an econometric model using U.S. patent data. After controlling for the effect of city size, technological compatibility of each pair of cities and sectoral difference in the numbers of citations, I confirm: Firstly, the intra-metropolitan citation is substantially higher in all technological fields and in most of the metropolitan areas, suggesting the persistent existence of a localization effect in knowledge diffusion. At the same time, the effect of distance in inter-metropolitan knowledge diffusion decreases over time, supporting the idea of "the demise of distance" theory.

Jacob Sowers, Kansas State University, jsowers@yahoo.com. **Shacks Amongst Chateaus: An Exploration of the Residential Landscape of Telluride's Working Class.**

Like many other towns in the Rocky Mountains, Telluride, Colorado recovered from the bust of mineral mining with a boom in scenic and sport tourism. This tourism boom has provided many service jobs and an enormous increase in the community's revenue. Hundreds of rental properties and second homes not only dominate Telluride, but have also sprawled outside of the town so that just a gondola ride away lies the exclusive community of Mountain Village. On the surface this may appear to be a fortunate position for Telluride's residents, but with this tourism domination many of the townspeople who knew the town as a sleepy mountain cul-de-sac do not have the income to keep up with the increased property taxes or rental rates. This has forced many of those who make up Telluride's large service industry to crowd into small apartments, live in their cars in parking lots dedicated to homeless workers, or even to retreat into the surrounding forest to live in makeshift shacks devoid of electricity, plumbing or running water. Although most of the publicity is on the homes of the rich and famous who vacation in Telluride and Mountain Village, this paper explores the residential landscape of the town's marginalized working class to find out at what cost the people of Telluride paid for their town's fame.

Paul F. Starrs, starrs@unr.edu. **Gary J. Hausladen**, hausl@unr.edu, University of Nevada, Reno. **LA Noir.**

Like geography itself, “film noir” is beyond any roster of rote conventions. For the knowing, each term invokes an entire body of work, a philosophy of perception, an unmistakable attitude, a discipline of sorts. If geography is a way of looking at “real and complex issues,” no less so is film noir. Geographers can be said to specialize in field work, in understanding places and people, in capturing the significance of soiled back alleys and hard-used land; noir embraces, for its skilled affect, the salients of terrain, *terroir*, and terror. No place offers a better geography for noir than Los Angeles. We examine film noir’s reemergence, from 1970s onward, in such efforts as *Chinatown*, *Bladerunner*, *LA Confidential*, and *Pulp Fiction*, each offering a novel reconditioning of classic 1940s and ’50s noir themes set in LA. Laid out are the lessons learned.

Nancy Summers, Tierra West Appraisal & Land Use Dynamics, Inc., nancy@tierrawest.com. **Case Study in Real Estate Appraisal: Temecula Olive Oil Company.**

This paper is prepared to introduce geographers to the field of commercial Real Estate Appraisal using an actual appraisal of the Temecula Olive Oil Company site in Aguanga, California. The 26-acre site consists of level to rolling topography, expansive views, a lake and campsite, five acres of olive and grape agriculture, a business office, barn, storage shed, winery and olive press, and proposed event room. The steps necessary to properly appraise the site include concepts and analyses familiar to geographers, such as research into appropriate market areas, map interpretation and land use, slope analysis, strengths-weaknesses-opportunities-threats (SWOT), highest and best use. Real Estate Appraisal is a multi-disciplinary field that incorporates aspects from geography, economics, finance, environmental planning, and law. Typical appraisal tools include aerial photos, topographic maps, as well as handheld computers, GIS, and GPS. This paper summarizes the appraisal process and highlights areas where an appraiser with a background in geography would excel.

Ray Sumner, Long Beach City College, rsumner@lbcc.edu, **Joan Clemons**, UCLA, jclemons@msn.com. **Tom Down Under: McKnight’s relationship with the Fifth Continent.**

Tom McKnight passed away in Los Angeles in February 2004. His impact and legacy in North American Geography are well known. This is a survey of his enduring relationship with Australia. Tom’s research interests in Australia are reflected in many of his books and papers. His deep personal attachment to the land down under is evidenced in numerous trips; over forty years, he visited Australia seventeen times, spanning and crossing the continent from coastal cities to extremely remote locations. Photographs and reminiscences also reveal the depth of his affection for the “Aussie” environment and its denizens.

Jonathan S. Taylor, California State University, Fullerton, jstaylor@fullerton.edu. **Using an Integral Approach in Teaching Geographic Thought.**

This paper is a preliminary attempt at sketching an approach to introducing geographic thought using an integral approach. By integral I mean an approach which draws from Integral Studies and a variety of theorists who work in this field, though I use some examples from the work of Ken Wilber in particular. The object is to allow for the fully compatible existence of geographic theories and research into the physical world, social worlds, cultural worlds, and individual subjective worlds without either stressing one of these approaches to the detriment of others, or of encouraging excessive friction between the approaches. It is thought that this method can use the best of all of the various contemporary theoretical approaches to geography while rejecting some of their more extreme conclusions. This will help graduate students understand the range and dynamics of geography while not forcing them to “pick a side” as is often in the case in post-graduate geographic education.

Gina K. Thornburg, California State University, Northridge, gina.thornburg@csun.edu. **Current Responses to Economic and Population Change: A Study of Four Small Towns in Jefferson County, Kansas.**

This study aims to identify responses to economic and population change in four small towns in Jefferson County, Kansas. What are the qualitative differences in the ways in which people respond to economic change? These very small places, ranging in size from 600 inhabitants to 1,250, are communities in transition. While a nostalgia for vibrant, small-town life persists in some people, an acceptance of the current reality—that these towns have become bedroom communities to larger cities within driving distance—prevails. Nevertheless, some basic needs are not met by local business sectors. Currently in its fieldwork stages, this study will reveal networks among the towns and show the inhabitants’ linkages to larger cities nearby.

Jamie Trammell, University of Nevada, Reno, trammel@unr.nevada.edu. **Relationships Between Fish Communities and Stream Habitat Characteristics in the Eastern Lake Tahoe Basin.**

The Tahoe Regional Planning Agency established an instream threshold standard for fisheries resources in the Lake Tahoe Basin that identifies a goal of 75 miles of excellent habitat, 105 miles of good habitat, and 38 miles of marginal stream habitat. Unfortunately, these standards were set without a broad based understanding of what constitutes excellent, good, and poor habitat in the streams of the Lake Tahoe Basin. This study is designed to understand relationships between salient habitat characteristics and fish demographics and community structure and to validate existing standards. During the fall of 2003, thirteen 100-meter stream reaches, were selected to represent the spectrum of channel types, based on gradient and substrate, in the eastern Lake Tahoe Basin. Habitat and fish population surveys were conducted on each reach. Habitat surveys included 33 transects per reach, with measurements of depth, velocity, substrate, and embeddedness for multiple points along a transects and one measurement per transect for width, consolidation, canopy density, bank height, slope, and overhang for each transect. Predicted stream flow statistics for each stream are also included as a vital habitat characteristic because it is hypothesized that the flow regime provides a strong abiotic control to the fish demographics in these low order, high gradient streams. Fish population surveys were completed in each reach using electro-fishing techniques to capture fish in 20-meter sections and the depletion method. Species were identified, and lengths and weight of each fish were measured. Fish and habitat relationships from these two surveys were determined using multivariate statistical techniques to illuminate habitat characteristics and fish demographics that constitute excellent, good, and marginal fish habitat. Relationships are established and appropriate threshold capacity standards are modeled for the eastern Lake Tahoe Basin. “poster”

Robert A. Voeks, California State University, Fullerton, rvoeks@fullerton.edu. **Measuring Medicinal Plant Erosion in Brazil’s Diamond Highlands.**

For most of human history, knowing the medicinal properties of plants represented a fundamental connection with nature as well as a vital survival skill. While in the temperate zone much of this knowledge of nature has disappeared, in rural, tropical landscapes many of these cognitive connections with healing habitats have persisted, at least until recently. Whether for community-based healing, international trade, or drug bioprospecting, the moist tropics are recognized as storehouses of valuable medicinal species. This study examines threats to these resources, especially the link between culture change and ethnobotanical erosion in the Diamond Highlands of eastern Brazil. Employing a quantitative analysis of a sample plant pharmacopoeia, I investigate the relationship between medicinal plant knowledge and age, gender, and socio-economic status. Results indicate that female gender, increasing age, illiteracy, and decreasing formal education are all positively correlated with level of medicinal plant knowledge. I suggest that the process of modernization, particularly increasing access to formal education, is incompatible with the retention of traditional domains of ethnobotanical knowledge. Increasingly perceived as a primitive province of past generations, knowledge of the healing powers of tropical forests and fields is rapidly declining in this community.

David Wahl, University of California, Berkeley, dwahl@socrates.berkeley.edu. **A 9500 yr Record of Climate Change and Human Impacts from the Northern Peten, Guatemala.**

A Holocene length record of climatic and vegetation change has been produced from the Mirador Basin of southern Mesoamerica, the cultural heartland of the prehistoric Maya. Pollen, stable isotope, magnetic susceptibility, and sediment chemistry analyses have been carried out on lake sediment from Lago Puerto Arturo in the northern Peten. Results show a stable early Holocene followed by a long period of heavy disturbance caused by the prehistoric Maya. Within this period of disturbance there is evidence of a cycle of settlement and abandonment, which appears to be connected to regional climate changes. The area was completely abandoned during the Classic Maya collapse (~1000 AD), after which local forests quickly regenerated.

Jim Wanket, California State University, Sacramento, jwanket@csus.edu. **Holocene Vegetation Change Across a Maritime-Continental Climatic Gradient in Northern California.**

A key characteristic of California climate is a strong climatic gradient from the relatively wet and mild coast to the dry and severe interior. This gradient is reinforced in much of California by prominent topographic barriers. In far northern California, the gradient is particularly strong due to the orographic influence of the Klamath Mountains. Vegetation in the region grades from temperate rainforest at the coast to sagebrush-dominated scrublands just 150 km inland. A 50,000-year pollen record from the Klamath Mountains shows evidence of a marked change in vegetation that took place about 6,000 years ago. Early Holocene forests in the region resembled modern forests adapted to drier, more

severe conditions. Other work has shown similar changes at the coast and in the southern Cascades, suggesting that regional climate was more continental in character during the early Holocene. Northern California prehistory should be analyzed within the context of this recent major environmental change.

Elizabeth B. Watson, University of California, Berkeley, bethw@socrates.berkeley.edu. **San Francisco Estuary Tidal Marsh Vegetation Change.**

San Francisco Estuary tidal marshes are unique along the Pacific Coast of North America in extent, in plant species assemblages, and in the attention now being given to policy and restoration. Resurvey of vegetation transects in six San Francisco Estuary tidal marshes provide a record of how tidal marsh plant assemblages have evolved with 30 years of environmental change in freshwater flow and sea level rise in the San Francisco Estuary. Topography, plant distribution, pore water salinity, and soil organic matter were assessed along historically surveyed transects at Bothin Marsh (Mill Valley), China Camp State Park (San Rafael), Petaluma Marsh, Southampton Marsh (Benicia), Hill Slough (Suisun City) and Sandmound Slough (Bethel Island). Results indicate remarkable stability in plant assemblages in the saline and freshwater sites, with noticeable change apparent at the brackish sites. This study serves to add a component of time depth to recent work in California tidal marsh plant ecology.

Ronald Whisler, University of Arizona, whisler@email.arizona.edu. **Secondary Migration Patterns of Somali Immigrants between 1995 and 2000.**

Large waves of Somali refugees and immigrants have arrived in the United States since the early 1990s. The distribution for the initial placement of Somalis has evenly scattered the country. Some of these initial destinations have turned out to be “good fits” for Somali refugees, while others have led some to relocate to other places within the United States. Somalis are regarded as being very mobile people. With the recent civil war in Somalia resulting in widespread famine and oppression, Somalis were constantly on the move to seek the most optimal place to live. This poster examines the patterns for the secondary migration of Somali immigrants within the United States between 1995 and 2000 using 2000 Census data. It focuses on the migration of Somali immigrants from California and the East Coast to destinations in the Midwest, South, and Pacific Northwest. “poster”

Edward F. Woch, San Diego State University, esolar@cox.net. **Pink Cascade: When Invasive Plant Species Become Benign.**

This paper documents an initial invasive plant species survey conducted in July, 2004 between San Diego, California and Kelowna, British Columbia, Canada. Species surveyed included *Arundo donax*, *Tamarix ramossissima* and *Foeniculum vulgare*. The purpose of the survey was to investigate the wider distribution, both current and historical, of these species outside of California. The survey also assessed habitat preferences and limitations of these species which affect species fecundity to the degree where they are rendered benign. The results show that each species is limited in its distribution by suitable habitat, specifically climatic factors. These species reach their ecological amplitude in Mediterranean climate regions, but are unable to thrive in other climates except with human cultivation. All three species are cultivated by man in both California and British Columbia, Canada. However, *Arundo donax* is unable to survive unaided in regions which experience regular winter freezing. *Foeniculum vulgare* is shaded out by broad leaved perennials and shrubs in regions of high precipitation. Finally, *Tamarix ramossissima*, is vigorous in the continental climates of eastern Washington State and southern British Columbia, but it does not reproduce here without the assistance of man. This study concludes that invasive plant species are not necessarily exceptional plants, they are merely thriving and reproducing in suitable habitat. Further research is needed to identify the factors which inhibit invasive species reproduction in different regions.

Leigh Ann Wolfe, University of Washington, Tacoma, lawolfe@u.washington.edu, **Karen Furuya**, University of Washington, Tacoma, karf@u.washington.edu. **Mapping Breast Cancer Incidence and Mortality in Washington State: Counts, Rates and Possible Clusters.**

Disease mapping is a vital tool that facilitates the emergence of spatial patterns on large and small scales that might not otherwise be easily identified from statistical data alone. This study demonstrates the necessity of disease mapping through the investigation of breast cancer incidence and mortality rates at the county and zip code level and its spatial distribution throughout Washington State. The objective is to visually compare breast cancer rates (M/I ratio) in a manner that will assist in the understanding, control, and reduction of breast cancer occurrence, as mandated by RCW.70.54.230 (1990 c 280 § 1). This is accomplished by identifying breast cancer clusters via running data through statistical programs, SaTScan and CrimeStats, and by age-adjusting data by race and sex in order to compare rates to

counts by utilizing a Geographic Information System (GIS). The clusters are compared geographically and to non-spatial data such as education level, race and access to healthcare in order to reveal possible correlations. This information will be utilized to create brochures, posters and breast cancer atlas of Washington State in effort to stimulate epidemiological studies for breast cancer and environmental health and provide educational tools for public agencies and private not-for-profit agencies. "poster"

Yolonda Youngs, Arizona State University, yolondayoungs@yahoo.com. **Cultural Landscape Evolution in Yellowstone National Park: A Case Study of the West Thumb Developed Area at Yellowstone Lake.**

The West Thumb Developed Area is located on the southwestern shore of Yellowstone Lake in Yellowstone National Park. While many researchers have investigated the history and geography of Yellowstone National Park, Yellowstone Lake has been largely ignored as a topic of research. This paper presents the West Thumb Developed Area as a case study for exploring Yellowstone Lake's cultural landscape evolution. From 1870 to 1966, National Park Service planning, concessionaire investment, and visitor demand were active influences on development at the West Thumb site. The results of this study include a verbal description of cultural landscape change overtime as well as a cartographic description; a series of GIS maps were created to depict significant change at the West Thumb site overtime. By developing a set of methods that used a combination of data sources (archival written records, aerial photographs, historic maps, guidebook descriptions, historic photographs, and field-based observations), conflicting and sometimes inconsistent written archival records could be reconciled and an accurate description of the lake emerged. This methodology is helpful to other historical geographers conducting cultural landscape studies in national parks as well as to park planners and visitors.