**RedCastle Resources Inc.** (http://redcastleresources.com/) is a Salt Lake City-based firm focused on the use of remote sensing and geographic information systems (GIS) for natural resources management. The firm works closely with the United States Forest Service (USFS) Remote Sensing Applications Center (RSAC) in West Valley City, Utah. Two of the four principals of RedCastle Resources are U of U Department of Geography graduates: Donald Evans, MS, 1993 and Mark Finco, Ph.D., 1999. RedCastle Resources was started in 1998 by Paul Ishikawa, Paul Maus, Don Evans, and eight employees including Mark Finco, the company's principal and owner.

Mark Finco. The company has experienced rapid growth in the same trajectory as the massive growth in the geospatial and GIS fields. RedCastle has now grown to about 60 full-time employees, many of whom are University of Utah graduates.

RedCastle Resources specializes in the use of remote sensing data for forest inventory and monitoring, vegetation mapping, and disturbance analysis; geospatial training and technology transfer; and customizing geospatial web-based applications. In the early 1990’s, Paul Ishikawa was involved with the development and testing of Kodak’s first color infrared digital camera with near infrared and natural color capabilities. Along with collecting and using aerial digital imagery, RedCastle Resources was using satellite images from Landsat and testing other satellite and airborne imagery for forest mapping applications. Since these early years, an explosion in the number and types of remote sensing platforms and instruments has resulted in a commensurate increase in the types of resource management questions geospatial technologies can help answer. These activities include the use of satellite and aerial imagery and GIS for detecting forest insect and disease infestations, mapping active fires, post fire recovery and burn severity assessments. A few of these applications are highlighted below.

RedCastle Resources staff contribute to several nationally standard geospatial products related to wildfire. These include four major programs: Active Fire Maps, Monitoring Trends Burn Severity (MTBS), Burned Area Emergency Response (BAER) imagery support, and Rapid Assessment of Vegetation Condition after Wildfire (RAVG). Active Fire Maps program provides information on current large fires as seen by MODIS and other large area sensors (http://activefiremaps.fs.fed.us/). Started in 2007, MTBS is an ongoing project that maps burn area boundaries and assesses burn severity of fires throughout the United States using the Landsat data record going back to 1984. The BAER imagery support program provides burn severity maps immediately following a fire to assist resource managers in determining the mitigation measures necessary when the loss of vegetation due to wildfire exposes soil to erosion and increased water run-off. The RAVG...
RAVG program provides maps and tabular products that are the product of remote sensing-based burn severity analysis and geospatial overlay with existing vegetation maps. As a result, the RAVG products show the location of basal area loss within fire perimeters following a forest fire.

Another major area of work for RedCastle Resources personnel is the creation of existing vegetation cover maps. Information about the spatial distribution of vegetation is one of the most fundamental needs in land management planning. RedCastle Resources engages in all aspects of vegetation mapping, from project management to developing vegetation classification systems, creating innovative ways and analyzing geospatial data. A number of vegetation mapping projects are recent or ongoing across the lower 48 states and Alaska.

More recently, RedCastle Resources has been supporting numerous international projects sponsored by the Forest Service International Programs office and US Agency for International Development (USAID). Through its work with the Forest Service, RedCastle Resources has provided assistance to many countries including Bhutan, Peru, Zambia, Malawi, Jordan, Bangladesh, Indonesia, and India. Many of these projects have involved assessing changes in forest biomass for carbon accounting and UN REDD compliance purposes.

Lastly, RedCastle has a long standing responsibility and programmatic involvement in developing and delivering technical training courses, including classroom instruction, online courses, and web-conferencing courses, for US Forest Service and other federal and state personnel. Topics of the courses span the full range of geo-analytical skills required to perform remote sensing projects. This includes using GPS for natural resource mapping applications, aerial photography interpretation and analysis (hardcopy and digital), satellite image processing, softcopy photogrammetry, and advanced image classification and modeling techniques.
Officer of Earth Science Education, a small not-for-profit professor in the U of U’s Geography Department, a former three-term state legislator, former State Geologist and Director of the Utah Geological Survey. She also is Chief Education Officer of Earth Science Education, a small not-for-profit organization that uses local geology to teach instructors earth science principles, outdoors, and in their students’ neighborhoods. Genevieve is a process geomorphologist and her ongoing research examines coastal processes and flooding hazards of Great Salt Lake. In Spring 2012 she teaches two U of U courses: Geography of Utah and the field course, Analysis of Utah Landforms. This course was featured on the cover of the U of U Continuum Magazine last summer. http://continuum.utah.edu/2011/06/experiencing-rio-mesa/. Students meet every Thursday and review principles of geomorphology, accompanied by there’s eight days of intense field investigations in Utah’s three physiographic provinces over Spring Break.

Simon Brewer: Simon works with records of climate change and ecosystem response over broad time and spatial scales. He has a particular interest in integrating observations of ecological change with models, and is currently working on an NSF project to model vegetation changes for North America over the last 21,000 years. Results were presented at the AGU meeting in San Francisco last December, and some of the theory underlying this research was published in Trends in Ecology and Evolution this January. This fall, he will be teaching a new class looking at the impacts of expected climate change and the potential for adaptation or mitigation of these changes. Outside of the department, he enjoys a sport known here as soccer, but as football in his home country, playing the guitar, cycling and occasionally falling over on a pair of skis.

Andrea Brunelle: Andrea is a paleoecologist who is interested in records of environmental change with a focus on past ecosystem disturbances such as fire and bark beetle outbreaks. Her geographical areas of interest include the intermountain west and the American southwest (including northern Mexico). Last year Andrea was on sabbatical and besides working on her research she spent five weeks doing a Spanish language immersion in Ensenada, MX with her family. She also taught a course in the Environmental and Sustainability Studies study abroad program in Costa Rica. She is scheduled to teach that again in May 2013!

Larry Coats: Larry has lived in each of the states making up the Four Corners! His research includes paleoecology and climate change, especially reconstructing past environments in arid lands using packrat middens as a tool. Currently, he is working on the late Holocene distributions of Adelie penguins along the Victoria Land Coast of Antarctica, and reconstructing the paleoenvironments of Range Creek Canyon to support the archaeological investigations in progress. Larry presented the results of his high survey of archaeological sites in Range Creek at the Society for American Archaeology Annual Meeting in March of last year.

Tom Cova: Tom’s research interests are hazards, transportation and GIS with a particular focus on wildfire evacuation. Last year he presented a talk at the 2011 Annual Meeting of the AAG in Seattle on “Modeling stay or go decisions in wildfires” that was inspired by a trip to attend a joint U.S.-Australian workshop in Victoria and New South Wales the
previous summer. Tom also attended the Annual AAG Meeting in New York City where he presented a paper and served as Chair of the Hazards Specialty Group. He recently taught a new course on GIS & Python which will become part of the curriculum for the Department’s new Masters in GIS when it’s approved, and he is currently teaching a course on the Geography of Disasters.

Phil Dennison: Phil’s primary research is on remote sensing of vegetation and wildfires. Phil and his grad students recently started working on four new projects. Ph.D. student Yi Qi is working on a NASA-funded project with the goal of creating a fuel moisture monitoring product from satellite data. Ph.D. student Ran Meng started a project funded by the California Energy Commission using satellite data to map vegetation recovery after fire. Master’s student James Arnold is working on a BLM-funded project modeling fire and climate in the Great Basin and Colorado Plateau. Phil is also collaborating with Tom Cova and Ph.D. student Dapeng Li on a new NSF project investigating protective action triggers for wildfires. Phil is on sabbatical during the 2011-2012 academic year, and has been enjoying the chance to travel and investigate a new area of research, hyperspectral remote sensing of trace gas plumes.

Steven Farber: Steven is a transportation geographer interested in the relationship between urban spatial structure and peoples’ daily behaviors. He is currently using super-computers to develop new metrics for assessing the social interaction potential of metropolitan regions. This work is gaining some traction, and you can find his most recent journal article about it in an upcoming issue of Annals of the Association of American Geographers. In addition, his research includes contributions to the fields of spatial analysis and econometrics, with a focus on assessing the feasibility of Geographically Weighted Regression and Spatial Dependence Models.

Rick Forster: Rick has been conducting research in glaciology and remote sensing related to climate change. This past year his graduate students lead research expeditions across portions of the Greenland and Antarctic ice sheets to measure snow accumulation in remote regions. They collected snow/ice cores from several locations and traversed over 1,000 km on snowmobiles with ice penetrating radar. NASA also overflew the traverses with an airborne radar system that measures the annual snow layers and ice thickness. Rick will be conducting research on the rivers and lakes on top of the Greenland Ice Sheet this summer. He presented research results this year at NASA and the AGU conference.

Spike Hampson: Spike is a professor lecturer for the department devoting his professional time to teaching. He has recently presented a paper at the World Universities Forum in Hong Kong. It was on the potentially revolutionary nature of online courses. Last summer, he worked on winterizing a yurt that he had erected on a piece of land in the mountains. Spike has been teaching skiing part-time at Deer Valley for 28 years and has just started writing a book on how to ski.

Kevin Henry: Kevin is a medical geographer who is interested in the application of geospatial methods in health research to understand the role of geographic factors such as the social and built environment on health disparities. He recently began a new and exciting project that utilizes data from the Utah Population Database, focusing on the contribution of social and physical exposures across the life course on cancer risk. He teaches GIS for Public Health, Medical Geography and Spatial Epidemiology. This semester in Spatial Epidemiology his students are working on an important project with the Utah Cancer Registry to examine geographic variation in female breast cancer incidence and survival. The results from this project will help inform breast cancer control and prevention efforts in Utah. In January Kevin became a Huntsman Cancer Institute (HCI) investigator and a member of HCI’s Cancer Control and Population Sciences program.

George Hepner: George is a professor and serving his second year as chair of the department. He specializes in land use analysis, GIS, and the geography of terrorism. His recent research funding includes a continuation of funding from USEPA for Southwest Consortium for Environmental Research and Policy (SCERP), Bureau of Land Management and British Gas International. He has recent publications with former graduate student Richard Medina (George Mason University) and Laura Siebeneck (University of North Texas) on geospatial representation of terrorist social networks and spatial analysis of terrorist attacks. Also, he is involved in Phase VI of the ASPRS Ten Year Forecast of the geospatial industry. http://www.asprs.org/10-Year-Industry-Forecast/Ten-Year-Industry-Forecast.html

Tom Kontuly: Tom is currently on phased retirement (50%) and will retire from the University of Utah on June 30, 2012. He taught two classes during Fall semester – Population Geography, which is an upper division communication/writing course, and Global Economic Geography, which fulfills the International requirement.
Harvey Miller: Harvey is a transportation geographer who studies human mobility patterns using GIS and data from location-aware technologies such as GPS and cell phones. He is settling back into full time teaching and research after two terms as department Chair. This includes developing a new course in Sustainable Transportation and teaching Introduction to Human Geography for the first time. Harvey gave keynote addresses at Geoinformatik 2011 in Münster, Germany (June), the Spatial Thinking and Geographic Information Sciences symposium in Tokyo (September) and the Frontiers in Transportation International Workshop in Niagara-on-the-Lake, Ontario (October). Harvey also presented papers at the AAG and Transportation Research Board annual meetings. He also had papers published or accepted for publication in Journal of Geographical Systems, Transportation, the ACM SIGSPATIAL proceedings and the Annals of the Association of American Geographers (the latter with new colleague Steve Farber). He is continuing his activities with the Transportation Research Board as a Member of the Geographic Information Science and Applications committee and Visualization in Transportation committee. Harvey is also vice-Chair (and eventually Chair) of the AAG specialty group on Geographic Information Science and Systems. He is also excited to start a new five-year project funded by the National Institutes of Health that studies the impact of light rail construction and street rehabilitation on residents’ active transportation behavior in a low income neighborhood of Salt Lake City. In his spare time, Harvey enjoys bicycling, Nordic and downhill skiing and wilderness travel. He is also a confirmed bookaholic and really enjoyed season 4 of “Breaking Bad.”

Elizabeth Dudley-Murphy: Elizabeth is Adjunct Associate Professor in the Geography Department, originally from northern Chile in the Atacama Desert, where she was born and raised. She received her PhD from the Geography Department in 1996 and since then has been working with the Energy & Geoscience Institute (EGI). She has been teaching GIS in the Civil and Environmental Engineering Department for several years, where she co-taught with her colleague Greg Nash, also a graduate of the U of U Geography Dept. This semester Elizabeth is teaching our Intro to GIS class completely online using Canvas, online based format. Besides GIS, Elizabeth also teaches three other online classes for the Geography Department and is the faculty representative at the University of Utah for the School for Field Studies, Environmental Field Studies Abroad Program that is based in Salem, Massachusetts. Her research interests include the application of remote sensing and GIS for urban and vegetation analysis - specifically the urban forest. She is working with colleagues to develop new methods based on high spatial resolution imagery for characterizing the urban forest in the Salt Lake Valley.

Kathleen Nicoll: Kathleen’s research areas are quaternary geology, geomorphology and archaeological geology, with emphasis on arid landscapes. In 2011, Kathleen was elected to fellowship in the Geological Society of America, where she joins a select membership of scholars who are nominated based upon their depth of academic contributions and service to society and the profession. This past year, Kathleen continued to serve as the Chair-Elect of the Archaeological Geology Division of the Geological Society of America, and on the Joint Technical Program Committee, which plans the annual GSA meetings. She also provided leadership to the American Geophysical Union at a Chapman Conference on “Climates, Past Landscapes, and Civilizations” convened in the spring, and at the AGU annual meeting in San Francisco, and the GSA meeting in Minneapolis. Kathleen won the University of Utah College Of Social and Behavioral Sciences Superior Teaching Award for 2010-2011. This past year, Kathleen and her colleagues landed grant support from the NASA Space Grant Program and the National Science Foundation for research on the Lake Bonneville-Great Salt Lake system.

Mitchell Power: Mitchell joined our department in 2008, working in partnership with the Natural History Museum of Utah. His interests include botany, paleoecology, biogeography, fire history, and paleoclimatology. As Curator of the Garrett Herbarium, Mitchell has been developing a digital database of the museum’s plant collection and has just moved into the new Natural History Museum of Utah. This past year he spent the summer conducting plant surveys and collecting sediment cores in the Uinta Mountains and from the eastern Great Basin. His BLM-funded research in the eastern Great Basin is exploring ecological succession and vegetation response to recent and historic fires. Mitchell was the invited speaker at the 2011 International Quaternary Association session on Paleofire in Berne, Switzerland this past summer. He was also invited to present his research at the Ecological Society of America (ESA) meeting in Austin, Texas. The ESA session explored the impact of the “Colombian Encounter,” when Europeans began to settle the New World during the 15th and 16th centuries. Mitchell continues to pursue his international research interests including recent publications on paleofire regimes in Mediterranean ecosystems of southern Europe, and is continuing to conduct Mitchell Power collecting a frozen surface core at Fish Lake
research the Neotropics, including new studies in Brazil, Bolivia and French Guiana.

**Dennis Wei:** Dennis organized “International Conference on Urbanization and Development in China” at University of Utah, August 26-28, 2011. He received an Outstanding Service Award from the China Geography Specialty Group, Association of American Geographers. He had a number of publications in top journals including *Geoforum, Environment and Planning A, Journal of Economic Geography,* and *Urban Studies.* He also edited special issues in *Environment and Planning A* and *Erdkunde.*

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**New Graduate Students**

*Top Row (L-R):* Dave Selkowitz, Dapeng Li, Paris Latham, Brittany Gold, Jared Butler,

*Bottom Row (R-L):* Colleen Campbell, Michael Campbell, Marshall Roses, Xiao Li, James Arnold, Blake Wellard, Korey Klein

**James Arnold (M.S.):** James is a Master’s student and research assistant in the URSA lab. A native Utahn, he received his B.S. from Weber State University in 2010 where he majored in Botany with a minor in Geospatial Analysis. James came to the Geography Department through his interest in remote sensing and spatial modeling. He has recently presented a poster at the 2011 ASPRS conference in Milwaukee on research funded by the Forest Service, conducted while at Weber State. Currently, he is working on a BLM funded project which involves creating a climate-driven fire model covering the Great Basin and Colorado Plateau. His other interests include cycling, camping and hiking.

**Jared Butler (M.S.):** Jared is a Master's student and graduate assistant in the URSA lab. Originally from Mount Carmel, Illinois, his background consisted of GIS, medical geography, as well as informatics from the University of Illinois, Urbana Champaign. At the U, his research interest are focused on patterns of cancer in Utah, specifically through a life course analysis examining past residential experiences that may affect health outcomes. Additionally, a possible further goal is the application of spatial modeling towards current trends to examine health patterns and influences upon them. Recently he attended the International Geospatial Geocoding Conference in Redlands, CA and attended the American Association of Geographers conference in February. His hobbies include backpacking, fishing, trap shooting, gardening, and most recently snowboarding.

**Michael Campbell (PhD):** Michael is a Ph. D. student and a teaching assistant for Cartography and Exploring the World through Google Earth. He originally comes from Columbia South Carolina, but has lived all over the U.S. His research interests are in Geomorphology, Cartography and Remote Sensing and will be examining the shorelines of Lake Bonneville.

**Brittany Gold (M.S.):** Brittany is a Master’s student. Her undergraduate studies were in Geography and Environmental Studies with an emphasis in remote sensing. Brittany grew up ski racing in Vermont and later in Utah. During college her passion for skiing and the outdoors grew into an interest in snowpack and avalanche studies. Her research focuses on determining snowpack properties, such as depth, density, and snow water equivalence from a radar sensor.

**Korey Klein (M.S.):** Korey is a Master’s student and graduate assistant in the DIGIT Lab. His undergraduate studies, completed at Ball State University (2011), where he focused in meteorology/climatology, GIS, and emergency management. He also served as the director of the Ball State Storm Chase Team from 2009-2011. The Indiana native presented a poster, based on a two year project, at the 2011 Indiana Geographic Information Council conference, taking home the first place student prize. The project used the social networking website Twitter as a means of storing human-submitted meteorological data, and then statistically compared the data to nearby automated observations. At the University of Utah, Korey’s research interests are currently focused in a similar direction, looking at the use of Twitter during disaster situations. During his spare time, the self-proclaimed foodie enjoys travel writing, photography, cooking. Since moving to Utah, he has taken up snowboarding and enjoying the outdoors.

**Paris Latham (M.S):** Paris is a Master’s student and teaching assistant. She obtained her B.A. in environmental studies from Brown University in 2007. After she graduated, Paris headed to the mountain west to work for several environmental 501(c)(3) organizations in the state of Utah, meanwhile developing an interest in GIS with a focus on modeling applications in human geography. Having grown up in the San Francisco Bay Area, Paris loves the west...
coupled with the close proximity to the local ski resorts, which is where you will find Paris most weekends. Salt Lake is a place that she is happy to call home. She is also very active in the local dog rescue community, and has successfully fostered and placed a dozen dogs over the past three years, as well as participated in many local outreach events for pit bull and bully breed education. She was recently accepted into the National Geographic intern program for the summer of 2012, which is based out of Washington D.C.

Dapeng Li (PhD): Dapeng comes from Weihai, China and is a PhD student. Dapeng completed his undergraduate study in GIS at the School of Information Engineering, China University of Geosciences (Beijing) and received his B.S. in 2008. He received his Master’s degree in Cartography & GIS from Peking University in 2011. He is currently a research assistant working with Dr. Tom Cova and Dr. Phillip Dennison in the Center for Natural & Technological Hazards. His research interests mainly include emergency management, GIS and transportation. His major concern is how to use geospatial techniques to support decision making in emergency situations. He is now working on a project concerned with wildfire evacuation. Dapeng enjoys jogging, photography, billiards, cooking, pop music and movies in his spare time.

Xiao Li (M.S.): Xiao is from Nanchang, China and is a Master's student and graduate assistant working with Dr. Steven Farber. His research interests are Transportation Geography and GIS. His current research will focus on the effect of land-use and transport systems on discretionary activity participation in metropolitan regions. Xiao earned a BE in Geographic Information System from China University of Geosciences (Wuhan) in 2010 and his background is in developing GIS applications. In addition, he is amateur accordion player.

Marshall Roses (M.S.): Marshall is a Master’s student with a background in technical geography from Weber State University (2011). He is still deciding upon which research topics interest him most, but is hoping to do research on a risk assessment for a tsunami along the Oregon coast. Being an Oregon native, he wants to do research that may impact his home state. Marshall ran track at Weber State, and was an All-American in 2008. Now that he is finished with track his new interests include hiking and traveling. He has hiked every trail in both Glacier and Yellowstone National Parks.

Dave Selkowitz (PhD): Dave is a PhD student working with Rick Forster. Originally from Connecticut, Dave has spent the last ten years living around the western U.S., primarily in Montana, Oregon, Alaska, and now Utah. His background is in geography (B.A., Middlebury College, M.S., Oregon State University), with a focus on remote sensing of seasonal snow cover. Dave also works as a research geographer at the US Geological Survey (USGS) Alaska Science Center in Anchorage, Alaska, where he continues to receive research funding from the Geographic Analysis and Monitoring (GAM) and Land Remote Sensing (LRS) programs. His recent GAM and LRS funded work at USGS has focused on combining Landsat and MODIS data to synthesize daily high spatial resolution snow covered area imagery, which he plans to focus on for his dissertation work. Dave has presented some early results from this work at the 34th International Symposium for Remote Sensing of Environment in Sydney, Australia in April 2011, as well as a more advanced version at the 2011 AGU Fall Meeting in San Francisco. Dave enjoys skiing, snowshoeing, trail running, and any other activity that gives him the opportunity to explore the mountains, forests, and deserts within a days drive of Salt Lake City.

Kory Iman, GISP: I graduated from the University of Utah with a degree in Geography and a GIS certificate in 2003. While attending the University of Utah, I had the opportunity to work as a GIS intern for the Utah Department of Transportation (UDOT). After graduation, I worked for UDOT and Layton City, Utah as a GIS Analyst.

I currently work for Mountainland Association of
Governments (MAG) as the Chief Cartographer. MAG is the Metropolitan Planning Organization for Utah County. MAG is responsible for the transportation planning efforts for the Provo/Orem metro area. MAG has played an important role in the Utah County I-15 reconstruction project, Utah County Commuter Rail project, and Murdock Canal Trail project. GIS plays an important role in the transportation planning effort by supporting all aspects of the planning process.

As the Chief Cartographer, I have had the opportunities to produce high quality mapping products as well as manage the GIS for MAG. One of the biggest accomplishments has been the automation of producing high quality mapping brochures using a combination of software packages to allow these products to be published quickly. Many of these high quality mapping brochures have been recognized by local GIS organizations as well as being published in ESRI's Map Book.

My love and passion for cartography and GIS has provided me with opportunities to expand my mapping/GIS skills and provided me with a career that I love.

Jesse Morris: After completing his M.S. and PhD with Andrea Brunelle, Jesse Morris, his wife Stacy (also a Utah Geography alum!), and their children relocated from Salt Lake City to Finland after Jesse accepted a postdoctoral position in the Department of Geosciences and Geography at the University of Helsinki. He is currently working with an international team of researchers examining long-term vegetation dynamics at the boreal forest-tundra ecotone in northern Fennoscandia and Russia. The team is currently preparing for a major field campaign to take place this summer in the Bolshezemelskaya Tundra between the Kanin Peninsula and the Ural Mountains of Russia. The research team will be traveling by helicopter to collect lake sediment cores across a number of sites to assess past vegetation and disturbance conditions in this region where reindeer outnumber people. Jesse has been fortunate to participate in workshops and meetings in Switzerland, the United Kingdom, and Lithuania. The Morris’ miss all of the wonderful people in the Geography Department and wish to express the gratitude for all of the opportunities and support over the years.

Jason Wolfe: I graduated with a M.S. degree in Geography in 1997. Roger McCoy was my senior advisor. After graduation, I moved to Boulder, CO and worked in a technical support role at the National Snow and Ice Data Center (University of Colorado). I transitioned to a technical writer role at the same company and wrote extensive technical manuals on using NASA Earth Observing System (EOS) data related to climate and the cryosphere. I also wrote a few scientific articles for the NASA Earth Observatory website and print publications.

Since 2005, I have worked at Exelis Visual Information Solutions (formerly Research Systems, Inc.) in Boulder, CO with the documentation group for ENVI and IDL software. I’m now a senior technical writer, and I love my job. My role has recently expanded to creating online videos of ENVI functionality. My studies in Geography are directly relevant to my work today: describing remote sensing algorithms, image classification, feature extraction, and working with imagery in ArcGIS.

I've been married to my lovely wife Jennifer for 12 years, and we have two young sons. I still cheer on the Utes football team every fall!
Donald R. Currey 2012 Scholarship Recipients:

Vachel Carter: Vachel’s research consists of examining long-term history of disease centers (dwarf mistletoe), beetle outbreaks and fire disturbance in the Uinta Mountains. She collected two 30 centimeter sediment short cores from two ponds in October, 2011 from the north slope of the Uinta Mountains. She plans to use her award for Plutonium dating.

Shira (Yoshi) Tracy: Yoshi’s dissertation research is analyzing sediment cores from the Amazon Basin to reconstruct anthropogenic impacts before and after European contact. She plans to address two hypotheses: 1) deforestation, farming, and anthropogenic burning had large-scale impacts on the vegetation composition and fire regimes in the Amazon Basin; 2) with the decrease in population densities following the arrival of European settlers, anthropogenic modification of the landscape decreased enabling the reestablishment of the native vegetation. Yoshi plans to use her award for radio carbon dating.

Blake Wellard: Blake’s research is focusing on the history and viability of the ponderosa pine in the Big Cottonwood Canyon area using a variety of techniques. He would like to find out why the ponderosa pine is absent from much of the Wasatch Range today, where was the ponderosa pine located during the last interglacial periods, and how will the range of ponderosa pine respond to current and future climate change? Blake’s award will be used for field supplies, radio-carbon dating and DNA microsatellite expenses.

We would like to give a big THANK YOU to Stan Currey and the many donors that have contributed to the Donald R. Currey Graduate Research Scholarship over the past several years. Your generosity has helped several graduate students with their field related research expenses. If you would like to make a contribution to this scholarship, details are located on the last page of this newsletter.

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Clayton Brough Retiring
After more than thirty years of teaching Geography to secondary and college students, Clayton Brough recently announced his decision to retire from all teaching responsibilities in June 2012. At the University of Utah, Clayton has done an outstanding job of teaching Political Geography and Teaching Methods in Geography. Teaching Methods is required for students doing a Geography Minor or a Social Science Composite Teaching Major. Clayton has also taught 9th grade Geography at Eisenhower Junior High and was a meteorologist for KTVX Channel 4.

Students have raved about Clayton’s teaching and what they learned in his class. One student wrote that “Brough is one of those teachers that you take a class from and he affects you for the rest of your life.” Many cited Clayton as their favorite teacher at the U or his class as the one they learned the most from and enjoyed the most or both! Other comments from students about his teaching or his class:

- Wish all my classes were this good
- I learned more in this one class than I have in all of my pre ed. classes
- The content of this course will probably be the most important content and instruction that I received for my entire bachelor’s degree
- This was the most effective instructor I have ever had
- I looked forward to this class, eager to find out what new, baffling news he would unravel to us
- I think he is an amazing teacher and I want to be like him when I start teaching

Clayton will be hard to replace. The department and his students want to thank him for his dedication and service. We will miss you, Clayton. Enjoy your retirement!
Rick Forster chosen for 2012 CSBS Superior Research Award

Rick doing fieldwork on the Greenland ice sheet spring 2010

Dr. Rick Forster has been selected to receive this year’s College of Social and Behavioral Science Research Award. This award is presented to the outstanding senior research scholar reflecting an excellence in research, publication, external funding and graduate student mentoring. Research excellence is a cornerstone of the college’s mission. Dean David Rudd commented that, "Not only does your research make important contributions on the scientific front, it exposes our students to cutting edge discoveries.”

Rick will be recognized for his achievements at this year’s college award banquet on the evening of April 19th. In addition to a plaque, the award comes with a monetary stipend of $1000. He will also offer remarks to the graduate students at their convocation on May 3rd.

CONGRATULATIONS, Rick! This is a much deserved recognition of your research efforts.

DIGIT Lab

The DIGIT Lab (Digitally Integrated Geographic Information Technology) is excited to be celebrating its 25th anniversary in 2012. Since 1987, the Lab has been operating as an auxiliary facility to the Geography Department actively providing geospatial research support across campus. In addition to our on campus work, we collaborate with many government and private organizations off campus. The mix of research and applied geospatial projects provides an excellent learning and skill development environment for graduate students.

In November 2011, the DIGIT Lab moved to the newly renovated OSH 174. The new facility has increased space, its own conference room, and a much improved work environment complete with natural light. We really appreciate the new space and would like to thank all who made the renovation possible (Geography Department, Dean Rudd, Dr. Pershing, Facilities Management, and CF&R Funding). Please come and visit us at our new location!

Our Staff:
Director: Phoebe McNeally, PhD
DIGIT Assistant: Melissa Warner
Project Manager: W. Adam Naisbitt, MS
GIS Analyst: Brian Olsen
GIS Analyst: Jared Butler
GIS Analyst: Korey Klein
GIS Technician: Megan Southwick
URSA Lab

Students in the Utah Remote Sensing Applications (URSA) Lab continue to do exciting research on applied remote sensing. Scott Matheson graduated with his Master’s in Spring 2011, and is working on turning his thesis into a paper for the journal Remote Sensing of Environment. Greg Fryer is writing his Master’s thesis on modeling fire evacuation triggers for wildland firefighters. Ashley Powell is working on her Master’s thesis research examining links between fire, climate, and population in central Uganda. Master’s student James Arnold is modeling relationships between fire and climate in the Great Basin and Colorado Plateau. Tim Edgar is continuing his dissertation research on how shading by trees and structures, derived from lidar data, affects summertime residential energy consumption. Ph.D. student Chris Balzotti has successfully proposed a dissertation project on modeling sagebrush and sage grouse habitat in Utah. Another Ph.D. student, Yi Qi, has submitted a NASA Fellowship proposal that will fund research on remote sensing of fuel moisture. Ph.D. student Ran Meng is working on a project mapping type conversion following fires in southern California and the Sierra Nevada.

More information on the URSA lab and descriptions of lab projects can be found at http://ursa.utah.edu.

Power Lab

The Power lab conducts environmental change research using biological and geochemical proxies for exploring past global change. Students working in the lab also contribute to the growth and management of the global charcoal database (GCD), an archive of over 800 fire history records from around the world (http://gpwg.org/). The GCD provides a community of international scientists with a new tool for exploring past changes in global biogeochemical cycling, climate forcing, and ecosystem responses to biomass burning. The Power lab is also engaged in collecting modern and fossil plant specimens from research sites across Utah and the Intermountain West. Graduate and undergraduate students have the opportunity to work in the Garrett Herbarium, a collection of over 130,000 dried plant specimens housed at the Utah Museum of Natural History. Research projects in the Power lab include global-to-regional scale analysis of fire, climate and vegetation linkages with students participating in field- and lab-based research at sites in the western U.S., the Caribbean and Amazonia.

In November 2011 the Power Lab moved into a new lab facility in the Natural History Museum of Utah.

Contact Dr. Mitchell Power for more information.
mitchell.power@geog.utah.edu
Red Lab

It has been a busy year for the RED (Records of Environment and Disturbance) Lab. Jesse Morris completed his Ph.D., and is currently working as a post-doc at the University of Helsinki in Finland. Vachel Carter, a former RED Lab Master’s graduate, began her Ph.D. this year, and Jessica Spencer set a new lab record by successfully defending her thesis 3 semesters into the program. Both graduate and undergraduate students have been working on a number of exciting projects in the RED Lab, many of which have focused on the utility of paleoenvironmental reconstructions to land management issues. These projects include collaborations with environmental consulting agencies, archeologists, the US Forest Service, the BLM and the US Fish and Wildlife Service, and we continue to work closely with these agencies.

For more information on the RED Lab can be found at http://www.geog.utah.edu/red_lab

Fieldwork summer 2011 in Wind Rivers, WY

S.A.C. News

The Geography Club, Gamma Theta Upsilon Honors Society University of Utah Chapter (GTU), and Student Advisory Committee (SAC) have been busy with various activities over the last year. With the help of Kaila McDonald, GTU president, several half-day “mapping parties” were organized and sponsored by Phoebe McNeally and the DIGIT Lab. The purpose of the mapping parties is to help the University’s Facilities Department ground-truth existing spatial information regarding entrances to campus buildings. Facilities currently houses the interactive, on-line, on-campus routing map and were looking to add handicappable (i.e. handicapped) routing, but needed to qualify appropriateness of building entrances. Kaila McDonald had the opportunity to present the club’s mapping party model at the American Association of Geographers (AAG) conference in New York City in February 2012. The presentation was part of a student panel presentation with Penn State University called “Undergraduate Students Doing GIS.”

All three student groups participated in the University's Plazafest Welcome Week (August 2011) and manned a table promoting the clubs and the Geography Department. It was a great opportunity to get student involvement in the three student organizations and to recruit new majors. Geography Week/GIS Day (November (2011) was another opportunity to host activities, such as a movie night watching BBC’s “Human Planet”, and to get students involved in the department.

For more information regarding the Geography Club and GTU you can visit the Geography Department’s main office, located in OSH 270, or join the Department’s mailing list for email updates.

(L-R) Canyon Evans, Darrin Blaisdell, and Sean Hirschi
GIS Day/Geography Awareness Week

Geography awareness week has been an annual event since 1987 and is an excellent representation of the Department of Geography as well as the University of Utah. It is the Department’s annual event to recruit potential Geography majors and to show the career opportunities that exist for geography majors after graduation. It was a successful event again this year and highlighted the essential role geographers play in academia as well as in public and private capacities.

Two hundred plus students, educators, and professionals participated in the week’s activities. There was one career-panel discussion consisting of five panelists: Bert Granberg (AGRC), Kasey Hansen (Gateway Mapping), George M. Mastakas (AZTECA), and Paul Maus (RSAC) and a workshop conducted by Tom Wussow from Monson Engineering entitled “Linking GPS to GIS.” On Thursday Martijn Van Exel ran a workshop on OpenStreetMapping (Volunteered Geographic Information) encouraging everyone to get involved to more accurately map our neighborhoods and cities.

Dr. André Skupin was our keynote colloquium speaker from San Diego State University. The title of his lecture was “How to Map Practically Anything - Towards a Cartography of High-Dimensional Space.” Dr. Skupin’s research interests are an intersection of Geography, Information Science, and Computer Science as applied in: Information Visualization, Document Visualization, and Knowledge Domain Visualization.

Gifts to the Department 2011

We wish to thank the following individuals for their generous donations!


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These are difficult times for a state university. We need all of our alumni to take a more active role in supporting our department.

- If you have specific knowledge of employment opportunities for our graduates
- If you can use the department or DIGIT lab for funded research/service projects
- If you have ideas and time to devote to improving our department
- If you have a desire to support the department and the students financially
- If you want to support financially and participate in our Fall picnic or Spring awards activity

Contact me george.hepner@geog.utah.edu

We have appreciated your generous donations in the past. Please consider taking this opportunity to donate to our scholarship funds. Be sure to indicate which fund you would like your donation directed to. All contributions are tax deductible. We look forward to hearing from you!

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