

UMD Department of Geography, Urban, Environment, and Sustainability Studies Newsletter

April 2015

From the Department Head

Dear Friends,

Welcome to the 6th edition of the department newsletter. It is with great sadness that I report to you that Ms. Vaike Kaups passed away on March 12, 2015. The Matti Kaups scholarship established by Ms. Kaups and her family has been a great inspiration to our students. I also sadly report that Aaron Buffington, geography alum, passed away on February 3, 2015, after a year-long battle with cancer. I extend my sincere condolences and sympathy to both their families and loved ones.

For the first time, the department created a special student scholarship primarily for supporting our students to travel to conferences. There are five recipients of the scholarship this year, and four of them attended the MOSES (Midwest Organic & Sustainable Education Service) conference in La Crosse, Wisconsin, in February, and the other will attend the American Association of Geographers Annual Meeting in April, in Chicago.

There were a number of international academic collaborations and exchanges in the department for students and faculty members. Dr. Pat Farrell took a sabbatical leave this year and visited the Geography Department of the University of Kelaniya, Sri Lanka in which she helped establish a soil laboratory and train academics, undergraduates, and graduate students in soil studies. Drs. Pine and de Souza (UMD Communication) visited the Indian Social Institute (ISI) in Bangalore, India last summer, and will offer a study abroad course entitled "Social Change and Community Empowerment in South India" in May. Dr. Randel Hanson visited Cuba with a delegation during Spring Break. Last summer, I also paid a research visit to the School of Geography, Nanjing Normal University. Kate Carlson will continue to bring UMD students to Belize in May this year. In addition, the department hosted a visiting scholar, Nishan Sakalasooriya, a Ph.D. candidate from the Department of Geography, University of Kelaniya, Sri Lanka, and will receive another visiting scholar, Dr. Ming Cui, from the Institute of Desertification Studies, Chinese Academy of Forestry for one year.

We are continuing to grow and expand programs in the department. The department currently offers BAs in Geography, GIS, Urban and Regional Studies, and Environment and Sustainability Studies, as well as an undergraduate GIS certificate. We plan to develop B.Sc.'s in geography and GIS, and Environmental and Sustainability Studies, as well as a graduate certificate program in GIS.

This is the last time I will write this column. Starting in September, Dr. Pat Farrell will be the department head and I will return to my normal research and teaching. Being the department head for five years has been one of the most special professional experiences for me. I feel honored to work with all members of the department and to serve our students. Finally, I would like to thank Ms. Linda Klint for editing the newsletter.

Warm regards,

Tongxin Zhu

Head, Department of Geography, Urban,
Environment and Sustainability Studies



COLLEGE OF
LIBERAL ARTS

Department of Geography

UMD
UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover

In Memory of Vaike "Vicki" Kaups



Vaike "Vicki" Kaups, 81, of Duluth, Minn., and Singer Island, Fla., passed away March 12, 2015 with her loving family by her side in the Hospice of Palm Beach Gardens Medical Center. She was born July 28, 1933 in Saaremaa, Estonia to Johannes and Luise Kaasik. Vicki married Matti Kaups on March 28, 1959. They enjoyed 39 years together before Matti's death in 1998. Vicki had a very full and happy life. She will be greatly missed by family, relatives and her many friends. She was preceded in death by her parents, husband Matti, and sister Asta Kaasik. Vicki is survived by her son Michael (Caty) Kaups, daughter Kristi (Adam) Truitt, and brother Vic (Maie) Kaasik. She was very proud of and loved dearly her five grandchildren Claire and Ella Kaups, and Rye, Haili and Matti Truitt.

In Memory of Aaron J. Buffington

Aaron James Buffington died peacefully at his home in Blaine, MN after a courageous battle with kidney cancer. Born on August 12, 1973 in Alexandria, MN, and growing up on Lake Darling, Aaron enjoyed fishing, swimming, and hanging out with his Tabberts gang of friends. After high school graduation, Aaron attended the University of Minnesota-Duluth and later received a Master's Degree from St. Mary's University of Minnesota. Aaron was employed as a City Planner for the City of Forest Lake. On April 3, 2008, Aaron married Stephanie Persons in a beach ceremony in Naples, Florida. Aaron and Stephanie made their home in Blaine, MN where they raised their 2-year-old son, Lucas. Aaron was involved in long distance running and was considered an inspiration to fellow runners. Aaron is survived by his loving wife, Stephanie (Persons); son, Lucas; parents: Rich & Cheryl Buffington of Alexandria; brother, Jason (Liz) Buffington; sister, Michelle Wuollet (Tony); nephews: Patrick, Gordon, Garrett & Cooper; nieces: Kjirsten & Catherine, and many other relatives & friends. Our hearts are saddened with the passing of our dear Aaron. We will honor his life by continuing to live, laugh, and love as Aaron taught us to do so well.



Congratulations to 2014 Graduates!

Environmental Sustainability Studies

Jonathan Argall, Samuel Cook, Tessa Farrell, James Gannon, Mari Hardel, Heather Hidem, Paul Knoer, Aiden Kochery, Hannah Nylander-Asplin, Megan Marren, Daniel Onken, Gary Rosier, Andrew Ruona, Joel Sundeen, Andrew Swanson, Jeffrey Wilson, Nathaniel Zuk

Geography

Nicholas Deustch, Lucas Etestad, Samuel Giebner, Cole Holmes, Matthew O'Fallon, Stephen Paulson, Joshua Sandstrom, Becky Sax, Forrest Steinhoff, Dustin Voorhees

Urban & Regional Studies

Jarrett Valdez, Christopher Whaley

Geographic Information Sciences

Stephanie Gibeau, Joshua Sandstrom, Dustin Voorhees

GIS Certificate

Jonathan Argall, Derek Buck, Samuel Giebner, Ryan Murphy, Forrest Steinhoff, Christopher Whaley, Jeffrey Wilson

2014 Scholarship Winners

Emma Goldman Scholarship: **Tami McDonald**

Catherine Cox Scholarship in Geography: **Shane Bernard + Tami McDonald**

Matti Kaups Scholarship in Geography: **Riley Hine + Arne Kallas**

Fred and Lois Witzig Scholarship in Geography: **John Lang + James Olson**

Carlson/Amys Scholarship: **Claire Middlemist**

The logo for the University of Minnesota Duluth, featuring the letters "UMD" in a large, bold, serif font.

UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover

Trading Places: From Student to Teaching Assistant

Shane Bernard

Late in the fall semester of my junior year I got an email looking for people who wanted to TA for Physical Geography. I had loved the class when I took it freshman year, so I jumped at the opportunity. Little did I know that this would become one of my favorite parts of my college experience. My first lab section was only 12 students, and I was very nervous. I had never been good at speaking in front of groups of people, but figured this would be a great way to work on that. By the third class meeting I was totally comfortable being in front of the students and have since noticed that I have no problem speaking in public.

I had heard professors say their favorite part of teaching was seeing the joy of students when they finally understood something. I didn't really get what that meant until I became a TA. When I explained something to one of my students and they finally got it, I felt proud. I felt proud both that they understood it but also because that meant that I knew the subject well enough I was able to teach it to someone else. That is another benefit of being a TA, you learn the material better than you did in class because when you have to explain it to someone, you really, really have to understand it.

After my first semester of only 12 students, I moved on to a class of 24 students, and this last semester I had two labs of about 20 students each. Every semester I really enjoyed the experience and honestly had a blast teaching the labs. The other TA's were also fun to work with, and a few of them became good friends. Working with the professors was nice because all the professors in the GUESS department are fantastic so it is nice getting to work with them more than just in a class.

All through my four years here at UMD I have been involved with the GUESS department in many other ways including tutoring for GIS, working at admitted student fairs, and working at a table in Kirby for Geography Awareness Week, but being a TA is my favorite extra-curricular activity. I am sad I was only able to TA for three semesters because it is so much fun and such a rewarding experience. If I wasn't graduating I definitely would do it again, no doubt. Finally, I would like to thank Tongxin for giving me the opportunity to TA that first semester because that became some of my favorite memories of school and the GUESS Department.

Chris Dahlman

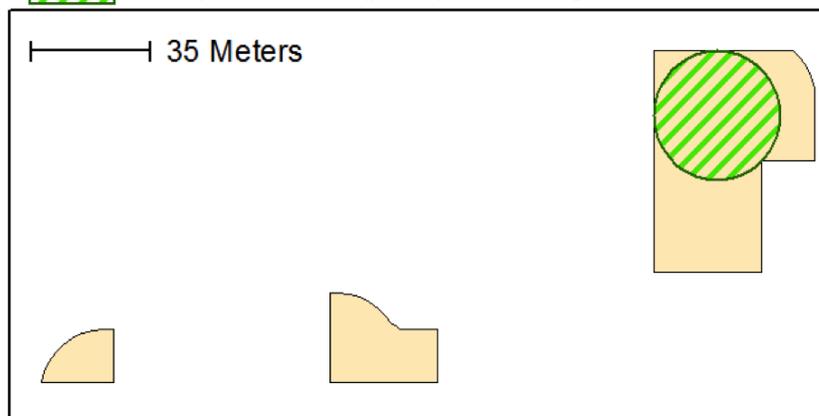
This April I will be presenting a poster at the Association of American Geographers Annual Meeting, under the topics of Military Geography, Geographic Information Science and Systems, and Transportation Geography. For this, I was awarded the GUESS Department Travel/Conference Award. I will be presenting a script tool I've made that makes certain Helicopter-Landing-Zones (HLZ) meet their diameter requirement.

To land, a helicopter requires a surface that is of suitable slope, free from obstacles, cleared of restricted vegetation, suitable soil type, suitable surface roughness, and meets the minimum diameter required for a particular aircraft. The current methods I was able to find for determining the suitability of potential landing zone either required the analyst to manually measure each individual landing zone, or would attempt to satisfy

the diameter requirement by extracting potential landing zones that exceed an area threshold of the radius squared. This creates a problem. A potential landing zone can very often meet the area requirement, but not the diameter requirement. The tool I created works by trimming the shape of potential landing zones only enough so that a circle, with a diameter required for a particular aircraft, placed adjacent to the inside edge of any landing zone boundary, would be completely contained by that zone.

Example for a 35 meter diameter.

-  Potential Landing Surface (meets all surface requirements prior to diameter processing)
-  Acceptable HLZ (post processing)



Sustainable Agriculture and Soils

Professor Ryan Bergstrom

The Sustainable Agriculture Project at the Research and Field Studies Center at UMD is an experiential field site that provides opportunities for students to explore sustainable agricultural practices firsthand. Arguably the single most important asset to any farm enterprise is healthy soil, and the SAP is no exception. With the help of Kevin Moris (SAP Manager), students in GEOG 4451 (Geography of Soils) undertook a 14-week pilot project at the farm that provided two unique learning opportunities. The first came about through the foundation excavation for a 5-kilowatt wind turbine that was initiated by a multidisciplinary group from the biology, geography, and engineering departments at UMD. The 20-foot-deep excavation pit provided an ideal opportunity for students to study a complete profile

of soil from the Augustana-Hegberg Complex. Students practiced literal “muddy boots geography” (see photograph) as they calculated the texture, structure, pH, color, and acidity of the soil profile. The second opportunity arose when SAP acquired a three-acre plot of land that had not been cultivated since the closure of the University of Minnesota Agricultural Experimental



Station nearly 40 years ago. The acquisition provided a chance for students to compare how soil characteristics differed between existing agricultural fields and the newly acquired land, and how long-term fallowing and production influenced soil character. Specifically, students compared how soil organic matter, soil moisture content, bulk density, soil texture, particle size, porosity, and soil nutrient cycling (carbon, nitrogen, phosphorous, and sulfur) varied using both field and lab techniques. After compiling data over the 14-week study period, students were required to synthesize their findings into a report for SAP. These reports highlighted the variation found between the two sites, and also provided suggestions for how SAP could effectively manage the new site sustainably in the future.

Gaining Experience: Internships



Brett Frahm

I'm a senior and graduating this semester with a BA in Geographic Information Science and Environment & Sustainability. Both majors required me to have internships and I believe they were both spectacular experiences. Being able to apply things learned in class has been very rewarding and has kept my skills sharp as I bounce between my different kinds of classes for my two majors. The recent work I've done outside of classes was with the Forest Service during the summer and during the school year I have been tutoring in the GIS lab as well as working for the Geospatial Analysis

Center when they have work to throw my way. Since the Forest Service office in Duluth does not have an internship program within their GIS department, I had to reach out to someone in the department to see if I could work on any projects. I had a choice of what project I wanted to do and the one that sounded most interesting involved LIDAR data. LIDAR is highly accurate elevation data and NE Minnesota had recently acquired it. Since it is a massive amount of data to work with, the NE region is broken into many tiles. The only problem was that all the tiles overlapped each other and caused inconsistencies. To be able work with that much information requires automation and for GIS this means working with the programming language Python to create a script. Before starting this internship I had no experience using Python but I was excited to learn this new skill with a challenging project. The script cycles through the tiles and on each one it selects the surrounding tiles so that they can be averaged and merged together using the ArcGIS Mosaic tool. After this was done it would slice the mosaic into tiles again but this time without any overlap. Those at the Forest Service were very welcoming and I left it feeling a renewed confidence in my abilities.

As I said before I'm also working for the school in between my classes as a tutor and a GIS technician. As a tutor my job mostly revolves around helping students that are new to ArcGIS software and I enjoy very much helping students understand all the basics. The more difficult part is trying to help those that have been in the program for longer and are working on projects that are more complicated and I have to troubleshoot to see where in the work flow they did something wrong. For those that have done any work with ESRI's software, they will understand when I say that it is very finicky and will often not work for what seems like no reason, but it is rewarding when I can help people when they get stuck. My other job is with the Geospatial Analysis Center and when you work with them you get access to the old GIS lab on the third floor of Cina. I often come to the lab late at night to work on my projects and it is nice to have an entire lab to yourself especially when you get two monitors and a great view.

Gaining Experience: Internships

Claire Middlemist

This summer I worked as a farm hand at Burning River Farm in Siren, WI, an organic Community Supported Agriculture (CSA). Michael Noreen is the farmer, and he hires five people every summer to help with his growing season. He supplies almost 300 families, mainly in the Twin Cities area, with an abundance of beautiful produce from his farm every week.

On a daily basis we harvested, planted, and prepared/packaged vegetables for delivery to the CSA's members. Other daily tasks consisted of weeding, operating irrigation systems, greenhouse building, seed starting, manure transport, removing rocks from the fields, and miscellaneous farm repairs. Lots of manual labor was involved, but being outside 24/7 was extremely rewarding. We were also taught how to operate the tractors and the tractor attachments that helped with planting.



The goal of a CSA is to focus on locally-grown food, and I believe they are almost all organic. So to focus on the organic aspect, we couldn't use any chemical fertilizers or pesticides. What we did use were worm castings (poop), different types of manure, and our hands. On an organic farm, we kill weeds by pulling them, and it is very time consuming and never ending.

The way a CSA operates is that the farmer grows food (mainly vegetables, but meat and dairy are sometimes in the mix as well), and members of the community purchase a "share" of the harvest for that year. These shares usually extend from late May/early June, and go until the fall months, depending on where the farm is located (shorter growing seasons, weather, etc.). This way, members pay an upfront cost so the farmer has the income when they need it most, in the very beginning with purchasing of seeds and sometimes new equipment or farm repairs. The farm then delivers the shares to members' houses or drop-off sites where members can pick up their shares.

CSAs are a great way to improve regional sustainability. Factory farming spews out tons of pollution and is highly unsustainable. Through a CSA farm model, we can support farmers directly, and support the organic methods being used. Through organic farming the soil is replenished and not leached of all its nutrients. It protects the environment from harsh chemicals, uses animal waste to enrich soil, and of course produces better veggies! We were also introduced to different types of organic fertilizers such as fish emulsion, worm castings, and bone meal. It is also great for local economies and small areas because money isn't flowing to large corporations, but instead is going to your next-door neighbor, or your crazy uncle. It is also amazing how much one hard-working person can have an impact on how much the farm progresses in a day. Knowing that the work I was doing was being heavily relied on was an incredible feeling too.

I have volunteered at CSAs before, but this time I really wanted to dedicate a whole summer to it, mainly because I am considering organic farming as a career. I wanted to test myself to see if I would be able to handle a career doing it. I had the experience of a lifetime. It was very difficult to be chained to a farm for a summer, and manual labor every single day is hard to get accustomed to, but I've never felt more enlivened. I felt strong, healthy, I was more awake than I have ever been, and I felt vibrant all summer. I was dirty and I smelled horrible, but I knew I was doing something I truly believed in and I met some amazing people, and I was eating the best, freshest food.

It worked out well because I have always wanted to do it, so the opportunity came at a perfect time. When I was in the midst of the work, it sucked, but the big picture is worth the daily grunge work, and about two weeks after my internship ended, I began to miss it immensely. I realized that farming sinks its teeth into you very deeply. It made me feel very connected to my environment and myself. It's grueling, and yes, sometimes it's downright horrible, but at the end of the day I can't help but feel it's what I should be doing.

Gaining Experience: Internships

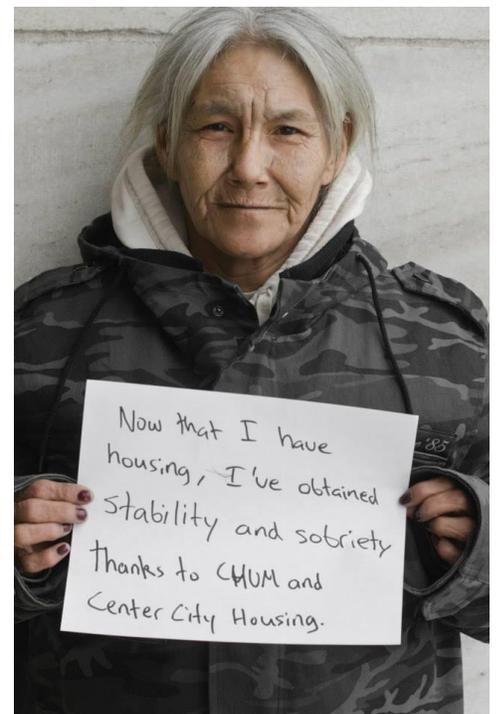
Gabby Gerken

Last Spring I had the opportunity to intern with CHUM in a group called Project My House (PMH). PMH's mission was to reduce homelessness in Duluth through the adaptation of shipping containers into low-cost micro-homes for those with the most difficulty finding housing. Both here and overseas, micro-homes have been used to create disaster relief housing, trendy homes, and projects to defeat homelessness. PMH hopes to enable community members with housing barriers such as mental illness, chemical dependency, or a criminal record to have a consistent home and be included in decision-making.

One of my main tasks for the semester was to research how other communities in the US have incorporated those that are impacted by a decision into the decision making processes, specifically in regard to homelessness. A few professors sent the question out to different forums around the country, but I didn't hear back about any organization that lets, for example, a homeless individual vote on where they are allowed to stay. For the most part they are allowed to serve on an advisory committee, but no one is actually required to listen to their opinions. PMH is unique because several of the people working in it are formerly homeless or have a criminal background. They are directly involved in the process and actively lobby for and plan out the options that are available. This was an eye-opening experience for me because until that point I had only learned about these problems through textbooks; it is a whole different experience in person.

In the spring of 2014 there were around 150 people in need of housing in Duluth, but it was difficult to find a stable home with only a 1% vacancy rate and a strict housing policy. This situation makes it difficult to find a job, and the cycle keeps moving from there. In January 2015 the Duluth City Council unanimously voted to adopt a resolution establishing a homeless bill of rights, the first of its kind in Minnesota. It's been one year, and I am happy to announce that there have been improvements! Last March the Steve O'Neil apartments were opened, and 44 low cost units became available. Housing in Duluth is still limited, but container houses are still being researched and tested. It is a slow process, but the community is engaged and the discussion has been started.

"When I had stable housing to begin in 2007 I still had chemical dependency and mental health issues. After I lived there for a few years and got used to a stable place to live I decided to become alcohol free and have been sober for two years. With stable housing it helps because without it you're just going from here to here and there to there without initiative to try and get a grip on your issues. I've been looking at micro houses and I think these will be better for our community than condos or a parking ramp. They will be the first step for people to gain their stability because they can lay their head down and not have to worry about getting tossed out of somewhere or what they'll be doing the next day. The shipping containers make me think, wow, I'd love to live in one of them"- Lisa Ronnquist, formerly homeless & a San Marcos resident since 2007



An Everyday Gardener

From the Field to the Classroom, It's All About the Environment



There are those who would hit pause at the first hard freeze, but not Anna Lee '16. UMD, with its year-round farming options, is perfect for this Duluth native who's passionate about food systems. Summers at the farm on Jean Duluth Road and winters at Victus Farms, a partnership between UMD and Silver Bay, Minn., is how she grows. Lee thrives on gardens. At both of these student employee positions, she sorts seeds, plants, and tends crops. The yield from these gardens is organic produce. There're no pesticides polluting the soil, and less fossil fuels are burnt in transporting the food from one part of the world to another. Anna Lee loves the time she spends with plants as she works toward her major in Environment and Sustainability.

Unlike most kids with a constant craving for mac & cheese, Lee has always been aware of what she's eating, even as a child. Florescent orange pasta didn't sit well with her, thanks in large part to lessons learned in her parents' garden. "I've always been happier eating food when I know where it comes from," she said. Lee's quest for knowledge has evolved into a major in Environment and Sustainability, and working at the farms has paired nicely with lessons in the classroom. Lee said the time spent growing gives her a tangible reward, "It's a practical thing that you can see right in front of you." Another perk to her job? "People seem happier when they're connected to their food," she stated. "Even working at the farm, we're always happy out there. We love what we do."

This article highlighting one of our students was featured in the latest edition of the UMD BRIDGE Magazine



The Sustainable Agriculture Project: A Land-Based Laboratory for Sustainable Solutions

When it comes to sustainable solutions, UMD students are rolling up their sleeves and digging in on the former Northeast Experimental Station, which closed in 1976 and eventually became the UMD Field and Research Studies Center. In 2009, the 10-acre UMD Sustainable Agriculture Project (SAP Farm) was founded for site-based research and teaching about organic agriculture, food systems, and related projects. In a leading-edge sustainability partnership connecting academics and operations, UMD's Dining Services supports the farm by hiring labor and purchasing produce, which is served on campus.



“We model sustainable practices in food, water, energy, and land management at the SAP Farm, providing hands-on learning for students, collaborative research for faculty and community, and a farm-classroom to table opportunity for the campus,” said SAP Farm Coordinator Randel Hanson, assistant professor in the Environment and Sustainability Program in UMD's College of Liberal Arts.

Hosting more than 1,000 students a year, collaborations across the liberal arts, science and engineering, and education create projects that make the SAP Farm a laboratory for sustainability. The goal is ecological land management to allow people to get what they need while enhancing nature.

Community collaborations include a teacher training garden used by the Duluth Community Garden Program, the Duluth Public School System, and UMD's Education Department to offer educators hands-on skills for school gardens. Other collaborations include the Intertribal Agriculture Council and the Northeast Beekeepers Association. “This world is our laboratory, our

classroom, and our only home,” said Hanson, “and we're getting people to work together to explore sustainable challenges and solutions in experiential ways.” Learn more on Facebook by searching ‘UMD Sustainable Agriculture Project’ or visit

<http://www.d.umn.edu/cscd/sap/>



This article highlighting our students was featured in the latest edition of the UMD BRIDGE Magazine

12th Annual Indigenous Farming Conference

Hannah Smith

The 12th Annual Indigenous Farming Conference took place March 5-8, 2015, put on by the White Earth Land Recovery Project (WELRP). Held at Maplelag Resort in Callaway, MN, this annual gathering of friends, farmers, and future leaders was a success, welcoming 250 participants. This year's theme was "Let's Protect Our Old Time Foods" with panels and sessions such as: 'Industrial Agriculture and Genetic Engineering on Pollinators, the Environment and Human Health' (Doug Gurian-Sherman from Center of Food Safety), 'Tyonnehkwēn "It to us gives us life!" Indigenous Sovereignty is in Our Seeds' (Dan Longboat), and 'An Indigenous Perspective on Development' (Michael Myers). In attendance were members from the Intertribal Ag Council, Seed Savers, educators, Native academics, students, White Earth government officials, farmers, grassroots organizers, and of course community members.

At the 11th annual conference I was asked to share my NASA/Kiksapa internship project, and did on the last day with a full hour and a full room. That year I was also honored at the banquet dinner for the project I was doing. This past winter I was asked back to speak, but didn't want to just present the final products of my research. With WELRP coordinator Zack Paige, we came up with idea of hosting a panel on Climate Change and the impacts that are happening across Turtle Island (also known as North America). We put a call out to people we thought would be willing to talk on this panel and got a group of 5 people. From radical homemakers to education project managers to indigenous science teachers, we put together a dream team for 'Climate Chaos through Indigenous Eyes.' This session was not to be about the science behind what is happening to our planet but rather about how the choices we have made as a society have impacted the lifestyles of future generations.

This second year I have learned so much more than I expected to. For 3 days I was surrounded by people who have space-based knowledge spanning generations and people who are doing such great work in their communities by promoting 'old time food' and healthy lifestyles through diet. For example, 2 individuals (Shannon Francis-Navajo and student/teen mentor Jasmin-Choctaw) shared what they were doing at the Denver Indian Center youth garden program. The program sets up teens as mentors to 46 young people for 8 weeks. In the last few years they have been successful at utilizing different methods of permaculture that highlights indigenous plant knowledge. With just under 1/5 of an acre, they estimate that in the coming year they will be able to grow 3 tons of produce on this plot. This is the type of program that I love to hear about, and these are the things I want to bring back to my own community. This is by far one of my favorite conferences I have been to in the last 3 years, and I plan on attending the 13th IFC.

For more information visit www.welrp.org or contact Mr. Paige at weseedlibrary@gmail.com

MOSES Conference Experience

Brooke Wetmore

“Success comes from using knowledge, success comes from sharing knowledge.”

-John Jeavons, Keynote Speaker, MOSES Conference 2015.

The 26th annual MOSES (Midwest Organic and Sustainable Education Services) Conference was filled with a vast amount of knowledge from all sectors of the food system. While involvement in the organic sector varied, all 3,500 attendees agreed that the future needs to include sustainable and organic agriculture. While many of the lessons taught included information that was hard to hear, what was encouraging was the amount of people there to hear, share, and care about solutions.

Common problems that resonated throughout the conference included the dangers of conventional farming, the lack of money and security in sustainable farming methods, and further steps that need to be taken to make organic farming sustainable. I participated in workshops concerning everything from GMOs to permaculture to installing solar panels. With every problem listed came a variety of solutions and hope that together we could lead the way.

Synopses of a few notable workshops I attended:

GMOs: What We Know

Two renowned researchers aimed to debunk the myth that we do not know anything about GMOs and their effect on human health. They presented disturbing research on the curbing of population growth through pesticide-producing and pesticide-resistant GMOs. Both have been shown to disrupt normal

reproductive health as well as cause an increased rate of cancer and decreased learning abilities. Therefore, our continued use of GMOs will decrease births and increase deaths, affecting populations.

What Matters Most: Leaving the Paycheck Behind

Another notable issue in organic farming, and farming in general, is the lack of financial security that comes with it. A couple spoke about setting yourself up for success when leaving a job with a consistent paycheck to enter into farming. Suggestions included knowing what you want while



being flexible and cautious not to get in over your head.

Grow Biointensive - John Jeavons

If today's conventional farming practices continue, all the world's topsoil will be gone in 49 years. Scarier yet, with every pound of food we eat, six pounds of topsoil is lost to wind and water erosion. John Jeavons stresses that as farmers, we must not only be growing food, but soil as well. He criticized organic farming saying that as a group we are on the right track but need to work harder yet, to ensure ourselves a sustainable future.

Whether I choose to become a grower, a marketer, a policy maker, or simply an eater, this conference helped stress the idea of supporting healthy food systems from the soil up.

MOSES Conference Experience

Anna Lee

The MOSES Organic Farming Conference turned out to be an incredibly valuable experience, especially being an Environment and Sustainability major interested in agriculture. Overall, the shared sense of community and support was very encouraging. I was inspired to realize that so many (thousands of farmers attended the conference) shared the common value of engaging in agriculture using organic and sustainable practices. A wide array of information relating to all aspects of farming was available, and much was learned from listening to farmers tell their personal stories about failure and success in the field. Attending workshops about composting, flower farming, GMOs, medicinal herbs, and seed saving—to name a few—helped open my eyes to the possibilities of organic farming and the importance (and urgency) of sustainability within the field.



MOSES Conference Experience

Jenna Wagner



The MOSES conference is the largest event in the United States that focuses on sustainable and organic farming. MOSES stands for Midwest Organic & Sustainable Education Service. This non-profit group aims to educate, inspire, and empower farmers to thrive in a sustainable, organic system of agriculture. Hosted in La Crosse, Wisconsin, this was the 26th year that the conference was held. Over 3,500 people participated, which truly demonstrated the rise of sustainable and organic agriculture. More than 170 exhibitors were in the main hall of the La Crosse Center where they were able to talk to participants about different farming practices. The conference also included around 67 workshops on everything from new organic growing methods to marketing.

I attended the conference for the weekend as part of the University of Minnesota Duluth's SAP (Sustainable Agriculture Project) group. We arrived on the opening day and were

able to explore the various areas in the La Crosse Center. The exhibit hall was significant in size and housed a wide variety of booths. There were many informative and inspiring exhibitors that displayed information pertaining to cattle farming, seed saving, soil health, and many other subjects. I visited several booths, such as one on integrated forest agriculture, multiple times because they were so intriguing. Other exhibitors that I kept returning to included Moonwise Herbs and Brooms, which sold natural herbs and tinctures, honey, and homemade brooms, and the Seed Savers Exchange, which is an organization created to conserve and share heirloom seeds. I was able to take a nice mixture of vegetable and flower seed packets for free from the Seed Savers Exchange, as they were encouraging attendees to grow organic and GMO-free plants.

The conference was made even more enjoyable by the inclusive and delicious organic meals that were served for breakfast and lunch. The morning banquet consisted of whole fruit, homemade granola, muffins, hard-boiled eggs, oatmeal, teas, juices, and coffee. Lunch feasts were made up of spring greens, vegetable slaw, three bean chili, cream of potato soup, and

blonde brownies. I felt exceptionally healthy eating these meals as they were all organic and GMO-free. It was considerate of the event hosts to also provide vegetarian and vegan dishes, such as mushroom and lentil stroganoff and harvest stuffed acorn squash.

Although the exhibit hall and organic meals were enjoyable, the most fascinating aspect of the conference were the workshops. There were numerous seminars and workshops held over the three days, and the educational benefits from them were exceptional, as participants had the

chance to listen to experts talk about herbal gardening, composting, seed saving, and many other organic farming subjects. I had the opportunity to attend multiple workshops each day including Paradise Gardening of Exotic Fruits, Organic Flower Farming, and Increasing Your Compost's Power. Each of these seminars was informational and motivating. After I left the seminars I was inspired to go out and try the techniques that the speaker had discussed. One of the most captivating seminars



was held by keynote speaker John Jeavons, the executive director of 'Ecology Action,' which promotes biointensive growing methods meant to help small-scale farmers. He talked about soil health and how farmers could use less water and resources while also yielding more produce sustainably. I realized how much knowledge could be gained from these seminars and I felt a little overwhelmed by how much I didn't know.

Overall, the MOSES organic farming conference was well worth the drive. I gained a lot of useful knowledge about sustainable farming methods and was inspired to apply them on the SAP farm. The organic meals, exhibitors, and workshops were all fantastic. I would strongly encourage others to attend this event as it was beneficial, inspiring, and enjoyable.

2015 Study Abroad in Bangalore

In May 2015 Assistant Professor Adam Pine (GUESS) and Associate Professor Rebecca de Souza (Communication) will lead a short-term study abroad course to Bangalore, India.

Bangalore is a city of over 10 million people in the south of India that has grown tremendously in the last 20 years as it has become the center of the country's high tech economy.

In Bangalore they are partnering with the Indian Social Institute (ISI), a 50-year-old Jesuit institute that uses a rights-based approach to "accompany the marginalized" in their struggle to claim their entitlements within society. The institute has 5 focus areas: human rights, gender equity, livelihood issues, secularism, and ecological issues.

The ISI conducts research on the conditions of marginalized populations within South India, supports the work of academics and community organizers committed to assisting disempowered groups, and offers trainings for groups to learn how to better advocate and lobby for their rights.

This course has 3 goals:



- a) Students will understand the notions of community empowerment as theorized by the liberation theology of Paulo Freire, Mohandas K. Gandhi and other important scholars of social change. These theories will provide the theoretical backbone for the course.
- b) Students will visit and learn about both the cultural forces that have shaped the society of South India as well as contemporary issues. The group will go on field trips to important cultural and historic sites in the region such as the temples of Belur and Halebid, the Gomateshwara shrine, and to the more recently developed technological hub Technology City.
- c) Students will witness firsthand the particular struggles of marginalized groups in South India. The ISI will arrange an immersion experience where students will work closely with a particular organization in Bangalore working to improve the lives of marginalized people.

2015 Study Abroad in Bangalore

For students interested in international development, social justice, or community organizing, this course will provide direct exposure to how the process of development is experienced in the communities being effected. This program will be only the third study abroad program to take place in India, a country with a rapidly expanding economy and home to over one billion people. Furthermore, this is the only program that directly addresses the complexity of social change in a developing country.



Inaugural Belize Study Abroad Trip

Michael Kedrowski

If you would have asked me a few years ago, studying abroad is not something I would have ever seen myself doing. However, through all of my experiences at UMD things have drastically changed. UMD has many study abroad programs that are all over the world that include many different types of majors. I am an Urban Studies major with minors in both GIS and Environment and Sustainability Studies. I never really thought that there were many programs out there for me, let alone something that fit in perfectly with my major/minors. Interestingly enough, the *Mapping in Belize: Conservation and Cultural Preservation* course was a perfect fit for me! The trip was a May term session so it was only about a 3-week course, which was perfect for someone who wants to experience a study abroad trip but does not exactly have the time or ability to do a long-term program. One of the best parts of studying abroad is the first-hand experience with a culture other than your own. Another convenient aspect is that the trip is fully planned and all you have to do is enjoy the ride. The entire trip was an AMAZING experience for everyone involved. The trip incorporated not only hands-on learning, but also a very in-depth experience of Belizean culture. We spent most of our time in the southern region, in the province of Toledo.



When we first arrived, it was pretty hard to even imagine what the rest of our experience would contain. One of the best ways to experience another culture is to go out and explore it on your own, away from the group setting. The first leg of our trip consisted of getting to know each other and explore the small town of Punta Gorda, and preparing for the main focus of our trip which was working with an organization called Ya'axche Conservation Trust (YCT). Ya'axche is an organization that aims to maintain a healthy environment with empowered communities by

fostering sustainable livelihoods, protected area management, biodiversity conservation and environmental education within the Maya Golden Landscape. While staying with them we learned about their organization and what they do for their region, as well as some hands-on classroom activities. It was extremely beneficial to apply what we had learned in the classroom at UMD to the field in Belize. They helped organize many aspects of our trip and were a very inviting crew.

While spending time with YCT, we participated in many different educational opportunities. There was the 'ranger for a day' program in which we followed YCT rangers through the jungle and learned about their daily work. Another great activity which we partook in was touring a sustainable cacao farm, and getting to explore some of the natural caverns that surround the farm in the mountains. While we had a good time exploring the jungle and learning about the Maya Golden Stream Preserve that YCT works closely with, we also began taking GPS waypoints for our group projects. So we did not spend too much time in one place, our stay with YCT was cut in half with a Mayan homestay as well as witnessing the closing ceremonies of a chocolate festival at



the site of the ruins of Lubantun. At the Mayan homestay all of us were split up into pairs, and then matched up with a Mayan family from the village of Aguacate. We were not to be treated like tourists but like family, taking part in their daily lives as well as learning what it is like to live in a rural Mayan community in Belize. These families are descendants of the ancient Maya and it was definitely not an experience I will ever forget.

Some other activities that we did while with YCT was a boat trip up the Golden Stream, and another boat



ride up to some of the best waters to dive in the world. Another very special experience was when we got to hike into an exclusive nature reserve, which is set aside to remain untouched by development and intruders in order to preserve Belize's natural landscape. This area is only open to the YCT staff and rangers, and teams with special research permits. We hiked 7 miles into thick jungle and it was very exciting to be able to partake in such an experience. We even ran into some howler monkeys, exotic birds and got to swim in one of Belize's best-kept secrets, the blue hole in the Bladen River.

The last portion of our trip consisted of staying in beautiful Placencia, getting to know the resort town on the coast, as well as staying at the Belize zoo! While in Placencia we got to experience the local nightlife as well as stay at a relaxing resort right on the beach. We took some exciting excursions such as a boat ride up the Monkey River to see some wildlife ranging from spider monkeys, howlers, and crocodiles and of course some exotic birds and plant life. We also got to see some manatees and explore Belize's coastal reefs up close by taking a guided snorkel tour.

I won't deny the fact that it is hard for me to pick a favorite experience from this trip but I would highly suggest taking the opportunity to try something new and not to let the worries of financial problems stop you from doing so. If there is one thing that I learned from my experience is that it is one thing to learn from books and classroom experience, but if you get out there and experience things in the field you can benefit from that in more ways than you can imagine.



Study Abroad to New Zealand

Tami McDonald

“Not all those who wander are lost,” is one of my favorite quotes that I heard while I was studying abroad in New Zealand. It describes the whole country in such a perfect way. Right when I landed I could identify the fellow travelers and everyone’s eagerness to explore; even the residents living there had a joyful wandering presence. While I was in New Zealand I tried to explore as many places as possible. During my spring break I rented a van with nine other study abroad students and traveled down to the South Island. For fourteen



days, the ten of us spent hours in that van. We went on a four-hour hike in the Abel Tasman rain forest, drank glacier water from the Franz Josef glacier, and ate at Fergburger which is known to be “the best burger in the world,” in Queenstown. In addition, we visited Milford Sound, went to a petting zoo, and rented bicycles to ride around vineyards all day and drink wine. All of this in fourteen days!

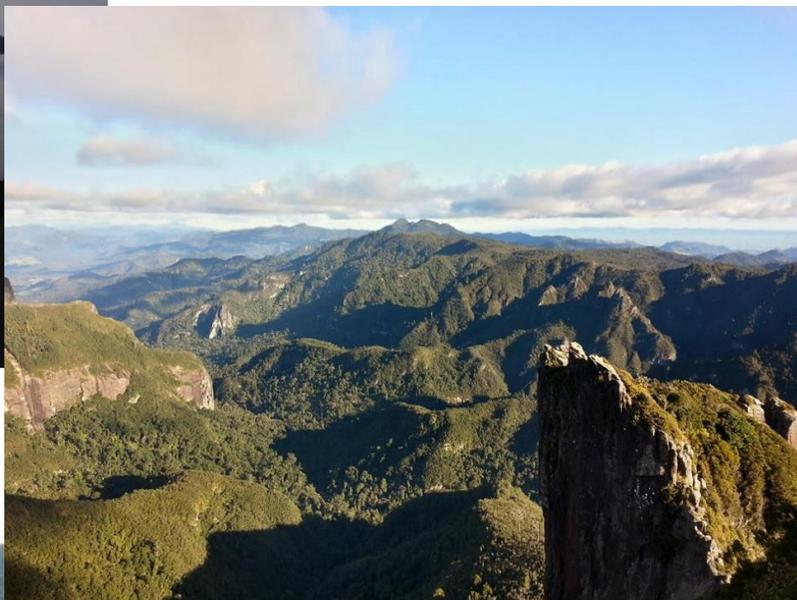
During the school weeks I was located on the North Island in a town called Hamilton. I was taking classes on Gender, Space and Culture, New Zealand Soils, and Applied Geographic



Information Systems. Many of their Maori practices were different from American culture. They greeted each other by rubbing their noses together and had a unique way of dancing. Unfortunately, many New Zealanders do not know the Maori language anymore. However, there were things that were quite similar to American culture, such as how they wore yoga pants, had shopping malls, drove buses and taxis, and offered a great bar scene.

I explored the North Island during the weekends with other study abroad students and we would rent cars, go on hikes, and make friends with fellow travelers. My favorite trip was going to the Bay of Islands and Cape Reinga, located at the northernmost tip of New Zealand, where I witnessed the Tasman Sea and Pacific Ocean colliding. On this trip, I also rode down sand dunes, slept in a car, and took a

ferry to Russell Island. Another one of my favorite trips involved me driving: on the other side of the road might I add, to Cathedral Cove, where parts of *The Chronicles of Narnia* were filmed. Along the way we stopped by the ocean and relaxed in hot springs where the hot water soothed our frostbitten toes. The following weekend I went on a hiking adventure and hiked up the Pinnacles. This hike was not for the weak; after walking four hours straight (6 km one way) up a slightly inclined hill, you had to walk up 500 or more stairs, climb over rocks taller than myself, and pray you don't fall, to get to one of the best views of New Zealand I have ever seen. In the end, I could say that every weekend trip, weekday run, or movie night was my favorite, so like they say in New Zealand, "Hei Kona ra" (Goodbye).



Make a Difference

You can make a difference for current students in the GUESS Department! Each year more and more students are pursuing educational experiences outside of the classroom by attending academic conferences. We are actively working to build our GUESS Department Fund to be able to support these valuable pursuits. Just \$250 can help cover the cost of one student to attend a conference. This year GIS major Chris Dahlman was able to attend the Association of American Geographers conference in Chicago to present his poster on topics of Military Geography, Geographic Information Science and Systems, and Transportation Geography, due to the generous support of people like you. Consider a gift of \$50 or \$100 or even \$250 and you will be helping to enrich the educational experience for one of our students.

GUESS Department Support Fund (5968): This is the general support fund for the GUESS department. Funds are used to support student initiatives and travel opportunities related to student studies in GUESS. You can also contribute to one of our scholarship funds and help lower the costs of tuition for students in GUESS.

Emma Goldman Scholarship in Geography (1122): This scholarship is awarded in honor of Emma Goldman to geography majors who demonstrated support for women, women's issues, and feminist academic and intellectual principles; and demonstrated commitment to values, ethics, politics and scholarship that matches those of Emma Goldman.

Matti E. Kaups Geography Scholarship (4652): Awarded to Geography majors in honor of longtime professor emeritus of UMD, Matti E. Kaups.

Catherine E. Cox Scholarship in Geography (6090): Awarded to a Geography major, established by the Estate of Catherine E. Cox who was one of the first 4 female students in the Chemistry Department at UMD and who later went on to become a Geography professor.

Frederick & Lois Witzig Geography Scholarship (8723): Awarded to a Geography, Environmental Studies, or Urban Studies major in honor of Frederick and Lois Witzig. Frederick was a professor in the Geography department starting in 1953 and went on to serve as Dean of the College of Liberal Arts. He retired after 37 years of service at UMD.