

Indiana University

Department of Geography E-Newsletter

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Department Hires Two New Faculty



Majed Akhter holds a PhD from the University of Arizona's School of Geography and Development. He joins IU as an Assistant Professor of Geography. His research and teaching interests include: the political economy and political ecology of development, water law/policy, historiography, agrarian studies, South Asia, and Marxism. Majed's publications touch on the politics of transboundary rivers, drone war

in Pakistan, and water policy in Arizona and Pakistan. Before finding a home in Geography, Majed earned degrees in Industrial Engineering and Economics from the U.S. and Pakistan.



Darren Ficklin is an incoming Assistant Professor in the Department of Geography. Prior to joining the faculty at IU, he worked for a semester as a visit-

ing assistant professor in the department after completing his postdoctoral work at Santa Clara University. Darren received his Ph.D. at the University of California at Davis and his M.S. at Southern Illinois University. He is also a proud graduate of Indiana University where he did his undergraduate work. Darren's teaching interests focus on climate and environmental change, water resources, and geographical information science. His research focuses on the impact of climate change and variability on the hydrologic cycle in agricultural and mountainous regions throughout the world.

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Roy Chowdhury Wins Award

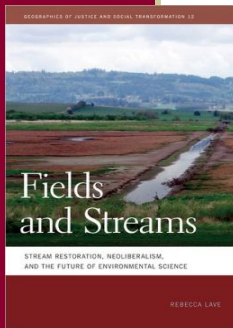
Rinku Roy Chowdhury was recently named an Outstanding Junior Faculty member at IU. She is one of five to receive this prestigious award for her research. The award will support cross-continental analyses of coastal mangroves in Mexico and Bangladesh. Mangrove forests are threatened by urban development, water diversions, aquaculture, overharvesting and climate change. She will develop comparative models of mangrove vulnerability to anthropogenic

and biophysical drivers, building on funded research combining remote sensing and socio-ecological surveys. The results will help identify how vulnerability may be mitigated by increasing coping capacity at the community and household levels.

Roy Chowdhury, who joined the Department of Geography in 2008 after teaching at the University of Miami, has a Ph.D. from Clark University. Her research areas include land change

science, cultural and political ecology and the use of GIS and remote sensing technology.





Lave Releases Book

Dave Rosgen looks, dresses and talks like a cowboy, has little formal training in stream restoration and enjoys a knack for angering academic critics. Yet his Natural Channel Design system has become far and away the dominant approach to stream restoration in the United States.

How did this happen? And what does it say about the way scientific knowledge is produced and disseminated in the 21st century? **Rebecca Lave**,

Assistant Professor of Geography in the College of Arts and Sciences at Indiana University, examines those questions and more in a new book.

"Fields and Streams: Stream Restoration, Neoliberalism, and the Future of Environmental Science," published by University of Georgia Press, wades deeply into the "Rosgen Wars," the dispute between Rosgen and his university and agency-based critics that has raged for two decades.

In addition to analyzing claims and counterclaims about the validity of Rosgen's work, Lave ties his rise to the increasing influence of neoliberalism, an economic philosophy that relies on market forces to produce and give value to knowledge and expertise. In higher education, she writes, the market-based approach is evident in reductions in public funding, an increased emphasis on commercializing research findings and a shift from basic to applied research.

**Geography:
Know
Your
World**

Maxwell in *Journal of Climate*

Justin Maxwell is the lead author of a paper that examines the drought-busting capability of tropical cyclones, a category that includes hurricanes, tropical storms and tropical depressions.



"Tropical cyclones do cause a lot of damage, but they're also very

important, for people and for ecological processes," Maxwell said. "In the Southeast, they serve as a safety net. Their occurrence helps explain why the region doesn't have 10-year droughts the way they do in the West." The research finds the number of tropical cyclones that end drought is increasing, a trend that would be expected because of the warming climate. Cyclones often end drought not

only in the coastal areas where they're expected to have an impact but also well inland.

The paper, "Tropical cyclones and drought amelioration in the Gulf and Southeastern Coastal United States," is being published by the *Journal of Climate*, a publication of the American Meteorological Association, and is available online. Results have also been featured in the journal *Nature*.

Spartz Grows Sea Coral in Indiana



Live corals make a stunning addition to marine aquariums, but harvesting coral from the wild threatens reef ecosystems. Coral cultivation could help, especially in the U.S. where hobbyists buy approximately 80 percent of the live coral sold in the world. The difficulties of growing corals include generating the kind of currents created by waves and

tides, which are necessary for coral growth. Alumna **Karen Spartz**, who owns an aquaculture business in Indiana, came up with a solution. She recently patented a system that mimics the marine environment through water chemistry, temperature and the use of natural light to support a host of aquatic organisms including sea stars, anemo-

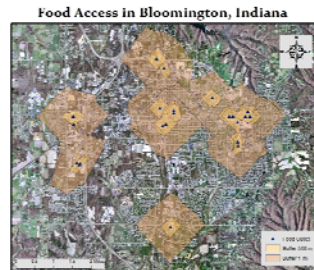
nes, fish and corals. While many of the strategies she employs are common items in the aquaculture business, what made the difference in Spartz's case was that she figured out a way to mimic the movements of the waves and tides so necessary to coral growth. "The corals like turbulence," she says.

Babb Investigates Food Security

Graduate student **Angela Babb** is researching the problem of food security as it pertains to urban food deserts. What is so distinct about her research is that she is taking an entirely new approach to this topic. Instead of using previous research methods that tend to obscure actual distance through the use of raster data and apply assumptions about consumer experiences, she is taking an alternative approach by using a network analysis that begins her study at the consumer's location.

Eighty-three randomly selected Bloomington residents living in six different neighborhoods participated in the study. All were asked what food outlet they shopped at most, what type of transportation type they used to get there, and if they believed they were located inside a food desert. Once all the data was collected, Babb used layers (sidewalks, bike paths, streets) input into a GIS to determine the total distance each person traveled to get to a full-service food outlet. The average distance traveled for

each mode of transportation was used to calculate the percent of budget spent on food. These two variables were then compared to whether the person believed they were or were not located in a food desert.



Custer Uses GIS to Improve Agriculture

Recent alumnus **Adam Custer** joined GeoSilos of Auburn, Indiana upon graduation last spring. He assists the owner in data research for various geography and GIS related projects. According to their website, Geosilos leverages the power of place based solutions for food and agriculture challenges. Geosilos supports business, economics, policy, communications and

outreach analysis built upon the foundation of geography and spatial analysis and is committed to a healthy, growing, and sustainable global food & agricultural industry. GeoSilos believes that data is the modern agricultural commodity. Information about the company can be found at geosilos.com.



Evans Studies Water Scarcity in Kenya

Professor **Tom Evans** of the Geography Department. Indiana University along with other researchers at two other institutions have been awarded a \$1.2 million three year National Science Foundation grant to study the impact of climate change on water resources and the ability of governance systems to adapt to the resulting challenges.

The researchers will focus on the changing availability of water from glaciers and seasonal snow packs, an increasingly important

source for irrigation of agricultural lands and global food supply. They will integrate methodological approaches from physical sciences, social sciences and legal scholarship, including interviews, focus groups, field hydrological measurements and GIS-based spatial modeling, to assess the vulnerability of communities to climate change and to better understand how communities might respond to alterations in water availability. They will examine how governance

systems have responded to past changes in order to gauge the resilience of institutions under different climate scenarios.

The research will develop new knowledge about the ways in which institutional diversity can contribute to effective management of water resources, providing guidance for policy makers who seek nuanced alternatives to "one-size-fits-all" resource management approaches.

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Knudsen Replaces Robeson as Chair



I feel very fortunate to have been allowed by my colleagues to spend another stint as chairperson of the department. I am also very fortunate to be following Scott Robeson who steered the department for six years. During his terms as chair, the department prospered greatly. I am fortunate to have a rock-solid foundation to build on and the support of the faculty.

In the next few months you will see a number of changes to the department, changes that build on the things Scott started. Most noticeable among these is a realignment of the department along a new set of themes. We feel these new themes will better leverage the incredible strengths of this vibrant and growing department.

These new themes will continue our existing focus on environmental change, globalization and GIScience, but will add a greater focus on water resources, justice, and food and agriculture. We also plan to add both a minor and a certificate program in GIScience. As part and parcel of these changes, we'll be updating our curriculum and you'll notice a change in our print and electronic profiles. We also hope to increase our interaction with you, our alumni. We hope that we can count on you to come visit us from time to time and that you'd be willing to share some of your experiences with our students.

Until next time,
Dan