3:30 Mapping Stories for Research and Education

Esri's Story Maps - an online application that is accessible by any internet browser - can lure in your audience to show them the ideas they need to understand. All disciplines will benefit from bringing-to-life static textbook maps or location-based concepts, including historical and literary events, scientific and medical discoveries, planning and design innovations, political and commercial interests, recreational and cultural treasures, and beyond. You can create easy online applications that will help you to portray information in spatial and nonspatial ways with a mix of interactive maps and other media. Bring your own laptop to connect to the wi-fi, sign up for a free account, examine existing story maps to get ideas to use in your own discipline, get hands-on experience creating a simple story map, and take home the resources to help you keep learning how to incorporate relevant Story Maps for your research projects and class presentations.

Ms. Nielsen shares the geographical perspective with everyone she can and is currently an interdisciplinary PhD candidate in Earth and Atmospheric Sciences & Medical Sciences-Pediatrics.

Thank you to:

Dr. Carl G. Amrhein
Urban and Regional Information Systems (URISA) Alberta Chapter
Department of Earth and Atmospheric Sciences
University of Alberta Libraries
UAlberta North / Department of Renewable Resources

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www.gisday.com

UofA GIS Day

Friday, November 24, 2017

GIS day

A Showcase of GIS Applications at the University of Alberta

UNIVERSITY OF ALBERTA
EDMONTON·ALBERTA·CANADA

Agenda

1:00	**Welcome**	*Humanities Centre L1-1*
1:10	Teaching Spatial Context through Digital Maps	**Guillermo Hernandez Ramirez** Renewable Resources
1:35	Urban Natural Asset Mapping: Blending Science and Planning to Support Preservation of Alberta's Municipal Biodiversity	**Catherine Shier** City of Edmonton
2:00	**Refreshments**	
2:30	Integrated Public Transport Accessibility: Spatial Analysis	**Darcy Reynard** Earth & Atmospheric Sciences
2:55	GIS Data for Social Innovation: A Case Study on Youth Engagement in Bangladesh	**Fahim Hassan** School of Public Health
3:20	**Break**	
3:30	Mapping Stories for Research and Education	**Charlene Nielsen** Earth & Atmospheric Sciences and Pediatrics
4:30	**Door prizes**	

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www.ualberta.ca/~gis

1:10 Teaching Spatial Context through Digital Maps

Understanding and applying geospatial concepts are essential abilities for natural resources professionals. Our students need to learn these mapping foundations to associate where and how resources such as soils, water and vegetation fit in the landscape. However, existing approaches to landscape interpretation using paper maps can be considered pedagogically inflexible and disengaging for contemporary students. Therefore, we are developing a mobile learning tool to address this need. Our DigiMapping project compiles and integrates relevant digital maps, and uses application software (App) to deliver contents and exercises via mobile learning. Students will use portable devices to enable interactive educational activities conducted in small groups in field locations. This project will directly impact several University courses, attended by an average of 344 students per year, and it has the potential to be extended to many audiences across and beyond campus.

Dr. Hernandez received his B.Sc. from EARTH University (Costa Rica), and his Ph.D. from Purdue University (Indiana, US). Before undertaking his work as an assistant professor for University of Alberta (Faculty of Agricultural, Life & Environmental Sciences - Department of Renewable Resources), he previously worked as an agriculture and soil science professor at University of Panama (Panama), as a postdoctoral researcher with USDA-ARS at the National Laboratory for Agriculture and the Environment (Iowa, US), and as a scientist with Plant and Food Research Institute (New Zealand).

1:35 Urban Natural Asset Mapping: Blending Science and Planning to Support Preservation of Alberta's Municipal Biodiversity

The City of Edmonton, with support from the Province of Alberta, has developed an urban Primary Land and Vegetation Inventory (uPLVI). This natural asset tracking inventory provides city managers with detailed information about sensitive and unique ecological communities found throughout Edmonton. This inventory is instrumental to effectively manage the City's environmental and ecological assets through the land development process. In addition, it is currently being used to support important city projects such as the Environmental Sensitivities Project and Master planning in the River Valley: projects that are designed to help move Edmonton closer to its sustainability goals over the next 30 years.

Ms. Shier, M.Sc. (UofA 2007), Principal Ecological Planner, City of Edmonton, is a Professional Biologist who works to ensure that the needs of nature and its flora and fauna are considered in the urban planning process. Edmonton's Ecological Planners achieve this by working to strengthen connections between natural areas, in the form of functional biological corridors that support critical natural processes and the movement of wildlife.

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2:30 Integrated Public Transport Accessibility: Spatial Analysis

In the summer of 2017, the City of Edmonton approved a new transit strategy. The new transit strategy will transfer service to high priority areas of the city by cutting service to areas where demand is low. This shift of service has the potential to create transit deserts in Edmonton. Transit deserts are defined as areas of a city where the supply of transit does not meet the demand. As part of the Sustainability Scholarship program through the University of Alberta, I spent the summer working for the City of Edmonton, analyzing its current transit service to determine if transit deserts currently exist in the city. I performed this analysis using only open data, namely the 2011 census and National Household Survey from Statistics Canada, data from the City of Edmonton's Open Data portal, and the Google Directions API. This analysis set a baseline for service and made recommendations on areas of the city and socioeconomic factors which should be considered as the City implements the new transit strategy.

Mr. Reynard is a PhD student in the Human Geography and Planning program. His research will be looking at the effect of carbon pricing on urban mobility. He is an advocate for sustainable transportation and open data. These interests meet GIS on his website: www.winterbiking.ca.

2:55 GIS Data for Social Innovation: A Case Study on Youth Engagement in Bangladesh

The unprecedented growth in technology is enabling Bangladeshi youth to engage in various volunteer projects and harness the power of crowd-sourced information. There are grassroots movements towards building civic communities – attracting citizens from diverse backgrounds with experience in creative problem-solving to work collaboratively. For example, some GIS-enthusiast are using location analytics for emergency response after a natural disaster, whereas others are mapping biodiversity hotspots to raise awareness on wildlife conservation. These projects are often initiated from Facebook groups or Twitter discussions by individuals interested in solving social problems, recognizing that inadequate data is one of the first major challenges to tackle. The initiatives have significant impact in public policy in terms of shaping the form of civic engagement and public awareness around social issues. An illustrative case study on key projects provides a sneak peek to mapping communities in Bangladesh, and sharing their challenges and recent success stories.

Mr. Hassan is a first year PhD student in the School of Public Health at the University of Alberta (UofA). He learned about GIS technology while working as a researcher under the "Early Childhood Development Mapping Project" – a province-wide study that developed interactive maps as a form of knowledge translation. He also worked in various academic and government research projects, studying the intersection among data science, social well-being and public health. In 2016, he was appointed as a member of the Greater Edmonton Health Advisory council that acts in an advisory capacity to senior leadership team in Alberta Health Services. In spare time, he volunteers in civic technology groups and work on open-source projects, trying to solve complex global challenges through technology and computational design.