

North Shore water/sustainability Collaborative education opportunities

Aaron Packman

Professor, Environmental Engineering & Science
Director, Northwestern Center for Water Research

12/13/16

Northwestern community engagement opportunities for faculty and students

High degree of interest, but few local opportunities

- Opportunities for faculty and students to engage in youth and public education (learners as teachers, community service, youth engagement)
- Opportunities for student research, design projects, and service projects



http://www.mccormick.northwestern.edu/news/articles/archive/2009-2012/article_799.html

Northwestern | CENTER FOR WATER RESEARCH

Northwestern on-campus engagement



Take our Daughters & Sons to Work Day 2016



Partnerships with local schools

Rowe-Clark Math and Science Academy



Northwestern
University



The Nature
Conservancy



= Partnership

New urban focus – for both TNC and NU

- Dual goals to *improve urban biodiversity* and use urban biodiversity preserves as *living laboratories* for research, education & outreach.
- *Broader regional, national, and global focus* on co-sustainability of water, ecosystems, energy, food, and health.

Exceptional educational opportunities linking water, food & ecosystems sustainability with local engagement for youth and the public at large.



<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/illinois/explore/chicago-urban-conservation-initiative.xml>

Urban Water, Food, Energy, and Ecosystems Data Sciences collaboration (Urban Water-FEEDS)

Objective: Document and quantify **water, energy, nutrient, and carbon requirements for urban food production** and concomitant **benefits of urban greenspaces** for water storage, flood prevention, temperature modulation, and nutrient and carbon sequestration.

Approach: Distributed data acquisition, synthesis, simulation & prediction.



Chicago Green Infrastructure Vision



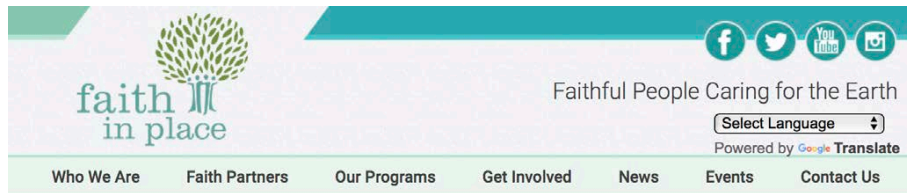
Indian Boundary Prairies, CBG Green Roof Garden



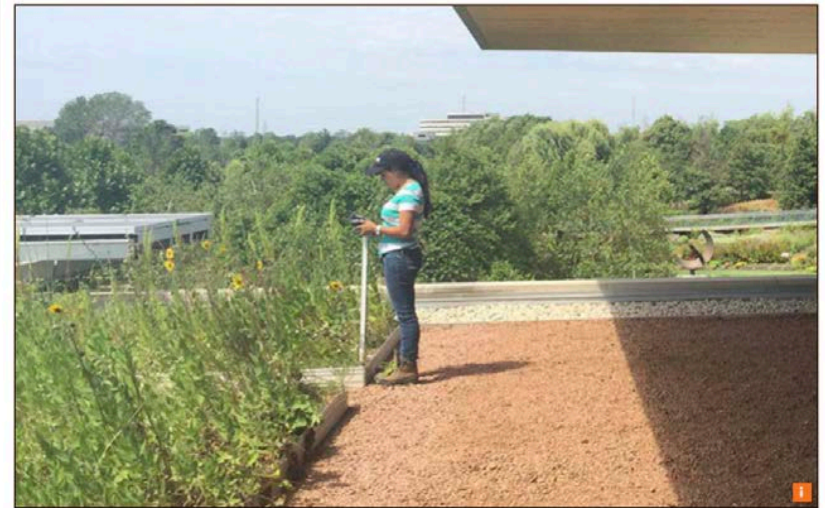
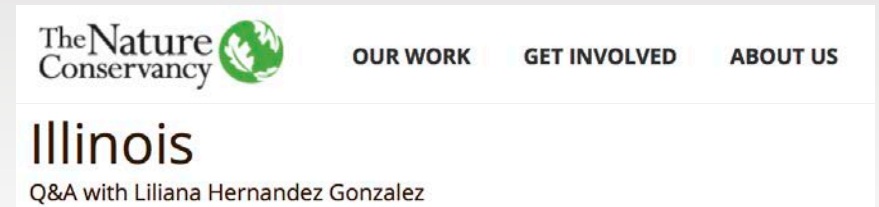
Waggle/AOT node deployment

Science + education + community partnerships

- Linking long-term science and sustainability efforts with community questions, concerns, and decisions.
- Youth and public education programs with dual science and sustainability objectives.
- **Need venues for community engagement + facilities for science education.**



Faith in Place empowers Illinois people of all faiths to be leaders in caring for the Earth, providing resources to educate, connect, and advocate for healthier communities.



Meet the researcher who is leading the storm water study at Indian Boundary Prairies.

A graduate student at Northwestern University, Liliana Hernandez Gonzalez is the lead researcher for the storm water project at Indian Boundary Prairies. We recently sat down with Liliana to learn more about the program, her role in the research, and

North Shore water/sustainability Collaborative education opportunities

Themes for collaborative sustainability science, education, and community efforts

- Water: Urban water supply, water quality, flooding
- Great Lakes: Hydrology, ecology, human impacts
- Biodiversity: Urban conservation and ecology
- Food: Sustainability, security, local food production
- Energy: Efficiency, sustainability, food-energy-water connections