

Climate Change Research Network
**EDUCATOR-SCIENTIST
LEARNING AND RESEARCH
COMMUNITY**

R. Low, D. Gosselin, R. Oglesby, R. Bonstetter, C. Larson-Miller
School of Natural Resources, University of Nebraska, Lincoln



global climate
change education

...understanding our
changing Earth





EDUCATOR-SCIENTIST LEARNING AND RESEARCH COMMUNITY

Local and Regional Climate Change



About Us

Welcome to the Educator-Scientist Learning and Research Community, a open community dedicated to promoting **AUTHENTIC** scientific research experiences for teachers and classrooms! If you are actively doing research, we welcome your expertise. If you are new to classroom-based climate change research, welcome to this site!



Our Philosophy

Everyone is a scientist. We all want to know more about the environment in which we live. This network is dedicated to growing and nurturing the natural scientist in all of us by providing the intellectual tools that use brain-based, cognitive and affective learning strategies, an encouraging, supportive right environment, and access to scientist mentors who can assist you in developing your skills to do scientific inquiry.



Our Community

The Educator - Scientist Learning and Research is open to all educators interested in participating in local, regional, or global climate change research projects. This website provides professional development, guidelines for research, and networking opportunities for teachers and scientists.

Ready to begin?

An overview of our resources and services can be found here.

[Let's Get Started!](#)





EDUCATOR-SCIENTIST LEARNING AND RESEARCH COMMUNITY

EDUCATOR-SCIENTIST WEBPAGE



Where are you on the Educator-Scientist Climate Change Research continuum?

1



2



3



4

Exploring: The Process of Science

Explore this module in a guided exploration of the Process of Science.

Learning: Climate Change Science

Learn about the Earth's dynamic climate system in this introductory module

Review the scientific data that provides evidence of contemporary climate change

Developing: Authentic Research Questions

Develop strategies based on brain-based research related to the creation of research questions

Participate in this Research question building activity

Leading: Students in Real Research

Leading students in research project design

Connecting with other teacher-scientists and classrooms to share research experiences and outcomes





EDUCATOR-SCIENTIST LEARNING AND RESEARCH COMMUNITY

EDUCATOR- SCIENTIST WEBPAGE



Networks

SCIENTIST-EDUCATORS

Dr. Dave Gosselin (Earth systems, natural resources)

Dr. Russanne Low (past climate, soils, phenology)

Dr. Carole Mandryk (climate communication)

Dr. Amy Myrbo (limnology)

Dr. Rebecca Boger (GIS, soils)

Dr. Bob Oglesby (climate modeling)

Dr. Donna Woudenberg (drought)



EDUCATOR-SCIENTISTS

Dr. Ron Bonstetter (Secondary Science, Brain-based learning)

Cindy-Larson Miller (Middle School Earth Science)

Sara Yendra (Environmental Education, Brain-based Learning)



LOCAL, CULTURALLY RELEVANT

Manoomin Project

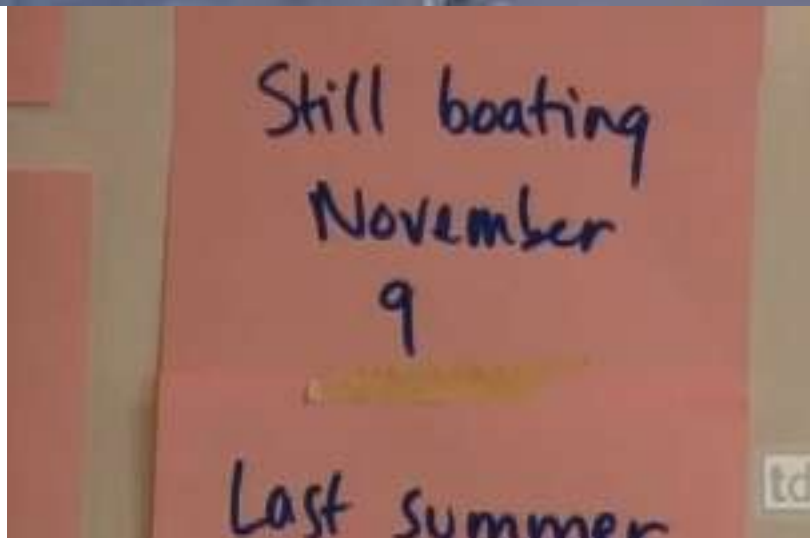
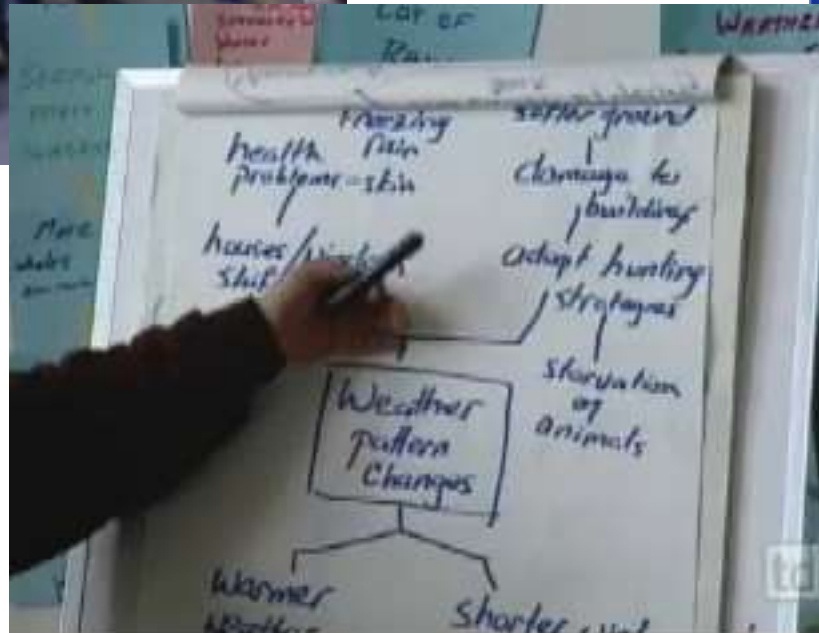
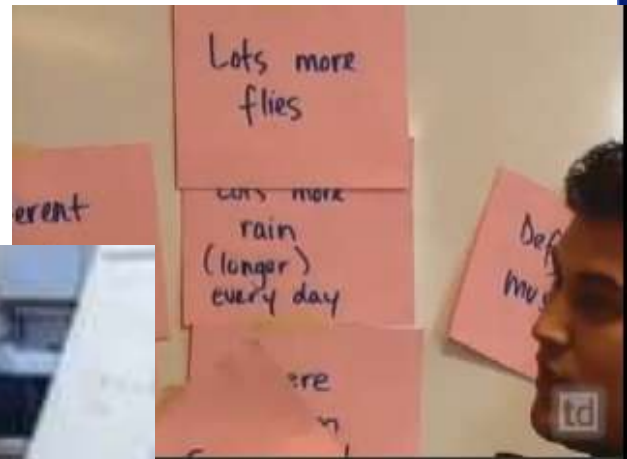
Investigating the past, present, and future of wild rice lakes on the Fond du Lac Band of Lake Superior Ojibwe Reservation

This five-year project (2009-2014), funded by the National Science Foundation, uses core samples from the bottoms of six lakes on the Fond du Lac Reservation to reconstruct the historical distribution and abundance of wild rice (*manoomin*, *Zizania palustris*) in six lakes on the Fond du Lac Reservation, and will connect this record with sedimentary indicators of lake level, nutrient conditions, and substrate composition, as well as with oral history and land use records. Tribal college, high school, and junior high students and their teachers conduct field work and laboratory research with guidance from University of Minnesota scientists, Fond du Lac Resource Management staff, and others.

The project does not involve research on the genetics of wild rice.



LOCAL CASE STUDIES



PATH TO DROUGHT READINESS

- ⦿ Information gathering
- ⦿ Establish monitoring system
- ⦿ Public Awareness and Education
- ⦿ Planning Responses

Drought-Ready Communities A Guide to Community Drought Preparedness



LOCAL FOCUS

- Downscaling regional climate models
- Research-driven baseline climate fingerprints at scale appropriate to community interests
- Engagement of local scientific expertise: extension agents, research scientists

- Robust scientific data, of use to communities, scientists

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Data Entry



Only GLOBE schools can report data. GLOBE schools please Log in above

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Updated Data Entry Pages

GLOBAL DATA COLLECTION

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Lesson 6 – How an Ozone Monitor Works



Carbon Benefits Project Launched

UNEP and partners have launched a Carbon Benefits Project seeking to assist local communities execute projects aimed at reducing green house gas emissions.



Under this partnership, scientists will closely study projects and develop a system for measuring, monitoring and managing carbon in a diverse range of landscapes. Photo credit, World Agroforestry Centre (ICRAF).

A multi-million dollar project aimed at developing tools that would help boost carbon trading in Africa and targeting village communities in Western Kenya, Niger, Nigeria and Western China was launched on Monday in Nairobi, Kenya.

The aim of the project is to develop tools to help boost carbon trading in Africa and could become the key to unlocking the multi-billion dollar carbon markets for millions of farmers, foresters and conservationists across the developing world.

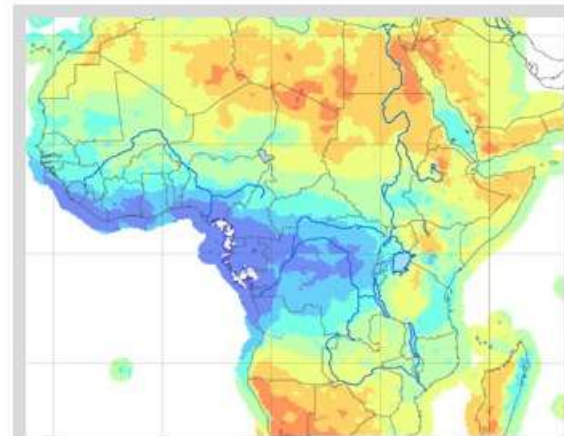
The project, known as the "Carbon Benefits Project", seeks to assist local communities execute projects aimed at reducing green house gas emissions, and is a partnership bringing together the UN

Environment Programme (UNEP), the World Agroforestry Centre (ICRAF), along with a range of other key partners. The project is funded by the Global Environment Facility (GEF).

Under this partnership, scientists will closely study projects in Western Kenya, Western China, Niger and Nigeria and develop a system for measuring, monitoring and managing carbon in a diverse range of landscapes.

Achim Steiner, UN Under-Secretary-General and UNEP Executive Director, said: "Farming carbon alongside farming crops is just one of the tantalizing prospects emerging as a result of the world's urgent need to combat climate change."

Echoing similar sentiments, **Dennis Garrity**, Director-General of the World Agroforestry Centre, said:



OUTCOMES

- ◉ Local relevance, affective engagement
- ◉ Participation in full spectrum of scientific process: data collection and analysis
- ◉ Beginning with authentic, student interest-driven questions
- ◉ Compelling experience, STEM skills, career trajectory
- ◉ Robust data sets: standardized protocols, precision measurements and instrumentation

