

Establishing High Quality Digital Collection of LTER Educational Resources

(LTER Synthesis Working Group Meeting Report)

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Educators and RET teachers from various sites

Award Amount: \$21,000

TIMELINE: February 15th 2013 – September 30th, 2013 (~ 7 months)

OBJECTIVES:

- Develop a centrally located collection of reviewed, digital learning resources emphasizing over three decades of ongoing research efforts of the Long Term Ecological Research (LTER) Network.
- Extend the training, teaching and learning of environmental science to teachers, students, community leaders, educational professionals and the general public making the LTER collection accessible to a wider audience.
- Encourage site coordinators to document a wider, stronger base of environmental knowledge that delivers content that is connected to relevant environmental issues.
- Bolster environmental literacy

SUMMARY

For more than three decades the LTER network has provided the scientific expertise, research platform and long-term data necessary to document and analyze pressing environmental changes. The LTER Network is a collaborative, multidisciplinary group of over 2,000 scientists, social scientists, artists, and educators working together to provide the scientific expertise, research platform and long-term data necessary to document environmental change. Over the last three decades, the Network has grown to include 25 sites across the continental United States, Alaska, Antarctica and islands in the Caribbean and the Pacific.

Education & Outreach (E/O) programs across the LTER Network are as diverse as the sites themselves and the Education & Outreach Coordinators (EOCs) translate and communicate LTER science to the general public, policy makers, teachers, and students. EOCs have developed a wide range of educational resources that includes mainstream educational

products based on relevant environmental topics. These products span the entire academic spectrum from kindergarten through the graduate level.

While the LTER Network is widely recognized for its scientific contributions and educational products, their impact is hampered by a diffuse means of dissemination. The *Strategic and Implementation Plan for the Long-Term Ecological Research Network (LTER): Research and Education (2011)*, called for the creation of “a central coordinated repository of data, curriculum materials, and websites for facilitating sharing of professional teaching and learning publications across sites that will “enhance communication between partners and the dissemination of educational and outreach materials.

In response to the 2011 SIP, an initial “Call for Resources” was made in February 2013. The ‘Call’ requested submissions of learning activities or investigations from LTER Education and Outreach coordinators. A total of forty-six resources from six different LTER sites were submitted for review. Resources were initially vetted using the review criteria developed by the Climate Literacy & Energy Awareness Network (<http://cleanet.org/index.html>). Each resource was categorized by resource type, classified for audience level and tagged with appropriate key words. Resources were assessed for their relevance to the LTER collection and peer reviewed to provide qualitative recommendation of LOW, MED or HIGH- priority. Thirty six of the submissions were eliminated for being out-of-scope, beyond the ‘call’ for learning activities, below review criteria standards or requiring major revisions that would extend beyond the timeframe of the project.

Those resources that advanced to the second stage of review, were subjected to, two additional rounds of review, by an LTER scientist, educator, EOCs, or undergraduate/graduate students. These reviews were completed online and assessed for alignment in pedagogical effectiveness, scientific accuracy, ease of use and technical quality and maximized the integration of broad-scale long-term research of environmental phenomena. All reviewers were asked to submit annotations online to document their review but also make them available to other members of the review team.

In the final round of review, a panel of 4 reviewers met via Adobe Connect to discuss each resource, provide a final recommendation and compile a final set of annotations. Those resources passing this final round of review were assigned a vocabulary specific to the LTER digital library catalogue and are now publicly available for download. The end result provides the end user the annotations from the reviewers in an effort to maximize implementation and usability of the resources.

The final version of the library consists of a small collection of scientifically and pedagogically reviewed LTER digital resources for teaching ecological science. They serve as a benchmark for future submissions and over time, will potentially include additional resources such as demonstrations, visualizations (static, animations and simulations), videos, podcasts, webinars, photographs, curricula (modules), data nuggets, long term data sets, citizen science protocols, experiments and educational posters.

PRODUCT:

LTER Education Digital Library <http://educationlibrary.lternet.edu>