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Tablet and Face-to-Face Hybrid Professional Development: Providing Earth Systems Science Educators Authentic Research Opportunities through The GLOBE Program at Purdue University

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Tablet and Face-to-Face Hybrid Professional Development: Providing Earth Systems Science Educators Authentic Research Opportunities through The GLOBE Program at Purdue University

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The GLOBE program is a worldwide hands-on, primary and secondary school-based science and education program. GLOBE provides access to Interdisciplinary materials to engage students in science and scientific discovery. The program has a network of support for educators that includes regional partners, national contacts, and international collaboration.
What Rocks?

– Hand on learning
– International
– Standard protocols
  • Pre-made
  • Same across the board
  • Standards-based
– Open ended
– Support for teachers
The Tablet / iPad

• The iPad is common to many schools

• Allows for real-time data collection
  • Pasco / Vernier
  • Field journaling
  • Photo documentation

• Visualizations / content in the field
  • MapBox app allowed ( DEM )
  • Content modules

• Internet
  • Google Earth
  • Information search
Current research

• Authentic Connections to Current Research
  – Increases Teacher Content
  – Connects well with the program content

• Faculty currently using...
  – LIDAR
  – USGS Waterway Mapping
  – Soils
  – GIS data
Benefits of using this framework:

• For Teachers & Outreach
  • Access to data
  • Support in pedagogy and content.
  • Resources beyond data access

• For Researchers
  • Dissemination of data
  • Broader dissemination of research
  • Excite and increase the pipeline of STEM future
Next Steps

• Refinement of the cycle to implementation in educational settings.
• What to do with the data collected...
A new library paradigm-
Educational Data Curation Framework-(EDCF)

B. Dewayne Branch
CLIR/DLF Post-Doctoral Fellow

IN13A-1550. Working to define data curated geospatial services on a Research Campus, a Purdue University Libraries Example

1) Support campus Research
2) Support Student Learning

Research Goals
To support, augment geospatial data services campus wide.
-augment STEM outcomes
-support and advance earth science
-follow and broader NSI and open access policy

Outreach + THEGLOBE PROGRAM => An Educational Data Curation Framework
Educational Data Curation Framework Status beyond conceptualization 12/5/13

• Endorsement by the GLOBE Program 2013

• It’s in stage two of a recently awarded soils science grant for 2013

• It’s in discussion with GLOBE and faculty as a means of collaboration across campus on geospatial data services and future collaboration with Outreach, specifically Mr. Steven Smith for the Earth, Atmospheric, and Planetary Sciences department
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The Role of GIS and Data Librarians in Cyber-infrastructure Support and Governance

American Geophysical Union conference, Fall Meeting, December 3-7th, 2012 San Francisco, California

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