GLOBE Technology Refresh

GTT Science Data Focus
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Overview

- Science Database Structure Re-organization
- Science Data Entry Modernization
- Data Visualization Modernization Direction

Protocols Data Entry Modernization

- Data Entry Pages overly complex
- Lack of in form guidance
- Multi-language support not comprehensive
- Disconnect between data collection in field and data entry in classroom

Science Data Schema Refactor

Why?

- overly complex
  - reduce complexity, improve maintainability
- entered data hard to update
  - calculated values are stored
- same data type split by protocol
  - additional facet of complexity
- visualization data delayed up to 24 hours
- outdated: no GIS support

Approach

- store raw data
- store data by data type not protocol
- make data available real time

Science Data Schema Re-factor

Current		New
Adjusted Values Stored		Raw Data Stored
Single Data Type values stored in multiple protocol tables		Single Data Type stored in single table
Visualization data materialized once a day		Visualization data updated on the fly

Protocols Data Entry Modernization

- Make data entry easier
  - Immediate User Feedback on Errors
  - Consistent Interface across protocols
- Allow data to be easily editable
- Foundation for mobile device support
- Reduce maintenance cost

GLOBE Science Data Access

Provide consistent standards based data access API

- for Scientific Data Analysis
- for Data Visualization
- for use by associated sites

Data Visualization Modernization Direction

- Open Geospatial Consortium standards
- Modern tools
- Ease of use
- Integration with GLOBE web site

e.g.

- Google Earth Land Cover photos
- Google Earth Air Temperature visualization