

# Digital Library on Societal Impacts (DLSI)

## *Development Summary*

The goal of the Digital Library on Societal Impacts (DLSI) is to make research results, including case studies, Web sites, decision support tools, and other resources accessible to the appropriate user communities. A digital library provides ways to collect, organize, browse, and search for relevant materials. The library is implemented as a *Web application*. Users will access the library using a standard Web browser. Implementing the library involves writing software that exists on a Web server to manage the collection. The Web application development breaks into three critical areas: a *user interface*, which defines the presentation of information to users and the features available to users, the *infrastructure*, the server-side storage and manipulation of the library collection, and *content*, the resources that populate the library.

The DLSI prototype is being built using the Digital Library for Earth Systems Education (DLESE) tool set. DLESE is a widely used tool for geoscience educators and has a highly refined user interface as well as a stable and extensible software infrastructure. DLESE provides tools for managing the data base of resources, cataloging new resources, searching, and browsing the collection. We are modifying DLESE by modifying the existing DLESE categorization scheme (tuned to middle school education) and replacing categories with a schema appropriate for users of weather forecasts.

The three major development tasks correspond to the three aspects of the library system. The user interface design involves interaction with representative users to determine feature and presentation requirements. For example, user requirements influence the categorization that will be useful to users. A Task-Based Analysis and cognitive walkthrough protocol will help determine critical features. Testing mock-ups of web pages helps determine library usability. The infrastructure is modified according to the unique categories and features for the societal impacts domain. This involves modifying the DLESE collection management software to be aware of the categories and browsing techniques necessary for this collection. Finally, the library must be populated with content. This content is being identified through a literature survey. Resources are described in *metadata*, computationally searchable descriptions of the content. The DLESE tools to catalog new resources are being modified to ensure that resources have rich descriptions.

The library is being developed in an integrated process, with each aspect (designing user interface, developing infrastructure, and gathering content) being refined in parallel. There will be three major deliverables for the library:

- Version 0 (August 2004) will provide prototype pages for searching and browsing, sufficient content to test features with representative users
- Version 1 (December 2004) will fully connect the infrastructure and user interface with content focused on hurricane forecasts (in conjunction with the planned workshop)
- Version 2 (Mid 2005) will provide advanced search functionality and an interface to contribute new resources to the library