



## LTER Intranet

Serving the LTER Community

### Network Information System Advisory Committee (NISAC) Report to the LTER Coordinating Committee (CC) - 21 April 2004

Background: The 20-year review challenged the LTER network to enhance its inter-site research activities by adopting a strategy for network-based research. The network is now placing a strong emphasis on strengthening cross-site integrative research. Correspondingly, we are now faced with the need to develop information infrastructure that supports synthetic research. The CC recommended the formation of an ad hoc working group to improve coordination of IM development with synthesis work (Spring 2002) and then voted to retain the group as a standing committee, NISAC (Spring 2003).

Recent and planned activities of NISAC:

- A series of conference calls to organize activities and discuss strategy
- Initial meeting at Kellogg (May 2003)
  - Present results to the CC (Mark Harmon)
  - Develop meeting report
- Meeting at NCSA (March 2004)
  - Draft mission statement
  - Begin draft of NIS strategic plan
  - Explore collaboration opportunities with NCSA
- Meeting at SDSC (June 2004)
  - Draft NIS strategic plan and short-term goals
  - Explore joint collaboration opportunities with SDSC and NCSA
- CC meeting at BNZ (Aug 2004)
  - Present NIS strategic plan to the CC for approval

Tiered trajectory: In Spring 2003 the CC approved that the network adopt a strategy of a tiered trajectory toward improved IM functionality for synthesis. The general goal is improving each site's position in the trajectory.

Tiered trajectory matrix: The IM Committee drafted and reviewed a Tiered Trajectory document at the ASM (Sep 2003). NISAC has reviewed, accepted, and summarized this approach in this Tiered Trajectory matrix. The trajectory increasingly incorporates common, structured metadata (vertical), and incorporates greater metadata completeness and improved usefulness from discovery to access to usability (horizontal). The tiered system will be most useful as an indicator of site progress, setting goals at the site, establishing a process for improvement, and providing guidelines for making external site reviews more consistent.

EML assessment:

- EML implementation is critically important in developing generic tools to facilitate synthesis
- EML implementation is proceeding (from IM EML survey)
  - o As many as 9 sites have implemented discovery-level EML
  - o 71% of the sites plan to provide EML metadata for all or most data sets within the next 12 months
  - o LNO assistance is essential for many sites
- Resources are needed
  - o Additional personnel, training or LNO assistance, better tools
- There is a general consensus among IM's that maintaining EML will require minimal effort after this initial conversion.

ClimDB/HydroDB/SiteDB status:

Participation:

- o All 24 LTER sites are contributing to ClimDB
- o 14 LTER sites are contributing to HydroDB
- o 24 LTER sites will be represented in a new forthcoming version of SiteDB

- o An additional 12 USFS sites also participate in ClimDB/HydroDB

ClimDB/HydroDB database content includes:

- o 255 climate and streamflow stations – most sites include multiple stations
- o Air temperature, precipitation, stream discharge comprise 88% of database
- o Additional variables include solar radiation, wind speed and direction, relative humidity, dew point, atmospheric pressure and soil temperature

ClimDB/HydroDB webpage

- o Now consolidated at <http://www.fsl.orst.edu/climhy/>

- o Over 3000 data sets examined on web page since Feb 2003 – either plots generated (65%), files downloaded (22%), or data displayed (13%)

ClimDB/HydroDB possible next steps for expansion

- o Update station variables through 2003
- o Agree to populate other variables in the database, e.g., relative humidity, solar radiation, wind speed and direction, soil temperature
- o Add other representative climate and streamflow stations
- o Add historical data
- o Add new variables, e.g., stream chemistry, nitrogen deposition

Committee members (2004):

- o PI representatives:

Gage (KBS), Harmon (AND), Kratz (NTL), Peters (JRN), Ross (PAL)

- o IM representatives:

Benson (NTL), Boose (HFR), Henshaw (AND), McCartney (CAP)

- o Network Office representatives:

Brunt (LNO), Michener (LNO), Vande Castle (LNO), Waide (LNO)

1. NISAC Recommendation:

NISAC requests the CC to determine and agree on a process or series of processes for identifying new NIS science modules or network databases or additional components to existing network databases (e.g., ClimDB)

NIS direction and content:

- The NIS will provide the necessary expertise and other infrastructure for designing and building science modules and other synthetic products
- The CC is empowered to determine NIS content

Discussion:

- As an objective for this CC meeting, can we determine a process or series of processes to identify desired NIS expansion and then effectively use the process by the next CC meeting?
- Should a committee be tasked with identifying new NIS science modules or new components for the basic data ClimDB/HydroDB/SiteDB?
- What databases will be most useful (in particular for use by the synthesis groups)?

2. MOTION for APPROVAL by the CC:

:Move that the LTER network adopts the NIS mission statement developed by the NIS Advisory Committee as follows:

NIS Mission

The mission for the LTER Network Information System (NIS) is to provide the IM/IT infrastructure to facilitate and promote advances in collaborative and synthetic ecological science at multiple temporal and spatial scales. This system includes cyberinfrastructure (hardware, software); expertise, standards, and protocols; and the information resulting from research activities across the network of LTER sites and their partners. The NIS is characterized by:

- scalable implementation from site to network levels
- information content that includes primary observations, models, derived data products, theory, knowledge
- long term information management, discovery, evaluation, access, and analysis
- open standards, tools and procedures to facilitate integration and synthesis
- computing and connectivity resources that support collaboration and promotes community-building.

The NIS primarily serves the LTER scientific community and collaborators but also provides a portal to LTER data products for the broader scientific community, natural resource managers, policymakers, and the general public.

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[INTRANET](#) [www.lternet.edu](http://www.lternet.edu) [www.iltternet.edu](http://www.iltternet.edu) [schoolyard.lternet.edu](http://schoolyard.lternet.edu)

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This material is based upon work supported by the [National Science Foundation](#) under Cooperative Agreement [#DEB-0236154](#). Any opinions, findings, conclusions, or recommendations expressed in the material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

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