DRAFT 5/30/01 Outline for Working Group 1

Advancing the Sharing and Synthesis of Ecological Data:
Guidelines for Data Sharing and Integration

Working Group 1: Partnerships for Inter-Site Synthetic Research and Initiation of Standards Development

Location: Sevilleta LTER Field Station
Dates: June 14-16, 2001
Organizers: Barbara Benson, Tim Fahey, Alan Knapp, and Dick Olson

Objectives

1. Develop general strategy for data collection, processing, and distribution that builds on scientist-data manager partnerships to produce data compilations useful for cross-site, long-term synthesis and modeling activities.
2. Develop specific strategy for NPP within the LTER community.

Specific Goals

1. Review synthesis activities
   - partnerships, draft paper from ASM Partnerships workshop
   - LTER NPP synthesis activity and Science paper
2. Explore the development of standardized data collection protocols and other guidelines to compile data with the intent of using such data in synthesis activities.
3. Review the use of methods to harmonize long-term data assembled for data synthesis activities
4. Develop/enhance a plan for the collection and synthesis of NPP data from the LTER, ILTER, GTOS networks
5. Evaluate the barriers for acceptance and use of guidelines for metadata and system documentation
6. Compare sources of variability within collections of data, including biome, interannual, methods, and sampling to determine if reducing variability associated with methods will improve the overall analysis and interpretation.
7. Develop a plan for workshop 2's (*QA/QC and Continuation of Standards Development)* focus on assessing the potential for developing and implementing standard procedures for long-term data QA/QC.

Products:

1. Second draft of paper on "Partnerships" based on outline provided by Benson/Olson from the ASM workshop
2. Draft of review paper of past successes and problems in synthesis work – standards, harmonization, QA/QC, etc. – focus on NPP and other LTER efforts
3. White paper on evaluation of how to get scientists to use standard methods and metadata etc. in anticipation of synthesis activities and archiving data

4. Draft of standards and harmonization working plan for NPP measurements to support LTER cross-site studies

Participants:

Barbara Benson
Dick Olson
Tim Fahey
Allan Knapp
Stuart Gage
Don Henshaw
Dave Greenland
Local
Bill Michener
James Brunt
John VandeCastle
Bob Waide
Kristin Vanderbilt

Working Group 1 Outline

Day One - AM

1. Working group goals and logistics – Barbara Benson (15 min)
2. Review of synthesis approaches (each 15 min, plus 5 min discussion)
   - LTER Cross-site Studies Overview – Bob Waide
   - ASM Partnerships Workshop – Barbara Benson
   - Global Ice Phenology Database – Barbara Benson
   - Measuring NPP, what's the problem? – Tim Fahey
   - NPP data synthesis for LTER sites – Allan Knapp
   - NPP data synthesis from the literature and model-data comparisons – Dick Olson
   - NPP modeling activities – Stuart Guage
   - GTNET NPP demonstration project – John VandeCastle
   - The Knowledge Network for Biocomplexity – ?
3. Group or breakouts to compare approaches, components of success, cost and benefits of post harmonizing – Barbara Benson

Day One - PM

4. Review of data collection standards development and application (each 20 min, plus 5 min discussion)
   - CLIMDB –Dave Greenland
   - LIDET – Don Henshaw
   - Flux community standards (AmeriFlux and FLUXNET) – Dick Olson
   - LTER Soils Standards – Kristin Vanderbilt
5. Group or breakouts to compare approaches, evaluate success and resistance by scientists, – develop best approach for NPP to be collected by LTER and ILTER sites – Dick Olson

Day Two - AM

6. Review of metadata standards and archiving/distribution of integrated data sets (each 30 min)

- ESA, LTER, KNB – James Brunt and Bill Michener
- NASA (Best Practices, guidelines, BOREAS approach)– Dick Olson

7. Group or breakouts to evaluate acceptance and contribution of metadata by scientists – develop strategy of how to get scientists to document and submit data – Bill Michener

Day Two – PM

8. Working groups to generate products
   - Outline of review paper on past successes and problems in synthesis work – standards, harmonization, QA/QC, etc. – focus on NPP and other LTER efforts - Benson
   - Outline of white paper on evaluation of how to get scientists to use standard methods and metadata etc. in anticipation of synthesis activities and archiving data -
   - Draft of NPP standards and harmonization working plan - Olson
   - Outline for Working Group 2 - Michener
9. Reports of working groups

Day Three – AM

10. Continued discussion of results, Sevilleta site tour (Vanderbilt)

Day Three – PM

11. Discussion of drafts of papers
12. Develop a plan for workshop 2
13. Meeting wrap-up

Potential Questions:

What are the benefits and costs of letting scientists select their methods based on site conditions and personal preferences versus requiring standards?

When is it advantageous for QA/QC to be done on a collection of sites rather than on a site basis?

Questionnaire for each participant to answer or to include in talks:

1. Describe the synthesis activity
2. What partnerships were created?
3. What were the source(s) of data?
4. How was the data processing/IM handled?
5. What types of instruments and methods were used?
6. What approaches were used for "post" harmonization of the data?
7. What approaches were used for QA/QC of the data?
8. What were the biggest obstacles to preparing data for analysis
9. Were there any standards suggested or dictated "from the top"?
10. Given potential problems with different instruments and methods, were ecological patterns still obvious in the analysis?
11. Was one of the products of the synthesis a data set used in the analysis, and was this integrated data set available to the broader ecological community?