

USFS Experimental Forest and Range Information Manager Meeting

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A historic first meeting of U. S. Forest Service (USFS) and cooperator information managers was held in Dallas, Texas on 5-7 February 2008. An information manager attended with a site science representative for most of the 17 USFS Experimental Forest and Range (EFR) network of sites. Concurrent with the 100-year anniversary of the EFR concept, this network now begins work in establishing a new research platform to enable study of transcontinental questions concerning effects of environmental change on ecosystems function and services. These 17 sites, which include 6 LTER sites, were selected in 2007 to organize and operate as a national research network and are a subset of nearly 80 national EFR sites. The long-term vision is to bring the other EFR sites into the network. Goals of the meeting included beginning development of an operating framework for information management and the selection of synthesis research projects and the implications for information management (IM) activities.

Discussion of an operating framework for IM to facilitate synthesis science highlighted the first meeting day. Several desired characteristics of the EFR Network are summarized here:

- a national IM coordinator position or IM team to establish network-level standards for IM and assist in their implementation, e.g. EFR Network Office;
- core data sets are compatibly measured and reported across the network;
- cross-site studies are encouraged and supported within the research framework;
- collaboration with other national research networks augment FS efforts;
- websites effectively share research results and data, and market the network;
- technology and in-person meetings effectively maintain strong communication

This EFR effort is supported through a USFS initiative, eResearch, with one goal to promote IM at EFR sites and model IM approaches after the Long-Term Ecological Research (LTER) program. The information managers met independently on the second day with special emphasis given to understanding the breadth of existing IM practices and standards currently used in both LTER and USFS. Featured talks on LTER IM standards (Don Henshaw, AND) and on USFS R&D IM standards (Dave Rugg, e-Research EFR Project Manager) described IM activities including adopted standards, network information system development, data archiving practices, and data access policies for their respective networks. Site-oriented talks allowed presentation of current site IM practices and included LTER talks by Eda Melendez (LUQ), Jason Downing (BNZ), Chris Eagar (HBR), Jim Vose (CWT), and Henshaw (AND), and several EFR (non-LTER) talks. Needs described by participants included data organization and catalog development, metadata creation, metadata standards, data search and retrieval capabilities, cyberinfrastructure capabilities, and human resources. It became clear from these site-oriented talks that the needs for the EFR sites are congruent with those of LTER sites and the EFRs could likely learn from the collective LTER experience.

The USFS R&D Data Archive, engineered by Dave Rugg, provides a central repository for USFS research data and uses the Biological Data Profile (BDP) as its metadata standard, compliant with the USFS-adopted FGDC metadata standard. Rugg has also written Metavist, a

popular interactive program for entering BDP metadata, with stylesheets to produce BDP and FGDC structured metadata. The IM meeting group favored an open approach to sharing data externally and adopted the archiving standards embodied in this e-Research R&D Data Archive project, including BDP as the metadata standard. Extensions to the data archive, such as stylesheets developed by the LTER Network Office that can transform BDP XML files into EML files and visa versa, will be added to enhance interoperability with the LTER sites. Differences in the granularity of metadata elements makes the BDP to EML transformation problematic, and best practices for use of Metavist (similar to the LTER-developed EML best practice document) will be important to improve the quality of transformation. The intent is for EFR metadata stored in the USFS data archive to be searchable through both the NBII clearinghouse system and the replicated EML-based Metacat servers used by LTER.

The meeting researchers developed six synthesis research topics and discussed these with the information managers on the third meeting day to gain an understanding of the data-related feasibility of the ideas. The EFR sites will now identify the long-term records and build a network data set catalog to facilitate these synthetic research efforts. A useful post-meeting development was the USFS data archive receiving permission to implement a data access / data use policy similar to the LTER policy in tracking who is obtaining data sets and what the planned use is. This type of policy is considered essential in promoting a culture of data sharing.