<div align="center">**NSDI Cooperative Agreements Program**
Metadata Training & Outreach Project
<u>**Interim and Final Project Summary Format**</u></div>

Agreement Number: 560110409 (NBII)
Category 1: Metadata Trainer and Outreach Assistance
Final Report

Organization:
National Biological Information Organization (NBII)
US Geological Survey
12201 Sunrise Valley Drive MS302
Reston, VA 20192
www.nbii.gov
.
Project Leader:
Vivian Hutchison
206-526-6282 x329
vhutchison@usgs.gov

Project Narrative
During the 2005-2006 CAP Grant year, the NBII successfully **conducted 9 workshops in 5 locations** throughout the United States (Fort Collins, CO; Anchorage, AK; Knoxville, TN; Sacramento, CA; Denver, CO; and Seattle, WA.). 8 of those workshops were titled "Introduction to Metadata", and 1 workshop was titled "Train the Trainer". Each Introduction to Metadata Workshop was 1 ½ days, with the exception of 2 workshops each a ½ day conducted at a conference in which all of the material was presented, but hands-on practice was eliminated. In total, NBII trained **143** people in metadata creation and training skills.

The NBII program is very successful at bringing together a variety of organizations to each workshop, which creates an atmosphere of collaboration and idea sharing. Participants leave the workshop not only educated on metadata and the FGDC-BDP Standard, but also with new contacts for collaborative projects and activities related to metadata and other larger themes. Each workshop averaged 18 participants that represented federal, state, tribal, non-profit, and university organizations.

One challenge to the NBII metadata program is an ability to retain trainers that are available to travel to present workshops and/or the ability to arrange pay to cover the trainer's time. In the past, this was considered an in-kind contribution from the organizations offering trainers, but this is an increasingly difficult arrangement due to shrinking budgets. One solution to this problem may be to require each participant in the Train the Trainer Workshop to conduct at least 1 NBII Introduction to Metadata Workshop. This model may also have its own challenges for practical reasons.

Another challenge is tracking the number of metadata records that are produced as a result of NBII training workshops. Since workshops are open to a broad range of organizations, it has not been a requirement to date that those organizations contribute to NBII's Clearinghouse – although it is <u>highly</u> encouraged – the participant's organization may ultimately choose only to contribute to GeoSpatial OneStop, for example. However, many NBII Clearinghouse node partnerships have developed through metadata workshops and as a result hundreds of records have been added.

Collaboration in producing metadata workshops is a critical factor in the training program. Typically, new collaborations transpire for each workshop, as partner organizations host the workshop at their location. Additionally, collaboration occurs at the Clearinghouse level as a result

of workshops. Many new Clearinghouse nodes have been created this year due to follow-up and individual contact with workshop participants.

In general, a challenge for the training workshops is the lack of a quality online tool for metadata creation that includes both the FGDC Standard and the Biological Data Profile. Online tools that are available now, tend to be focused only on individual organization requirements, which means that there are often non-FGDC elements required. Although not mandated to create such a tool, assistance from FGDC in this area would increase metadata production due to an ease of the creation process, which at the current time often requires the use of several tools to produce one record. Perhaps this could be an FGDC CAP Grant category opportunity. It is a critical missing feature in the metadata community.

Metadata training and outreach assistance

Workshop Location: Fort Collins, CO – 1 ½ days

Participants	Organization	Organization Type
2	Bureau of Reclamation	Federal
1	North Pacific Research Board	Congressionally Funded
1	IAP World Services	US Department of Defense Contractor
2	USDA Forest Service	Federal
3	US Bureau of Reclamation	Federal
1	EMAN Coordinating Office	Canadian Federal

Workshop Location: Anchorage, AK – 1 day

Participants	Organization	Organization Type
11	USGS Alaska Science Center	Federal
3	Yukon Flats NWR, FWS	Federal
1	Alaska Dept. of Fish and Game	State

Workshop Location: Anchorage, AK – 2 workshops each ½ day

Participants	Organization	Organization Type
1	Mammoth Productions	Private
3	Alaska Dept of Fish and Game	State
1	Pacific Shark Research Center	University
2	North Slope Science Initiative	Interagency
3	University of Alaska-Fairbanks	University
1	Consultant	Private
1	Prince William Sound Science Center	Non-profit
1	Alaska Sealife Center	Non-profit
3	USGS	Federal
2	University of Alaska-Sitka	University
6	NOAA	Federal
1	University of Washington	University

Workshop Location: Knoxville, TN – 1 ½ days

Participants	Organization	Organization Type
18	University of Tennessee	University
1	East Tennessee Research and Education Center – Agriculture	University
1	Southern Appalachian Highlands Conservancy	Non-profit
1	NBII-SAIN	Federal

| 1 | US National Park Service | Federal |
| 3 | Information International Associates (IIa) | Private |

Workshop Location: Sacramento, CA – 1 ½ days

Participants	Organization	Organization Type
1	University of Alaska	University
13	Bureau of Reclamation	Federal
4	CalTrans	State
9	Bureau of Land Management	Federal
1	CA Dept of Health Services	State
4	CA Dept of Fish and Game	State
2	US Fish and Wildlife Service	Federal
1	NOAA	Federal
3	US Geological Survey	Federal
2	Bureau of Indian Affairs	Federal

Workshop Location: Train the Trainer – Denver, CO – 3 days

Participants	Organization	Organization Type
1	University of Tennessee	University
1	Bishop Paiute Tribe	Tribe
1	Western Pennsylvania Conservancy	Non-profit
1	The Nature Conservancy	Non-profit
1	University of Nebraska-Lincoln Libraries	University
1	Dept of Natural Resources – Maryland	State
3	NOAA	Federal
1	US Geological Survey-Alaska Science Center	Federal
1	US National Park Service	Federal
1	US Fish and Wildlife Service	Federal

Workshop Location: Seattle, WA – 1 ½ days

Participants	Organization	Organization Type
1	Houston Advanced Research Center (HARC)	Non-profit
2	USGS	Federal
1	Auke Bay Lab, AFSC, NOAA Fisheries	Federal
4	Aquatic and Riparian Effectiveness Monitoring Program	Federal
2	Bureau of Land Management	Federal
1	National Oceanic and Atmospheric Administration	Federal
1	Ducks Unlimited, Inc	Non-profit
1	Yakama Nation Fisheries	Tribe
1	Point No Point Treaty Council	Tribe
1	Environment Canada	Canada Federal
1	NASA	Federal

Total:
9 workshops – 143 participants

For each of the introductory workshops presented, participants completed the course able to comprehend the standard, choose appropriate tools, and navigate clearinghouses. Additionally, each participant left the workshop with at least a partially completed record -- having learned and used metadata creation software in class. The typical audience for these metadata workshops is data managers and scientists.

Participants completing the Train the Trainer Workshop are proficient in metadata production when they enter the course. They leave the workshop with the ability to translate those skills into a training capacity for their organization. Each participant is given time to create a presentation during the workshop, and is asked to present on a metadata related topic to their peers and

instructors on the final day. Constructive feedback is given to the participant from those attending the workshop and the instructors. All training materials are supplied to the participants as a resource for developing their own metadata programs or to be used unchanged, should they wish.

Status of Metadata Service
Metadata is served through the NBII Clearinghouse, located at http://mercury.ornl.gov/nbii/
Only 2 web folders are harvested by GeoSpatial One Stop from the NBII: "Metadata Clearinghouse Principal Node", and the "BRD Bibliographic Metadata Node". Other partners on the NBII Clearinghouse are asked to register in GOS independently so as to prevent duplication of records from the same source. The number of records completed as a direct result of the metadata training workshops is not determinable, however, the NBII Metadata Clearinghouse has increased its records holdings by several thousand over the past year – many of those records have been completed or made available by participants in the workshops. As mentioned earlier, assistance in providing metadata service to the organizations that NBII has supported this year would best be served by an online metadata tool developed and supported by FGDC.

Next Steps
This project will continue in the future, as the NBII infrastructure is in place and metadata is considered a critical element to the mission of the program. The NBII metadata infrastructure includes a training program, robust Clearinghouse, quality control/quality assurance assistance, and a metadata creation assistance program. All are funded by the NBII with the exception of the training program. The NBII has been able to serve the metadata community by offering training due to the generosity of the FGDC CAP Grant program.

Feedback on Cooperative Agreements Program
The FGDC CAP Grant has been a very beneficial program to assist metadata development and progress. Having received these grants for several years has allowed the NBII to assist hundreds of people and organizations create metadata and post it to Clearinghouses, which is beneficial to the science community and other research and learning communities. I would like to see the FGDC host a post CAP Grant meeting in which those organizations that were awarded funding can present the results of their projects. By sharing successes and challenges, new partnerships could be formed, progress could be seen, and the energy already developed from the success of the projects could be extended to the future.