

# SPONSORED PROJECTS



## USGS—Circular

The Institute and U.S. Geological Survey (USGS) are collaborating to produce a USGS Circular (a magazine-style publication available to the public at no charge) on the topic of cave and karst science, resource management, and research needs in the federal agencies, tentatively titled *The Nation's Cave and Karst Resources: Science and Management*.

In addition to the Institute and USGS, sections of the report have been written by staff from the National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service, and the Environmental Protection Agency. Authors contributed their writing time and, Zeldia Bailey, the former interim director, continues editing and compiling the publication. The USGS is funding the cost of preparation, printing, and distribution in 2004.

The manuscript for the circular was under final review by the USGS staff and others in January 2004 and a publication schedule was being developed. Publication is expected in the first half of 2004.

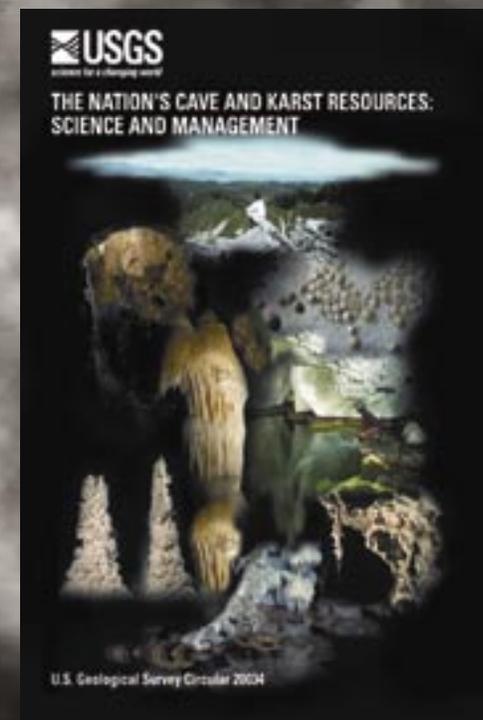
## USGS—National Karst Map

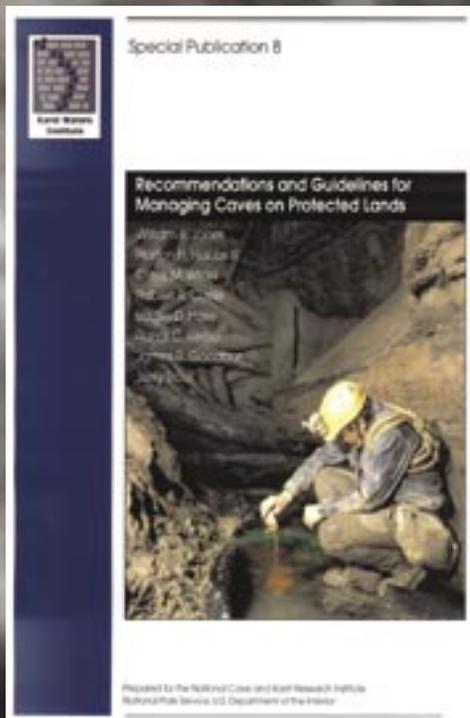
In response to the increasing need for accurate and detailed information about the distribution and types of karst terrains in the United States, the USGS has worked with a group of karst experts to develop a long-term plan for mapping the nation's karst. The product will be a national, web-based karst map documenting various karst-related features, such as the distribution of carbonate and evaporite units, karst aquifers, buried karst, pseudokarst landscapes, and percentage of area covered by karst. The national map will be developed in partnership with state geological surveys and academic entities using information derived primarily from maps prepared by the individual states and will link to state- and local-scale maps and related data. The National Cave and Karst Research Institute will establish the web-based network of karst information used to build the national map. The web site will be designed to educate the public and legislators about karst issues, to provide a basis for cave and karst research, and to aid federal, state, and local land-use managers in managing karst resources.



### The USGS Karst Map Project activities for 2003 included:

- Initial compilation of a 1:1,000,000 scale Appalachian Highlands regional karst map from digital geologic and karst maps supplied by the individual state geological surveys;
- Finished digitization of karst map of Puerto Rico at 1:140,000 scale;
- A 2-day workshop on karst mapping in the western interior of the U.S.A. with emphasis on evaporate karst (June 3-5, 2003). It was attended mainly by representatives from state and federal agencies and was hosted by the Colorado Geological Survey;
- Participation in a 1-day field trip to Pennsylvania (PA) and New Jersey (NJ) examining karst features in northeastern PA and northwestern NJ





### ◀ Karst Waters Institute – Management Book



NCKRI and the Karst Waters Institute (KWI) collaborated to produce a booklet titled *Recommendations and Guidelines for Managing Caves on Protected Lands*. Associates of KWI and staff from the National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, and U.S. Forest Service contributed sections. NCKRI and USFWS provided funding. KWI edited, published, and distributed the booklet in the fall of 2003. It will be used as a handbook for resource managers to comply with the requirements of the Federal Cave Resources Protection Act, as a source of information for interpreters, and as a training resource.

### National Speleological Society – Cave Conservation Book



The Institute provided partial funding to publish a book compiled by the National Speleological Society titled *Cave Conservation and Restoration*, which features conservation and restoration topics by researchers from a variety of disciplines and chapters dedicated to specific conservation measures and restoration techniques. In January 2004, David McClurg, the Chair of the NSS Special Publications Committee, reported that the book was into the last stages of review prior to publication and was scheduled for completion by the end of February 2004.

### Boston University

The Institute provided partial funding to the Center for Ecology and Conservation Biology at Boston University to publish a book titled *A Guide to Bats of North America*, which features information on the life-history, ecology, and behavior of 45 species of bats known from North America, half of which depend on or utilize caves.

### Mississippi State University – Digital Map of Karst in Mississippi

In 2003, John E. Mylroie of the Department of Geosciences at Mississippi State University initiated a project to produce a digital map of the State of Mississippi with karst features and karst drainage basins produced following the guidelines and procedures of the National Karst Map program. The digital data will be annotated with descriptions of the karst features and interpretations and land use implications of those features. Christopher Moore, a graduate student in the Department of Geosciences, began the project in the summer of 2003. Field and literature search data are being placed in a data inventory and a Geographic Information System (GIS) to establish the relationship of cave and karst features with topography, geology, and cultural features.

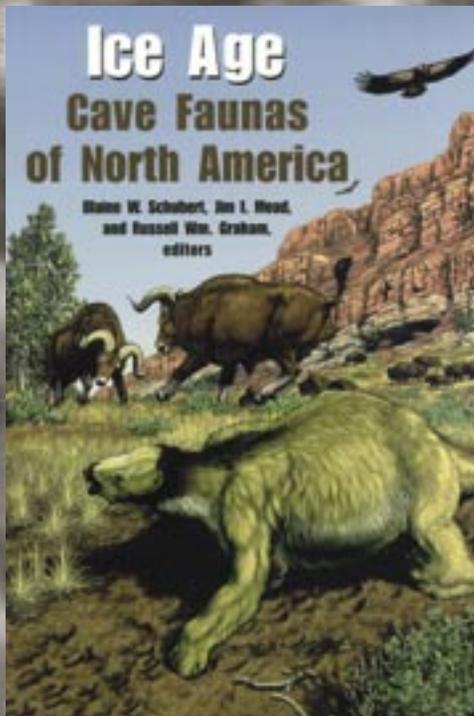
NCKRI funded the project for \$6,000 the first year (FY03) and \$6,100 for the second year (FY04). The funding is matched by the Department of Geosciences with one graduate student assistantship (\$5,400/year, plus full waiver of in-state tuition). The Department also provides its GIS laboratory to the project at no cost.

### ◀ Denver Museum of Nature and Science

The Institute provided partial funding to publish *Ice Age Cave Faunas of North America* compiled by the Denver Museum of Nature and Science (DMNS). Indiana University Press and the DMNS jointly published the book in October 2003.

### Western Kentucky University Graduate Program

Western Kentucky University has, over the last several years, developed a graduate program tailored to the needs and schedules of NPS cave and karst resource management specialists who wish to further their educational background. Under a cooperative agreement with WKU, the Institute supports this program to allow more students access to the benefits of advanced education.





**Snottites - Microbial growths in Mexican cave.**

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## **NHK - Japanese Broadcasting Corporation**

The Japanese Broadcasting Corporation (NHK) provided the Institute with an outstanding opportunity to pursue many of our designated purposes by inviting NCKRI staff and volunteers to serve as consultants and “talent” for a high-definition, science documentary film on Cueva de Villa Luz in southern Mexico. By assisting in this endeavor, NCKRI furthered the science of speleology, fostered interdisciplinary cooperation in a cave research program, promoted public education about caves, obtained non-federal matching funds, and promoted international cooperation in protecting caves.

NCKRI Director Louise Hose of the National Park Service has led the investigation of Cueva de Villa Luz and NHK asked her to organize a team of scientists to support their filming effort. NHK paid all expenses plus salary costs or a stipend for each investigator’s time spent in the field.

NHK expects to make at least two versions of the show: A one-hour, Japanese domestic science documentary and a two-hour, international (in Japanese) adaptation. They are also investigating the possibility of marketing an English version.



**Biologists Doug Soroka and Lynn Kleina pose with crew from the Japanese Broadcasting Corporation, after filming in the extremely challenging Yellow Roses passage of Cueva de Villa Luz. Photo NHK.**



**Penny Boston and Diana Northup pose with the crew from the Japanese Broadcasting Corporation. Photo by K. Ingham.**

## **Participants included:**

- Geomicrobiologist Penelope Boston of the New Mexico Tech wing of NCKRI
- Geologist Louise Hose of the NPS wing of NCKRI
- Caver Ken Ingham of the University of New Mexico
- Microbiologist Lynn Kleina of the National Speleological Society
- Biologist Kathleen Lavoie of State University of New York – Plattsburg (Dr. Lavoie also brought along an undergraduate student)
- Caver David Lester of the National Speleological Society
- Microbial ecologist Diana Northup of University of New Mexico
- Biologist Doug Soroka of the National Speleological Society