CAVE SCIENCE NEWS

ESRI Offers Web Site for Cave and Karst GIS

Leading Geographic Information Systems (GIS) software developer ESRI, based in Redlands, California, offers a Web site for those using ESRI GIS software for cave and karst applications. GIS is used by various government agencies and an increasing number of private organizations and individuals to store, map, manage, and analyze cave and karst data, and is an important tool in the management and conservation of cave and karst resources.

The site offers a variety of resources, including a discussion forum, examples of utilizing GIS in cave and karst applications, an electronic newsletter, white papers, technical documents, and news and contributions from various users. The site also includes links to the ESRI Cave and Karst Conservation Program, offering grants and other assistance in software acquisition for those involved in cave and karst conservation and management activities.

For more information contact NSS member Bernie Szukalski, ESRI Cave and Karst Program Manager (volunteer), at bszukalski@esri.com, or visit the ESRI Cave and Karst Web site at:

http://www.esri.com/industries/cavekarst/index.html

Deadline for Abstract Submission for Geology and Geography Section at 2001 NSS Convention Announced

The NSS Section of Cave Geology and Geography is accepting abstracts of papers for presentation at the Geology and Geography Session of the 2001 NSS Convention, to be held in Mt. Vernon, Kentucky, from 23-27 July 2001. Abstracts should be no more than 250 words in length (this limit must be strictly met). In addition to the text, the abstracts should contain the title of the paper, and the name(s) and address(es) of the author(s). The abstracts should be informative summaries that include the conclusions, and not lists of topics that "...will be discussed." Bibliographies and references should not be given in the abstracts. Papers may be submitted for either oral presentation or as a poster.

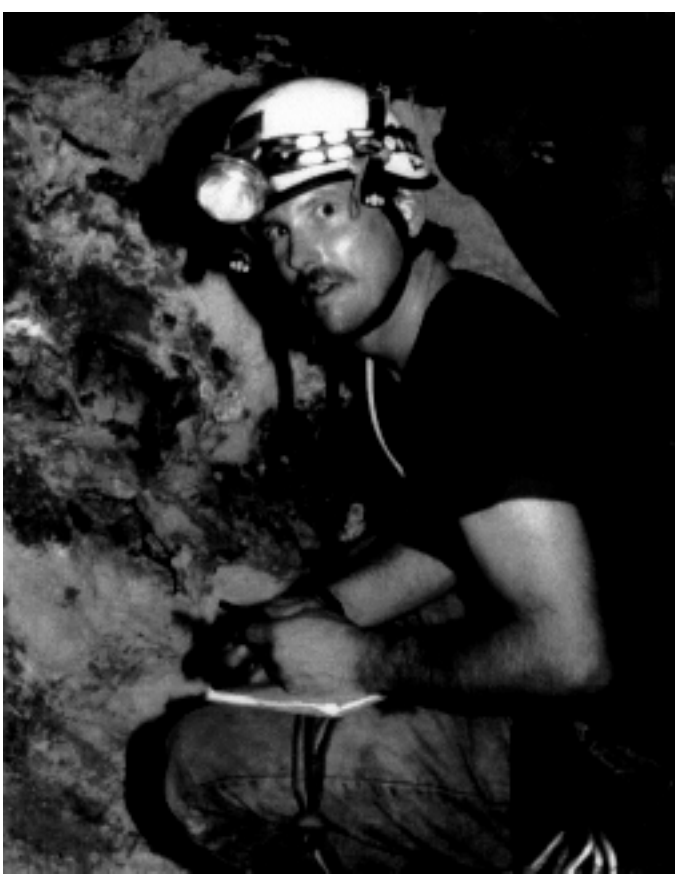
Send any questions and your abstracts by mail, e-mail, disk, or fax to: George Veni, 11304 Candle Park, San Antonio, Texas 78249-4421 210-558-4403 413-383-2276 (fax) gveni@flash.net

The deadline for abstracts is 1 May 2001. Early submissions are encouraged. Confirmation notes will be sent to everyone sending an abstract. Details on presentations times, dates, and other information will be sent to all confirmed participants after the deadline. For online details about the convention, visit: http://www.nss2001.com/.

Position Available - Chairperson of the NSS Research and Advisory Committee

The Research and Advisory Committee is in the office of the Executive Vice President. The duties include coordinating the research grants given by the Society, offering candidates for the annual Ralph W. Stone Research Award, administering the NSS Young Investigator Award program, designating official NSS research projects, collecting annual project summaries for NSS Projects and Study Groups, providing advice to members concerning scientific efforts, answering speleological inquiries from others, and reviewing research proposals and award grants. Members interested in this position should contact the NSS Executive Vice President, Ray Keeler, via email <rkeeler@pcslink.com> or call h/602-561-2917, w/602-822-3954.

Obituary



Kim Cunningham
NSS 22063

Kimberley (Kim) I. Cunningham (NSS 22063) died from heart complications at his home outside Boulder, Colorado, on

December 20, 2000. Born March 11, 1954 in Austin, Texas, he grew up in Northern Virginia and began caving in West Virginia. Sites Cave with its 190-foot entrance pit was his first in 1977. Other trips quickly followed to Windy-Cassell and Cass in West Virginia, and many of the vertical caves of Skydusky Hollow, Virginia. Kim completed his undergraduate Geology degree at the State University of New York - Stony Brook. His senior research project involved measuring amino acids contained in calcite at Cass Cave.

He moved to Colorado in 1979 to work for the United States Geological Survey and was well respected for his pioneering work in developing exploration technologies for oil and gas. This extended to his recent employment with Geo-Microbial Technologies, Inc. Kim enjoyed many of the caves in the Guadalupe Mountains of New Mexico and co-authored a research paper on Wind Cave, South Dakota, helictite bushes. He traveled to Ukraine and collaborated with the Ukrainian Speleological Association on studies of aerosol speleothems in the large gypsum caves of the Western Ukraine.

Kim was perhaps best known in caving for his scientific research in Lechuguilla Cave, New Mexico. These activities included coordinating extensive climate/ radon survey expeditions and initially recognizing the diverse microbiology of the cave (*i.e*. corrosion residues are from rock-eating bacteria) and its possible analog to Martian ecosystems. He also served on a Bureau of Land Management task force to prevent oil and gas drilling from impacting Guadalupe caves (including the helium expedition using the "cylinders from hell"). He gave many presentations promoting science in Lechuguilla Cave, including appearing in the National Geographic Society TV production "Mysteries Underground".

Kim's enthusiasm for the potential role of microbes in geological processes seen in Lechuguilla Cave successfully "infected" a number of microbiologists who are actively working on these issues. The study of microorganisms in the corrosion residue of Lechuguilla and Spider Caves is currently supported by a Life in Extreme Environments Grant from the National Science Foundation, and the role of caves in future extraterrestrial missions is currently supported by a NASA Institute for Advanced Concepts Grant. These are important parts of Kim's legacy.

Kim's wife Holly, son Kyle, daughter Shannon and family in Virginia survive him. His family and many caving friends across the US and around the world will miss him. Members of the Ukrainian Speleological Association pushing toward the world depth record in West Caucasus will name a new pit below the -1410 meter (4625 foot) depth after Kim. The Imax film "Journey into Amazing Caves" will include a memorial credit for Kim's cave research. He was a true advocate for caves and cave science throughout his professional and personal life. His work is published in many USGS reports and other professional journals including the old *NSS Bulletin*. Kim's latest research concerns a sulfide source for Guadalupe speleogenesis from breached backreef hydrocarbon deposits and will be submitted to this publication in the future.

A fund is being created to provide grants to individuals doing their own in-cave research. Contributions can be made to: The Kim Cunningham Cave Research Fund, National Speleological Society, First National Bank of Colorado c/o Maureen Mac Mackin, PO Box 9032, Boulder, CO 80301-9683.

Ed LaRock and Penny Boston

ERRATUM

In Figure 1 of Davis's "Extraordinary Features of Lechuguilla Cave, New Mexico" (*Journal of Cave and Karst Studies 62*(2): 147), the map location numbers starting with 19 in the caption are out of phase with the numbers in the image. To find the correct locations, add 2 to each caption number above 18.

EDITOR'S NOTE

The authors of "Eyed cave fish in a karst window" in the December 2000 issue of *Journal of Cave and Karst Studies* (p. 180-183) have asked us to note that correspondence should be directed to R. Borowsky.

OMISSION

The following abstract was inadvertently omitted from the publication of *Selected Abstracts from the 2000 National Speleological Society Convention in Elkins, West Virginia – Survey & Cartography*

HOW ACCURATE ARE OUR CAVE SURVEYS?

Robert Thrun, 204 Blair Rd. No. 204, Indian Head, MD. 20640

In one of the earliest papers on cave survey errors, Denis Warburton compared the actual loop misclosures in cave surveys with theoretical expected errors. Following this lead, the CMAP survey data reduction program does a similar comparison. For this study, the BCRA Grade 5 error specification was used instead of the CMAP defaults. The BCRA grade is the only standard that has a widespread acceptance, at least in some countries. The most informative plot seems to be error ratio *vs.* traverse length on a log-log plot. The plots consist of a cloud of points that can be used to judge a survey's accuracy, or at least its internal consistency. Many cave surveys of different types were studied. No survey met the expectations of the BCRA specification, though a few were close. A typical survey might have 2-4 times the Grade 5 errors. Poor surveys have 5-7 times the BCRA errors. The dispersion of the clouds was always wider than would be obtained from a single random error distribution. It may be possible to characterize the accuracy of a survey from the shape and size of the point clouds. The amount of adjustment and the percentage adjustment are possible alternatives to error ratio for characterizing survey accuracy.