U.S. Geological Survey Karst Interest Group Proceedings, Shepherdstown, West Virginia, August 20-22, 2002

Eve L. Kuniansky, *editor*

U.S. Geological Survey
Water-Resources Investigations Report 02-4174

Atlanta, Georgia
2002

INTEGRATING SCIENCE
Overview of Background Resources on Karst Research Emphasizing Obscure and "Gray Area" Documents

By Barry F. Beck
P.E. LaMoreaux & Associates, Inc., 106 Administration Road, Suite 4, Oak Ridge, TN 37830

The in-depth understanding of karst is a narrow subspecialty of geology falling within the areas of hydrogeology and/or geomorphology. Inasmuch as it is normally covered only briefly in these undergraduate courses, many geologists have very little specialized understanding of karst principles. However, karst has extremely important practical applications in the fields of environmental and engineering geology.

Moreover, the past and current literature on karst is widely disseminated geographically and technically, and much of it has appeared in obscure or *gray area* publications. This often results in young geologists redoing research that was originally performed decades ago. Some of these publications are simply difficult to find. A good example is the new proceedings volume *Le Voragini Catastrofiche—un nuovo problema per la Toscana*. This is the proceedings of a technical conference on sinkholes held in 2000 in Grosetto, Italy, and sponsored by the Region of Tuscany. This is not *gray;* it is foreign, non-main stream, and in Italian, but it will easily escape notice. However, many of the articles have summaries in English, and there is valuable new information here about the role of upwelling geothermal waters in generating very large sinkholes.

Gray area publications are often the numerous caving and karst newsletters, or consulting reports on karst areas. These publications do not meet the standards of major, refereed professional journals for referencing. Consulting reports are often not published, simply because writing for publication is not a paying job for a consultant. However, this does not mean that this information is any less valuable. Proceedings volumes from professional conferences may also be in this gray zone, depending on the conference, the sponsoring organization, and whether the papers are refereed. The publications of the Florida Sinkhole Research Institute at the University of Central Florida in Orlando are in this gray zone. The Institute was closed for fiscal reasons in 1992 and copies of the Institute's reports are difficult to obtain from the University.

I can offer a good example of the value of thoroughly searching the background information from my own experience. In 1980 I published an abstract at the national GSA meeting on the Big Slough, a karstic drainage channel on the Dougherty Plain in Southwest Georgia; the same material was also in a regional GSA fieldtrip guide and a Southeastern Geological Society fieldtrip guide. Although the Big Slough is shown on state maps as a major, continuous tributary to the Flint River, it is actually a linear array of disjointed karstic drainage developed parallel to the base of the Pelham Escarpment and actually draining in opposite directions in different areas. During later flooding, the Flint River was predicted to crest at serious flood levels in Southwest Georgia, but the floods never materialized. I was surprised to hear a TV newscaster say "experts tell us that the error in the predicted flood level has to do with something called the Big Slough." If they had done their homework thoroughly, they might have been aware of this in advance, thus increasing the accuracy of their flood prediction.

Background information on karst areas and karst hydrogeology or geomorphology is often difficult to locate and obtain. In many cases personal contacts may be the best way to learn about obscure publications. Fortunately, in this age of electronic communication such personal contacts can be made rapidly, and most karst researchers are quite pleased to know that someone else is interested in their work. The fact that this information is difficult to find does not in any way diminish its usefulness, nor absolve current researchers from acknowledging that someone else thought of the idea first. A thorough background search is the first step in any research. Its just a little bit harder when dealing with karst.