

# WHAT BOOKS SHOULD BE IN YOUR LIBRARY?

– Andy Spate

I am often asked about books and reference material that would be useful for cave and karst managers, guides and rangers. Below you will find a list of what I consider useful (= essential) books and journals for you all. Many of these have been reviewed in back issues of the ACKMA Journal – and one in this issue.

I have ‘ripped’ – as I believe the contemporary term is – the publisher’s blurbs from their web sites – and edited them very slightly. These are reproduced below.

The order that I have presented the ripped blurbs reflects my priority of your purchases – but this is somewhat dependent on just what your interests and responsibilities are. That is, those of you that are only interested in karst hydrology and pollution of aquifers may not want to know about speleothems. So Ford and Williams would be more important than Hill and Forti. But everyone should subscribe to Australasia’s own journal: *Helictite*.

Where to buy them? Try your local bookshop, on-line booksellers (many will be available second hand – but check postage prices!), the publisher’s websites or try Emily and Mike’s *Speleobooks* at <http://www.speleobooks.com/>

But before you are influenced by the publisher’s rhetoric (which do seem, on this occasion, to be not over the top) some comments from me.

**Beneath the Surface:** a must-have introduction to speleology and solidly Australian based.

**Cave Restoration and Conservation:** if you are interested in any way in cave-caring you should have this solid gold gem – if that is not mixing metaphors!

**Cave Minerals of the World:** guiding caves, looking at speleothems and minerals? This is the definitive text!

**Caves: Processes, Development and Management:** this may be out of print but second hand copies are available on the web. A solid and scholarly introduction to speleology and karst management – more technical perhaps than Hamilton-Smith and Finlayson but very readable. Many Australian examples.

**Cave Geology:** see review elsewhere in this issue of the Journal. Perhaps a combination of Gillieson, Hill and Forti, and Ford and Williams. Mostly American examples. But does not replace these texts – adds to them.

**Karst Hydrogeology and Geomorphology:** this is a more advanced text than Palmer, Gillieson or Hamilton-Smith and Finlayson. World-wide perspective, very up-to-date (like Palmer) and **the** karst textbook in the English language.

Now, what do the publisher’s think ...

## **Beneath the Surface: a Natural History of Australian Caves**

*Elery Hamilton-Smith and Brian Finlayson* (eds), 2003, UNSW Press, 216 pages, paperback, AUD\$49.95.

Caves are exciting places to visit, whether you are a tourist, a sporting caver or a scientist in one of the many disciplines which use caves as natural laboratories. This book comprehensively reviews what we presently know about Australia’s caves including the varieties of cave types and how they form, cave fauna, fossils, Aboriginal relics and decorations in caves, and a history of cave exploration and cave science in Australia.

While Australia doesn’t have a lot of caves compared with other continents, its caves have some special attractions that make them internationally renowned. They include the huge, water-filled passages under the Nullarbor Plain (where cave divers can undertake one of the longest cave dives in the world, more than six kilometres), the country’s most visited caves complex, Jenolan, inland from Sydney, with its spectacular formations and massive limestone arches, and the cold, deep shafts of the Junee-Florentine region of Tasmania.

This is the first book to be published on the caves of the whole of Australia. Previous publications have described only the caves of specific localities. While this book has been written for a general, non-specialist audience, it is scientifically right up-to-date without using technical jargon. The book’s contributors include some of Australia’s leading scientists – and all of them are active cavers.

This title ... is beautifully illustrated with 37 colour and 49 black and white photos, most of which have not been published previously. Maps and line drawings are also included.

## **Cave Restoration and Conservation**

*Val Hildreth-Werker and Jim C. Werker*, (eds), 2006, National Speleological Society, 600 pages, paperback US\$39

For every cave-related decision, the foremost concern should be protection of the cave resource. This new book provides ideas and practical tools. Following an introduction, Part Two describes current concepts and practices in cave conservation. Identifying and protecting cave resources. Establishing limits. Monitoring impacts. Defining management standards. Improving ethics.

Part Three covers tools and proven methods for cave restoration other than speleothem repair. Cleaning cave features. Removing artificial fill and debris. Controlling organic nuisances. Organizing cave projects. Repairing speleothems. Part Four

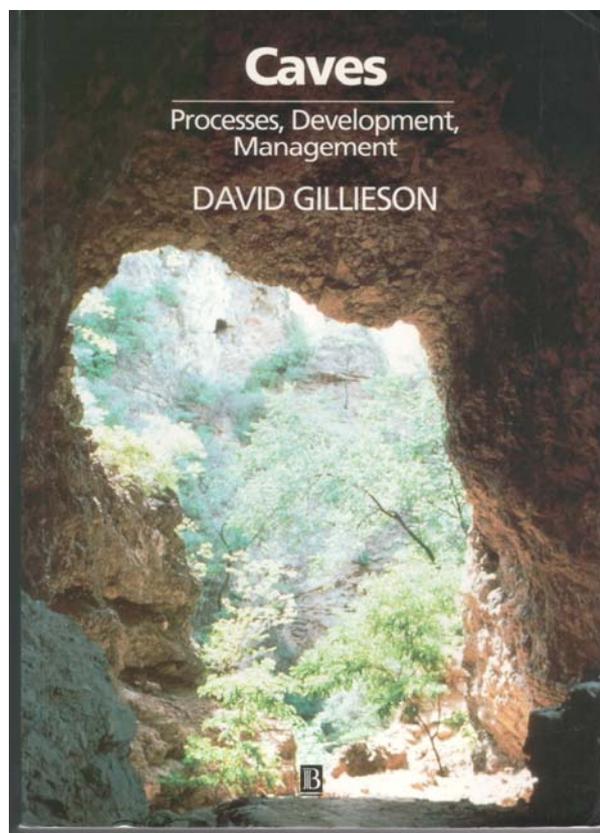
covers speleothem repair. Nearly a hundred pages of appendixes include a cave-protection act, sample management plan, sample agency cooperative agreement, and a reference list.

**Cave Minerals of the World**

Carol Hill and Paolo Forti (eds), 1997, National Speleological Society, Second Edition, 463 pages, hardback, US\$45

This book is intended for cavers and mineralogists alike. Cavers will especially enjoy the color photography--at least one photo of each speleothem type is included. The professional mineralogist will find the bibliography useful: almost 4500 references are included, an estimated 95 percent of all the articles ever written on cave minerals anywhere in the world.

The glossary is intended to be helpful for new cavers who are not familiar with the mineralogical and speleological terms used by "old timers."



**Caves: Processes, Development and Management**

David Gillieson, 1996, Blackwell, 324 pages, paperback, out of print?

This book describes caves as physical, geological, and biological phenomena: it provides explanations of how they form, what can be learnt

from them, and how they can best be managed for the benefit of future generations. The limestone caves of the world have long been of importance to people for shelter, water supply, food, spirituality, and for defence. They have long provoked awe and a sense of mystery. Cave science is now well established to elucidate their mystery.

The volume opens with an examination of contemporary processes of cave development, and of cave underground drainage basins with characteristic three-dimensional mazes of connected passages. It describes the details of cave hydrology, involving water tracing and isotope analysis, along with the processes of solution of limestone and other caves forming rocks such as sandstone and gypsum.

The author then moves to past processes. Caves are nature's vaults, preserving the products of landscape processes unaltered for millennia. He shows how much has and could further be learnt about past ecologies, early human culture, and climatic change from the analysis of cave formations, bone deposits and sediments.

The final part Dr Gillieson looks at the unusual adaptations of plants and animals to cave living and the functioning of cave ecosystems. He discusses how caves have and should be managed for recreation and for water supply, as well as the need to manage the surface terrain above the caves, and for environmental planning in limestone areas more generally.

This book is aimed at students of the natural environment, but it will also appeal to those - cavers, environmental managers and field naturalists - who are curious about the underground world and its inhabitants. It is illustrated throughout with photographs, maps and line diagrams, almost all of which are original to the book.

**Cave Geology**

Arthur N. Palmer, 2007, National Speleological Society, 454 pages, 760 figures, hardback, US\$38.

Cave Geology is the definitive book on the subject by an internationally recognized authority. It can be easily understood by non-scientists but also covers a wide range of topics in enough detail to be used by advanced researchers.

Illustrated with more than 500 black-and-white photographs and 250 diagrams and maps, this book is dedicated to anyone with an interest in caves and their origin. Topics include:

• Cave science and exploration	• Karst landscapes
• Cavernous rocks	• Karst groundwater flow and chemistry
• Characteristics of solution caves	• Cave origin
• Relation of caves to geologic setting	• Cave minerals
• Caves in volcanic rocks	• Cave meteorology and internal weathering
• Dating of caves	• Field techniques
• Relation of cave studies to other sciences	

Concepts, techniques, and field examples are stressed. Most examples are from American caves, although the scope is international.

**Karst Hydrogeology and Geomorphology**

Derek C. Ford and Paul Williams, 2007, Wiley, 576 pages, soft back, US\$65.00 (US\$55 from Speleobooks).

Karst Hydrogeology and Geomorphology is a fully revised and updated version of the extensively used and widely cited Karst Geomorphology and Hydrology published in 1989. This systems orientated book is based on the authors' own teaching, research, and international experience and includes wide international citations and illustrations.

This edition features a stronger emphasis on karst hydrogeology, applied aspects of karst and practical problems of karst as well as computer modelling. New developments in the field such as ground penetrating radar, cosmogenic exposure age dating and mass spectrometer techniques are evaluated.

The book provides a comprehensive sequenced discussion covering the significant features of karst rocks; the chemistry and kinetics of their dissolution, regional dissolution and carbon sequestration rates.

Fundamentals of hydrogeology are also covered with emphasis on the distinctive triple porosity of karst aquifers, cavern genesis, modelling of karst aquifers, the nature and palaeo-environmental importance of cave deposits, karst landforms at the surface, palaeokarst, applied karst problems, sustainable management and conservation of karst resources.

Karst Hydrogeology and Geomorphology is an invaluable source for anyone studying and researching any area of karst studies, and will provide a one-stop reference text on this area of hydrogeology and geomorphology

And last, but certainly not the least, a journal:

**Helictite: The Journal of Australasian Cave and Karst Research**

Susan White and Ken Grimes, (eds). Australian Speleological Federation Inc, <http://www.caves.org.au/helictite/>

**Helictite** publishes refereed papers, reports, abstracts, reviews and news of the scientific study of caves and their contents, including the history of caves and technical aspects of cave study and exploration. The Australasian region is covered: Australia, New Zealand and the near Pacific islands, including Papua New Guinea, Indonesia and Borneo.

Now in its 46th year, two issues are published per volume on a semi-annual basis. The Journal is only available by postal subscription. Contributions are welcomed by the editors. A volume of Helictite consists of two issues that are published on a semi-annual basis. This means that one or two issues are published per year, although it may vary without notice.

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Volume 41 (2008 - 2009)	AUD \$27.00	AUD \$30.00
Volume 42 (2009 - 2010)	AUD \$27.00	AUD \$30.00

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