
Foreword

Held at the Hilo Seaside Hotel, Hilo, Hawaii, in August 1991, the 6th International Symposium on Vulcanospeleology was co-sponsored by the National Speleological Society, the Western Speleological Survey, the Bishop and Lyman Museums, the University of Hawaii-Hilo Branch, and Hawaii Volcanoes National Park. A capacity crowd of about 60 attended the sessions, including the Mayor of Hawaii County and invited guests from the U.S. Geological Survey's Hawaiian Volcano Observatory and from Haleakala National Park. Participants attended from Australia, Iceland, Germany, Japan, Korea, the Netherlands, Portugal, Spain, and the United States. Principal host organization was the Hawaii Speleological Survey of the National Speleological Society.

Many parameters of lava tube caves and other volcanic cavities differ widely in different geographic settings. The formal and informal discussions during this series of international symposia bring together investigators on the cutting edge of this rapidly advancing field, with a great deal of obvious interdisciplinary cross-fertilization. But slowness of publication has limited their effectiveness. We are all indebted to Tom Rea, Executive Vice-President and member of the Special Publications Committee of the National Speleological Society, for the speed with which he has edited and produced this volume. Its organization differs slightly from that of the sessions. The text of the opening keynote address on Lava Tubes of the Solar System, by Ron Greeley, is found in the section on "Theoretical, Biological, Conservation, and Management Topics" instead of at the beginning. Papers presented during the mini-session of earthquake observations appear in the section on "Vulcanospeleology of Hawaii." Because Romania's Calin Fabian was unable to attend and did not submit a paper, the planned mini-session on lava tube remnants in ancient basalts was cancelled, and Yavor Shopov's paper was moved into the session on "Vulcanospeleology of the World." This new topic received other special consideration including Bruce Rogers' mention of a spacious,

8.2-million-year-old lava tube cave on Tol Island, Micronesia, (page 164) plus visits to three lava tube caves in basalt two million years old during the Oahu pre-symposium field excursion.

This volume contains the first vigorous attempt at standardization of vulcanospeleological terminology; Charlie Larson's paper is sure to draw argument. Receiving much more attention than in past symposia are open vertical volcanic conduits, considered in several papers and one poster exhibit. Obvious problems in translation should not be allowed to hinder due consideration of Ohsako's theoretical paper on vulcanospeleogenesis (page 262) which should be correlated with the explicatory paper by Nieuwenhuis (page 259). Anyone who has felt the impact of cylindrical tidal bores of water periodically emerging from "blue holes" in the Bahamas forming surface "boils" up to one meter high can postulate the possible existence of similar bores of lava within uncongealed beds. The question of cavitation, however, remains unresolved. And these are only a few of the wide-ranging, often controversial, topics considered in this proceedings.

Special thanks and acknowledgement are appropriate for many who assisted in the success of this symposium: the session chairmen (Jim Nieland, Tom Rea, Fred Stone, and John Holsinger), field excursion leaders and speakers (Kevin Kelly, Oahu; Jim Martin and Tom Wright, Hawaii Volcanoes National Park and U.S. Geological Survey Hawaii Volcano Observatory; Marlin Spike Werner, Puna; and Darrel Tanaka, Kauai), luncheon speaker Frank Howarth, U.S. Geological Survey speakers (Tom Wright, Christina Helicker, and Tari Moulds), Mayor Lorraine Inouye, registrars Lynn Scully and Marcia Halliday, and many staff people from the Bishop Museum and Lyman Museum, notably Anita Manning, Leon Bruno, and Paul Dahlquist. To all of you and all the others who worked so hard to make this symposium such a success, *aloha* and *mahalo*!

William R. Halliday
Symposium Chairman