

## Foreword

The 1982 eruption of El Chichón volcano has been the worst disaster of volcanic origin in the history of Mexico. The death toll amounted to the thousands and the destruction of property has not been yet quantified. Even more difficult to evaluate is the suffering of the people that eluded death but endured the aftermath: those whose lives were deeply perturbed and saw their communities dispersed. Thus, a quarter of a century later, it seemed fit to bring to memory the event and consider how long we have come in our understanding of the causes and effects of these phenomena and our preparedness to face them. And it seemed fit to summon the international scientific community firstly because the eruption of El Chichón attracted the attention of many researchers around the world in the diverse disciplines. The result of this intention was the celebration of a Conference in the southern city of San Cristóbal de las Casas in the State of Chiapas on 20-22 March 2007 sponsored by the Universidad Nacional Autónoma de México, the Universidad de Ciencias y Artes de Chiapas and the International Association of Volcanology and Chemistry of the Earth's Interior. During the meeting 134 posters and talks were presented on the subjects of El Chichón eruptions, explosive volcanism, volcanic hazard and related subjects. At the end of the Conference a motion was made to request the editorial committee of *Geofísica Internacional* to authorize a special issue of the journal open to the contributors of the conference. The result of this initiative is the present volume that includes 11 contributions with a wide variety of subjects that give us a perspective of the aspects being researched 25 years after the eruption of El Chichón.

De la Cruz, Martín and Tilling give us a summary of their observations during the eruption and the conditions that lead to the disaster. Layer and coworkers portrayed the first detailed volcanological evolution of El Chichón supported by geochronological dates and fieldwork. Three contributions are dedicated to the study of the crater lake and hydrothermal manifestations of the volcano by looking at the isotopic, major and trace element compositions (Rouwet and coworkers), the origin of non-methane volatile organic compounds (Tassi and coworkers), and the emissions of carbon dioxide (Mazot and Taran). Nooren and coworkers described tephra layers of El Chichón found in sediments of the Usumacinta-Grijalva river delta that may influence the development of Pre-Columbian societies in the Maya Lowlands. Limón and Macías reported the volcanic hazard and risk perception analysis of the Zoque community of Chapultenango, located at 11 km from the volcano that was affected by the 1982 eruption. In this same direction, the contribution by López-Vázquez presented the results of a risk perception analysis of Popocatepetl volcano. Bursik and Borrero and coworkers give us examples of the influence of tectonic setting and structural traits on the development of volcanism.

At the moment of the conference we missed the presence of Jim Luhr, outstanding volcanologist and friend who passed away in December 31, 2006. Jim made great contributions to the knowledge of Mexican volcanism. He would have enjoyed the meeting. Unfortunately, as this issue comes to light we miss another of our colleagues, Armando García-Palomo, a member of the Institute of Geology at UNAM and enthusiastic volcanologist that passed away on March 9, 2008 while carrying out field work. Armando led part of the excursion during the meeting and talked about a subject he enjoyed and about which he had led a detailed study, the structural geology of El Chichón volcano area. May these lines serve as a momento from their friends and colleagues.

We are grateful to all scientists that contributed reviews for the papers in this volume, below in alphabetic order: Benjamin Andrews (University of Texas at Austin), José Luis Arce (Instituto de Geología, UNAM, México), Dr. Mark Brenner (University of Florida, USA), Margarita Caballero (Instituto de Geofísica, UNAM, México), Bruno Capaccioni (Università di Bologna, Italy), Alicia Cuevas (Universidad de Colima, México), Servando de la Cruz-Reyna (Instituto de Geofísica, UNAM, México), Wendell Duffield (Northern Arizona University), Tobias Fischer (University of New Mexico, USA), Victor Hugo Garduño (Universidad Michoacana de San Nicolás de Hidalgo), George Darling (British Geological Survey, U.K.), Chris E. Gregg (East Tennessee State University, USA), Guendolina Pecoraino (Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Palermo, Italy), Peter Schaaf (Instituto de Geofísica, UNAM, México), Franco Tassi (Università di Firenze, Italy), Robert Tilling (USGS, USA), and Orlando Vaselli (Università di Firenze, Italy).

Finally we want to express our gratitude to Dr. José Francisco Valdés Galicia, Director of the Instituto de Geofísica, UNAM, for his support in the organization of the meeting and the publication of this issue.

José Luis Macías and  
Juan Manuel Espíndola

Guest Editors