Preface

The present volume is the edited set of proceedings of the International Symposium HS1 on Hydrological Extremes: Understanding, Predicting, Mitigating scheduled for the XXII General Assembly of the International Union of Geodesy and Geophysics (IUGG), 18–30 July 1999, Birmingham, UK. The symposium was a part of the scientific programme of the International Association of Hydrological Sciences (IAHS) in Birmingham and was convened by the International Commission on Water Resources Systems (ICWRS) and the International Commission on Surface Water (ICWS) of IAHS. The International Association of Meteorology and Atmospheric Sciences (IAMAS) was a collaborating association to this event.

In the last decade, extreme hydrological events—floods and droughts—have caused significant losses all over the world. Aiming at reduction of these losses and improvement of the present preparedness, a need for more holistic approaches has become evident. Four issues of particular importance were identified:

- to improve understanding of hydrological and atmospheric processes that lead to hydrological extremes;
- to predict their occurrence and severity;
- to solve management issues related to preparedness and mitigation; and
- to estimate hydrological extremes in a changing environment.

The symposium, organized under five sessions, offered a broad perspective on these issues. They embrace such themes as: (1) links between atmospheric circulation patterns and hydrological extremes; (2) processes responsible for nonstationarity in time series of hydrological extremes; (3–4) methodologies for prediction of severity and magnitudes of droughts and floods; and (5) mitigation of hydrological extremes. The contributions represent a variety of natural conditions from arid and humid tropics to tundra and glacial environments.

This edited volume contains 39 contributions—a selection from the total of 80 abstracts submitted to the Symposium HS1.

The editors acknowledge the efforts of IAHS Press, and in particular Frances Watkins, who produced the camera-ready copy. We appreciate the scientific contributions of the authors and thank them for their patience and cooperation during the editing process.

Editor-in-chief:
Lars Gottschalk

Co-editors:
Jean-Claude Olivry
Duncan Reed
Dan Rosbjerg