

## Preface

Applied hydro-ecology involves the study of changes in aquatic ecosystems resulting from alterations to a river's flow regime, channel structure or water quality. As demand for water rises, yet concerns about our environment and man's effects on it increase, interest in hydro-ecology has rapidly expanded. IAHS has recognized hydro-ecology as a key developing area of hydrological science. At the IUGG General Assembly in Birmingham 1999, IAHS held its first hydro-ecology workshop entitled "Riverine Ecological Response to Changes in Hydrological Regime, Sediment Transport and Nutrient Loading". This volume contains a large proportion of the papers presented at this workshop.

The papers cover a wide range of topics from data collection, through mathematical analysis to the application of models. The focus of the publication is on physical aspects of hydro-ecology, primarily the impacts of changes in flow regime, although sediment transport and water quality feature in some papers. The papers also cover a wide geographical area, including Mexico, USA, Nigeria, China and South Africa and various parts of Europe. The overview paper attempts to set these studies in context of the state of the art of hydro-ecology at the end of the twentieth century and to look at the challenges and prospect it presents for the twenty-first century.

As a whole the papers confirm the interdisciplinary nature of hydro-ecological science and the opportunities that exist for hydrologist to work as part of a team with hydraulic engineers, ecologists, geomorphologists, chemists and other experts. It is hoped that this volume will bring hydro-ecological science to the attention of hydrological scientists worldwide and stimulate further collaborative research and solutions to environmental problems in the future.

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