

Preface

Over more than two decades the international FRIEND (Flow Regimes from International Experimental and Network Data) research programme of UNESCO has developed to become a global network of researchers from universities, research organizations, operational hydrological agencies and policy makers to exchange and share scientific knowledge and data.

Eight regional FRIEND groups have been established to investigate global change, impacts on the hydrological cycle, statistical analyses of hydrological extremes, flow forecasting, hydrological modelling at different scales, variability of hydrological regimes, uncertainties in applying hydrological and water resources models and region-wide surface water assessment, and to enhance capacity building in developing countries.

The research results of the regional groups are reported every four years to a wider scientific community at an international FRIEND conference. These proceedings publish the key research developments which were presented at the fifth International FRIEND conference which took place for the first time in the Caribbean region, in Havana, Cuba. This was a unique opportunity to exchange research results among the regional FRIEND groups and the international research community. The previous conferences were held in Bolkesjo (Norway, 1989), Braunschweig (Germany, 1993), Postojna (Slovenia, 1997) and Cape Town (South Africa, 2002).

A focus of the Havana conference was to discuss how advances in analytical techniques and process hydrology are improving our assessment of water resources variability and the impacts of environmental change. The conference gave a high priority to establishing links with related WMO and IAHS international programmes and the related disciplines of ecohydrology and climatology. The conference topics were:

- Data
databases; networks; GIS
- Hydrological extremes
low flow prediction and forecasting; flood prediction and forecasting; rainfall runoff modelling
- Hydro-climatology
precipitation spatial and temporal variability and prediction; large scale variability and tele-connections; climate change and impacts of climate change; trends
- Ecosystems
in-stream ecology; flood plains; water quality; sediments; groundwater; water balance, soils, land cover; human influences

This volume contains 117 reviewed papers from over 30 countries, published in English, French and Spanish, which reflect both the international dimension of FRIEND and the key challenges facing hydrologists in the 21st Century.

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