



World Meteorological Organization

Weather • Climate • Water

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# Bulletin

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Hydrological forecasts are a fundamental tool to solve a variety of hydrology and water management problems. Monitoring, forecasting and early warning play a pivotal role in the risk management cycle.

Michel Jarraud  
Secretary-General of WMO

# Bulletin

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## WMO Bulletin

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# In this issue

**Bringing out the essence of the 50-years lifespan of an institution such as WMO's Commission for Hydrology (CHy), in one issue of our Bulletin has been a challenge from a number of perspectives.** Can the efforts, successes, failures, advances, disappointments, etc. of the combined work of hundreds of experts who, during half a century, have dedicated their time, knowledge and experience to the initiatives undertaken by the CHy be summarized in these pages? Should this issue be dedicated to illustrating the milestones of the past 50 years, or should it focus on current challenges? Or, rather, should we concentrate on what lays ahead, what the future has in store for the hydrological community of the world in general and then WMO in particular? Answer to these questions indicated that it was going to be a daunting task. Here is our effort to present a balance Bulletin, covering the past, present and future.

Noting that the ultimate goal of CHy being that of promoting the effective use of hydrology in the framework of Integrated Water Resources Management, by assisting the National Hydrological Services in improving their performance in the delivery of their services, it is only logical that some emphasis is placed on the present situation and how National Hydrological Services of developing countries can learn from the experiences of the more developed

countries. Still, it is important to understand where one organization is coming from and to make educated guesses on what major challenges it could face in the decades ahead. Hence, the initial and final articles are dedicated to CHy's history and future, while the core of this Bulletin analyses the current situation from different perspectives.

Establishment of the Hydrology and Water Resources Programme and the relations of this Programme with UNESCO are succinctly brought out in the first article by Arthur Askew, former Director of the Hydrology and Water Resources Department and currently President of the International Association of Hydrological Sciences. The article provides interesting historical information of the various stages the programme has undergone in its transformation to become the Hydrology and Water Resources Programme. The article which is well documented could also be used by those involved in predicting how the programme will evolve in the future.

Complementing these efforts, Karl Hofius, former president of the Commission for Hydrology, has delved into the activities of the 1990s and early 2000s, which helps understand the evolution in activities linked to weather and water. The article traces the efforts that led the Organization to

adopt the subtitle, "Weather, climate and water".

The third article, prepared by Julius Wellens-Mensah, vice-president of CHy, concentrates on the needs for capacity-building of National Hydrological Services. Keeping in view the role of CHy in transfer of technology from developed countries to developing countries, capacity-building is addressed in its totality: issues such as the Quality Management Framework and infrastructure needs are addressed.

The next article, prepared by Harry Lins, a member of the CHy Advisory Working Group, has a suggestive title "The imperative of water resources assessment". The author uses the results of the last important conference on water organized by the United Nations (the reader may remember that it was organized by WMO on behalf of all the United Nations System). The author concludes that we should always keep in mind that "water resources assessment" is a prerequisite for sustainable development and management of water resources worldwide.

The fifth article has been prepared by three authors: Marian Muste, Won Kim and Janice Fulford. It presents information on developments in hydrometric technology—new and emerging instruments for mapping river hydrodynamics.

Acoustic Doppler current profiles are discussed with quite comprehensive descriptions for an article of this limited length. It indicates recent and future activities in the field of hydrometry of the Commission for Hydrology, particularly in dealing with new technologies of discharge measurements.

“Understanding the hydrological cycle is the key to sustainable development”, and that is exactly the title of the article prepared by Angel-Luis Aldana, a member of the International Association of Hydraulic Engineering and Research. It describes interactions of the water cycle with societal development and also the relations between water and society. The importance of the knowledge of the hydrological cycle is presented in its multiple applications through the example of flood risk management.

The penultimate article deals with climate and hydrological information

and predictions, and the links between National Hydrological Services and water managers, which are the final users of the information. Charles Pearson, Regional Hydrological Adviser of Regional Association V (South-West Pacific) and New Zealand’s Hydrological Adviser in his article “Short- and medium-term climate information for water managers” provides examples from New Zealand, together with some global information and activities being developed or developed in the Hydrology and Water Resources Programme.

While the last three articles have already dealt to some extent with the future challenges, the final article, which I have had the pleasure of contributing, looks at the future challenges that the Commission will have to deal with. It is obvious that the water issues we are currently facing will only become more complex and exciting as we

move forward in a highly variable climate, with increasing pressures and demands on our valuable but scarce water resources. All elements, technology, science, research and development, capacity building and good governance must work hand in hand if we are to meet the challenges of the future. Certainly, the successes of the past 50 years, fuelled by the contributions of so many experts and office holders, provides CHy with evidence of success on many fronts and a strong basis on which to move forward and address the challenges of the future.

Bruce Stewart  
President, Commission for  
Hydrology