

EDITORIAL

Something old, something new, something red, something blue*

As evident from the cover, size and layout of this issue, *Hydrological Sciences Journal (HSJ)* inaugurates several changes in 2010. These follow a suite of developments aimed at modernizing our 50+ year-old periodical. In 2005, in its 50th volume, *HSJ* entered the electronic era by being published electronically and archived online, while printed copies continued to be produced. In 2007, all old *HSJ* volumes were digitized and everything published more than five years earlier was made openly available at the web site of the International Association of Hydrological Sciences (IAHS), <http://iahs.info/>. In August 2009, we launched an electronic manuscript processing system to facilitate submission and peer review. Now, in our 55th volume we are integrating all the electronic files and functions, we are providing new electronic formats of articles (html, in addition to pdf), and we are substantially improving the look of the print version.

The last moves have been made in association with Taylor & Francis (T&F), one of the world's leading academic journal publishers. The partnership of IAHS Press with T&F is the felicitous outcome of intense investigations and negotiations over the last two years. With this partnership come further improvements to *HSJ* including: (a) use of Taylor & Francis **informaworld**TM online platform, (b) forward citation linking and online publication of articles ahead of the print issue through *iFirst*, and (c) open access to articles in volumes published two or more years previously. Furthermore, *HSJ* will increase in size, from six issues per year (in 1988–2009) to eight from 2010; and one or two of the eight issues will be special issues. The new arrangement will bring benefits specifically to IAHS members, including much lower personal subscription prices, as well as free online subscriptions for members in the most financially-disadvantaged countries. *HSJ* will continue to be included in the UNDP Online Access to Research in the Environment (OARE) programme, which enables access from libraries in the poorest countries. We believe that our partnership with T&F will develop

HSJ much more than IAHS could do alone, bringing great gains for both readers and contributors, and building further on the Journal's long-standing tradition of quality with inclusiveness.

The new online manuscript management system has enabled improvements in our peer review system. These include delegating greater responsibility to the Associate Editors who thus have a more active role (most papers are now assigned to Associate Editors to deal with), transparency of the status of a paper in the review process for the authors, as well as faster and higher quality reviewing.

While introducing many new elements to the procedures and overall style of *HSJ*, we are retaining important traditional elements. We have not forgotten that *HSJ* is the oldest periodical in hydrology worldwide, first published in 1956 (as *Bulletin of the International Association of Scientific Hydrology*) by IAHS, the oldest international learned society in the water-related sciences (serving the world hydrological community since 1922). The truly international character of IAHS and *HSJ* are vital to both, and our mission assumes a mentor role particularly for scientists from the less developed countries.

We intend that *HSJ* will remain a friendly, approachable journal. We are aware that electronic systems often lack any personal touch, but we hope to continue building good relationships with our authors and reviewers. Some still prefer communication by email and this will be possible. In addition, we will continue our practice (not frequent in other journals) that all accepted papers are carefully read and edited by the Editors before publication. We believe that this practice is compatible with the mentoring role and also provides essential added value to each published paper, optimizing its presentation.

Over the decades, *HSJ* has been widely known as the "red journal". While keeping this characteristic of the Journal's cover page, we introduce a new element, an image of the River Nile on the cover. Why the Nile? There are several reasons:

*From an old English saying at weddings (see <http://ask.yahoo.com/20031027.html>)

Natural characteristics The uniqueness of the Nile extends beyond the fact that it is the longest river of the world. Its basin, which empties into the Mediterranean Sea, encompasses an enormous area—as far south as Lake Victoria—and thus integrates climatic behaviours over tropical and subtropical zones. But, above all, there is no better example to show the importance of water (blue) to the landscape, the environment and ecology (green), and the contrast between water availability (blue-green) and shortage (desert beige) (Fig. 1).

Importance in the history of Science The hydrological behaviour of the Nile perhaps represents the

first scientific problem, put and studied as such, in the history, not only of hydrology, but of Science in general, thus emphasizing the importance of hydrology at the birth of Science. We owe the first scientific perspective of the Nile's behaviour to Thales of Miletus (640–546 BC, one of the Seven Sages of Greece, the father of philosophy and of science, and a hydraulic engineer who accomplished the diversion of the River Halys for military purposes), and the relation of the story to Herodotus (*Histories*, Euterpe, 20). Thales tried to explain the hydrological “paradox” or “puzzle” of the Nile's floods, i.e. the fact that flooding occurs in summer when rainfall in Egypt is very low to non-existent. Although Thales's exegesis is incorrect



Fig. 1 Blue, green and desert beige around the Nile (images from NASA Visible Earth; visibleearth.nasa.gov).

(he hypothesized that the region's winds are responsible), in the history of Science it is more important that a natural feature was described and studied on physical grounds, for the first time, than correctly explained (Koutsoyiannis *et al.*, 2007). The instrumental records of the Nile water level (the "Nilometer" data) are also unique in the history of Science, as they extend for several centuries, while additional documentation of its flow covers several millennia. The seasonal variation of the Nile Flow is no longer a "paradox" for modern Science, but the Nile continues to puzzle us in modern times. It was the investigation of its records (for dam design studies) and the observation of huge climatic variability in them at large time scales, hundreds of years or more, that triggered discovery of the natural behaviour called the "Hurst phenomenon", after Hurst (1951), also termed (cf. Mandelbrot, 1977) the "Joseph effect" to symbolize the biblical story of seven dry years and seven wet years of the Nile. Research on the Nile continues in the 21st century and *HSJ* continues to publish papers related to its basin or its sub-basins (e.g. Cudennec *et al.*, 2007; Sutcliffe & Petersen, 2007; Koutsoyiannis *et al.*, 2008, 2009; Goulden *et al.*, 2009; Petersen & Fohrer, 2010a,b).

Transboundary nature The Nile River Basin extends over ten East African countries (Rwanda, Burundi, Democratic Republic of the Congo, Tanzania, Kenya, Uganda, Ethiopia, Eritrea, Sudan and Egypt). The welfare of two basin-sharing countries, Egypt and Sudan, where precipitation is low, depends on the Nile water. Several agreements between Sudan and Egypt have been reached, regulating distribution of the Nile water resources between the two countries. However, economies in all ten Nile Basin countries are heavily dependent on the use of water by agriculture. The current status and the expected future development of the Nile Basin countries, with increased water demand, represents a unique challenge in water management with a prominent international dimension.

Water use The water uses of the Nile include water supply for domestic, industrial and agricultural use, hydropower generation, flood protection and environmental management. Major existing water works include high dams, irrigation canals, hydropower plants, and smaller storage projects, barrages and hydraulic works. The use of the Nile water is currently so intense that little flows into the Mediter-

anean; only 0.4 km³ from the more than 90 km³ of water entering the High Aswan Dam, are released annually to the sea. The rest either evaporates from Lake Aswan, irrigation systems or arable land, or is lost from the surface water pool by way of other processes, such as infiltration (Varis, 2000). Evidently, this has substantial environmental impacts.

We believe that all these unique characteristics make the Nile an ideal symbol of hydrological sciences to be directly linked, through its cover page, to the future of *HSJ*. We hope that the combination of these new and traditional elements will be appreciated by the *HSJ* audience.

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