

## **IAHS Activities Report, July 2017 - April 2018**

**- Georgia Destouni, IAHS Vice President**

### **for IAHS Bureau meeting, Vienna, 15 April 2018**

- Appointed member of the Resolution Committee for the XXVII General Assembly of the International Union of Geodesy and Geophysics (IUGG) as IAHS representative, 2018-2019.
- Accepted task as IAHS co-convenor for inter-association symposium on the Anthropocene at the IUGG General Assembly in Montreal 2019.
- Participation in the IAHS Bureau Meeting, Vienna, April 15, 2018.
- Participation as panelist and moderator in the Vienna Catchment Science Symposium on the theme of: 23 unresolved problems in Hydrology that would revolutionise research in the 21<sup>st</sup> century, co-arranged by IAHS, Vienna, Austria, 14 April 2018.
- Participation in the IAHS splinter meeting “Unresolved Problems in Hydrology” at the European Geosciences Union (EGU) General Assembly 2018, Vienna, Austria, 8-13 April 2018.
- Complementing my previous VP report until July 2017 with external reviews, which I made as IAHS representative, of proposed draft monitoring methodologies for SDG 6 global indicators: 6.4.2 - Level of water stress: freshwater withdrawal in percentage of available freshwater resources; and 6.5.1 – Degree of integrated water resources management implementation. The aim of these reviews was to provide IAHS feedback to be used for improving the SDG 6 indicator methodologies and streamline the process of global rollout of the indicators starting in 2017. The reviews are attached below.

# EXTERNAL REVIEW OF DRAFT MONITORING METHODOLOGIES FOR SDG 6 GLOBAL INDICATORS

**Indicator monitoring methodology reviewed:** 6.4.2 - Level of water stress: freshwater withdrawal in percentage of available freshwater resources

**Reviewer name(s):** Georgia Destouni

**Country/department/organization:** Vice President of IAHS - also Professor of Hydrology, Hydrogeology and Water Resources at Stockholm University, Sweden, and Member of the Scientific Council for Sustainable Development commissioned by the Swedish Government.

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## PART 1: For all respondents:

1. What **feedback do you have on the draft methodology**, considering its relevance, complexity, and feasibility, its consistency with existing standards, and likely data availability, access and disaggregation?

Following the development of this chosen water stress indicator over time, I find that it has remained essentially the same within the UN sustainability context since more than a decade now. This choice of indicator metric for water stress does thus not consider or recognize any research-based developments made over this last decade with regard to how to best measure and quantify water scarcity and associated main driver-impact indicators. It also does not recognize that, under ongoing climate change in conjunction with major demographic and associated human pressure changes in the landscape itself, the long-term average available freshwater resources and freshwater withdrawal (which are both components of the chosen water stress indicator) are not stationary but may undergo strong shifts and change trends. Quantification of these shifts and trends requires then sufficient long-term as well as temporally fine-resolved data time series of both indicator components in order to be able to distinguish their significant long-term change trends and shifts relative to their short-term variability fluctuations. If such data are not available, the indicator quantification may not be realistic. Furthermore, if such data are indeed available, other and/or additional indicators of water stress may instead be more relevant and informative than the chosen one; for example, not only long-term average conditions but, even more importantly, extreme fluctuations and water storage changes around these are essential for following up drought risk and its temporal development. I would therefore recommend to now depart from this first, and by now rather old, step of the chosen water stress indicator, toward developing some more relevant and useful such indicator(s) based on the research and knowledge developments that have taken place over the last decade, not least considering also the combined impacts of ongoing climate, land-use and water-use changes on water stress levels and their temporal evolution and dynamics.

# EXTERNAL REVIEW OF DRAFT MONITORING METHODOLOGIES FOR SDG 6 GLOBAL INDICATORS

**Indicator monitoring methodology reviewed:** 6.5.1 – Degree of integrated water resources management implementation

**Reviewer name(s):** Georgia Destouni

**Country/department/organization:** Vice President of IAHS - also Professor of Hydrology, Hydrogeology and Water Resources at Stockholm University, Sweden, and Member of the Scientific Council for Sustainable Development commissioned by the Swedish Government.

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## PART 1: For all respondents:

2. What **feedback do you have on the draft methodology**, considering its relevance, complexity, and feasibility, its consistency with existing standards, and likely data availability, access and disaggregation?

The chosen indicator here considers four survey-investigated main components of integrated water resources management (IWRM), including the implementation of: (1) Enabling environment; (2) Institutions; (3) Management instruments; (4) Financing. All these indicator components are of course relevant, and the survey is a feasible approach to following-up their implementation development. However, to my best understanding, neither of the components (1)-(4) measure how effective their implementation is for actually maintaining good and improving poor water quantity, quality and ecosystem conditions. I thus miss here the monitoring of a key result-focused component, which may be expressed as: (5) To what degree has the IWRM implementation of components (1)-(4) led to actual fulfillment of set IWRM goals of good water quantity, quality and ecosystem status?

Consider for example the required implementation of the Water Framework Directive (WFD) in the EU Member States, as one by now tested way to implement IWRM. The EU Member States should all have implemented WFD components relating to the IWRM components (1)-(4) already by 2009 and should thereby score high in the monitored quantification of (1)-(4). However, the whole point of the WFD implementation is that the EU Member States should by 2016 (or for some possible exceptions at latest by 2021) fulfill the actual WFD goals of reaching or maintaining at least good status of water quantity, water quality and water ecosystems in all their inland and coastal, surface and subsurface water bodies. Putting the IWRM components (1)-(4) in place is just a means for achieving these goals, and monitoring the degree of actual goal achievement after completion of each 6-year water management cycle (2016, 2021, and so on) is an integral part of the EU WFD implementation. In analogy, the **degree of actual IWRM goal achievement** should also be monitored as a **key indicator component (5)** for SDG 6.5.1.