



**International Geographical Union**  
**Union Géographique Internationale**

**Commission for  
Water Sustainability**



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## **Newsletter No. 15**

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## **1. Introduction**

During 2014, our Commission for Water Sustainability decided to hold the conference in Dubrovnik, Croatia just before the Regional IGU conference in Krakow (Poland) to allow participants the attendance of both events. The Commission's annual conference was organised by Dr. Ivan Canjevać and his colleagues from the University of Zagreb, Croatia.

As in the previous years, the Chair, in name of the Steering Committee, takes the occasion of this newsletters to warmly thank all participants to the Dubrovnik meeting.

The Chair is also extremely grateful to Dr. Canjevac, in his double vest of new web manager and local coordinator organizer of the Dubrovnik conference.

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## **2. The Commission presentations at the 2014 Commission conference “Water sustainability: new challenges and solutions”**

The conference was very successful. As usual, the conference attracted a large contingent from the “local” area – Croatia and neighbouring countries, as well as long-standing members from Italy, China, Japan and UK: about 80 delegates attended the sessions.

The conference was very successful. About 80 delegates attended the sessions, and 17 papers and four posters were presented. Three sessions for oral presentations were organized.

As usual, the conference attracted a large contingent from the hosting region – Croatia and neighbouring countries, as well as long-standing members from Italy, China, Japan and UK. A good number of sound research papers of wider international interest were presented.

Two fieldtrips allowed covered some particularities of Croatia. The shorter tip was dedicated to the old town and ancient walls of Dubrovnik city and the typical Karst environment as seen from the Srđ Mountain. The longer one, a one-day hydrological field trip, was specifically devoted to Karst environments, including visits to the Ombla River (the shortest river on Earth), the Baćina Lakes, the Neretva River Delta and the City of Ston and its salt industry.

Three sessions for oral presentations were organized. The detailed list of the presentations (with a very low number of no shows) is reported here in the following, while the abstracts book will be available from the Commission web site.

## **CONFERENCE PROGRAMME**

### **Session 1**

- DAMIAN LAWLER: A new Water Impact Assessment (WIA) scheme to reduce human effects on water resource sustainability (Keynote lecture)
- FRANCO BECCHIS: FIELD: a methodology for the analysis of local actors, incentives and information endowment in regulation of water and sanitation services
- MAJA KEROVEC, VEDRAN ŠEGOTA, ROBERT ŠPANIĆ, STJEPAN DEKANIĆ: Impacts and Indicators for hydro technical projects - Environmental challenges and issues
- IVA VIDAKOVIĆ, MLADEN PLANTAK, IVAN VUČKOVIĆ: Hydromorphological

status of surface waters in the Neretva River basin (Western Herzegovina and Republic of Croatia)

- LILIANA ZAHARIA, GABRIELA IOANA-TOROIMAC, OCTAVIAN COCOȘ, MARIANA SOARE, EMANUEL MAILAT: Hydrological effects of human interventions on the stream system in Bucharest city area Water sustainability: new challenges and solutions
- TAMÁS HARDI: Great plans, uncertain interests: Geopolitical background of the appearance, disappearance and reappearance of the great development plans in the middle Danube valley
- ALESSANDRO LETO: Sustainability vs Pollution: the Challenge of the Mediterranean Basin

## Session 2

- CLAUDIO CASSARDO, ROBERTO CREMONINI, IRENE RACCANELLI, RENZO BECHINI, VALENTINA CAMPANA: Introduction of a new Severity Storm Index (SSI) as operational tool to monitor intense convective systems (Keynote lecture)
- MLADEN MARADIN: Influence of precipitation variability on water availability in the Croatian Littoral Area
- TANJA TROŠIĆ: Extreme precipitation in Croatia, 11-13 February 2014
- KAZUKI MORI: Impacts of recent changes in hydrometeorological component on water sustainability: A case of mesoscale watershed under the humid temperate climate (Keynote lecture)
- CHANSHENG HE, LANHUI ZHANG, CHEN ZHAO, XIN JIN, JINLIN LI, JIE TIAN, XIFENG ZHANG: Heterogeneity of soil moisture and the environmental factors in the Upper Reach of the Heihe River Watershed, Northwest China (Keynote lecture)
- ELGA APSĪTE, LĪGA KLINTS, DIDZIS ELFERTS: Which factors have impacted the changes in the runoff of the Vienziemīte river?
- MLADEN PLANTAK, IVAN ČANJEVAC: River regime changes in the Ilova River catchment area

## Session 3

- JOSEF FÜRST: GIS and cartography in hydrological research and education: The value of national Hydrological Atlases (Keynote lecture)
- PETRA MUTIĆ: GIS - based hydrology analysis of Bednja River and its catchment (Croatia)
- ÜLO MANDER, JULIEN TOURNEBIZE, BERNARD VINCENT: Green infrastructure, a key of future watershed management

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### ***3. A report of the Steering Committee Meeting of our Commission at the Conference in Dubrovnik, 2014***

During the Business Meeting of our Commission, at which some members of the Steering Committee (SC) of Commission have participated together with other members, a long discussion

has been done about the future activities of the Commission, as well as how to increase the effective membership.

The Commission will continue its revision of the list of its corresponding members, aiming to create a complete and detailed list of persons interested to its activities.

Regarding the Commission activities, the SC has unanimously underlined that one of the most important ways for disseminating the Commission works is to publish on peer reviewed journal the most interesting results gathered by the Commission members and presented in the annual meetings. This is the way in which the Commission has always operated, and represents the ordinary method of dissemination of its studies, while other forms of dissemination or publication can be pursued.

Dr. Canjevac, jointly with the Scientific Board of the Dubrovnik conference, has offered a possibility of publishing selected papers in a special number of Croatian Geographical Bulletin (Hrvatski geografski glasnik), after normal reviewing procedure. The journal is published by the University of Zagreb and Croatian Geographical Society (more information at the URL: <http://hrvatskigeografski glasnikeng.wordpress.com/>).

The Steering Committee of the Commission has agreed with this option, despite some members have underlined the not extremely high impact factor of this journal. However, most members have decided to go on with this publication, hoping to create a special number dedicated to our Commission, and eventually to consider in a second time eventual papers on other journals more indexed. The publication procedure is described in Section 7.

In the Commission meeting, also the problem of renewing the organization of the Commission has been discussed. For several reasons, some members of Steering Committee appear not to be active in the Commission decisions in the last two years. During the subsequent period, there were some additional news (reported below) that have suggested to revise the composition of the Steering Committee.

For this reason, the new composition of the Steering Committee of the Commission for Water Sustainability is:

- Claudio Cassardo (Chair), Professor, University of Torino, Italy.
- Frank Winde (Vice-Chair), Prof. Dr. habil., North-West University, Republic of South Africa.
- Hideo Oyagi, Professor, Nihon University, Japan.
- J.A.A. (Tony) Jones, Emeritus Professor, University of Wales, UK.
- Olga E. Scarpati, (secretary for the Commission), Professor Ing. Agr., La Plata National University, Argentina.
- Chansheng He, Professor, Western Michigan University, USA.
- Natalia Frolova, Professor, Lomonosov Moscow State University, Russia.
- Ivan Canjevac, Ph.D. Dr., University of Zagreb, Croatia.
- Alessandro Leto, Professor, University of Perugia, Italy.

The Commission will continue the revision of the web page of the Commission, which can be found at the following URL: <http://iguwater.wordpress.com/>. The Steering Committee has confirmed as Webmaster Dr. Ivan Canjevac.

Finally, Prof. Ülo Mander, from University of Tartu, Estonia, has offered to the Commission the availability for hosting a conference of our Commission in Estonia in 2016. Also Prof. Liliana

Zaharia, from University of Bucharest, Romania, has offered her availability for hosting a future session of our Commission in Romania. The Commission will consider his offer, as well the fact that, in 2016, the IGC/IGU Regional Conference will be held in Beijing.

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#### **4. Forthcoming conferences in 2015**

##### **International Geographical Union (IGU) Regional Conference in Moscow**

Dates: 17-22 August, 2015

The Steering Committee of the Commission for Water Sustainability, during the Dubrovnik conference, decided to accept the offer of the local Committee of IGU to organize a meeting in Moscow, Russia in 2015, coordinated by Prof. Natalia Frolova, a member of the Steering Committee of our Commission. She will also act as local organizer of the conference, concerning our Commission.

The request of special sessions dedicated to our Commission has been concluded in the first days of January. It has been decided to have few sessions open to wide thematics. The sessions are:

- (i) Water quality, health and human impacts;
- (ii) Hydrological processes and management of stressed water resources;
- (iii) Modelling, VGE and GIS applications in hydrological research.

It will be useful to remember here the following deadlines for the IGU Regional Conference in Moscow 2015. They are:

- **31 January 2015** Deadline for submitting abstracts for poster and oral presentations (**this deadline is very close, so please speedup your submission**)
- **1 March 2015** Notification of the results of the abstract review
- **20 March 2015** Publication of the provisional conference program
- **10 April 2015** Deadline for early registration fee payment
- **10 June 2015** Deadline for regular fee payment

All procedures and relevant informations regarding the conference can be found on the official web site of Moscow 2015 (<http://www.igu2015.ru/>), as well as in our Commission web site (<https://iguwater.wordpress.com/>).

Other events, at present not planned yet, will eventually be mentioned in the next newsletters or by email.

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#### **5. Evaluating UNESCO's International Hydrological Programme**

UNESCO commissioned the past IGU Commission Chairman Emeritus Professor Tony Jones (UK) and Steering Committee member Professor Frank Winde (South Africa) to undertake an evaluation of the seventh phase of the IHP, which ran from 2008 to the end of 2013.

The IHP has become a major force in improving water resources management globally, especially by advising UNESCO Member States in developing countries, which lack technical resources and expertise. The IHP began life in 1975 at the end of the International Hydrological Decade. The IHD

was set in motion in the mid-1960s as a response to the International Geophysical Year (IGY; 1957-8), the first major worldwide collaboration in the geosciences. The only water science in the IGY was glaciology, but the need for international scientific collaboration in the whole field of water resources was soon apparent. The IHP was set up as a series of 6-yearly programmes, aimed initially at furthering the scientific understanding of the water cycle and its global distribution. Over the years it has gradually taken on a more practical role, progressing from the pure science into water management, especially in vulnerable environments, and socio-economic aspects. IHP-V focussed on “Hydrology and Water Resources Development in a Vulnerable Environment”. IHP-VI (2002-7) progressed into disasters and societal values with “Water Interactions: Systems at Risk and Societal Challenges”, and IHP-VII, which draws to a close at the end of 2013, has focussed on “Water Dependencies: Systems under Stress and Societal Responses”. The latest and somewhat longer phase of IHP (2013-2021) takes the aims into an even broader field, covering disasters and hydrological change, changes in groundwater resources, issues of water scarcity and quality, interrelationships between water and human settlements in the future, ecohydrology, engineering harmony for a sustainable world, and water education as a key to water security for all; IHP-VIII’s title, “Water Security – Responses to Local, Regional and Global Challenges”.

The evaluation had two primary aims: to assess the progress made during IHP VII and to make recommendations for improving efficiency and focus during the upcoming eighth phase. Jones and Winde undertook this task in a highly concentrated period between December 2013 and March 2014, which included a week at the IHP Secretariat in Paris conferring with the Director of the Division of Water Sciences and UNESCO’s Internal Oversight Service and interviewing staff. The evaluation was unique in three respects: first, all previous assessments had been undertaken by a committee comprising up to half a dozen members; secondly, they were given a much longer period in which to deliberate, typically 6 months or so; and thirdly, it was undertaken earlier than recent evaluations, at the very end of IHP VII, which was intended to allow its recommendations to be incorporated into the early delivery of the next phase, whereas recent evaluations have not been completed until well into the next phase.

In addition to the over 200 documents (containing nearly 10,000 pages) presented by UNESCO’s Internal Oversight Service, Jones and Winde made extensive use of Skype and telephone interviews, which included the Directors of the Category I Institute for Water Education (UNESCO-IHE) in Delft and the Category II UNESCO Centre for Water Law, Policy and Science in Dundee, as well as initiating their own internet search of the activities of rival “Global Water Initiatives”, like FAO, and interviewed representatives of the OECD and International Commission on Large Dams (ICOLD) in Paris. Two email questionnaire shoots were also made – one to collaborators in the IHP programme recommended by UNESCO, including Field Officers and Regional Hydrologists, the other an independent survey which was not part of the UNESCO Terms of Reference in which over 400 water scientists known to the evaluators were contacted. More than 400 organisations and practitioners were contacted within the “UNESCO Water Family” and the wider UN network. The group contacted in the independent survey was largely, but not exclusively, made up of corresponding members of the IGU Commission for Water Sustainability comprising a total of 396 recipients. This was aimed at testing opinion amongst the wider community as to the efficacy of the IHP and its associated programmes. The questionnaire included a request for suggestions for improving the design and execution of the programme.

Professor Jones presented the report at the IHP Intergovernmental Council meeting at UNESCO headquarters in Paris in June 2014 before a group of the major countries or “Member States” involved in IHP. There was widespread support for our recommendations and concern over the deficiencies uncovered. The Japanese delegation was particularly concerned about deficiencies in communication within the IHP network. The Chinese delegation were concerned about the problems uncovered within the International Sediment Initiative (ISI) and keen to indicate that

activities were resuming after more money had been made available by the Chinese government. The Netherlands supported our idea that transboundary collaboration in water resource management should be viewed more highly as an area where UNESCO should be uniquely placed – the “Potential Conflict to Collaboration Potential” (PCCP) programme initiated by former IHP Secretary Andras Szollosi-Nagy, but apparently given less attention in recent years is a prime example. In the limited time available for comment, Switzerland, Dominica and the UK also offered their support, the latter noting that a number of our recommendations had been made by previous Assessors, but not acted upon and that time was running out for corrective action. Only the representative sitting in the chair for Uruguay was critical, but IOS suggested they should read the full 137-page report.

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## **6. Publications**

In addition to the report “Evaluation of Phase VII of the International Hydrological Programme”, greatly contributed by the members of the Commission: Emeritus Professor J.A.A. Jones and Professor Dr. habil. Frank Winde, the Commission, jointly with the Editorial Board of the Dubrovnik conference, agreed on a possibility of publishing selected papers in a special number of Croatian Geographical Bulletin (Hrvatski geografski glasnik), subject to the normal reviewing procedure. The journal is published by the University of Zagreb and Croatian Geographical Society.

A selection of papers will be published in the Croatian Geographical Bulletin (Hrvatski geografski glasnik), after normal reviewing procedure. The journal is published by the University of Zagreb and Croatian Geographical Society. Hopefully we will try to publish a special number of the Bulletin, if the number of accepted papers will be sufficient. Otherwise, we will publish them in a regular number. The publication step will have three or five phases (depending whether their number will be sufficient for a special number), and for all of them, the reference person will be Dr. Canjevac:

- 1) In a preliminary phase, the Scientific Committee of the Dubrovnik conference will make a preliminary selection of the presentations and posters seen in Dubrovnik (as well as those of previous conferences held in the previous years, of course still unpublished) and the reference person will invite the corresponding authors to send: title, authors and abstract. The deadline for this process, which is running, will be approximately January 31<sup>st</sup>, 2015.
- 2) In the second phase, when the number of potential papers will be known, these authors will receive a successive invitation by the reference person to send the full paper. This step will be quite close to the previous one and the deadline will be few days later the previous one.
- 3) The authors will send to the reference person their full papers. The deadline for this step will be quite close: end of the year. So the Chair is encouraging all potential authors to speed up in writing their paper.
- 4) The reference person, together with the Chair and other members of the Scientific Committee of the Dubrovnik conference will make a pre-review of the full papers received, eventually suggesting to the authors some modifications. The deadline for this part will be two weeks.
- 5) All authors will submit their papers to the journal, through the normal channel. The deadline for this step will be March 15<sup>th</sup>, 2015. After this submission, the paper will enter in the regular revision process of the journal.

If the number of papers will be sufficient for having a special number, Dr. Canjevac and the Chair will be the Editors of this special number.

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## **7. Possible links with Expo Milano 2015**

The Commission is trying to establish contacts with the organization of the Expo Milano 2015, held in Milan, Italy, from May 1<sup>st</sup> to October 31<sup>st</sup>, 2015, in order to establish a close collaboration for the scientific part. Being the theme of Expo Milano 2015 “Feeding the Planet, Energy for Life”, it will talk about the problems of nutrition and the resources of our planet, with the aim to open up a dialogue between international players to exchange views on these major challenges which are relevant to everyone. In this respect, water sustainability and, more generally, the use of water in agriculture are themes strictly inherent to the main theme. The Chairman and some Commission members are actually in contact with the Italian Ministry of the Education and Scientific Research (MIUR) for creating some discussion panels, creating a link with our Commission, and eventually to patronate the event. The Commission will benefit of the fact that one of its corresponding members, Prof. Leto, expertise in the social aspects of water sustainability, possesses several contacts among Italian and foreign researchers on the field. The Chair proposes to nominate Prof. Leto as a member of the Steering Committee for 2015, with the special mandate of organizing the activities which involve the Commission in this event. More informations about Prof. Leto could be found on his web site (<http://www.alessandroletto.com/?&lang=en>).

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## **8. The retirement of Prof. Kazuki Mori, Vice-Chair**

With the new year 2015, Prof. Kazuki Mori, member of the Steering Committee of the Commission and Vice-Chair, has announced that, because of his retirement at the age of seventy at the end of July 2015, he would like to tender his resignation as both Vice-Chair and member of the Steering Committee of the IGU Commission for Water Sustainability.

The Chair, together with some members of the SC, have immediately expressed to Kazuki their wishes for a very happy retirement, their deep and warm thank for his long work in support of the Commission, also as vice-Chair, as well as for his always interesting studies presented during the conferences, and finally for having contributed to instill, together with the other important persons of the Commission already retired (Prof. Jones, Robinson, Woo), the spirit of togetherness and mutual appreciation, which perhaps made it feel more like a family of like-minded people than a pure gathering of scientists.

Despite my personal reluctance, as a Chair, in doing an immediate replacement of the double vacant positions in the Commission organization, due to the fact that Prof. Mori is now still working, considering that it is necessary to take an action soon, before the forthcoming conference in Moscow, I have decided to accept the suggestions of Kazuki for his succession. Thus, considering that Prof. Frank Winde has been since several time very active and helpful in the Commission organization, and is the most valuable candidate for the position of Vice Chair, I have nominated him as new Vice-Chair of the Commission. Regarding the SC, considering that Prof. Hideo Oyagi has actively participated to the Commission, also in order to preserve the geographic composition of the SC, I have nominated Prof. Oyagi as new member of the Steering Committee.

Being such changes occurred quite recently, they are not yet reported on the web page, that will be updated as soon as possible.