

*Network of National Hydrological Associations (NHAs)
Round-table meeting*

21 April 2016 - Vienna, Austria

SETTING STANDARDS FOR DESIGN FLOOD ESTIMATION

At the Second General Assembly of the Network of NHAs, held in June 2015, it was decided that the Network would sponsor round-table discussions on specific topics at General Assemblies of the European Geosciences Union and the Fall Meetings of the American Geophysical Union. The first of these roundtables was held on 21 April 2016 during the EGU General Assembly that was held in Vienna, Austria. The main purpose in these round-table meetings is to offer an occasion for members of NHAs who are attending the main events to meet together and discuss the activities of their Associations, focusing each time on a topic of common interest. The topic on this occasion was “Setting standards for design flood estimation”.

The meeting attracted 16 persons, being members of eight NHAs plus EGU itself. A background paper had been drafted, based on inputs from NHAs. This was presented as a basis for discussion, which led to an exchange of experience on the following points:

National standards

Very often a variety of procedures are used at regional level, with few formal national standards.

General approaches

These range from the Rational Method to simulation procedures based on rainfall-runoff models, but most frequent are the statistical approaches. Statistical analysis of extreme flows may be used on main rivers with statistical analysis of rainfall together with rainfall runoff models used on smaller rivers.

Design floods for dams

These are usually based on national standards, their application being overseen by high-level committees whose membership varies widely from country to country.

These standards are usually based on a formal classification of dams as large or small; the design approaches being based in some cases on estimates of PMP/PMF.

Climate change

In some countries, the prospect of climate change is taken very seriously and design discharge calculations have already been updated accordingly. In many instances, however, there is considerable resistance to revisiting the design of flood defenses.

Uncertainty

Long stochastic series have been used in conjunction with rainfall-runoff models to account for uncertainty, but this uncertainty information is used to set confidence limits when it could be used better by being integrated into the design process itself.

Of particular concern is the large uncertainty inherent in the conversion from peak discharge extreme values to maximum water height, which is the design variable in most cases.

Data concerns

There can be a significant discrepancy between the extremely detailed hydraulic models that are often used, for example in urban areas, and the low accuracy of the input data, such as those originating from meteorological forecasting and statistical downscaling.

Future plans

There was great interest in holding similar round-table meetings during future EGU General Assemblies. Particularly welcome was the opportunity they offered to just talk of current experiences outside the formal constraints of a scientific symposium and without the need to come to any conclusions.

It was noted that the next round-table would be convened in conjunction with the Third General Assembly of the Network that is planned to be held during the IAHS Scientific Assembly scheduled for 9 to 15 July 2017 in Port Elizabeth, South Africa.

As regards a future topic for discussion, there was interest in the challenge of gaining recognition and funding for hydrology and hydrologists at national level.

*Network of National Hydrological Associations (NHAs)
Round-table meeting*

SETTING STANDARDS FOR DESIGN FLOOD ESTIMATION

21 April 2016 - Vienna, Austria

Participants

Name	NHA	E-mail
Gunter Blöschl	ÖHG	bloeschl@hydro.tuwien.ac.at
Ezio Todini	SII-IHS	eziotodini@gmail.com
Roberto Ranzi	SII-IHS	roberto.ranzi@unibs.it
Paolo Salandin	SII-IHS	paolo.salandin@unipd.it
Elena Toth	EGU-HS	hs@egu.eu
Roberto Deidda	SII-IHS	rdeidda@unica.it
Ximena Vargas	SOCHID	xvargas@ing.uchile.cl
Pierluigi Claps	SII-IHS	claps@polito.it
Jeong Eun Lee	KSCE-HS	jeus22@kict.re.kr
Brunq Merz	DHG	bmerz@gfz-potsdam.de
Benjamin Dewals	-	b.dewals@ulg.ac.be
Angellica Tarpanelli	SII-IHS	a.tarpanelli@irpi.cnr.it
Kolbjorn Engeland	NHC	koe@nve.no
Michael van der Valk	NHU	info@hydrology.nl
Dadiyorto Wendi	-	dadiyorto@outlook.com
Arthur Askew	BHS	arthuraskewge@bluewin.ch