

## Hydrologic Frequency Analysis Work Group (HFAWG) report to the Subcommittee on Hydrology (SOH) for the May 1, 2014 meeting

The Hydrologic Frequency Analysis Work Group (HFAWG) is updating Bulletin 17B, ***Guidelines For Determining Flood Flow Frequency***, dated March 1982, to include new statistical procedures, namely:

- The Expected Moments Algorithm (EMA), and
- A new Multiple Grubbs-Beck (MGB) test.

A subgroup of the HFAWG applied the new statistical procedures to observed and simulated data and compared estimated flood discharges from the new procedures to estimates from the Bulletin 17B procedures. Those test results are summarized in a report “Evaluation of Recommended Revisions to Bulletin 17B”. This report has been revised a few times and the latest version, dated April 29, 2014, was provided to HFAWG members today for their review and comment. The U.S. Geological Survey (USGS) will publish this report and it is now in colleague review within USGS. This report provides the background and justification for implementing the new statistical procedures (EMA/MGB).

USGS has implemented the new statistical procedures in their PeakFQ flood frequency computer program. Version 7.1 of the PeakFQ program has been completed and is posted on the USGS software page at <http://water.usgs.gov/software/PeakFQ/>. There is a Fact Sheet on the web site that briefly describes PeakFQ Version 7.1. USGS has also prepared some Frequently Asked Questions (FAQs) about the new statistical procedures and there is a link to the FAQs that are posted on the HFAWG web site at [http://acwi.gov/hydrology/Frequency/b17\\_swfaq/EMAFAQ.html](http://acwi.gov/hydrology/Frequency/b17_swfaq/EMAFAQ.html). More FAQs will be added in the future as the need arises.

The HFAWG is drafting Bulletin 17C, a revised version of Bulletin 17B. The tentative plan is to publish Bulletin 17C as an USGS Circular with individual authors following the example of USGS Circular 1331, ***Climate Change and Water Resources Management: A Federal Perspective*** (<http://pubs.usgs.gov/circ/1331/>). The Bureau of Reclamation, U.S. Army Corps of Engineers, and the USGS are leading this effort with technical support from Cornell University. This approach is recommended because the SOH does not have a publication mechanism. Does the SOH agree that the USGS Circular series a reasonable and acceptable approach for publishing Bulletin 17C?

Will Thomas  
Chair, HFAWG  
Michael Baker International  
April 30, 2014

## Extreme Storm Event Work Group (ESEWG) Quarterly Report

The ESEWG has developed and scheduled a “Workshop to Define Needed Extreme Storm Products and Associated Resources” for May 15 -16, 2014 at U.S. Nuclear Regulatory Commission (U.S. NRC), Office of Nuclear Regulatory Research, Room 6B1, 21 Church Street, Rockville, MD (adjacent to the Rockville METRO Station) (please see attached Workshop Program for details). The workshop objectives are to: (1) clearly define extreme storm products that are needed for deterministic and risk-informed infrastructure decision making by Federal agencies, now and in the future; (2) prepare a statement describing the products and their priority; and (3) formulate a proposal to SOH/ACWI with the schedules and costs to create the products, and to define the methods of coordination amongst Federal agencies to accomplish Objectives 1 and 2 in the proposal.

The workshop goals are to:

- Refine the extreme storm information and methodology needs of each Federal agency that participates in the ESEWG of the SOH.
- Develop a description of extreme storm products that would meet these needs and consider the needs of States.
- Estimate the costs involved to develop the products (Identify funding requirements).
- Prioritize the order of development of the products.
- Identify contributions to products by each Federal agency and their respective roles (technical, financial, peer review, etc.).
- Identify potential modes of coordination and governance for this proposal.

To develop the needed background information for the workshop, the ESEWG developed and sent to the SOH Chair and Vice-Chair a questionnaire for distribution to the Federal Agencies (please see attachment 1 to the Workshop Program), and a separate questionnaire for the States (please see attachment 2). These questionnaires asks each Federal Agency and relevant State Agency to critically evaluate their views, methods, data sources, tools, etc. regarding extreme storm events and to identify any needs and/or gaps in extreme storm event information. In the Workshop scheduled for May 15 -16, 2014, the respondents will present their identified needs. The answers to the questionnaires will be synthesized to define extreme storm products that are needed for deterministic and risk-informed infrastructure design. The products and corresponding schedules and costs will be presented in a proposal to ACWI-SOH.

The ESEWG Chair attended and presented with the SOH Chair, a discussion of the Workshop and questionnaire to the Interagency Committee on Dam Safety (ICODS)/ National Dam Safety Review Board (NDSRB) at their quarterly meeting held at FERC headquarters on April 24, 2014. The State representatives were very enthusiastic about the SOH and ESEWG presentation, and expressed interest in the Workshop and questionnaire.

To finalize the Workshop Program and review the questionnaire responses, the ESEWG will have a teleconference on Thursday, May 8, 2014 @2:00 p.m. EDT. The latest draft of the Workshop Program which is attached to this report will be reviewed and possibly revised.

I wish to acknowledge the cooperative and diligent work of the ESEWG members in developing the Workshop Program and questionnaires, especially the extensive efforts of Victoria Sankovich-Bahls, Bureau of Reclamation and Mark Perry, State of Colorado.

If you have any questions or comments, please comment Tom Nicholson @ [Thomas.Nicholson@nrc.gov](mailto:Thomas.Nicholson@nrc.gov).