

WICP Water Information Coordination Program
ACWI Advisory Committee on Water Information

SOH Hydrologic Frequency Analysis Work Group (HFAWG)

- Will Thomas, Chair Michael Baker International/ASFPM
- John England, Vice-Chair, US Army Corps of Engineers (USACE)

Activities of HFAWG:

- ☐ focused on improvements to Bulletin 17B since November 2005,
- ☐ several drafts of new Bulletin 17C guidance since April 2015,
- ☐ reviews of draft versions of Bulletin 17C by HFAWG, SOH, public comment period (February to April 2016) and recent USGS technical (peer) reviewers,
- ☐ latest version of Bulletin 17C dated April 10, 2017.

04/20/2017 SOH Quarterly Meeting 1

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SOH Hydrologic Frequency Analysis Work Group Revision to Bulletin 17C



Techniques and Methods 4-BXX

U.S. Department of the Interior
U.S. Geological Survey

DATE: April 10, 2017

Guidelines for Determining Flood Flow Frequency Bulletin 17C

Major Improvements

1. Historical Information, Interval Data and Low and Zero flows
2. Potential Influential Low Flood Identification
3. Expected Moments Algorithm parameter estimation
4. Confidence Intervals
5. Estimation of Regional Skew

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Progress on Bulletin 17C draft, supporting materials, and outreach

- * Addressed comments from USGS Technical Reviewers
- * Completed a Draft version of Bulletin 17C for USGS Editorial Review (April 10, 2017) and provided review copy to SOH members
- * Assisted USGS in revising the Bulletin 17C webpage to enhance supporting materials on Flood Frequency Resources, Software, and FAQ
<http://acwi.gov/hydrology/Frequency/b17c/index.html>
- * Training courses held May 2016 at ASCE EWRI (4 hours) and June 2016 at ASFPM, with case studies/software demos (USGS PeakFQ and HEC-SSP)
- * USACE HEC-SSP version 2.1 officially released to public in July 2016, with Bulletin 17C examples and documentation

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- **Bulletin 17C Review/Publication and Path Forward**
 - Bulletin 17C revised based on External Peer Review (USGS Process)
 - SOH approval for USGS publication,
 - USGS Editorial Review, revisions (as needed) and Director Approval of Bulletin 17C
 - Enhancements to Software, examples, and training materials will be posted on the HFAWG/Bulletin 17C web site
 - Training courses and webinars currently planned or being discussed
 - NHWC training course in June 2017
 - USACE-HEC (training course) in August 2017
 - ASFPM webinars; additional outreach through other technical conferences and collaborative training webinars

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- **Bulletin 17C USGS Peer Review Comments – Summary**
 - Four technical reviews received
 - Comments and responses provided to SOH members on April 10, 2017
 - Reviews all very positive and encouraging
 - Responses to USGS/SOH Checklist Major Findings/Recommendations are consistent
 - *Are the methods described in the B17C draft an improvement over those recommended in B17B? **Yes***
 - *Should the Subcommittee on Hydrology recommend adoption of the proposed new guidelines for use by all Federal agencies for determination of flood frequencies? **Yes***
 - *Based on the B17C draft and your own analyses and experience, do you have any major concerns regarding the practicality of using B17C as drafted? **Generally No (Yes, 1 reviewer)***

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- **Bulletin 17C USGS Peer Review Comments –Reviewers’ Perspectives**
 - “I commend the authors of this document for their efforts to update Bulletin 17B, which is long overdue. Overall I believe this is an excellent document with useful information and justified guidelines for practitioners. In addition, I have reviewed past review comments and responses, which appear adequate.”
 - “Overall, I found the document to provide more detailed and thorough explanation of the flood frequency analysis concept in general and of the details of the methods in specific. The appendices and examples therein are more diverse and better explained than found in B17B.”
 - “Overall this revision to Bulletin 17B is impressive, especially for the new guidance based on rigorous recent research relating to the use of EMA for accommodating censored, interval and binomial censored data, as well as for the introduction of confidence interval formulas for accounting for historical and paleoflood information and the introduction of the multiple Grubbs Beck test for low outliers.”

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- **Bulletin 17C - Key Improvements to address USGS Peer Review Comments**
 - Concerns about practicality of using Bulletin 17C?
 - *Flow Intervals and Perception Thresholds – practical concepts and examples added to Appendix 2 (Data)*
 - *Practical Flood frequency steps added to Appendix 9 (Flood Frequency Examples)*
 - *Planned training via webinars (ASFPM), agency courses, and conferences*
 - Concerns about where to obtain Regional Skew estimates in practice?
 - *Improved Bulletin 17C text and sources of information to direct users to USGS*
 - *Expanded Bulletin 17C web page with resources, listings of current studies, contact information, etc.*

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