Hydrologic Frequency Analysis Work Group (HFAWG)
May 7, 2015

Progress and Activities Since June 2013 and Future Direction

Will Thomas

Chair of the HFAWG

Baker

Hydrologic Frequency Analysis Work Group

- HFAWG is under the Subcommittee on Hydrology (SOH) of the Advisory Committee on Water Information (http://acwi.gov/)
- This is the 18th meeting of HFAWG since January 2000, most interaction through email
- Minutes of all meetings provided on HFAWG web site http://acwi.gov/hydrology/Frequency
- Primary activity since November 2005 has been the update of Bulletin 17B, *Guidelines For Determining Flood Flow Frequency*
- Voting members of the HFAWG are shown on the next slide, limited to one representative from any given organization
- List of corresponding members on the web site needs to be updated

HFAWG Membership, from Web Site

Name	Organization
Siamak Esfandiary	Federal Emergency Management Agency
Don Woodward	Global Ecosystems Center
Martin Becker	BECKER
Will Thomas	Michael Baker International (Chair)
Zhida Song-James	Consulting Hydrologist
Tim Cohn	U.S. Geological Survey
Beth Faber	U.S. Army Corps of Engineers
John England	U.S. Bureau of Reclamation
Jerry Coffey	Mathematical Statistician
Joe Krolak	Federal Highway Administration
William Merkel	Natural Resources Conservation Service
Sanja Perica	National Weather Service
Jery Stedinger	Cornell University
Thomas Nicholson	Nuclear Regulatory Commission
Samuel Lin	Federal Energy Regulatory Commission
Rocky Durrans	University of Alabama
Curt Jawdy	Tennessee Valley Authority

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Progress since June 2013 HFAWG meeting

- June 2013 – HFAWG voted to accept recommended revisions to Bulletin 17B (recommendations are given on the HFAWG web site)
- August 2013 – SOH voted in favor of HFAWG drafting a new Bulletin 17C
- March 2014 – USGS released PeakFQ Version 7 that implements Bulletin 17C methodology
- April 2014 – completed the testing report on *Evaluation of Recommended Revisions to Bulletin 17B* – to be published as USGS report
- April 2015 – first draft of Bulletin 17C was completed and distributed to HFAWG members

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USGS science for a changing world

ACWI Advisory Committee on Water Information

Prepared in cooperation with the Hydrologic Frequency Analysis Work Group, Subcommittee on Hydrology, Advisory Committee on Water Information

Guidelines for Determining Flood Flow Frequency Bulletin 17C

Techniques and Methods 4–BXX

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

DRAFT: April 20, 2015

---PROVISIONAL---
This should not be referenced, cited, or released without USGS Bureau approval.

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Purpose of this HFAWG meeting

- Provide an overview of the Bulletin 17C draft report
- Discuss any review comments from the HFAWG
- Discuss the new information in Bulletin 17C and what is similar to Bulletin 17B
- Decide on the changes needed in Bulletin 17C before forwarding to the SOH for their review
- Vote, if necessary, to forward Bulletin 17C to the SOH

Bulletin 17C and Supporting Materials

- **Bulletin 17C and Appendix materials, including Appendix 3 Initial Data Analysis and Appendix 8 Flood Frequency Examples, are available at:**

https://sites.google.com/a/alumni.colostate.edu/jengland/bulletin-17c#B17CDraft

- **An EMA FAQ is available at:**

http://acwi.gov/hydrology/Frequency/b17_swfaq/EMAFAQ.html

- **Various presentations, journal articles, and reports on theory and applications used in developing the draft Bulletin 17C are available here:**

https://sites.google.com/a/alumni.colostate.edu/jengland/bulletin-17c#Refs

Bulletin 17C Software

- USGS PeakFQ 7.1 software includes the recommended procedures described in Bulletin 17C:

http://water.usgs.gov/software/PeakFQ/

- A USGS Fact Sheet describes PeakFQ 7:

http://pubs.usgs.gov/fs/2013/3108/

- USACE HEC-SSP is being revised to include the Bulletin 17C methodology
- USBR is revising their EMFREQ frequency program to include the Bulletin 17C methodology

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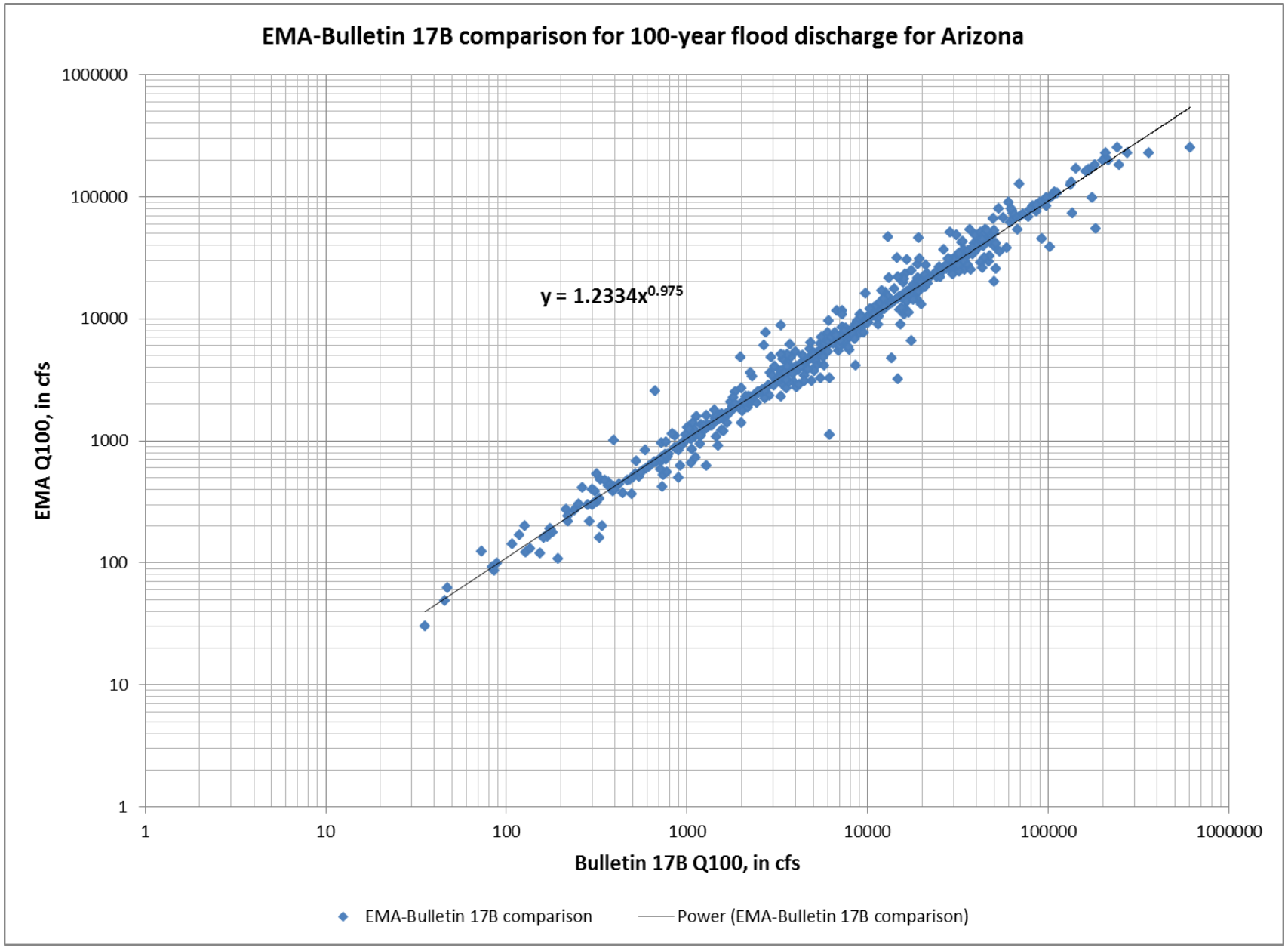
Next Steps After This Meeting

- Forward the draft Bulletin 17C to the SOH in June 2015 for their review
- Discuss Bulletin 17C at the July 23, 2015 meeting of the SOH and get their approval to forward to the ACWI
- Present Bulletin 17C to the ACWI at their August 2015 meeting and get their approval to hold a public comment period
- The USGS Office of Water Information will post Bulletin 17C on a public web site for comment and announce the review period through the Federal Register (September, 2015)
- HFAWG will revise Bulletin 17C based on public comment and inform SOH of the revisions
- Obtain approval from SOH and ACWI for publication
- USGS will publish in the "Techniques and Methods" series

Comparison of 100-year Discharges

- Questions have arisen about how the new Bulletin 17C methodology (EMA/MGB) compares to Bulletin 17B and what impacts changing methodology will have on estimated flood discharges
- Following is a comparison of 100-year discharges for EMA versus Bulletin 17B for several gaging stations in Arizona
- Arizona is a state with a lot of zero flows and low floods so one would expect this state to be an extreme example of differences in flood discharges

Comparison of 100-year discharges



Next Presentation

- John England will now give an overview of the Bulletin 17C document