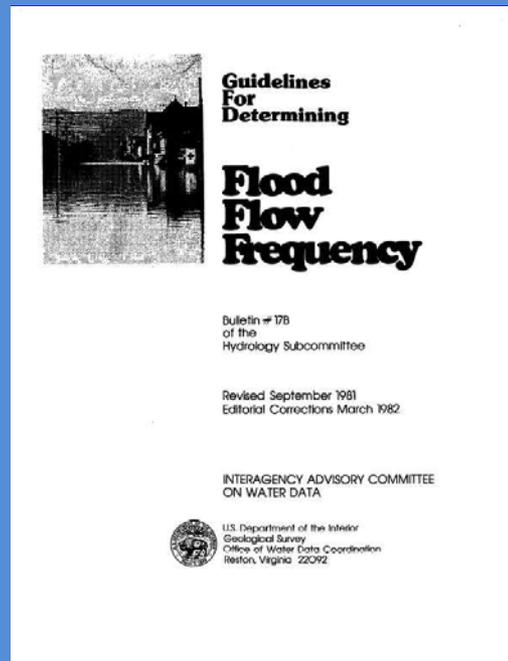


Bulletin 17B Update



Tim Cohn, USGS
Beth Faber, USACE



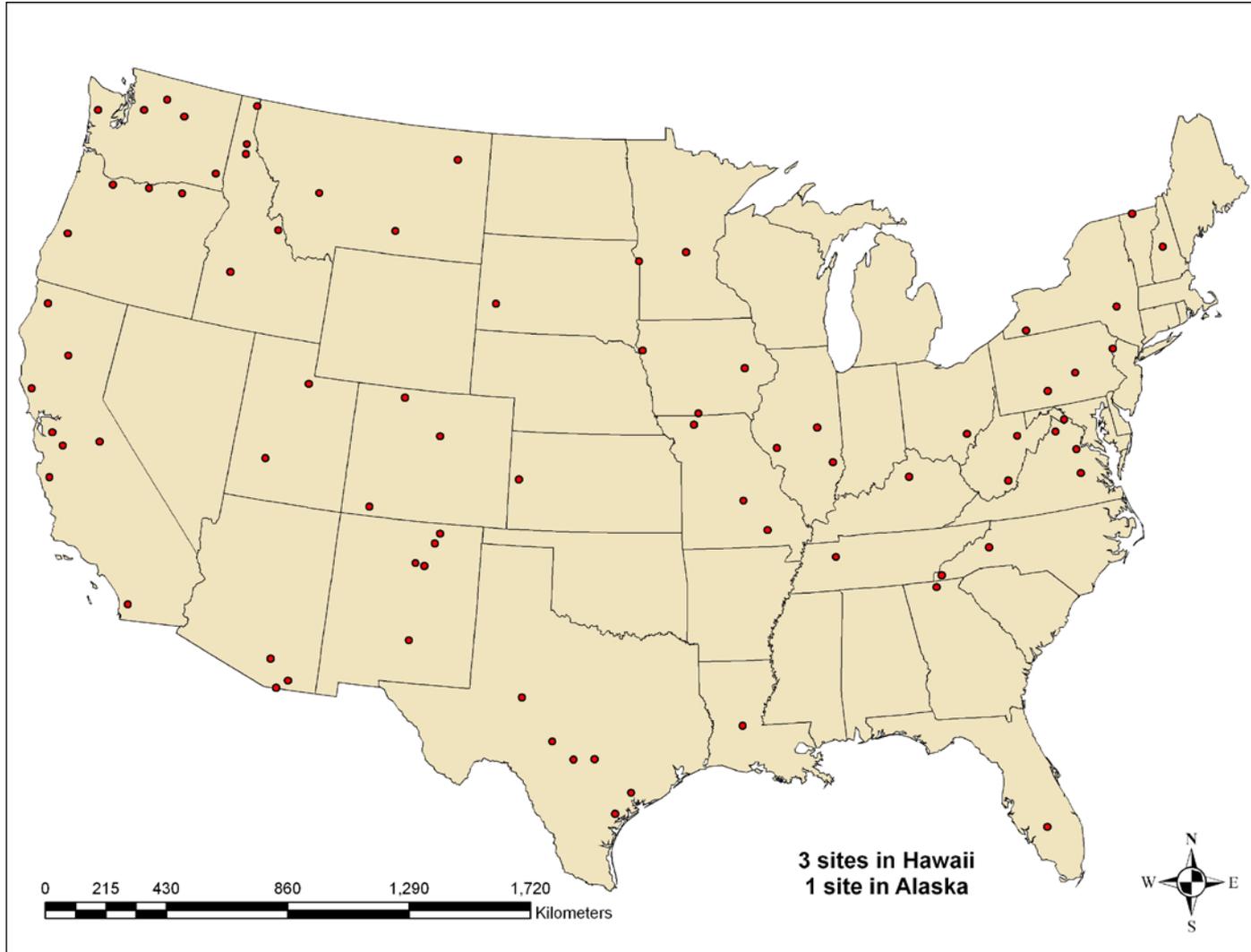
Outline

- March 19 HFAWG Meeting
 - Areas of general agreement (possibly not consensus)
 - Initial questions and responses
- Issues Related to Implementation
 - Remaining Technical Concerns
- Comments on the HFAWG Process

March 19 HFAWG Meeting

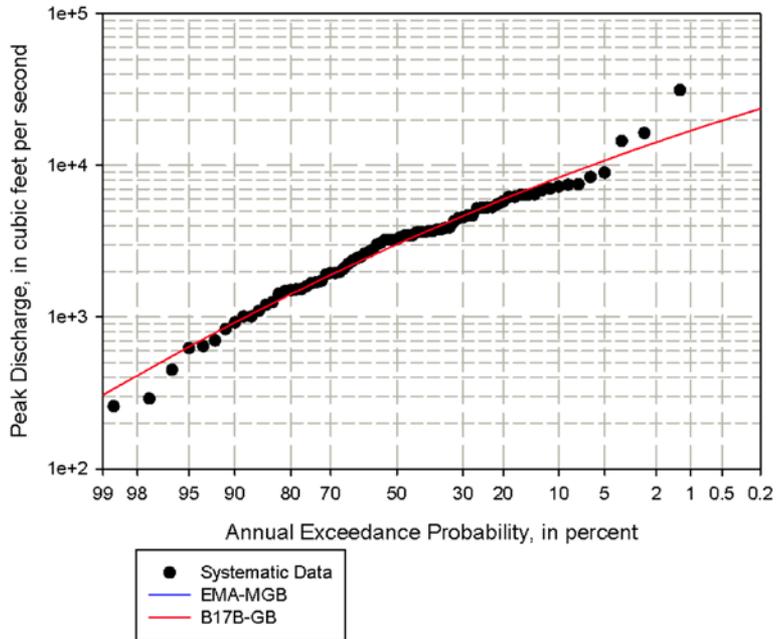
- Examples with Real-Data (82 Sites)
- Monte Carlo Results
 - Efficiency of B17B vs. EMA for Historical and Paleoflood Information
 - Robustness Studies
- Resampling Studies
 - Grubbs-Beck and Multiple Grubbs-Beck Low-Outlier Tests

Sites Considered

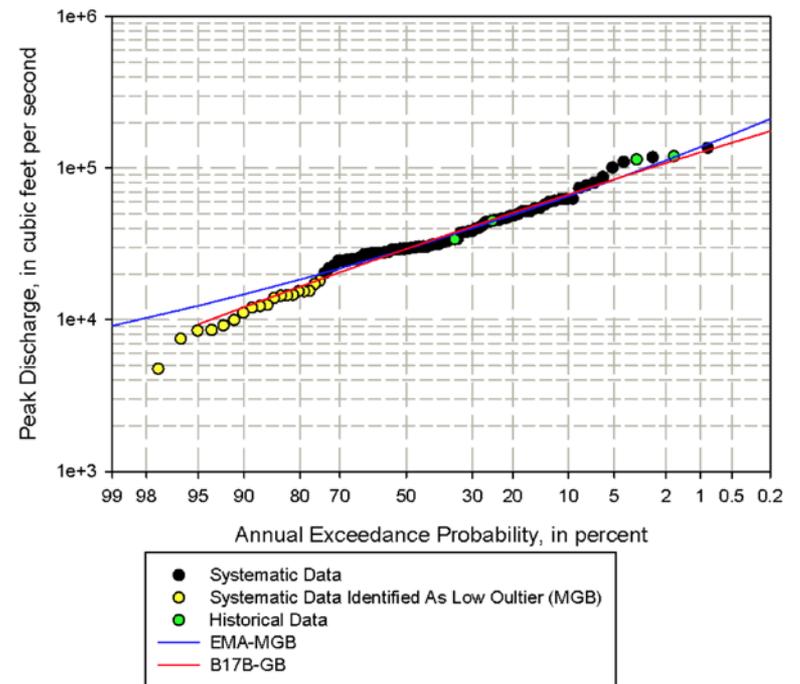


Comparison of B17B/GB and EMA/MGB

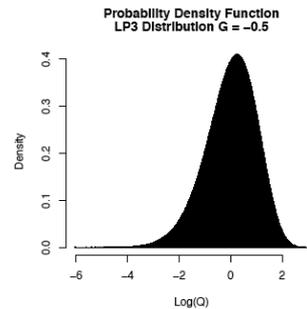
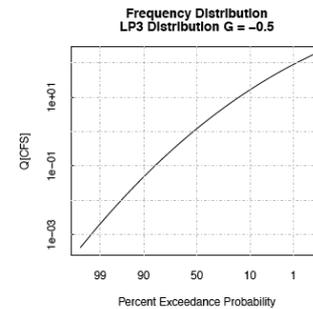
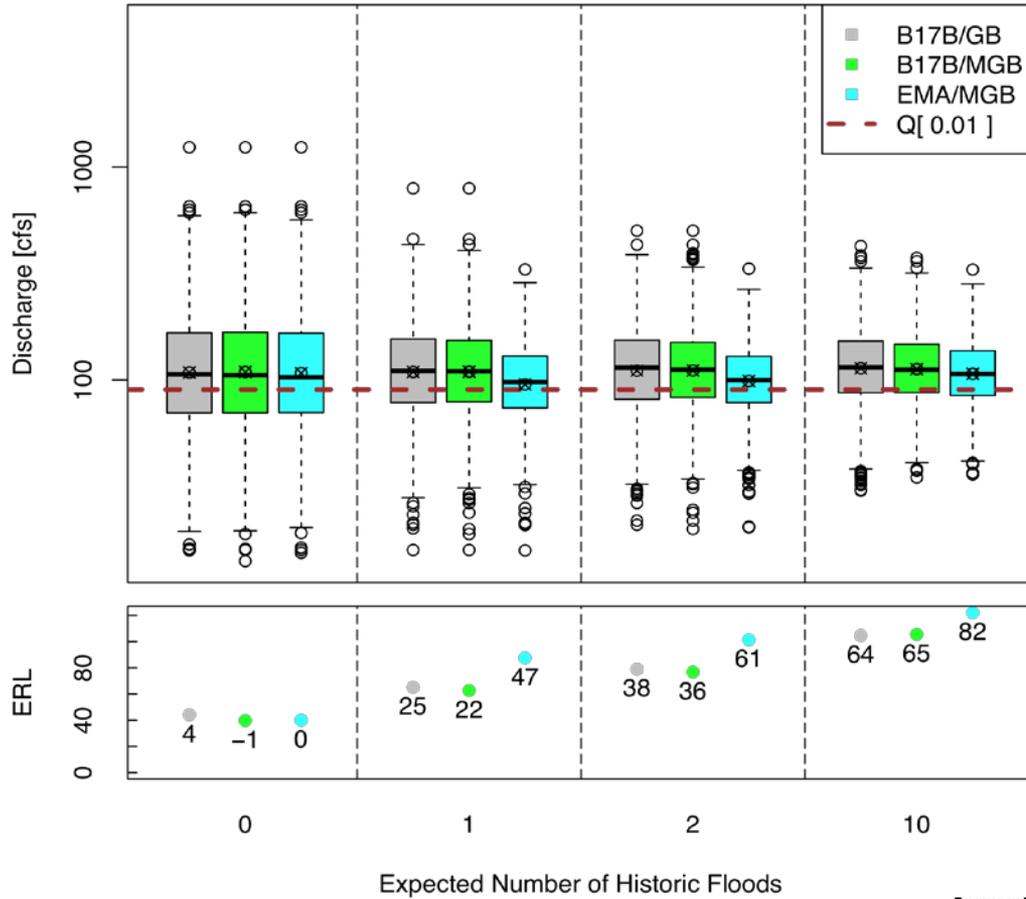
Fisheating Creek at Palmdale, FL
(Station 02256500)



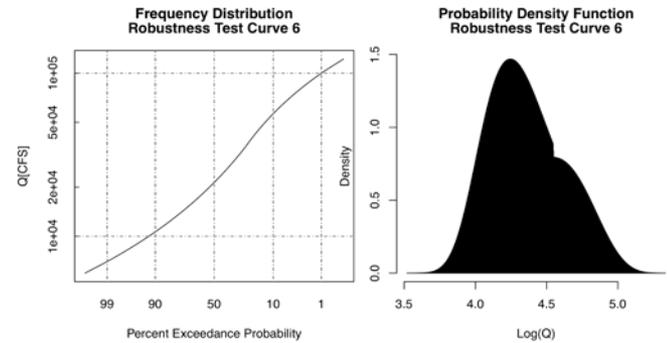
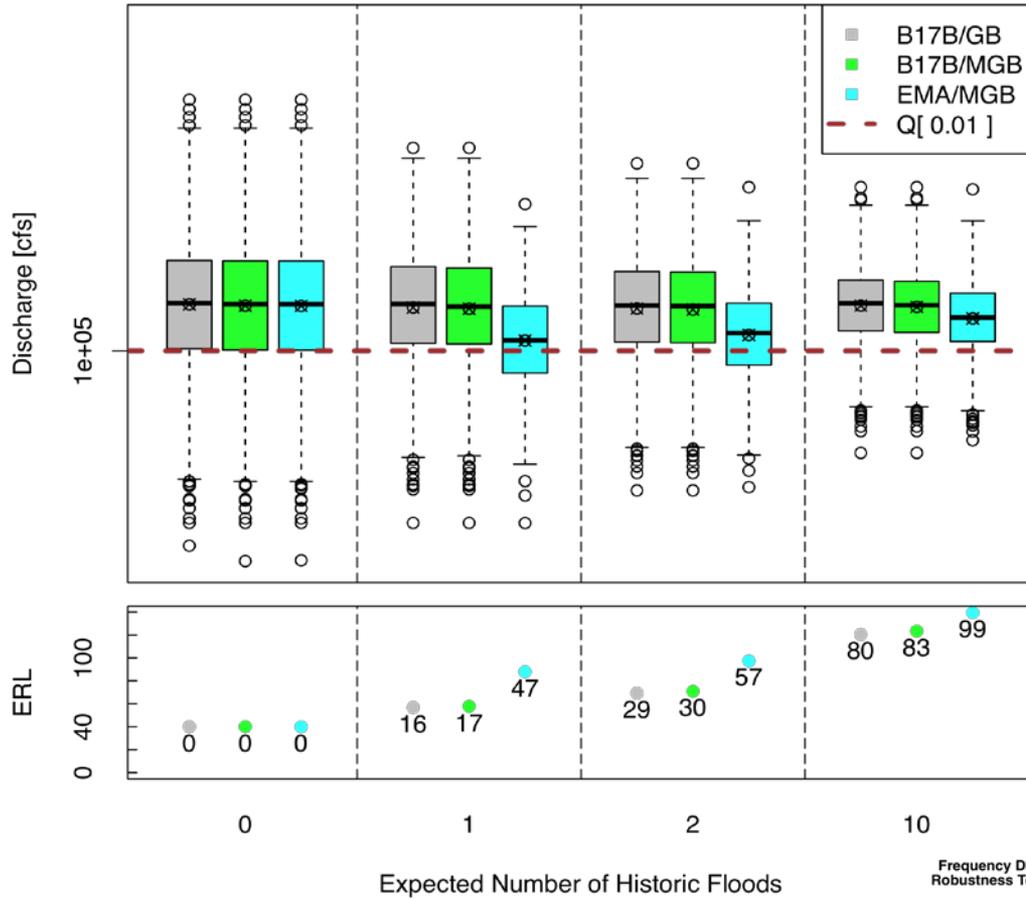
Gasconade River at Jerome, MO
(Station 06933500)



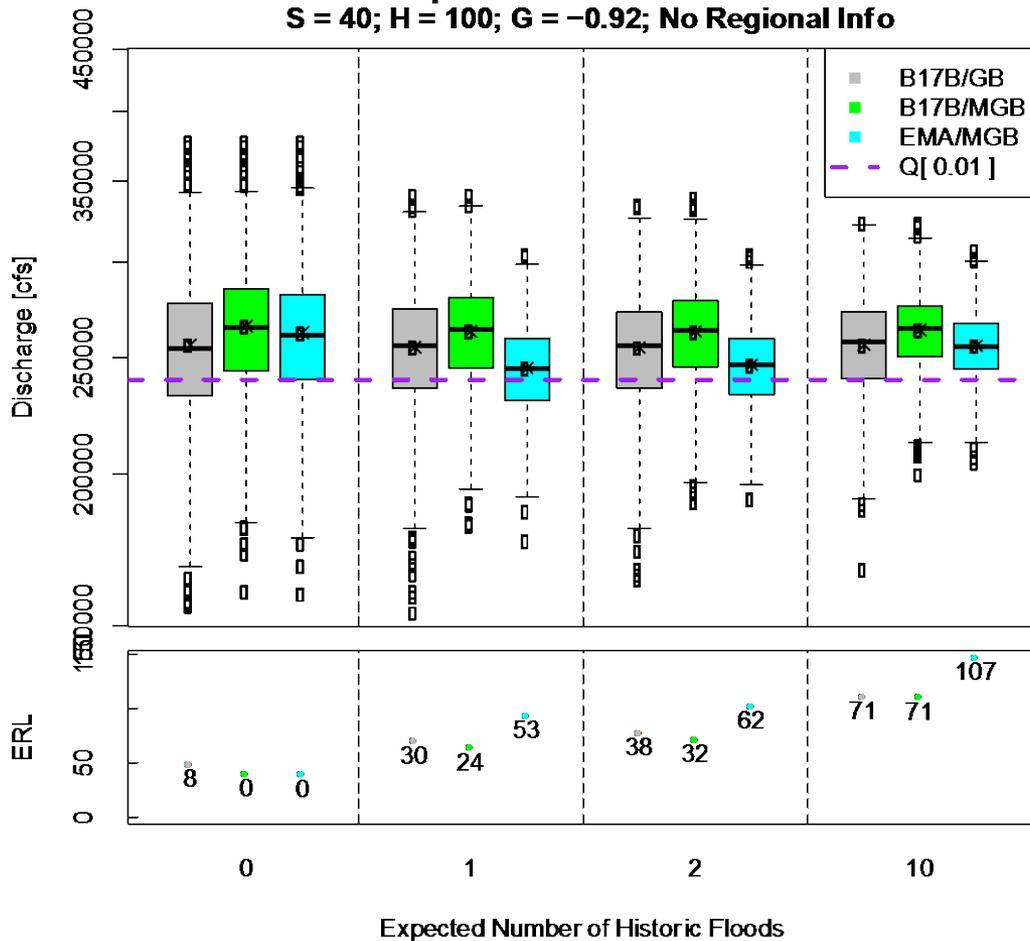
**Comparison of 1% Flood Estimators
 Simulated Data from LP3
 S = 40; H = 100; G = -0.5; No Regional Info**



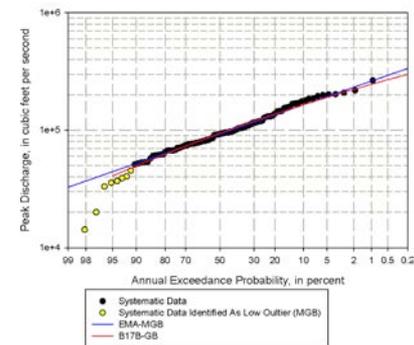
**Comparison of 1% Flood Estimators
Simulated Data from Qc6.dat
S = 40; H = 100; G = 0.35; No Regional Info**



Comparison of 1% Flood Estimators Resampled Data from 14321000.dat S = 40; H = 100; G = -0.92; No Regional Info



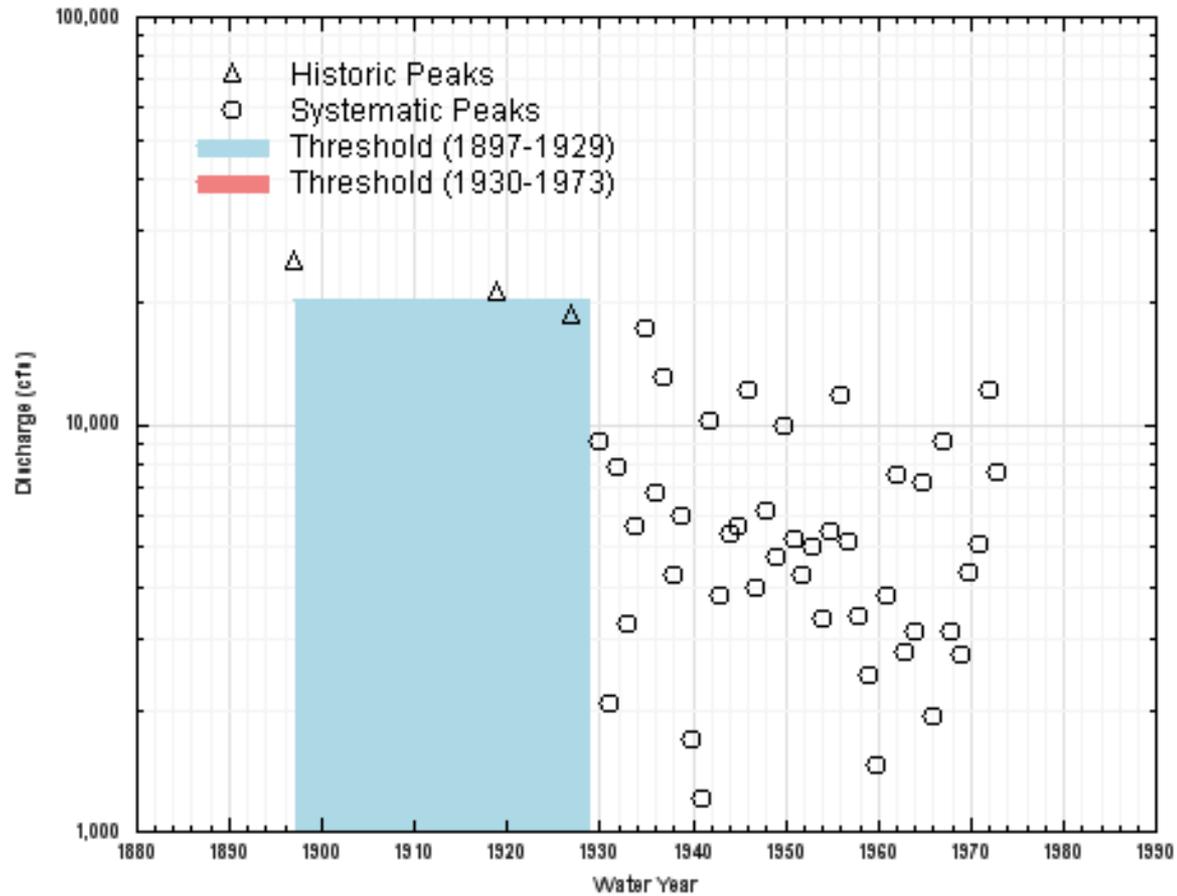
Umpqua River near Elkton, OR
(Station 14321000)



Issues Related to Implementation

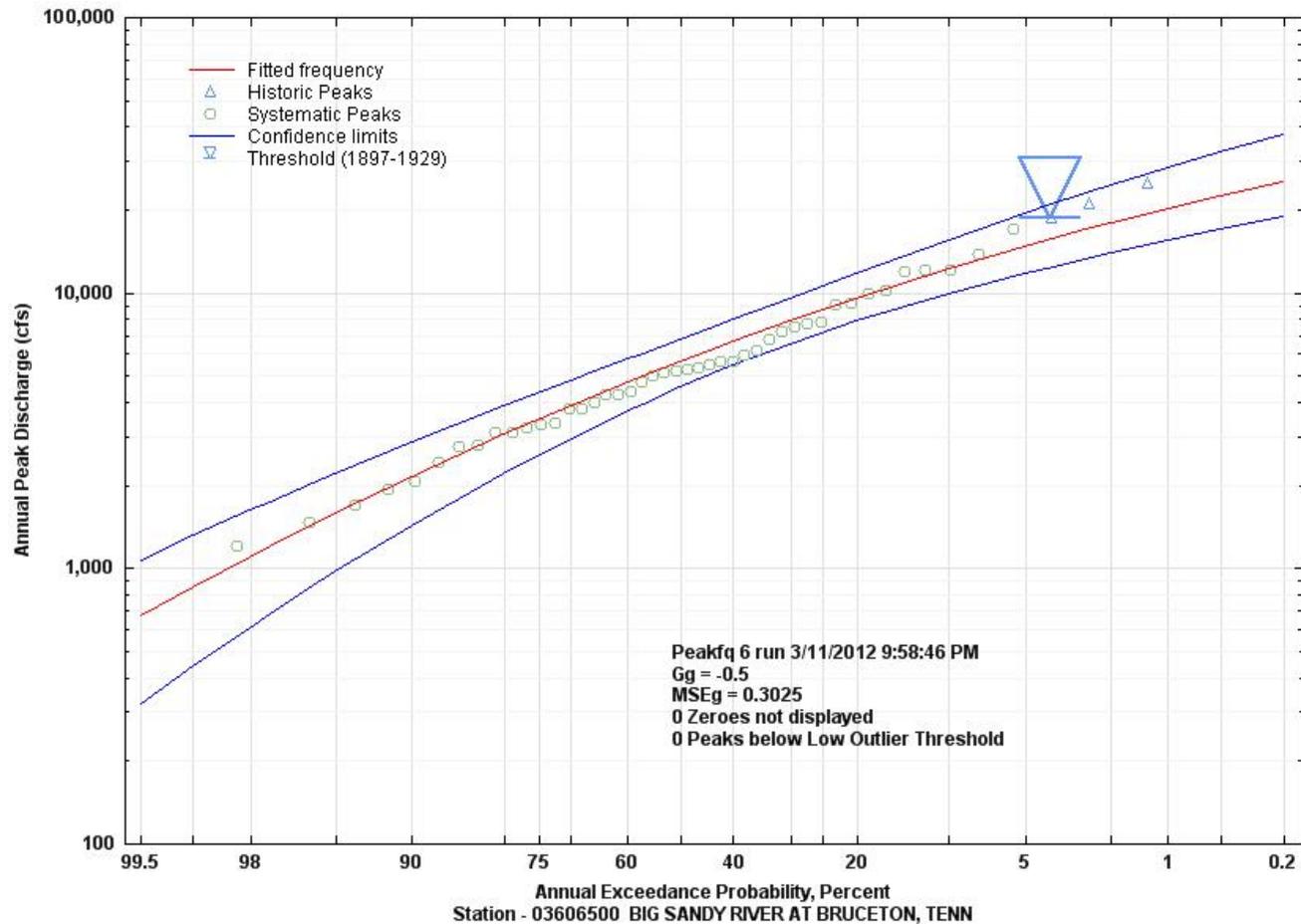
- Software:
 - PEAKFQ now includes EMA and MGBT
 - PEAKFQ being updated to address numerical issues and fix user-unfriendly bugs
- Training:
 - Have conducted one training class for USGS
 - Will conduct one for USACE this summer
 - Plan to conduct more
- Documentation/User Manuals
- Bulletin 17C

Big Sandy River



Big Sandy River, 1897-1973

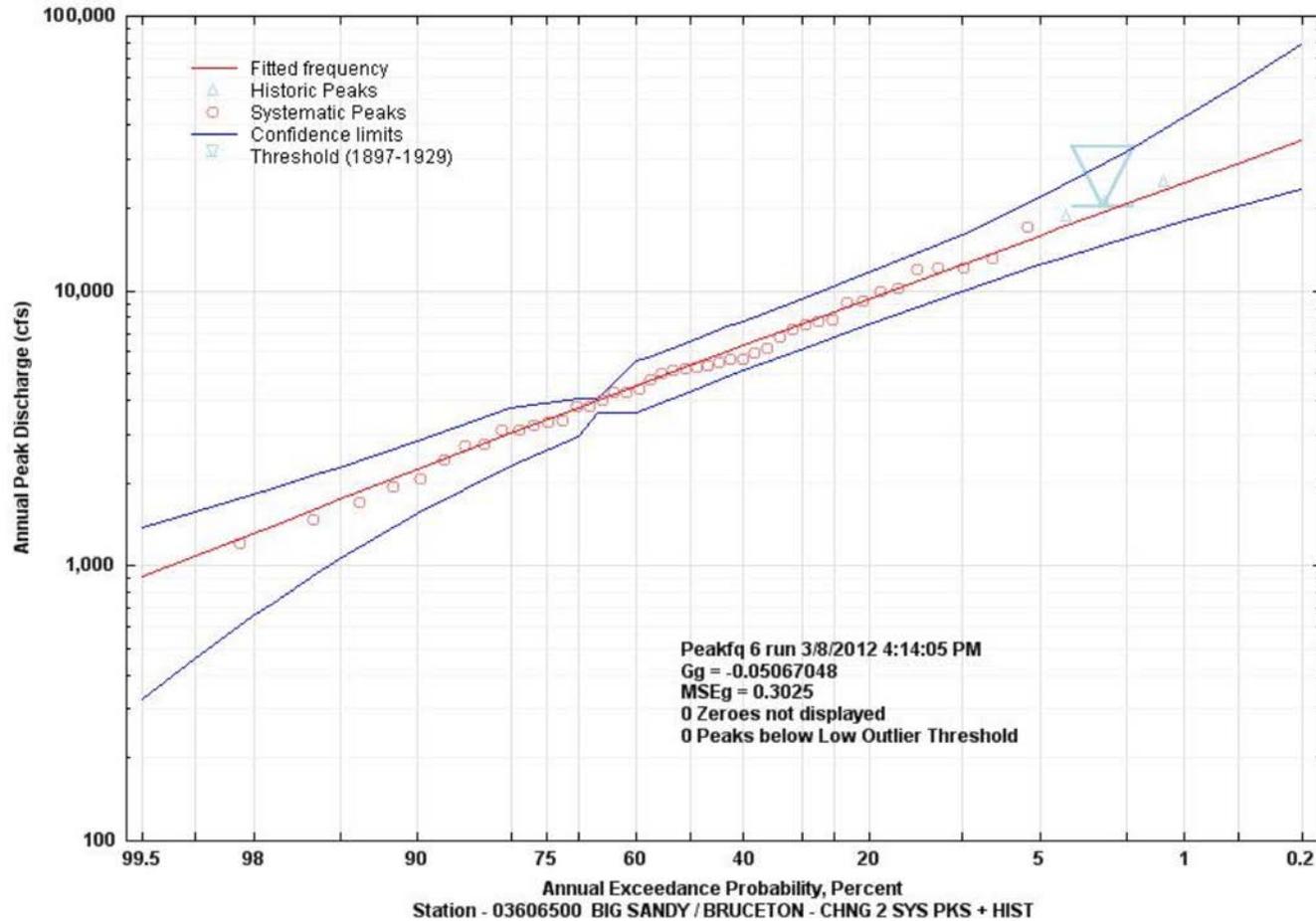
EMA Fit with Confidence Intervals



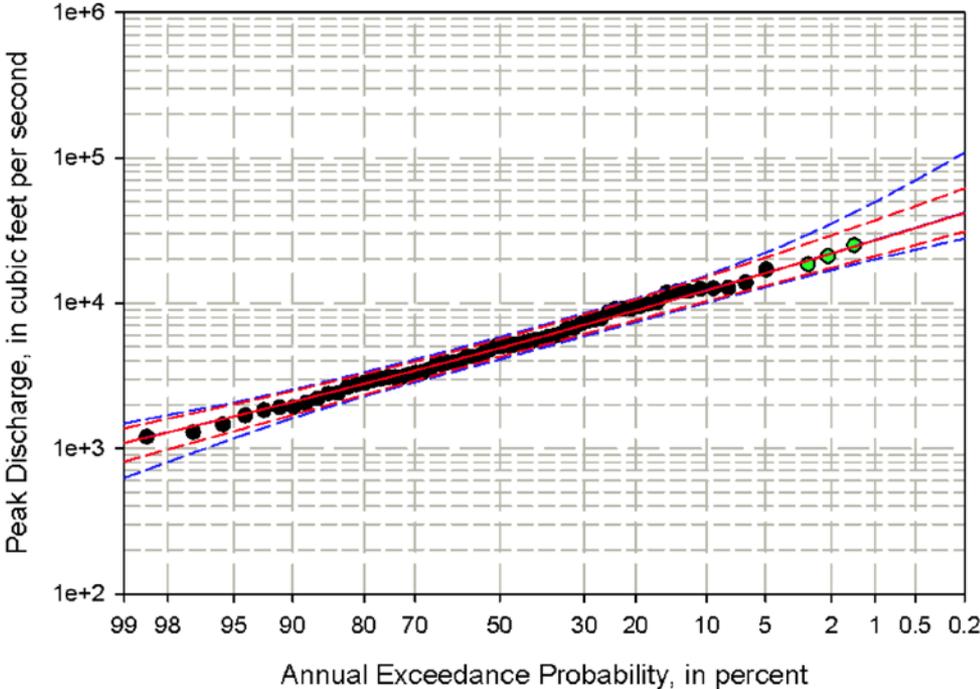
Remaining Technical Concerns

- Confidence intervals
 - Numerical issues
 - Accuracy with small samples and skews far from zero
- “Low outliers”
 - Too many?
 - Publication of method [Rosner, 1975]

Wide and “Kinky” Confidence Intervals



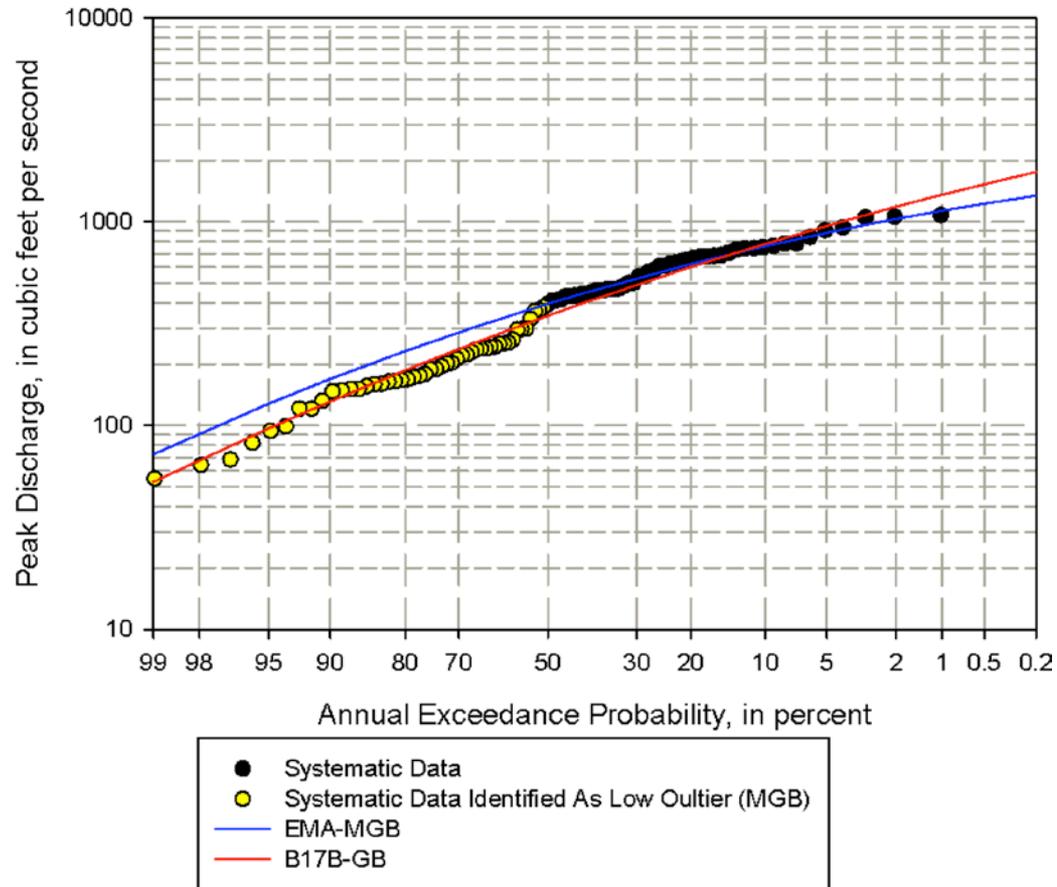
Big Sandy River at Bruceeton, TN
(Station 03606500)



- Systematic Data
- Historical Data
- EMA-MGB
- B17B-GB
- - - Confidence Intervals EMA-MGB
- - - Confidence Intervals B17B-GB

Number of “Low Outliers” Detected B17B/GB (0) and EMA/MGB (48)

Beaver River near Beaver, UT
(Station 10234500)



Comments on the HFAWG Process

- Difficult, slow and frustrating
- In the end, constructive

Next Steps

- Meeting with Subcommittee on Hydrology, July 9, 2012
- Presentation before Advisory Committee on Water Information (ACWI), Fall 2012

Thank You!

Language on Climate Change

Bulletin 17B: Climatic Trends

There is much speculation about climatic changes. Available evidence indicates that major changes occur on time scales involving thousands of year. In hydrologic analysis it is conventional to assume that flood flows are not affected by climatic trends or cycles.

Proposed Update:

There is much speculation about changes in flood risk over time. Available evidence indicates that major changes may be occurring over decades or centuries. While time invariance was assumed when developing this guide, where changes in climate and flood risk over time can be accurately quantified, the impacts of such changes should be incorporated in frequency analysis by employing time-varying parameters or using other appropriate techniques. All such methods need to be thoroughly documented and justified.