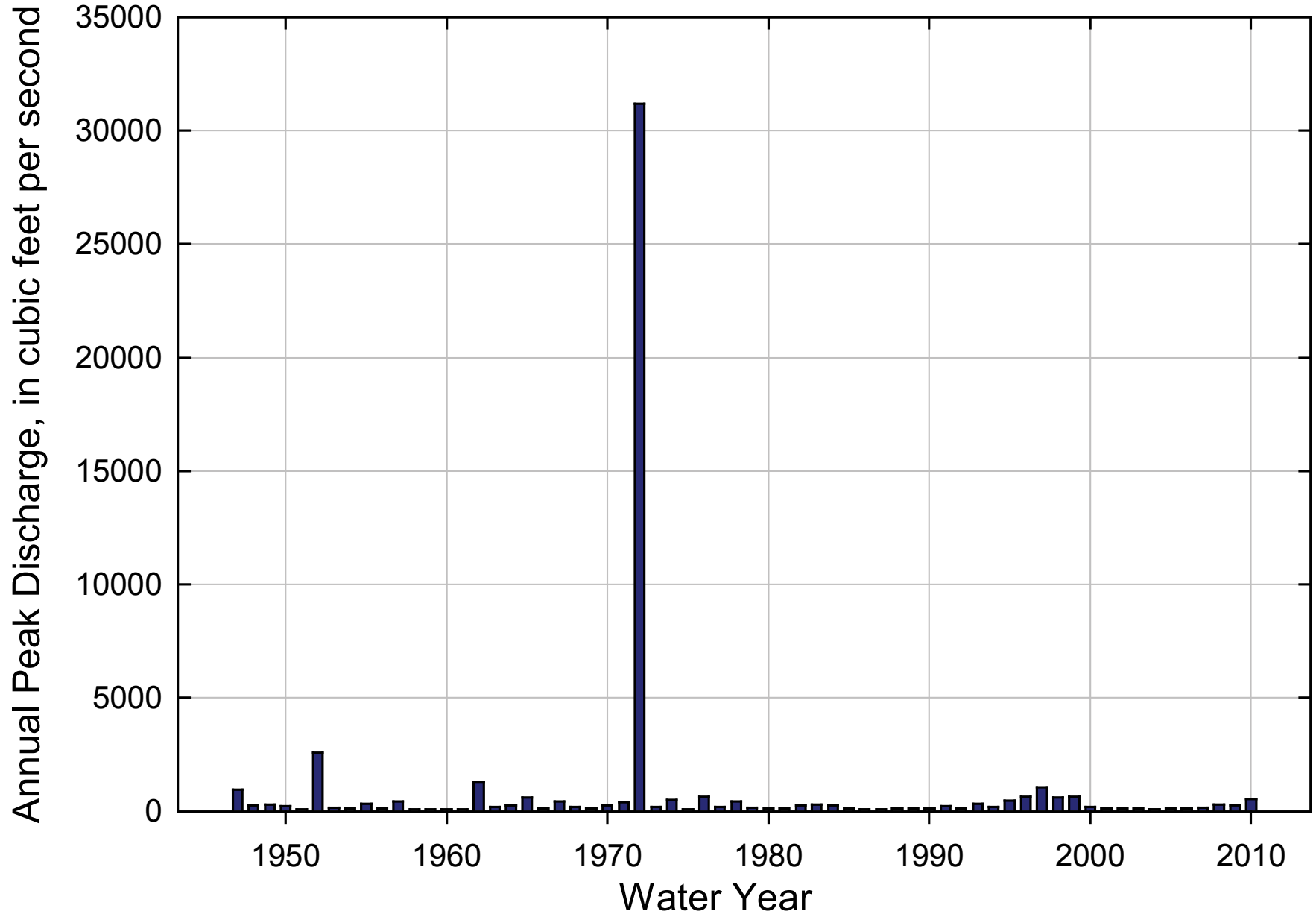
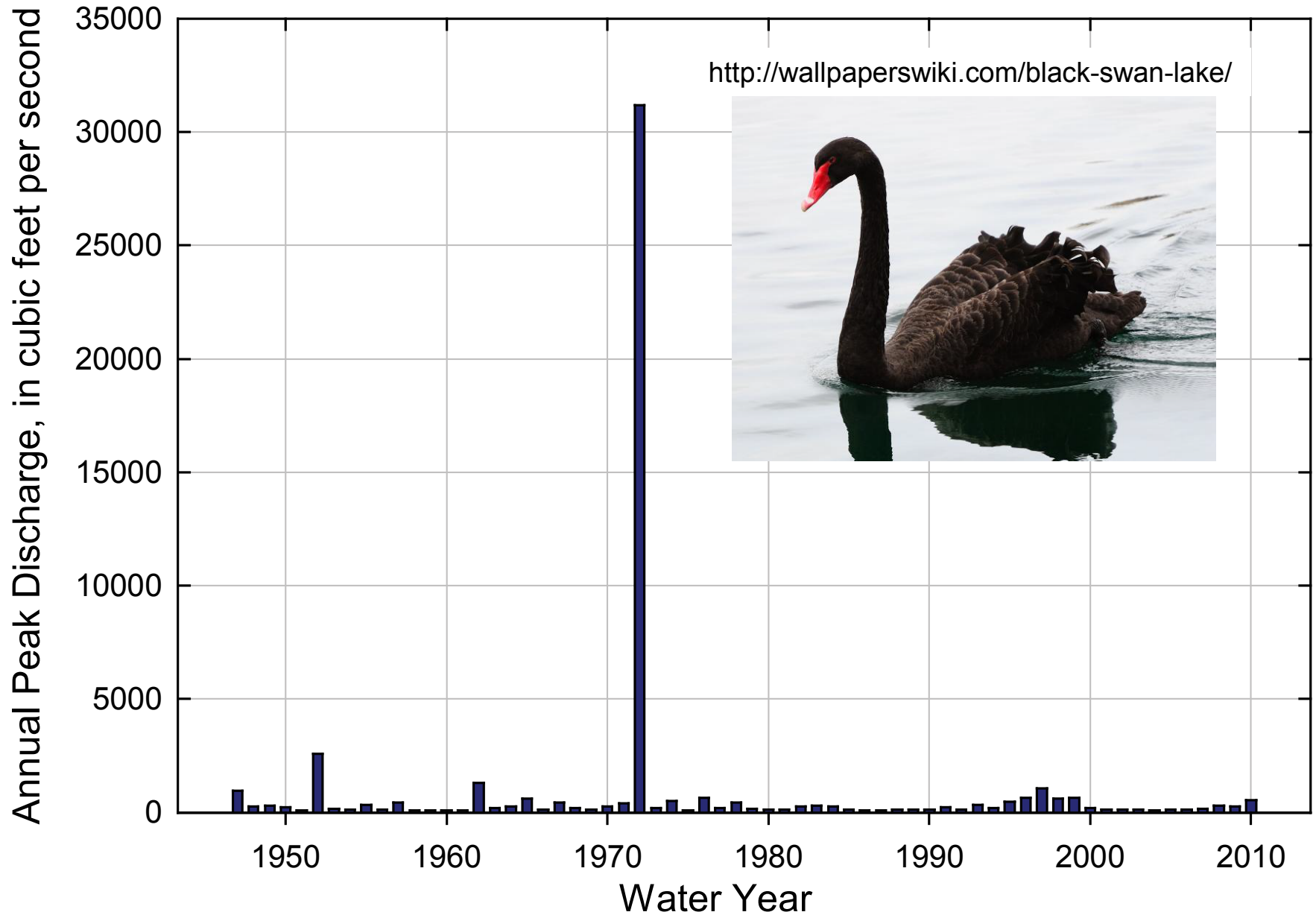


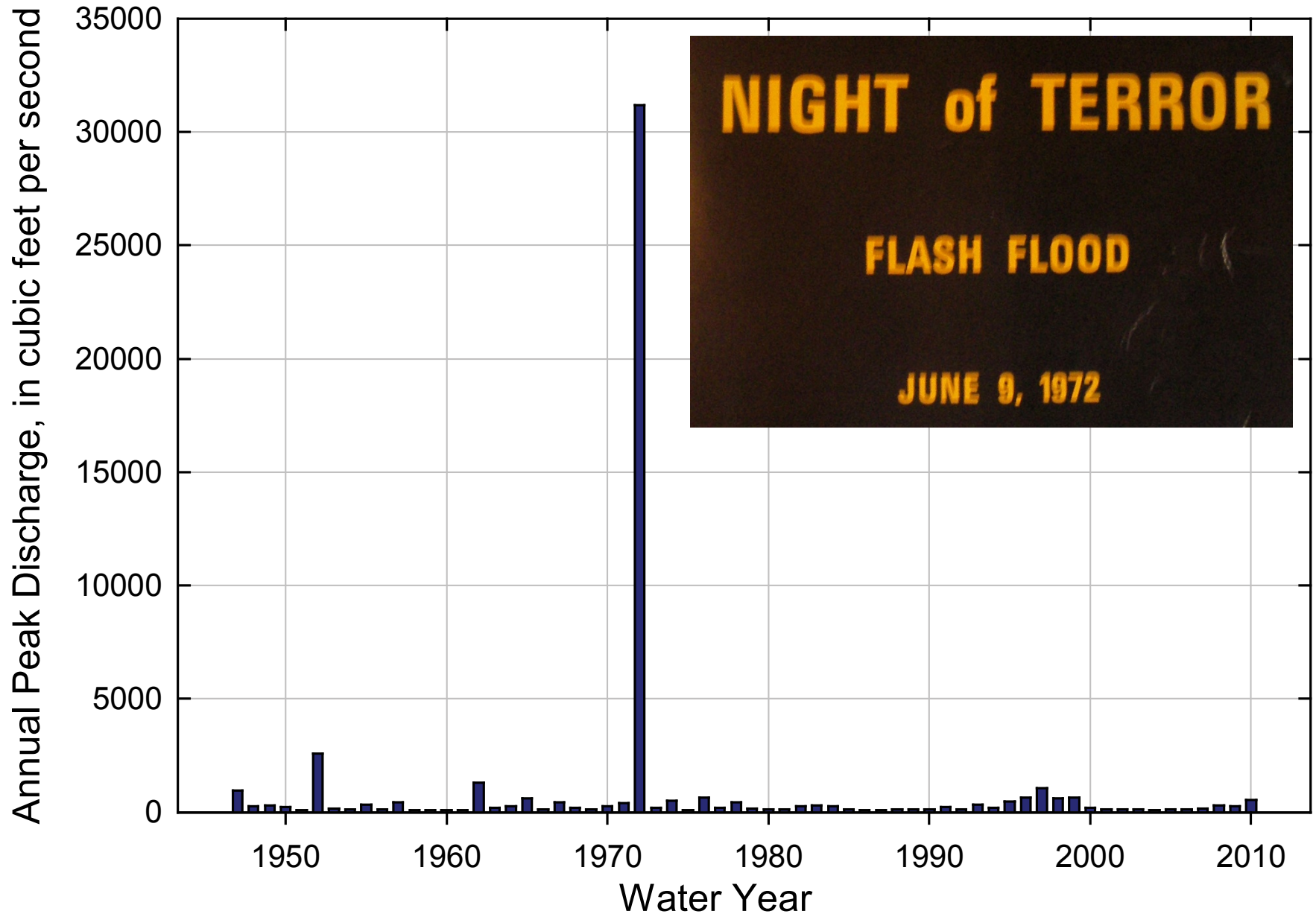
USGS Rapid Creek above Canyon Lake near Rapid City, South Dakota



USGS Rapid Creek above Canyon Lake near Rapid City, South Dakota

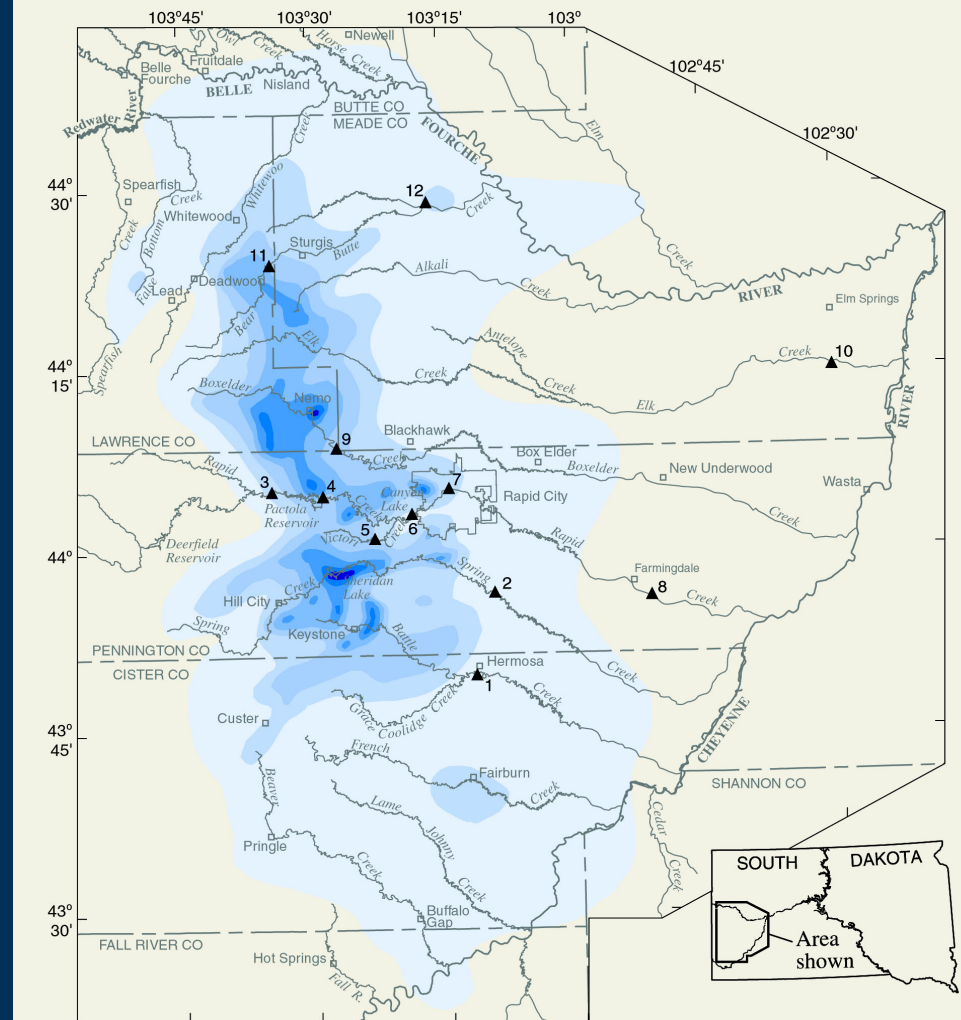


USGS Rapid Creek above Canyon Lake near Rapid City, South Dakota



June 9-10th, 1972:

- Mesoscale convective complex
- 25+ cm of rain over 150 square kilometers
- 240 fatalities
- \$160 million damage (roughly \$664+ million in 2009 dollars)



Base modified from U.S. Geological Survey digital data,
1:100,000, 1977, 1979, 1981, 1983, 1985
Rapid City, Office of City Engineer map, 1:18,000, 1996
Universal Transverse Mercator projection, zone 13

0 10 20 MILES
0 10 20 KILOMETERS

EXPLANATION

Total storm rainfall—Interval 2 inches



▲¹⁰ Streamflow-gaging station—
Number is site number in
table 1



Rapid Creek



Rapid City





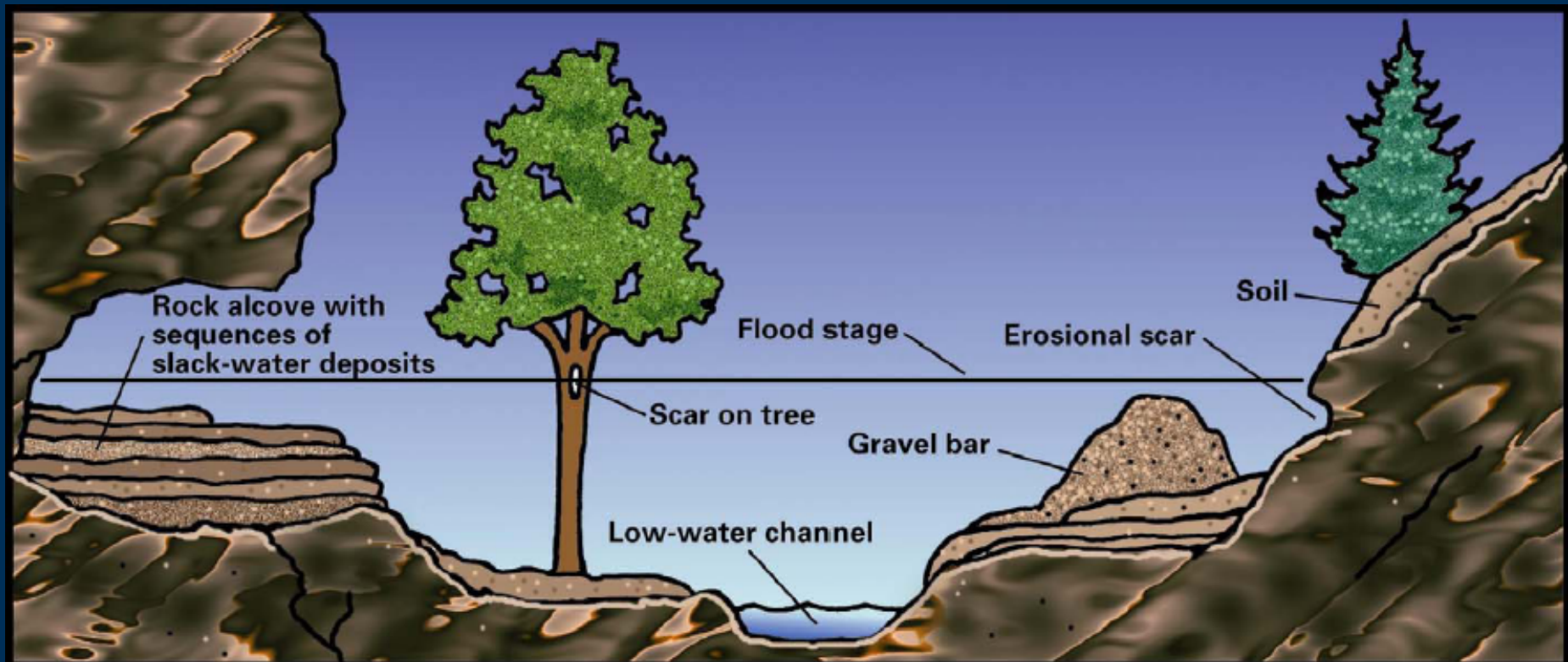




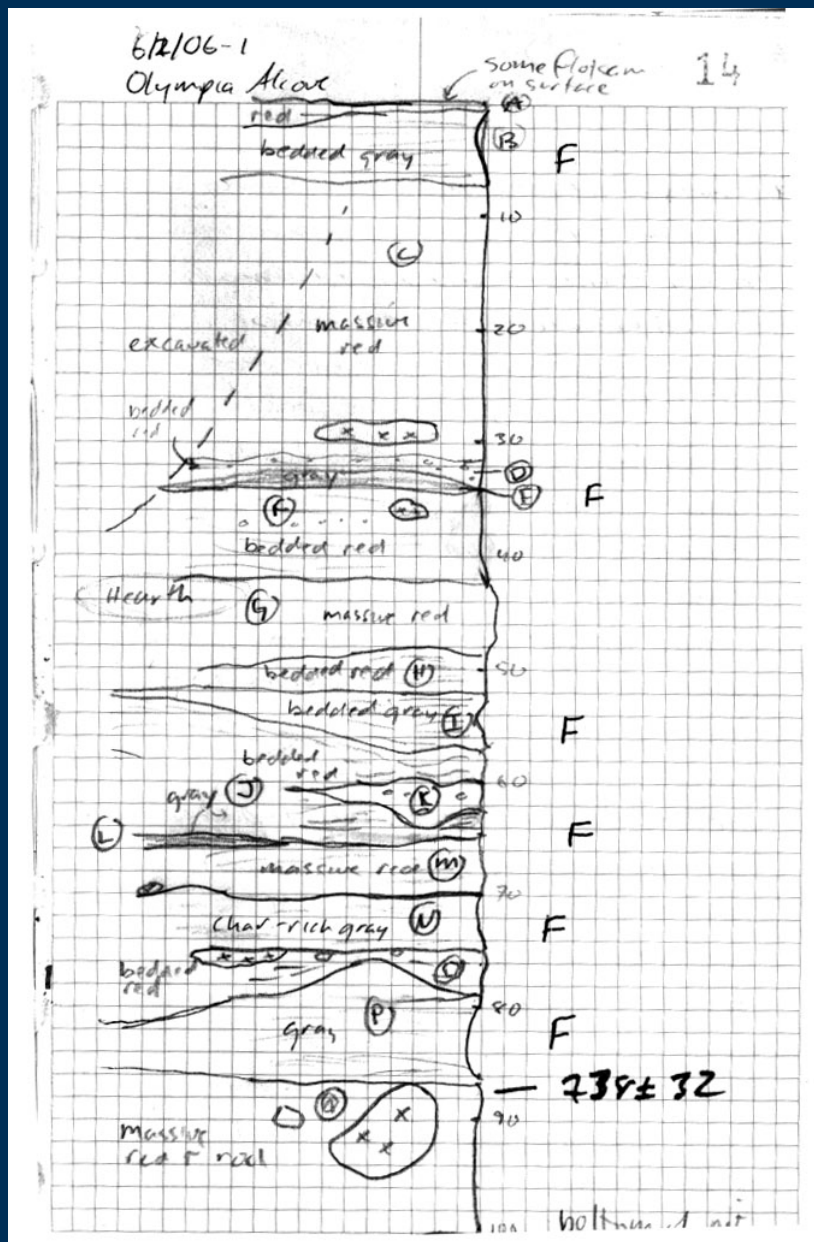




“Paleoflood” Hydrology



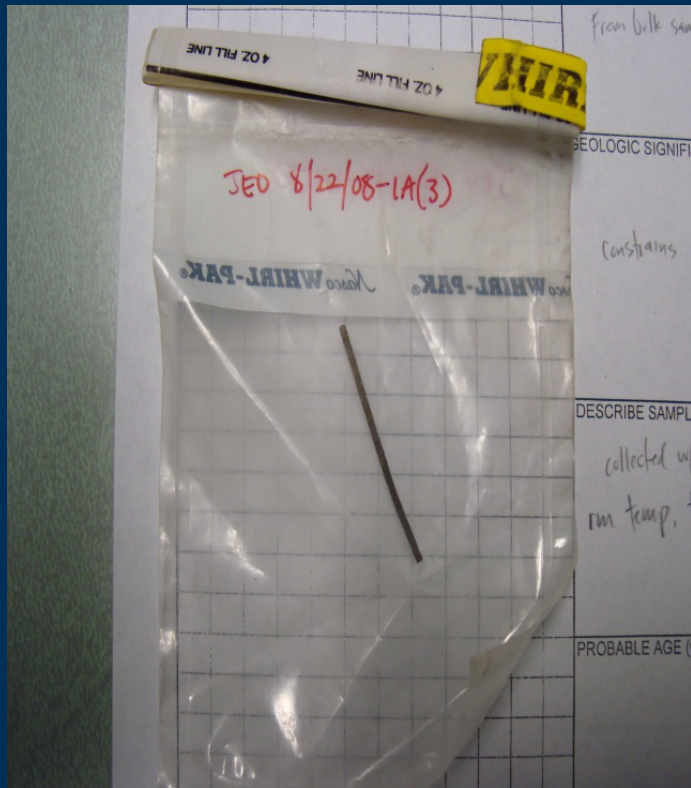
Stratigraphy





Geochronology

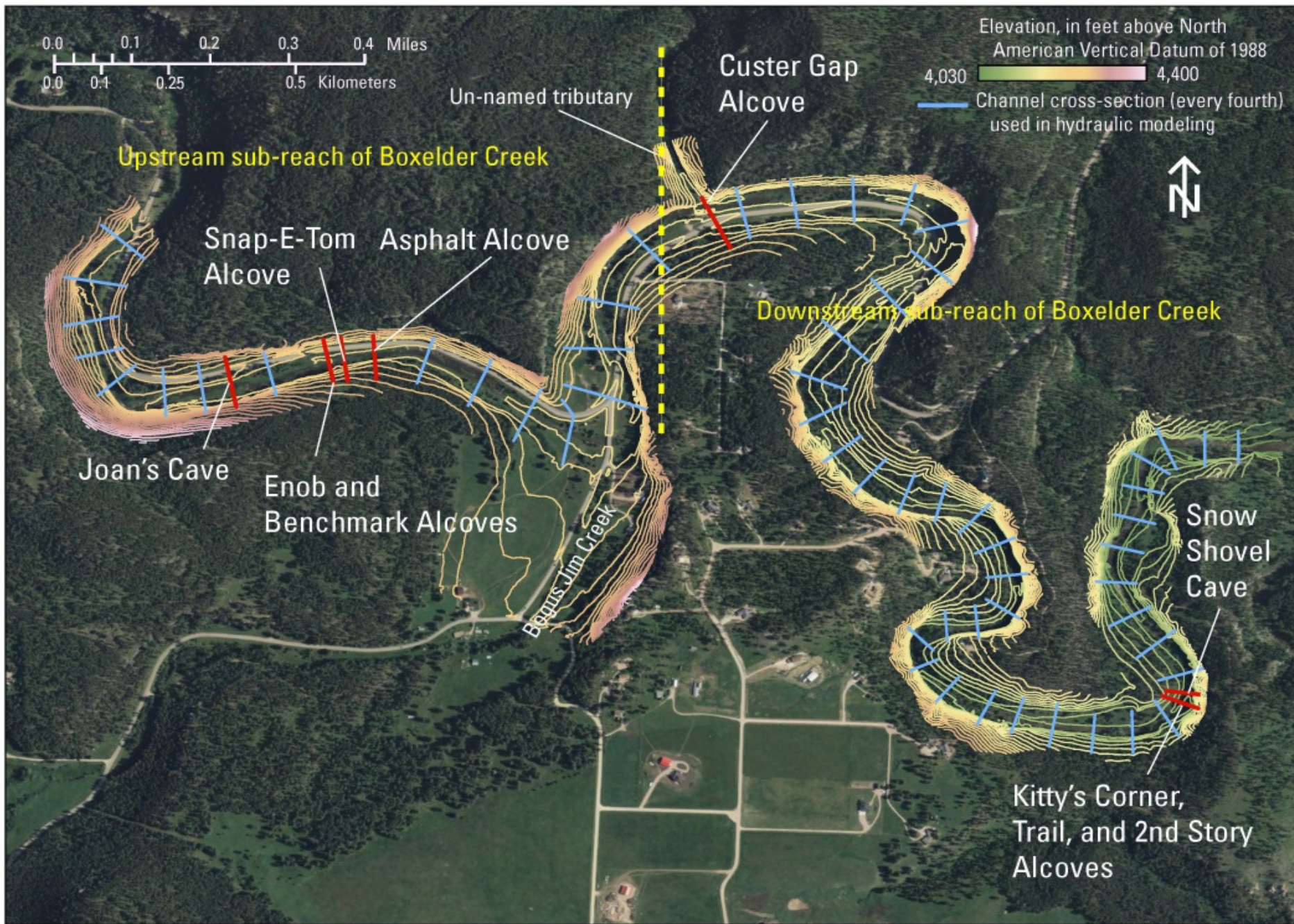
- ^{14}C (99 analyses)
- Optically stimulated luminescence (10 analyses)
- Cesium-137 (7 analyses)



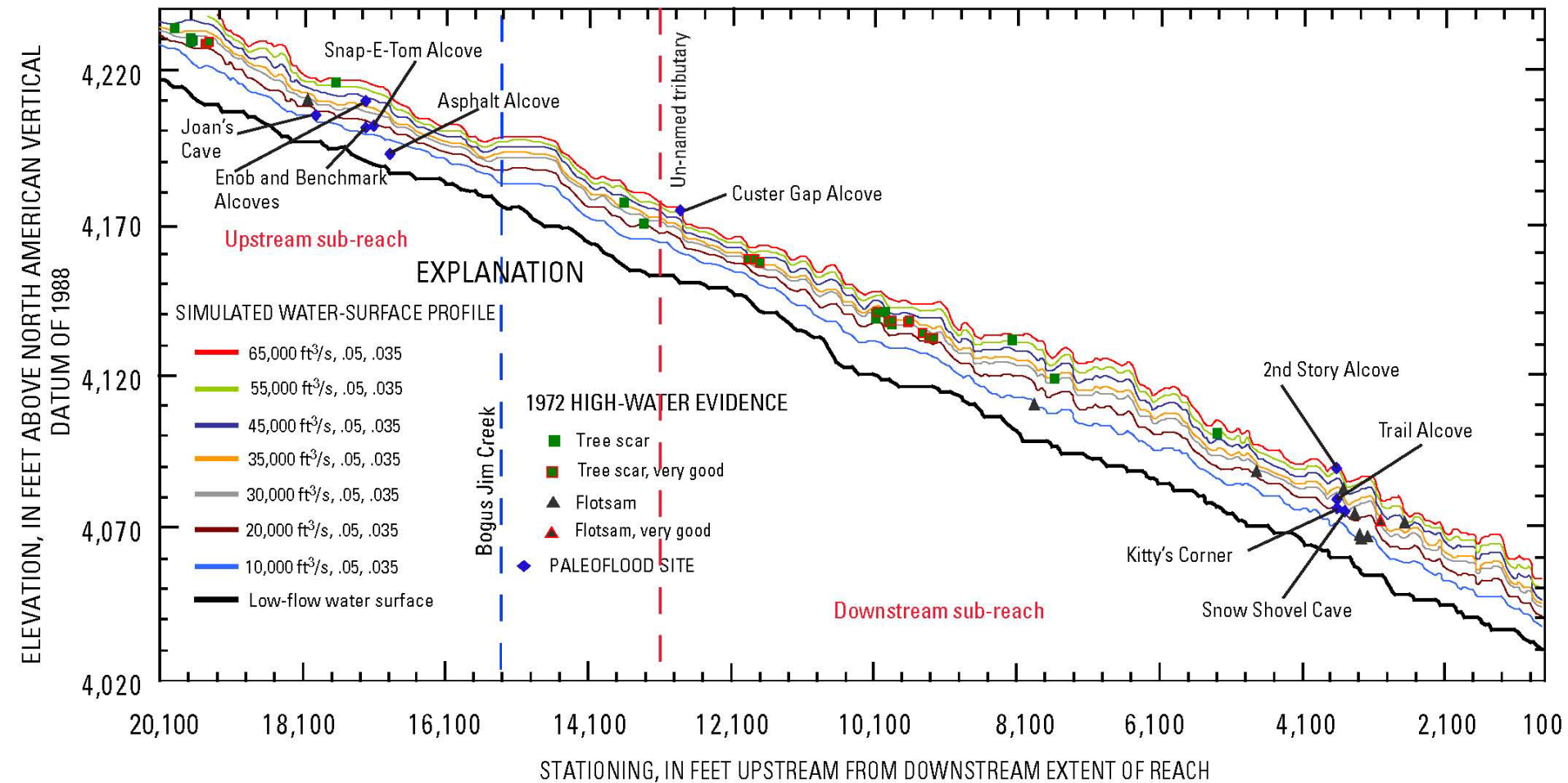
Flood Discharge

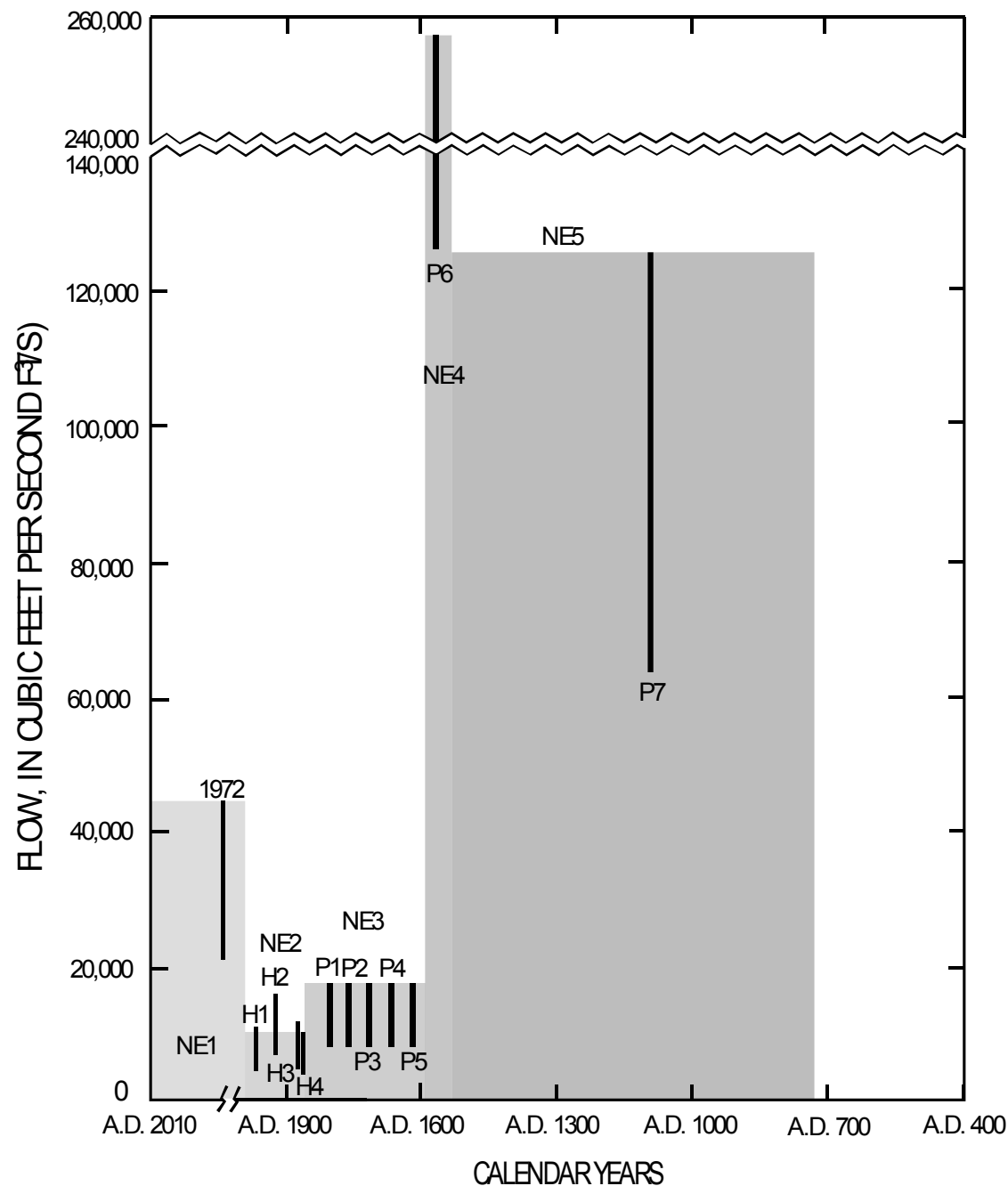
- Deposit elevation is *minimum* indicator of flood stage
- Stage related to discharge by hydraulic modeling





Base modified from ESRI digital data. Projection: Lambert Conformal Conic, State Plane, South Dakota.
North American Datum 1983, 1:9,500, False easting = 1968500, False northing = 0.





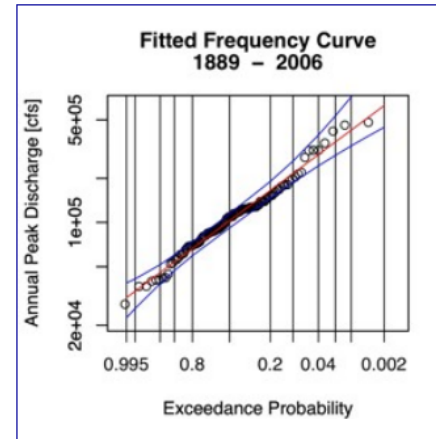
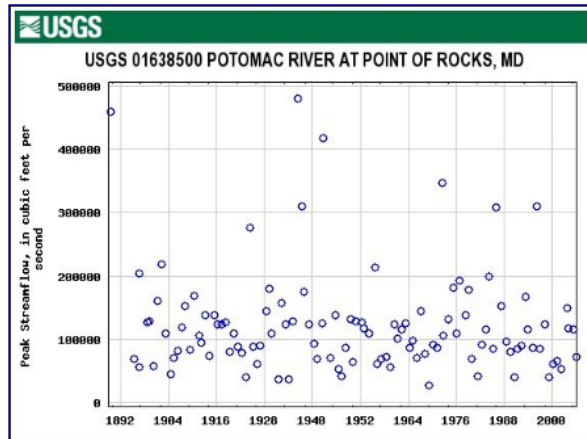
High Alcove
128,000 to 256,000 ft³/s
A.D. 1547 to A.D. 1597

Spider Cave
64,000 to 128,000 ft³/s
A.D. 1016 to A.D. 1180

Black Socks
Five floods with flows from
9,525 to 19,050 ft³/s
All between A.D. 1400 and
A.D. 1832

Welcome to the Unofficial PeakfqSA/EMA-Peak Home Page

hosted by [Tim Cohn](#)
25 August 2007



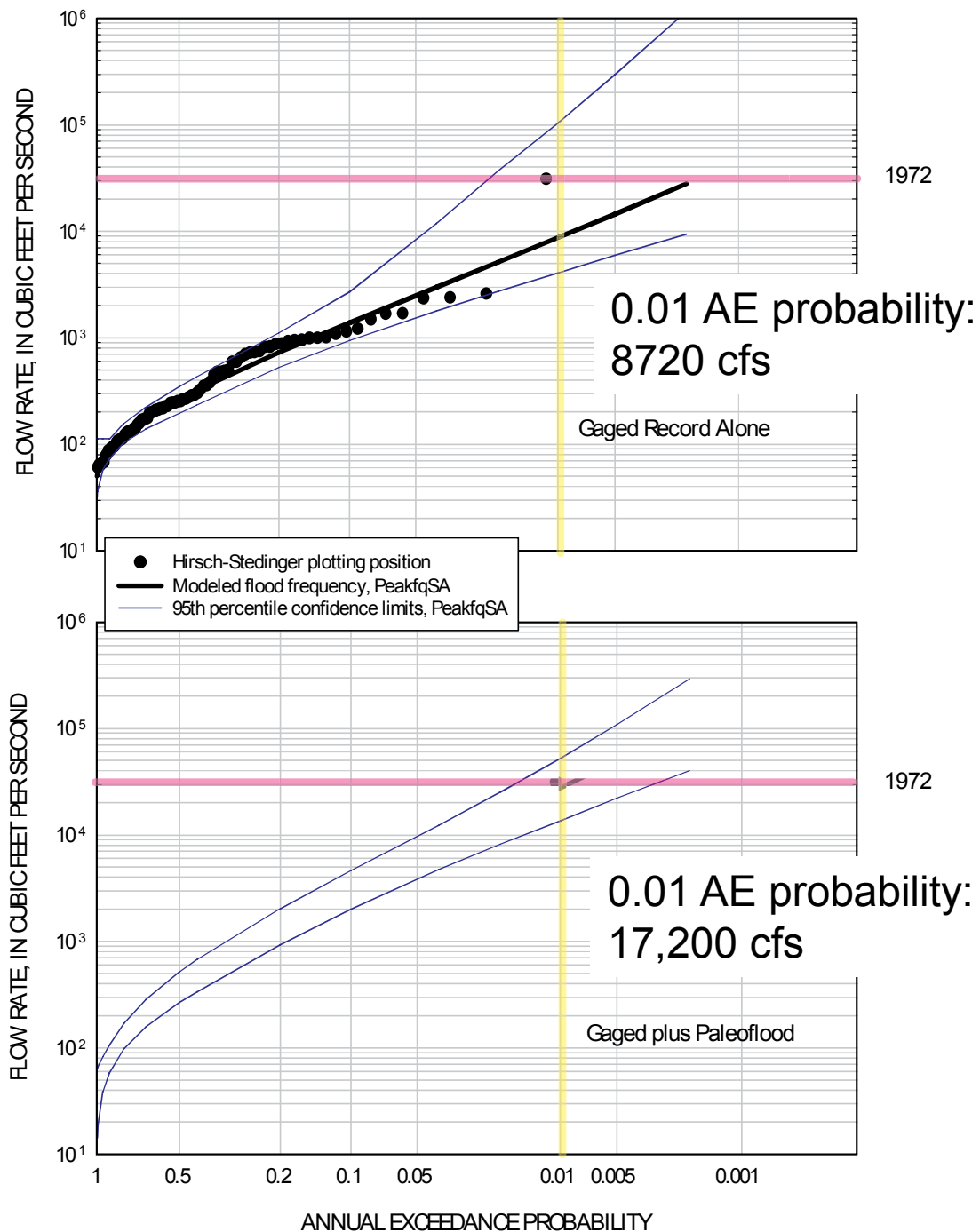
Introduction

PeakfqSA/EMA-Peak is an implementation of the Expected Moments Algorithm (EMA) for flood frequency analysis. It is intended to serve the same purpose as [PEAKFQ](#), the current and official flood frequency program supported by USGS.

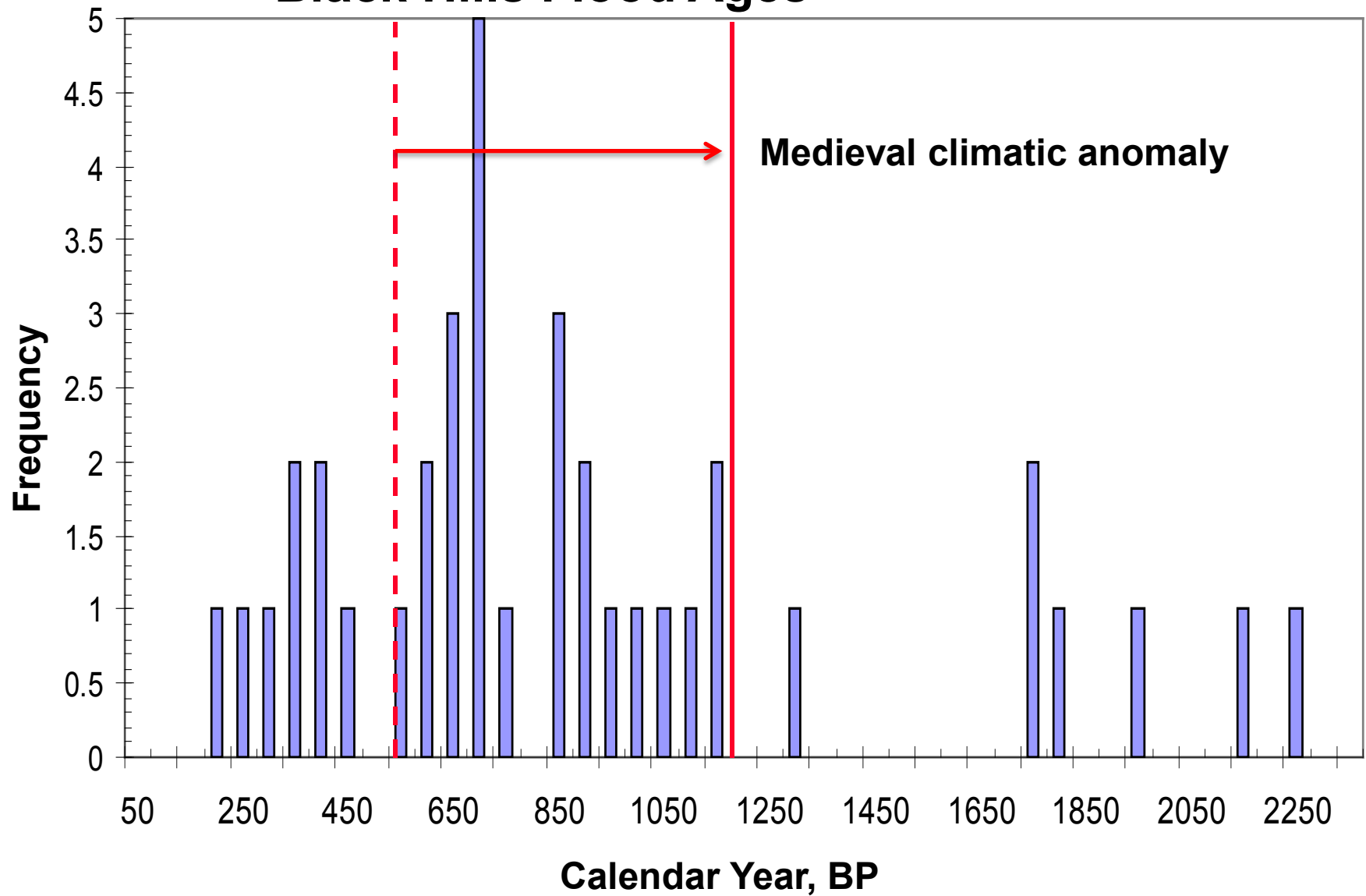
Statistical Aspects of PeakfqSA

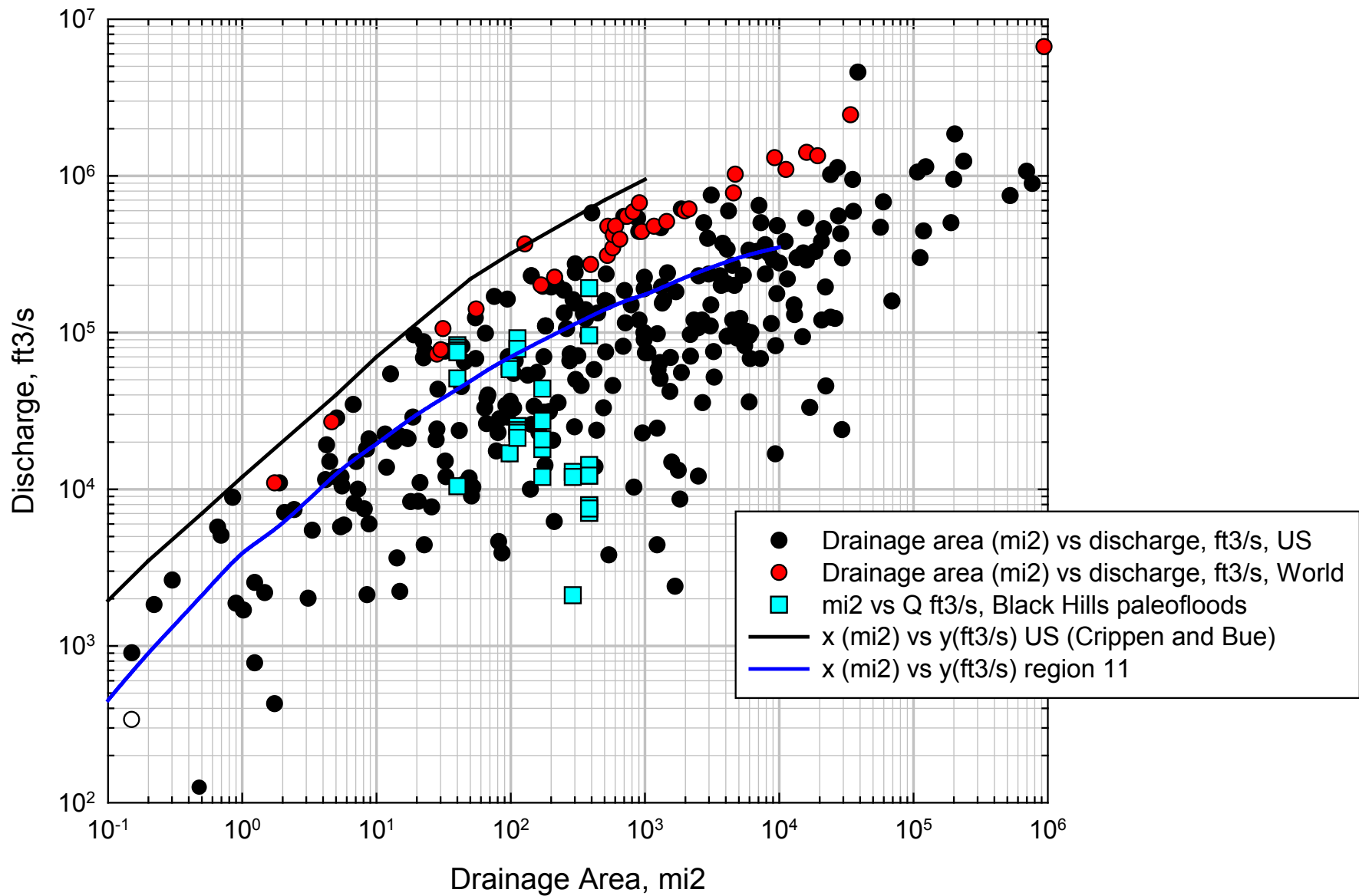
PeakfqSA uses [Cohn et al.'s \(1997\)](#) Expected Moments Algorithm to estimate flood frequency based on at-site ("Station") systematic and historical annual peak flow data possibly combined with regional ("Generalized") flood frequency information. PeakfqSA/EMA-Peak is documented in a set of papers published in [Water Resources Research](#) (see below).

PeakFQSA Results



Black Hills Flood Ages





Potomac ???

C & O CANAL NHP REGULATIONS

Park Closed Sunset to Sunrise

Camping and Fires in Designated Area
Fishing in Accordance with State Law

Prohibited:

Pets Off Leash

Alcoholic Beverages

Hunting and Weapons

Digging, Collecting, Removing any Natural
or Cultural Resources

Report Suspicious Activity to any Park
Employee or call TOLL FREE 1-866-677-6677

EMERGENCY DIAL 911

