

## **Hydrological Frequency Analysis**

### **Homework 2 Due Nov. 6, 2019**

1. Use the annual maximum series (AMS) of 1, 2, 3, 6, 12, 24, 48, and 72-hour design durations of HW-1 for the following analyses:
  - (1) Plot the Q-Q plot of the AMS of 1-hr and 24-hr design durations for the log-normal and gumbel distributions.
  - (2) Conduct the goodness-of-fit test for the eight AMS by using the LMRD.
  - (3) Conduct the goodness-of-fit test (the null hypothesis being the Pearson type III distribution) for the eight AMS by using the Chi-squared test in R.
  - (4) Conduct the goodness-of-fit test (the null hypothesis being the Pearson type III distribution) for the eight AMS by using the R K-S test in R.
  - (5) Calculate the AIC of the Gumbel and Pearson type III distributions for the 24-hr AMS.