Hydrology 2 workflow:

The mean precipitation curve is generated for Hydrology 2.

First, the additional precipitation are calculated for the Return Intervals that are not in the original NOAA data which are then merged with the original NOAA data. These are calculated based on the GEV distribution parameters that was obtained by fitting the GEV distribution to original NOAA data. Also, the parameters are calculated for a log-normal distribution that represents the uncertainty(variability) of precipitation based on the 90% confidence interval retrieved from the NOAA data.

The precipitation values are calculated for different AEPs and confidence limits (CL) based on a lognormal distribution that represents the variability of precipitation based on the 90% confidence interval limits provided by the NOAA Atlas 14. Eventually, the mean precipitation is calculated for a standard set of AEPs given the frequency curves calculated at a range of confidence limits. Such calculated mean precipitation is then fitted to GEV distribution.