

ReadMe File for Return Interval Models and DFA  
“Long-Range Dependence and Extreme Values of Precipitation, Phosphorus Load and  
Cyanobacteria”

Precipitation panels in Figure 3 are generated by **Poisson+Shuffle\_precip\_2022-03-14.R** from data in **DCRA\_precip\_1940-2021.Rdata**. Precipitation statistics in Table S.1 are generated from this same dataset by R script **DFA\_Yahara\_Precip\_2020-03-18.R**

Discharge panels in Figure 3 are generated by **Poisson+Shuffle\_Discharge\_2022-03-25.R** from data in **Discharge\_PB+YW\_1990-2021.Rdata**. Discharge statistics in Table S.1 are generated from this same dataset by R script **DFA\_Discharge\_2022-03-25.R**

Phosphorus load panels in Figure 3 are generated by **Poisson+Shuffle\_PLoad\_2022-03-14.R** from data in **AnnLoads\_PB+YP\_1995-2021.Rdata**. Phosphorus load statistics in Table S.1 are generated from this same dataset by R script **DFA\_Yahara\_PLoad\_2020-03-18.R**

Phycocyanin panels in Figure 3 are generated by **Poisson+Shuffle\_BGA\_2022-03-14.R** from data in **BGA+Chl\_dark\_centered\_Z\_2008-2021.Rdata**. Phycocyanin statistics in Table S.1 are generated from this same dataset by R script **DFA\_Yahara\_BGA\_detrend-by-year\_2020-03-27.R**

DFA statistics and ACF decay curves for concurrent data (Fig. 1) are computed by **DFA\_Merged\_PrecipDischPloadBGA\_2022-07-21.R** using concurrent data in **PPT\_Disch\_Pload\_BGAdark\_2008-2021.Rdata**.

**Organize\_Precip+Gages\_2019-01-01.R** is a file of R functions called by some other scripts.

Figure 4 is generated by **Count\_Days\_Pload\_Extreme\_to\_BGA\_extreme\_2022-03-28.R** using data file **PPT\_Pload\_BGAdark\_2008-2021.Rdata**