# Universal Scaling Features in Precipitation and River Flows

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We consider 30 precipitation and 30 river flow records distributed around the globe, and study the statistics of the return intervals between events above some threshold Q. From the return intervals, we can also derive the lengths of "wet" or "dry" periods where all data are above or below Q, respectively. By definition, return intervals above length 1 describe the lengths of dry periods, while the numbers of consecutive return intervals of length 1 define the lengths of wet periods. We are interested in the way these quantities are distributed, and how the distribution depends on the location of the record. We find the surprising result that for all precipitation data, the PDFs of the dry/wet periods each collapse to a single line when rescaled by the mean dry/wet period of each record. For the river data, the rescaled PDFs of the flood lengths also collapse, while there is no data collaps for the dry periods. All PDFs have the general form of a gamma distribution, $P(x)\sim x^{\{A-1\}}\exp[-Bx]$. The exponents do not depend on the location of the considered records, but depend, due to the multifractality of the data, on the chosen threshold Q.