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Long rainfall records and investigation of their extremes and long-term properties

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A common problem in extreme rainfall analysis is the absence of long rainfall records, which becomes more pronounced in the case of daily or sub-daily scale. Here, we put together a set of 27 daily rainfall records spanning over 150 years, which are collected from the investigation of global datasets or obtained via personal contact. In this analysis, we study the temporal structure and natural variability of extreme daily rainfall utilizing important information that is available today from instrumental records. Special focus is placed on the study of rainfall seasonality and its effects to extreme properties, as well as to the investigation of the link between extreme rainfall and global climatic patterns.