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Meteodiversity: A new concept for quantifying meteorological diversity

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Inspired by the concept of biodiversity used by biologists and ecologists, the concept of meteodiversity is proposed for characterizing the variety of meteorological phenomena in a defined area within a specified period. Such as the term biodiversity, meteodiversity takes into account the proportion of individual meteorological phenomena that occur in a defined area. The benefits and importance of using this concept are discussed.
For quantification purposes, we propose a meteodiversity index, which, in addition to events and phenomena, should include a large number of atmospheric variables obtained from instrumental and observational records.
This communication proposes using a meteodiversity index that itemizes not only events and phenomena, but also a large number of atmospheric variables obtained from instrumental and observational records. We use climatic data from Climate Assessment and Database (ECA&D) and the UK Met office to create a meteodiversity index for three European cities at different temporal scales and find that it successfully identifies trends and weather diversity.