



Changes in extreme dry and wet precipitation spell

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Global warming is expected to alter the behavior of hydroclimatic variables in various ways. Therefore, it is of great importance not only to identify which hydroclimatic variables are going through changes but also which of their specific characteristics change and in what way. For example the major focus regarding precipitation has been on changes or trends in extreme events or in annual totals, obviously, not without a reason. Yet one of the aspects of precipitation we believe is of equal importance and has not been extensively studied is extreme dry and wet spells. Changes in dry and wet spells can severely impact all aspects of human lives, ranging from infrastructure planning and water resources management to agriculture and infectious disease spread. In this study we perform an extensive analysis of extreme dry and wet precipitation spells using tenths of thousands of daily precipitation records in order to identify trends or variability changes in the maximum number of consecutive dry or wet days of each year. Our final goal is to evaluate the percentage of stations globally with positive/negative trends either in the mean value or in variability of extreme dry and wet spells and assess if this percentage is statistically justifiable.