

Rain in Spain is on the decline

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A study led by the University of Zaragoza (UNIZAR) has studied precipitation trends in Spain's 10 hydrological basins over the 1946 to 2005 period. The results show that precipitation has declined overall between the months of March and June, reducing the length of the rainy season. The rains are heavier in October in the north west of the country.

Since 1946, the average precipitation falling on Spanish hydrological basins has undergone "notable" changes. The researchers observed a widespread decline in March and June, above all in March (except in the basin of the Segura), with less intense rains in June.

"The basin of the Guadiana (in the south west of [Spain](#)) has experienced the strongest downward trend, with a reduction of 18%, while the positive trends recorded in the north west of the peninsula were less intense (the Norte, Douro and Tagus basins)", José Carlos González-Hidalgo, lead author of the study and a researcher at the UNIZAR, tells SINC.

The study, which has been published in the journal *Climate Research*, shows that the decline in rainfall in March leads to a reduction in the duration of the wet season. Even with the trend recorded in October (increased precipitation), the total precipitation for the hydrological year is increasingly dependent on the onset of the wet season. "In other words, it seems that the wet season has become shorter", explains González-Hidalgo.

Understanding what is happening in the basins

The research team studied the precipitation changes in each Spanish basin, and analysed the monthly series using the running trend technique, which "calculates the precipitation trend for various successive years, looks at the changes that have taken place, and detects possible modifications in this trend", the scientist explains.

Water is the most important resource in Spain, and it is managed by national water planning units at local level within the hydrological basins. "In order to plan the most effective way of using water, it is of fundamental importance to know what has happened in these basins, and what is happening now," the professor from the UNIZAR Department of Geography explains.

The data used to produce the study come from MOPREDAS, the most complete monthly precipitation database in mainland [Spain](#), produced by the Department of Geography of the UNIZAR.

The UNIZAR researchers, working with the Czech Hydrometeorological Institute and the Institute of Atmospheric and Climate Science of Bologna (Italy), used all the records preserved in the archives of the Spanish State Meteorology Agency (AEMET).

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