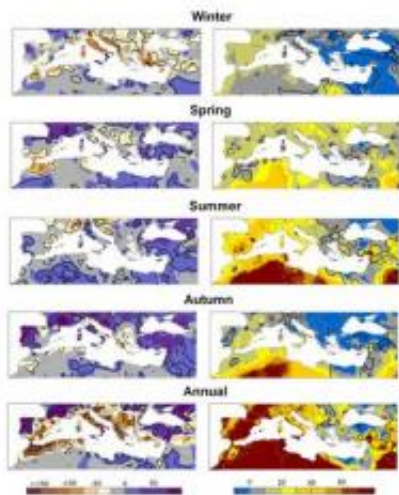


Rainfall to decrease over Iberian Peninsula

July 23 2009



Evolución estacional y anual del clima en el Mediterráneo entre 1950 y 2002. Los colores muestran la magnitud de los cambios en la precipitación (izquierda); y la evapotranspiración en mm (derecha). Mapas: Juan Ignacio López-Moreno et al.

Scientists have recorded a decline in winter precipitation over the past 60 years in Spain, and they now forecast that precipitation will also decrease in spring and summer. A team from the Pyrenean Institute of Ecology (CSIC) has studied rainfall data from 1950 to 2006 and the climate projections for coming decades, showing that less rain will fall in future over the Iberian Peninsula. However, precipitation will continue to be more frequent in winter than in spring-summer.

Have there been any changes to the monthly contributions to total annual

precipitation within the Mediterranean basin? Researchers from the Pyrenean Institute of Ecology (CSIC) have assessed the changes observed in [rainfall](#) patterns since 1950, and are predicting contributions to be lower by the middle of the 21st Century, against a backdrop of increasing [greenhouse gas emissions](#).

"We have used the data reported (1950-2006) and simulated various climate models (2040-2060) to look at whether the monthly contribution to the annual total has changed over recent decades, and whether such changes are likely to happen over the medium term", Juan Ignacio López-Moreno, lead author of the study, tells SINC.

The research, published recently in the journal *Geophysical Research Letters*, studied variability and climate change in the Mediterranean region. According to the scientists, significant changes have taken place over this area, with disparate effects being noted over the course of the year, and "uniform patterns" identified in the evolution of rain over time. In addition to the changes in the amounts of precipitation falling, López-Moreno says "the climate models suggest new changes will take place over the coming decades".

Rainy December?

One of the most significant patterns revealed by the study is that precipitation in March in the western part of the Mediterranean basin, specifically the Iberian Peninsula, fell by 8% from 1950 to 2002, and increased by 3% in April and May over the same period. The researchers also point to a slight increase in rainfall between August and December.

Scientists are predicting a significant decline in rainfall throughout the entire Mediterranean basin, above all in spring and summer. However, observations from the past 50 years and predictions for coming decades do not show up any changes in seasonal rain distribution patterns. The

research team says "while the changes observed have now been identified, they are not great enough to alter the general pattern of rainfall distribution throughout the year".

López-Moreno says the uncertainties associated with [climate models](#) and the way in which hydrological systems will respond to climate changes make it hard to draw any immediate conclusions.

Source: Plataforma SINC ([news](#) : [web](#))

Citation: Rainfall to decrease over Iberian Peninsula (2009, July 23) retrieved 19 April 2024 from <https://phys.org/news/2009-07-rainfall-decrease-iberian-peninsula.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.