Study indicates changing climate in the Australian South-East

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Image credit - Gregory Heath, CSIRO

Despite recent rainfall in parts of eastern Australia, a recently released scientific report indicates an increasing risk of below-average rainfall and runoff into streams, and drier conditions into the future in south-eastern Australia.

The South Eastern Australian Climate Initiative (SEACI) report: *Climate variability and change in south-eastern Australia*, highlights the effects of climate variability and change on the water resources of the south-east.

The SEACI report is a synthesis of findings resulting from the first phase of a collaborative research project between the Australian Department of Climate Change and Energy Efficiency, the Victorian Government Department of Sustainability and Environment, the

Managing Climate Variability R&D Program, and the Murray-Darling Basin Authority. The research was undertaken by CSIRO and the Bureau of Meteorology.

A key finding of the report is that the recent 13-year drought was unprecedented in the historical record in terms of its extent, reduced year-to-year rainfall variability, and the seasonal pattern of the rainfall decline. As a result of the nature of the changes in rainfall, the reductions in runoff have been greater than expected.

“While 2010 has brought welcome rains for much of south-eastern Australia, there is growing evidence from SEACI research that a long-term trend towards a drier climate is taking place,” said Program Director, CSIRO’s Dr. David Post.

“Changes to large-scale atmospheric circulation patterns are impacting on rainfall and runoff in the south-east, particularly in the southern Murray–Darling Basin and Victoria.”

These observed changes indicate a shift in the overall climate of south-eastern Australia, similar to what has been experienced in rainfall and runoff in south-west Western Australia since the 1970s.

“The research indicates that these changes can be linked to global warming, making it a likely contributor to the recent drought.”

The report notes that natural climate variability is also likely to be a contributing factor to the rainfall and runoff decline.

“The next three years of research under Phase 2 of SEACI aim to improve our understanding of the extent to which these changes can be attributed to climate change; to improve projections of the impacts of climate change on water resources; and to advance seasonal forecasting

of climate and streamflow," Dr. Post said.

More information: The SEACI Report is available at: South Eastern Australian Climate Initiative

Provided by CSIRO

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