



## **Essential Climate Variables supporting Adaptation Planning for Climate Change: Reflections and Future Directions**

Walther C. A. Camaro Garcia (1), Barry O'Dwyer (1), and Ned Dwyer (2)

(1) MaREI Centre, Environmental Research Institute (ERI), University College Cork, Rd Ringaskiddy Co. Cork, Ireland (walther.camaro@ucc.ie), (2) Randbee Consultants, Malaga, Spain(ned.dwyer@randbee.com)

Ireland's climate is changing, in line with regional and global trends, and these changes will affect all sectors of society. In addition to efforts to mitigate against the causes of climate change, adaptation to the now inevitable impacts of Ireland's changing climate is urgently required. In line with international and EU obligations, Ireland has adopted a National Policy Position structured in two parallel plans, the National Mitigation Plan (NMP) and the National Adaptation Framework (NAF).

The NAF specifies the national strategy for the application of adaptation measures in different sectors, assisted by a range of climate services and tools. One of these support services is the web-based platform Climate Ireland (<http://www.climateireland.ie>), that offers a wide range of informational and practical tools aimed to support decision makers in planning for adaptation and in accordance with the requirements of the NAF. As part of Climate Ireland, Ireland's Climate Status Tool is updated periodically through a series of phased nationally funded projects. This tool aims to provide decision makers with an evaluation of the status of Ireland's climate based on the Global Climate Observing System (GCOS) defined Essential Climate Variables (ECVs). ECV data records provide key information to inform adaptation measures and are essential to understand past, current and possible future climate variability.

This work presents an overview of the Climate Status Report for Ireland (CSRI) project, aimed to update Ireland's Climate Status tool based on a detailed analysis of the ECVs for Ireland and according to the requirements of the GCOS. In addition, using Climate Ireland as a case study example, this work presents a description of the challenges and opportunities of employing ECVs in planning for climate change adaptation. Finally, an evaluation of the situation of the ECVs observational infrastructure, based on discussions with data holders, national experts and the requirements of adaptation planning is presented. An understanding of the current and future status of observational infrastructure for ECVs is essential information for the Irish climate community and national policy makers in developing and implementing actions aimed to support Ireland's NAF. This work is a good example of the importance of ECV observations supporting national adaptation plans and it could be applied to other states.