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Climate-proof irrigation strategies save crops in Italy

The Romagna Land Reclamation and Irrigation Authority is the first to use the Copernicus Climate Change Service, run by ECMWF, to improve irrigation strategies by predicting water shortages that could come with climate change.

Italian environmental modelling consultancy GECOsistema recently developed an online tool which uses climate change scenarios for 2020, 2050 and 2080 generated by ECMWF from Copernicus data.

The tool has enabled Romagna Land Reclamation and Irrigation Authority to quantify for six different crops: kiwi, seed chard, persimmon, peach, horticultural crop and corn, the deficit or surplus of water, the capacity of existing irrigation systems to meet requirements, and the potential yield and economic losses at harvest.

As a result, the Romagna Authority was advised to develop a new crop scheme, consider improved irrigation systems, and find new irrigation technologies to conserve water supplies in the Castiglione District.

"Copernicus has highlighted the risks associated with climate change and this will help us to validate new and existing irrigation proposals," commented Daniele Domenichini, Irrigation manager at Romagna Land Reclamation and Irrigation Authority.

Through Copernicus, the Romagna authority can also quantify potential damage to crops and harvest under the current crop scheme and irrigation capability; and adapt irrigation of especially thirsty crops.

As pointed out by the Head of the Copernicus Climate Change Service at ECMWF Jean-Noël Thépaut, "Copernicus offers a pan-European overview of climate change in terms of soil moisture and raising awareness of these changes can help irrigation managers across Europe to plan for the challenges ahead."







The ECMWF Copernicus Climate Change Service (C3S) is hosting the **5th International Conference on Reanalysis (ICR5)** from 13–17 November 2017 in Rome, Italy. This international conference is the worldwide leading event for the continuing development of reanalysis for climate research, which provides a comprehensive numerical description of the recent climate on a global scale. Climate reanalysis data is used by public services, companies and organisations. It provides the means to assess climate trends and the changing climate. There will be a media briefing, and interview opportunities with climate scientists, for an overview of the current situation in the field and to highlight the scientific and economic gain expected from this area of research.

Copernicus is the European Commission's flagship Earth observation programme. It delivers freely accessible operational data and information services which provide users with reliable and up-to-date information related to environmental and security issues.

C3S is run by the European Centre for Medium-Range Weather Forecasts (ECMWF) on behalf of the European Commission. ECMWF also operates the Copernicus Atmosphere Monitoring Service (CAMS). ECMWF is an independent intergovernmental organisation, producing and disseminating numerical weather predictions to its 34 Member and Co-operating States.

Academic and environmental institutions from across Europe, including national meteorological services, play an integral part in making Copernicus a success.

The Copernicus Climate Change Service website can be found at https://climate.copernicus.eu/

The Copernicus Atmosphere Monitoring Service website can be found at http://atmosphere.copernicus.eu/

The ECMWF website can be found at https://www.ecmwf.int/

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