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"Brewing a better world" with help from Copernicus

The Copernicus Climate Change Service run by the European Centre for Medium-Range Weather Forecasts (ECMWF) is helping one of the largest breweries in the world, Heineken, towards its goal to be climate neutral by 2020. Part of this is environmentally responsible water management.

The Heineken brewery based in Zoeterwoude, in the Netherlands, has joined forces with the University of Wageningen and the Provincial government of South Holland in a cooperative called Green Circles.

Wageningen Environmental Research interpreted Copernicus Climate Change Service (C3S) data to make projections on the future supply and quality of the water in this region used for brewing famous Heineken beer.

The local river water is stored and purified by the dunes in South Holland before it reaches the brewery. However, climate change could threaten the quality and supply of this water as heavy rainfall induced flooding or dry periods could occur more frequently in future.

"Copernicus provides a means for us to understand the potential impact of climate change and take measures to protect our valuable resources," commented Jan Kempers, Sustainable Development Manager at Heineken Netherlands Supply.

Combining satellite observations with meteorological data and other biophysical analyses to anticipate droughts and floods enables better water resource management. Wageningen Environmental Research together with Climate Adaptation Services used a range of data to create "story maps" comprising GIS maps and artist impressions. Using these, the Green Circles partners can plan a more responsible approach to business and environmental development.

The Copernicus Climate Change Service's prototyping work on water indicators offer one of the most comprehensive and up-to-date set of climate change information.

Mapped graphically, these data help the wider community to understand the impact at a pan-European level, and as such is a critical add-on to the local data, such as meteorological information. The agriculture sector, nature organisations,

industry and companies that provide drinking water also benefit from this information.

Water used for drinking or industrial processes in the Randstad area of the Netherlands depends on water flow in the catchment of the Meuse. The C3S indicators were used to analyse water flows during the summer. Key issues are soil subsidence, salinization, maintaining a sustainable transport system, biodiversity and availability of sufficient clean drinking water in the future.

"The Copernicus Climate Change Service gave us an overview across Europe that was missing from our local data. This yielded valuable insights into how regional fluctuations in water resources could influence local levels," noted Hasse Goosen, Project leader at Wageningen Environmental Research.

Based on the forecasts created by Wageningen Environmental Research, Heineken Netherlands has invested in various associated spin-off projects that include creating marshland and a purification ditch. Natural purification of wastewater from the brewery costs less, has ecological benefits, creates a pleasant environment, and will provide a store of water in times of drought.

Future climates will change the availability of resources and affect economies. *"Copernicus data offers important observations to help analysts to identify trends that will underscore business decisions,"* added Hasse Goosen.

Jean-Noël Thépaut, Head of the C3S Service commented: *"Heineken's use of Europe's Copernicus service shows that a pan-European view of climate change is a fundamental element of long-term business and environmental planning."*

Notes for editors

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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