PRESS RELEASE

*Immediate release*

**Heatwaves, climate change and toxic algal blooms: New forecasting tools**

***Concerns about the quality of drinking and bathing water are mounting after a summer of yet more toxic algal blooms.***

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BRUSSELS, 30 September 2019 -- **Better insights and tools to control the growing prevalence of toxic algal bloom in Europe’s inland waters, thanks to detailed investigations by the EU-backed IMPREX initiative.**

Europe is leaving behind a summer of record heatwaves and reports of widespread algal blooms in many of its rivers and lakes. Algae tend to thrive in sunnier conditions, higher temperatures and in more stagnant or low-flowing waters with higher concentrations of nutrients like nitrates found in fertilisers – a process known as eutrophication. Proliferating algae affect bathing and drinking water, and aquatic life and biodiversity struggle in oxygen-starved and toxic conditions.

Not all algae are dangerous; some species can even be eaten and used in cosmetics or as energy biomass. But those containing cyanotoxins, such as *microcystis aeruginosa*, can cause serious harm to humans and animals. This risk of more toxic blooms is expected to increase as temperatures rise, rainfall drops and waterways become more static under climate change conditions. This puts growing pressure on water authorities responsible for sampling and testing drinking and bathing waters.

Better forecasting and innovative methods to handle this growing threat are needed. IMPREX scientist and project manager at Cetaqua, Laurent Pouget notes: “*Detecting the most dangerous type of cyanobacteria in raw surface water is complex and costly (~€100 per sample), which limits monitoring frequency. Water operators are only required to monitor treated water. Little is known about or done to prevent potentially dangerous blooms upstream. Due to its heavy reliance on lakes and open reservoirs for its drinking water, Spain has to be particularly vigilant.”*

Pouget is a lead author of a new report produced under the EU’s Horizon 2020-funded IMPREX, which traces the threat to urban water supplies in Europe posed by extreme weather. Advanced water-quality forecasts, honed through detailed case studies in collaboration with SUEZ in Spain’s Segura and Llobregat Basins and other sites, can help Drinking Water Treatment Plants (DWTP) and authorities responsible for Water Safety Plans monitor conditions and better predict potential threats, making water supplies safer and more resilient.

Isabel Hurtado of Aquatec, who manages risks linked to raw water intake in a DWTP in Murcia (ES) says: *“Resilience is going to be more important as hydrological extremes become more common and unpredictable. Changing water conditions will have big implications on the design of water management practices. Actionable research like IMPREX’s is urgently needed to guide decisions.**We want to know what’s going on with our climate, but also how to respond effectively.”*

IMPREX’s detailed monitoring of algal activity, water conditions and enhanced climate projections provide decision-makers with the intelligence to make risk assessments based on changing hydro-meteorological conditions. Hurtado explains: *“In the competition for resources between inoffensive and dangerous algae, greater instability in the weather and extreme heat can give the toxin-bearing bacterial strains the edge over the benign ones. We’ve monitored different algal growth and now know which were present at different times, indicating which are dominant and growing fastest.”*

**Four innovative services** have been developed in the framework of IMPREX, using data to help water authorities and managers reduce risks, plan services and infrastructure and save on costs: 1) Tools for managing turbidity or murkiness in the water

2) Advanced control of cyanotoxin risks

3) Models for assessing climate change impacts on river pollutant concentration

4) Tools for monitoring and forecasting algae development in reservoirs.

SUEZ, a major water utility and one of IMPREX’s industry partners, is integrating these services into its wider operational platform. The project’s use of analytical tools and machine learning to transform monitoring data into predictive models is also showing great promise. More broadly, improved forecasting means better-informed decision-making on how to tackle potentially life-threatening algal blooms under changing climatic conditions.

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**Note to editors**

[Download the full report here](https://www.imprex.eu/system/files/generated/files/resource/deliverable10-2-imprex-v1-0_0.pdf)

Images for editorial use available [here](https://www.dropbox.com/s/brb0clsdw2241si/mihaly-koles-gR_AgAcP7jI-unsplash.jpg?dl=0) (Source: IMPREX)

Summary of the services developed by IMPREX to tackle this problem, see table

For more information or quotes contact Laurent Pouget: lpouget@cetaqua.com

**About IMPREX**

IMPREX – Improving Predictions and Management of Hydrological Extremes – is an EU-backed initiative spanning nine countries to improve Europe’s ability to anticipate and respond to future hydro-meteorological extremes (floods, droughts...) and their impacts. The findings/tools developed by the project will support risk management and adaptation planning at European and national levels. [www.imprex.eu](http://www.imprex.eu) / @imprex\_eu

**About CETAQUA**

Cetaqua represents a pioneering collaborative model among public scientific institutions, universities and water companies. This model has been established as a European benchmark in the application of scientific knowledge to water and the environment. Cetaqua’s mission is to anticipate society’s needs and propose new R&D&I solutions in order to ensure the sustainability and efficiency of the water cycle, while taking local needs into account. [www.cetaqua.com](http://www.cetaqua.com) / @CETAQUA