PCP WISE

Water Management from Space

A New Approach for Global Climate Challenges

The Challenge We Face: Climate Change and Water Management

Climate change is causing severe global problems, such as droughts, floods, and disruptions in water supply. These issues also affect soil stability, drinking water quality, and increase the risk of wildfires, creating enormous potential for damage. European governments bear the responsibility for managing these risks.

To address these challenges, having accurate and timely management information is critical. This requires not only better maintenance systems but also leveraging smart monitoring and digital innovations. Tools like drones for inspections, AI-driven modelling, and satellite data are excellent examples of how technology can enrich existing knowledge. Water authorities must embrace these digital advancements to stay ahead of the challenges.

The **Horizon** Europe programme provides a unique opportunity to drive this digital transformation and tackle global climate challenges effectively.

Horizon Europe Programme: Funding Innovation for Water Management

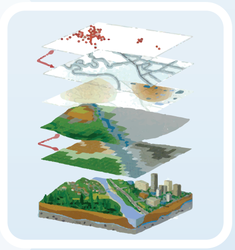
In 2024, the EU allocated a €19M grant through the Horizon Europe programme to support applied research and development of satellite-based water management solutions. A project application, named **PCP WISE***, was submitted for this funding and received approval in September 2024.

PCP WISE aims to deliver practical solutions to help water authorities improve their management capabilities. The below infographic highlights the project's goals and its potential benefits in addressing climate and water challenges.

PCP WISE: Monitoring the Soil-Water-Vegetation System

PCP-WISE focuses on improving the monitoring of the local water balance in soil-water-vegetation systems using **remote sensing technology**. This approach creates consistent and shareable data about water conditions.

1. **Insight into (climate)trends, and current conditions**
2. **Getting to know the critical bound-aries of our water balance system**
3. **Developing and stimulating climate models**



With this updated information, local water managers can better prioritise actions based on Environmental Act guidelines. For example, when water shortages occur, decisions can be made to allocate resources effectively. The insights also support creating **risk maps**, which raise environmental awareness and help mitigate damage during water-related crises.

PCP WISE Action Plan

The European PCP WISE consortium of 26 local authorities, water authorities, and research institutions from 10 countries, has been formed to drive this initiative forward. To this end, Het Waterschapshuis is leading a group of 12 buyers who joined forces to undertake a Pre-Commercial Procurement procedure, supported by 14 additional partners providing assistance in this process.

In 2025 the consortium will launch a call for tenders inviting innovative market suppliers to respond and submit an offer to develop tailored solutions meeting the needs of the Buyers' group. These solutions will aim to enhance water system monitoring, improve insights, and advance early warning and monitoring technologies.

Currently, **22 use cases** across five European countries — including five in the Netherlands — are being used to assess stakeholder needs. These use cases help shape the project's goals and refine the functional requirement of the solutions to be developed.

Benefits for Water Authorities

Water authorities are responsible for maintaining strong dikes and ensuring clean, sufficient water supplies. With the growing pressures of climate change and strict European regulations, experimenting with pilot projects has become essential.

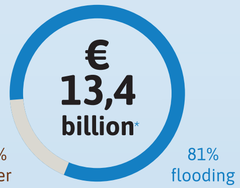
PCP WISE supports the move toward data-driven operations and bears the ambition to prepare all water authorities for digital innovation by 2029. It offers a significant opportunity for the water sector to lead its digital transformation, build an international network, and share uniform cross-border data for a **climate-resilient future**.

By creating up-to-date local and sector-wide risk maps, water authorities can strengthen their ability to manage flood crises and potentially become leaders in European risk management.

Proposal for the **Customisation/**P**re-operationalisation of **W**ater management **I**nnovations from **S**pacefor **E**uropean Climate Resilience*

**Estimation 2023 | Source: NOS 22/2024*

Cost items for Governments are increasing



Climate-proof together through the use of smart monitoring

Dynamic **satellite data** combined with **local data** takes water management to "the next level"

From Water board to **Information board**

Simply and **unified** sharing of information through **Aquo**

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