Taking action to prevent and mitigate pollution of groundwater bodies

Newsletter – Issue 1

October 2023

WELCOME

Welcome to the first edition of the NINFA Newsletter! Within these pages, you will find news and updates on our activities. We invite you to subscribe and explore our website! Follow us on social media and learn more about the world of NINFA and its accomplishments.

Ninfa website

What is NINFA about?

The NINFA project, a Research and Innovation Action (RIA), is about groundwater management. Groundwater, earth's hidden treasure, is found in the gaps of soil and in the fractures of rock formations, slowly flowing through these underground layers called aquifers.
Aquifers are crucial for ecosystems, providing drinking water and for agricultural activities.
Over extraction and contamination poses significant threats to aquifers availability and quality, highlighting the importance of sustainable management practices. In this framework, NINFA will develop a new early-warning decision support system and knowledge database (NINFA Platform) in order to facilitate the prevention of groundwater contamination and protect its quality.

Overview of the Consortium

NINFA is coordinated by Leitat, ACONDICIONAMIENTO TARRASENSE ASSOCIACION, located in Spain and it comprises of an international mix of 9 partners from Spain, France, the Netherlands, Italy, Greece and Cyprus. NINFA, a multidisciplinary partnership is formed by a highly experienced consortium and an Advisory Board (AB) with diverse stakeholders, including representatives from academia, research centres, water utilities, IT, water governance bodies, policymakers, and civil society organizations.

Project Framework

This project has received funding from the European Union's Horizon Europe 2022 research and innovation program under grant agreement No. 101081865.

www.ninfa-project.eu

What are the main goals of NINFA?

NINFA will provide a novel strategy for efficient groundwater management and protection based on an **early-warning DSS** and integrated **database** (NINFA Platform) fed by a series of innovative and cost-effective monitoring, modelling and treatment **solutions**. Considering diverse pollutants: nutrients, pesticides, salinity, contaminants of emerging concern (CECs), antibiotic resistance genes and bacteria (ARG/ARB), and microplastics (MP), combined with synergistic effects regarding stressors derived from climate and global changes, the goal is to prevent groundwater contamination, protecting its quality and enhancing its resilience.

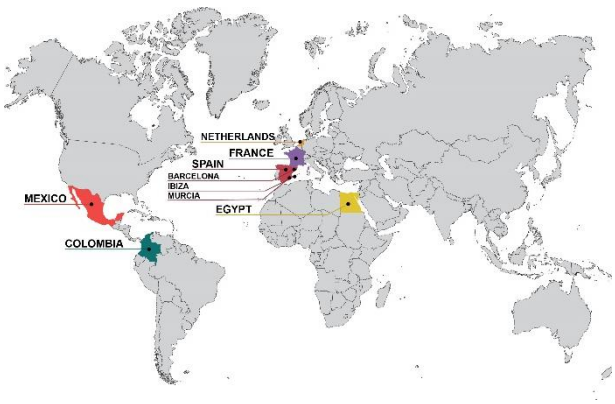
The developed innovative solutions (sensors, models, and treatment technologies) will be optimised at lab scale and finally validated in relevant environments, demonstrating their functionality and performance.

The selected demonstration sites consist of 8 EU and international case studies, showcasing a wide range of environmental factors such as climate, geology, water demand, and pollution levels. These case studies also include diverse socio-economic scenarios, spanning urban and rural environments, highly vulnerable areas, and estimates related to climate change.

Where are the case studies?

The NINFA case studies with detailed descriptions available on the website, include:

- Nitrate Vulnerable Zones with Different Climates:
  The Netherlands
  Murcia, Spain
- Groundwater contamination due to WWTP effluent infiltration (CECs, ARG,MP):
  France
- Regions Jeopardized by Global and Climate Change:
  a) Sea Level Rise:
  Ibiza, Spain
  b) Urban runoff infiltration
  Barcelona Province, Spain
- International Countries with Poor Access to Safely Managed Drinking Water and Sanitation Services:
  Mexico, Colombia and Egypt



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Working with such different sites will allow data and knowledge acquisition from different biogeographical and socio-economic areas, thus enriching the NINFA Platform. This heterogeneity will provide more reliability to the tool, which is especially important when considering climate change adaptation/mitigation strategies.

Highlights during the first year of the project

1. The NINFA kick-off meeting was held in Barcelona, Spain, on 15 to 16 November 2022. The 1st day, all partners presented their future work. The 2nd day, the partners were taken to Terrassa to tour Leitat's Water Treatment Technology labs. This provided valuable insights into the cutting-edge technologies being developed to address water quality challenges. Read more here.

2. Our partner Los Alcazares hosted an event on 15 March 2023, at the City Hall with the participation of the Mayor and the Area Manager from Aqualia. The purpose of the event was to increase public awareness about safeguarding our groundwater natural resources. More details on the website here.

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3. Our partner Deltares attended the AquaConSoil Conference 2023 in Prague on 12-14 September 2023 presenting their research towards an AI groundwater quality model. Read more on the website.

Creating Synergies

The ZeroPollution4Water Cluster

The ZeroPollution4Water (ZP4W) Cluster is a new-born initiative that originated from the collaboration of seven different projects funded through two calls under Horizon Europe 2022. Its objectives include:

- Preventing groundwater contamination and protecting its quality against harmful impacts of climate change.
- Securing drinking water quality by protecting water sources against pollution, providing innovative monitoring and treatment solutions, and ensuring safe distribution.

The "sister founding" projects of the Cluster are the following:

1. *SafeCREW*
2. *ToDrinQ*
3. *UPWATER*
4. *MAR2PROTECT*
5. *NINFA*
6. *H2OforAll*
7. *intoDBP*

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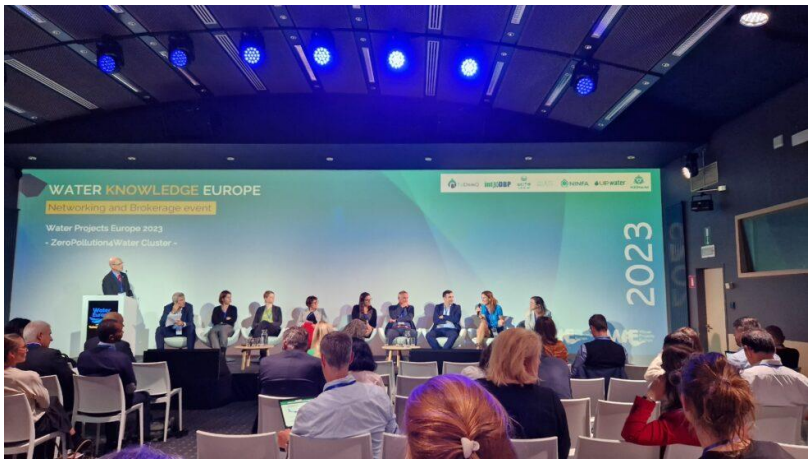
Water Europe as coordinator of the ZP4W cluster, organised together with the European Research Executive Agency (REA) the kick-off meeting to set the strategy and the action plan of the cluster.
The kick off meeting took place online on 9 March 2023.

The ZeroPollution4Water Cluster held its first public event during the Water Knowledge Europe 2023 Brokerage Event held on 18-19 October 2023. Representatives from the seven projects and the European Commission introduced the audience to the Cluster's potential, ambitions, and relevance to the European landscape (the Zero Pollution ambition and the European Green Deal).
Discover the Best Moments: Water Knowledge Europe 2023 Event Highlights.
Discover more about the ZeroPollution4Water Cluster



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Future Events

1. Amsterdam Water Week 8 November 2023
2. NINFA 13M Annual Meeting, in November 2023 at the Wetsus water campus, Leeuwarden, Netherlands
3. Cluster activities

Ninfa Partners

www.leitat.org
www.cetri.net
www.imt-atlantique.fr/en
www.wetsus.nl
www.wings-ict-solutions.eu
www.deltares.nl
www.uniroma1.it
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