



European Union Network for the Implementation  
and Enforcement of Environmental Law

## VENICE WATER AND LAND CONFERENCE

*29 and 30 October 2024*

***Date of report: December 2024***

***Report number: 2022(VI)WG8***



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## Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the European Union (EU) Member States, and of other European authorities, namely from acceding and candidate countries of the EU and European Economic Area (EEA). The association is registered in Belgium and its legal seat is in Brussels, Belgium.

IMPEL was set up in 1992 as an informal Network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration, as well as promoting and supporting the practicability and enforceability of European environmental legislation.

During the previous years, IMPEL has developed into a considerable, widely known organisation, being mentioned in a number of EU legislative and policy documents, e.g. the 8th Environment Action Programme that guide European environmental policy until 2030, the EU Action Plan: "Towards a Zero Pollution for Air, Water and Soil" on Flagship 5 and the Recommendation on Minimum Criteria for Environmental Inspections.

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on both technical and regulatory aspects of EU environmental legislation.

Information on the IMPEL Network is also available through its website at: [www.impel.eu](http://www.impel.eu)



<p><b>Title of the report:</b></p> <p>Venice Water and Land Conference</p>	<p><b>Number report:</b></p> <p>2022(VI)WG8</p>
<p><b>Project Team / Moderators:</b></p> <p><b>Mihaela Monica Crisan</b>, National Environment Guard (NEG), Romania, <b>IMPEL W&amp;L Expert Team Leader</b>;</p> <p><b>Genève Farabegoli</b>, Italian Institute for Environmental Protection and Research (ISPRA), <b>IMPEL W&amp;L Expert Team Deputy Leader</b></p>	<p><b>Report adopted at IMPEL General Assembly</b></p> <p>Adopted by written procedure on 20/03/2025</p>
<p><b>Presentations credits, in order of appearance in the agenda:</b></p> <p><b>Rob Kramers</b> - IMPEL vice Chair, <b>Monica Crisan</b> - IMPEL W&amp;L Expert Team Leader, <b>Genève Farabegoli</b> - IMPEL W&amp;L Expert Team Deputy Leader, <b>Antonio Marcomini</b> - Vice Chancellor of the University Ca' Foscari Venice, <b>Angiolo Martinelli</b> - Ministero dell'ambiente e della sicurezza energetica, <b>Nino Tarantino</b> - Sub Commissario Ten. Col. CC, <b>Loris Tomiato</b>, - ARPA Veneto Director, <b>Claudia Olazabal</b> - Head of the Water Unit, DG Environment, European Commission, <b>Vita Jukně</b> - Head of Unit Env E4, Environmental Rule of Law and Governance, DG Environment, <b>Valentina Bastino</b> - DG Environment, European Commission, <b>Elisabetta Reyneri</b> - DG Environment, European Commission, <b>Faustino Gudín Rodríguez Magariños</b> - Judge with the Criminal Court of Segovia, <b>Ondrej Koporec</b> – ENVICRIMENET, <b>Wendy Foster</b> - UK Environment Agency, <b>Anabela Rebelo</b> - APA Portugal, <b>Roberta Maffettone</b> - Joint Research Centre, European Commission (JRC), <b>Isabel Leon Martin</b> - CEDEX Centro de Estudios y Experimentación de Obras Públicas, <b>Joanna Przystawska</b> – EEA, <b>Lorenzo Solari</b> - Copernicus Land Monitoring Service, <b>Stuart Gunput and Harold Pijnenburg</b> - Regional environmental protection agency Noordzeekanaalgebied (The Netherlands), <b>Giuseppe Bortone</b> – Assoarpa, <b>Giuseppe Sgorbati</b> - ARTIC project Manager, <b>Federico Filippini</b> – CNR, <b>Nataliya Nikiforova</b> - Environmental Affairs Officer UNECE, <b>Olga Olson</b> - Organization for Economic Cooperation and Development (OECD), <b>Elena Stefanoni</b> - United Nations Environmental Program (UNEP), <b>Francesca Pizza</b> – EurEau, <b>Rafael Seiz Puyuelo</b> – WWF, <b>Andréa Ferret-Lambert</b> – OFB, <b>Sara Pasini</b> - Distretto Alpi Orientali, <b>Valerio Volpe</b> - Proveditorato Interregionale Opere Pubbliche Veneto, <b>Fabio Strazzabosco</b> - ARPA Veneto, <b>Piotr Wojda</b> - Joint Research</p>	<p><b>Total number of pages: 31</b></p> <p>Annexes I - Agenda</p> <p>The Conference presentations are available here:</p> <p><a href="https://3.basecamp.com/4481666/buckets/17164454/vaults/6640988152">https://3.basecamp.com/4481666/buckets/17164454/vaults/6640988152</a></p>



Centre, European Commission (JRC), **Nazaré Couto** - CENSE NOVA School of Science and Technology Portugal, **Dietmar Müller-Grabherr** - COMMON FORUM on Contaminated Land in Europe (EAA, Austria), **Geneve Farabegoli** – W&L ET Deputy Leader, **Marinus Jordan** - Industry & Air ET Leader, **Bojan Pockar** - Waste & TFS ET Leader, **Elisabete Santos** - Protection Nature ET Member, **Francesco Andreotti** - Cross-Cutting ET Deputy Leader.

### **Executive Summary**

Under the umbrella of the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL), the Water & Land Conference 2024 took place on the 29<sup>th</sup> and 30<sup>th</sup> of October, in Venice and also online, organized together by ISPRA (Italy) and NEG (Romania).

### **Participants**

The Water and Land Conference 2024 was attended by over 73 representatives on site from 26 IMPEL members and many more online and the agenda (pdf) included presentations from Environmental Crime (EnviCrimeNet), European Commission (DG ENV and JRC), OECD, UNECE, United Nations Environment Programme (UNEP), European Environmental Agency (EEA), Copernicus Land Monitoring Service, and authorities as the Portuguese Environmental Protection Agency, the Italian National Institute for Environmental Protection and Research, the Romanian National Environmental Guard.

### **Disclaimer**

This report is the result of a project within the IMPEL network. The content does not necessarily represent the view of the national administrations or the European Commission.



## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>7</b>
<b>2. WATER AND LAND CONFERENCE.....</b>	<b>8</b>
Plenary speech .....	9
<b>SESSION 1: EU GREEN DEAL - TOWARDS A WATER RESILIENT EUROPE AND CHALLENGES ON NEW WATER POLICIES .....</b>	<b>10</b>
<b>SESSION 2: WATER RISK ASSESSMENT.....</b>	<b>13</b>
<b>SESSION 3: WATER &amp; LAND POLLUTION – USE OF NEW TECHNOLOGIES ON DETECTION AND ASSESSMENT .....</b>	<b>15</b>
<b>SESSION 4: INTERNATIONAL WATER &amp; LAND ACTIVITIES.....</b>	<b>19</b>
<b>SESSION 5: CHALLENGES FACED BY THE VENETIAN AUTHORITIES .....</b>	<b>22</b>
<b>SESSION 6: CONTAMINATED SITES AND SOIL HEALTH .....</b>	<b>24</b>
<b>SESSION 7: IMPEL PROJECTS .....</b>	<b>25</b>
<b>ANNEX – WATER AND LAND CONFERENCE AGENDA.....</b>	<b>29</b>



## 1. INTRODUCTION

The Venice Water & Land Conference, held from October 29-30, 2024, focused on advancing sustainable water and land management through innovation, policy integration, and international collaboration. The conference addressed key topics including the EU Green Deal, water reuse regulations, environmental compliance, risk assessment, and the application of advanced technologies such as artificial intelligence and high-resolution satellite monitoring. Specialized sessions emphasized the protection of the Venice Lagoon, soil health, and the management of contaminated sites, alongside discussions on international water governance and multilateral agreements. IMPEL project showcases highlighted efforts in water and land protection, industry and air management, waste and cross-cutting initiatives. Social events fostered collaboration and engagement among participants from academia, government, and industry sectors.

The [Zero pollution action plan](#) is an initiative adopted by the European Commission, under the main objectives of The [European Green Deal](#), that announced headline actions on zero pollution, namely: A chemical strategy for sustainability, to better protect citizens and the environment against hazardous chemicals; Revising measures to address pollution from large industrial installations, to ensure they are consistent with climate, energy, and circular economy policies; and [Zero pollution action plan for water, air, and soil](#), to better prevent, remedy, monitor and report on pollution. The Commission, in cooperation with the Committee of the Regions, set up a [Zero Pollution Stakeholder Platform](#) to achieve the zero pollution ambition and to effectively mainstream the zero pollution agenda.

The main focus of the **Water Framework Directive** is to ensure the protection and sustainable management of all water bodies in the European Union, aiming to achieve good ecological and chemical status for waters by promoting integrated water resource management and preventing water pollution.

The main focus of the **Soil Monitoring Directive** is to ensure the protection, sustainable use, and restoration of soil health across the European Union by establishing a comprehensive monitoring system to assess soil conditions, manage contamination, and support resilience against environmental threats

**The Water and Land Conference 2024** aimed to examine the implementation and challenges of key EU environmental policies, including the Water Framework Directive, the Soil Monitoring Directive, and the new Water Reuse Regulation. The event focused on the current state of water and land management, addressing issues such as soil health, contamination, and the impacts of environmental crime. It also sought to foster discussions on innovative solutions, sustainable practices, and collaborative strategies to enhance natural resource management and strengthen environmental compliance across Europe.



## 2. WATER AND LAND CONFERENCE

Under the umbrella of the European Union Network IMPEL, the Water & Land Conference 2024 took place on the 29 and 30 of October, (Agenda in Annex I), in Venice, and also online, in a hybrid event, in a joint organization by ISPRA – Italy and Romanian NEG.

The welcome and opening speeches at the Water and Land Conference 2024 set the stage for a collaborative and insightful event, with leaders from IMPEL and Italian institutions emphasizing the importance of sustainable water and land management, the integration of EU policies, and the shared commitment to addressing environmental challenges through innovation, governance, and international cooperation.

The Water and Land Conference 2024, was attended by over 73 representatives 73 representatives on site from 26 IMPEL members and many more online and the agenda (pdf) included presentations from Environmental Crime (EnviCrimeNet), European Commission (DG ENV and JRC), OECD, UNECE, United Nations Environment Programme (UNEP), European Environmental Agency (EEA), Copernicus Land Monitoring Service, and authorities as the Portuguese Environmental Protection Agency, the Italian National Institute for Environmental Protection and Research, the Romanian National Environmental Guard and the French Biodiversity Agency (OFB).

In the following sections, there is a summary reference of the content presentations from the Water and Land Conference 2024, including slides from each presentation.





**29 October**

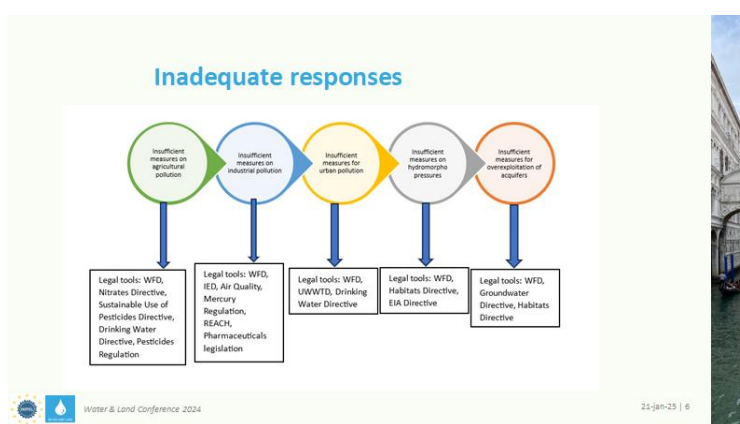
## Plenary speech

**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **General EU Water Law (Water Framework Directive, Floods Directive) - Claudia Olazabal, DG Environment, European Commission**

The presentation provides an in-depth examination of the enforcement of key EU water policies, with a primary focus on the Water Framework Directive and the Floods Directive. It introduces an upcoming report that evaluates the implementation progress of these directives, shedding light on both achievements and areas needing improvement.

Key challenges are addressed, such as machinery deficiencies and inadequate responses to compliance needs, which hinder the effective application of water policy objectives. The presentation also emphasizes the importance of bridging these gaps through



enhanced tools and strategies, presented as part of a practical "toolbox" for implementation. This toolbox aims to support stakeholders in overcoming enforcement challenges, aligning efforts with environmental goals, and fostering sustainable water and flood management practices across the EU.

- **Environmental Compliance Assurance - Vita Juknė, DG Environment**

Environmental compliance assurance is a cornerstone of environmental governance, ensuring adherence to legal standards and promoting sustainability. It involves promoting awareness, monitoring compliance, and enforcing regulations to protect natural resources and public health.

Challenges include navigating complex laws, limited resources, cross-border issues, and emerging environmental crimes. Innovations such as satellite monitoring, AI, collaborative governance, and public engagement are transforming compliance efforts. Effective strategies combine education, monitoring, and enforcement to address violations and foster accountability.

By leveraging technology, fostering collaboration, and addressing challenges, environmental compliance assurance strengthens governance frameworks and supports a sustainable future.



## Session 1: EU GREEN DEAL - TOWARDS A WATER RESILIENT EUROPE AND CHALLENGES ON NEW WATER POLICIES

**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **The future developments on Water Reuse Regulation - Valentina Bastino**, DG Environment, European Commission

The presentation focuses on the future developments in water reuse policy within the EU, highlighting its significance in addressing water scarcity and promoting sustainable practices. It underscores the challenges of water stress and megadrought risks due to climate change, emphasizing the need for adaptation alongside mitigation through improved water management strategies.

Key points include the implementation of the Water Reuse Regulation (2020/741), which encourages circular water reuse approaches, particularly in agriculture, and explores opportunities for expanding reuse in industrial, civil, and environmental contexts. The presentation also details the integration of circular economy principles in water policies, updates to the Urban Wastewater Treatment Directive, and the Industrial Emission Directive to support cleaner technologies and efficient water reuse.

**Circular Economy Action Plan – 2020**

- ❖ Key product value chains – Food, water, nutrients
  - “The new Water Reuse Regulation will encourage circular approaches to **water reuse in agriculture.**”
  - “The Commission will **facilitate water reuse and efficiency**, including in industrial processes.”
  - “The Commission will also consider reviewing directives on wastewater treatment and sewage sludge [...]”
- ❖ Circularity in production processes
  - “Review of the Industrial Emissions Directive, including the integration of **circular economy practices** in upcoming Best Available Techniques reference documents”

[Circular economy action plan \(2020\)](#)

Water & Land Conference 2024 21-Jan-25 | 7

Future steps include supporting Member States in implementing water reuse frameworks, fostering best practices through collaboration, and evaluating progress by 2028. The presentation concludes by highlighting the potential of water reuse for resilience, nutrient recovery, and energy efficiency within an integrated water management framework.

- **The new ECD and its relevance for tackling water offenses - Elisabetta Reyneri**, DG Environment, European Commission

The presentation by Elisabetta Reyneri focuses on the new Environmental Crime Directive (ECD) and its critical role in addressing water-related offenses. It outlines the legal basis, definitions of unlawful conduct, and the dynamic nature of the ECD, emphasizing its adaptability to new types of environmental violations as EU laws evolve.

**Definition of offences – conducts to be criminalised**

a) Pollution offence	j) Illegal management of radioactive substances
b) Product offence	m) Illegal abstraction of water
c) Chemicals offence	n) Wildlife offence
d) Mercury offence	o) Illegal wildlife trade
e) Illegal execution of projects	p) Breaches of the Anti-Deforestation Regulation
f) Illegal management of waste	q) Illegal deterioration of a habitat
g) Illegal shipment of waste	r) IAS offence
h) Illegal recycling of ships	s) ODS offence
i) Illegal ship-source pollution	t) F-gases offence
j) IED and Seveso-related offence	
k) Off-shore oil and gas operations offence	

■ Expanded scope    ■ Threshold improved  
■ New offence    ■ Same

Plus, qualified offence for above conduct causing catastrophic consequences.

Water & Land Conference 2024



The ECD establishes a comprehensive framework for defining criminal offenses, such as substantial damage to water quality, illegal water abstraction, and ship-source pollution. It includes provisions for penalties targeting both natural and legal persons, ensuring they are effective, proportionate, and dissuasive. Penalties range from fines based on turnover to imprisonment for severe violations, such as those causing death or significant ecological damage.

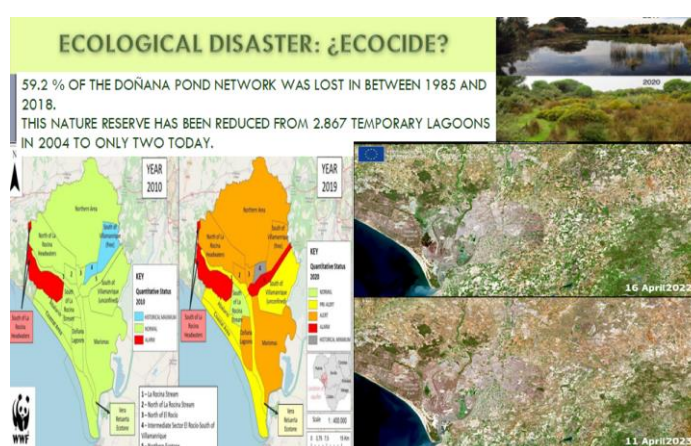
To enhance enforcement, the ECD promotes a stronger enforcement chain through improved investigative tools, resource allocation, and training for law enforcement and judicial personnel. It also encourages national strategies to combat environmental crime and provides mechanisms for public participation and protection for whistleblowers.

The directive aims to strengthen environmental governance by ensuring compliance, fostering accountability, and promoting collaboration across sectors and borders. Its ultimate goal is to protect ecosystems, public health, and natural resources through robust legal measures and enforcement mechanisms.

- **The new frontiers of environmental crimes on water and soil: A real case of water crime - The Doñana protected natural area in Spain - Faustino Gudín Rodríguez Magariños, Criminal Court of Segovia**

The presentation focuses on the environmental challenges faced by Doñana National Park, a UNESCO World Heritage site and one of Europe's most biodiverse wetland ecosystems. It explores the impacts of illegal water abstraction, agricultural overexploitation, and prolonged droughts, which have severely threatened the park's water resources and biodiversity, including endangered species like the Iberian lynx and Imperial Eagle.

The presentation highlights the legal and institutional frameworks, including EU directives like the Water Framework Directive and Habitat Directive, designed to protect the park. Despite these protections, enforcement has been inadequate, leading to ecological degradation and judicial interventions to halt illegal activities. It also addresses the failures of the Guadalquivir Basin Hydrological Plan and emphasizes the need for compliance with European Court of Justice rulings to protect habitats.



Faustino advocates for a comprehensive, cross-sectoral conservation strategy that balances ecological preservation with local economic needs. Efforts like acquiring lands for bird refuge and judicial rulings against illegal water use are steps forward, but the presentation stresses that these are insufficient without a long-term, integrated approach to address the root causes of the park's decline.



- **ENVICRIMENET - present a real case - Ondrej Koporec, ENVICRIMENET**

The presentation highlights the role of EnviCrimeNet, a network of European law enforcement agencies, in combating environmental crimes, particularly illegal water pollution. It outlines the mission of the network to enhance cooperation, provide strategic advice, support investigations, and promote information exchange on environmental crimes across Europe.

Key activities for 2024 include establishing EnviCrimeNet as an international nonprofit organization, hosting strategic meetings, and advancing collaboration among member states. The presentation details membership requirements and governance structure, emphasizing the importance of coordinated efforts to address environmental offenses.

**Case Study: Illegal Wastewater Discharge into a Protected Nature Reserve**

- Need to quantify the extent of illegal activity
- Application of the offense of unauthorized waste management
- Extent of illegal activity quantified by costs needed for legal waste disposal
- All buildings discharging wastewater were connected to a water supply with over 10 years of consumption records
- Presumption made that all water consumed became wastewater
- Decision to focus on criminal liability of the last mayor, whose actions were not time-barred

Water & Land Conference 2024

25 Pg

A case study on illegal wastewater discharge into a protected nature reserve is presented, showcasing challenges such as quantifying the extent of illegal activity, environmental impacts, and securing judicial decisions. It highlights a recent legal case where the responsible mayor was fined and sentenced, demonstrating the complexities of enforcement.

The presentation concludes with an overview of challenges in combating illegal water pollution, including hidden discharges, time lags between pollution and consequences, evidence collection difficulties, limited monitoring technologies, and low public awareness. It underscores the need for improved legislative frameworks, advanced technologies, and capacity building to effectively address these crimes.

- **ENPE- present a real case - Wendy Foster, UK Environment Agency**

The presentation by Wendy Foster discusses **Operation Garden**, a major environmental crime investigation into Southern Water Services Limited, focused on illegal discharges of untreated sewage into protected coastal areas in the UK. The investigation spanned 2010-2016 and targeted 18 wastewater treatment sites along the North Kent coast and the Solent, areas designated as sites of special scientific interest.

Key aspects include the investigation process, from evidence gathering and legal review to court proceedings. Southern Water pleaded guilty to 51 charges, admitting to intentional and systemic failures to treat sewage, resulting in an estimated 16-21 billion liters of untreated sewage being discharged, equivalent to 7,400 Olympic-sized swimming pools.

**Example Site and Permit Condition**

- Flow Map—the wastewater treatment process at the works. Those flows highlighted in red are 'non-treated sewage flows' those in blue are 'fully treated sewage flows'
- FFT is 219 Litres per second

Water & Land Conference 2024

22-jan-25 | 9





The presentation highlights the environmental harm caused, categorized as major due to widespread and long-lasting effects on water quality, ecosystems, and human health. Sentencing included a £90 million fine, reflecting the seriousness of the offenses and the organization's deliberate disregard for compliance.

The case underscores the importance of robust environmental enforcement, accountability for corporate negligence, and the role of legal systems in protecting natural resources and public health.

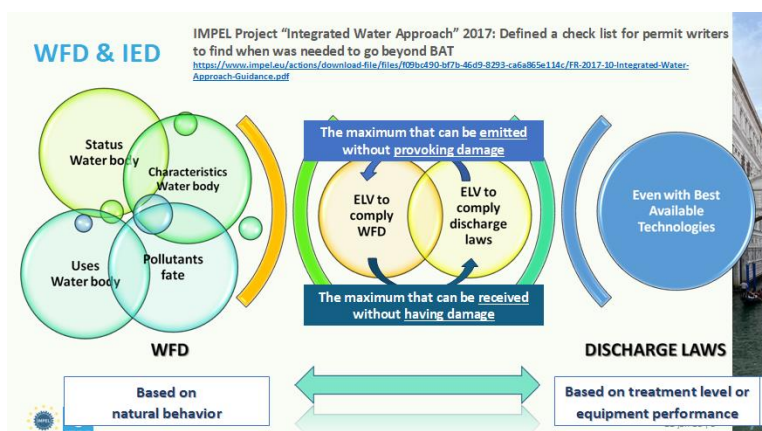
## Session 2: Water Risk Assessment

**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **Risk assessment in water policies - Anabela Rebelo, APA, Portugal**

The presentation explores the role of risk assessment in water policies, focusing on its importance in ensuring sustainable water management and environmental protection. It emphasizes the need for a scientific approach to predict and mitigate risks related to water quality, resource exploitation, and public health.

Key elements include the integration of EU water legislation, such as the Water Framework Directive (WFD) and the Industrial Emissions Directive (IED), which establish controls on discharges into water bodies. It discusses urban wastewater management, highlighting risk assessments for pollution control and compliance with the latest directives, such as the Urban Wastewater Treatment Directive and Drinking Water Directive.



The presentation explains how risk assessment is used to evaluate hazards, vulnerabilities, and potential damages. Tools such as conceptual and mathematical models are employed to identify pressures on water sources, predict pollution pathways, and define monitoring and mitigation measures. Additionally, the Environmental Liability Directive ensures accountability by applying the "polluter-pays" principle to remediate damages.

Anabela concludes by stressing the increasing pressures on water resources due to rising demand and the essential role of risk assessment in safeguarding water quality and public health while supporting the sustainable use of this critical resource.



- **Key elements on the Risk Management on Water Reuse - Roberta Maffettone**, Joint Research Centre, European Commission (JRC)

The presentation focuses on key elements of risk management in water reuse, as outlined in the EU Water Reuse Regulation (2020/741), which became applicable in June 2023. It emphasizes the role of scientific research and guidance from the Joint Research Centre (JRC) to support policy development and the implementation of water reuse strategies.

The regulation aims to ensure safe agricultural irrigation using reclaimed water, with specific minimum water quality and monitoring requirements based on risk management plans (RMPs). These plans include identifying hazards, assessing risks to health and the environment, and implementing preventive measures such as treatments, barriers, and monitoring protocols. The regulation also addresses emerging concerns like heavy metals, pesticides, microplastics, and antimicrobial resistance.

**The Water Reuse Regulation (EU) 2020/741**

- Applicable as of 26 June 2023
- Effluent from Urban Wastewater Treatment Plants
- Reclaimed water for agricultural irrigation
- Minimum water quality and monitoring requirements
- Risk management provisions (FIT-FOR-PURPOSE)
- Permitting requirements
- Transparency for the public

<https://eur-lex.europa.eu/eli/reg/2020/741/oj>

European Commission

The presentation highlights the importance of technical workshops and knowledge-sharing initiatives to promote best practices and risk assessment methodologies. It underscores the need for collaboration between stakeholders to ensure sustainable and safe water reuse, contributing to environmental protection and resource efficiency across the EU.

- **Risk assessment for water reuse in Spain - Isabel Leon Martin**, CEDEX Centro de Estudios y Experimentación de Obras Públicas

The presentation by Isabel León focuses on risk assessment for water reuse in Spain, highlighting the country's leadership in reclaimed water volume within the EU and its global position in installed water reuse capacity. Spain reuses approximately 400 hm<sup>3</sup> of water annually, representing 10% of treated wastewater, primarily through advanced treatment processes.

The presentation outlines the regulatory framework and challenges in implementing stricter water quality requirements, integrating risk management plans, and promoting water reuse across various sectors. These efforts align with EU directives such as the Water Framework Directive and River Basin Management Plans.

Guidelines and recommendations emphasize a multi-barrier approach,

**Guidelines and recommendations**

- **Canary Islands Guideline**
  - Practical tool
    - Drafting, processing and approval of water reuse risk management plans
  - Considering
    - Diversity and complexity of water reuse systems
    - Regional conditions

Guía metodológica para la elaboración de los PLANES DE GESTIÓN DEL RIESGO DEL AGUA REGENERADA PARA USO AGRÍCOLA EN CANARIAS

Junio 2024

Water & Land Conference 2024

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combining health and environmental risk assessment methodologies to ensure the safe production, distribution, and use of reclaimed water. Case studies, including initiatives in regions like the Canary Islands, Valencia, and Andalusia, demonstrate the practical application of risk management plans tailored to local conditions.

Final reflections underscore the importance of preventive measures, stakeholder collaboration, and continuous updates to regulatory and technical frameworks to ensure the sustainability and safety of water reuse systems in Spain.

## SESSION 3: WATER & LAND POLLUTION – USE OF NEW TECHNOLOGIES ON DETECTION AND ASSESSMENT

**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **Pan-European water-related products produced from the satellite data - Joanna Przystawska, EEA**

The presentation highlights the contributions of the Copernicus Land Monitoring Service (CLMS), managed by the European Environment Agency (EEA), in providing water-related data products to support land and water management across Europe. It details the three main components of CLMS: global, pan-European, and local monitoring, with a focus on delivering high-resolution data for land cover, land use, and biogeophysical parameters.

The presentation emphasizes the use of satellite data, such as Sentinel-1 and Sentinel-2, to create products like the High-Resolution Layers for water and wetness, riparian zones, coastal zones, and snow and ice monitoring. These tools support various applications, including hydrological studies, flood management, and environmental monitoring.

Upcoming advancements, such as new water products in 2025, are discussed alongside examples like the EU-Hydro database and case studies on optimizing hydroelectric dam management using snow cover data. The presentation concludes by highlighting the accessibility of these resources through the CLMS and WEkEO portals, emphasizing their role in enhancing sustainable land and water management across Europe.





- **The European Ground Motion Service (EGMS) - Lorenzo Solari**, Copernicus Land Monitoring Service

The presentation by Lorenzo Solari focuses on the **European Ground Motion Service (EGMS)**, a project under the Copernicus Land Monitoring Service. EGMS provides precise measurements of ground motion across Europe, covering subsidence, uplift, and stability changes. It uses satellite data to generate detailed, annually updated time series spanning five years, with 13 billion measurement points per update.

Key highlights include its role in mapping natural and human-induced ground motion, such as subsidence in the Po Delta/Plain in Italy and effects from natural resource exploitation in areas like Groningen, Netherlands, and Katowice, Poland. The EGMS serves both public entities and industries, offering applications for urban planning, infrastructure maintenance, and environmental monitoring.

The presentation also introduces tools like the EGMS Explorer for data visualization and updates on evolving delivery models, such as API access, advanced data catalog search, and customizable downloads. EGMS aims to enhance understanding and management of ground motion risks, ensuring its utility for stakeholders across Europe through 2028.

**EGMS highlights**

- Covers the Copernicus participating countries
- Updated yearly – in deferred time
- It generates **five years** time series
- **13 billions** measurement points per update
- It is ensured up to **2028**
- It is a **multipurpose** project

Bologna, Italy

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Implemented by European Environment Agency

22-Jan-25 | 5

- **“Water Risk Profile” an instrument to determine the risk for companies regarding flooding - Stuart Gunput and Harold Pijnenburg**, Regional environmental protection agency Noordzeekanaalgebied (The Netherlands)

The presentation focuses on assessing flooding risks and developing climate adaptation methods for companies handling hazardous substances under the Seveso III Directive. It highlights the importance of integrating flood risks into safety reports, particularly for Seveso and non-Seveso companies, to enhance prevention, preparedness, and response.

The presentation details tools like the Climate Impact Atlas and water risk analysis methodologies used to evaluate risks from peak rainfall and flooding. It includes examples of pilot studies with industries such as liquid bulk storage facilities and chemical process plants. The analysis emphasizes the use of risk matrices, visualization tools, and flood scenarios to identify vulnerabilities and propose mitigation measures.

**Flood Emergency Response Plan®**

Step 1: Awareness → Step 2: Prevention → Step 3: Response

**Insight into the situation**

- Three steps: awareness, prevention, response
- Background information
- Risk analysis
- Type of measures (before, during and after a flood)
- For all companies around the world

**Wish**

- Insight into basic data, potential risks and measures that can be taken with the aim of monitoring business continuity
- Gain and maintain control by drafting, updating and practicing Flood ERP

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22-Jan-25 | 9

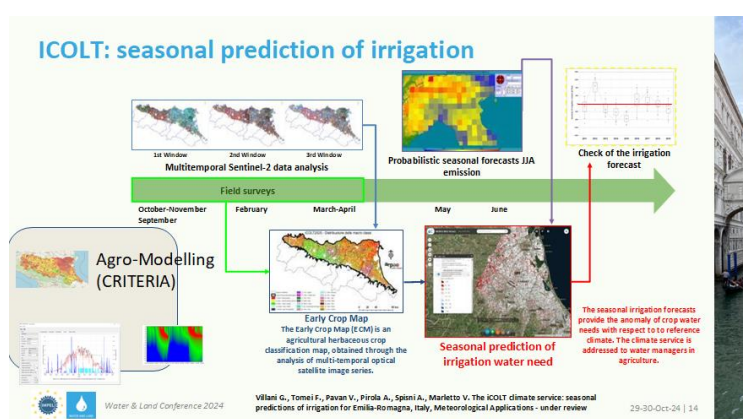
Key goals include improving awareness, ensuring compliance with environmental safety regulations, and promoting adaptive strategies to protect infrastructure and reduce environmental and safety risks. Final outcomes include a guide for industries to integrate water risk management into operations, ensuring resilience against climate-related flooding and rainfall challenges.



- **Water resources integrated monitoring and modeling to support risk management at basin scale - Giuseppe Bortone, Assoarpa**

The presentation focuses on integrated water resources monitoring and modeling to support risk management at the basin scale, with a specific emphasis on the Po River District in Italy. It highlights the challenges posed by climate change, including increased flood risks, water scarcity, and temperature anomalies, which significantly impact the region's hydrological systems.

Key tools and initiatives include the Flood Early Warning System (FEWS-Po) and Drought Early Warning System (DEWS-Po), supported by extensive weather and hydrological monitoring networks. These systems integrate data from advanced forecasting models and on-ground monitoring stations to predict and manage extreme weather events, such as the May 2023 floods that caused extensive damage and displacement.



The presentation also underscores the role of the Permanent Observatory on Water Uses in promoting sustainable water resource management and fostering cooperation among stakeholders. It discusses the environmental risks associated with flooding, such as pollution from industrial facilities and wastewater treatment plants located in flood-prone areas, emphasizing the need for proactive governance and innovative solutions like agro-modeling and seasonal irrigation predictions.

The presentation concludes by advocating for improved water governance and enhanced data integration to mitigate the impacts of climate change and ensure sustainable water resource management in the Po River Basin and beyond.

- **Artificial Intelligence and Environmental Compliance - The IMPEL Artic Project - Giuseppe Sgorbati, ARTIC project Manager**

The presentation by Giuseppe Sgorbati explores the use of artificial intelligence (AI) in environmental compliance assurance as part of the IMPEL ARTIC Project. It introduces AI concepts, highlighting its strengths, weaknesses, and applications in environmental risk management, crime detection, and inspection planning.

Key applications include using AI for:

### Computer Vision in search of Non Compliance and Crime

#### Illegal Pollutants Installations Search (2)

ML tool used: same as Italian experience

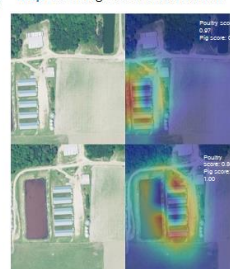
#### North Carolina test: Efficiency

"we estimate that one could capture 75% of poultry CAFOs using less than 2% of manual resources or 95% of poultry CAFOs using less than 10% of manual resource"



Study performed to test: Deep Learning to map concentrated animal feeding operations  
 Cassandre Hagan-Heider and Daniel E. Ho, Stanford Law School and Department of Political Science, Stanford University - Stanford Institute for Economic Policy Research, Stanford, CA, USA  
 On Nature Sustainability 2(6) | VOL 2 | APRIL 2022 | 289-306 | www.nature.com/nature

#### Illustration of "Class Activation Map" for image-level classification





1. Risk assessment and ranking of facilities for targeted inspections, enhancing efficiency in sectors like hazardous waste management and water protection.
2. Fraud detection in discharge monitoring reports to identify potential environmental violations.
3. Computer vision techniques to locate illegal landfills and pollutants from aerial images, achieving high accuracy through machine learning models.
4. Predictive policing to anticipate environmental crimes, such as illegal dumping or pollutant discharges, for better resource allocation.

The presentation discusses the regulatory landscape, including the European Union AI Act, which sets guidelines for the ethical use of AI, ensuring protection of fundamental rights while supporting its application in legal and environmental contexts.

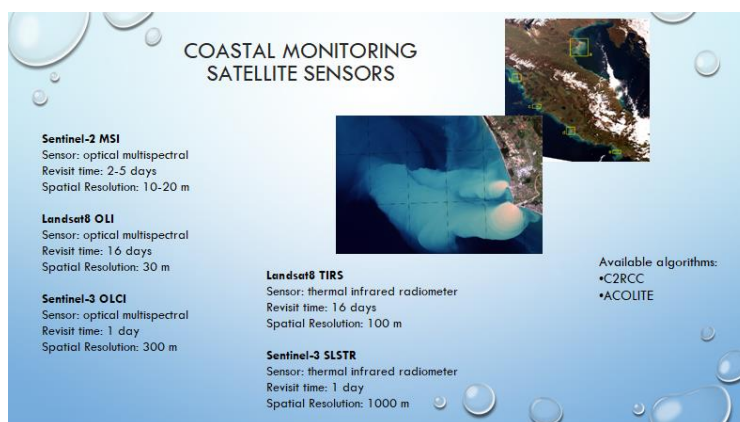
IMPEL's ARTIC project focuses on promoting AI literacy, identifying best practices, and providing tools for environmental compliance professionals. It emphasizes the importance of integrating AI technologies into environmental governance while addressing legal and ethical challenges.

- **Inland and coastal water monitoring using high-resolution satellite Earth observation data - Federico Filippini, CNR**

The presentation highlights the use of high-resolution satellite Earth observation data for inland and coastal water monitoring. It explores applications in environmental management, such as monitoring water quality, pollutants, and land subsidence.

Key areas of focus include:

1. **Coastal Monitoring:** Utilizing satellite data (e.g., Sentinel-2, Landsat) to track parameters like chlorophyll concentration, suspended solids, and water temperature. Applications include monitoring pollutant dispersal, sea foam patterns, and aquaculture sites.
2. **Inland Water Monitoring:** Addressing drought impacts and river shrinkage using time-series analysis and water content mapping. An example is the 2022 drought in Italy, which highlighted reduced river discharge and increased water stress.
3. **Land Subsidence:** Detecting and modeling vertical ground motion using satellite Interferometric Synthetic Aperture Radar (InSAR) data, essential for identifying overexploitation-induced subsidence in urban and industrial areas.



The presentation emphasizes integrating satellite data with predictive modeling and in situ measurements for comprehensive environmental monitoring. Challenges include limitations due to cloud cover and the need for high spatial resolution for small-scale features. The takeaways stress the potential of satellite data to provide critical insights for environmental governance, compliance assurance, and addressing climate-related challenges.

**30 October**



## Session 4: INTERNATIONAL WATER & LAND ACTIVITIES

**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **Implementation and compliance with multilateral environmental agreements: examples of UNECE Water Convention and UNECE-WHO/Europe Protocol on Water and Health - Nataliya Nikiforova, UNECE**

The presentation from UNECE highlights the implementation and compliance mechanisms of the **Water Convention** and the **Protocol on Water and Health**. It emphasizes their significance in fostering transboundary water cooperation and ensuring sustainable water management to protect human health and the environment.

Key aspects of the **Water Convention** include:

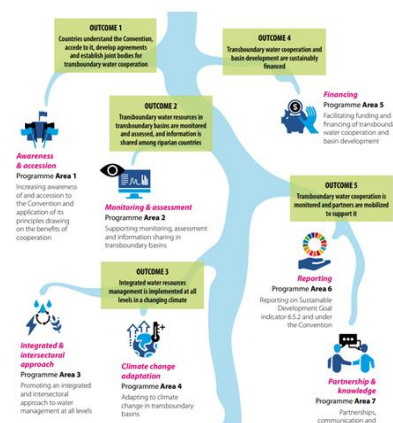
- Promoting equitable and sustainable management of transboundary waters.
- Obligations such as licensing discharges, applying best practices, conducting environmental assessments, and facilitating joint monitoring and information exchange.
- Its expansion from a regional to a global framework with 55 Parties, encouraging participation from countries worldwide.

### Water Convention programme of work

Current programme of work for 2022-2024

New focus areas for 2025-2027:

- Conjunctive water management
- Source-to-Sea
- Freshwater ecosystems
- Water quality



The **Protocol on Water and Health**, a unique treaty focusing on water, sanitation, hygiene, and health, supports SDG6 and integrates environmental protection with public health. Its objectives include ensuring equitable access to safe water, improving sanitation, and reducing water-related diseases. Parties set national targets, report progress, and benefit from tools for governance, capacity building, and climate resilience.

The presentation also highlights advisory procedures and case studies, such as resolving transboundary disputes and improving cooperation between countries like Montenegro and Albania. It underscores the importance of public participation, transparency, and joint efforts to address challenges like water scarcity, pollution, and climate change impacts.

- **EU4Environment: Green Economy Programme and the Project on Promoting Green Deal Readiness in the Eastern Partnership Countries - Olga Olson, Organization for Economic Cooperation and Development (OECD)**

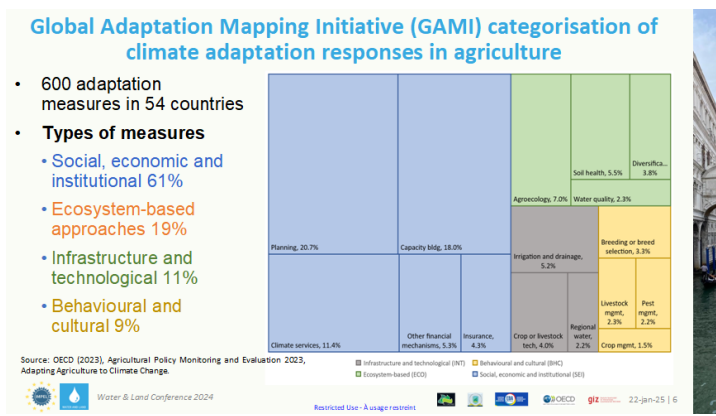
The presentation from OECD focuses on the **EU4Environment Green Economy Programme** and the **Project on Promoting Green Deal Readiness in the Eastern Partnership (EaP) Countries (PROGRESS)**. It highlights efforts to enhance environmental compliance, foster sustainable development, and prepare these countries for alignment with EU Green Deal standards.

Key points include:



### 1. EU4Environment Programme (2019-2024):

- Aimed at preserving natural capital and improving environmental well-being in EaP countries.
- Notable progress in promoting, monitoring, and enforcing environmental compliance, though challenges like policy gaps and weak enforcement remain.



### 2. PROGRESS Project (2024-2028):

- A regional initiative funded by the International Climate Initiative (IKI) and supported by OECD, GIZ, and local organizations.
- Focuses on policy frameworks, capacity building, and public-private dialogues to align with EU Green Deal objectives.

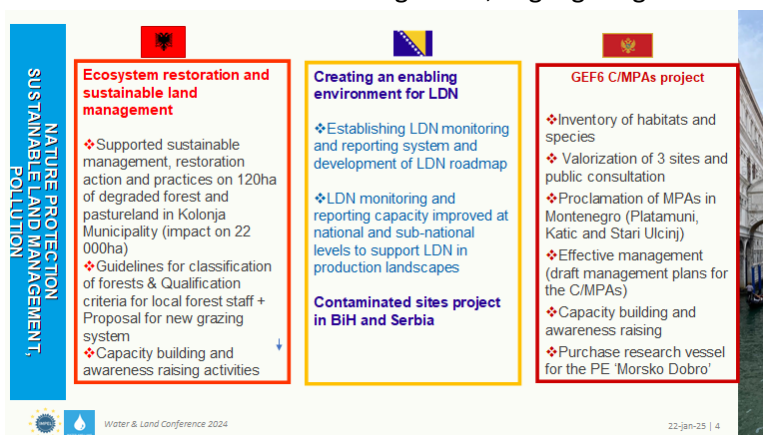
### 3. Climate Change and Agriculture:

- Highlights the significant impact of climate change on agriculture, including droughts, floods, and soil degradation.
- Advocates for better monitoring, climate-smart technologies, and adaptation policies such as water-saving irrigation and resilient crop varieties.

The presentation outlines next steps, including preparing policy reports, conducting workshops, and fostering public-private collaboration to advance sustainable practices and compliance in the region.

- **UNEP activities related to Water and Land - Elena Stefanoni, United Nations Environmental Program (UNEP)**

The presentation focuses on activities related to water and land management, particularly in the Western Balkans. It emphasizes ecosystem restoration and sustainable land management, highlighting efforts to restore forests and pastures, establish guidelines, and build capacity. Pollution prevention is another key area, with projects addressing soil contamination, creating a cadastre of polluted sites, and implementing pilot projects in Bosnia and Herzegovina and Serbia to reduce environmental pollution. UNEP also supports wetland restoration as a means to achieve climate adaptation and mitigation goals, with action plans that integrate gender considerations. Biodiversity and sustainable land use are promoted through projects such as STAR5 and STAR6, which focus on natural capital accounting, forestry reforms, and sustainable tourism. The South-Eastern Europe (de)Pollution Platform (SEEPP) aims to strengthen regional capacities for







managing contaminated sites, reduce pollution, and improve health outcomes through enhanced coordination, data exchange, and policy development.

- **Water governance / Smart water resilience - Francesca Pizza, EurEau**

The presentation representing EurEau, outlines the water sector's vision for a resilience strategy in Europe. It emphasizes the importance of sustainable water management, highlighting key areas such as public awareness of water services, pollution prevention, water reuse, and adapting to a fast-changing environment. The discussion focuses on integrating circular economy principles into wastewater treatment plants, showcasing innovative practices like reclaimed water use for agriculture, wetlands restoration, and energy-efficient heating systems. The presentation also highlights Milan's wastewater management system, emphasizing flood prevention, digitalized sewage monitoring, and nature-based solutions to improve urban resilience. It concludes by positioning wastewater treatment plants as hubs of innovation that enhance environmental quality, foster community engagement, and support sustainable agriculture and energy practices.

### Conclusions

- WWTPs can be considered as circular economy innovation hub (water-biosolid-waste-energy)
- WWTPs are improving the neighborhood and environmental quality
- Natural habitat recreated for wildlife
- Recreational areas for citizens
- Agricultural activities maintained

We can make a difference in so many ways...



- **Promoting good water governance - Rafael Seiz Puyuelo, WWF**

The presentation by Rafael Seiz from WWF Spain focuses on promoting good water governance to address global challenges in water management and aquatic biodiversity conservation. Despite a robust legal framework in the EU, water governance is falling short of achieving its ambitious objectives, highlighting the need for more effective implementation and resilience strategies.

The presentation emphasizes the importance of redefining governance structures to clarify roles, responsibilities, funding, coordination, and monitoring mechanisms. It advocates for adaptive management practices that integrate public trust, participation, and cross-sectoral coherence. The ultimate goal is to ensure water security for both nature and people by fostering stewardship and sustainable management practices that align with evolving environmental and societal needs.

**Do we need governance of water?**

**Despite the extensive legal framework + guidance on water related legislation in the EU, we are not on the right track**

Water & Land Conference 2024

EEA - Europe's state of water 2024. The need for improved water resilience

22-Jan-25 | 3



- **Environmental policing on water and land in France - Andr ea Ferret-Lambert, OFB**

The presentation focuses on the environmental policing efforts of the French Office for Biodiversity (OFB) in managing and protecting water and land resources. It outlines the OFB's five main missions: supporting public policy implementation, advancing knowledge and expertise, managing protected areas, mobilizing public engagement, and enforcing environmental laws.

Environmental policing in France operates under dual authority. The judiciary police, overseen by prosecutors, conduct investigations, handle seizures, and enforce penalties such as fines and compulsory training. The administrative police, under local executive authority, assist in regulation development, provide technical notices, and oversee enforcement with potential for administrative sanctions. OFB environmental inspectors focus on water, aquatic ecosystems, and biodiversity, implementing measures like monitoring, compliance checks, and sanctions to ensure protection and sustainable management.

**OFB's 5 main missions**

- 3/ Management of protected areas
- 4/ Mobilising society and promoting engagement

Water & Land Conference 2024 22-jan-25 | 3

The presentation highlights the need for a proactive approach encompassing prevention, anticipation, and punishment to address environmental violations effectively, with reforms expanding coercive powers set for 2025. The ultimate goal is to safeguard biodiversity and natural resources while fostering societal engagement in conservation efforts.

## Session 5: CHALLENGES FACED BY THE VENETIAN AUTHORITIES

**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **Environmental protection of the Venice Lagoon under the Water Framework Directive - Sara Pasini, Distretto Alpi Orientali**

The presentation focuses on the environmental protection of the Venice Lagoon under the framework of the Water Framework Directive (WFD) and the River Basin Management Plan (RBMP). It outlines the goals of the WFD, including preventing deterioration, promoting sustainable water use, and enhancing the ecological and chemical status of water bodies. The Venice Lagoon, comprising natural and heavily modified water bodies, faces significant pressures from inland sources and local activities such as agriculture, navigation, and historical pollution.

**The Venice Lagoon and its watershed**

Drainage basin: 2000 km<sup>2</sup>, 88 river WBS  
Venice lagoon: 500 km<sup>2</sup>, 14 transitional WBS

3 heavily modified WBS (Venice centre, fish farms)  
11 natural water bodies

Water body = "A discrete and significant element of surface water or a distinct volume of groundwater within an aquifer or aquifers"

Water & Land Conference 2024 6 out of 12 | 6



The RBMP for the Eastern Alps District serves as a roadmap for achieving these objectives through measures such as wastewater treatment upgrades, sustainable agricultural practices, sediment management, and ecological restoration. Despite these efforts, challenges persist due to technical infeasibility and diffuse chemical contamination, particularly from unknown sources. The presentation highlights the need for continued monitoring, public consultation, and adaptive management to improve the lagoon's ecological and chemical status over future planning cycles.

- **La Salvaguardia della Laguna di Venezia – Un Complesso Sistema Integrato - Valerio Volpe,** Provveditorato Interregionale Opere Pubbliche Veneto

The presentation explores the integrated system developed for the environmental protection and flood management of the Venice Lagoon. It addresses the challenges faced by the lagoon, including high tides, storm surges, erosion, and pollution. The solution combines mobile barriers, such as the MOSE system, with local defenses to mitigate high tides, protecting Venice and its historic infrastructure.

Additional measures include the restoration of natural habitats like salt marshes, the reconstruction of dunes, and the creation of green infrastructure to enhance environmental resilience. Efforts have also been made to secure polluted areas, improve wastewater management, and maintain industrial canals. The presentation highlights the collaborative and multi-faceted approach required to preserve the ecological, cultural, and urban landscape of Venice while addressing the impacts of climate change and human activity.



- **Monitoring of environmental effects of MoSE - Fabio Strazzabosco,** ARPA Veneto

The presentation discusses the environmental monitoring associated with the MOSE flood defense project in the Venice Lagoon. It outlines the project's implementation, including initial European Commission infringement procedures and the subsequent development of the "Europe Plan" to mitigate and compensate for environmental impacts. Monitoring activities, initially managed by ISPRA and later by ARPAV, focus on evaluating the effects of construction and the operation of mobile barriers on the lagoon's ecological systems.

The monitoring encompasses hydrodynamics, morphodynamics, and various biotic and abiotic parameters, such as water quality, macroalgae, phytoplankton, and fauna. Observations reveal changes in ecological dynamics, including impacts on fish populations, vegetation, and avifauna, some of which are linked to construction noise and hydromorphological alterations. The presentation emphasizes the need for ongoing monitoring to understand the long-term effects of the MOSE system, address unresolved issues, and adapt conservation measures for habitats and species of community interest. It highlights collaboration among regional, national, and EU entities to ensure compliance and environmental sustainability in the lagoon.







## Session 6: CONTAMINATED SITES AND SOIL HEALTH

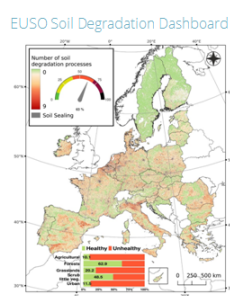
**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **The role of the European Soil Observatory in the view of Soil Monitoring Law - Piotr Wojda, Joint Research Centre, European Commission (JRC)**

The presentation by Piotr Wojda highlights the role of the European Soil Observatory (EUSO) in addressing soil pollution and degradation within the EU. It emphasizes the importance of harmonized monitoring, research, and evidence-based policymaking to tackle soil-related challenges. Key initiatives include the LUCAS Soil Monitoring Program, which collects harmonized soil data across the EU, and the development of dashboards for tracking soil degradation indicators.

The presentation discusses major drivers of soil pollution, such as heavy metals, pesticides, and microplastics, and underscores the gaps in data availability and monitoring, particularly in urban areas. It also explores the EU's Zero Pollution Action Plan and the proposal for a Soil Monitoring Law to improve soil quality assessments and remediation efforts. The ultimate goal is to achieve sustainable soil management and contribute to the EU's ambition of achieving healthy soils by 2050. The role of citizen science and increased investment in research and innovation are highlighted as essential components of these efforts.

### Convergence of evidence for soil degradation in the EU



<sup>14</sup> <https://esdac.jrc.ec.europa.eu/esdacviewer/euso-dashboard/>

- Currently, **19 soil degradation processes** are included
- Areas that are likely to be affected by one or more soil degradation processes.
- **62 % of EU soils** were determined to be in a **degraded state** based on the evidence currently available and current knowledge on thresholds.
- Green areas: healthy or unknown

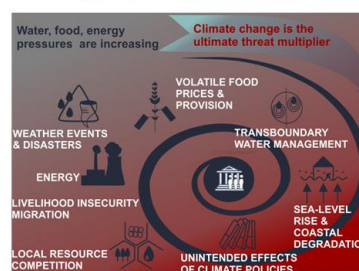


- **The Role of Soil Health in Sustainable Wastewater and Water Reuse Practices - Nazaré Couto, CENSE, NOVA School of Science and Technology, Portugal**

The presentation emphasizes the critical role of soil health in sustainable wastewater and water reuse practices, particularly in the context of climate change. It highlights the challenges posed by water scarcity, increased salinity, toxic metal contamination, and diffuse soil pollution, which adversely impact agricultural productivity, biodiversity, and water quality.

Healthy soils are vital for filtering contaminants, retaining moisture, and supporting ecosystem services such as nutrient cycling and carbon storage. The presentation advocates for integrated soil and water management strategies, including regular soil monitoring, controlled irrigation techniques, and the use of organic matter to maintain soil fertility. It also stresses the importance of enforcing environmental

### Water-food-energy synergetic degradation spiral



Water & Land Conference 2024

Tyrolgou et al. (2023) European Geologist Journal, 55, 32-41

22-jan-25 | 3





regulations, engaging communities, and adopting innovative farming practices like precision agriculture to ensure resilience against climate change. The role of the EU Green Deal and the proposed Soil Monitoring Law is highlighted as essential frameworks for addressing soil health and promoting sustainable land use practices across Europe.

- **The polluter pays principle - environmental liability in managing contaminated sites - Dietmar Müller-Grabherr, COMMON FORUM on Contaminated Land in Europe (EAA, Austria)**

The presentation explores the application of the polluter-pays principle in managing contaminated sites across Europe, emphasizing its importance for environmental liability and cost internalization. It discusses the historical and legal foundations of the principle, including its codification in the Treaty of Rome and the Rio Declaration, and its integration into EU directives such as the Water Framework Directive and the Environmental Liability Directive.

Challenges in implementing the principle are highlighted, such as addressing historical contamination, identifying responsible parties, and ensuring fairness in liability distribution. Case studies from countries like Belgium, Denmark, and Austria illustrate varying approaches to remediation obligations, liability chains, and exemptions for landowners or operators. The presentation underscores the need for risk-based strategies, collaborative solutions, and incentives to balance economic, environmental, and social priorities. It concludes by emphasizing fairness, pragmatic actions, and the critical role of pollution prevention in addressing the broader environmental and climate crises.

**CONTAMINATED LAND – WHEN PREVENTION FAILED ...**

**TO BE KEPT IN MIND**  
RIO DECLARATION (1992): Principle 16  
•the internalization of environmental costs and the use of economic instruments.  
•the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and.  
•damage should as a priority be rectified at source and that the polluter should pay.

**... PARTICULAR CHALLENGES OCCUR**  
•bankruptcy  
•identifying the legal successor  
•multitude of polluting activities  
•historical vs. new contamination

**TFEU [Art. 191(2)]**  
Union policy shall be based on the precautionary principle and on the principles  
•that environmental damage should as a priority be rectified at source and  
•that the polluter should pay.

**Safe and sustainable chemicals**  
Minimize and control  
Eliminate and remediate

**Protect health and the environment**  
Minimize release of harmful and persistent substances, including, in particular, the substances being the subject of restriction, through the application of the precautionary principle.

**Encourage innovation**  
Promote the development of safe and sustainable products, processes, and production methods, and technology innovation and the testing of new materials.

**EU ZERO POLLUTION ACTION PLAN (2021) Reversing the pyramid of action**  
© Research Network Contaminated Land 22-Jan-25 | 9

## Session 7: IMPEL PROJECTS

**Moderator:** Mihaela Monica Crisan and Geneve Farabegoli (IMPEL - Water and Land Expert Team Leader and Deputy)

- **Water & Land Expert Team Projects - Geneve Farabegoli, ET Deputy Leader**

The presentation provides an overview of water and land projects aimed at addressing environmental challenges such as pollution, water scarcity, and land degradation. It highlights key initiatives, including the Water Circularity Index for promoting circular economy practices, the Water Risk Assessment Project for evaluating risks related to water bodies, and self-monitoring tools for improving compliance in water permits. Projects like TIGDA focus on tackling illegal groundwater

Funded by the European Union

WATER AND LAND

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**Water and Land projects overview**

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Venice, Italy  
29-30 October

Name  
Position  
Affiliation  
Email

Water & Land Conference 2024



abstractions using advanced technologies like GIS and Earth Observation.

The presentation also addresses nitrate pollution in groundwater, emphasizing integrated protection strategies and best practices to reduce agricultural impacts. The EU Marine Transborder Transect project investigates marine biodiversity and plastic pollution, while the Water and Land Remediation project explores innovative technologies for contaminated site cleanup. The Soil Health and Ecosystem Services initiative aims to enhance soil quality through sustainable management practices. Finally, the focus on irregular landfills highlights the need for monitoring, intervention, and sustainable restoration to reduce environmental impacts and improve land use efficiency.

- **Industry & Air Expert Team Projects - Marinus Jordan, ET Leader**

The presentation focuses on the activities and outcomes of the Industry & Air Expert Team, emphasizing its efforts to address industrial emissions and their impact on air quality across Europe. It highlights collaborative initiatives, including regular meetings and knowledge exchange sessions, to develop and implement strategies for reducing air pollution. Key themes include improving task coordination, enhancing learning opportunities for broader audiences, and connecting activities to work packages to achieve impactful results. The presentation concludes with insights on leveraging tools and manuals for effective environmental management and fostering continued collaboration among team members and stakeholders.



- **Waste & TFS Expert Team Projects - Bojan Počkar, ET Leader**

The presentation outlines new and ongoing projects within the IMPEL Waste and Transfrontier Shipment (W&TFS) Expert Team for 2025–2027. It highlights initiatives aimed at addressing challenges in waste management and circular economy implementation through knowledge exchange, training, and policy development. Key focus areas include the use of artificial intelligence in waste regulation, end-of-waste criteria for plastics and textiles, and strategies to curb illegal waste shipments to non-EU countries.

Existing projects include enhancing risk-based inspections for waste recycling, supporting circular business models under EU legislation, and improving compliance with extended producer responsibility for electrical and electronic equipment. Collaborative efforts with international networks aim to combat illegal waste trafficking, foster enforcement consistency, and promote best practices. The presentation emphasizes the importance of innovative technologies, cross-border cooperation, and stakeholder engagement in achieving sustainable waste management goals.





- **Protection Nature Expert Team Projects - Elisabete Santos**

The presentation focuses on ongoing and future projects led by the IMPEL Nature Protection Expert Team, aiming to strengthen biodiversity conservation and enforcement of EU environmental legislation. Key initiatives include combating invasive alien species using tools like NIRAM for inspection planning and eradication strategies, as well as implementing the EU Action Plan against Wildlife Trafficking, which targets organized crime in the illegal trade of flora and fauna.

Efforts to enhance compliance with the Birds and Habitat Directives at European aerodromes are also highlighted, with risk assessment tools and workshops supporting wildlife strike prevention. Additionally, the "Joint of Networks for Wild Fungi" project emphasizes the ecological role of fungi, proposing standardized monitoring methods and their inclusion in environmental policies.



Thank you  
for your  
attention!

The presentation underscores the need to expand collaborations with enforcement bodies, NGOs, and other networks while leveraging tools like artificial intelligence to tackle wildlife crime. It stresses improving inspection, enforcement, and dissemination of project outcomes to effectively implement EU legislation and protect biodiversity.

- **Cross-Cutting Expert Team Projects - Francesco Andreotti, ET Deputy Leader**

The presentation outlines the IMPEL Cross-Cutting Expert Team's work program for 2025–2027, focusing on initiatives to improve environmental compliance and governance. It includes ongoing projects like the Knowledge and Information Programme, which supports training and the dissemination of project outcomes, and the IMPEL Review Initiative, which provides peer evaluations to enhance environmental obligations implementation. Other projects, such as the National Peer Review Initiatives and Geospatial Intelligence for Environmental Damage Assessment, aim to strengthen tools and practices for monitoring and addressing environmental harm.

New projects highlighted include addressing environmental emergencies, reducing light pollution, and leveraging artificial intelligence to enhance compliance assurance. The program also emphasizes the implementation of the updated Environmental Crime Directive and supports collaboration between networks to enforce zero pollution actions. The overarching goal is to foster innovation, collaboration, and practical solutions for tackling environmental challenges across Europe.







## Annex – Water and Land Conference Agenda



European Union Network for the Implementation  
and Enforcement of Environmental Law



### Venice Water & Land Conference

(29-30 October 2024)

Location: Venice (CENTRO CULTURALE DON ORIONE ARTIGIANELLI - Dorsoduro 909/a – 30123 Venice) + virtual meeting [Link to CONNECT](#) (MS Teams, one link for both days)

**29 October**

8h30 Registration

9h00 Opening and welcome from IMPEL  
Rob Kramers, IMPEL vice Chair  
Monica Crisan, IMPEL W&L Expert Team Leader  
Genevieve Farabegoli, IMPEL W&L Expert Team Deputy Leader

9h15 Opening and welcome from Italian Institutions  
Antonio Marcomini, vice Chancellor of the University Ca' Foscari Venice  
Angelo Martinelli, Ministero dell'ambiente e della sicurezza energetica  
Nino Tarantino, Sub Commissario Ten. Col. CC  
Loris Tomiato, ARPA Veneto Director

9h45 Plenary speech  
General EU Water Law (Water Framework Directive, Floods Directive)  
Claudia Olazabal, Head of the Water Unit, DG Environment, European Commission (on-line)  
Environmental Compliance Assurance  
Vita Juknė, Head of Unit Env E4, Environmental Rule of Law and Governance, DG Environment (on-line)

10h15 Coffee/tea break

**Session 1: EU Green Deal - Towards a water resilient Europe and challenges on new water policies**

10h30 The future developments on Water Reuse Regulation  
Valentina Bastino, DG Environment, European Commission

10h45 The new ECD and its relevance for tackling water offenses  
Elisabetta Reyneri, DG Environment, European Commission (on-line)

11h00 The new frontiers of environmental crimes on water and soil: A real case of water crime - The Doñana protected natural area in Spain  
Faustino Gudín Rodríguez Magariños, Judge with the Criminal Court of Segovia

11h15 ENVICRIMENET - present a real case  
Dndrej Koporec, ENVICRIMENET (on-line)

11h30 ENPE - present a real case  
Wendy Foster, UK Environment Agency

11h45 PLENARY DISCUSSION

**Session 2: Water Risk Assessment**

12h00 Risk assessment in water policies  
Anabela Rebelo, APA, Portugal

12h15 11 Key elements on the Risk Management on Water Reuse  
Roberta Maffettone, Joint Research Centre, European Commission (JRC)

12h30 Risk assessment for water reuse in Spain  
Isabel Leon Martin, CEDEX Centro de Estudios y Experimentación de Obras Públicas





European Union Network for the Implementation  
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**12h45 PLENARY DISCUSSION**

**13h00 Lunch**

**Session 3: Water & Land pollution – Use of new technologies on detection and assessment**

**14h30 Pan-European water-related products produced from the satellite data**

**Joanna Przystawska, EEA (on-line)**

**14h45 The European Ground Motion Service (EGMS)**

**Lorenzo Solarì, Copernicus Land Monitoring Service (on-line)**

**15h00 "Water Risk Profile" an instrument to determine the risk for companies regarding flooding**

**Stuart Gunput and Harold Pijnenburg, Regional environmental protection agency  
Noordzeekanaalgebied (The Netherlands)**

**15:15 Coffee/tea break**

**15h30 Water resources integrated monitoring and modeling to support risk management at basin scale**

**Giuseppe Bertone, Assoarpa**

**15h45 Artificial Intelligence and Environmental Compliance - The IMPEL Arctic Project**

**Giuseppe Sgorbati, ARTIC project Manager**

**16h00 Inland and coastal water monitoring using high-resolution satellite Earth observation data**

**Federico Filippini, CNR**

**16h15 PLENARY DISCUSSION**

**16h30 Closing day 1**

**Monica Crisan and Geneva Farabegoli – IMPEL W&L Expert Team Leader and Deputy  
Social Walk + Social Dinner @OKE restaurant**

**30 October**

**9h00 Opening, Resume of day 1 & Agenda Day 2**

**Monica Crisan – IMPEL W&L Expert Team Leader**

**Session 4: International Water & Land Activities**

**09h05 Implementation and compliance with multilateral environmental agreements: examples of UNECE  
Water Convention and UNECE-WHO/Europe Protocol on Water and Health**

**Nataliya Nikiforova, Environmental Affairs Officer, UNECE**

**09h20 EU4Environment: Green Economy Programme and the Project on Promoting Green Deal Readiness in  
the Eastern Partnership Countries**

**Olga Olson, Organization for Economic Cooperation and Development (OECD)**

**09h35 UNEP activities related to Water and Land**

**Elena Stefanoni, United Nations Environmental Program (UNEP)**

**09h50 Water governance / Smart water resilience**

**Francesca Pizza, EurEau**

**10h05 Coffee/tea break**

**10h15 Promoting good water governance**

**Rafael Seiz Puyuelo, WWF (on-line)**

**10h30 Environmental policing on water and land in France**

**Andréa Ferret-Lambert, OFB**

**10h45 PLENARY DISCUSSION**



European Union Network For the Implementation  
and Enforcement of Environmental Law



#### Session 5: Challenges faced by the Venetian authorities

- 11h00 Environmental protection of the Venice Lagoon under the Water Framework Directive  
**Sara Pasini, Distretto Alpi Orientali**
- 11h15 La Salvaguardia della Laguna di Venezia – Un Complesso Sistema Integrato  
**Valerio Volpe, Provveditorato Interregionale Opere Pubbliche Veneto**
- 11h30 Monitoring of environmental effects of MoSE  
**Fabio Strazzabosco, ARPA Veneto**
- 11h45 PLENARY DISCUSSION

#### Session 6: Contaminated Sites and Soil Health

- 12h00 The role of the European Soil Observatory in the view of Soil Monitoring Law  
**Piotr Wojda, Joint Research Centre, European Commission (JRC) (on-line)**
- 12h15 The Role of Soil Health in Sustainable Wastewater and Water Reuse Practices  
**Nazaré Couto, CENSE, NOVA School of Science and Technology, Portugal**
- 12h30 The polluter pays principle - environmental liability in managing contaminated sites  
**Dietmar Müller-Grabherr, COMMON FORUM on Contaminated Land in Europe (EAA, Austria)**
- 12h45 PLENARY DISCUSSION
- 13h00 Lunch

#### Session 7: IMPEL Projects

- 14h00 Water & Land Expert Team Projects  
**Geneve Farabegoli, ET Deputy Leader**
- 14h20 Industry & Air Expert Team Projects  
**Marinus Jordan, ET Leader**
- 14h40 Waste & TFS Expert Team Projects  
**Bojan Pockar, ET Leader**
- 15:00 Coffee/tea break
- 15h15 Protection Nature Expert Team Projects  
**Elisabete Santos, IRA Azores**
- 15h35 Cross-Cutting Expert Team Projects  
**Francesco Andreotti, ET Deputy Leader (on-line)**
- 15h55 PLENARY DISCUSSION
- 16h10 Conclusions and closing of the Conference  
**Monica Crisan and Geneve Farabegoli – IMPEL W&L Expert Team Leader and Deputy**
- 16h20 End of Conference  
**Social Boat trip + Social Dinner @Hotel Leonardo**