THE WORLD WATER QUALITY ALLIANCE NEWSLETTER

March 2025

The World Water Quality Alliance is convened by the United Nations Environment Programme. It proudly presents its monthly newsletter, YEMAYA, named after the ancient African goddess of the ocean and motherhood. She is associated with fertility, femininity, protection, healing, and childbirth. Her domains are symbolized as water creatures: the seas, rivers, and lakes. She is honoured and revered in the African diaspora, particularly in Cuba, Haiti, Brazil, and the United States.

We, the World Water Quality Alliance Coordination Team, welcome articles about water quality. Tell us about your experiences. Describe the challenges you and your people face. Talk to our global community; talk to people from around the World. Send your articles to wwqa-coordination@un.org.

World Water Day – 22 March

With the theme *"Glacier Preservation,"* this year's World Water Day highlights the urgent need to protect glaciers, which are crucial for global freshwater supply. As glaciers melt, water quality

is threatened by increased sedimentation, pollutants, and unpredictable flows. Sustainable water management and climate action are critical to preserving these essential water sources.

International Day of Action for Rivers – 14 March

Rivers are essential to water quality, yet they face increasing threats from pollution, damming, and overuse. The theme *"Our Rivers, Our Future"* calls for protecting free-flowing rivers and restoring degraded waterways. Healthy rivers support biodiversity, provide clean drinking water, and sustain food production—making their conservation vital for a water-secure future.

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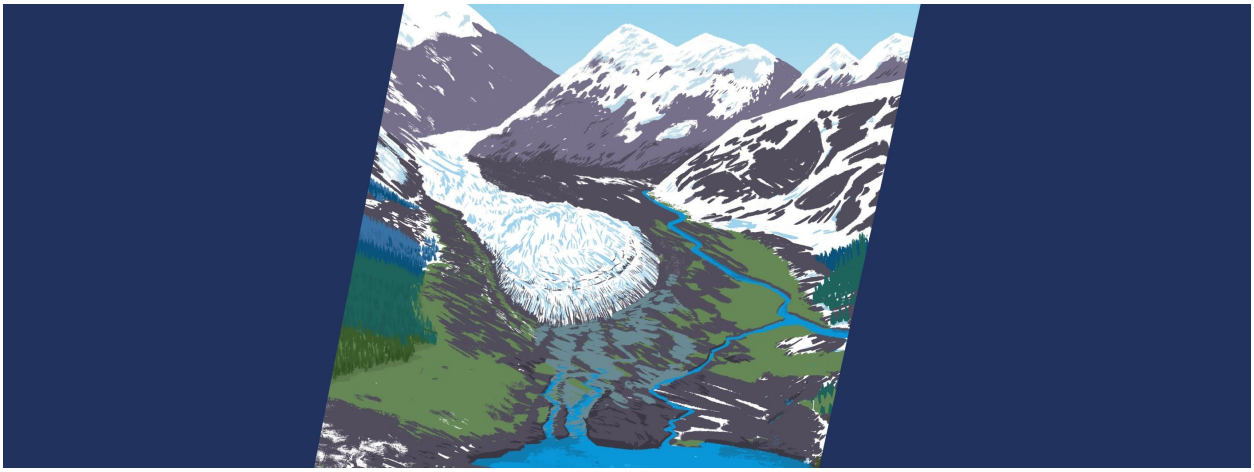
- ***WWQA Membership Application Form***

Glaciers: The Diminishing Critical Water Towers



Glaciers, the world's most **pristine water towers**, are diminishing at an alarming rate. As we celebrate **World Water Day**, it is crucial to acknowledge these towering ice giants that have silently sustained civilizations for thousands of years. They function like a **savings account**—holding approximately **70% of Earth's freshwater** and releasing it gradually through annual melt cycles to supply rivers, irrigate fields, and provide water for billions. However, this delicate system is now collapsing due to **climate change** and human activities.

Since 1961, over **9 trillion tons of ice** have been lost, with the melt rate nearly doubling in the past decade. The **European Alps** have lost half their ice cover since 1900, and in the last two

decades alone, glaciers have lost over **267 billion metric tons of ice per year**. In the **Himalayas**, where over **1.9 billion people** rely on glacial melt for drinking water, agriculture, and hydropower, this crisis threatens regional stability. **Glaciers in Alaska** are melting so rapidly that they contribute nearly **one-third of observed sea-level rise**. The consequences are dire: water rationing in **Bolivia's capital, La Paz**, now affects up to **2 million residents**, with as much as 30% of their water supply originating from melting glaciers such as the now-vanished **Chacaltaya**.

Despite their vital role, glaciers receive relatively little attention. This may be because they exist in remote, sparsely inhabited areas or because their disappearance occurs gradually and unobtrusively. However, their vanishing represents undeniable evidence of the devastating impacts of climate change. As glaciers retreat, they destabilize regional hydrology, turning once-perennial rivers into erratic, seasonal watercourses. The **Indus River Basin**, which supports over **200 million people**, depends heavily on glacial melt from **Pakistan's "third pole" glaciers**, now projected to lose up to **75% of their volume** by the end of the century. The resulting water scarcity could worsen already tense geopolitical situations.

Glacial retreat also presents immediate physical dangers. Melting glaciers often leave behind unstable lakes that can burst catastrophically. In 2013, glacial lake outburst floods in **Uttarakhand, India**, claimed thousands of lives. Scientists have identified more than **200 potentially hazardous glacial lakes** across the **Himalayas alone**. Unlike some environmental challenges, the science behind glacial loss is clear: rising global temperatures are the primary culprit, with **mountain regions warming at twice the global average rate**. Yet, understanding the problem is not enough—we must fundamentally change how we value and protect glaciers. They are not just scenic landscapes but essential **hydrological infrastructure**, and their preservation must be prioritized with the same urgency as safeguarding **major dams and water treatment facilities**.

Beyond their role in water availability, glaciers also influence **water quality**, regulating sediment transport, nutrient flows, and freshwater chemistry. As glaciers shrink, changes in runoff can impact downstream ecosystems, leading to increased turbidity, altered river temperatures, and shifts in waterborne nutrient cycles.

The **World Water Quality Alliance (WWQA)** recognizes that glacier retreat has implications for ambient water quality, particularly for downstream ecosystems and drinking water sources. Further engagement in raising awareness of these linkages—through knowledge-sharing, scientific collaboration, and data integration—could help enhance understanding of how changing glacial dynamics influence freshwater systems. Ensuring that glaciers remain part of global discussions on **water sustainability** is essential for addressing future water quality challenges.

On this **World Water Day**, let us recognize that protecting glaciers is not just about conserving breathtaking landscapes—it is about securing water for billions, preventing geopolitical conflicts, sustaining biodiversity, and preserving the livelihoods and cultures that have thrived alongside these ancient ice masses for generations.

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Article by: Faith Nangila Wafula

Online UNV supporting WWQA Communication's efforts as well as Nairobi River Citizen Scientist

Empowering Citizen Scientists: Advancing Water Quality Monitoring in Sierra Leone

In February, the **National Water Resources Management Agency (NWRMA)** of Sierra Leone welcomed the **WWQA Citizen Science for SDG Indicator 6.3.2** workstream leads Steven Loiselle of EarthWatch Europe, and Stuart Warner of GEMS/Water, along with Dmytro Lisniak from the GEMS/Water Data Centre.

The Workshop

The ambitious agenda included a day-long workshop organized by the NWRMA team, bringing together the dedicated citizen scientists of the **Rokel** and **Taia-Pampana River basins**, some of whom have been collecting **water quality data** since 2021. These citizen scientists shared valuable insights on improving data collection and engagement with the NWRMA, and posed pertinent questions when presented with summary results of their collected data.

Innovative Analytical Methods

Citizen scientists from the **Taia-Pampana River basin** have been using a new analytical method focused on metals, which is crucial for tracking the downstream impacts of the proliferating mining activities in the basin. During the workshop, they trained the **Rokel citizen scientists** in this new method, as mining is also becoming a significant issue in this neighbouring river basin.

NWRMA's New Laboratory and Capacity Building

Another highlight of the week-long trip was a visit to the **NWRMA's new laboratory** in Freetown, which represents a huge leap forward in the agency's analytical capacity. The trip also included sessions on **water quality data management**, which for national authorities worldwide is one of the biggest capacity gaps, often resulting in water quality data not reaching its full potential.

1 - Image credit: National Water Resources Management Agency of Sierra Leone (NWRMA)

2 - Image credit: National Water Resources Management Agency of Sierra Leone (NWRMA)

3 - Image credit: National Water Resources Management Agency of Sierra Leone (NWRMA)

Article contribution: Stuart Warner (UNEP GEMS/Water) and Steven Loiselle (Earthwatch Europe)

A Local Perspective - Goma: A Landlocked City on the Brink of a Water Crisis

Goma: A City in Crisis

Goma, a landlocked city on the shores of the majestic **Lake Kivu**, is home to approximately four million inhabitants. Yet, water—the very source of life—is a rare commodity. For years, the people of this eastern Congolese city have endured a daily struggle, facing severe shortages of drinking water and frequent power outages.

The Daily Struggle for Water

For the residents, the lack of potable water has become a nightmare. Local authorities are attempting to find solutions, but their efforts are limited by logistical and financial constraints. Studies show that the quality of **Lake Kivu's water**—the only drinking water source for Goma and Nyiragongo—is unsuitable for consumption.

Despite Régie de Distribution d'Eau (a state-owned utility company), REGIDESO, being the primary water distributor in the region, REGIDESO, faces constant complaints from users regarding both the quality and quantity of water supplied. Many residents are also exposed to risks when searching for potable water.

Such is the case of a resident from the **Majengo** neighborhood, whom we met at Lake Kivu, drawing water directly from the lake. Just a few kilometers away, in western and northern Goma, entire neighborhoods experience constant water shortages. In **Lushagala** and **Nyiragongo**, for example, residents prefer to use rainwater rather than relying on Lake Kivu. They argue that the lake is too far from their village and is polluted by plastic waste.

Women and Children at the Forefront

Water scarcity disproportionately affects **women** and **children**. The lack of clean water has severe health consequences, impacting hygiene and overall well-being. Women bear the brunt of this crisis, walking long distances to fetch water and managing the resulting household sanitation issues.

Public Outrage and Protest

Faced with governmental inaction, public anger is rising. Recently, citizen movements and local residents took to the streets, marching towards the provincial office of REGIDESO in central Goma to express their frustration. One of the protesters voiced her disappointment: *"It is unacceptable that REGIDESO charges us for water that never reaches us!"* The protesters were eventually received by REGIDESO officials. The tension was palpable. Once inside, the company's management requested representatives of the demonstrators to engage in dialogue. The regional director of REGIDESO, acknowledged the residents' frustrations, stating that their anger was justified. However, he pointed out several challenges facing the company, including financial constraints, outdated pipelines, and substandard materials supplied by partners.

Lake Kivu: A Deteriorating Lifeline

Lake Kivu is in peril. **Plastic waste**, industrial pollutants, and other non-biodegradable contaminants threaten its waters—the same waters consumed by thousands. **Seth Tsongo**, a young environmental activist, warns that this is a ticking time bomb.

To mitigate contamination risks, some **non-governmental organizations** have been distributing chlorine for free. However, this temporary solution is neither sufficient nor effective against Lake Kivu's declining water quality.

The Health Crisis

Dr. Justin Naweza, a head nurse at **Munigi Hospital** in Nyiragongo, highlights the devastating health impact of the water crisis. Many residents in his area lack access to running water and are forced to drink rainwater.

"Untreated water is poison," he warns, adding that he treats patients daily for diarrhea, typhoid, and cholera. **Children**, being the most vulnerable, suffer the most. The statistics are alarming—many people die each month due to waterborne diseases.

A Crisis Worsened by Recent Attacks

Although the accompanying video footage was collected in 2023, the issues raised—both in the text and in the video—remain pressing concerns today. The situation has now been further exacerbated by the recent attacks that have taken place, adding to the existing challenges faced by communities and institutions working to safeguard water access and quality in the region. As instability grows, so does the difficulty in addressing Goma's urgent water crisis, leaving residents more vulnerable than ever.

Goma Deserves Better

In Goma and its surrounding areas, water—despite being a symbol of life—has become a symbol of crisis. This crisis exposes infrastructure failures, environmental challenges, and deep-rooted inequalities.

Goma, a volcanic city located near **Lake Kivu**, deserves better. The lake is vital for trade, fishing, and transportation between neighboring countries. Yet, its people are left struggling for something as fundamental as clean drinking water.

Embed://<iframe width="560" height="315" src="https://www.youtube.com/embed/BftyhJYBJdg?si=N5PXhvhqGxKWu8lu" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture; web-share" referrerpolicy="strict-origin-when-cross-origin" allowfullscreen></iframe>

Article and video contribution: Denise Kyalwahi, Local Water Forum (Lake Kivu - Goma), and Social Engagement workstream member.

The WWQA BULLETIN BOARD

WEBINAR: Insights from the IDSOV conference

This exciting webinar will be broadcast from the 10th IDSOV Conference in Canberra, Australia! If you are interested in supporting Indigenous data sovereignty and governance—or simply wish to learn more about it—this webinar is for you! We will feature invited panelists who will share relevant insights on water quality and IDSOV, as well as their personal highlights and key takeaways from the first three days of this important meeting. The session will conclude with a short moderated discussion on how Indigenous and non-Indigenous science communities can collaborate in mutual respect to support Indigenous data sovereignty and governance.

Background:

At the heart of IDSOV is the right of Indigenous Peoples and nations to control the collection, ownership, and application of data about their people, territories, lifeways, and natural resources. Days 1 and 2 of the IDSOV Conference provide a platform for Indigenous Peoples to share how they are enacting Indigenous Data Governance (IDGov). On Day 3, the conference invites non-Indigenous organizations and individuals to discuss how they are supporting the implementation of IDSOV and IDGov through the governance of Indigenous data.

Indigenous Data Sovereignty (IDSOV) refers to the right of Indigenous Peoples to control the collection, ownership, and application of data about themselves, their communities, lands, territories, and waters. In Earth sciences, the observations of Indigenous Peoples represent a vital source of information for understanding natural phenomena. However, the ability of Indigenous Peoples, communities, and nations to steward and control data created with or about them has often been mismanaged or overlooked. Indigenous data is a strategic asset, originating from research, administrative processes, services and program delivery, surveys, official statistical agencies, and commercial activities.

Online: **Zoom**

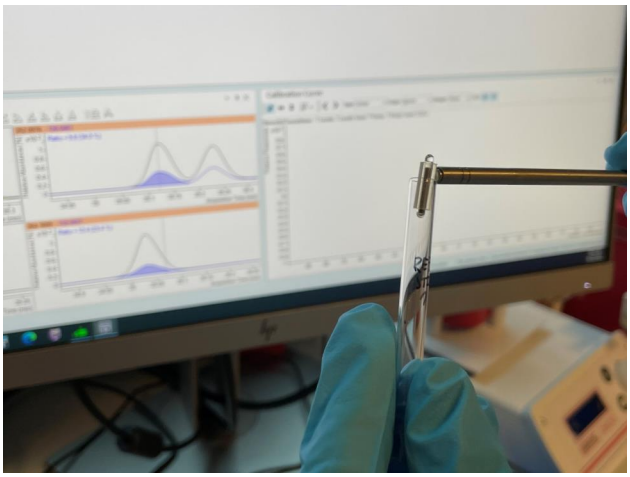
Date: **02 April 2025**

Time: **08:00 CET, 09:00 EAT, 06:00 UTC**

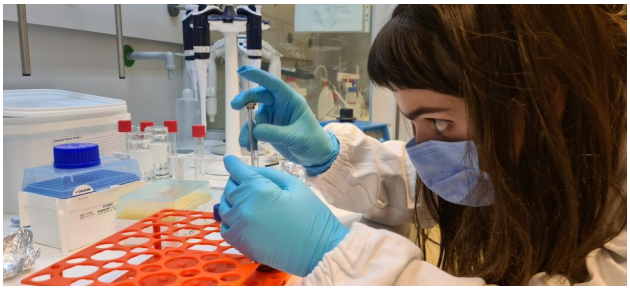
Register here: **https://t.ly/TnEq9**

The Gems of Water: A Breakthrough Method for Global Pesticide Screening in Surface Waters

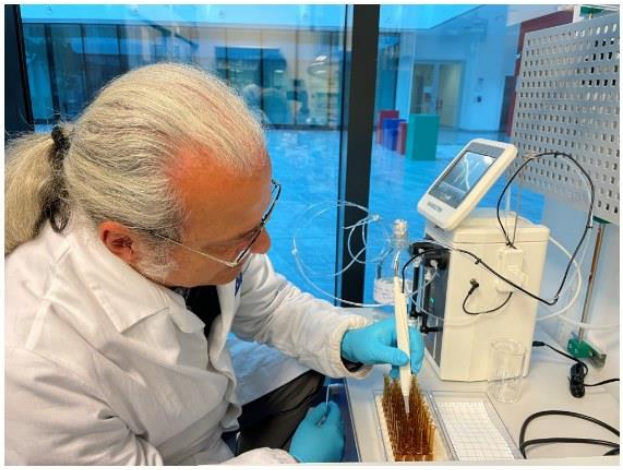
A **new report** from the European Commission's Joint Research Centre (JRC) presents the development and validation of a novel method for wide-screening of organic apolar pesticides in surface waters using Stir Bar Sorptive Extraction (SBSE) coupled with Gas Chromatography-Quadruple Time of Flight-High Resolution Mass Spectrometry (GC-QToF-HRMS). This method has been optimized for the analysis of up to 200 pesticides, including herbicides, insecticides, and fungicides, and has shown robust and reliable results. The report highlights the potential of this method for use in citizen science initiatives, such as "The Gems of Water" project, which aims to monitor water quality and engage citizens in environmental protection. The method has already been successfully piloted on water samples from 5 different countries around the world, including Kenya, Costa Rica, Australia, Romania and Bulgaria. The method's simplicity, ease of application, and ability to detect a wide range of pesticides make it an attractive tool for water quality monitoring.



4 - The stir bar. Image provided by: Caterina Cacciatori.



5 - The team behind The Gems of Water *pesticide screening method: Researchers from the Joint Research Centre (JRC) pioneering innovative water quality monitoring techniques. Image provided by: Caterina Cacciatori.*



6 - The team behind The Gems of Water *pesticide screening method: Researchers from the Joint Research Centre (JRC) pioneering innovative water quality monitoring techniques. Image provided by: Caterina Cacciatori.*

Did you miss the Webinar on Collaborative Feedback: Advancing Bioassessment for Ambient Water Quality?

Watch it here:

Updating our Website - www.wwqa.info

We are currently in the process of updating the website to improve its functionality and user experience. While we aim to ensure a smooth transition with no disruptions, occasional issues may arise. If you encounter any problems, please let us know. We appreciate your patience and understanding during this process!

Filmmaking Workshop for Youth (Age: 14 - 25)

🎬 Why Join? - Learn the basics of impactful storytelling & video creation. - Get insider tips on crafting engaging, high-impact short films. - Connect with a global community of youth changemakers. - Discover how YOUR film can be featured at the World Lake Conference (July 21 - 26) & promote hashtag#WorldLakeDay (August 27).

Two session times are available for global participation! Register in advance.

🗓️ Dates & Times

Date: March 22

Session A: 7pm Chicago // 8 am Bali // 9am Japan // 10 am Brisbane

A. Register:

Session B: 10am Chicago // 4pm Central Europe // 6pm East Africa

B. Register: https://shorturl.at/cD376

Job Openings

Project Coordinator – Regional Water Scarcity Initiative Project - United Nations Food and Agriculture Organization (FAO)

Deadline: 24 March 2025

More information at: https://jobs.fao.org/careersection/fao_external/jobdetail.ftl?job=2500703&tz=GMT+00:00&tzname=U TC

Project Analyst, Water, Environment & Blue Economy (WEBE) - Union for the Mediterranean (UfM)

Deadline: 24 March 2025

More information at: https://ufmsecretariat.org/wp-content/uploads/2025/03/Call-of-Candidatures_Project-Analyst-WEBE-UfMST202504.pdf

Regional Technician and Data Management Specialist - United Nations Educational Scientific and Cultural Organization (UNESCO)

Deadline: 10 April 2025

More information at: https://drive.google.com/file/d/1yd0AmF3rAowjjlkKNkV0IU9QMBsGg58P/view?pli=1

Dive Into WWQA's YouTube Channel!

Missed a WWQA webinar? No worries! You can catch up on all our past sessions by visiting the WWQA YouTube channel. Dive into discussions on water quality, sustainability, and more. Check it out here: WWQA YouTube Channel

WWQA Membership Application Form

The WWQA coordination team has set up a WWQA Membership Application Form to keep our growing membership organized.

We kindly request all members to fill out the form :)

https://forms.office.com/e/BeF5iRuaP3

In the April issue of YEMAYA

Citizen Science Month

World Health Day

Please follow our social media handles at:

LinkedIn: https://www.linkedin.com/company/wwqa

Visit our website at: www.wwqa.info

WWQA
World Water Quality Alliance

*Unless otherwise indicated, all contributions are by the WWQA coordination team.

YEMAYA welcomes articles, opinions and audio-visual material related to the issue of water quality. Please send any contribution to wwqa-coordination@un.org with a short 100-word biography, the name of your organisation and a phone number where you can be contacted.