WMO-OGC Workshop

“GroundWaterML2 standard”

10 March 2022, 12:00 – 16:00 (UTC), Online

WORLD METEOROLOGICAL ORGANIZATION

WMO HydroHub

Open Geospatial Consortium

WMO-OGC Workshop “GroundWaterML2 standard”

Background

GroundWaterML 2 (GWML2) is an OGC and WMO standard from the WaterML2.0 suite of standards developed under the umbrella of the OGC/WMO Hydrology Domain Working Group.

Objectives

- Introduction to GWML2 standard and its scope
- Demonstrations of the GWML2 implementation from France, Canada, United States, Australia and New Zealand
- Panel discussion on the benefits of GWML2 implementation
- Moderated discussion on further GWML2 implementation

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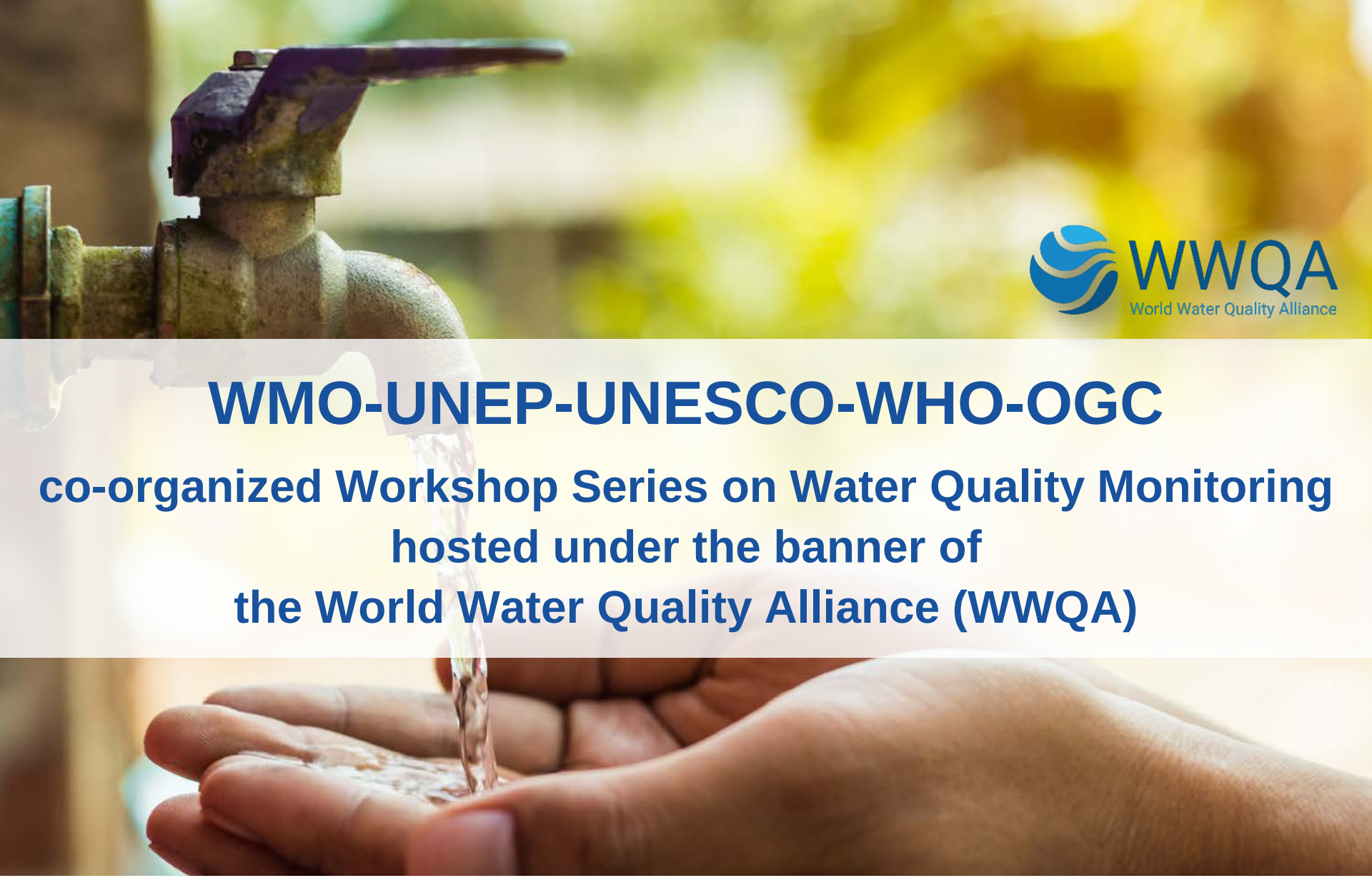
Time (UTC)	Agenda Item
12:00 – 12:10	**Opening** Johannes Cullmann (WMO) & Josh Lieberman or Scott Simmons (OGC)
12:10 – 12:20	**Introduction** Jan Daňhelka (Hydrological Assembly) & Michel Jean (Infrastructure Commission)
12:20 – 12:30	**WMO needs and plans for GroundWaterML2 standard** Silvano Pecora (Infrastructure Commission) • WMO GroundWaterML2 Resolution • Recommendation for Infrastructure Commission to promote the standard among NMHSs • Contribution of groundwater data to Earth System approach
12:30 – 12:45	**Introduction to GroundWaterML2 standard** Eric Boisvert (Geological Survey of Canada) • What is covered by GroundWaterML2 standard?
12:45 – 13:45	**Demonstrations of GroundWaterML2 standard implementation:** • **Canada -** Eric Boisvert (Geological Survey of Canada) • **United States -** David Blodgett & Candice Hopkins (United States Geological Survey) • **Europe (EPOS Research Infrastructure & France) -** Grellet Sylvain (Bureau de recherches géologiques et minières, France) • **Australia -** Bruce Simons, Andrew MacLeod & Peter Dahlhaus (Federation University Australia) • **New Zealand -** Alexander Kmoch (University of Tartu, Estonia)
13:45 – 14:05	**Moderated Discussion (with demonstrators) on the benefits of GroundWaterML2 standard implementation** **Moderator:** Claudia Ruz Vargas (IGRAC) Q&A
14:05 – 14:15	**Coffee break**
14:15 – 15:45	**Audience-focused Panel Discussion: Further GWML2 implementation** **Moderator:** Claudia Ruz Vargas **Panellists:** David Blodgett, Eric Boisvert, Alexander Kmoch, Grellet Sylvain, Bochengedu Somolekae (SADC-GMI) • Potential barriers of GWML2 implementation *(David Blodgett)* • How to overcome the barriers (e.g., training activities)? *(Eric Boisvert)* • GWML2 implementation in developing countries *(Bochengedu Somolekae)* • GWML2 integration with modelling tools *(Alexander Kmoch)* • GWML2 integration with off-the-shelf solutions *(Grellet Sylvain)*
15:45 – 15:50	**Workshop Participation & Evaluation Survey**
15:50 – 16:00	**Way Forward & Closing** Silvano Pecora

https://hydrohub.wmo.int/en/news-events/wmo-ogc-workshop-groundwaterml2-standard



WWQA
World Water Quality Alliance

WMO-UNEP-UNESCO-WHO-OGC

co-organized Workshop Series on Water Quality Monitoring hosted under the banner of the World Water Quality Alliance (WWQA)

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UNESCO
World Health Organization
Open Geospatial Consortium

Proposed series of workshops in 2022-2023

bringing together UN agencies to address the broad spectrum of water quality monitoring, including modelling, earth observation, citizen sciences etc.

- Support Members in getting up to a basic level of **implementing existing global guidance**
- Following up on **WMO's role and commitment** within the recently approved Hydrology Action Plan
- Foster **innovation for water quality monitoring**
- **GEMS/Water's revision strategy** development
- Contribute to the World Water Quality Alliance (WWQA) and **World Water Quality Assessment process**
- At the end of the workshop series, a synthesis workshop is foreseen to see how the water quality monitoring community can **enhance WQ monitoring from a holistic perspective**

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WORKSHOP SERIES ON WATER QUALITY MONITORING

Opening Workshop

Day 1: 29 March 2022, 11:00 - 14:00 UTC
Day 2: 30 March 2022, 11:00 - 16:00 UTC
Day 3: 31 March 2022, 11:00 - 16:00 UTC

Virtual Format

Opening Workshop

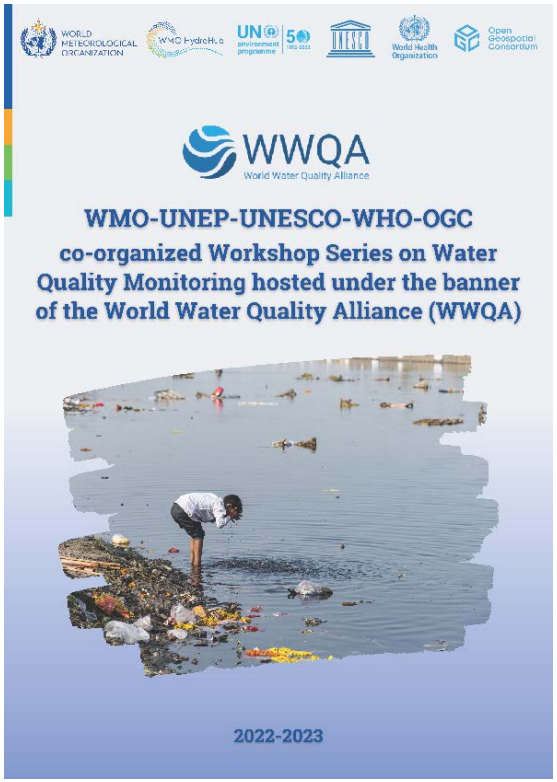
Objectives

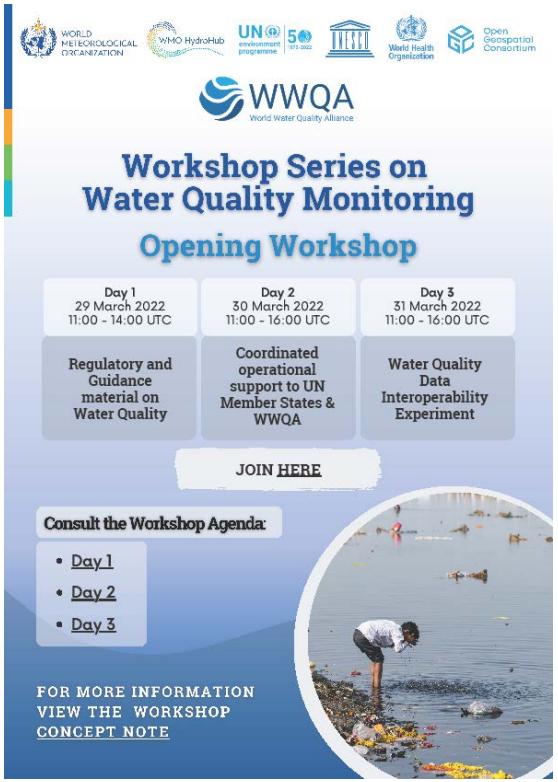
1. **Identifying** potential synergies and mutual contributions between WMO-UNEP-WHO-UNESCO on in-situ water quality data observations, management and sharing
2. **Defining** a WMO-UNEP-WHO-UNESCO coordination mechanism on in-situ water quality data observations, management and sharing
3. **Identifying** the steps for the development of a joint WMO-UNEP-WHO-UNESCO work plan for regulatory and guidance material related to in-situ monitoring systems, from data collection to data sharing and use
4. **Identifying** the way of interconnecting WHOS with GEMStat and other existing in-situ water quality data platforms and systems, and how to connect these to the World Water Quality Assessment under development
5. **Identifying** how to support the WaterML data exchange standard development in the domain of Water Quality: updating OGC WaterML-WQ Best Practice document and endorse an international standard on Water Quality data exchange
6. **Defining** the Roadmap for an international OGC Interoperability Experiment on Water Quality data with pilot use cases (e.g., Lake Victoria, Lake Chad)

Opening Workshop Day 3

Time (UTC)	Agenda Item
11:00 – 11:05	**Opening** *Tony Boston*
11:05 – 11:10	**Introduction** *Silvano Pecora*
11:10 – 11:40	**Panel discussion: Water quality data in practice** *Philipp Saile, Dwane Young, Sylvain Grellet*
11:40 – 12:10	**WHOS & Discovery and Access Broker (DAB) technology** *Igor Chernov, Enrico Boldrini*
12:10 – 12:50	**Moderated discussion** **Interoperability and interconnection of the existing Water Quality Data Systems** Moderator: *Sylvain Grellet*
12:50 – 13:00	Coffee break
13:00 – 13:30	**Water quality Ontology and WaterML-WQ** *Bruce Simons, Simon Cox*
13:30 – 14:30	**Moderated discussion** **Identifying how to support the WaterML development in the domain of Water Quality: API identification and usage, WQ taxonomies/ontologies improvement and endorsing an international standard on Water Quality data exchange** Moderator: *Simon Cox*
14:30 – 14:45	**Water Quality Data Interoperability Experiment** *Silvano Pecora*
14:45 – 15:30	**Moderated Discussion** **Defining the Roadmap for the Interoperability Experiment of water quality data with pilot use cases** Moderator: *David Blodgett*
15:30 – 15:50	**Way forward for the Roadmap**
15:50 – 16:00	**Closing** *Johannes Cullmann*

Opening Workshop





https://hydrohub.wmo.int/en/news-events/opening-workshop-water-quality-monitoring

Proposed series of workshops in 2022-2023

1. Interoperability of EO and RS data
2. Interoperability of modelling data
3. Needs and requirements of Member States in the area of WQ monitoring
4. Complementary data sources for tracking SDG 6.3.2: citizen science and other local level monitoring
5. Triangulation approach for obtaining an overview on water quality (could serve as a synthesis workshop)
6. Innovative approaches and technologies for Water Quality Monitoring
7. Assessing surface and ground water quality using drinking water quality data
8. Water quality frameworks – setting health based national standards and implementing preventive risk management for drinking-water and recreational water quality
9. Capacity development for water quality monitoring using approaches mentioned above
10. Monitoring emerging pollutants and microplastics

Contact: ichernov@wmo.int

Thank you!

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