AquaWatch - Conveners - Proposal

Revision from **14 November 2024 21:20** UTC

1. Basic Information

Full title of the activity: AquaWatch

Short title or acronym: AquaWatch

2023-2025 Category: GEO Initiative

Proposed Post-2025 category: Convener

Focus Area(s):
- Land and Water Sustainability;
- Equity and Inclusion;
- Open Data, Open Knowledge, and Infrastructure;
- Weather, Hazard and Disaster Resilience;
- Climate, Energy, and Urbanization;

Points of Contact:

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2. Purpose

Concept:

The mission of GEO AquaWatch is to improve the coordination, delivery and utilization of water quality information for the benefit of society. We do this through our global water quality community of practice which includes individuals spanning the entire value chain from data provider to data users (including the public) and includes NGO’s, government, industry, academia, and nonprofit scientific research laboratories. Water quality affects the essential health and well-being of individuals and societies, and is inextricably linked to food, sanitation, energy, transport, and flood control systems as well as to aesthetic and recreational benefits. Degraded water quality, pollutants, water-borne diseases and the proliferation of harmful algal blooms are indisputably linked to global human-induced climate change. Many entities (local, state/national, regional, and global) including the United Nations Sustainable Development Goals (SDGs) have an implicit or implied legal mandate for monitoring and assessment of water quality - underscoring the need for GEO AquaWatch to remain in the GEO Work Programme. Additionally, it connects to other SDG-related convener proposals. GEO AquaWatch has already positively impacted global earth observations of water quality monitoring and assessment and seeks to continue this through Convener status within GEO. Our domains include water quality earth observations of inland fresh and marine waters as well as coastal and open ocean waters. Better understanding of the impacts of climate change and implementation of mitigation or adaptation strategies are the objectives of GEO AquaWatch, as well as influencing local-to-global water quality and earth observation policies. The goal of the GEO AquaWatch initiative is to develop and build the global capacity and utility of Earth Observation-derived water quality data, products and information to

support effective monitoring, management and decision making. In meeting this goal, GEO AquaWatch encourages activities to engage, and be led by, early career scientists from around the world, ensuring continuity with the next generation of world leaders in aquatic remote sensing. Ample instances of alignment of planned work activities exist between GEO AquaWatch and the Committee on Earth Observation Satellites (CEOS) Working Groups and Virtual Constellations, and training opportunities with EOTEC DevNet, which can both be explored more over the next 5 years.

Objectives:

The objectives to achieve GEO AquaWatch's goal are:
Objective 1: Facilitate effective partnerships between the producers, providers and users of water quality data, products and information.

Objective 2: Improve analysis and integration of in situ and remote sensing water quality data.

Objective 3: Develop and deliver fit-for-purpose water quality products and information services.

Objective 4: Support communication, technology transfer, and access to water quality data products and information.

Objective 5: Advocate for increased education and capacity for the use of water quality information for decision making.

3. Workplan

Workplan:

Objective:

1 from list above

Output: Biennial meetings and webinars

Output: Success indicator: Increase # of attendees/views; continue global participation; ensure Early Career-led sessions

Output: Baseline: See GEO AquaWatch 2022 meeting attendees as a goal (estimate 180)

Output: Start: July 2025 End June 2030

Objective:

4 from list above

Output: Promote new water quality products, tools, and services

Output: Success Indicator: mention # of data product downloads or qualitative testimonials from users/decisionmakers on our website and social media or through a webinar

Output: Baseline: Promote at least 1 new product tool or service annually, ideally from each GEO region by 2030

Output: Start: July 2025 End June 2030

Objective:

5 and 2 from list above

Output: Promote Diversity, Equity, Inclusion, and Accessibility (DEIA), science and solutions by, and for, the global south; and inclusion of indigenous knowledge in water quality information and decision-making

Output: Success Indicator: Sustain or improve DEIA metrics, which are self-assessed annually, and include these 5 new impact metrics in that annual report

Output: Baseline: Current DEIA metrics plus engagement with indigenous groups, and the 5 additional impact metrics listed here as workplan outputs

Output: Start: July 2025 End June 2030

Objective:

2 from list above

Output: Refine best practices for cal/val and atmospheric correction in aquatic remote sensing; promote the same. [Ideally, this would occur in coordinated communication with CEOS WG Cal/Val if interest and schedules align.]

Output: Success Indicator: Issue new or updated cal/val and atmospheric correction best practice guidance

Output: Baseline: Release 1 new or updated best practice guidance document annually on website related to cal/val and/or atmospheric correction

Output: Start: July 2025 End June 2030

Objective:

5 from list above

Output: Perform Gap-Analysis of existing training in aquatic remote sensing, record and promote improvements to out of date content/best practices for existing tutorials, fill gaps in current online tutorials for all steps of aquatic remote sensing curriculum online

Output: Success Indicator: Create an end-to-end gap-filled online training curriculum in aquatic remote sensing. [Ideally in coordinated communication and collaboration with CEOS WG CapD and EOTEC DEVNET if interests and schedules align.]

Output: Baseline: Offer a training certificate OR create an AW seal of approval for online aquatic remote sensing training for promoting best practices

Output: Start: July 2025 End June 2030

Objective:

1 from list above

Output: Collaborate with at least 1 other GEO workplan entity on a cross-cutting area of water and land sustainability with the goal to reach new-to-us users (e.g. GEO Health Community of Practice, GEO BluePlanet, GEO BON, or GEO LDN)

Output: Success Metric: successful mutual collaboration in the water focus area with another GEO entity targeting NEW users

Output: Baseline: Meaningfully contribute to a successful collaboration in the water focus area with another GEO entity AND reach 10% NEW users with each event

Output: Start: July 2025 End June 2030

4. Work Arrangement

Leadership:

First Name: Megan

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Lead Role: Early Career Society Co Chair

Lead Biography:

https://www.geoaquawatch.org/early-career-engagement-activities/

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Lead Role: Early Career Society Co Chair

Lead Biography:
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Lead Role: Early Career Society Co Vice Chair

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Lead Role: Early Career Society Co Vice Chair

Lead Biography:
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Lead Role: GEO AquaWatch Director

Lead Biography:
https://www.geoaquawatch.org/management-team/

Work arrangement:
. Initiative Engagement GEO AquaWatch has two working groups (Technical and User-oriented) with scheduled monthly reporting meetings. Activities within GEO AquaWatch working groups can occur, as needed, outside these reporting meetings. GEO AquaWatch Management Team members lead our working group activities. Opportunities for reporting are also provided during most monthly Management Team meetings where agenda items are shared for awareness, and those which need technical input or decision-advice are discussed. GEO AquaWatch's Early Career Society also meets monthly (see more details below). Our Steering Committee meets quarterly to review/approve initiative work product items for posting publicly on our website and to discuss items which require decision-advice. GEO AquaWatch has an established communications plan, we host an informational website and social media accounts on LinkedIn and X (both of which are frequently updated with our original informational posts and also shared information of interest to the community), a quarterly emailed newsletter, community information blasts via email as needed, and reminders of upcoming webinars in our popular GEOAquaWatch webinar series at three key junctures: including initial webinar announcement, a few days before webinar, and one hour before webinar. The GEO AquaWatch webinar series now also include the ECS Water Talks and the MAGIK Network Indigenous water quality webinars, as well as opportunities for any GEO AquaWatch members to share technical details of their water quality product, tool or service. Since 2018 we have held global GEO AquaWatch initiative meetings at least biennially – either in person or virtually. We have set annual DEIA metrics which are monitored and reported on annually to ensure continual implementation of our DEIA policy. Cross-GEO Engagement: Several GEOAquaWatch Working Group activities are joint with other Initiatives (such as GEO BluePlanet, and GEO Health CoP). GEO AquaWatch has past experience and continued interest in participation in regional GEO meetings (i.e. EUROGEO, AFRIGEO, AMERIGEO). We will strive to incorporate AOGEO engagement by establishing stronger ties to CSIRO's AquaWatch Australia Program, which be heightened in prominence beginning in 2025, as Australia assumes the CEOS Chair. GEO AquaWatch are sensitive to being invited to participate in regional meetings, rather than requesting time for promoting our activities within their important agenda. GEOAquaWatch actively participates in USGEO monthly and annual meetings and contributes to the informational monthly agenda as requested. GEO AquaWatch contributes award nominations, GEOSEC Working Group participants, GEO Week Side Events, Virtual Sessions, and panelist recommendations as requested and as applicable.

Indigenous/traditional knowledge:
GEO AquaWatch has embarked with the GEO Indigenous Alliance and other water quality entities around the

globe (WWQA, IAGLR, AquaWatch Australia/CSIRO) to form the MAGIK network of indigenous (and non-indigenous) water quality professionals. CSIRO's AquaWatch Australia project has been a global leader in inclusion of indigenous peoples and indigenous earth observations in water quality practices – GEO AquaWatch have partnered with them and other groups through the UN/WMO-funded World Water Quality Alliance at first during an Innovation Workshop to identify recommended best practices for indigenous voices and data inclusion which was published in Frontiers on Water in 2024 and then to subsequently organize indigenous panels on topics of interest to the indigenous and water quality community of practice. We have also convened an indigenous water quality session during the upcoming IAGLR 2025 meeting. GEO AquaWatch has engagement with global indigenous groups in our initiative and some (though not all) activities, and this helps guide us to desired outcomes – though there is always room to engage more fully and effectively. GEO AquaWatch has moved beyond a DEIA policy to set DEIA metrics for ourselves and to perform annual assessments of those metrics, and to actively implement actions at the secretariat/leadership level to effect and maintain change needed to meet/exceed our DEIA metrics. Where applicable, our metrics are adjusted upward toward a higher goal when achieved and sustained.

Youth engagement:

We see a distinction between youth and early career professionals, which GEOSEC does not acknowledge per se. GEO AquaWatch's Early Career Society (ECS) was formed in 2022 to enhance professional development and leadership benefits for ECS members and increase engagement with Early Career professionals within GEO AquaWatch. The ECS is now a mature component of GEOAquaWatch governance structure after only 2 years. We have achieved equal leadership status among ECS members and later stage professionals in our working groups and management teams. The ECS also holds their own meetings, identifies and executes their own activities and elect their own leadership pursuant to their Terms of Reference. ECS leaders are actively included in GEO AquaWatch Management Team and ECS activities are promoted within GEO AquaWatch to both the internal and external community, and tracked as part of our overall GEO AquaWatch success metrics. Fostering a lifelong mentor/mentee relationship with ECS members and among the greater membership of GEO AquaWatch is central to the success of the ECS. We do not have a path for engaging baccalaureate (K-12) 'youth' on water quality – though some ideas for outreach have been shared within our community. However we could explore potential link to CEOS in Schools (15-18 year olds).

5. Other Information

Provide any other comment or information that was not included in the previous sections.:

For a more accurate tabular representation of the Workplan. Please see the attached photograph of the table.

Additional Documents:

Document: Workplan table Image.JPG link expires on 13 January 2025 21:21 UTC.

Comment for document: Tabular graphic of the Workplan