Water Quality Under Global Changes

Climate change, Land-use change, Socio-economic changes

IAHS

Motivation and Aims

Scope includes surface water bodies (rivers, lakes, and reservoirs), groundwater, and coastal areas

Motivation

- In World That Says It's Cutting Water pollution, **Progress Is Lacking.**
- IPCC WGII-AR6 Chapter 4 reports the study of impacts of climate change on water quality as '**incipient**'.
- Is the water quality (inland & coastal) improving or deteriorating? Progress on SDG 6 & 14

Aims

- Investigate how global changes affect water quality in different regions worldwide (local to global).
- Analyze the socio-economic costs of water pollution including effects on human health and agriculture.
- Identify potential strategies for mitigating negative impacts on water quality.
- Explore strategies to foster proactive stakeholder engagements in water quality assessments.

Walker (2019)
O'Neill et al. (2022)

Tools and Strategies

- Gather extensive **datasets** related to water quality parameters.
- **Data analysis** techniques (statistical models, process-based models, machine learning, remote sensing, citizen science…) for trends & hotspots.
- **Scenario Analysis** to project different future scenarios, helping policymakers and stakeholders understand potential outcomes.

- **Interdisciplinary approach** with experts from various fields, such as health, sociologists, ecologists…. to ensure a holistic assessment.
- **Engage** with policymakers, local communities, and relevant stakeholders.
- Promote **international collaboration** and knowledge sharing platforms (ISIMIP, WWQA…).
- **Communication and outreach** strategy e.g publishing papers and hoisting webinars..

Thank You

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