

Developing capacity for groundwater under climate change:

Some reflections on

- UN Water Accelerator Framework
- 2020 Delft Agenda for Action



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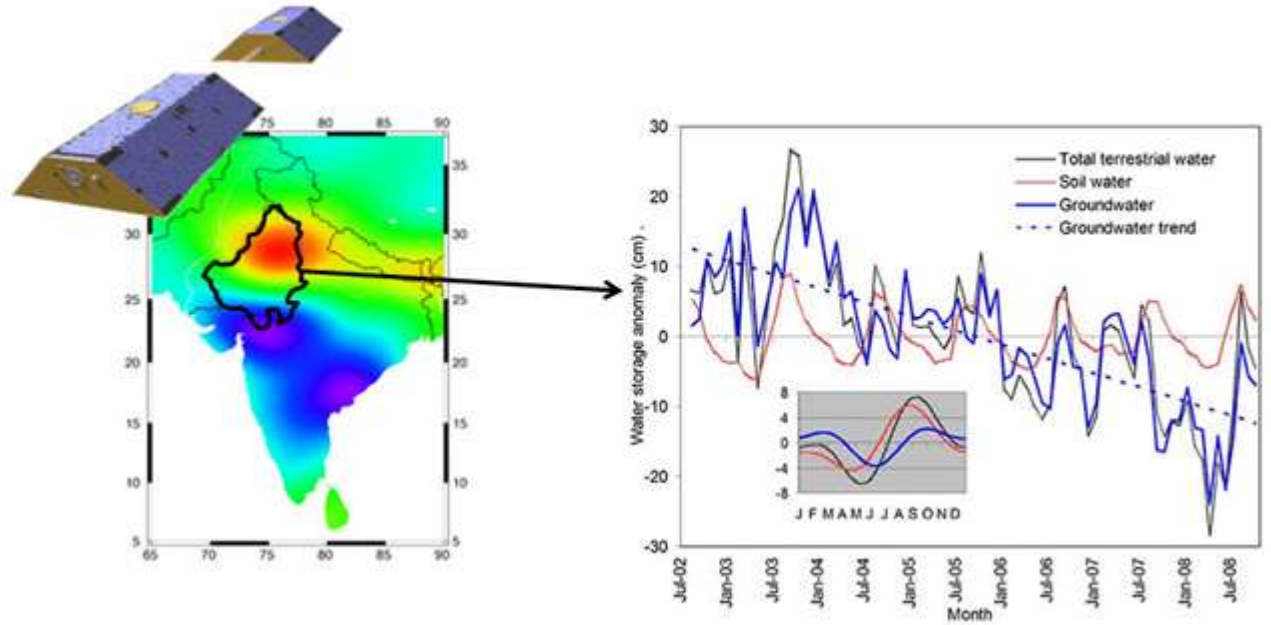
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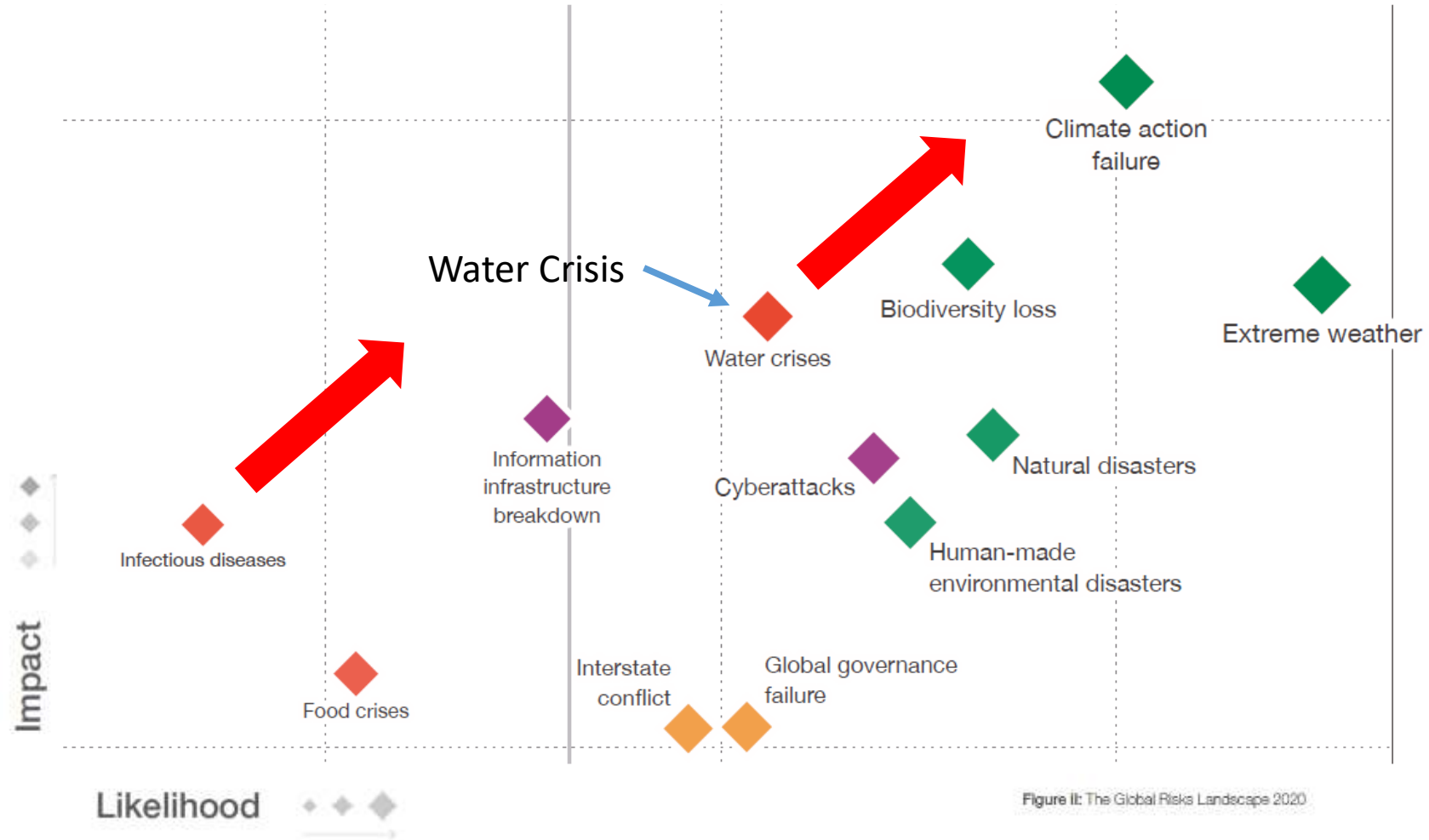


Why is groundwater unique?

1. Buffering capacity
2. Quality
3. “Invisible”



World Economic Forum Global Risks Global Risk Landscape 2020





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United Nations launches framework to speed up progress on water and sanitation goal

“The water and sanitation crisis demands a holistic, systemic and multilateral response. Water is required to deliver almost all other SDGs, from global health to food security, and it is essential for resilience to climate change.”

(Secretary General António Guterres)

Accelerators



1. Optimized financing – fully-funded plans leading to services where they are needed most.
2. Improved data and information to inform decision-making and increase accountability.
3. Capacity development in people and institutions to improve and expand services.
4. Innovation – new practices and technologies scaled up.
5. Governance improved across sectors and national boundaries to make SDG 6 everyone's business.

Main challenges for groundwater depending societies in view of climate change?

- Salinity (anthropogenic contamination)
- Recharge (anthropogenic over-exploitation)

Actions 2015



- Improved groundwater governance is needed for sustainable groundwater resources
- Promote groundwater management strategies to reduce vulnerabilities
- Collaborate with partners of specialized knowledge

Actions 2020



- Improve data analysis and processing in combination with data collection
- Increase capacity in people and institutions

Developing water capacity – the 2020 Delft Agenda for Action (1/2)



- **Break the ‘counting heads’ mentality for measuring capacity development impact**
- **Focusing capacity development on inclusiveness and blended approaches.**
- **Funding for capacity development**
 - Funders/Development banks: Create dedicated resources for the ‘last mile’ in rural areas, promoting decentralized social innovations, and informal decision making in communities
 - Capacity development providers: Diversify delivery modalities and invest in capacity to be facilitators of learning processes, not just content providers, e.g. assisting peer learning and south-south collaboration
 - Funders/Capacity development providers: Reach out to the financial sector to increase knowledge about water investments, and train water professionals to attract investments with bankable projects

Developing water capacity – the 2020 Delft Agenda for Action (2/2)



- **Instill a systems perspective across all water related research, training, planning and decision-making.**
 - Funders/Investment banks: Review the current capacity development portfolio for its contribution to climate change readiness and adaptiveness
- **Foster a long-term and forward-looking perspective in capacity development**
 - Capacity development providers: Review if training curricula prepare participants to autonomously adapt and contextualize technical contents. Ensure inclusion of complementary meta-knowledge, such as design skills (e.g. design of monitoring systems when teaching monitoring methods), didactics and teaching skills to improve formal and informal sharing of knowledge, and soft skills critical to working with stakeholders, including communication (listening) skills, negotiation, problem analysis, critical thinking, and behavioural understanding of social and political dynamics



Joint Master Programme
GROUNDWATER AND GLOBAL CHANGE



IMPACTS AND ADAPTATION
GROUNDWATCH



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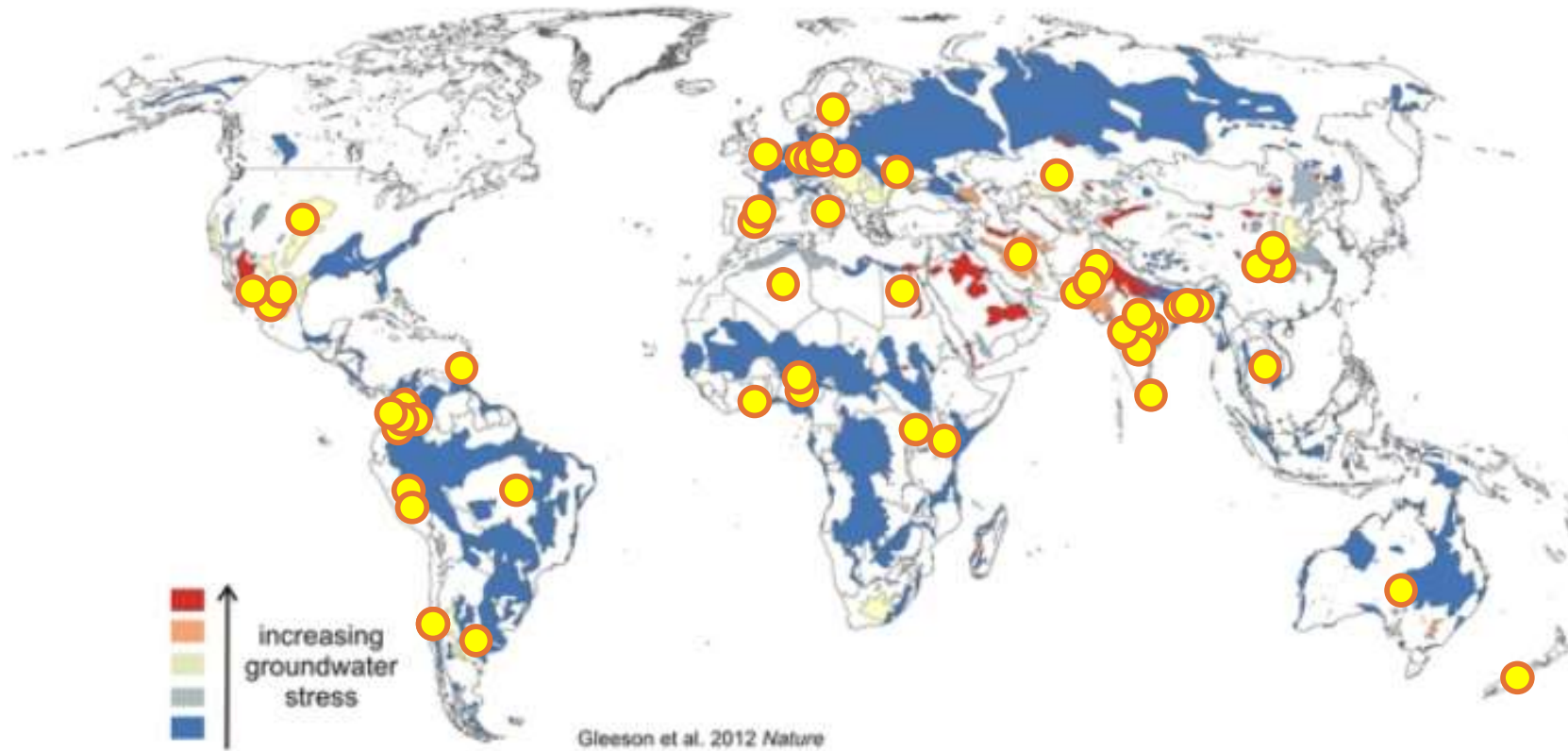
WHY GROUNDWATCH?

1. Groundwater is the largest liquid freshwater reservoir on earth;
2. Groundwater is mostly an invisible resource;
3. Human activities have large impacts on groundwater resources;
4. Global and climate change may further increase these impacts;
5. Groundwater plays a fundamental role in adaptation and mitigation;
6. There are feedback mechanisms between climate, groundwater, surface water and land use;
7. Management of groundwater resources improves through increased understanding;
8. Increased understanding requires education on knowledge and skills in the field of hydrogeology, global change, impacts and adaptation.

Thematic areas of GROUNDWATCH

1. Hydrogeology
2. Groundwater data collection, interpretation and modelling
3. Climate processes and modelling
4. Groundwater-surface water-climate interactions
5. Integrated river basin and water resources management
6. Groundwater and environmental impacts
7. Groundwater, society and policies
8. Groundwater in adaptation to global change

Global groundwater stress and first 55 GroundwatCH students



● Country of GROUNDWATCH student

