

A hand is shown holding a glowing blue wireframe globe. The globe is composed of many interconnected lines forming a mesh. The hand is positioned over a laptop screen, which is partially visible in the background. The overall scene is set against a dark, blurred background, suggesting a workshop or office environment.

OPEN DATA & OPEN KNOWLEDGE Workshop



UNITED NATIONS
Office for Outer Space Affairs



The Space4Water Project

16 June 2023

nina.kickinger@un.org

www.space4water.org

www.unoosa.org





Contents

- ❑ Vision
- ❑ Background (Who, When, Why, What)
- ❑ Project Pillars
 - ❑ Portal
 - ❑ Community
 - ❑ Conferences

VISION

*Enable all stakeholders
in the space & water communities
to access data and knowledge,
to be creative &
to realize their full potential
in contributing to a world
in which the availability and
sustainable management of water and sanitation
for all
has become a reality.*



The Partners



2016



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Prince Sultan Bin Abdulaziz
International Prize for Water



2018



2020

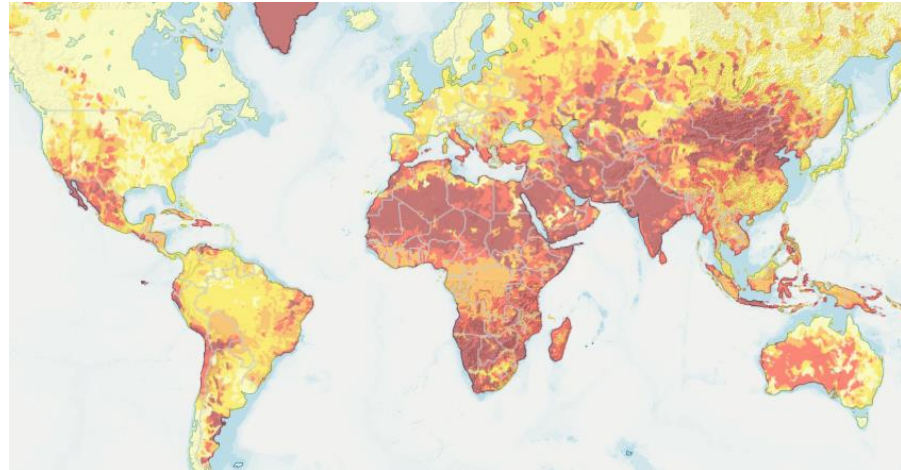
Agreement until 2026



Simonetta Di Pippo

Aliwafa Aburishih

Why Space4Water



Water stress, global

Source: World Resources Institute



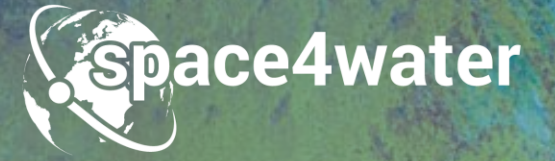


Space4Water and the Water Action Decade

- ❑ Knowledge needed to this end can be created by
 - ❑ disseminating, and facilitating access to knowledge and the exchange of good practices;
 - ❑ generating new information relevant to water-related SDGs;
 - ❑ pursuing advocacy, networking and promoting partnerships and action; and
 - ❑ strengthening communication actions at various levels for the implementation of the water-related goals.
 - ❑ establishing the link between researchers and policy makers, to inform decision making with scientific results, to be able to act appropriately within the international community.



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Portal



Community



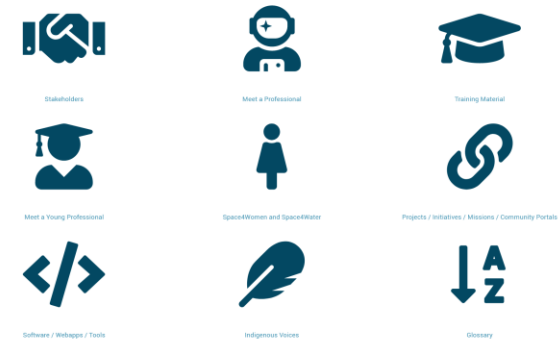
Conferences



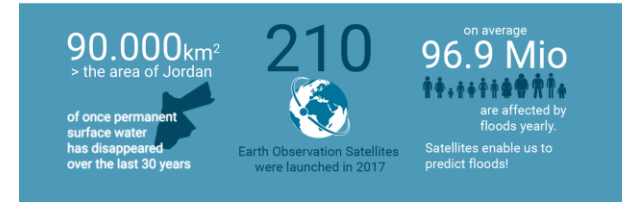
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Portal



❑ A multi-stakeholder platform for interdisciplinary knowledge exchange



❑ Making information on space solutions and technologies for water-related topics accessible



❑ A capacity-building platform



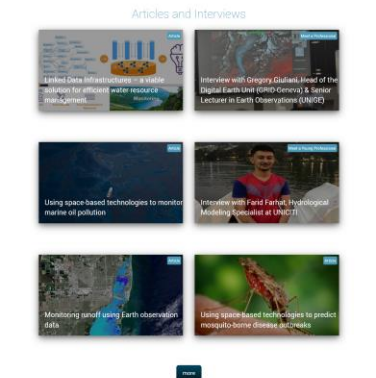
❑ A portal for expert communities, including those from developing countries

Subscribe to our mailing list (Emails are required)

Email Address

First Name

Last Name



Actors, Features & Resources



Stakeholders

(91)



Projects & Initiatives

(17)



Software & Tools

(22)



Activities & Opportunities

(49)



Training Material & Webinars

(92)



www.space4water.org



Publications

(162)



Articles & Success Stories

(55)



Water-related challenges

(15)



Local Perspectives & Case Studies

(3)



Meet Professionals

(16)



Meet Young Professionals

(22)



Indigenous Voices

(7)



Partners



Events

(289)



NEXT GEOS
Dataset Search



Glossary & Ontologies

(>1700)



91



About IHE Delft Institute for Water Education

IHE Delft Institute for Water Education is the largest international graduate water education facility in the world and is based in Delft, the Netherlands. Since 1957 the Institute has provided water education and training to 23.000 professionals from over 190 countries, the vast majority from Africa, Asia and Latin America. Also, numerous research and institutional strengthening projects are carried out in partnership to strengthen capacity in the water sector worldwide. Through our overarching work on capacity development, IHE Delft aims to make a tangible contribution to achieving all Sustainable Development Goals in which water is key.

Shared Resources

- Capacity Building and Training Material
- Programming for Geospatial Hydrological Applications
- QGIS et Applications en Hydrologie
- Webinar: Groundwater for Water Security in Africa
- FAO CB4WA: Use of FAO WaPOR Portal
- Water Productivity and Water Accounting using WaPOR
- Introduction to Modflow and Model Use
- Data Sharing for Water Sector Organisations using Spatial Data Infrastructures
- Computational Hydraulics
- Online Course on Remote Sensing for Agricultural Water Management
- Water Quality Assessment
- Water Accounting + Online Training
- Afri Alliance Knowledge Hub
- Data Sharing for Water Sector Organisations using Spatial Data Infrastructures

Vision

IHE Delft Institute for Water Education envisions a world free of poverty and injustice, in which people manage their water and environmental resources sustainably and equitably.

Mission

IHE Delft works in partnership to strengthen capacity in the water sector to achieve global sustainable development.

Ambition

Through our overarching work on capacity development, IHE Delft aims to make a tangible contribution to achieving all Sustainable Development Goals in which water is key.

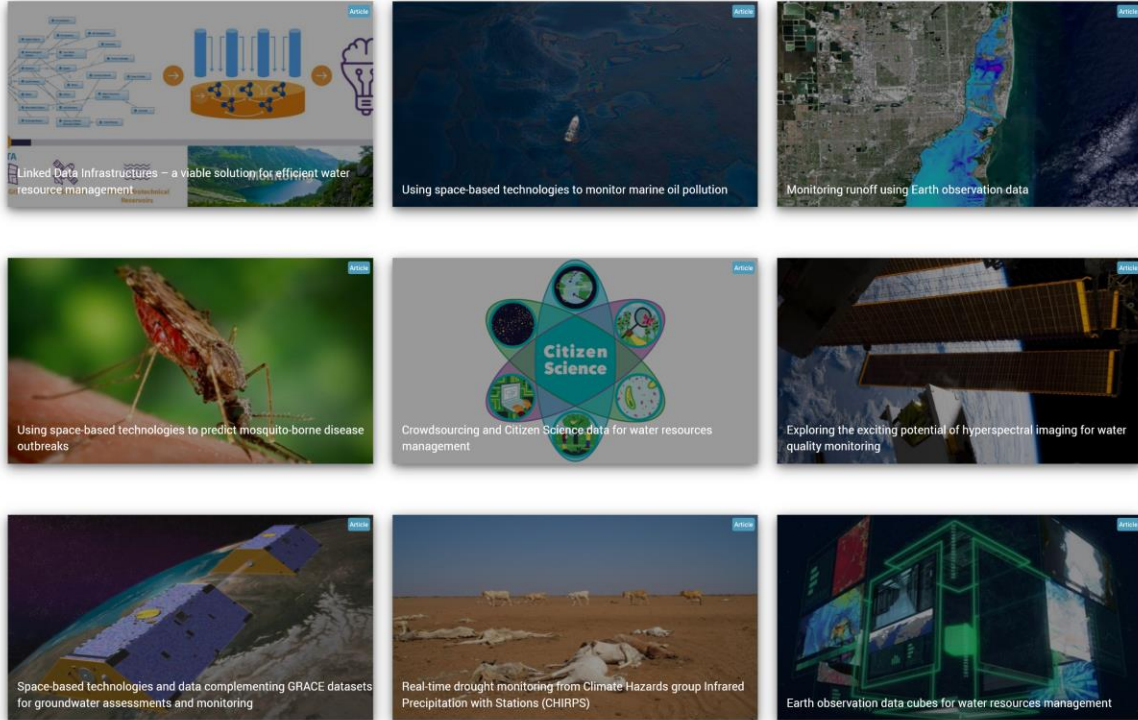
Education

IHE Delft offers a wide range of accredited educational programmes (MSc), tailor-made training & online training courses for engineers, scientist and managers working in the water, environment and infrastructure sectors. IHE Delft is implementing its educational activities with partner institutes.

Research and Innovation

The Institute's research activities focus on and contribute to the knowledge base concerning the water environment, and therefore complement its education and capacity development activities. With

Monthly articles



Monthly interviews



Gregory Sultan
Senior Lecturer & Head of Unit at the University of Geneva and Head of the Digital Earth Unit at United Nations Environment Grid Geneva



Khair Mahmood
Assistant Professor in the Department of Space Science at University of the Punjab



Ivana Popovic
Associate Professor of Hydroinformatics at IHE Delft Institute for Water Education



Wolfgang Wagner
Univ.-Prof. for remote sensing, Dean of Faculty of Mathematics and Geoinformation, Co-Founder of EODC



Stuart Crane
Programme Management Officer at UN Environment



Egnis Tshepo
Head of the Environment and Water Institute at Southern African Research and Documentation Centre



Lilian Ngaracha Balanga
Founder of Women .conserve at Samburu women



Alicia Simón Sáiz
Staff at the Press Department of the Ministry of Foreign Affairs of Guatemala, Kaqchikel journalist and activist



Tania Eualia Martínez-Cruz
Research Associate at Free University of Brussels



Cadence Kaumoa
Chair, Te Huiā & Rangiwhewhero Trust



Melody Lepine
Director, Mikisew Cree First Nation



Nkubononga Nkwanda Mchizuko Ngidi
Commissioner for the Commission on Khoi-San Matters at the South African Department of Traditional Affairs



Yolanda Lopez-Madrone
Indigenous Scholar

Indigenous voices - water challenges - space-based solutions



Melody Lepine

Director, Mikisew Cree First Nation

Articles and Interviews



more

Submitted challenges



Potential consequences due to the melting Athabasca glacier, Canada



Need for data on snow quality which is assumed to be affected by runoff and emissions from industrial use



Need for water quality data to monitor effects of mining and industrial use of water near Lake Athabasca, Canada



Need for wetlands inventory

Biography

Mrs. Melody Lepine is Cree and Dene, a member of the Mikisew Cree First Nation (MCFN) from Fort Chipewyan, Alberta. From a young age, she was motivated by traditional teachings in environmental stewardship to advance studies in environmental conservation sciences at the University of Alberta and Royal Road University. This balance of teachings in both traditional environmental knowledge and western science has become a key strength in Melody's career.

As Director of the MCFN Government and Industry Relations, she is responsible for overseeing all government and industry consultation pertaining to resource development within the Treaty 8 territory in northeastern AB. Mrs. Lepine is also a member of the Federal Government's Indigenous Advisory Committee for impact assessments, on AB Environment's Indigenous Wisdom Advisory Panel, a board member for the Pembina Institute and Peace-Athabasca Delta Institute and has just recently joined the First Nations National Guardian Network Council.

As a young single mother, Melody worked very hard in building her professional career for her daughter Tatiana and her despite some significant life challenges that she still manages to climb through. Tatiana's uncertain health diagnosis as a newborn, urban social issues of poverty and addictions, intergenerational Indian Residential School trauma and the recent loss of her mother a few years ago has all weighed very heavily on her. When Melody relocated back to Ft. McMurray after university to begin her career, she met her current husband and mountain adventure partner Gary. Gary introduced her to what became her new added passion in life, mountaineering! They have climbed Mt. Elbrus in Russia, Mt. Aconcagua in Argentina, and numerous slopes in the AB Rockies and in tropical places like Bali, Hawaii and Thailand.

Melody's commitments to protecting Indigenous rights, important challenges in environmental conservation and stewardship as well as the personal challenge to climb some of the world's highest mountains is what keeps her highly grounded in her values and dedicated to her work. She is honored and excited to be a part of the first Indigenous Climbing Team that is planning to Climb Mt. Denali in 2023!

Thematic Focus

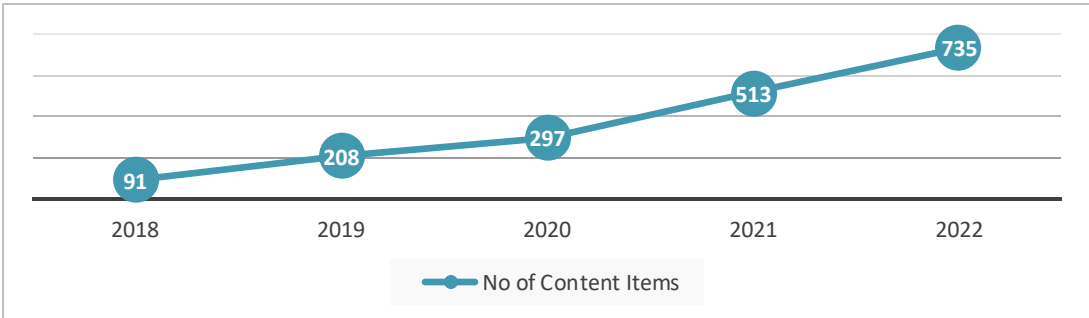
- Conservation
- Land use
- Indigenous Communities
- Industrial water use
- Glacier
- Snowmelt
- Wetlands
- River
- Continental Ice Sheet

Regional Focus

- Canada

Portal Content Statistics

Type of Content / Number of Content published	As at 31 Dec 2018	As at 31 Dec 2019	As at 31 Dec 2020	As at 31 Dec 2021	As at 31 Dec 2022
Stakeholders	23	37	48	62	87
(Young) Professionals	-	4	11	24	34
Articles	6	16	22	35	46
Interviews	-	3	10	23	33
Activities /Opportunities		1	10	25	42
Publications	10	25	43	77	130
Software	4	15	18	21	22
Projects	6	6	10	12	17
Training Material	6	22	33	79	89
Events	36	79	92	155	235
TOTAL	91	208	297	513	735

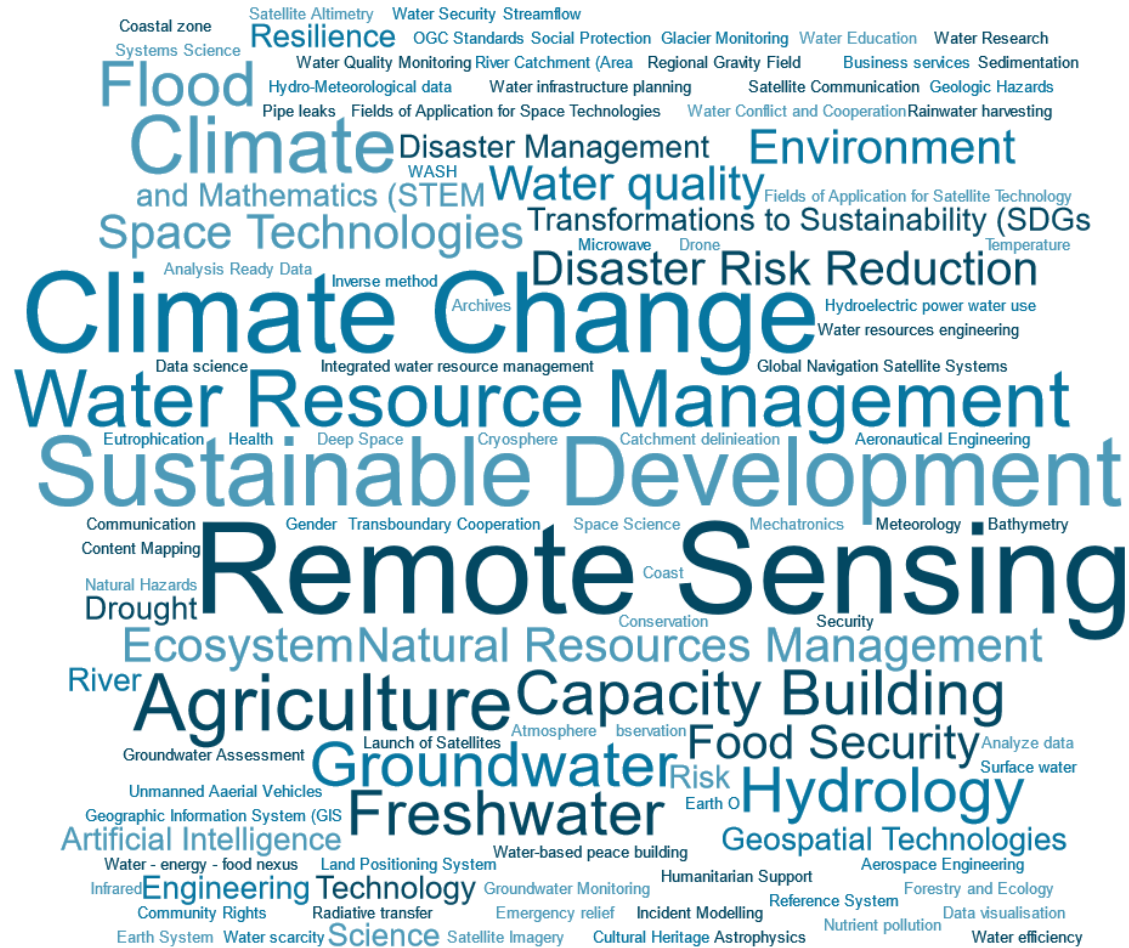


Actors Map



Thematic Focus

Stakeholders

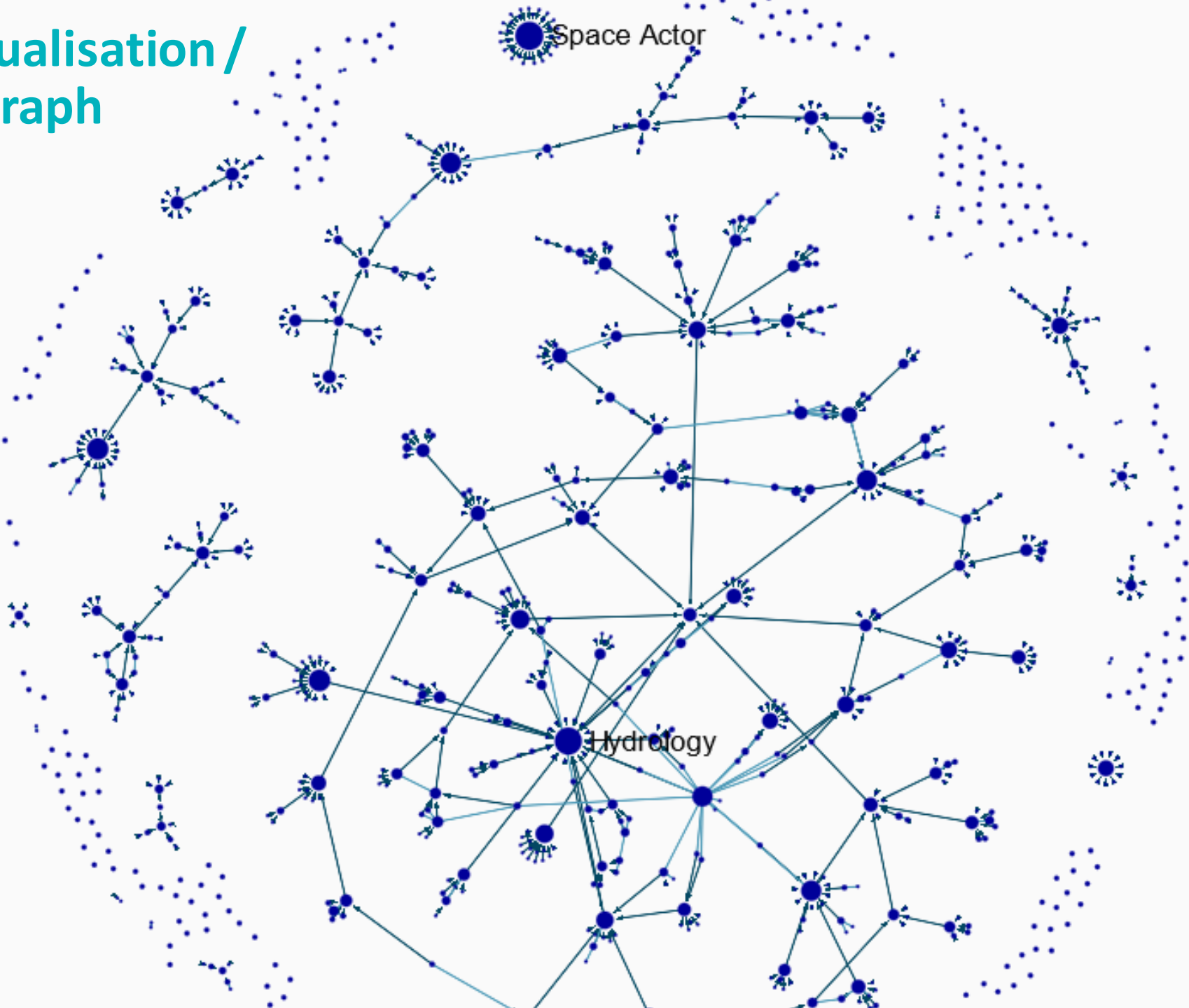


Professionals / Young Professionals



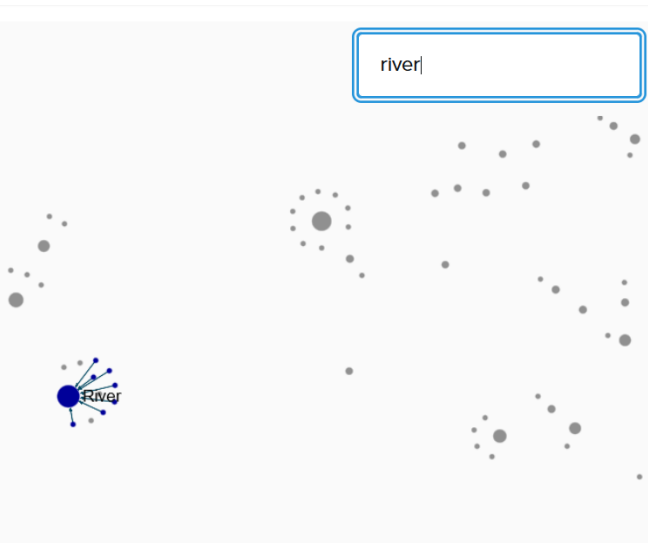
Ontology visualisation / Knowledge graph

Enter search term

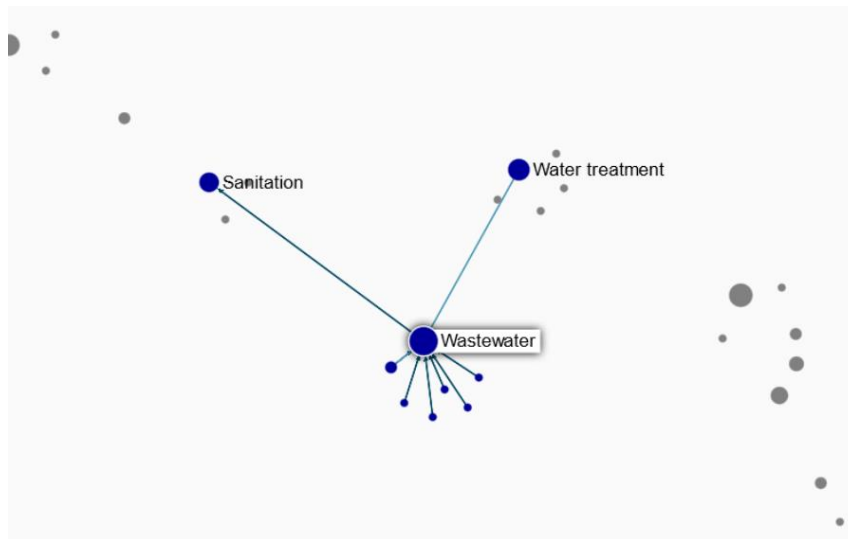


Ontology visualisation / Knowledge graph

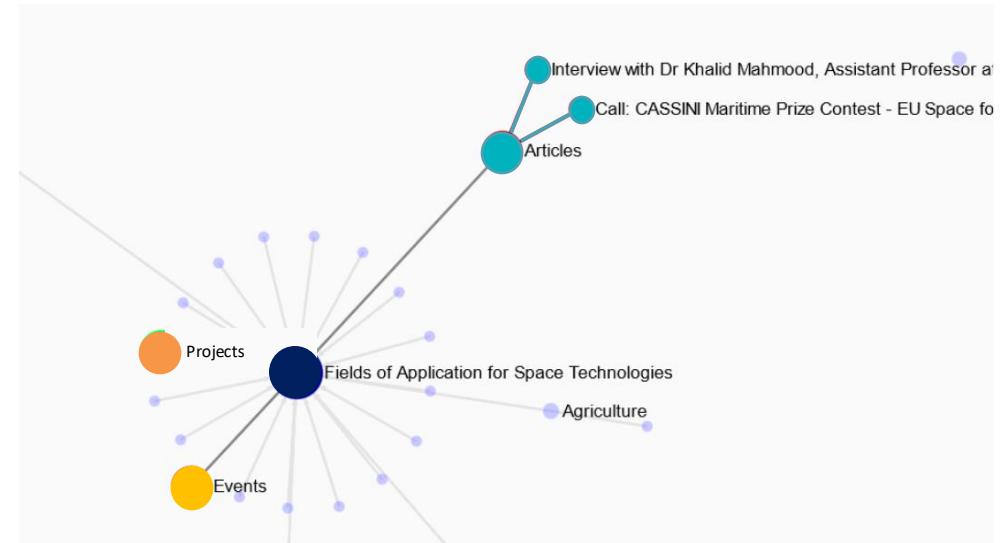
filter



show related terms

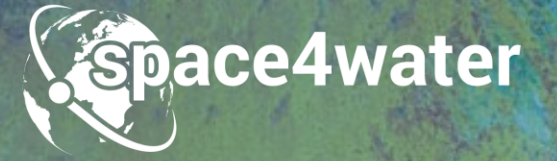


show content per term and type of resource





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Community



Communities of Practice

“Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis.”

- Wenger et al. (2002, p. 4)

Community of Interest

- ✓ Further a common cause
- ✓ Sharing information or knowledge
- ✓ Interactively pursuing informed courses of action



Community of Practice

- ✓ Participation, interaction, negotiation of shared objectives, and developing knowledge
- ✓ Commitment from members
- ❑ Regular communication with and interaction between members
- ❑ Improved processes and practices
- ❑ Group learning in order to accomplish objectives
- ❑ More competent and capable professionals

Space4Water – 5 years of community building

Successes

- ✓ **Integrative:** Stakeholders and professionals sharing information and knowledge (local, regional and global level)
- ✓ **Inclusive**
 - ✓ Geographic **diversity** and gender balance
 - ✓ Various **formats and skill levels:** Science communication for non-scientist users via articles, success stories and interviews
- ✓ Constantly **growing** user and resource base
- ✓ Covering **relevant thematic** aspects on space technologies for water resource management

Challenges

- ❑ **Increase Interactivity** among actors
- ❑ Administrative efforts (lack of **standardisation**, consent for publication)
- ❑ **Encourage participation** (Missing incentives for calls to collect users needs & assess gaps)
- ❑ **Transfer technology / learning** and develop **new solutions**
- ❑ Capacity building perspective (funding)



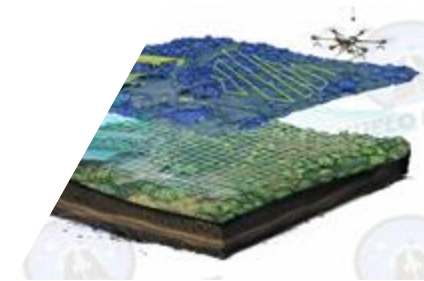
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3rd  **Space4water**
Stakeholder Meeting

24-25 October 2023
Vienna International Centre

Participatory workshop for Indigenous women on their roles and responsibilities related to water



- ❑ 6 women from 6 communities and countries

- ❑ Objectives:

- ❑ Active exchange on the ways Indigenous communities relate to water
- ❑ Capacity building: what can be done using space-based solutions
- ❑ Identification of user needs towards the space sector
- ❑ Bringing identified user needs to the Space4Water stakeholders
- ❑ Deriving from that requirements for the space sector to develop applications by which Indigenous communities can be supported

Next Steps: Space4Water Community Building

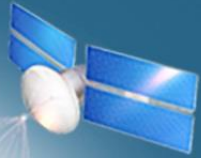
- ❑ How to assess technological readiness of space-based solutions, applications, models, etc?
- ❑ Can we develop / do we need a competency framework for the (geo)spatial and water sectors?
- ❑ How can we assess capacity collaboratively without being on site for years?
- ❑ How can we support or facilitate in situ data collection to ground truth space-based datasets?
- ❑ How can we co-develop space-based solutions for water-related challenges



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Conferences



UNITED NATIONS | GHANA | PSIPW

5TH INTERNATIONAL CONFERENCE

ON THE USE OF SPACE TECHNOLOGY
FOR WATER RESOURCES MANAGEMENT

10th–13th May, 2022
Alisa Hotel, North Ridge
GHANA and ONLINE



Prince Sultan Bin Abdulaziz
International Prize for Water



MINISTRY OF FOREIGN AFFAIRS
AND REGIONAL INTEGRATION
REPUBLIC OF GHANA



MINISTRY OF
EDUCATION
REPUBLIC OF GHANA



UENR University of Energy
and Natural Resources



United Nations/Ghana/PSIPW – 5th International Conference on Space Technologies for Water Resource Management



- High-level participation
- 838 registrations
- 29% women
- Participants from 99 countries
- 24h of content presented
- 107 speakers, with 76 males and 31 females
- Participant rating: 4.48 of 5 points





Reports

- ❑ [A/AC.105/C.1/2022/CRP.15](#)

The Space4Water Project: Community building

- ❑ [A/AC.105/1268](#)

Report on the United Nations/Ghana/Prince Sultan bin Abdulaziz International Prize for Water Fifth International Conference on the Use of Space Technology for Water Management

- ❑ [A/AC.105/1272](#)

Report on the first Space4Water Stakeholder Meeting

- ❑ [A/AC.105/2023/CRP.22](#)

Report on the second Space4Water Stakeholder Meeting

Join Space4Water

Register as a stakeholder



Become a featured (young) professional





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Thank you

[Nina Kickinger](#)

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www.space4water.org

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