



International symposium of category 2  
institutes and centers under the auspice of  
UNESCO in the field of natural science  
*Kuala Lumpur | 14-17 May 2024*

# PRESENTATION of IGRAC

Elisabeth Lictevout, IGRAC Director



Ministerie van Infrastructuur  
en Waterstaat



WORLD  
METEOROLOGICAL  
ORGANIZATION

# 1- IGRAC Fact sheet

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## Who we are?

- Global groundwater information and knowledge centre

### Our mission

- To provide information and knowledge on groundwater worldwide to support decision-making

### Our vision

- A sustainable and equitable groundwater future

### Our moonshots

By 2030,

- All countries produce and share groundwater data and report on the quantitative and qualitative status of their groundwater resources.
- We produce a Global Groundwater Assessment based on in situ data
- Quantitative and qualitative status of aquifers improve



# 1- IGRAC Fact sheet

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## How?

- Enhance and support groundwater monitoring worldwide
- Acquire and manage global groundwater data
- Groundwater assessment and research
- Capacity development, advocacy and awareness raising.



# 2- From data...

- <https://ggis.un-igrac.org/>
- <https://ggis.un-igrac.org/view/ggmn/>

# Global Groundwater Information System - GGIS Global Groundwater Monitoring Network – GGMMN

**About** **igrac** Search Metadata Print Measure

### The Global Groundwater Information System (GGIS)

The GGIS is an interactive portal for sharing data and information on groundwater resources around the world. It gives access to map layers, documents, and well and monitoring data. It also contains several thematic map viewers.

[Visit IGRAC Website](#) [Hide this banner](#)

### Featured

- Transboundary Aquifers of the World map**  
The global map of transboundary aquifers (TBAs) shows the surface delineation of aquifers extending...
- Global Groundwater Monitoring Network (GGMN)**  
The Global Groundwater Monitoring Network (GGMN) is a participative, web-based network of networks, set up to improve quality and accessibility of groundwater monitoring information and...
- MAR Portal**  
The MAR Portal contains the Global MAR Inventory, an inventory of over 1200 sites where Managed...
- Senegalo-Mauritanian Aquifer Basin (SMAB) / ...**
- Dinaric Karst (DIKTAS Project)**
- Transboundary Aquifers (TWAP Project)**

This map viewer contains data and information layers on the Senegalo-Mauritanian Aquifer System. It is brought to you by **igrac**. Web site developed by **...**

This COPAS Information Management System (IMS) is a viewer recognizing the value of transboundary water systems and the fact that many of them continue to...

### Global Groundwater Monitoring Network (GGMN)

Let: 33.426 - Long: -94.482

GGIS UID	National Ground-Water Monitoring Network (United States)-3543906
Name	Anadarko E&P recorder
Feature Type	Water well
Purpose	Observation / monitoring
Status	
Organisation	National Ground-Water Monitoring Network (United States)
Country	United States
Construction year	
Aquifer Name	Wilcox Group
Aquifer Type	
Manager	Texas Water Development Board
Created at	2023-05-07T12:43:11.916Z
Created by	admin
Last edited at	2023-05-07T12:45:11.106Z
Last edited by	admin

Water depth [from the ground ...] m

Linear trend

### Groundwater Level

All • May 1, 2009 → Apr 4, 2023

Water depth [from the ground surface]

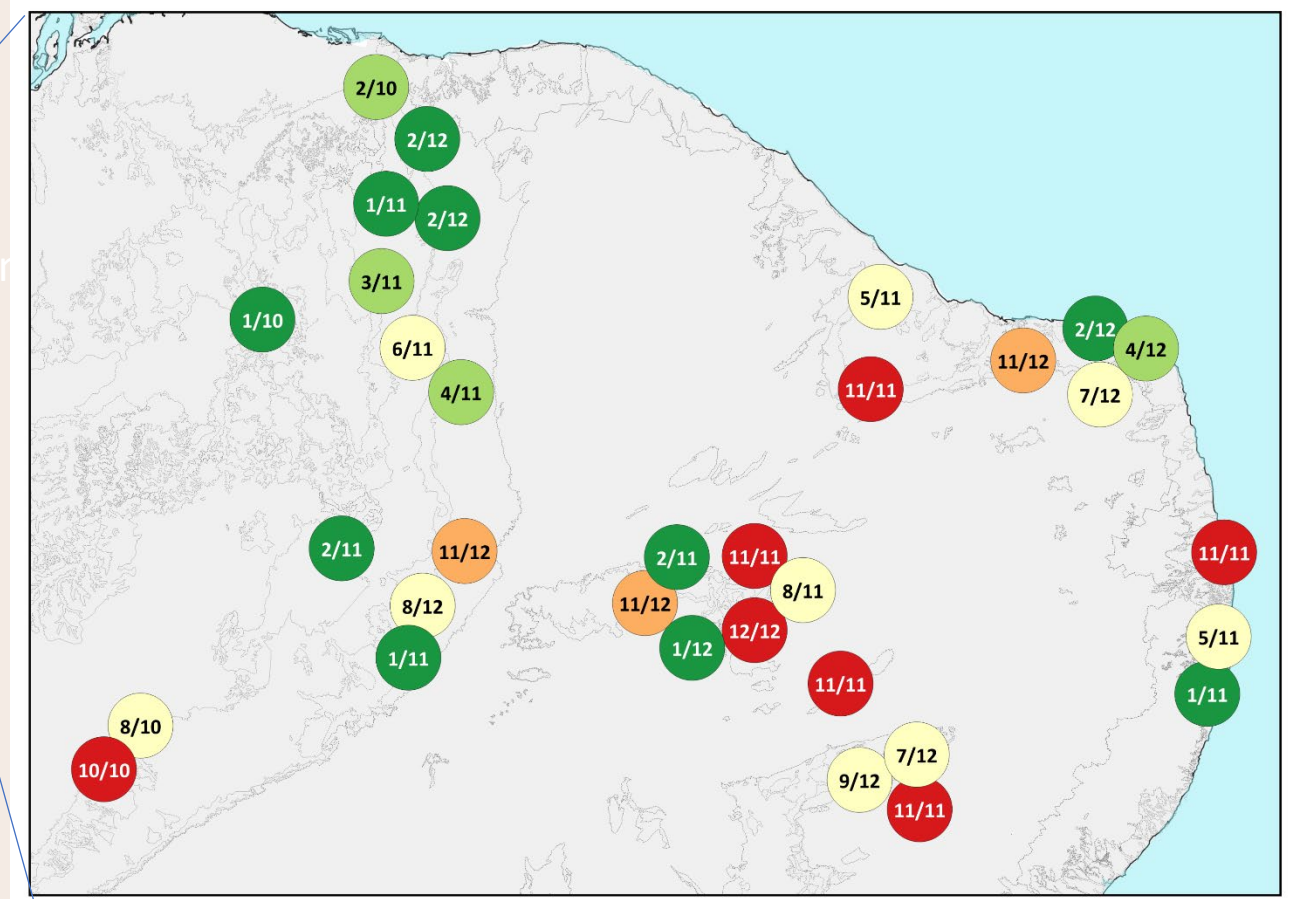
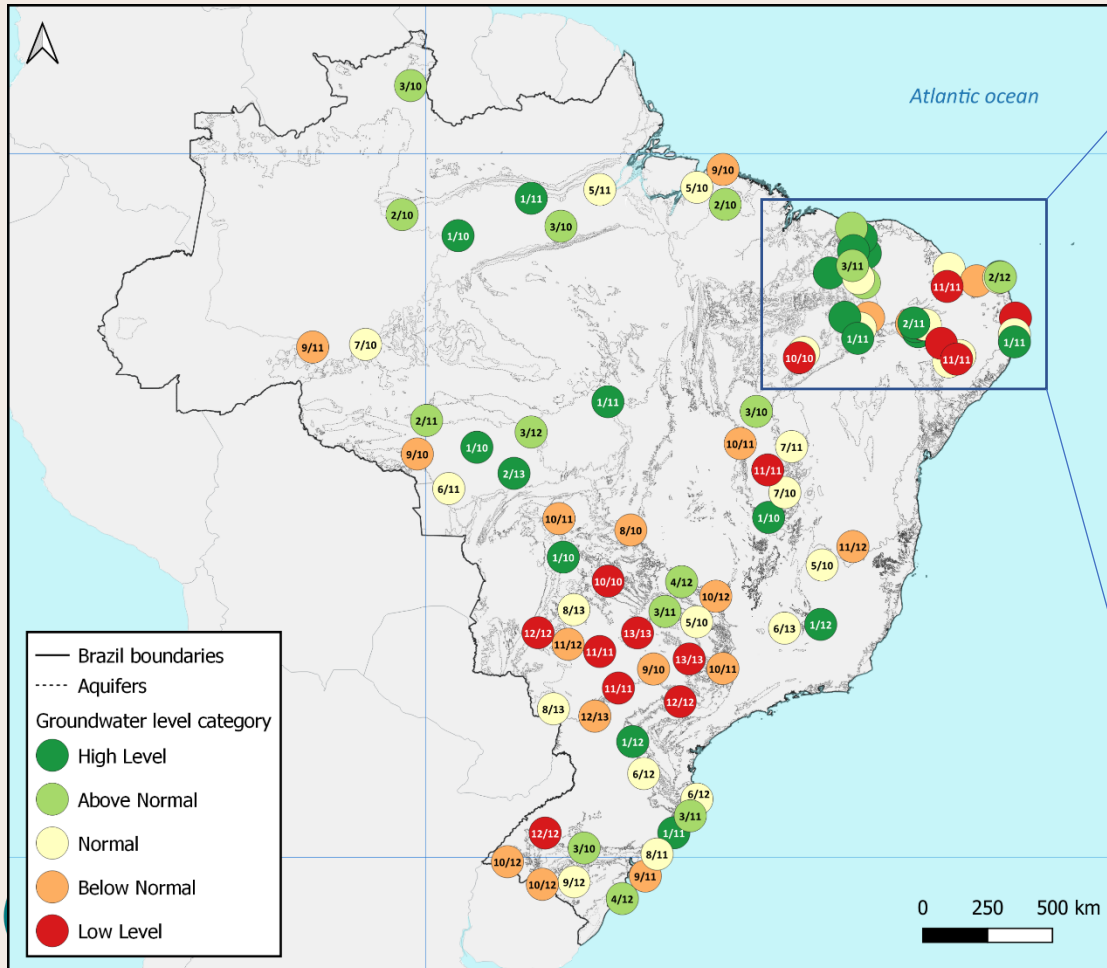
Time

Scale: 1 : 73957339



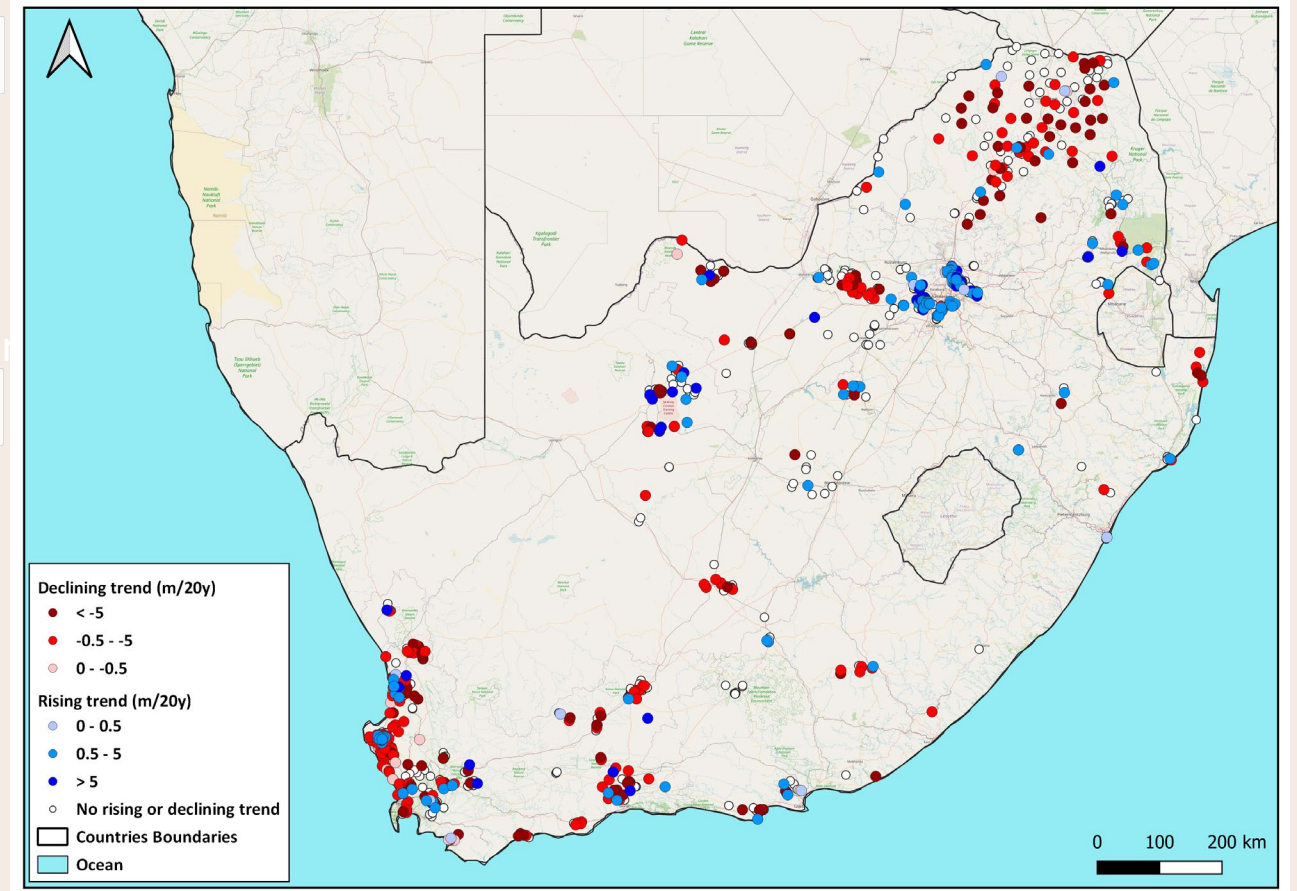
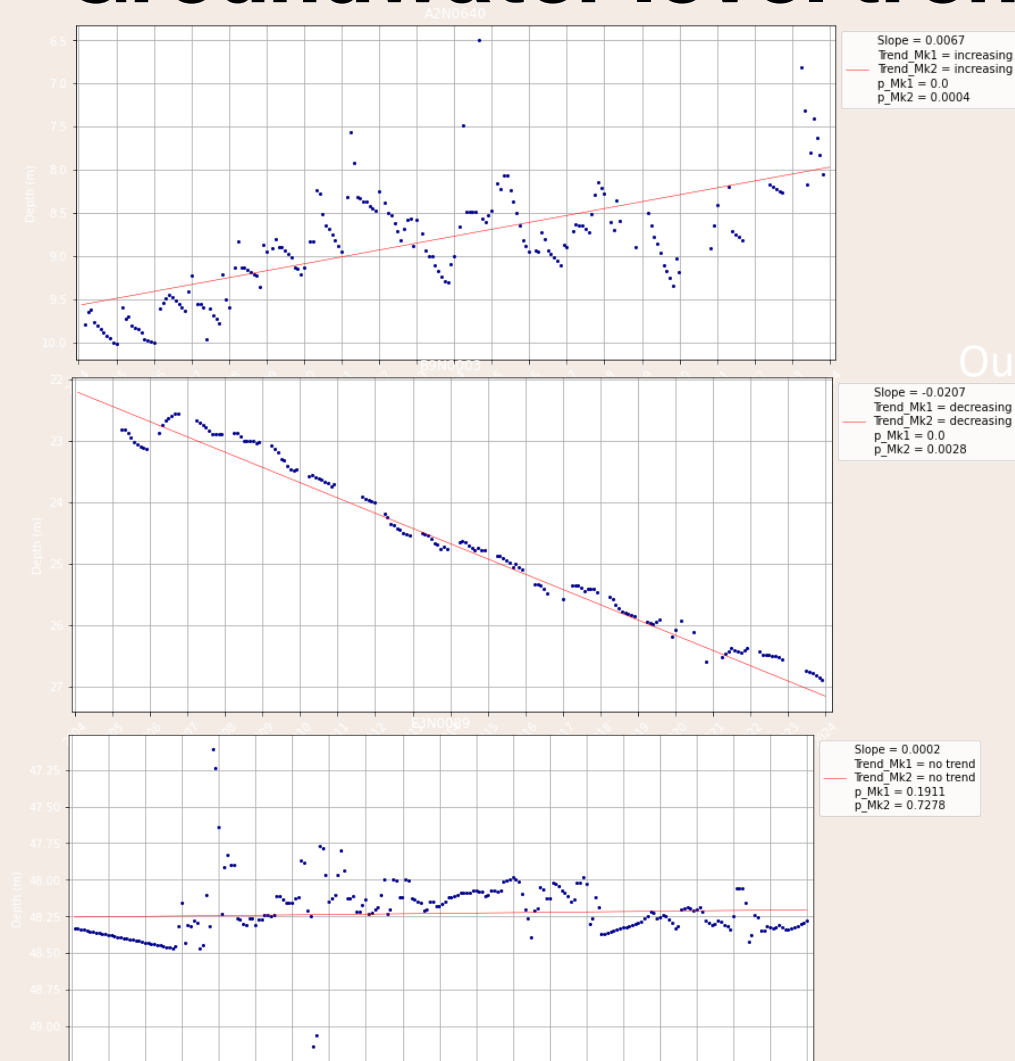
# 3- ... to information for decision making

## Groundwater level ranking



# 3- ... to information for decision making

## Groundwater level trends



Groundwater level 20 years trends (2000-2020) in monitoring wells in South Africa





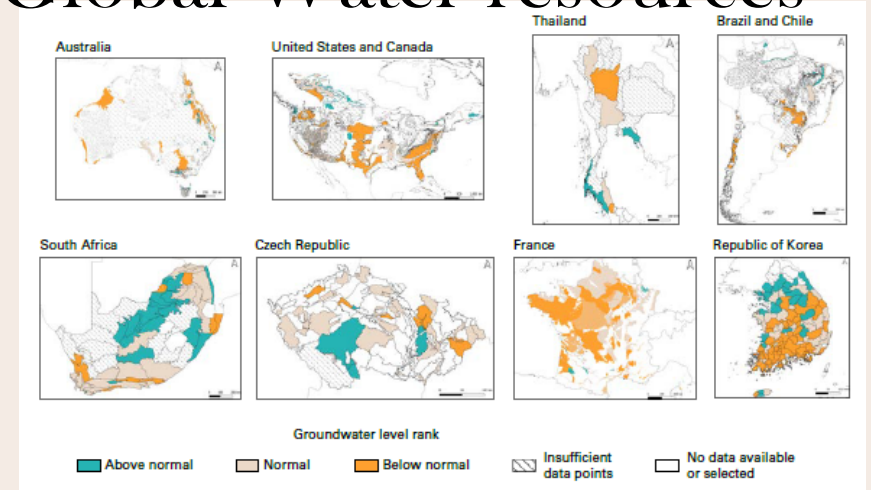
# 3- ... to information for decision making


## Global water assessments

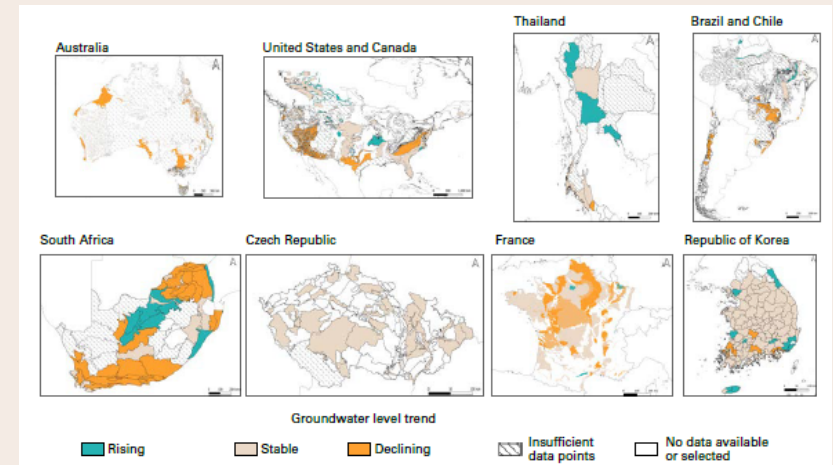
Contribution to WMO state of the Global Water resources



**Figure**  Mean groundwater levels in selected aquifers in 2022 ranked against the historical period 2013–2022 for selected countries.



**Figure**  Groundwater level trends in selected aquifers for the period from 2013 to 2022 for selected countries



# 4- Research and Assessment

## Transboundary aquifers: Global map, cooperation and identifying cross-border impacts

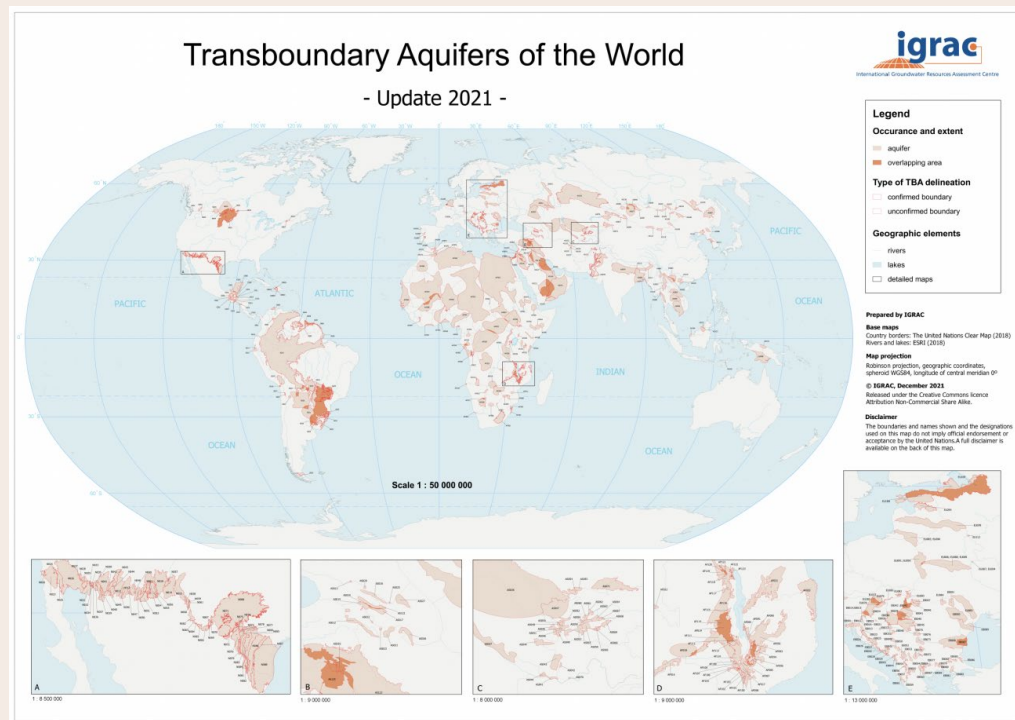


Figure 4

IGRAC & UNESCO (2021) Map of the transboundary Aquifers of the World

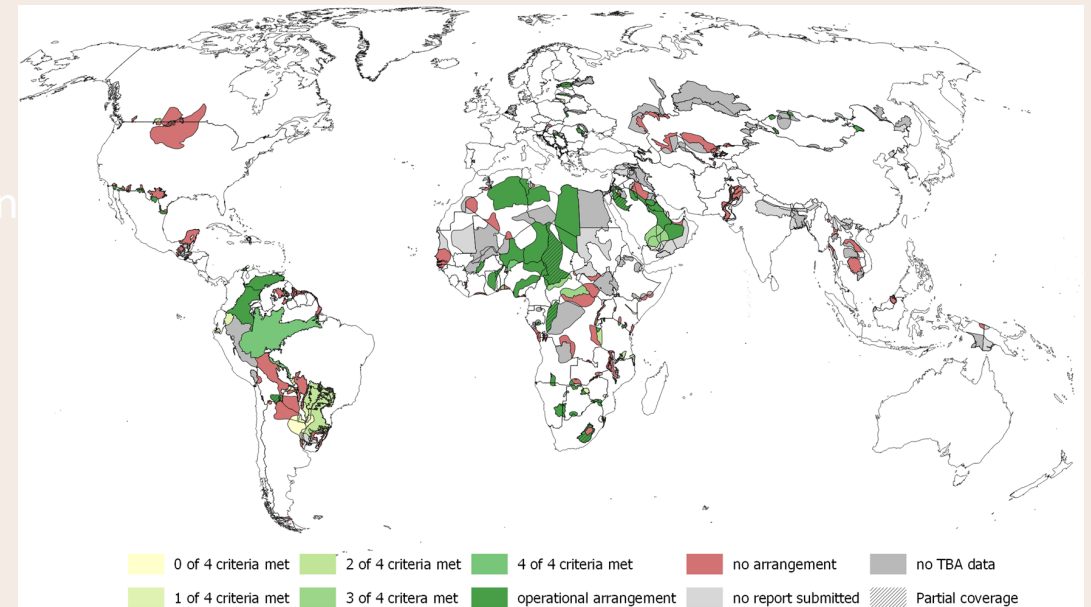


Figure 4

Fraser et al. (2023) Transboundary water cooperation under SDG indicator 6.5.2: disaggregating data to provide additional insights at the aquifer level





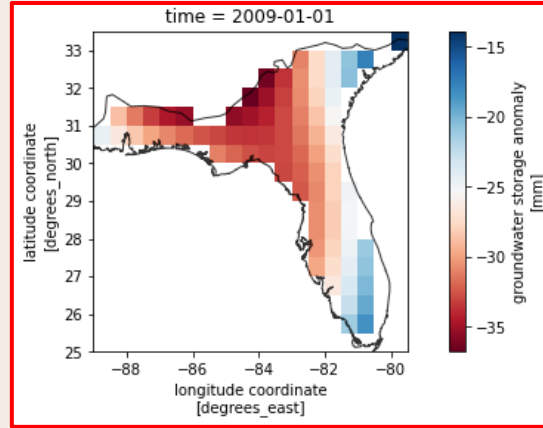
# 4- Research and Assessment

## Global Gravity-based Groundwater Product (G3P):

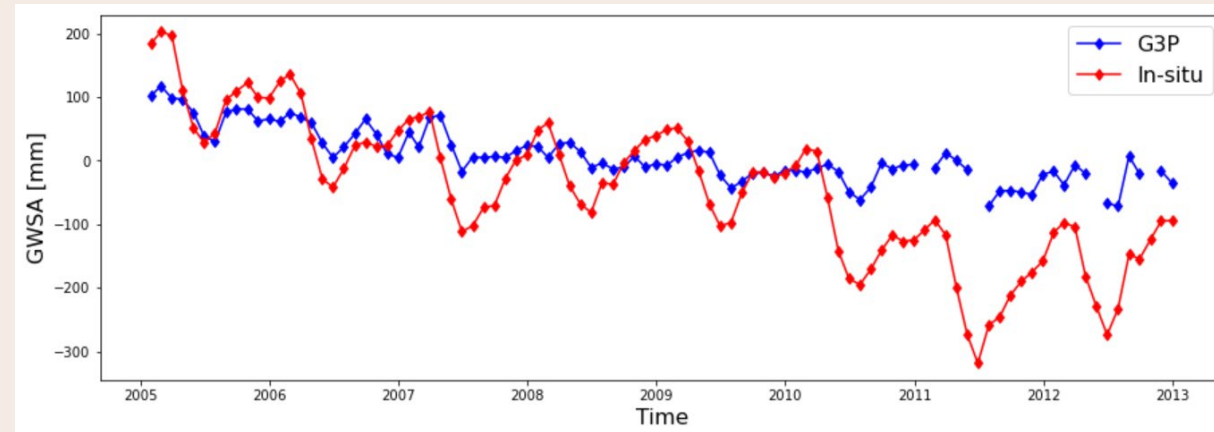
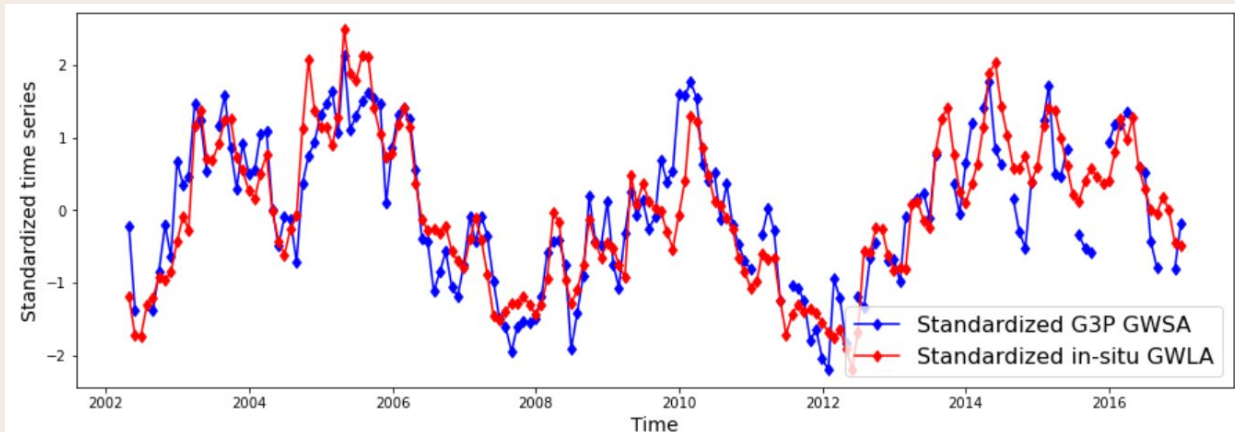
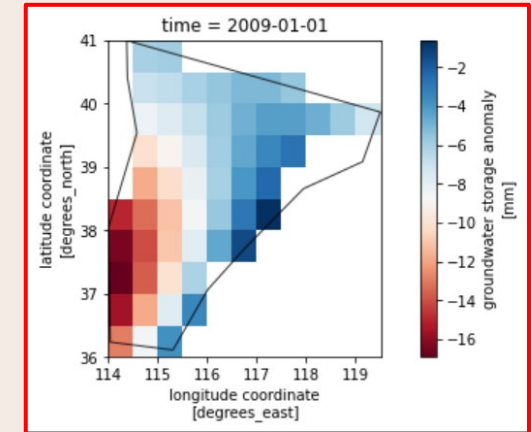
Validation with in-situ data



Florida aquifer, USA

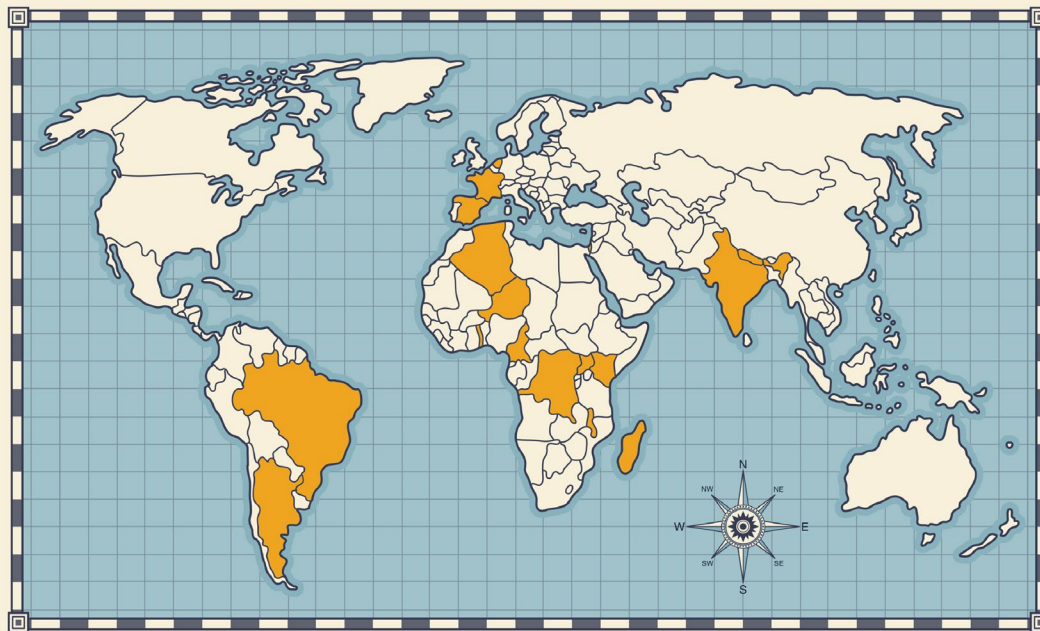


North China aquifer system



# 5- Capacity development, Advocacy, Awareness raising

## GROUNDWATER CORRESPONDENTS NETWORK



**GROUND  
WATER**  
CORRESPONDENTS  
*network*

**Africa**  
Algeria  
Cameroon  
DR Congo  
Kenya  
Madagascar  
Malawi

**Niger**  
Togo  
Uganda

**Americas**  
Argentina  
Brazil

**Asia**  
India  
Nepal

**Middle East**  
Palestine

**Europe**  
France  
Netherlands  
Spain

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*Groundwater  
Correspondents*

**2023**





**Thank you for your attention**

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*Delft, The Netherlands*



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