United Nations
Educational, Scientific and
Cultural Organization

Reporting on transboundary aquifers: Challenges and tools

Supporting the monitoring and implementation of the SDGs in the Arab region: Transboundary water cooperation SDG 6 Indicator 6.5.2

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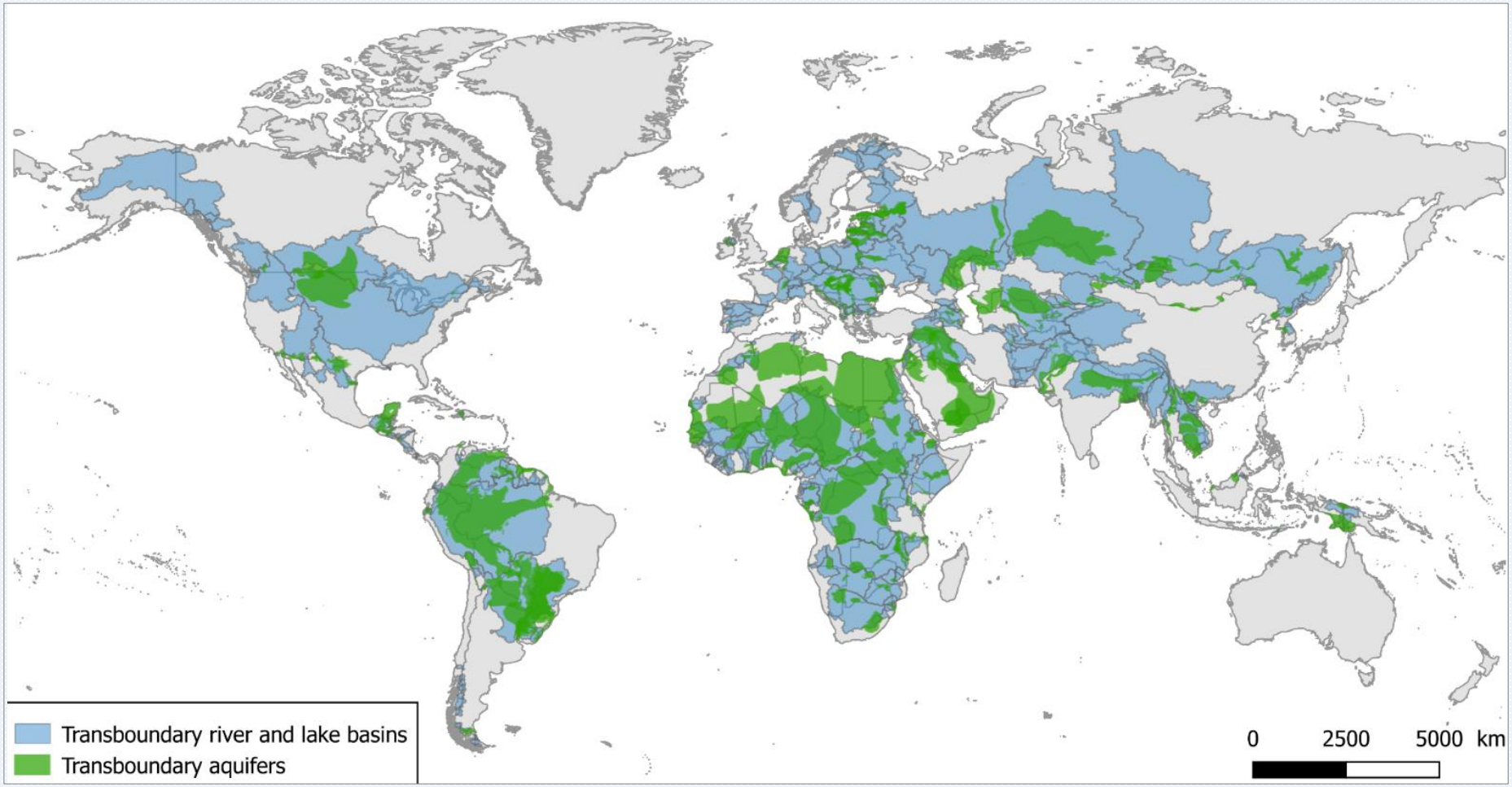
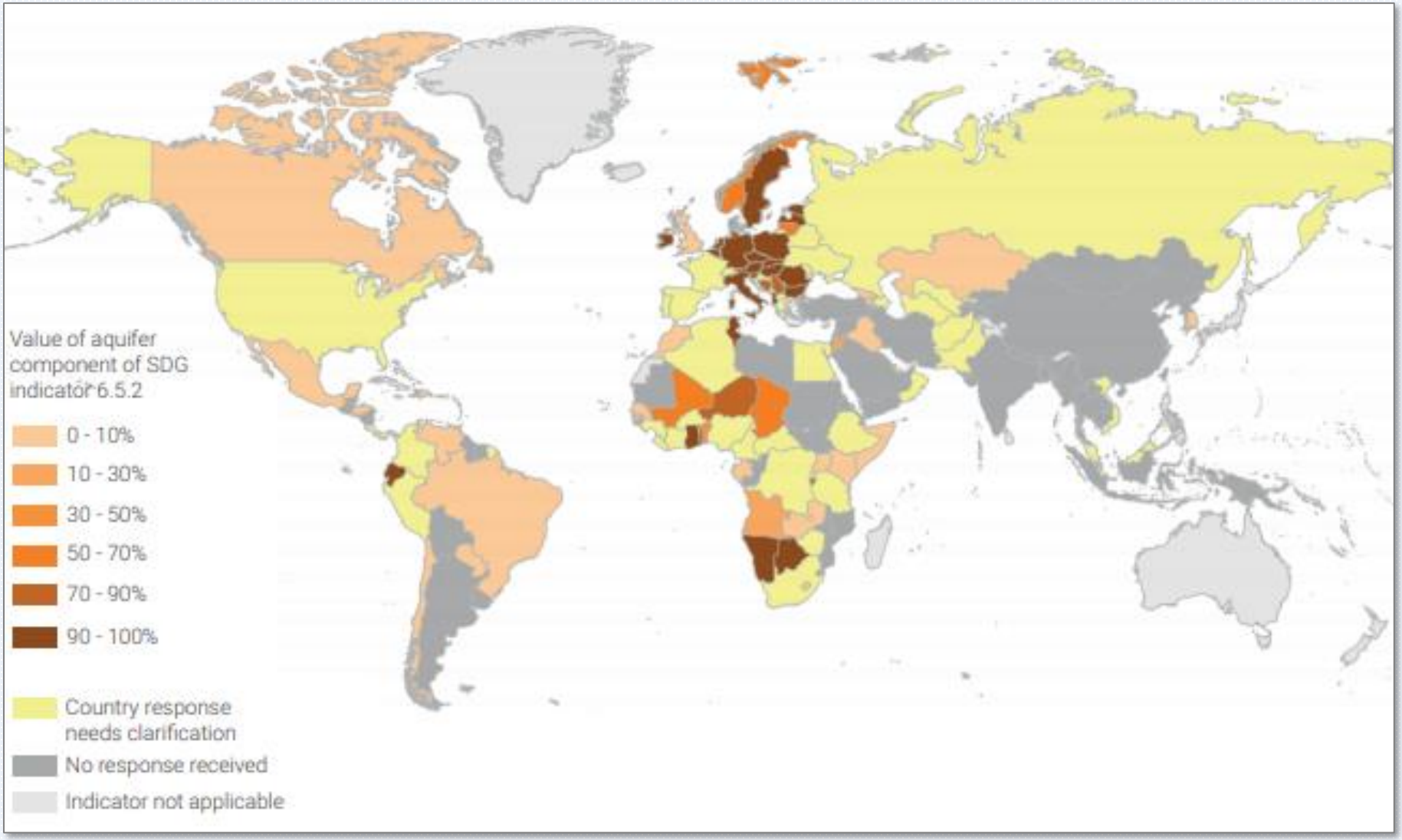
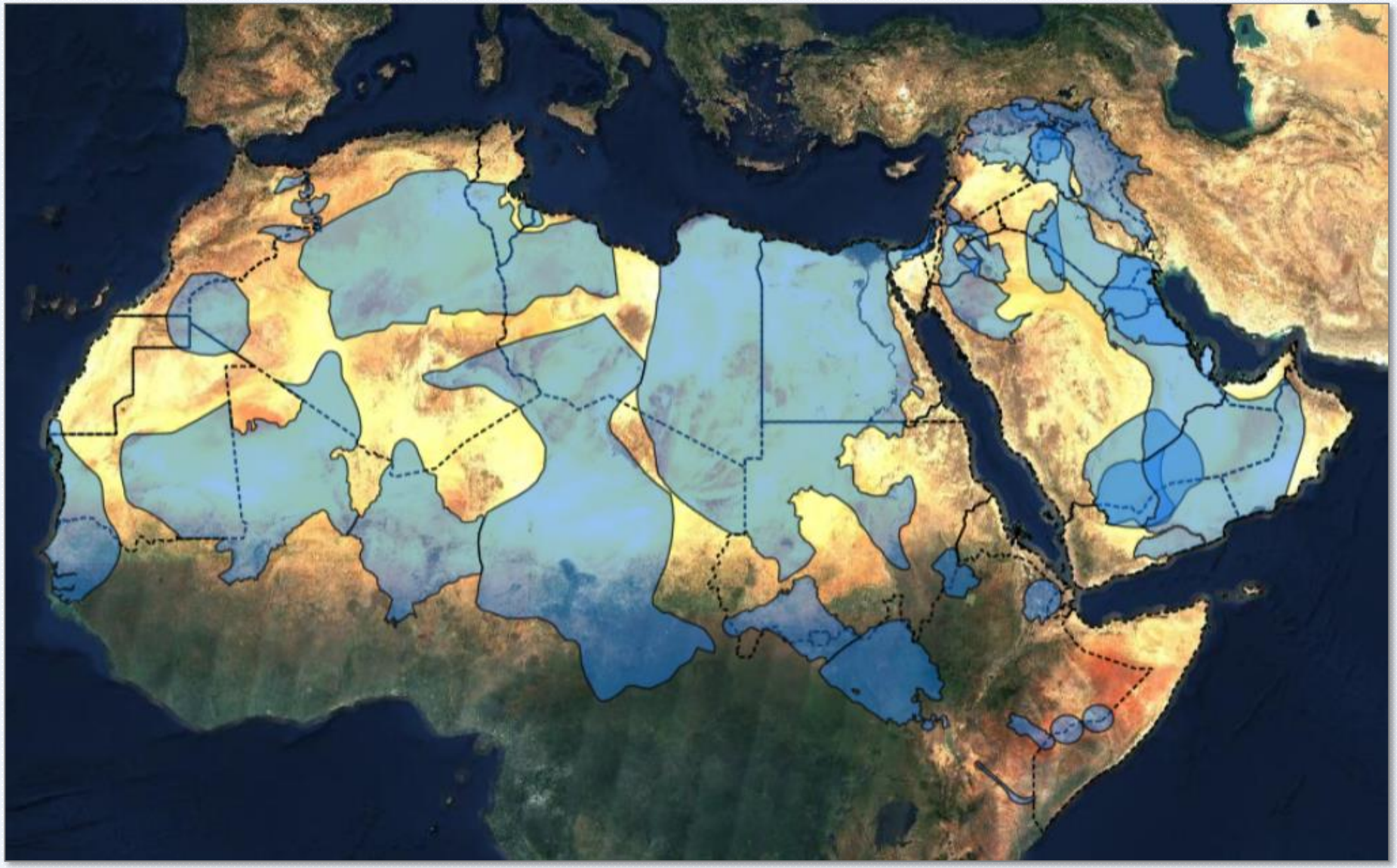
592 transboundary aquifers worldwide



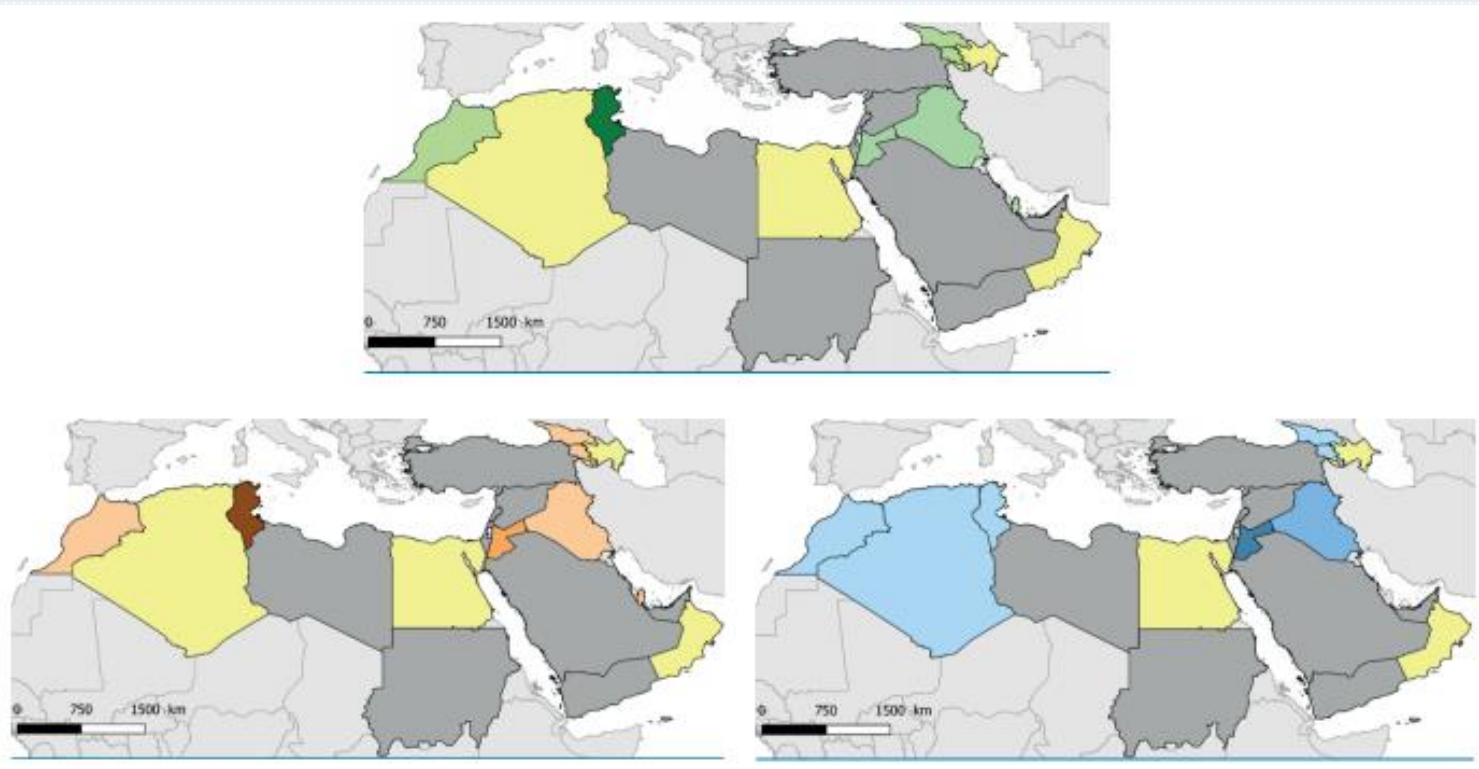
Cooperation on transboundary aquifers: 1st reporting



Transboundary aquifers in the Arab states region



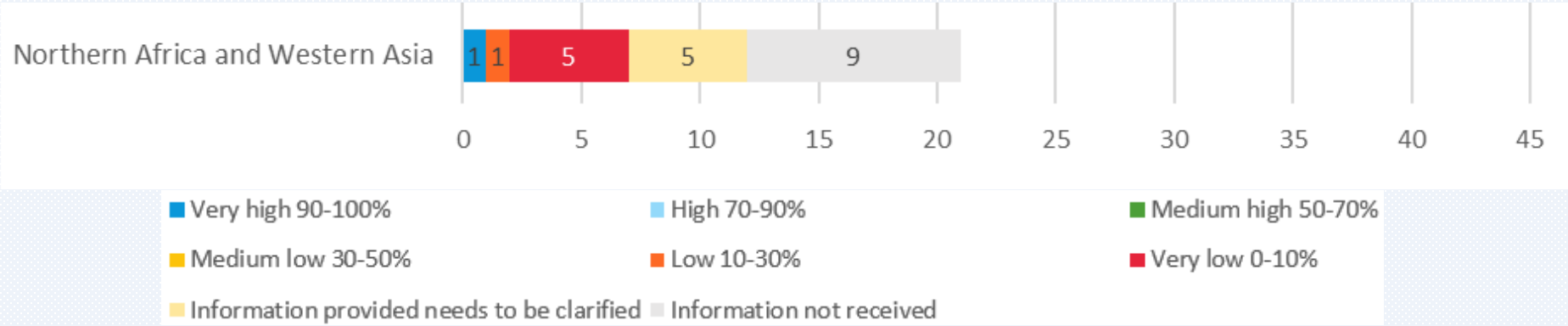
Reporting on transboundary aquifer during the 1st phase



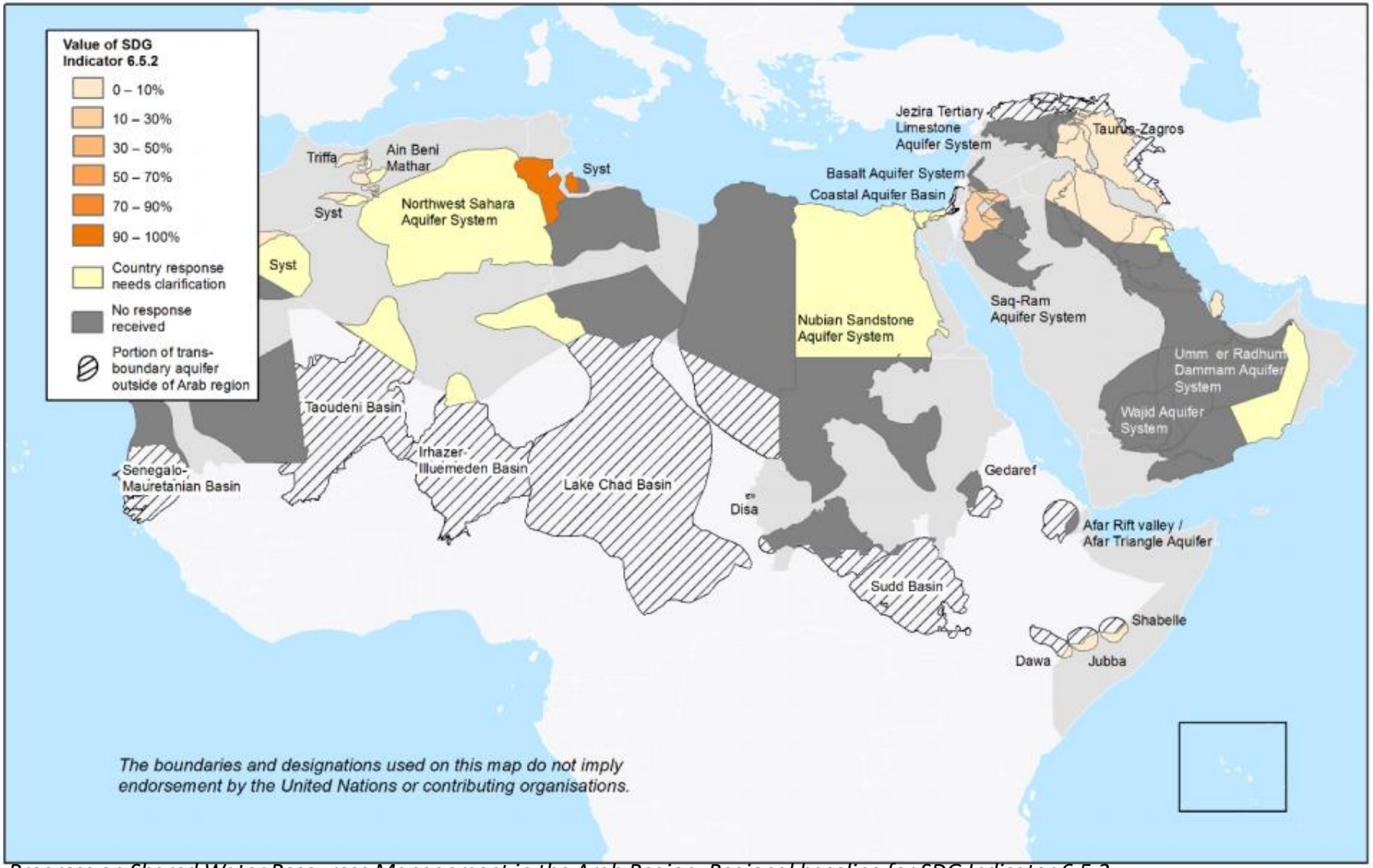
Value of SDG indicator 6.5.2	Value of aquifer component of SDG indicator 6.5.2	Value of river and lake basin component of SDG indicator 6.5.2	
0–10%	0–10%	0–10%	
10–30%	10–30%	10–30%	
30–50%	30–50%	30–50%	
50–70%	50–70%	50–70%	Country response needs clarification
70–90%	70–90%	70–90%	No response received
90–100%	90–100%	90–100%	Country not considered for regional analysis

Reporting on transboundary aquifer during the 1st phase

Country	Surface water component (%)	Aquifer Component (%)	SDG indicator 6.5.2 (%)
Algeria	0	-	-
Egypt	-	-	-
Iraq	17.3	0	13.5
Jordan	61.7	13.9	21.9
Kuwait	N	-	-
Morocco	0	0	0
Qatar	N	0	0
Somalia	0	0	0
Tunisia	0	100	80.5



Reporting on transboundary aquifer during the 1st phase



In: *Progress on Shared Water Resources Management in the Arab Region: Regional baseline for SDG Indicator 6.5.2*

Challenges faced during the 1st reporting exercise

Absence of reporting under SDG Indicator 6.5.2, but information reported under SDG Indicator 6.5.1:

Country	Shared water body
Libya	North Western Sahara Aquifer System (Algeria, Tunisia), Nubian Sandstone Aquifer System (Chad, Egypt, Sudan) (Note that these two arrangements were mentioned in the reporting under SDG indicator 6.5.1)
Saudi Arabia	Saq-Disi aquifer (Jordan) (This arrangement is mentioned in the reporting under SDG indicator 6.5.1 and by Jordan under SDG indicator reporting 6.5.2)
Sudan	Nubian Sandstone Aquifer System (Chad, Egypt, Libya) (The arrangements and initiatives for these two shared water bodies were mentioned in the reporting under SDG indicator 6.5.1)

Challenges faced during the 1st reporting exercise

- **Assumed equivalence between water scarcity and water (in)security**
- **Insignificant use of transboundary aquifers**
- **Superposition of aquifers, scientific uncertainty (data) + multiple counting of areas**

Good practices and lessons learnt

Some reports are the product of extensive coordination:

- Different approaches to group, collect and report information
- Opportunity to strengthen national coordination, cooperation and data sharing
- Impact in terms of visibility and increased awareness of national and cross-border issues

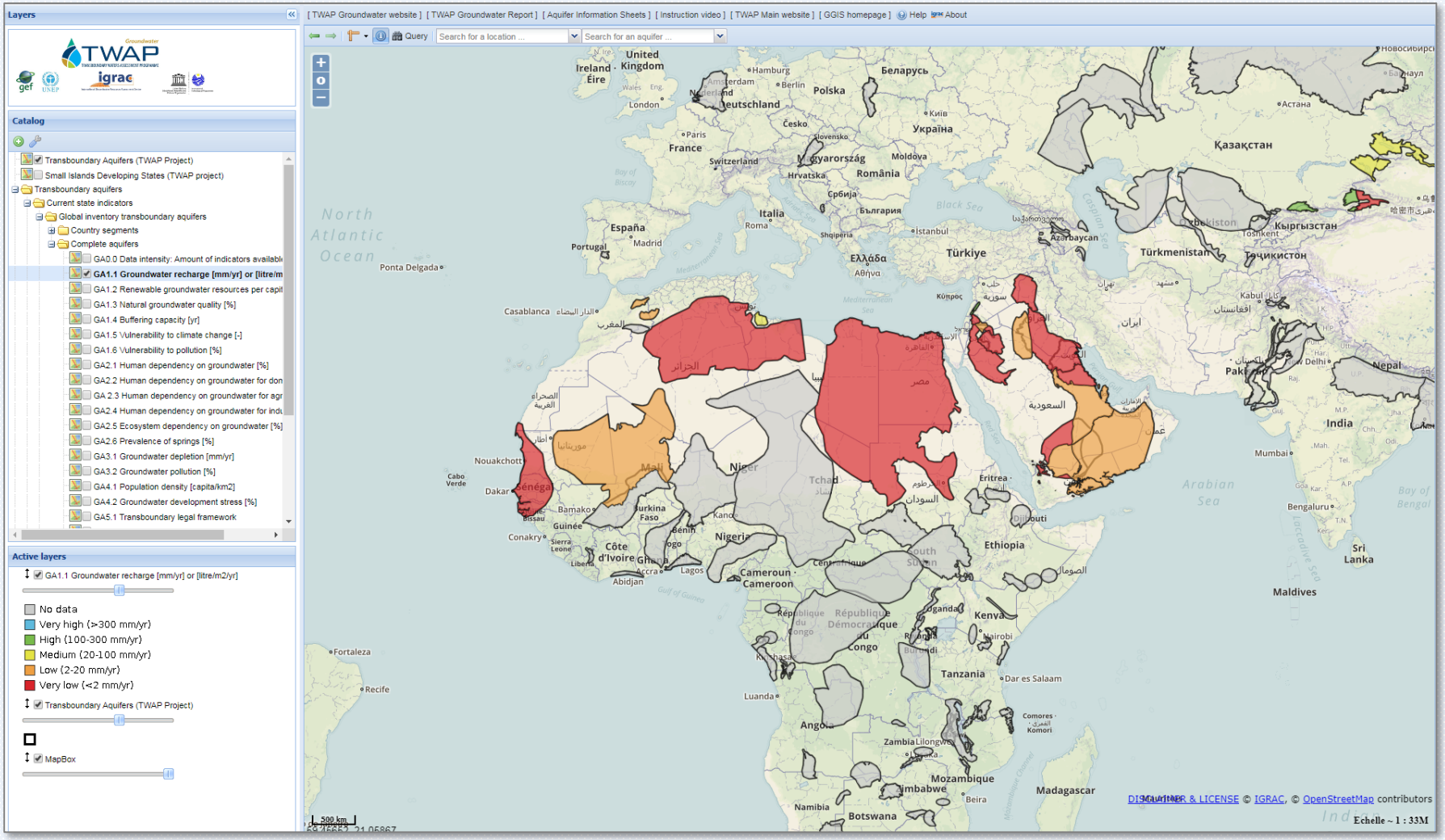
Reported information:

- Wealth of data that had never been transmitted before
- Groundwater data is a particular challenge
- Long-term process to make the best use of international sources

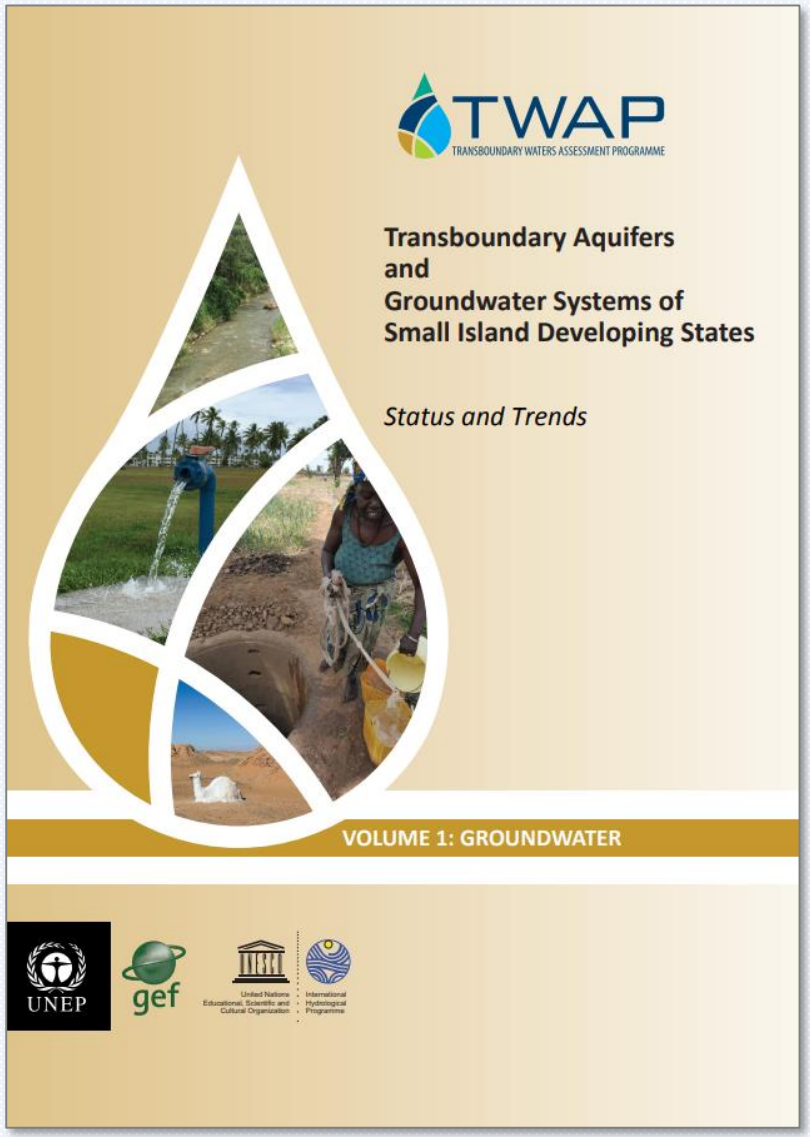
How to improve the reporting: tools and materials

Transboundary Waters Assessment Programme Information System on transboundary aquifers

https://apps.geodan.nl/igrac/ggis-viewer/viewer/twap/public/default



How to improve the reporting: tools and materials



First comprehensive indicator-based global assessment of status and trends in transboundary aquifers

How to improve the reporting: tools and materials

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Country and aquifer briefs

Here you can find information briefs on the groundwater situation per country and per transboundary aquifer. The main indicators and additional information on the groundwater conditions in the respective countries/aquifer are described. Data is extracted from the other GGIS modules, while additional data is provided by national experts from the region.

The table below provides a list of all regions. You can use the search functionality in the right corner to search the information brief you are interested in. You can search by country, aquifer name, aquifer code, or by country where the aquifer is situated.

Note: The development of the country briefs is still ongoing an not all briefs are completed yet.

Show 50 entries Search:

Name	Code	Type	Countries	Print
Sonoyta-Papagos	10N	aquifer	Mexico, United States of America	Get brief
Nogales	11N	aquifer	Mexico, United States of America	Get brief
Delta del Rio Motagua	12C	aquifer	Guatemala, Honduras	Get brief
Santa cruz	12N	aquifer	Mexico, United States of America	Get brief
Puyango-Tumbes-catamayo-chira	12S	aquifer	Ecuador, Peru	Get brief
San Pedro	13N	aquifer	Mexico, United States of America	Get brief
Amazonas	13S	aquifer	Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, P...	Get brief
Esquipulas-Ocotepeque-citala	14C	aquifer	El Salvador, Guatemala, Honduras	Get brief
conejos Medanos-Bolson de la Mesilla	14N	aquifer	Mexico, United States of America	Get brief
Titicaca	14S	aquifer	Bolivia, Chile, Peru	Get brief
Bolson del Hueco-Valle de Juarez	15N	aquifer	Mexico, United States of America	Get brief
Pantanal	15S	aquifer	Bolivia, Brazil, Paraguay	Get brief
Edwards-Trinity-El Burro	16N	aquifer	Mexico, United States of America	Get brief
Agua Dulce	16S	aquifer	Bolivia, Brazil, Paraguay	
Estero Real-Rio Negro	17C	aquifer	Honduras, Nicaragua	
cuenca Baja del Rio Bravo-Grande	17N	aquifer	Mexico, United States of America	

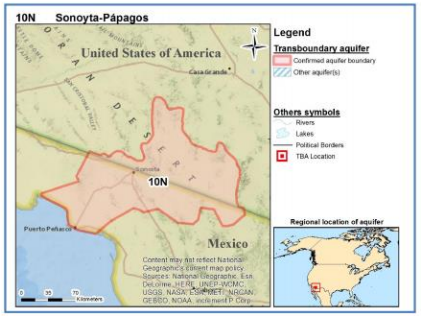
Transboundary Aquifer Information Sheet

TWAP

10N - Sonoyta-Pápagos

Geography
Total area TBA (km²): 16 000
No. countries sharing: 2
Countries sharing: Mexico, United States of America
Population: 47 000
Climate zone: Arid
Rainfall (mm/yr): 230

Hydrogeology
Aquifer type: Multiple layers hydraulically connected
Degree of confinement: Whole aquifer unconfined
Main Lithology: Sediment - Sand



No cross-section available

Map and cross-section are only provided for illustrative purposes. Dimensions are only approximate.

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TWAP

noyta-Pápagos

dicators from Global Inventory

Groundwater depletion (mm/y)	Groundwater pollution (%) (3)	Population density (Persons/km2)	Groundwater development stress (%) (4)	Transboundary legal framework (Scores) [5]
0	A	4	260	A
		1		
		3		

m³/yr) divided by the surface area (m²) of the complete cou
ea).
f percentage of surface area of aquifer where the natural
ndards.
ntified; B. Some pollution has been identified; Positive num
e area of aquifer).
ter abstraction divided by recharge.
BA management signed by all parties; B. Agreement with lim
Agreement under preparation or available as an unsigned d
l Framework differs between Aquifer States (see data at Na

ble from Global Inventory

Degree of confinement	Predominant aquifer lithology	Predominant type of porosity (or voids)	Secondary Porosity
hole quifer nconfined	Sediment - Sand	High primary porosity fine/ medium sedimentary deposits	Secondary porosity: Fractures

United States of America							
TBA level							

* Including aquitards/aquicludes
X A value was provided in the questionnaire, but it was considered un-realistic and therefore removed from the ta

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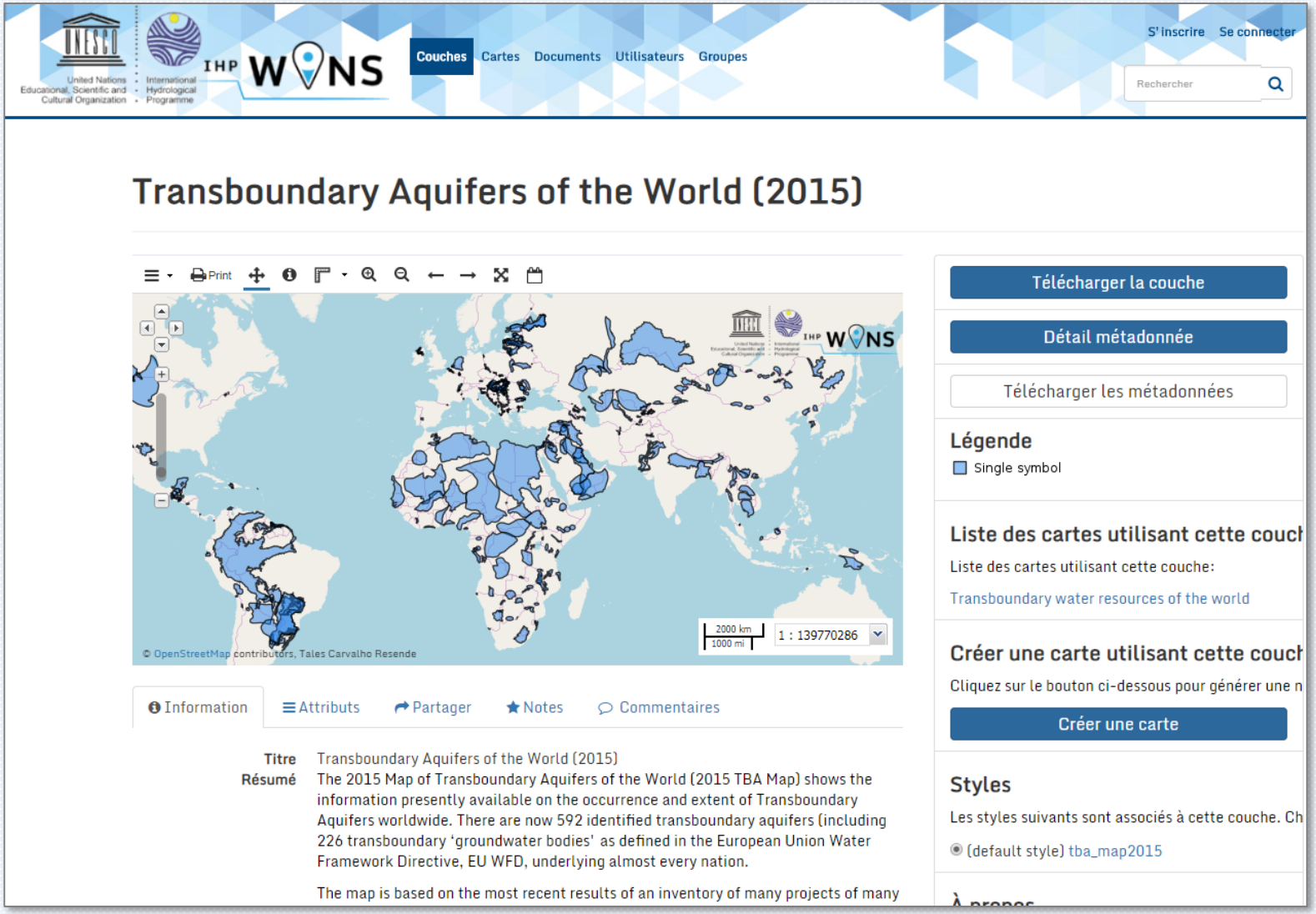
How to improve the reporting: tools and materials

UNESCO IHP's Water Information and Network System: http://ihp-wins.unesco.org/



How to improve the reporting: tools and materials

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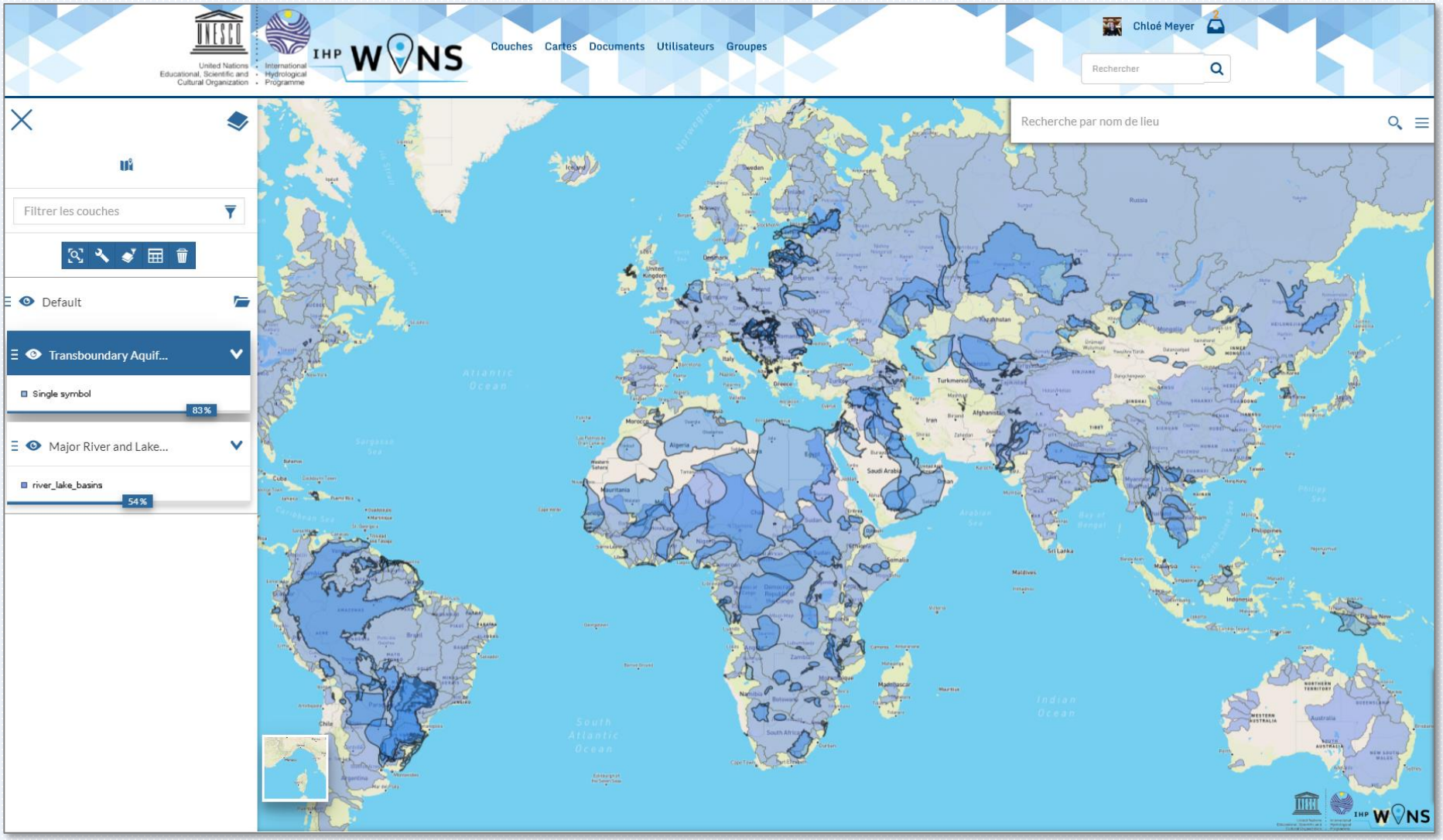


How to improve the reporting: tools and materials

Online data and information about aquifers:

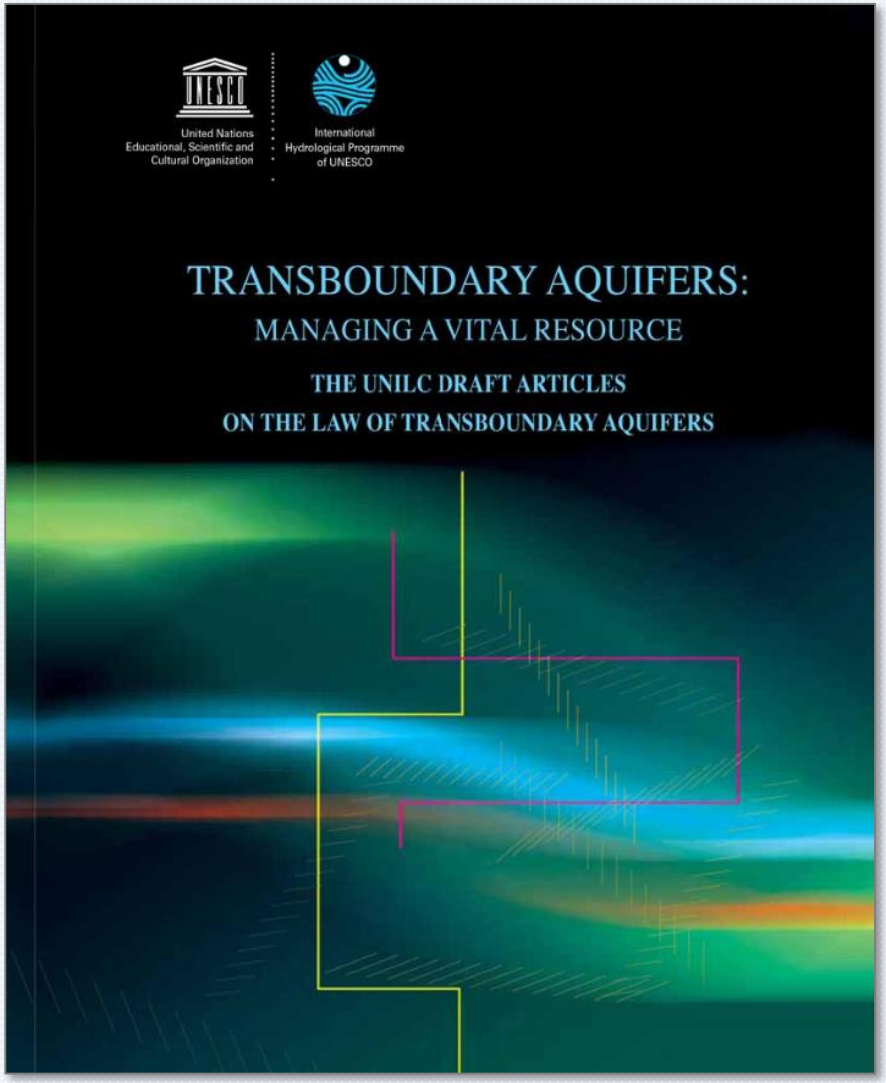
- Delineation
- Physical characteristics
- Hydrogeological parameters
- Georeferenced items

- Technical support from the agencies

A/RES/74/193: UNGA Resolution of the Law of transboundary aquifers (2019)

1. *Commends* to the attention of Governments the draft articles on the law of transboundary aquifers annexed to its resolution 68/118 as **guidance for bilateral or regional agreements and arrangements for the proper management of transboundary aquifers**;

2. *Encourages* also the International Hydrological Programme of UNESCO to continue its contribution by **providing further scientific and technical assistance** upon the consent of the recipient State and within its mandate;




Thank you for your attention