

Science for conflict prevention: transboundary groundwater cooperation South – Eastern Europe, Central Asia, Southern Africa and LAC

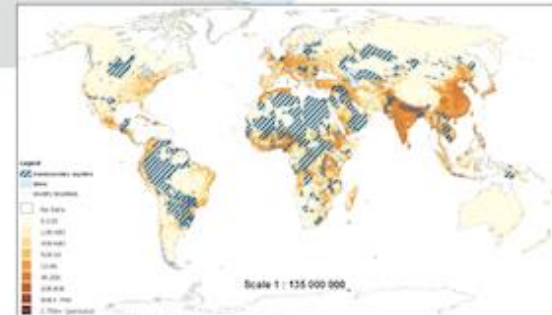
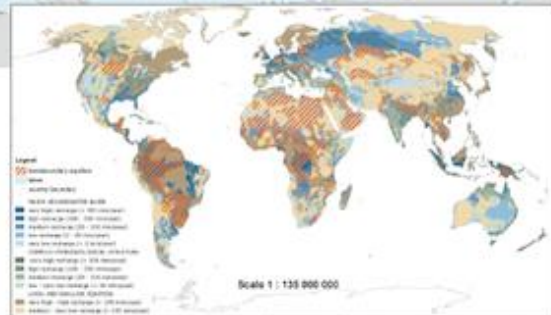
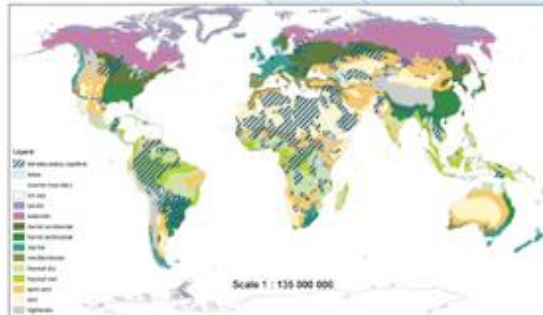
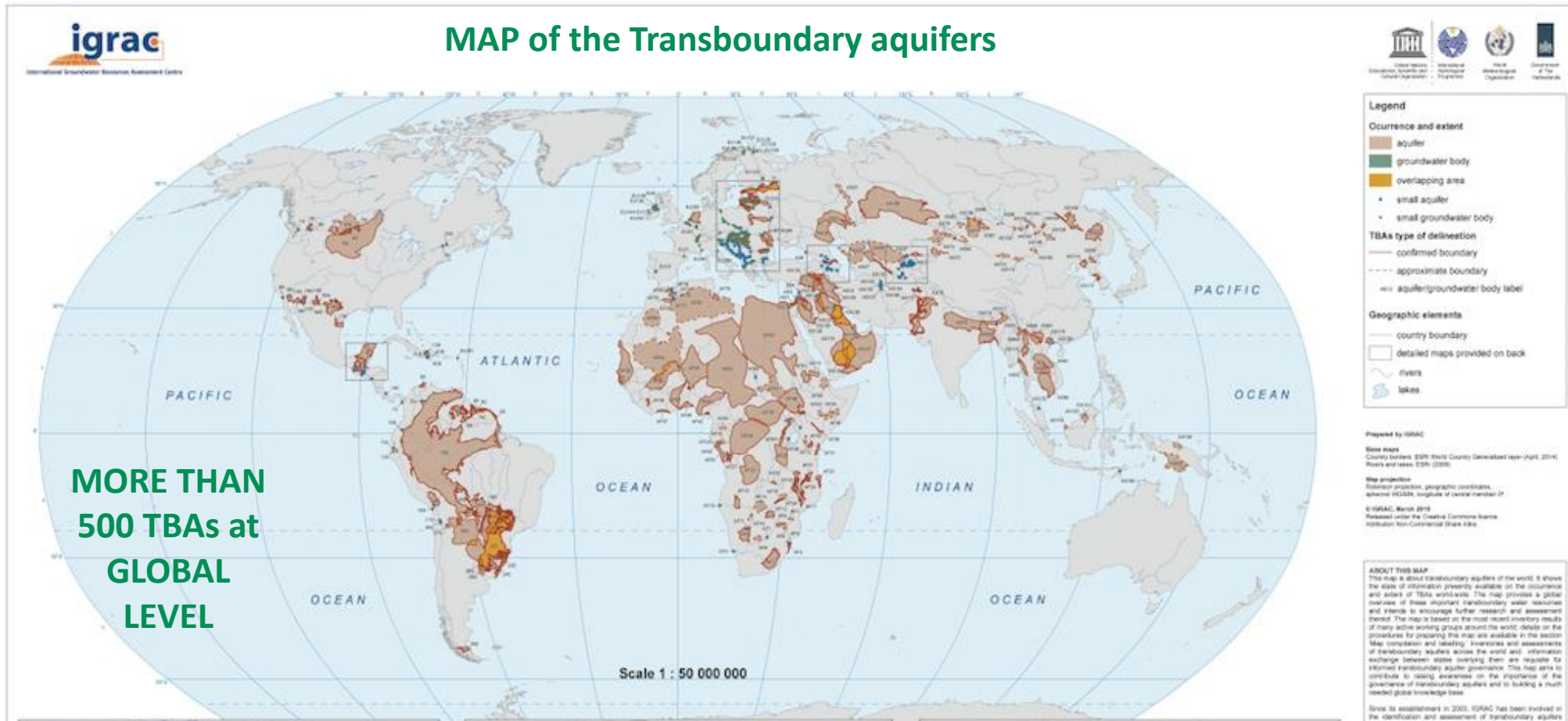
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UNESCO IHP**

**Webinar on preventing water conflicts through
improving transboundary water cooperation in the
Pan-European region
25 October 2021**



Science for conflict prevention: transboundary groundwater cooperation



TBA agreements in the pan-European region

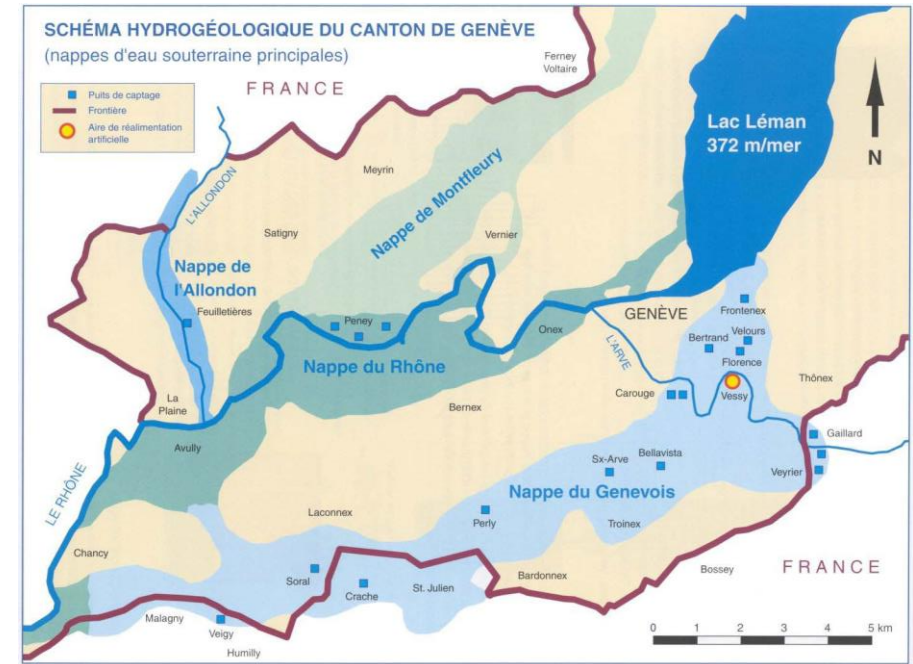
Despite the overall progress which has been made in the region in the legal basis relevant to groundwaters, the current level of institutionalizing groundwater cooperation leaves much room for improvement.

A number of well-established legal and institutional frameworks on transboundary (surface) waters, notably in the EU, have seen the gradual incorporation of groundwater. Among the factors that have contributed to this is the reorganisation and adaptation of institutions to take on the designation of 'competent authorities' required for implementation of the WFD and the RBMP processes.

In most cases joint bodies for [transboundary cooperation](#) have not dealt with groundwaters. Only few joint bodies have operational units for groundwater, e.g. the ICPDR has a Task Group Groundwater

There are many bilateral and [multilateral agreements](#) on transboundary waters between or with the participation of countries in Eastern Europe, the Caucasus and Central Asia (the EECCA subregion). However, either no explicit reference is made to groundwater or when groundwaters are covered in the scope of the agreement, application to groundwater still remains limited. The principle of integrated management of surface water and groundwater is largely missing in water laws in a number of countries of the Eastern part of the pan-European region.

Overall, there are more than 150 freshwater agreements on the management of transboundary waters between countries in the pan-European region, most of which were inventoried in the Second Assessment ([UNECE, 2011](#)).



Specific agreements and institutions for transboundary aquifers remain very few.

An exception within the pan-European region is the Genevese aquifer.

It is formed of alluvial sediments along the Rhone at the outlet of Lake Geneva, and shared by France and Switzerland. An agreement for its management is in force since 2008 aligned with the relevant European legal and regulatory frameworks.

SCIENCE → WATER COOPERATION

Role of science to establish a common basis of understanding and contribute to conflict prevention

Starting point

- Limited knowledge of the resources
- Lack of a common framework for dialogue on transboundary aquifers management

Transboundary Multidisciplinary Assessments

Tools

- Information Management Systems
- Innovative methodologies
- Sex-disaggregated indicators for water monitoring
- Diagnostic of favorable conditions for cooperative management
- Evaluation of legal and institutional gaps at domestic level

Trust-building

Stakeholders mapping, identifying issues and interests

Capacity-building

Trainings on water diplomacy (multilevel governance, stakeholder linking), international and domestic water law, and gender

Consensus-building

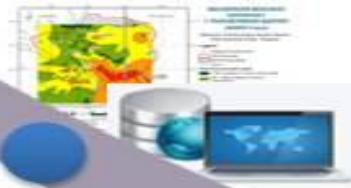
Better understanding of water cooperation benefits to stakeholders at national (e.g. Governments, Diplomats) and local level (e.g. Farmers)

Multi-Country Co-operation Mechanisms

Achievements

- Strengthened cross-border dialogue and cooperation
- Understanding of the resource for informed decision-making
- Facilitation of governance reforms

UNESCO TBA projects approach based on building scientific cooperation



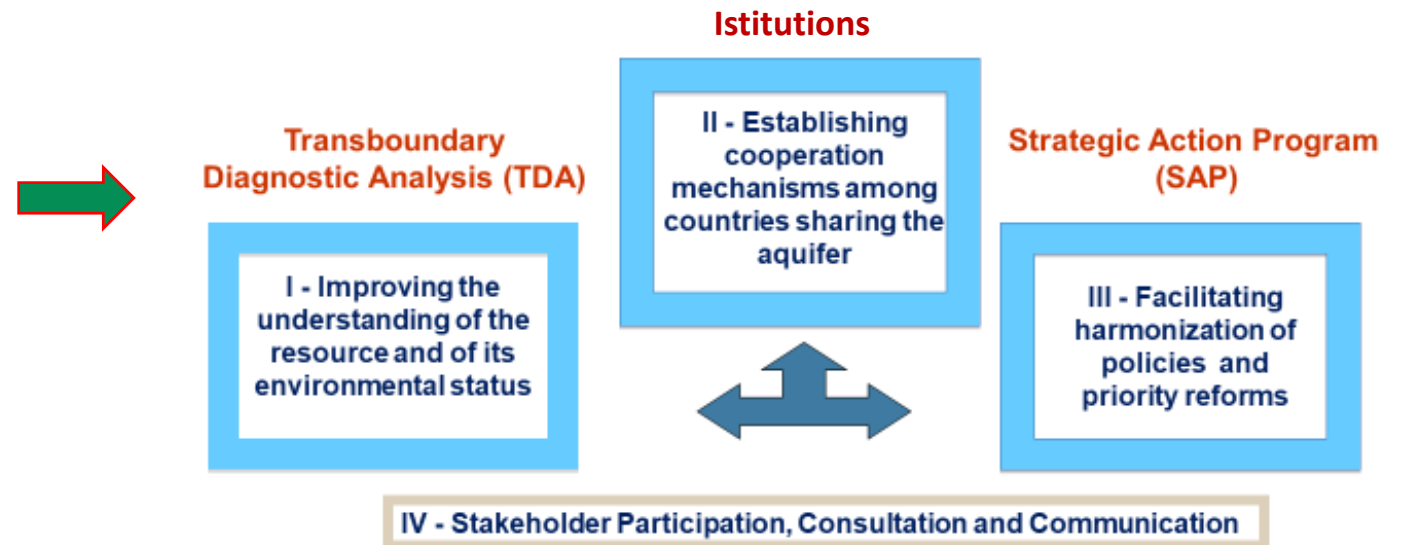
Dinaric Karst Aquifer System

Project executed by UNESCO and financed by the GEF



One of world's largest karst aquifer systems

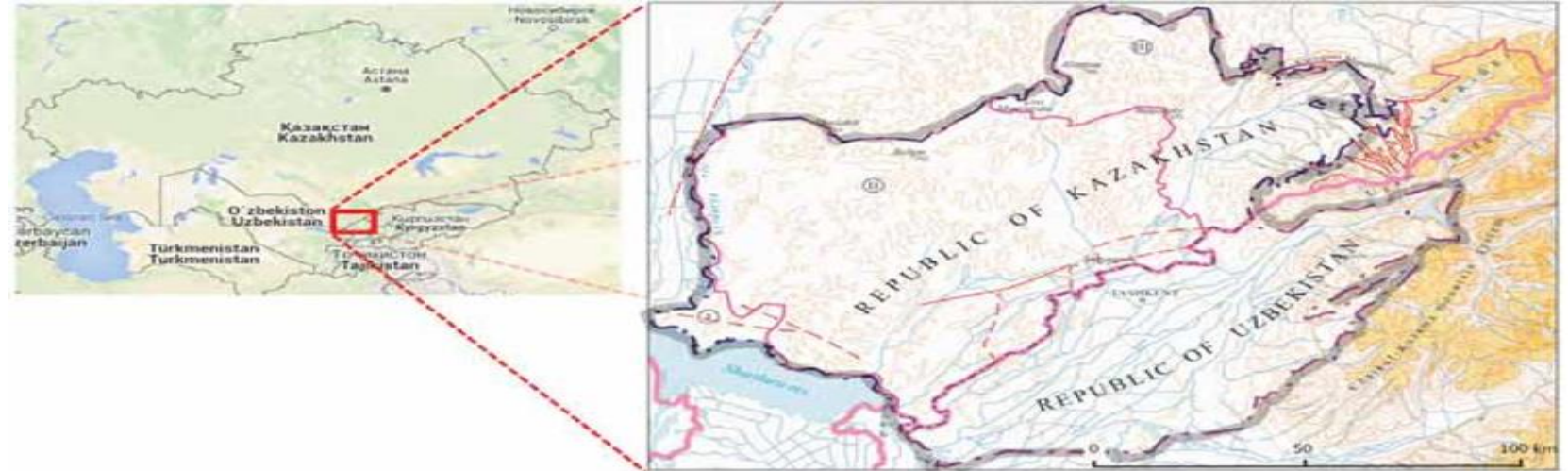
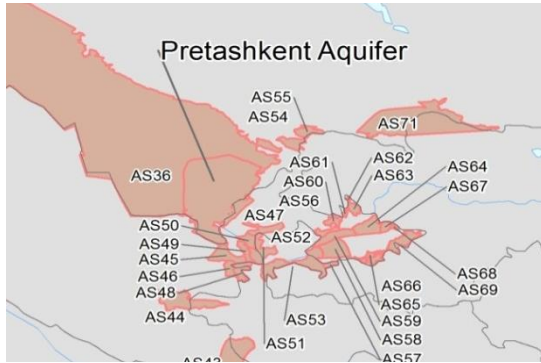
It is one of the major contributors of freshwater entering the Adriatic Sea.



OBJECTIVES

- **facilitate** the equitable and sustainable **utilization** of the transboundary water resources of the Dinaric Karst Aquifer System, and
- **protect the unique** groundwater dependent **ecosystems** that characterize the Dinaric Karst region of the Balkan peninsula

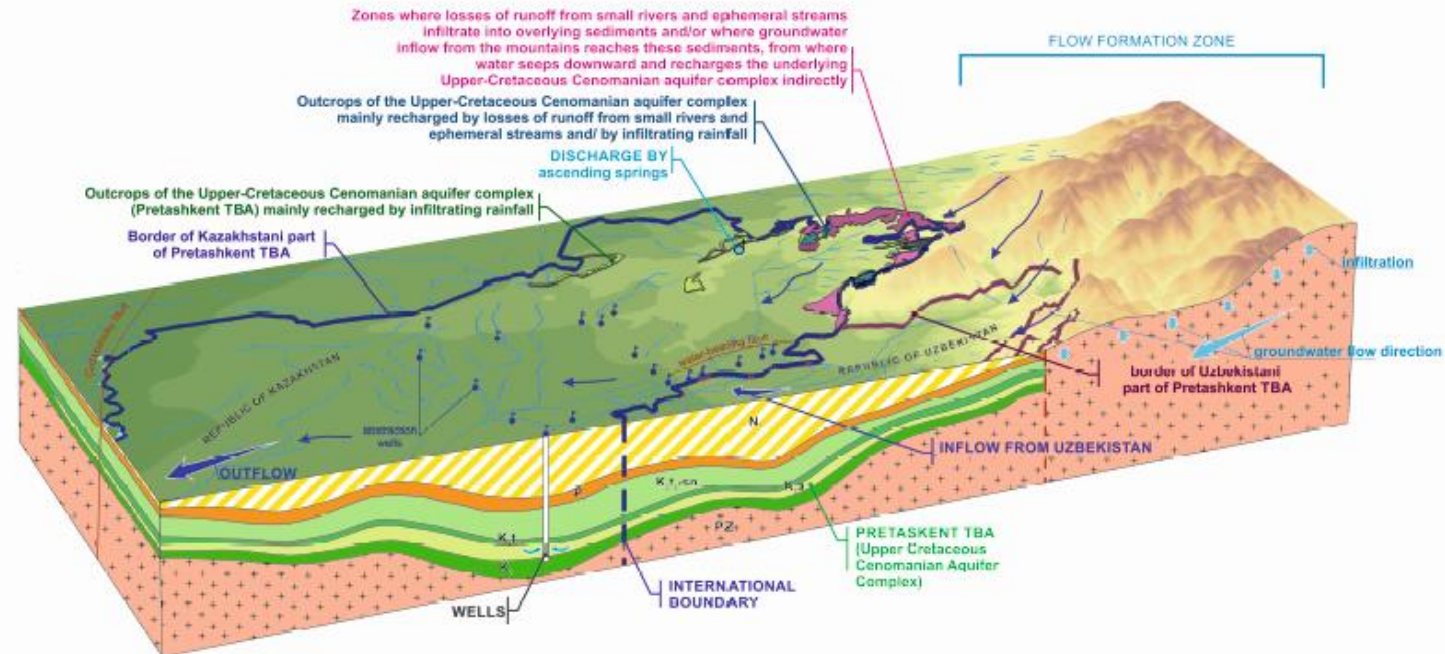
Pretashkent Transboundary Aquifer



- **The Pretashkent Transboundary Aquifer (PTA) covers an area of approximately 17000 km² (65% in Kazakhstan and 35% in Uzbekistan)**
- **It is part of the Syr Darya transboundary river basin, including Central Asian States : Tajikistan, Kyrgyzstan , Uzbekistan and Kazakhstan**
- **Population: Approximately 5,5 million (around 90% in the Tashkent area)**
- **Main economic activities:**
 - *Agriculture and food industries (Kazakhstan)*
 - *Engineering, chemical industries, metallurgy (Uzbekistan)*
- **PTA provides drinking water to 90% of the population**

Improved resource knowledge based on recognition of the vulnerability of the transboundary groundwater resources.

Focus on the development of the Pretashkent Aquifer numerical model



Development of the Pretashkent Aquifer numerical model Cooperation built between the Geological Committees of Kazakhstan and Uzbekistan

Main outcomes:

Agreement on data sharing and on requirements/needs for the development of the numerical model and draft cooperation protocol



Pretashkent Aquifer



Training for young civil servants and students in Water diplomacy



United Nations Educational, Scientific and Cultural Organization

- UNESCO Chair on Water Diplomacy, Water Resources Management and Environmental Protection, Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, Tashkent, Uzbekistan



Trainers from Oregon State University and the University of Geneva

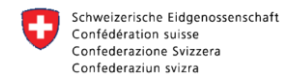
THE STAMPRIET AQUIFER: A Multi-Country Cooperation Mechanism

- **First example of institutionalized cooperation over a transboundary aquifer in the Southern Africa region.**
- **First operational governance mechanism of a transboundary aquifer to be nested in a river basin organization (the Orange Senqu River Basin Commission - ORASECOM), thus fully capturing the IWRM approach and considering conjunctive management of surface and groundwater**
- **Directly contributing to the implementation of SDG Target 6.5 both at national and transboundary level.**

Botswana, Namibia and
South Africa



GGRETA PROJECT

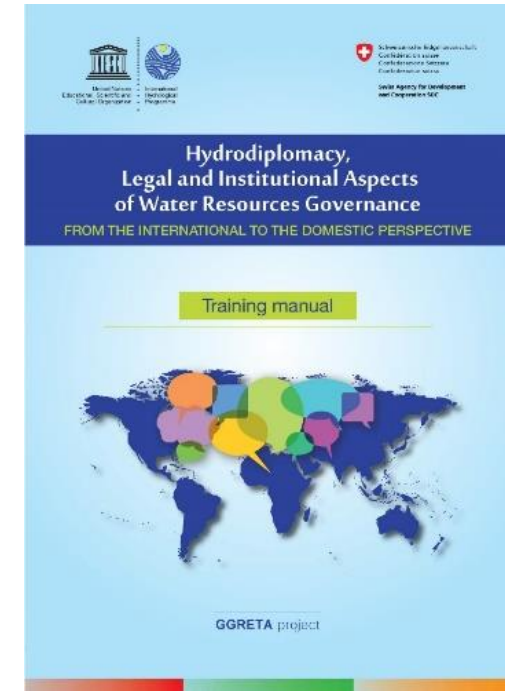


Swiss Agency for Development
and Cooperation SDC

COOPERATION and TRUST BUILDING

Cooperation-Partnership-

- The successful cooperation is established once the knowledge base has been developed and trust building measures have been started.
- Technical and scientific cooperation contribute to consolidate efforts at engaging in water cooperation





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Intergovernmental
Hydrological Programme

6-9 December 2021

ONLINE



ISARM2021 Conference

Transboundary Aquifers : Challenges and the way forward

Thank you



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The global ISARM Programme