



United Nations
Educational, Scientific and
Cultural Organization



International
Hydrological
Programme

Fostering cooperation on transboundary aquifer resources: 2008 Draft Articles on the Law of Transboundary Aquifers & 2012 Model Provisions on Transboundary Groundwaters

*National workshop on frameworks for transboundary water cooperation:
Focus on the UNECE Water Convention
Amman, 10 March 2015*

Marguerite de Chaisemartin - UNESCO-IHP

Overview

1. Facts and figures on groundwater resources
2. 2008 Draft Articles on the Law of Transboundary Aquifers
3. 2012 Model Provisions on Transboundary Groundwaters
4. Common features and way forward

Facts and figures on groundwater resources

Global volumes of **liquid freshwater reserves** of the earth:

- **98-99% is groundwater** (Margat)

Water on earth:

– 97,5% = oceans

– 2,5% 'freshwater' =

○ 70% = glaciers and permafrost

○ 30% = groundwater

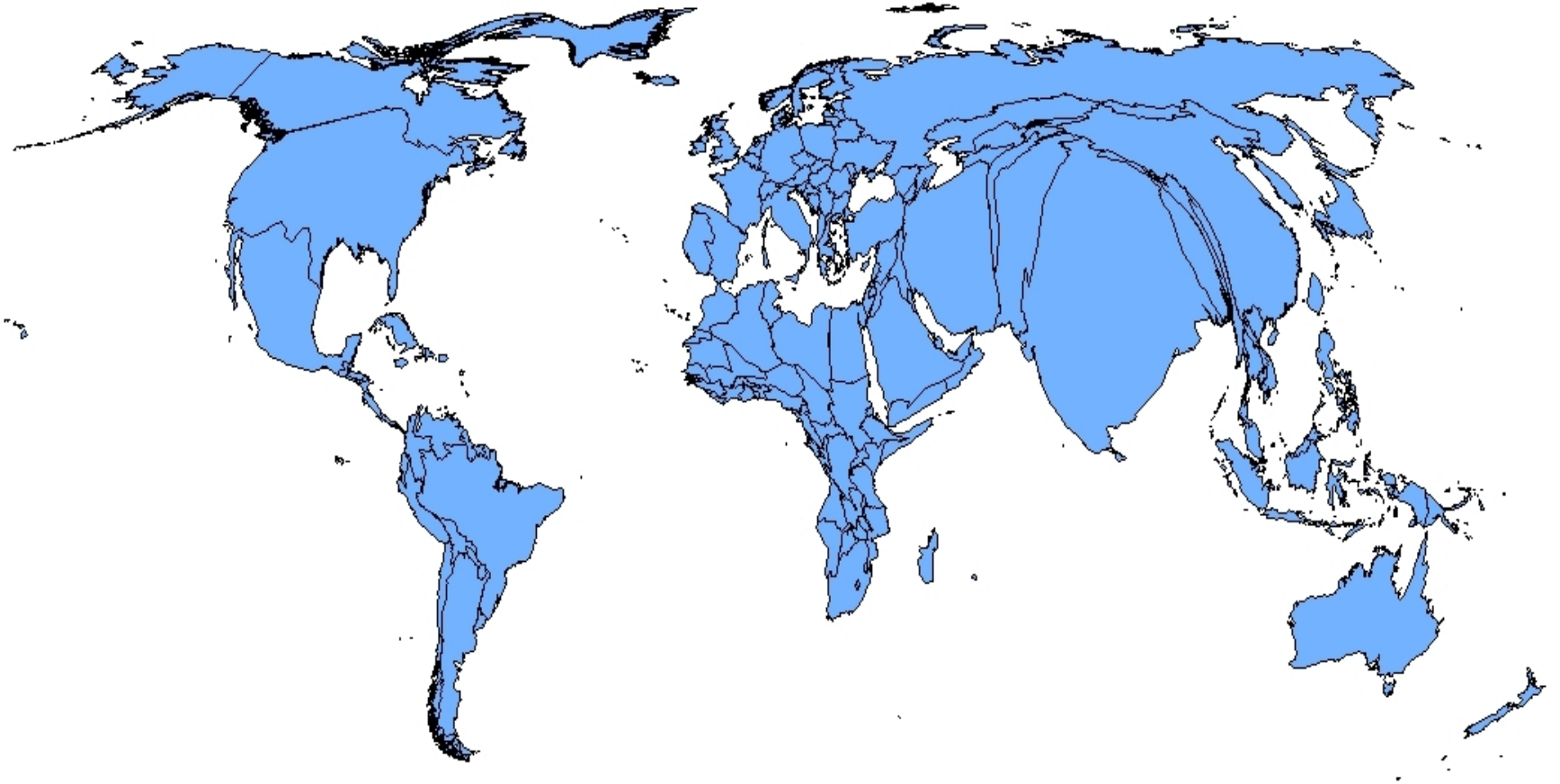
○ 0,4% = surface and atmospheric water (Shiklomanov, Rodda, 2003)

Despite their importance, limited consideration of the specificity of transboundary aquifers in international law:

- From 805 to 1984 : 3600 treaties on international watercourses (FAO). Subsidiary to surface water e.g. UN Watercourse Convention (1997)
- **Only 4 agreements specifically on TBA.**

ADDRESSING CHALLENGES

GROUNDWATER DEPENDENCY

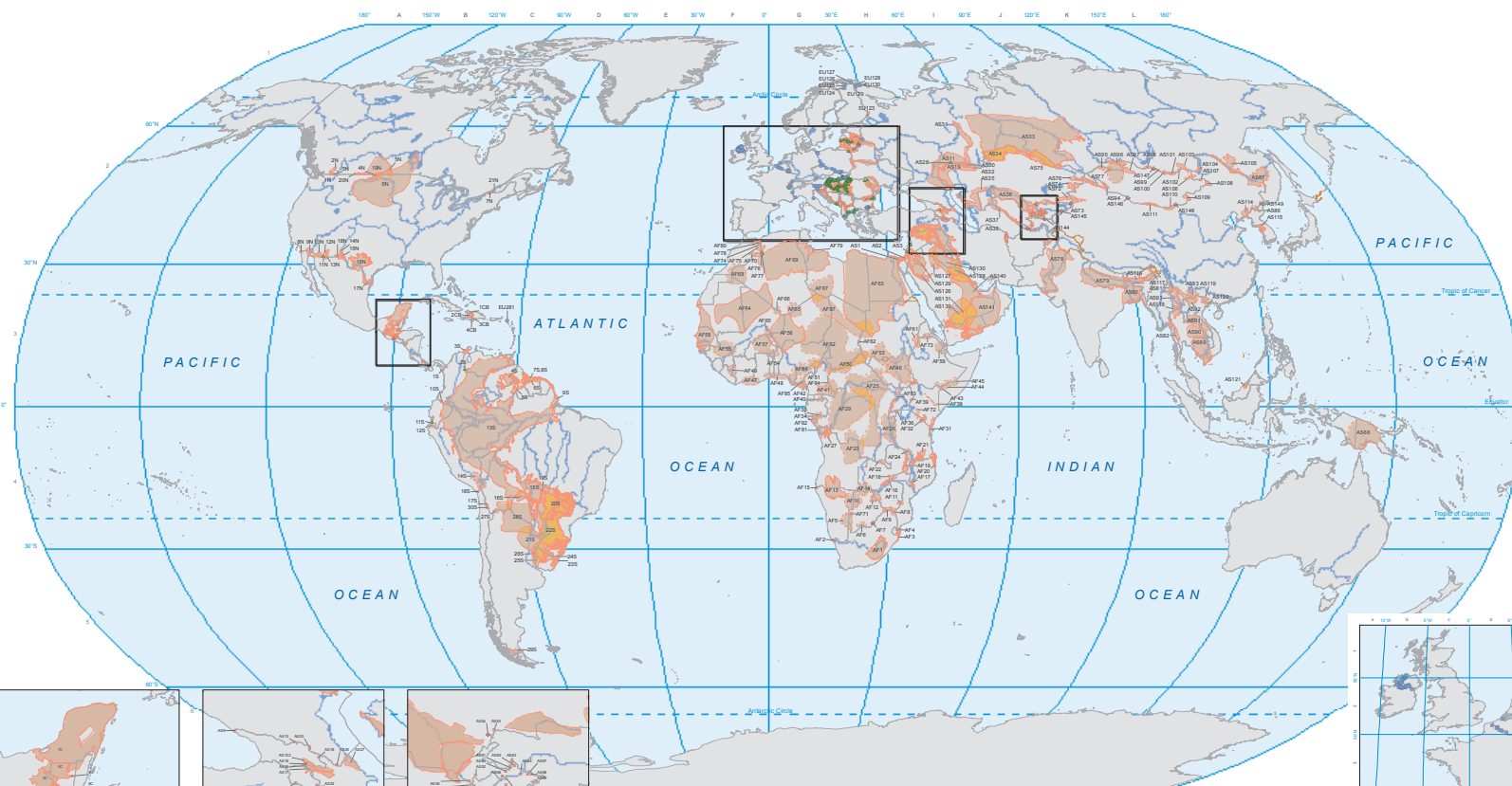


608 Transboundary Aquifers identified (2014)

382 TBA + 226 European TBGW bodies



Transboundary Aquifers of the World - Update 2014 -



Legend

Transboundary Aquifers

Occurrence and extent

- aquifer extent
- groundwater body extent
- confirmed boundary
- approximate boundary

Overlap transboundary aquifers / groundwater bodies

- overlapping aquifers
- overlapping aquifers and groundwater bodies

Small transboundary aquifers / groundwater bodies

- small aquifer
- small groundwater body
- overlapping small aquifer/groundwater body
- exact location/extent of aquifer uncertain

Geographic elements

- river
- lake
- disputed political border
- undisputed political border

Labels

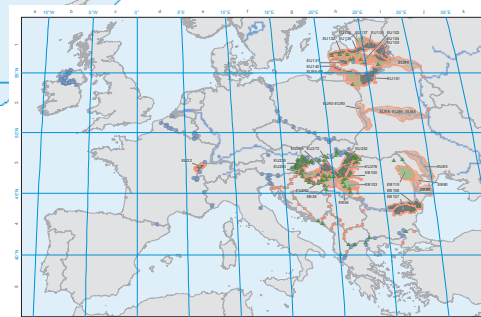
- AB12 Aquifer/groundwater body label

Prepared by IGRAC

Base maps
Country borders: FAO Global Administrative Units Layers (2013)
Rivers and lakes: ESR (2009)

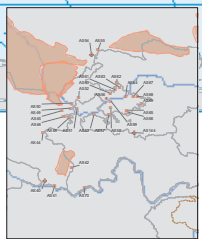
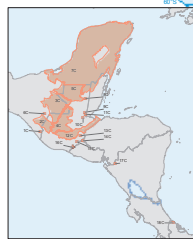
Map projection
Robinson projection, geographic coordinates, spheroid WGS84, longitude of central meridian 0°.
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Scale 1 : 50 000 000



For detailed map visit <http://bmap.un-igrac.org>

Scale 1 : 20 000 000 Euro



Scale 1 : 15 000 000
Central America

Scale 1 : 15 000 000
Caucasus

Scale 1 : 10 000 000
Central Asia

Preliminary thoughts

Both 2008 Draft Articles and 2012 Model Provisions:

- Additional tools to the 92 and 97 Water Conventions
- Specific
- Non-binding
- Practical guidance and assistance

Draft Articles on the Law of Transboundary Aquifers

Process:

- At the international level: 97 Water Convention (only related to surface and flowing into a common terminus)
- UN ILC recognized “the need for continuing efforts to elaborate rules...” and introduced in its programme of work the topic of “Shared Natural Resources”
- Support of UNESCO-IHP and other international experts: Scientific and technical advice on the issues related to hydrogeology to the Special Rapporteur and to the ILC during the whole process of preparation of the draft articles
- 2008 : the UN ILC adopts the Draft Articles on the Law of Transboundary Aquifers at 2nd reading. Deferred to the UN GA with the following recommendation:
 1. Adoption of Resolution, with draft articles in annex
 2. At a later stage elaboration of a convention

Draft Articles on the Law of Transboundary Aquifers

Resolution 63/124 (2008) on the law of transboundary aquifers:

- Resolution adopted in Dec 2008 by the UN GA, following the recommendation of the UN ILC
- Includes **in its annex the Draft Articles** on the Law of Transboundary Aquifers
- Acknowledges the technical and scientific support of UNESCO-IHP
- ***Encourages the States concerned to make appropriate bilateral or regional arrangements for the proper management of their transboundary aquifers, taking into account the provisions of these draft articles***

Draft Articles on the Law of Transboundary Aquifers

➔ DA can serve as a reference for States regarding their TA and entering into agreements. Example: Guarani Aquifer System (Argentina, Brazil, Paraguay, Uruguay): agreement signed 2 Aug. 2010 referring to Resolution

Resolution 66/104 (2011): same language as Resolution 63/124

Resolution 68/118 (2013): stronger language, « *Commends to the attention of governments the draft articles (...) as **guidance*** ».

Role of UNESCO-IHP reaffirmed: to continue its contribution by offering scientific and technical assistance to the States concerned.

Topic to be discussed again in 2016.

Draft Articles on the Law of Transboundary Aquifers

Definitions and Scope

- **Transboundary** (parts of which are situated in different States) **Aquifer** (permeable water bearing *geological formation* underlain by a less permeable layer *and the water contained* in the saturated zone of the formation) **or aquifer systems** (series of two or more aquifers that are hydraulically connected)
- Utilization of the aquifer, or other activities that have or are likely to have an impact upon those aquifers, or measures for the protection, preservation and management of such aquifers or aquifer systems

Draft Articles on the Law of Transboundary Aquifers

Provisions and main principles

- **Sovereignty** in accordance with international law and the present articles

- **Pple of equitable and reasonable utilization**

maximize the long-term benefits derived from the use of water & establish a comprehensive utilization plan taking into account present and future needs, importance of preserving the effective functioning of the aquifer

Taking into account all relevant factors, with special regard to be given to vital human needs.

- **Obligation not to cause significant harm**
- **General obligation to cooperate** : should establish joint mechanisms of cooperation
- Regular **exchange of data**
- Encouraged to enter into **bilateral/regional agreements**
- Provisions on protection and preservation of **ecosystems** dependent on the aquifer, **recharge and discharge zones**, and **aquifers** themselves (control of **pollution**, shall take precautionary approach)
- Shall **monitor** the aquifers, if possible jointly
- Shall establish and implement plans for mgmt, e.g. **joint management mechanism**
- **Assess possible effects & Notification & Consultation** on Planned Activities which can affect aquifer

Miscellaneous: promoting technical cooperation with developing States, Emergency situations, Protection in time of armed conflict, Data & info concerning national defense or security

Model Provisions on Transboundary Groundwaters

Process

- “builds on” the 2008 Draft Articles
- with a view to providing concrete guidance for implementing, with regard to groundwater, the 1992 UNECE Water Convention

Model Provisions on Transboundary Groundwaters

Scope and Definitions

- Utilization of, or any activity affecting in any way transboundary groundwaters
- “Groundwaters” in the Model Provisions and the UNECE Water Convention. NB: but also apply to the geological formation containing the water and allowing the flow of groundwater: *“As for groundwaters, the Convention includes both confined and unconfined aquifers”*

Guide to implementing the Convention

Model Provisions on Transboundary Groundwaters

Provisions and main principles:

- Obligation to take all appropriate measures to prevent, control and reduce any **transboundary impact** + to use transboundary groundwaters in an **equitable and reasonable manner**, taking into account all relevant factors.
- Obligation to use transboundary groundwaters in a **sustainable** manner
- **Obligation of cooperation** in the common identification, delineation and characterization of their transboundary groundwaters
- Shall establish programmes for the **joint monitoring and assessment** of quantity and quality of transboundary groundwaters
- Shall cooperate on the **integrated management** of transboundary groundwaters and surface waters
- Prevention, control and reduction of the **pollution** of transboundary groundwaters, following precautionary principle
- **Exchange of information and available data** on transboundary groundwaters
- Shall establish and implement **joint or coordinated plans** for the proper management of their transboundary groundwaters
- **Environmental Impact Assessment + Notification + Consultation** for planned activities likely to have adverse impact
- **Access to information, public participation** and access to justice with respect to the conditions of transboundary groundwaters
- Shall establish a **joint body** to implement the Provisions

Model Provisions on Transboundary Groundwaters

Aim:

To **provide practical guidance** for States in the application of such general principles with regard to the specificities of groundwater. Accordingly, the following Model Provisions are meant to **offer assistance** to States sharing transboundary groundwaters intersected by State boundaries or sharing transboundary surface waters linked with groundwaters in drawing up specific agreements addressing the sustainable use, management and protection of those groundwaters through cooperation. Obviously, the present Model Provisions **should be adjusted by the States concerned according to their specific needs** and the particular characteristics of each case. The States concerned, when referring to the present Model Provisions, may also elaborate more detailed or more stringent provisions **on a case-by-case basis**. Introduction, 2012 Model Provisions

Model Provisions on Transboundary Groundwaters

How:

- Specific groundwater agreements could be in the form of an **additional protocol to an existing water agreement** concluded pursuant to article 9 of the Water Convention and **lacking specific reference to groundwater**.
- **Specific provisions** addressing groundwaters and transboundary cooperation thereon could also be **included in the main body** of “agreements or arrangements” under the same article 9.
- Another possibility would be to draw up a **totally new and separate specific agreement on groundwaters**, particularly where the States concerned are of the view that a given aquifer is unrelated to surface waters or cannot be easily assigned to a specific international river basin. Introduction, Model Provisions

Common features and advantages

2008 Draft Articles & 2012 Model Provisions =

- Non-binding guidance
- Model Provisions built on Draft Articles
- Can be used by Parties or non-Parties to either the 97 or 92 Conventions



- Offer flexibility
- Despite differences in wording, same spirit
- Practical tool

Thank you

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<http://en.unesco.org/themes/water-security>

<http://www.un-igrac.org/>