

Conference
“EUROPE-INBO 2014”
ON THE IMPLEMENTATION OF THE WATER
FRAMEWORK DIRECTIVE
12–15 November 2014, Bucharest, Romania



Water in the subsurface of our Continents

Presented by António Chambel
IAH Vice President for Programme and Science Coordination

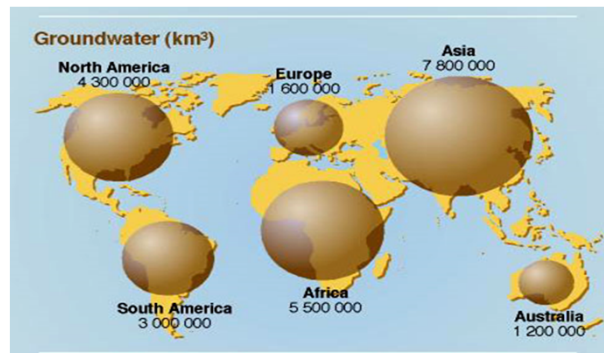
Shammy Puri
Secretary General, International Association of Hydrogeologists
Co Coordinator UNESCO & IAH ISARM Programme

Presented in 2013 in the:
Transboundary Water Cooperation Seminar
Strasbourg, Dec2013

Approach

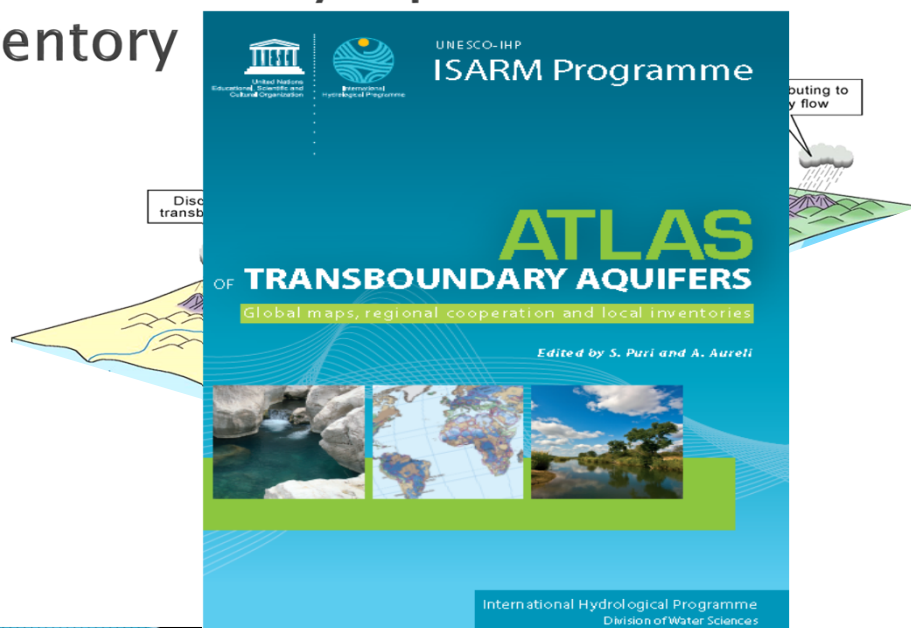
- ▶ Groundwater, aquifers and subsurface space
- ▶ Taking the ‘sub surface’ from being out of sight to into the mind
- ▶ A framework for a Cooperation – example from Haute Savoie–Geneva (fresh water) & Lower Bavaria – Upper Austrian (hydro geothermal aquifer)
- ▶ How does cooperation of over transboundary aquifers help now, & in the distant future?
- ▶ The *new frontier* is the well managed sub surface space
- ▶ Take Home messages...

Global freshwater: in ice caps, rivers & aquifers



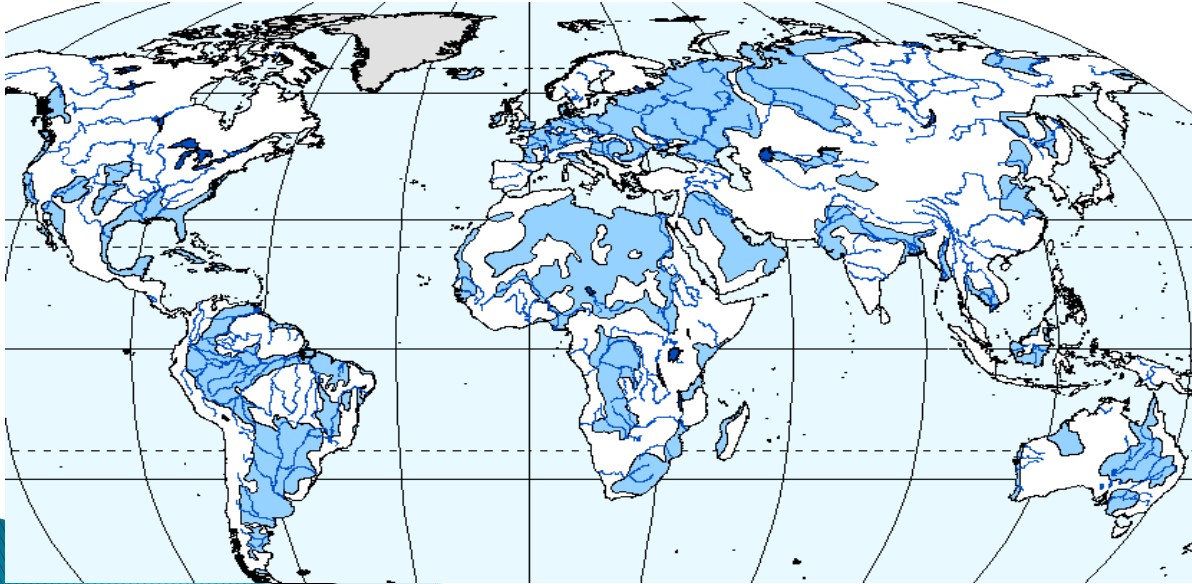
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Transboundary aquifers & a Global Inventory



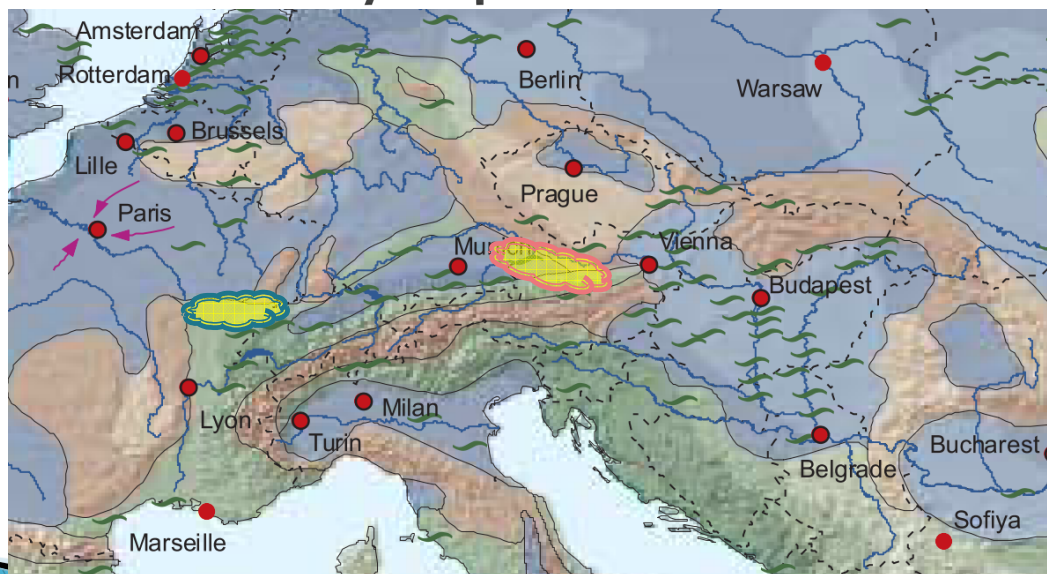
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Global Aquifer distribution...



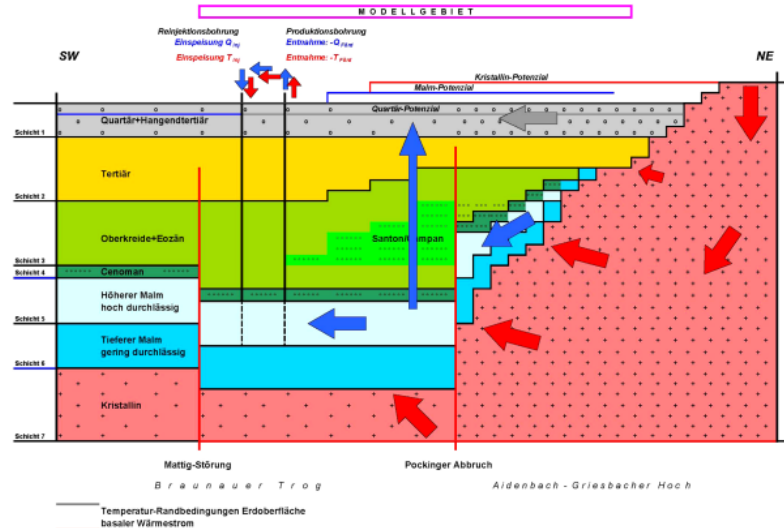
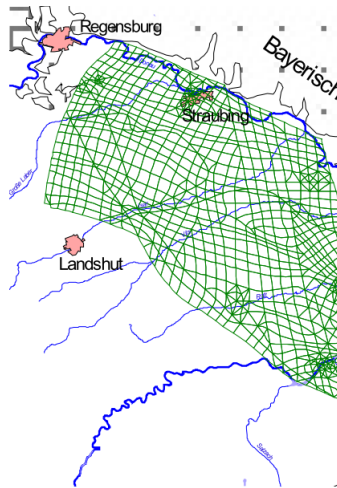
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Transboundary aquifers in the EU



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Lower Bavaria – Upper Austrian



Vollhofer, O. and Samek, M. (2008) German-Austrian Cooperation in Modelling a Transboundary Deep Groundwater Body, IWA World Water Congress and Exhibition, Vienna 2008
Strasbourg Dec 2013

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Haute Savoie – Geneva



Source: Map, Canton of Geneva, Service de géologie, sols and déchets, 2009

1960's decline of aquifer level, by 7 m
Plans for artificial recharge with Arve water formulated
Swiss Canton of Geneva started negotiations with the French Department of Haute Savoie
Birth of an original decentralized transboundary cooperation project.
Signature, on 9 June 1978, of an agreement between the Canton & the Prefect of Haute Savoie,
Agreement concerning the protection, utilization, and recharge of the French-Swiss aquifer of the Genevois.

18 Dec 2007, new Agreement for 30 years
Signatories the Canton of Geneva and, the Associations of Local Authorities of the Annemasse and Geneva regions, and the Municipality of Viry;

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Strasbourg Dec 2013

International Instruments

United Nations
 **Economic and Social Council**
 Date: Limited
 14 September 2012
 English
 Original: English and Russian

ECE/MP/WAT/2012/L.3

 **UNITED NATIONS**
 General Assembly
 Date: General
 15 January 2009

RESOLUTION ADOPTED BY THE GENERAL ASSEMBLY

[on the report of the Sixth Committee (A/63/439)]

63/124. The law of transboundary aquifers

The General Assembly,
 Having considered chapter IV of the report of the International Law Commission on the work of its sixtieth session,¹ which contains the draft articles on the law of transboundary aquifers,

Noting that the Commission decided to recommend to the General Assembly (a) to take note of the draft articles on the law of transboundary aquifers in a resolution, and to annex the articles to the resolution; (b) to recommend to States concerned to make appropriate bilateral or regional arrangements for the proper management of their transboundary aquifers on the basis of the principles enunciated in the articles; and (c) to also consider, at a later stage, and in view of the importance of the topic, the elaboration of a convention on the basis of the draft articles,²

Emphasizing the continuing importance of the codification and progressive development of international law, as referred to in Article 13, paragraph 1 (a), of the Charter of the United Nations,

Noting that the subject of the law of transboundary aquifers is of major importance in the relations of States,
 Taking note of the comments of Governments and the discussion in the Sixth Committee at the sixty-third session of the General Assembly on this topic,

1. Welcomes the conclusion of the work of the International Law Commission on the law of transboundary aquifers and its adoption of the draft articles and a detailed commentary on the subject;
2. Expresses its appreciation to the Commission for its continuing contribution to the codification and progressive development of international law;
3. Also expresses its appreciation to the International Hydrological Programme of the United Nations Educational, Scientific and Cultural Organization and to other relevant organizations for the valuable scientific and technical assistance rendered to the International Law Commission;³
4. Takes note of the draft articles on the law of transboundary aquifers, presented by the Commission, the text of which is annexed to the present resolution, and commends them to the attention of Governments without prejudice to the question of their future adoption or other appropriate action;
5. 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;
6. Decides to include in the provisional agenda of its sixty-sixth session an item entitled "The law of transboundary aquifers" with a view to examining, inter alia, the question of the form that might be given to the draft articles.

¹ Official Record of the General Assembly, Sixty-third Session, Report of the International Law Commission, paras. 10, 11, 12 and 13.

² Ibid., para. 13.

³ Ibid., para. 13.

63th Plenary Meeting
 11 December 2008

Economic Commission for Europe

Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes

Sixth session

Rome, 28–30 November 2012

Item 4 (c) of the provisional agenda

Review of past activities and discussion of future activities in the different areas of work: transboundary groundwater

Draft model provisions on transboundary groundwaters

Prepared by the Chair and the Vice-Chair of the Legal Board

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Cooperation, sound governance urgently needed

- ▶ Over 300 transboundary aquifers across all Continents
- ▶ The largest of them contain enough freshwater to provide for the whole planet for 200 years (eg Guarani, Nubian, Rim–Saq)
- ▶ Many contain hydrogeothermal energy, can store and deliver potable water, can purify water in the natural filtration process
- ▶ Some contain useful dissolved minerals, can be used to sequesterate CO₂, and some are linked to Shale gas reservoirs
- ▶ Better understanding, protection, conservation and good governance is urgently needed, as aquifers have been overlooked for too long

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Take Home messages...

In the sub surface of all Continents, there is 'space', which is transboundary

- ▶ this space is host to water, energy & other resources
- ▶ arguably, the water in the subsurface is a global common
- ▶ transboundary aquifers on all continents need to be recognised and principles of good governance should be adopted by countries
- ▶ the UN ECE Model Provisions and the UN ILC Draft Articles on the use of transboundary aquifers, provide a framework for cooperation on the sub surface resources
- ▶ Member States of the EU could lead the way, as has been achieved by the Water Framework Directive and the Daughter Groundwater Directive
- ▶ The IAH invites EU Parliamentarians to support the outreach on aquifers

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The valley of
Susamyr in the
transboundary
Tien Shan
mountains...

*Thanks you for your
attention !*

Questions?

Contact:

ShammyPuri@aol.com

www.iah.org/isarm

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