



THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE & LIFE SCIENCES

WATER RESOURCES RESEARCH CENTER

Shared Borders of North America World Water Congress Special Session Part 2: Policy Issues The Joint Cooperative Framework for the Transboundary Aquifer Assessment Program

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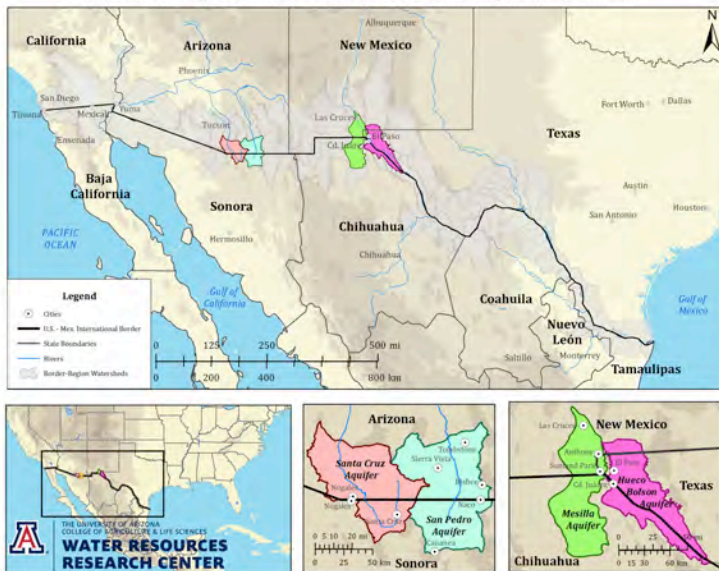
wrrc.arizona.edu/TAAP

US-MX Border Water Governance and Management

- US water governance is decentralized
 - By jurisdiction (federal government versus states)
 - By type of water
- MX water governance is centralized
- Long history of working two countries working together through the International Boundary and Water Commission on surface water and wastewater issues (IBWC)
- IBWC Commissioners authorized to approve Minutes to the 1944 treaty governing binational Colorado River and Rio Grande management
- Limited involvement of IBWC on groundwater governance and management

The Transboundary Aquifer Assessment Program (TAAP)

Transboundary Aquifer Assessment Program Aquifers of Focus



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TAAP Joint Cooperative Framework

Development of the cooperative framework document took considerable time.



Photo taken 19 August 2009

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO
El Paso, Texas
August 15, 2009

JOINT REPORT OF THE PRINCIPAL ENGINEERS
REGARDING THE JOINT COOPERATIVE PROCESS
UNITED STATES-MEXICO FOR THE TRANSBOUNDARY AQUIFER
ASSESSMENT PROGRAM

To the Honorable Commissioners,
International Boundary and Water Commission,
United States and Mexico,
El Paso, Texas and Ciudad Juarez, Chihuahua.

Sirs:

We respectfully submit for your consideration this Joint Report recommending the joint cooperative process between the United States and Mexico to implement an assessment program for the transboundary aquifers shared by both countries.

I. Background

Since the decade of the 1970s, there exists within the framework of the International Boundary and Water Commission (IBWC), a process for the exchange of information on groundwater along the border between the United States and Mexico. Any issues of data or studies have been addressed on a case by case basis through mutual consultation as established in Resolution 6 of IBWC Minute No. 242.

By way of example, on December 2, 1997, the IBWC issued the "Joint Report of Principal Engineers Regarding Information Exchange and Mathematical Modeling in the El Paso, Texas and Ciudad Juarez, Chihuahua Area Aquifer." The IBWC arranged for the exchange of groundwater data between both countries and the development of a bilingual publication that was produced jointly under this effort.

On December 22, 2006, United States Public Law 109-448, the "United States-Mexico Transboundary Aquifer Assessment Act" was passed, establishing a program to evaluate transboundary aquifers between the United States and Mexico, which included the possibility of applying United States funds for assessment activities in Mexico.

II. International Boundary and Water Commission's Position and Process Framework

The IBWC, United States and Mexican Sections, are aware of the interest on both sides of the border to preserve and understand the aquifers used by both countries, whereby it is considered necessary to develop a team of binational experts to assess transboundary aquifers, exchange data, and if needed, develop new datasets.

Initiatives that include transboundary water resources are traditionally coordinated through the IBWC using the customary binational cooperation process used by both

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Consistent with 2008 Draft Articles on the Law of Transboundary Aquifers

- Article 7, §2: General Obligation to Cooperate – establishment of joint mechanisms of cooperation
- Article 8, §2: Regular exchange of data and information – Where knowledge about the nature and extent of a transboundary aquifer or aquifer system is inadequate, aquifer States...shall take such action individually or jointly and, where appropriate, together with or through international organizations.

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The Joint Cooperative Framework Provisions

- The International Boundary and Water Commission is the Binational Coordinating Agency
- The IBWC, United States and Mexican Sections, are aware of the interest on both sides of the border to preserve and understand the aquifers used by both countries, whereby it is considered necessary to develop a team of binational experts to assess aquifers, exchange data, and if needed, develop new datasets.
- The IBWC, under this joint cooperative process, will provide the framework for coordination of binational assessment activities conducted by U.S. and Mexican agencies, universities, and others participating in the program.

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Joint Cooperative Framework (cont.)

- Focus of the effort is “to improve the knowledge base of transboundary aquifers between the United States and Mexico”.
- Assuring the concurrence both countries of transboundary aquifer assessment activities is paramount.
- Specifies that binational technical advisory committees will be established for each identified transboundary aquifer.
- IBWC will be the official repository for binational project reports, which will be published in Spanish and English.

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Joint Cooperative Framework (cont.)

- IBWC is responsible for determining whether a proposed aquifer study is in the interest of both countries, and to develop a joint program.
- IBWC coordinates with agencies for both countries in defining the scope of the assessment and facilitating concurrence of work plans,
- Funding provisions states that “each country will be responsible for any costs on projects conducted in its territory, in addition to selecting the participants and consultants to carry out the studies in that country. Each country may contribute to costs for work done in the other country” (IBWC 2009, p.2), with the IBWC coordinating any flow of funds across the border.

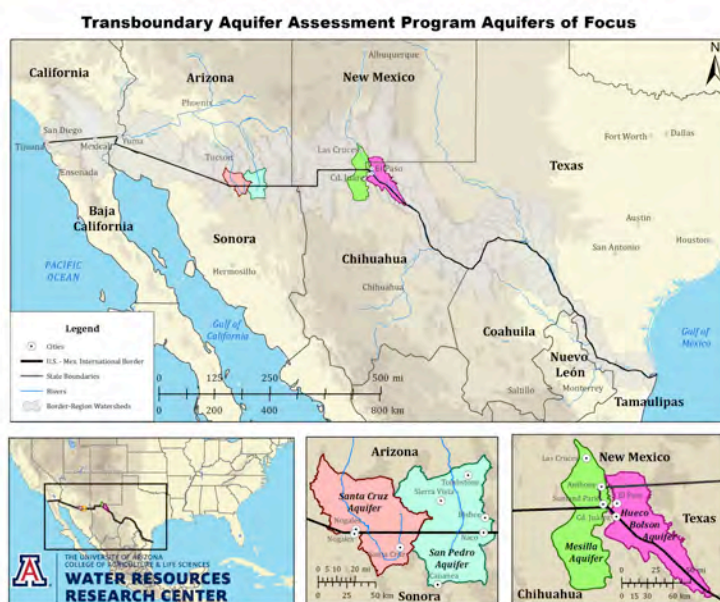
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Six Principles of Agreement

1. Activities described under this agreement should be beneficial to both countries.
2. Aquifers to be jointly studied, as well as the scope of the studies or activities to be done on each aquifer, should be agreed upon with the framework of the IBWC.
3. The activities should respect the legal framework and jurisdictional requirements of each country.
4. No provisions set forth in this agreement will limit what either country can do independently in its own territory.
5. Nothing in this agreement may contravene what has been stipulated in the Boundary and Water Treaties between the two countries.
6. The information generated from these projects is solely for the purpose of expanding knowledge of the aquifers and should not be used by one country to require that the other country modify its water management and use.

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Arizona-Sonora Aquifer Work



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Completion of the San Pedro Report



EL ESTUDIO THE BINATIONAL STUDY OF THE TRANSBOUNDARY SAN PEDRO AQUIFER

EL ACUÍFERO TRANSFRONTERIZO SAN PEDRO

The Transboundary Aquifer Assessment Program (TAAP) is a joint effort between Mexico and the United States to evaluate shared aquifers, under the program, scientists from each country collaborate on producing binational studies on shared waters. The Mexican and U.S. Principal Engineers of the International Boundary and Water Commission (IBWC) signed the 'Joint Report of the Principal Engineers Regarding the Joint Cooperative Process United States-Mexico' for the TAAP. This IBWC 'joint Report' serves as the framework for coordination and dialogue to implement these studies.

The San Pedro Aquifer

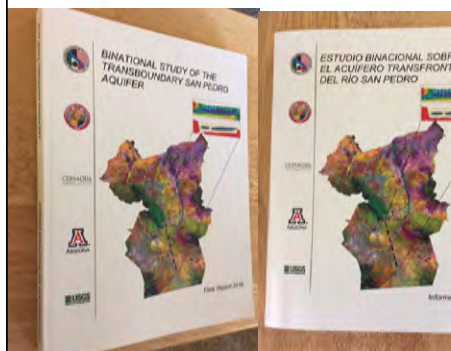
The Binational Study of the Transboundary San Pedro Aquifer is a milestone output of this joint effort. Both countries contributed scientific knowledge and data on climate, geology, soils, land cover, land use, and hydrology. The report compiles and creates a database of scientific information and identifies data gaps and information to be updated in subsequent phases.

Full report:
https://ibwc.gov/ibwc/reports_studies/taap/taap_rpt.pdf

Informe completo:
www.ciaa.gob.mx/taap/taap_rpt.pdf

For more information, please visit:
ciaa.sre.gob.mx/ciainorte
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BINATIONAL INFORMATION / INFORMACIÓN BINACIONAL

Basic Information: The San Pedro Aquifer is a transboundary aquifer system that extends across the international border between the United States and Mexico. It is a vital water resource for both countries and is shared by millions of people.

Geographic Location: The aquifer is located in the Sonora region of Mexico and the Arizona region of the United States. It is situated in the northern part of the country, near the border.

Geology: The aquifer is composed of various geological formations, including sandstone, limestone, and granite. The geology of the aquifer is complex and varies across the region.

Hydrology: The aquifer is a complex system with multiple layers and recharge areas. It is recharged by rainfall and surface water from the San Pedro River and other sources.

Climate: The climate in the region is semi-arid, with hot days and cool nights. The amount of rainfall varies significantly from year to year, which affects the recharge of the aquifer.

Land Use: The land use in the region is primarily agricultural, with large areas of farmland. This has led to increased water demand and potential over-extraction of the aquifer.

Population: The population in the region is growing rapidly, which has led to increased water demand. This has put additional pressure on the aquifer and has led to the need for a binational study.

THE BINATIONAL EXPERIENCE / LA EXPERIENCIA BINACIONAL

The binational study of the San Pedro Aquifer is a landmark achievement in international water cooperation. It represents a significant step towards sustainable water management and shared water resources.

The study was conducted by a team of scientists and engineers from both countries, working together to share knowledge and expertise. This collaborative approach was essential for understanding the complex nature of the aquifer and for developing effective management strategies.

The study has identified key areas for further research and action, including the need for improved data collection, enhanced monitoring systems, and the development of a binational water management plan. These findings will be used to inform policy decisions and to ensure the long-term sustainability of the aquifer.

The binational study has also fostered a strong sense of partnership and cooperation between the two countries. It has demonstrated that through collaboration and shared responsibility, we can effectively manage our shared water resources and ensure a secure water future for all.

EL ESTUDIO THE BINATIONAL STUDY OF THE TRANSBOUNDARY SAN PEDRO AQUIFER

Full report:
https://ibwc.gov/ibwc/reports_studies/taap/taap_rpt.pdf

Informe completo:
www.ciaa.gob.mx/taap/taap_rpt.pdf

For more information, please visit:
ciaa.sre.gob.mx/ciainorte
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Recommendations from the Technical Team / Recomendaciones del Equipo Técnico

The technical team has identified several key areas for further research and action. These include the need for improved data collection, enhanced monitoring systems, and the development of a binational water management plan. These findings will be used to inform policy decisions and to ensure the long-term sustainability of the aquifer.

Water Quality: The technical team has identified several areas where water quality is a concern. These include the need for improved monitoring and data collection, as well as the implementation of water quality protection measures.

Water Quantity: The technical team has identified several areas where water quantity is a concern. These include the need for improved monitoring and data collection, as well as the implementation of water conservation measures and the development of a binational water management plan.

Water Security: The technical team has identified several areas where water security is a concern. These include the need for improved monitoring and data collection, as well as the implementation of water security measures and the development of a binational water management plan.

Binational Efforts / Esfuerzos Binacionales

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¡Muchas Gracias!

Thank you!

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**For more information see
wrrc.arizona.edu/TAAP
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