



INTERNATIONAL BOUNDARY AND WATER COMMISSION

COMISION INTERNACIONAL DE LIMITES Y AGUAS

ADAPTATION TO CLIMATE CHANGE IN THE RIO GRANDE/RIO BRAVO AND COLORADO RIVERS

Commissioners Edward Drusina and Roberto Salmon
International Boundary and Water Commission, United States and Mexico
7th World Water Forum 2015
Daegu, South Korea — April 13, 2015
Session 1.3.6 Climate change adaptation in basins: examples and good practices

MISSION OF THE IBWC

The International Boundary and Water Commission, United States and Mexico, is responsible for applying the boundary and water treaties between the two countries and settling differences that arise in their application.



TRANSBOUNDARY BASINS



COLORADO RIVER BASIN

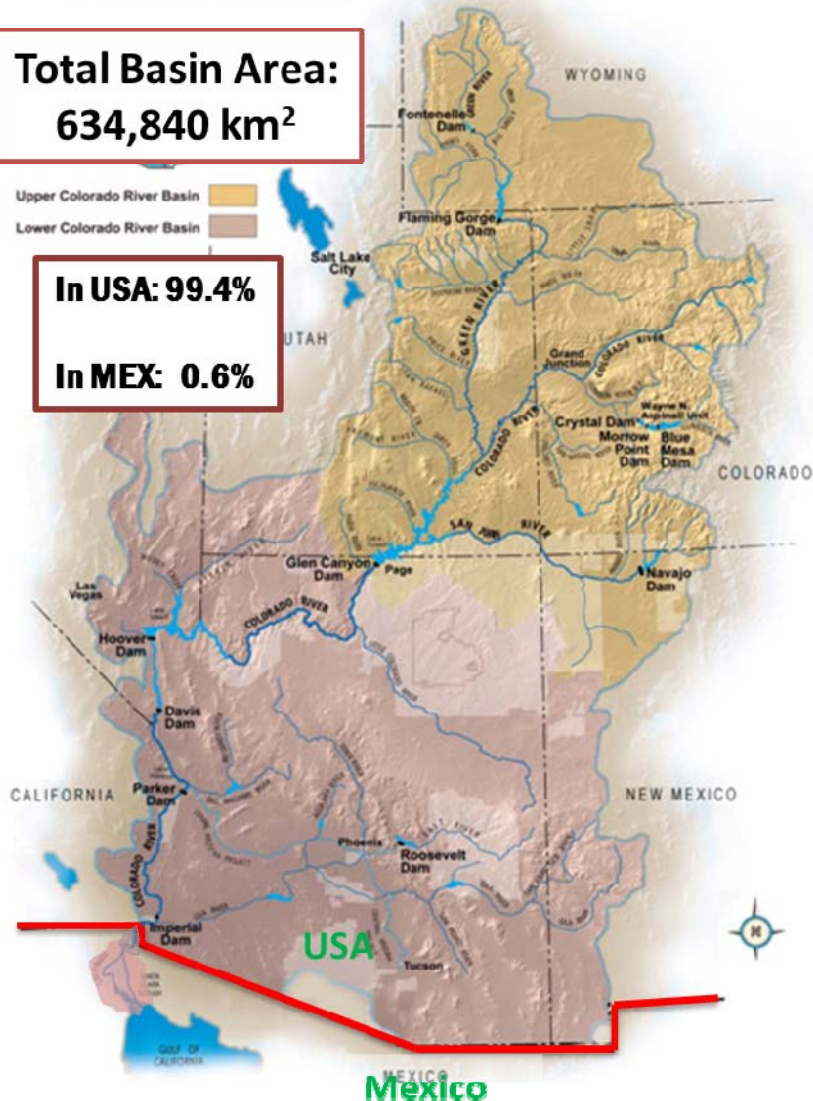
Colorado River Basin

**Total Basin Area:
634,840 km²**

Upper Colorado River Basin
Lower Colorado River Basin

In USA: 99.4%

In MEX: 0.6%



◆ Basin characteristics

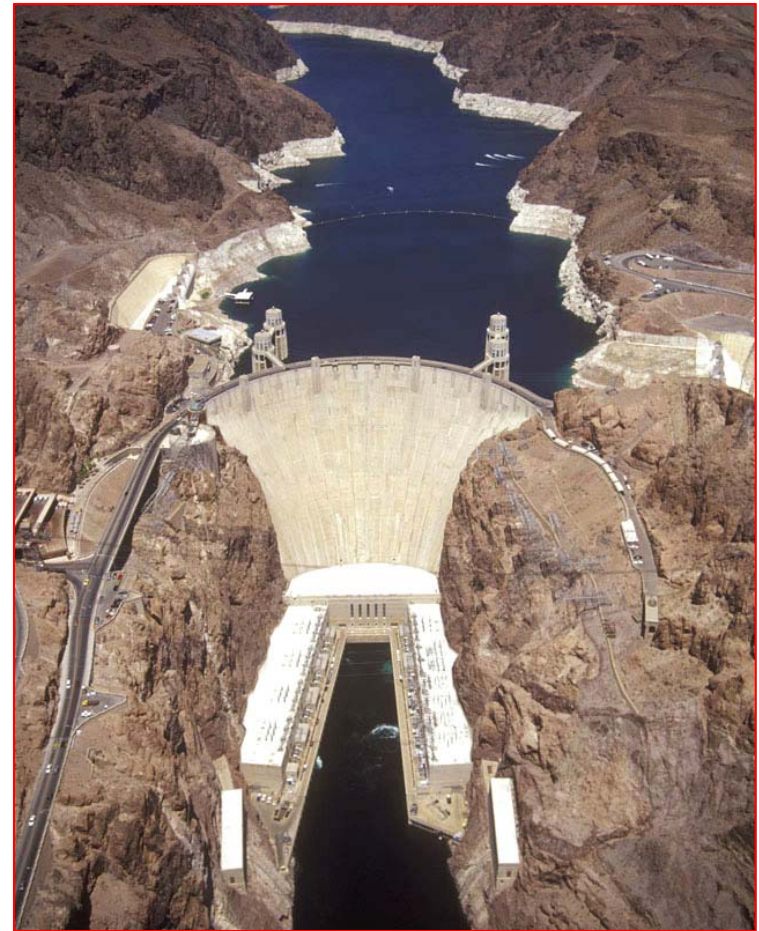
- ▶ 74,000 Mm³ in reservoir capacity in US
- ▶ No reservoirs in Mexico

◆ Water distribution accords

- ▶ U.S. Compact allots 18,500 million cubic meters (Mm³) to 7 U.S. states
- ▶ U.S.-Mexico Treaty allots 1,850 Mm³ to Mexico



COLORADO RIVER BASIN



2000 Lake Mead at Hoover Dam 2010

COLORADO RIVER BASIN



U.S. and Mexican federal officials
meet with water users

◆ Adaptations to climate change

- ▶ U.S.-Mexico cooperation
- ▶ U.S. Basin Supply and Demand Study
- ▶ Stakeholder-driven effort to address future supply-demand imbalance
- ▶ Pilot system conservation projects



COLORADO RIVER BASIN

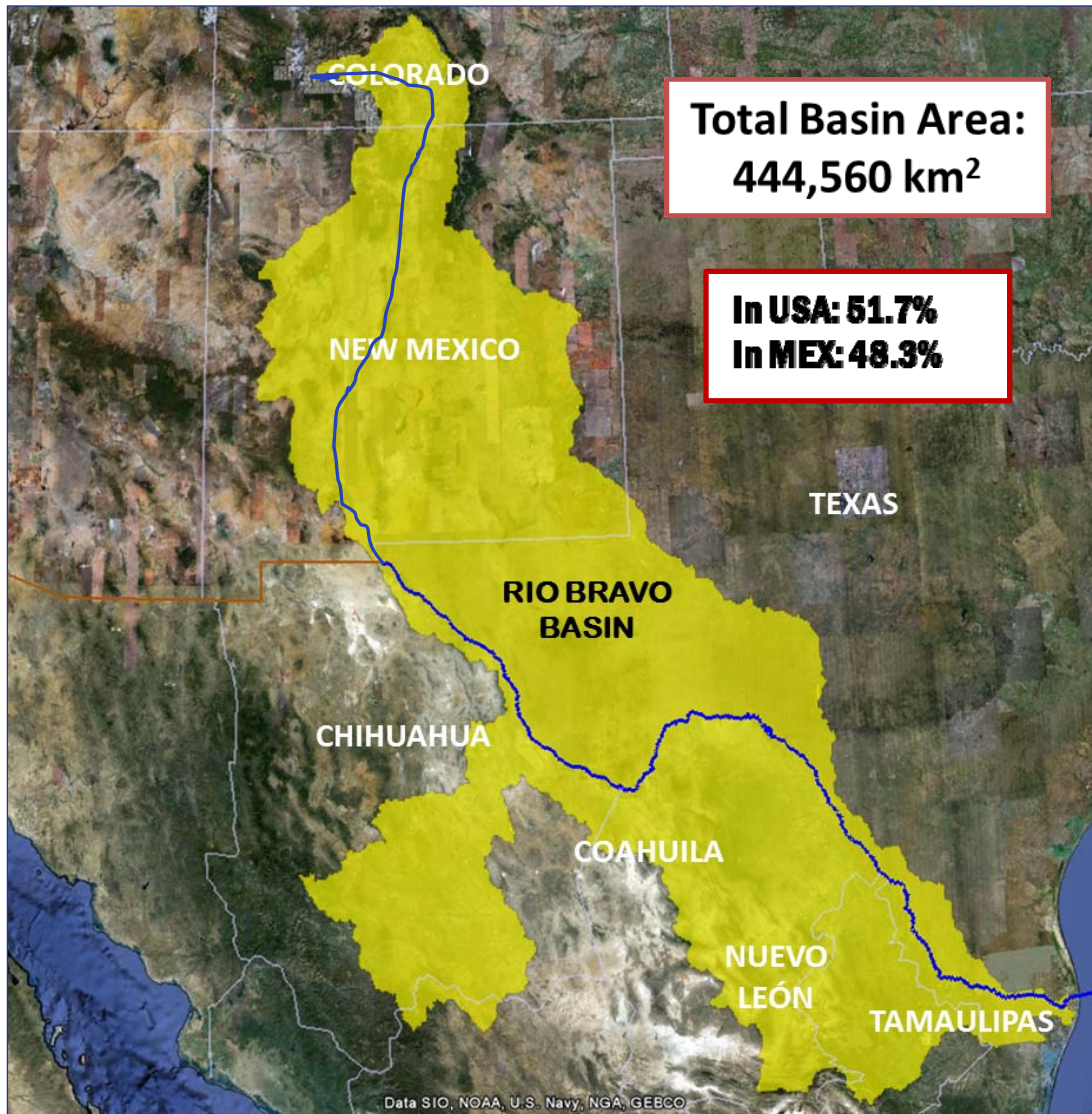


Minute 319 signing ceremony

- ◆ U.S.-Mexico Agreement “Minute 319”
 - ▶ Shared reductions when reservoirs are low
 - ▶ Shared “surplus” when reservoirs are high
 - ▶ Water for the environment
 - ▶ Pilot project for water conservation and exchanges
 - ▶ Salinity
 - ▶ Allowing Mexico to store water in Hoover Dam
 - ▶ Framework for future water supply and conservation projects



RIO BRAVO BASIN



◆ Rio Grande Treaties

▶ Convention of 1906

- Upper Basin, from headwaters to US-Mexico border
- Allots 74 Mm³ to Mexico

▶ 1944 Water Treaty

- Lower Basin, from US-Mexico border to Gulf
- Allots 431.7 Mm³ to US

▶ 2 international reservoirs

- Combined conservation capacity of 7305 Mm³
- Operated jointly by US and Mexico



RIO BRAVO BASIN



Rio Bravo

- ◆ 2008-2012 Colorado River Basin: Mexico and US have made significant progress on cooperation efforts to address drought and other climate-related issues, including the environment
- ◆ Rio Bravo Basin: Modest progress
- ◆ Mexico's water authority has been developing a management strategy (rules and guidelines) which will include the binational component as described in the 1944 Water Treaty



RIO BRAVO BASIN



Falcon Dam in 2002 drought

- ◆ Upper and Lower Rio Bravo Basin Conditions
 - ▶ Prolonged periods of severe droughts since early 1990s
 - ▶ Increased water demand for irrigation and due to population growth
- ◆ Commission Activities
 - ▶ In the past three years (2012-2015), Commission has been trying to structure a new binational agreement (Minute) drawing on lessons learned from the Colorado River process



RIO BRAVO BASIN



Commission officials at Amistad Dam

- ◆ Potential elements of a new agreement

- ▶ Clarify some parts of the 1944 Treaty
- ▶ Be compatible with the management strategy being developed by the water authority
- ▶ Include environmental aspects
- ▶ Ease tensions between the two countries about distribution of waters from the Rio Bravo



LESSONS LEARNED



- ▶ In the beginning there's a period to build TRUST.
- ▶ TRUST precedes COOPERATION.
- ▶ SCIENTIFIC and TECHNICAL solutions come first, once TRUST and COOPERATION have been established.
- ▶ Once we have feasible solutions, we introduce POLITICAL, LEGAL, and DIPLOMATIC issues to devise the best FEASIBLE solution, given these constraints.
- ▶ We have learned that ALL STAKEHOLDERS must be involved in the cooperation process, at one time or another.
- ▶ This guarantees transparency and that the solutions will be in agreement by most.



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THANK YOU

GRACIAS

감사합니다

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