



SESSION #1A

CHAIR: Dr. Margaret Wilder

Hydrodiplomacy in the U.S.-Mexico Border Region

Thursday, Oct. 24, 2019

10:30 am – 12:00 pm

Conveners: Robert G. Varady, University of Arizona (UA); Andrea K. Gerlak, UA; Margaret O. Wilder, UA

Presenters: Stephen P. Mumme Colorado State University; Mariana Rivera-Torres, UA; Karl W. Flessa, UA; and Elia M. Tapia, UA

This session aims to look at how the United States and Mexico have approached transboundary water-related issues. The presentations reveal ways in which science has played an important role in advancing diplomatic relations between the countries.

The session begins with a brief survey by **Stephen Mumme** of the seminal 1944 treaty between the two nations. His presentation, “The 1944 Water Treaty and the Future of U.S.-Mexico Environmental Governance,” points out that the 1944 U.S.-Mexico Water Treaty has been the single most important bilateral agreement between affecting the quantity and quality of their shared water resources. The treaty, as revealed by recent agreements on the Colorado and Tijuana Rivers has proven quite elastic and applicable to emerging challenges not foreseen by its drafters. Its extension and application to ecological challenges associated with the binational watersheds is affected by its intersection with other binational agreements affecting wildlife and ecological resources. This paper explores the intersect between these treaties as they shape the prospects for binational cooperation across a range of contemporary and emerging ecological challenges.

Continuing on this theme, **Mariana Rivera-Torres** presents “Evolving Together: Recent Trends in US-Mexico Water Diplomacy and Collaboration in the Colorado River Basin.” She points out that binational relations regarding the Colorado River are characterized by an ebb-and-flow of conflict and cooperation, as the two countries navigate socioeconomic, cultural, and political asymmetries to jointly manage their most precious resource, water. This presentation analyzes the evolution of the binational relationship over the past two decades, tracing and mapping key events to better understand governance patterns. The findings illustrate that Mexico’s role has evolved from being a recipient of water to becoming a creative negotiating partner. Recent agreements exemplify how existing institutional frameworks can be adapted to emerging challenges, such as water conservation, salinity control, water augmentation projects, irrigation efficiency improvements, and ecological restoration. This evolution highlights the

importance of trust and relationship building, transparency, information-sharing, and co-production of scientific knowledge. Although there is no sure recipe for effective transboundary river governance, lessons from the Colorado River illustrate how hydrodiplomacy can strengthen regional cooperation, foster creativity and innovation, address emerging conflicts over resources scarcity, and promote the sustainable and equitable management of shared waters.

The third presenter, **Karl W. Flessa**, details a particular feature of the 1944 treaty, its ability to adapt by means of amendments called “minutes.” The presentation is titled, “Minute 319 and Minute 323 of the US-Mexico Water Treaty: When science matters and when it doesn’t.” Flessa explains that Minutes 319 and 323 of the treaty provide environmental flows to restore habitats in the Colorado River Delta. He explores the role of scientific observations in the adoption and evaluation of these environmental flows. Previous binational studies had documented the environmental consequence of the lack of Colorado River flow to its riparian zone and estuary. Studies of the rejuvenation of the riparian zone following excess flows in the 1990s showed that restoration was possible with only small amounts of water. When an earthquake in Mexico resulted in storage of some of Mexico’s allocation in the U.S. and a protracted drought prompted negotiations over shortage, the stage was set to allow for environmental flows. Rigorous scientific documentation of the hydrologic, ecological, and social benefits of the Minute 319 flows allowed for their continuation under Minute 323. Flow volumes and their timing were not, for the most part, determined by scientific assessments. Binational scientific work was conducted largely by academic and NGO scientists.

The final presentation relates to transboundary groundwater. In their presentation, “The U.S.-Mexico Transboundary Aquifer Assessment Program (TAAP): Implementation, Evolution, and Lessons Learned,” **Elia M. Tapia** (the presenter) and **Sharon B. Megdal** argue that TAAP, a joint effort between the U.S. and Mexico to evaluate shared aquifers, is essential for the sustainable use of water resources in the region. The TAAP Cooperative Framework, which was signed in August 2009, establishes the principles of collaboration. Ten years after the signing of the Cooperative Framework, the presentation describes the collaboration process, its evolution, and the lessons learned from the Arizona-Sonora efforts.

The session will be co-chaired by the three conveners, who will also serve as discussants.