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Wicked Water Problems and the International Relevance of Arizona Water Management

SAWUA Forum

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Wicked Water Problems

Lisa Beutler:

- “Lately, more and more water problems seemingly defy standard solutions.”
- Four reasons
 - incomplete or contradictory knowledge
 - the number of people and opinions involved
 - the large economic burden
 - the interconnected nature of these problems with other problems

<https://wrrc.arizona.edu/wicked-water-problems>


Special Feature

What to Do about Wicked Water Problems

By Lisa Beutler, Public Affairs Specialist, MWH Global

It's a rare day when western water managers don't check the weather. A defining feature of this geographic region of the United States is a lack of precipitation. A second feature is great faith by its people in a technical solution to whatever problem a lack of rain creates.

Long before Europeans arrived, predecessors to the Hohokam people migrated from central Mexico to southern Arizona, bringing domesticated crops and their knowledge of irrigation with them. Their descendants constructed networks of diversion dikes to capture runoff rainwater and cultivate fields. Mission priests expanded and enhanced the historic systems, building new rock dams and small earthen canals.

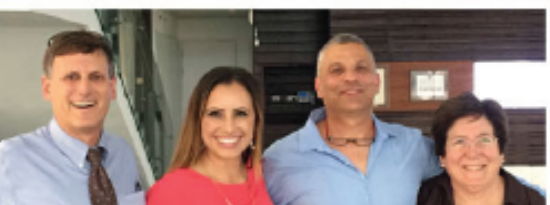


2. It is hard, maybe impossible, to measure or claim success with wicked problems because they bleed into one another, unlike the boundaries of traditional design problems that can be articulated or defined.
3. Solutions to wicked problems can be only good or bad, not true or false. There is no idealized end state to arrive at, and so approaches to wicked problems should be tractable ways to improve a situation rather than solve it.
4. There is no template to follow when tackling a wicked problem, although history may provide a guide. Teams that approach wicked problems must literally make things up as they go along.
5. There is always more than one explanation for a wicked problem, with the appropriateness of the explanation depending greatly on the individual perspective of the designer.
6. Every wicked problem is a symptom of another problem. The interconnected quality of socio-economic political systems illustrates how, for example, a change in education will cause new behavior in nutrition.
7. No mitigation strategy for a wicked problem has a definitive scientific test because humans invented wicked problems and science exists to understand natural phenomena.
8. Offering a "solution" to a wicked problem frequently is a "one shot" design effort because a significant intervention changes the design space enough to

Cutting Edge Solutions to Wicked Water Problems

2017 AWRA International Specialty Conference

The focus of this two-day conference, being held at Tel Aviv University, (**see topics**) is to present scientific results and to demonstrate real-world experiences on innovative research about and workable solutions to various global water problems.



Searching for Water Solutions

Public Policy Review

Photos, clockwise from top left: View of reception area for Cutting-Edge Solutions to Wicked Water; Sorek Desalination Plant field trip participants; Panel at Sept. 12 WATEC conference; Jennifer Brown, Maricopa County CAP board member, Cutting-Edge Solutions conference.

Photographers: Gefen Roitman, David H. Johnson

Comparing Experiences and Lessons Learned: The September 2017 International Conference on Cutting-Edge Solutions to Wicked Water Problems

by Sharon B. Megdal

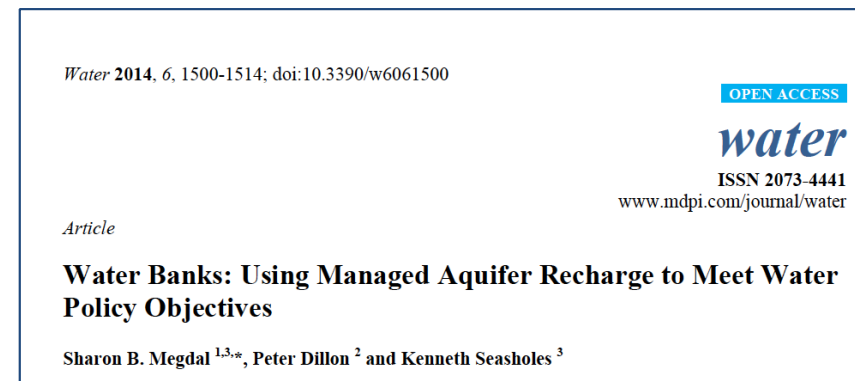
examples are overreliance on surface water and groundwater, increasing demand for water, climate, the imbalance between demand and supply, relative to supplies, increasing demand for water, challenges, including increasing demand for water, different problems, have common or similar solutions, its leadership in developing new technologies, drip irrigation, and its leadership in developing new technologies, it to address the scale of the problem. While Israeli water management is one of others across the world, its institutional and governance structures, to geographic and political factors.



CAP Board Member Jennifer Brown introducing presentation by CAP Board Member Mark Taylor

Relevance of (Interest in) AZ Water Management

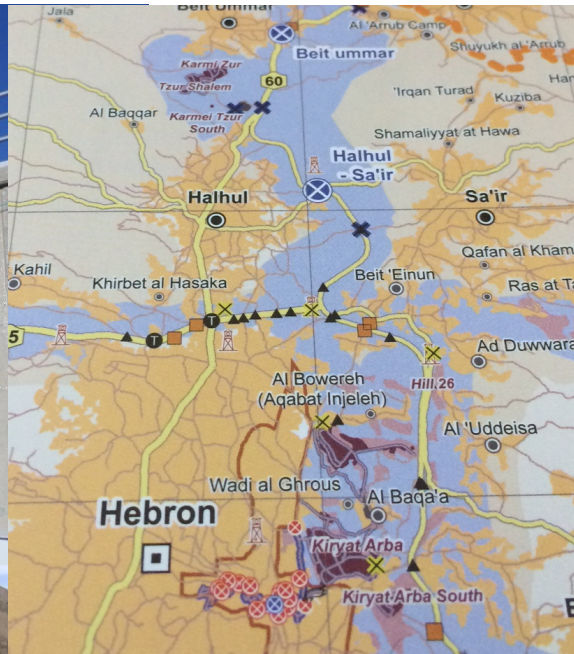
- Groundwater governance and management
- Recharge and water banking
- Water scarcity and climate factors
- Large agricultural sector
- Cross-border water sharing and collaboration

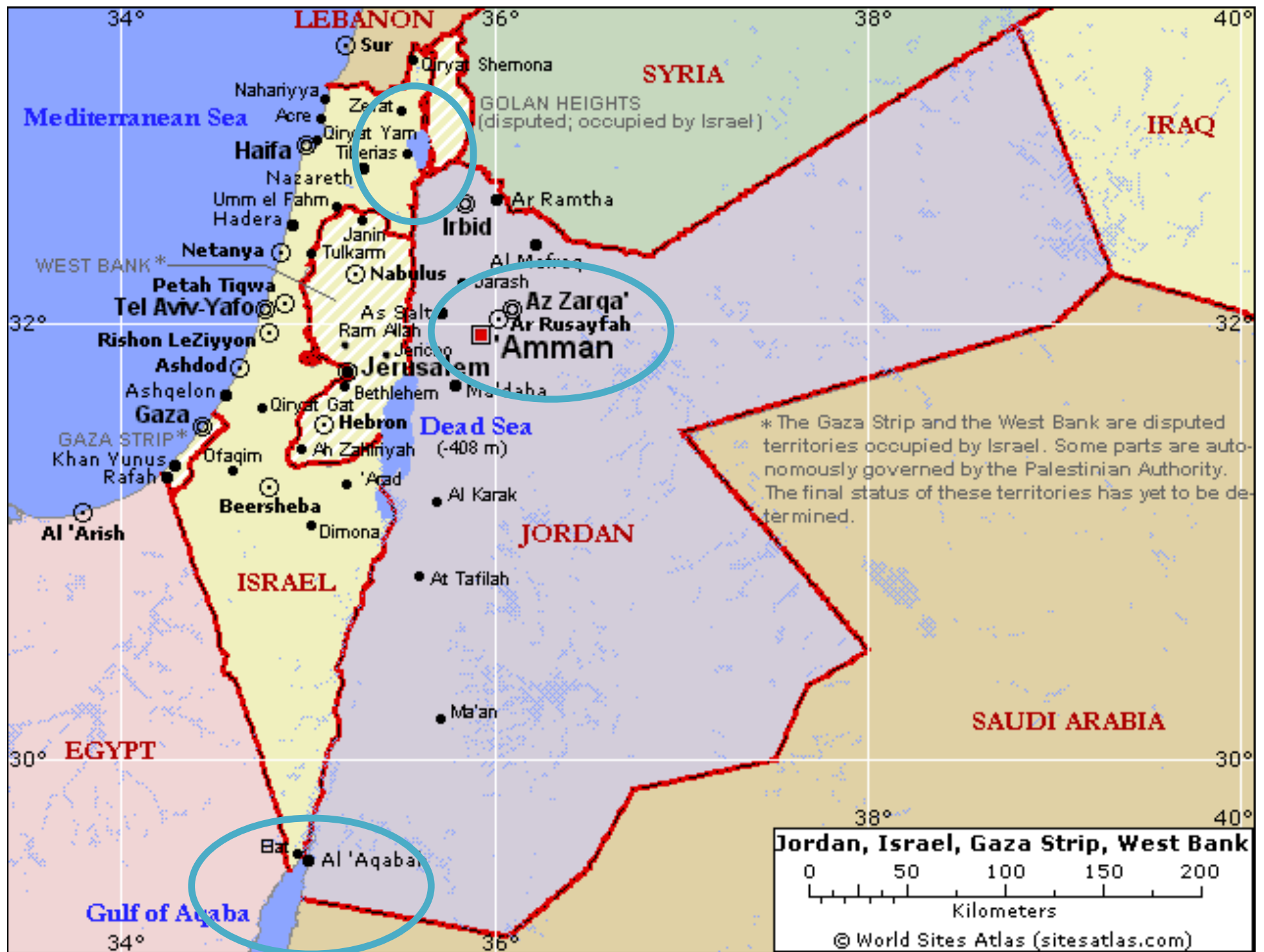


Traveled with the US-MX IBWC Commissioners, Nov 19-23, 2017

IBWC=International Boundary and Water Commission







SOURCE: <http://travelquaz.com/jordan-map-free.html/political-map-of-israel-jordan-and-the-israeli-occupied>

Cooperation Innovation: Red Sea-Dead Sea Project (RSDS Project)

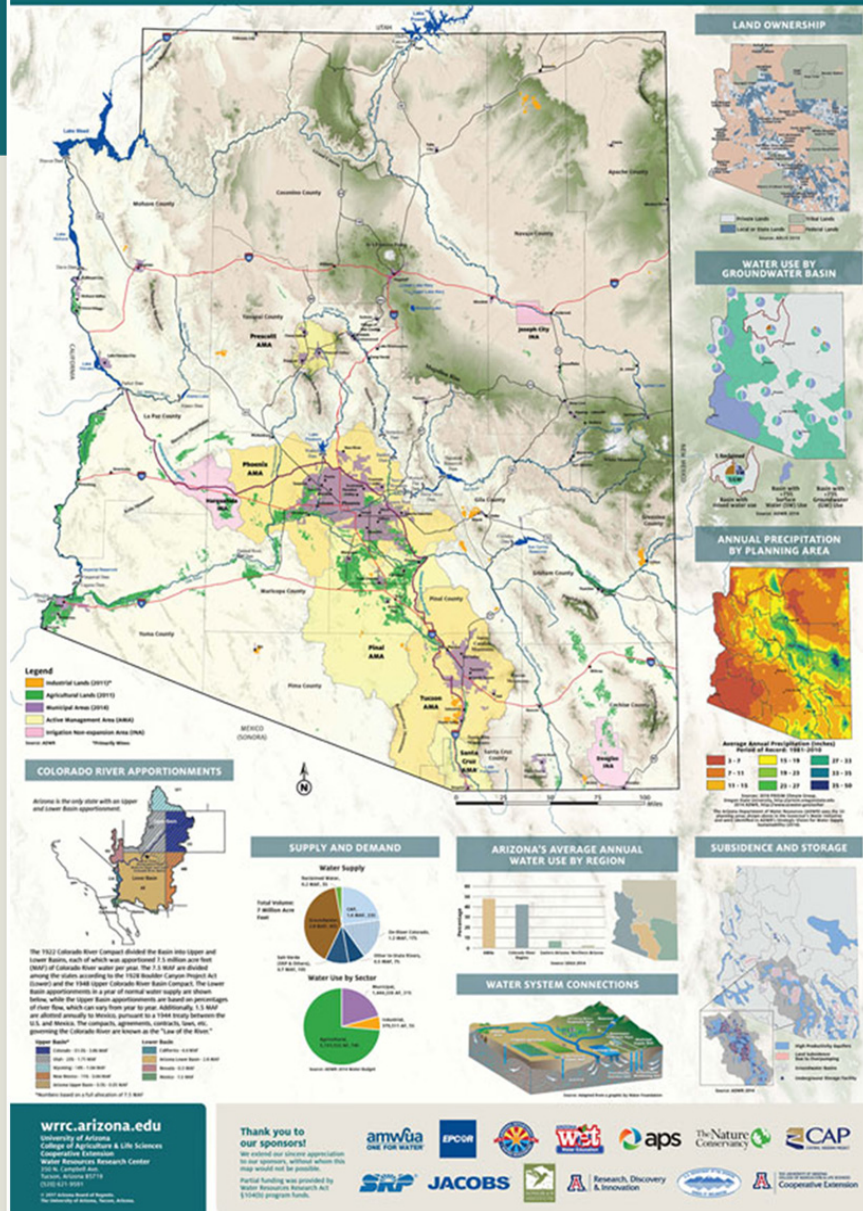
- The Project aims at producing 65 MCM/year of Desalinated Water and discharging 235 MCM/year of Mixed Water to the Dead Sea.
- The 235 MCM/year discharge to the Dead Sea is a mix of Brine Water from the Desalination Plant with Red Sea Water.
- Of the 65 MCM/year of Desalinated Water produced, 30 MCM/year is to be supplied to the Jordanian Delivery Point and 35 MCM/year to the Border Delivery Point.

Source: Document provided by Oded Fixler, Israel Ministry of Regional Cooperation

- Plus exchange (sale) of other water to the north of Israel to Jordan; also water to be provided to the Palestinian Authority

Water Wars or Water as a bridge to collaboration?

- Water efforts, such as the Red Sea-Dead Sea project, have the potential to bring parties together rather than apart
- Barriers to water cooperation include political issues, such as difficulties of interacting in person, and concerns about being dependent on another jurisdiction
- Problems are significant but there are opportunities to address them
- Mutual respect and understanding are crucial to address wicked water problems.
- There are commonalities across different parts of the world, so sharing experiences and lessons learned has value



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