

TUWaterWays

Water News and More from the Tulane Institute on Water Resources Law and Policy
October 25, 2017

Internet of Water Brings New Meaning to “Surfing the Web”

In order to manage water, you need to know what you are trying to manage. Basic questions like “how much water is there?” “what is its quality?” and “how is it used?” are not always easy to answer. A group of researchers is trying to make it easier to answer these questions by developing an [Internet of Water](#), a platform for open sharing and integration of water data. They are hoping that this Internet of Water could transform large amounts of existing data into information that supports real-time decision making on a broad scale (assuming it’s not immediately overtaken by [memes](#) and [cat videos](#)). How’s it work? Data producers (like irrigation districts, federal agencies, and industrial water users) would continue to collect data according to their needs. Then, data hubs would ensure data standardization, integrity, and accessibility. Finally, an umbrella governance structure would connect data hubs to one another as well as to data producers and users. Let’s hope this is the beginning of a [beautiful friendship](#) between water management and data infrastructure.

Time for a Chemistry of Water Lesson

If you have ever [fumbled your way through](#) a chemistry class, you would know that, when in doubt, “covalent bonding” is a safe answer. Ready for a pop quiz? What type of bond occurs between water molecules? If you said covalent bonding, you are wrong. ([Sorry](#) for the set-up.) The right answer is [hydrogen bonding](#) which is a less common bond that makes water special. Because of hydrogen bonds, solid water is [less dense](#) than liquid water, [water sticks to water](#) really well, water can [absorb large amounts of heat](#), and water can [dissolve a lot of stuff](#). Recently, two researchers have been able to simulate another [unique quality water](#) has: while molecules are understood to move randomly at the microscopic level, [supercooled](#) water moves irregularly in “jumps related to hydrogen bond breaking.” This irregular movement is a hydrodynamic anomaly of many glassy materials systems, which, in layman’s terms, means that water is pretty special.

Who is Going to Pick Up the Water Management Check?

Since it isn’t likely that anyone is going appease George Costanza and “[do the reach](#),” let’s use this week’s headlines to see who is and who isn’t paying for water management costs.

A Republican state lawmaker in Michigan has [introduced a bill](#) that would impose a 5-cent per gallon fee on bottled water

The **Tulane Institute on Water Resources Law and Policy** is a program of the Tulane University Law School.

The Institute is dedicated to fostering a greater appreciation and understanding of the vital role that water plays in our society and of the importance of the legal and policy framework that shapes the uses and stewardship of water.

Coming up:

October 25, 2017, 7:30 p.m.

[New Orleans Mayoral Debate on Flood Risk and Adapting to Coastal and Enviro. Change](#)
NOCCA, 2800 Chartres, New Orleans, LA

October 27, 2017

[Rights of Nature Symposium](#)
8:30 a.m.

Tulane University Law School
6329 Freret Street, New Orleans

November 7-8, 2017

[Louisiana Smart Growth Summit](#)
Shaw Center for the Arts, Baton Rouge

Water jobs:

[Intern for Water Policy](#)
Northeast-Midwest Institute
Washington, DC

[Senior Manager, Investor Engagement, Water Program](#)

Ceres
Boston, MA

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operators. The revenues would be used to help upgrade the state's aging water and sewer infrastructure. Nestle quickly responded by calling the bill "[inappropriate](#)." They are currently paying [\\$200](#) per year in paperwork fees to operate, but they do not pay any state tax, license fees, or royalty associated with the company's extraction of a precious natural resource. Nestle currently extracts 1.1 million gallons of water per day and is able to sell it for up to [2,000 times](#) the cost of tap water.

Meanwhile, in D.C., residents are struggling to pay their water bills. The D.C. Water and Sewer Authority is trying to balance their budget while paying for the building of large underground tunnels to keep sewage and storm water from flooding the rivers. The properties with the most concrete (and therefore the most stormwater runoff) are being charged the most. Although this sounds fair, it has created unsettling outcomes like churches in the least affluent communities being charged [\\$50,000](#).

To paraphrase [the immortal words of Rod Blagojevich](#), water is a [really] valuable thing, and you don't just give it away for free (except when you do—we are looking at you groundwater)! More and more, states are waking up to this, but who pays, how much, and for what (the water or the infrastructure or the service) are being answered differently all over the country.

You Can't Lose Your House to Sea-Level Rise if You Buy [Avocado Toast Instead](#) of a House

Instead of using Zillow to figure out how much money your friend's house is worth, you can now use it to learn about sea level rise. [Their analysis](#) found that 1.9 million homes are going to be [literally underwater](#) by the year 2100, which accounts for 1.8 percent of the country's [total](#) housing stock. Not all of the underwater homes would be waterfront mansions; a third are in the bottom tier of home values in their metros, amounting to a potential \$123 billion loss. While wealthier homeowners may have more to lose in dollars, this scenario could be especially catastrophic for owners of the lowest-valued homes, because lower-income Americans spend a disproportionately large share of their earnings on mortgage payments. For these homeowners in particular, to lose their homes would mean to watch much of their lifetime earnings and overall wealth disappear.

Rights of Nature Symposium

Interested in finding out if the trees you've been [speaking for](#) might be able to speak for themselves in a court of law? Come join the 1st U.S. [Rights of Nature Symposium](#) at Tulane University Law School on Friday, October 27th, featuring speakers from Australia, Nepal, Ecuador, and more. The theme is "Driving Rights of Nature into Law: Opportunities, Risks, and Obstacles." We hope to see you there!