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Lisa Beutler, President of the American Water Resources Association

Lisa Beutler, AWRA President and Executive Facilitator of Stantec, looks at developments in a changing world of water

American Infrastructure: *How is technology transforming the way we address water infrastructure issues in this country?*

Lisa Beutler: The water industry has adopted some amazing technology. Sensor technologies help us understand and think more about how a system is operating. It gives us real-time data for decision-making and it lets us model different variables so we can ways to do things completely differently. Utilities using enhanced modeling tools plan long-term to improve how they design and prioritize capital investments or how to schedule maintenance, and even know where maintenance hot spots are. This planning greatly improves utility efficiencies.

Use of tools like drones and better weather forecasting technology let us see what's going on with our infrastructure and see what's happening with the watershed upstream. This helps predict the time when water is going to hit certain infrastructure, which in turn allows us to do better planning of when we might do water releases or how we might manage our flood systems.

Another area of technology advances is with social media. We're able to connect with people in completely different ways. Some utilities use Twitter to receive real-time customer feedback on system problems. When citizens use social media to talk with their utilities, it creates a completely different relationship, especially if a utility is able to use its social media effectively.

AI: *What efforts are being made by the AWRA this year to make water infrastructure more resilient to the extreme weather caused by climate change?*

LB: AWRA is keenly interested in this. We just had a conference in Nebraska with the Nebraska Department of Natural Resources. They were up to their eyeballs – no pun intended – in flood response. People were literally coming and going from meeting presentations to manage an unprecedented flood situation.

We believe the best approach for handling extreme events and making infrastructure more resilient is to really double down on integrated water resources management.

As an example, if you're a developer, you're working to bring roads, pipes, electricity and all the other infrastructure needed to build. In one California housing pilot project they achieved more open space, had better flood protection, eliminated the impacts of storm drainage, and improved efficiency both in energy and water use, all with integrated design. They asked, "How can all of our disciplines work together to create a more viable development that will make us more resilient and efficient, and create more bang for our buck?" Working together they got more from their design and infrastructure investment.

Integrated projects use policy and engineering solutions. We need to be thinking about how to integrate all the infrastructure disciplines into these conversations.

many communities in the United States don't have access to safe drinking water. This isn't just an isolated, highly publicized circumstance like in Flint, Michigan. There are a lot of small rural communities throughout the country without access to good, safe water. We've got to figure out how to get people on adequate systems and connected in ways that meet all the necessary health requirements.

AI: *What does the AWRA have in the works right now that you are especially excited for?*

LB: We have educational conferences in the works. In June we will be in Nevada discussing Improving Water Infrastructure through Resilient Adaptation.

The May issue of our magazine, called

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AI: *In your eyes, what are the greatest threats to our water infrastructure systems right now? What do you think we should do to address these impending challenges?*

LB: Climate change is the big kahuna, especially in water – just about everything related to our infrastructure is going to be impacted by that.

Another issue is funding. We really undervalue infrastructure in America. We have a lot of difficulty appreciating the investments already made. We've been living off of the investments of previous generations. I think there is complacency and a lack of urgency in infrastructure investment.

Another big challenge for water is that we have SO many governmental and non-governmental water jurisdictions. It's really difficult to get things to work with so many independent actors and a barrier to getting things done.

We need to look at issues of equity. Right now

IMPACT, features integrated water resource management. We'll be adopting a new policy on integrated water resource management later in the year.

Our professional journal JAWRA, continues to be the number one cited journal in the field. We're also collaborating with people from the Chinese Academy of Sciences, Center for Water Resources Research for a September conference on water security.

About once a month, we sponsor webinars on topics important to our mission.

We're pretty excited about all we have to offer.

AI: *Is there anything you would like to add?*

LB: The first step in getting good infrastructure is literally making a decision to work together to get it. ●

This is an abridged version of the interview. To view the whole interview, please visit www.americaninfrastructuremag.com