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Water problems becoming more widespread

New report highlights climate change effects

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At a water-industry convention yesterday in San Diego, Patrick Crumley (left) and Bruce Farley from Columbus, Ohio, took part in a competition to tap a water main. -

Attendees of the water-industry convention, where water scarcity was a prominent topic, browsed a display of fire hydrants yesterday. (Nelvin C. Cepeda / Union-Tribune)

FINDINGS

The Obama administration's first major synthesis of studies on the effects of climate change in the United States focused heavily on water availability. It found that:

•Climate change has altered — and will continue to alter — where, when and how much water is available.

•Floods and droughts will likely become more common and intense.

•Water supplies will face greater stress because of increased evaporation, more irrigation for crops and increased use of

water for cooling power stations.

•Snowpacks will continue to melt earlier in the spring.

•The past century is not a reasonable guide for water management decisions.

To see the report, go to globalchange.gov.

If misery loves company, county residents struggling to live with less water have plenty of friends nationwide.

Climate change and population growth are straining water supplies even in places where people historically haven't worried much about the resource. Cities from the Great Lakes to the Gulf Coast are pushing conservation plans much like the ones being introduced across California to deal with a prolonged drought.

Concerns about the scarcity of drinkable water are prominent this week in San Diego, site of one of the world's largest water-industry conventions, with more than 10,000 attendees. They also are underscored in a 190-page report issued yesterday by the Obama administration, which highlighted the difficulty of maintaining the nation's water supplies amid global warming.

“Everywhere you look, you have some kind of water problem,” said Bradley Udall, director of the University of Colorado's Western Water Assessment and an author of the report. “I don't think (the public) gets the idea that we are in a new era of limits with many natural resources, water being only one. We are going to learn what a gallon means.”

The new assessment, a synthesis of various studies, is the federal government's first region-by-region look at the nation's vulnerability to climate change in almost a decade. It was compiled by leaders of science agencies, universities and research institutes as part of the U.S. Global Change Research Program.

“Warming of the climate is unequivocal” and “due primarily to human-induced emissions of heat-trapping gases,” the contributors wrote. The report highlights several climate-related threats that have been analyzed for years, including more wildfires and the loss of coastal land to rising oceans.

Jane Lubchenco, chief of the National Oceanic and Atmospheric Administration, said the assessment shows “climate change is happening now and it's happening in our backyards and it's affecting the kinds of things that people care about.”

Water supply was placed first in the report because it's connected to agriculture, energy, human health and many other topics, Udall said.

Water-related challenges are different depending on the area of the country, but virtually every region faces major threats to water supply systems that already are stressed by factors such as population growth and aging pipes.

Nationwide, the report said, higher temperatures will boost demand for water at the same time that supplies are shrinking because of increased evaporation, decreased snowmelt, overtapped aquifers and other elements.

Drought will likely continue squeezing the Southwest, weather models show. But even in places such as the Northeast, where precipitation has risen in recent decades, the rainfall is coming more and more from storms separated by long dry periods. The Northeast lacks the infrastructure to capture all this stormwater, so much of it is lost to the ocean.

Also, the growing trend of downpours will lead to more flooding, erosion and stormwater pollution, while higher sea levels will worsen saltwater infiltration of aquifers.

One fundamental challenge is that water agencies have based their storage and delivery systems on historical rain and snow models that are increasingly irrelevant.

“These records are essentially out the window at this point,” Robert Renner, head of the nonprofit Water Research

Foundation in Denver, said during the San Diego convention.

The gathering took a somber tone Monday when Peter Gleick addressed hundreds of water industry leaders. He is co-founder of the Pacific Institute in Oakland, a nonpartisan think tank that specializes in water issues.

“We are on a road to far more serious impacts from climate change with far less preparation and management than we should be and could be doing,” he said.

Gleick encouraged the crowd to upgrade monitoring of water consumption, set prices to encourage conservation, restructure water rights, and integrate climate change into plans for new storage and treatment facilities.

“We are running out of time,” he said.

The search for water is prompting communities nationwide to build desalination plants, tap brackish groundwater and purify wastewater for reuse. These strategies require lots of energy and money at a time when recession-weary customers can't afford to pay more.

“All the easy sources of water have been tapped,” said Richard Wheadon, an engineer in Salt Lake City and a board member of the American Water Works Association, sponsor of the San Diego conference. “How do we produce water from these lower-quality sources and purify it in a way that is cost-effective?”

While water officials search for answers, they're pressing their customers to conserve. In San Diego County, residents are being asked to cut back by about 8 percent this year.

Cutbacks also are the theme in Atlanta, which endured a deep drought in 2008. The city has recovered thanks to abundant rain, but the lessons live on, said Robert Hunter, commissioner of the city's watershed management agency.

“It's certainly not business as usual,” Hunter said at the water convention.

Atlanta continues to enforce a lawn-watering schedule, offer rebates for low-flow toilets and help residents find pipe leaks.

“We go through droughts periodically,” Hunter said, “(but) they seem to be accelerating and getting deeper.”

Communities in the upper Midwest are taking a new approach to water consumption partly because of concerns about water levels in the Great Lakes, said Daniel Lynch, utilities director in Janesville, Wis.

Janesville officials are considering new water rates to encourage conservation. That would be a major change in a state where water agencies routinely charge less the more customers use.

“I don't think we are ever going back to the point where people just wasted it,” Lynch said.

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