Wisconsin scientists team up to predict local consequences of global climate management challenge

Warmer, rainier winters and more intense storms would pose stormwater management challenge

By Michael Tomn

When heavy rains and flooding swallowed an East Side manhole, turning an urban intersection into a sinkhole that swallowed a Cadillac Escalade, some people were probably wondering if Milwaukee’s July 22 storm was a freak event or a sign of things to come.

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WICCI’s goal is to use such models to help Wisconsin adapt to the changing climate. Liebl compared WICCI’s risk management approach to actuaries who calculate insurance risks. There are 15 working groups of scientists reporting from across the state, dedicated to using science to come up with management and adaptation recommendations in areas like agriculture, human health, and storm water management.

What the Models Predict

Once the climate scientists “downscaled” the 14 different global models, they ran them against actual 1980-99 Wisconsin weather data, to see how well the models predicted what had actually happened. The models matched historical temperature records closely; but were not as consistent in predicting actual precipitation.

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that I can't play live," Smith said. "I don't want to do anything where Smith once played a solo show. At the same time, it's deliberately simple. Their sound breaks down the airwaves today.

"I've seen it all."

What Makes It "Outlaw"?

On fiddle, the band lights people's britches on fire required "Naked Man" status for riding his Harley Davidson. He got stuck in Brian Smith's truck.

It all started when a Johnny Cash cassette tape got stuck in Brian Smith's truck.

As that tape played over and over during his commute, the plunking guitar and Cash's baritone voice grabbed Smith like never before. His baritone voice grabbed Smith like never before. The music felt like hearing from an old friend who's been gone too long, but is sure glad to visit.

God's Outlaw is similar to the Milwaukee honky-tonk band The Carpetbaggers, who have similar instrumentation, even similar hats and clothes. Two key differences are Smith's voice, which is lower than The Carpetbaggers' singer-guitarist Matt "MF" Tyner's, and that God's Outlaw gets the crowd moving without the help of a drummer. They get along mighty fine without one.

God's Outlaw's music is familiar to the freeway, according to Scott Baran, Aldermanic District, tree cover is 20 percent (Baran's goal is 30 percent) and grass cover is 14 percent, according to Sivyer. But he said people need to remember that stormwater has consequences downstream, even if not always as dramatic as an SUV spattering in a sinkhole.

WICCI is a partnership between the Wisconsin Department of Natural Resources and the University of Wisconsin-Madison. It was developed in 2007 after a bipartisan committee of state legislators wanted to know how climate change would affect their constituents and districts. Focus on Energy funded the climate research, supported by UW-Madison and DNR. A report synthesizing the predictions and recommendations of the WICCI working groups is expected by early 2011. More info: wicci.wisc.edu.

Source for all images: David Liebl, Sept. 14, 2010 WICCI presentation, "Projected Climate Impacts and Adaptation Strategies for Wisconsin Urban Areas."

Greendale's Bioretention Swales

In 2009, when planning a Municipal Street Improvement Project along Grange Avenue between 60th and 66th streets, the Village of Greendale added medium bioretention swales with wild flowers, mulch, and engineered soils that serve to remove soil and pollutants from stormwater runoff before it flows into Creek. Carl Troskin, Greendale director of public works, said the project has exceeded expectations.

The project was budgeted at $220,000, Troskin said, and the state provided 60 percent of the funding; the balance was out of pocket.

Troskin credits Greendale engineer Len Roecker with the idea and MSD$_W$ for PR support. Troskin said he’s gotten calls from as far as Florida and Nevada asking about the project.

Trees Help Manage Stormwater

One of the recommendations for managing stormwater is to increase tree cover. For every 5 percent of tree cover added to a community, stormwater is reduced by approximately 2 percent, according to a presentation, "Trees and Their Role in Storm Water Management," by Mindy Hebecker at the Dane County UW-Extension.

In 2009, the city of Milwaukee's estimated tree cover was 21.5 percent, according to Forestry Services Manager David Sivyer, up from 16.5 percent in 1998. In the 3,732-acre 14th Aldermanic District, tree cover is 20 percent (Forestry's goal is 30 percent) and grass cover is 10 percent, according to Sivyer.

Foresty has been more focused on "Era's Ash Borer readiness" and has not moved forward with any private tree-planting initiatives, Sivyer said. However, in spite of the economy, Foresty's fund for street tree replacement is holding steady, Sivyer said, and they have added over 2,400 ash trees to boulevards over the past couple years.

A city's green spatial analysis of Milwaukee's urban tree canopy estimated the stormwater benefit at $15 million, according to Sivyer, but this study did not project increased stormwater reduction benefits associated with increasing canopy.