Issue 1297
October 5, 2017 >> $6.99

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What If D.C. Is Next?

A major hurricane could paralyze the government and jeopardize national security – why is the capital so unprepared?

BY JUSTIN NOBEL

ON AUGUST 25TH, AS HURRICANE HARVEY SLAMMED into the Texas coast, Don Resio, a 70-year-old University of North Florida meteorologist and a leading expert in hurricane modeling, sat on his living-room couch with his wife, Kathryn, and their cat Marley, switching between the Weather Channel, MSNBC and CNN. "I knew it was going to be devastating," says Resio, but even he was surprised by the astounding 52 inches of rain recorded near Houston. Eleven days later, Hurricane Irma notched nearly unprecedented 185-miles-per-hour winds and then careened into Florida, ripping apart homes in the Keys and flooding downtown sections of Miami and Jacksonville, which is not far from Resio's home in the seaside community of Ponte Vedra. "It's not a good time," Resio says, "to be living near the coast." By the time Hurricane Jose moved within striking distance of half the Eastern Seaboard, American cities were seeming more and more like cursed metropolises on the banks of a warming, rising, increasingly wrathful ocean. The inevitable question becomes, where next? Resio and many other prominent experts believe one of the most vulnerable targets is a city rarely associated with hurricanes: Washington, D.C.

When the big storm hits D.C., the resulting disaster may not kill as many as Katrina, or flood as much physical real estate as Harvey, but the toll it takes on American institutions will be unfathomable. The storm will paralyze many of the agencies that operate and defend the nation, raising the specter of national-security threats. Imagine, says Gerald Galloway, a disaster and national-security expert at the University of Maryland who served 38 years in the military, "the world waking up some morning to see an aerial photograph of Washington, D.C., with everything from the Lincoln Memorial to the grounds of the Capitol underwater – that certainly does not speak well for the United States' preparedness."

The problem D.C. faces is largely one of geography. America's capital lies on the Potomac, an extremely powerful river that drops from 3,000-foot mountains to the Atlantic Ocean. And like all big rivers, the Potomac produces major floods. In September 1996, Jeff Kelble, the president of the Potomac Riverkeeper Network, watched a set of rapids known as Great Falls, located 17 miles outside D.C., rise in the wake of Hurricane Fran. "The river took houses off their foundations and rammed them into other houses," he says. Steep hills further downstream funnel the Potomac through Little Falls; according to Dean Naujoks, who works for Kelble, kayaking this stretch at flood stage "is like driving a car – you just start accelerating." From the falls, a flooded Potomac could sprint, in a muddy torrent of engorged fury, into D.C. Heavy rains over the headwaters of the Potomac released a deluge into the city 13 times between 1877 and 1996. The most notable floods were 1936, when the Potomac destroyed every single bridge but one along a 185-mile stretch, and 1942, when the river inundated the National Mall.

> **"Imagine the world waking up one day to everything from the Lincoln Memorial to the grounds of the Capitol underwater."**

For scientists like Resio, a big concern is if a storm system in the mountains unfolds just before a major hurricane hits near the Outer Banks of North Carolina, then tracks inland, pulling a small mountain of water up the Chesapeake, then up the Potomac. This happened in the Chesapeake-Potomac Hurricane of 1933, which carried a deadly 11-foot storm surge; with Hurricane Hazel in 1954; Hurricane Connie in 1955; and Hurricane Isabel, a Category 2 storm that hit in 2003 with a nearly nine-foot surge that severed power at two of Maryland's largest sewage treatment plants, sending 96 million gallons of sewage flowing toward D.C. "Isabel is a reminder," wrote David L. Johnson, then assistant administrator for Weather Services, in a government assessment of the storm, "that if the impact of a Category 2 hurricane can be so extensive, then the impact of a major hurricane (Category 3 or higher) could be devastating."

Resio estimates that there are better-than-even odds that a one-two punch will descend on D.C. within the next 50 to 200 years. Though, "like with many situations," he says, "when it hits, people will say it was the perfect storm." Floodwater coming down the Potomac from the mountains would crash into water moving up the river with the storm surge from the ocean. This would set the stage for a dramatic physics experiment that even the world's most advanced meteorological computer models have had trouble simulating. "You end up with an interaction," says Ed Link, a former chief scientific adviser with the U.S. Army Corps of Engineers. "It is one plus one equals three."

Part of the problem is the city could already be flooded: Persistent rainfall over downtown D.C. could send sheets of water into the Federal Triangle, a wedge between Constitution and Pennsylvania Avenues containing seven crucial federal buildings, overwhelming the city's century-old sewer system and causing additional water to erupt out of storm drains. This happened in 2006, flooding the subbasement of the Internal Revenue Service headquarters

STORMING THE CAPITAL There are better-than-even odds of a major hurricane flooding D.C. in the next 50 to 200 years, says one leading meteorologist. "When it hits, people will say it was the perfect storm."

PHOTOGRAPH IN ILLUSTRATION BY RYAN D. BUDHU

with more than 20 feet of water and shutting down the Department of Justice, the Department of Commerce, the National Archives and the National Gallery of Art. Constitution Avenue, a vital D.C. artery built on the path of an old creek, flooded nearly nine feet deep with enough hydrostatic pressure to blast a hole through the foundation of EPA headquarters.

And if the river blasted through D.C.'s levee system, which has a slate of weak points, the entire area would essentially become part of the Potomac. According to a September 2016 report on sea-level rise by the Center for Climate and Security, a nonpartisan policy institute composed of security and military experts, "The continued strength of the U.S. depends, in large part, on having a clearheaded assessment of risks and threats to the nation, and addressing them well before they manifest themselves." Washington, D.C., the capital of what is, for the time being, the richest and most powerful nation on Earth, is patently unprepared for its pending disaster.

WASHINGTON'S DEFENSE BEgins with a little-known levee system. "There probably aren't 10 people in Washington," says Galloway, "who even know this levee exists." The Potomac Park Levee System is operated by the National Park Service and consists of an earthen berm that begins near the Lincoln Memorial and runs along the National Mall, passing just below the Vietnam Veterans Memorial and Constitution Gardens to the Washington Monument. At 17th Street, a busy thoroughfare that cuts right through the berm, a 140-foot-wide gap marks the levee system's greatest point of vulnerability. For the city to be protected, this must be manually patched.

In past floods, the hole in the system was filled with sandbags, a task that took 1,000 man-hours. In 2007, the Army Corps inspected the levee and gave the entire system a failing grade. This led FEMA to de-accredit it, meaning much of downtown D.C. was forced to pay into the National Flood Insurance Program. Three years ago, the U.S. Army Corps of Engineers unveiled a potential solution: a removable flood wall comprising eight steel posts and 27 aluminum panels that is stored in a maintenance yard a 30-minute drive from 17th Street.

Deploying the wall falls to the National Park Service's Division of Facility Management, whose workers have practiced setting up the barrier on just three occasions, though never at night, in the rain, or in the face of an actual hurricane or flood. The wall is stored in a National Park Service maintenance yard in northeast D.C., amid picnic tables and garbage bins. The steel posts and aluminum panels, along with several other items related to the wall's installation, lie strapped to the beds of two tractor-trailers, which National Park Service workers would steer down New York Avenue, around the Capitol and in toward 17th Street. A private company has been contracted by the park service to arrive on-site with a crane to lower the steel posts into deep slots. A strip of rubber would be inserted as a seal between the ground and wall. The panels would then be lowered into place between the posts. This work would likely take three hours, though there would still be one more step. Metal changes shape with temperature, and to leave room for these mutations, an inch-

Illustration by JOHN BLACKFORD