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A key insight of economics is the unintended, often undesirable, consequences of government activity. Although the idea that government policy may create harmful secondary effects is well-known, too often when policy makers craft policies designed to promote the public welfare they seem to ignore these effects. An example of this may be government provision of natural disaster relief.

Between 1990 and 2002 the United States convicted more than 10,000 public officials of corruption-related crimes. But the geographic distribution of corrupt politicians and bureaucrats was far from even. The United States as a whole averaged 4 corruption-related convictions per 100,000 residents. Mississippi, Florida, and South Dakota averaged 7.5 per 100,000 residents. And Utah, Arizona, and Nebraska had less than half the U.S. average.

Over the same period 599 natural disasters struck the United States. Like corruption, these too were distributed unevenly. Oddly, the geography of natural disasters maps the geography of corruption extremely well. Fifty-six of these natural disasters occurred in Mississippi, Florida, and South Dakota. Only 13 occurred in Utah, Arizona, and Nebraska. This positive relationship between public corruption and natural disasters holds throughout America: states hit by more natural disasters are more corrupt.

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[&]quot;Weathering Corruption," Journal of Law and Economics, vol. 51, no., 4, pp. 667-681.

This relationship seems peculiar. It's as though some parts of the United States are cursed with bad weather and dirty politicians while others are blessed with good weather and more scrupulous government officials. Could bad weather be responsible for corruption? In a recent paper published in the *Journal of Law and Economics* ("Weathering Corruption," vol., 51, no. 4, 2008: 667-681) we suggest that, indirectly, the answer may be yes.

Bad weather by itself is unlikely to impact corruption. But the windfall of federally provided resources that follow bad weather isn't so innocent. By increasing the benefit of fraudulent appropriation and creating new opportunities for such theft, disaster-relief windfalls may also increase corruption.

For example, following flooding in Buchanan County, Virginia in 2002, county officials embarked on a frenzy of bribe solicitation for relief-related reconstruction contracts that ended in 16 indictments for public corruption. As the lead federal prosecutor of the case described it, "From Day One that [Federal Emergency Management Agency] FEMA money showed up, bribes were being taken." The chaotic and confused atmosphere typically created in the wake of a major natural disaster facilitates public officials' ability to do this.

The other forms corruption may take in the context of natural-disaster relief are equally familiar. Public officials may directly steal relief resources through embezzlement. For instance, in 2005 an employee of Florida's Department of Health and Rehabilitative Services attempted to steal \$48,000 in FEMA relief following a 1998 hurricane in Florida.

Public officials may also indirectly transfer government-provided relief funds to private parties for their own gain. For example, in 1997 FEMA provided \$1.2 million in relief to Guam to replace bus shelters decimated by Super Typhoon Paka. The governor of Guam's chief of staff

illegally awarded the hefty contract to the governor's primary business rival in return for the rival's support of the governor in the 1998 gubernatorial campaign.

Using data on FEMA-provided natural disaster relief and public corruption in the United States between 1990 and 1999, our paper used econometric analysis to estimate the effect of FEMA relief on public corruption in America. Our results were striking. We found that each additional \$100 per capita in FEMA relief increased the average state's corruption by nearly 102 percent. That's a large, undesirable, unintended consequence of government provision of natural disaster relief by any standard.

One implication of this result is what it suggests about why some states, such as Louisiana and Mississippi, have long and notorious histories of corruption, while others, such as Nebraska and Colorado, don't. Louisiana and Mississippi's disadvantageous location in the Gulf Coast where hurricanes and other bad weather are commonplace may be a large part of the reason why they have historically been more corrupt than states in the Great Plains. In this sense geography may play an important role in determining corruption in the United States.

Our finding also helps to shed light on the costliest natural disaster in U.S. history, Hurricane Katrina, which struck the Gulf Coast in August 2005. Although we haven't analyzed the relationship between FEMA relief and the Gulf Coast region following Hurricane Katrina formally, there's evidence to suggest that the massive inflow of FEMA relief to Louisiana and surrounding states following Katrina led to a the surge in subsequent Gulf Coast corruption similar to the surges in corruption in the Gulf Coast and elsewhere that previous inflows of FEMA relief created following major natural disasters.

Since September 2005 FEMA has supplied tens of billions of dollars in disaster relief for Hurricanes Katrina and Rita, generating a multitude of new avenues for abuse. As of 2008,

federal prosecutors had already charged nearly 700 individuals with abusing FEMA relief, including public employees accused of soliciting bribes from relief-funded contractors and overbilling the government.¹

For example, in April 2006 a federal court convicted two FEMA Disaster Assistance employees in Louisiana of taking bribes from a food supplier in return for falsely reporting the number of meals he provided. A number of hurricane victims also accused public officials in Louisiana of stealing relief supplies intended for disaster victims after. Similarly, in 2006 Louisiana police caught a FEMA contractor red-handed trying to sell a stolen FEMA-supplied temporary housing trailer for victims of Hurricane Katrina on the black market. A police chief in the Louisiana city of Independence also pleaded guilty to charges of Katrina relief-related fraud.

Post-Katrina public corruption ran so rampant that the Federal Bureau of Investigation set up a Public Corruption and Government Fraud hotline to help monitor FEMA-relief-related political corruption. As of 2008, an astonishing 1,700 criminal cases of FEMA-relief-related fraud and corruption connected to Hurricanes Katrina and Rita remained open. More ominous still, a backlog of 11,000 potential cases identified by the Hurricane Katrina Fraud Task Force and Government Accountability Office had only just entered the early stages of investigation.

Policy makers should think twice about the unintended consequences government provided natural disaster relief can have on public sector corruption. If they decided to go ahead with government disaster relief nonetheless, they should do so with eyes wide open to the strong encouragement it's likely to give to public sector abuse.

¹ For a discussion of Katrina-relief related corruption, from which we draw most of our examples, see Brad Heath, "Katrina Fraud Swamps System," *USA Today*, July 6, 2008.