

MARIA ALEJANDRA LINARES – Reforming “Resilience,” Erasing “Climate”

On October 5, 2018, President Trump signed the Disaster Recovery Reform Act (DRRA) into law as part of the Federal Aviation Administration Reauthorization Act of 2018. The DRRA is a major amendment to the Stafford Act, directed to build the nation’s capacity to face future disasters by focusing primarily on pre- and post-disaster mitigation and building back better and stronger.

The DRRA was first introduced by former representative Lou Barletta (R-PA) in November 2017—co-sponsored with representatives Garret Graves (R-LA), Jenniffer Gonzalez-Colon (R-PR), and Henry C. Johnson (D-GA)—in response to the aftermath of that year’s hurricane season, which had affected Texas, Florida, Puerto Rico, and the Virgin Islands. It was later reintroduced by Senator Ron Johnson (R-WI)—co-sponsored with Senator Claire McCaskill (D-MO) and Senator John Kennedy (R-LA)—in June 2018. Later in

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President Donald J. Trump signs H.R. 302, the FAA Reauthorization Act of 2018, in the Oval Office of the White House, October 5, 2018. Official White House Photograph by Joyce N. Boghosian.

September, it became part of H.R. 302, FAA Reauthorization Act, which passed the US House of Representatives on a 398-to-23 bipartisan vote.

Currently, emergency response is guided by the Robert T. Stafford Disaster Relief and Emergency Assistance Act, signed into law on November 23, 1988. The Stafford Act regulates the actions by which the federal government provides assistance to states and local governments in the face of emergencies or major disasters. These actions include preparedness, mitigation, response, and recovery. Federal funds are allocated through a series of grant programs, including the Hazard Mitigation Grant Program, the Pre-Disaster Mitigation Grant Program, and the Flood Mitigation Assistance Program—for preparedness and mitigation—and the Individual and Public Assistance Program—for response and recovery. The Public Assistance Program is the largest, and between 2005 and 2014 it provided \$45 billion in inflation-adjusted funds to rebuild public infrastructure with some portion for mitigation projects. In second place is the Hazard Mitigation Program, at \$6.1 billion in funds—between 2006 and 2017—allocated to provide support to states and local governments that have been affected by disasters.[1]

Increasing funds directed to recovery rather than preparedness,

[1] Susan K. Urahn and Kerri-Ann Jones, “What We Don’t Know About State Spending on Natural Disasters Could Cost Us,” *The Pew Charitable Trusts*, June 19, 2018, [link](#).



Cover of “Disaster Recovery Reform Act Packet” by the House Transportation and Infrastructure Committee, 2018.

reconstruction efforts determined by pre-disaster conditions, and difficulty in tracking spending at the state level are some of the most criticized aspects of the Stafford Act.[2] These limitations have become increasingly evident in the context of the climate crisis, in which the damage caused by disasters—such as floods, hurricanes, and wildfires—are more often the result of human errors, negligence, or malfeasance than they are of anything purportedly “natural.”

The DRRRA, through its more than fifty provisions, builds on previous policies and amendments to reinforce preparedness and mitigation relative to such disasters. The DRRRA creates the National Infrastructure Fund, financed through the Disaster Relief Fund as a 6 percent set-aside from estimated disaster grant expenditures to be directed toward mitigation efforts that build resilience before a disaster affects an area. These funds will be managed through the “Building Resilient Infrastructure and Communities (BRIC)” program, which is currently being implemented.[3] It also expands the scope of hazard mitigation efforts in the case of wildfires and earthquakes. Other provisions from the DRRRA include mechanisms to improve transparency and accountability in government spending, as well as to expand and improve the Public Assistance and Individual Assistance programs.

Notwithstanding these actions, one of the DRRRA’s most important contributions is the modification to *Sec. 406: Repair, Restorations and Replacement of Damaged Facilities*. Prior to this amendment, the Stafford Act limited improvement as part of rebuilding efforts after a disaster. Sec. 406 stated that funds destined to repair, restore, reconstruct, or replace facilities are estimated “on the basis of the design of the facility as the facility existed immediately before the major disaster, in conformity with codes, specifications, and standards applicable at the time at which the disaster occurred.”[4] That is, rebuilding had to be executed to pre-disaster conditions—even if they had proved vulnerable—halting efforts to invest in stronger infrastructure.

This limitation became especially evident in Puerto Rico after the 2017 hurricane season. In September 2017, Hurricanes Irma and Maria hit Puerto Rico, knocking out an already ailing electrical grid and leaving the entire island of 3.3 million people in darkness for months. It took almost a year and \$4.2 billion in FEMA funding to completely restore power.[5] However, since repair implied returning the grid to its precarious pre-disaster conditions, it continues to be a fragile infrastructure that surely will fail with the next hurricane. According to estimates from former Governor Ricardo Rosselló, an additional \$30 billion is required to deploy a grid that aligns with the vision outlined in *Build Back Better Puerto Rico and Build Back Better: Reimagining and Strengthening the Power Grid of Puerto Rico*, which articulate a system-wide modernization (i.e., smart-grid technologies), adequate maintenance, and measures for building resilience.[6]

In response to these deficiencies, the DRRRA seeks to break the cycle of damage and repair that guides recovery efforts and that has allocated FEMA funds almost exclusively for palliative measures, instead of directing them to improve infrastructure. Through Sec. 1235, the DRRRA modifies Sec. 406 by authorizing FEMA to provide funding to repair, restore, reconstruct, and replace facilities according to “the latest published editions of relevant consensus-based codes, specifications, and standards that incorporate the latest hazard-resistant designs” in order to ensure that they are restored “in a manner that

[2] A review of these accounts can be found in Li Zhou, “The Disaster Aid Fight Shows Just How Unprepared Congress Is to Deal with the Effects of Climate Change,” *Vox*, May 16, 2019, [link](#).

[3] “Disaster Recovery Reform Act of 2018,” FEMA, last modified on June 11, 2019, [link](#).

[4] Sec. 406(e)(1)(A) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5172 (2016).

[5] Carolyn Beeler, “Some of the Last Puerto Ricans without Power Got it Today. Now, Work to Build a Stronger Grid Must Begin,” *PRI*, August 24, 2018, [link](#).

[6] Central Office for Recovery, Reconstruction, and Resiliency, “Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico,” 218–219, [link](#).



The Plaquemines Parish Detention Center was rebuilt on the same Louisiana marsh for \$105 million after Hurricane Katrina destroyed the original building. Map data © March 2019 Google. Image uploaded by nomad.

meets the definition of resilient,”[7] which FEMA is required to develop by April 2020.[8]

Thus, “resilience” is going to guide future rebuilding efforts, a concept that has been popularized in architecture and planning in the context of climate change.[9]

FEMA first incorporated the concept of resiliency in March 2011. President Obama’s “Presidential Policy Direct 8” (PPD-8)—which implemented the National Preparedness Goal and the National Preparedness System and Frameworks—defined *resiliency* as “the ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies.”[10] The concept structured policies and efforts to strengthen and promote mitigation and preparedness, a follow-up to President Bush’s Post-Katrina Emergency Management Reform Act (2006).

In the following years, resilience began to be understood by federal officials in relation to climate change and climate change adaptability, as part of the Obama administration’s efforts to address the effects of rising temperatures. After Hurricane Sandy hit New York and New Jersey in 2012, resilience became a guiding concept for recovery efforts. In June 2013, the Hurricane Sandy Rebuilding Task Force launched the “Rebuild by Design” competition to “promote resilience in the Sandy-affected region.”[11] The competition, funded by Community Development Block Grants for Disaster Recovery (CDBG-DR), served as inspiration for the National Disaster Resilience Competition (NDRC) launched in 2014. Rebuild by Design allocated \$930 million while the first edition of the NDRC allocated \$1 billion to states and local governments to implement proposals that creatively address vulnerabilities that had been exposed by recent disasters. However, these competitions, sponsored by the Department of Housing and Urban Development, fell outside the scope of FEMA.[12]

Overall, the efforts to promote preparedness, hazard mitigation, and disaster planning did not prevent FEMA funds from being directed into rebuilding projects “as they were,” despite their vulnerability to future disasters.

[7] Division D, Sec. 1234(b) of FAA Reauthorization Act of 2018, Pub. L. No. 115-254, 132 Stat. 3186 (2018).

[8] Division D, Sec. 1235(d)(5)(A) of FAA Reauthorization Act of 2018, Pub. L. No. 115-254, 132 Stat. 3186 (2018).

[9] Speculation and discussion around the possible definitions of *resiliency* appeared soon after the introduction of the DRRRA in 2017. Arianna Skibell, “Congress Wants ‘Resilient’ Rebuilding. What Does That Mean?” *E&E News*, February 6, 2018, [link](#).

[10] “Presidential Policy Directive / PPD-8: National Preparedness,” Department of Homeland Security, last modified on August 14, 2018, [link](#).

[11] “Rebuild by Design,” Department of Housing and Urban Development, last accessed on August 25, 2019, [link](#).

[12] “National Disaster Resilience,” HUD Exchange, last accessed on August 25, 2019, [link](#).

A direct effort to modify Sec. 406 was the Federal Flood Management Standard, introduced in 2015, which promoted better practices and limited federal funds for construction in flood plains. The order was revoked by President Trump weeks before the beginning of hurricane season in 2017, adding to the funding cut for flood mapping and the removal of climate change from official documents.[13]

So far resilience, central to pre- and post-DRRA legislation, has been understood in close relation to hazard mitigation in the context of climate change. But with the current administration's denial of the concept, how will FEMA define resiliency?

In a *New York Times* article from November 2017, now former FEMA deputy associate administrator for insurance and mitigation Roy E. Wright said in relation to climate change that "there are plenty of people who want to debate the vocabulary... But Congress' instruction was for us to attend ourselves to future risks and reduce the costs of future disasters. So, as I look at the adaptation dimension, that's about resilience. That's resilience against future events." [14]

From recent debates around climate-related disasters and the DRRA, it is possible to identify how the language has shifted from the use of terms like "climate change," "sea-level rise," or "climate adaptability," to those like "adaptation," "long-term planning," and "cost-saving measures," all under the umbrella of resilience.

A somewhat recent opportunity to understand resilience within the current administration took place in June 2018, with the creation of "FEMA Resilience," a new organization that places resilience, once again, in the context of preparedness and hazard mitigation. It includes the Federal Insurance and Mitigation Administration, the Grant Programs Directorate, the National Continuity Programs, and the National Preparedness Directorate. Its efforts focus on four elements that shed light on how resiliency is now understood: (1) the importance of the community members as first responders, (2) the role of insurance in reducing financial risk, (3) investing in mitigation, and (4) assisting communities with their continuity planning.[15]

What does it mean to talk about resiliency without addressing climate change?

In the same *New York Times* article, Alice C. Hill, who helped develop the Obama administration's climate resilience strategy, said adaptation programs may have the best chance of survival if they're not explicitly framed as climate measures: "this whole issue has become highly politicized... But the longer I've worked on this issue, the less I care what we call it. You can just talk about fiscal risk. This is a fiscally conservative approach." [16]

With the increase in the frequency and violence of climate-related disasters, including wildfires, hurricanes, and flooding from sea-level rise, for experts like Hill, the urgent overcomes the important; that is, in the face of imminent risk, it is better to act instead of engaging in a debate that can slow down or halt important legislation. However, one might ask if separating resiliency from climate change is another palliative measure contributing to the cycle of damage and repair since it addresses the consequences without facing the cause. In this context, initiatives like the Green New Deal that promote

[13] Kevin Sack and John Schwartz, "As Storms Keep Coming, FEMA Spends Billions in 'Cycle' of Damage and Repair," the *New York Times*, October 8, 2018, [link](#).

[14] Brad Plumer, "Trump Ignores Climate Change. That's Very Bad for Disaster Planners," the *New York Times*, November 9, 2017, [link](#).

[15] "New Resilience Organization at FEMA Aims to Build 'Culture of Preparedness,'" *Homeland Security Today*, June 5, 2018, [link](#).

[16] Plumer, "Trump Ignores Climate Change."



Transmission tower in the Montaña Area, Caguas, Puerto Rico. The power grid remains in fragile condition and much of the infrastructure is in hard-to-reach areas. Courtesy of the South Atlantic Division, US Army Corps of Engineers.



Contractor PowerSecure, Inc., working to restore the electrical grid in the Montaña Area, Caguas, Puerto Rico. Courtesy of the South Atlantic Division, US Army Corps of Engineers.

renewable energy and move away from fossil fuels—the main contributor to global warming—invite architects, planners, and citizens to consider replacing short-term resiliency with long-term sustainability.

Furthermore, the DRRRA attaches resilience to “the latest published editions of relevant consensus-based codes, specifications, and standards that incorporate the latest hazard-resistant designs,” without clarifying the parameters under which the codes and standards are established.[17] The DRRRA also includes provisions for FEMA to guide local governments in the implementation and enforcement of building codes.[18] Currently, most states and local jurisdictions adopt the model building codes maintained by the International Code Council (ICC).[19] This member-focused association has among his affiliate sponsors the American Institute of Architects (AIA), the Building Owners and Managers Association (BOMA), the National Association of Home Builders (NAHB), and the Portland Cement Association (PCA). Who, therefore, is going to define the building codes, specifications, and standards under the framework of the DRRRA? This uncertainty opens the door for those

[17] Division D, Sec. 1234 and 1235 of FAA Reauthorization Act of 2018, Pub. L. No. 115-254, 132 Stat. 3186 (2018).

[18] Division D, Sec. 1206 and 1235 of FAA Reauthorization Act of 2018, Pub. L. No. 115-254, 132 Stat. 3186 (2018).

[19] “Building Codes,” FEMA, last modified on January 14, 2019, [link](#).

with specialized training—architects, urban planners, engineers, academics, and legislators—to engage in the debate since the applicability and long-term success of the amended Sec. 406 depends on how resilience is defined in the context of reconstruction, mitigation, and climate change.

Signed just over one year prior to the time of publication, the DRRRA continues to be in the process of implementation, and is therefore subject to change. The information included in this article is the most updated as of August 2019. This text was produced as a part of the “Power: Infrastructure in America” project at Columbia’s Temple Hoyne Buell Center for the Study of American Architecture. [POWER](#) challenges participants to think about how infrastructure relates to life across a series of intersecting concerns, including democratic governance and climate justice. From border walls to oil pipelines to microchips, technical infrastructures govern life in myriad ways. Objects of intense political, social, and economic contestation, these systems distribute power in both senses of the word: as energy and as force. Concentrating on the United States but extending internationally, the [POWER project website](#) brings together a multimedia collection of essays, events, initiatives, and resources, offering overlapping windows on to how “America” is constructed infrastructurally to exclude neighbors and to divide citizens. But infrastructures can also connect. Organized in a modular fashion as an open-access resource for learning, teaching, and acting, the website’s contents enable visitors to better understand the complex webs of power shaping our lives and the lives of others. Change begins with connecting the dots.