The Future of Flood Insurance and its Environmental Justice Implications on North Carolina's Low-Income Communities

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I. Overview

Climate change is leading to an increase in the frequency and magnitude of inland and coastal flooding events.[1] Hurricanes, in particular, pose a major threat to families along the coast and in low-elevation areas where they struggle to mitigate the costs of property damage associated with these major storms.[2] Unsurprisingly, many low-income minority families live in low-elevation areas inherently more susceptible to flooding ("flood zones") because properties are cheap. [3] Thus, low-income families are frequently hit the hardest during major floods.[4]

Typically, the Federal Emergency Management Agency's ("FEMA") National Flood Insurance Program ("NFIP"), by law, requires residents in flood zones to purchase flood insurance before they can receive "a mortgage from a federally regulated or insured lender."[5] This mandatory provision, however, does not apply to rental properties.[6] Since many low-income families living in flood zones are unable to qualify for mortgages and must instead rent their homes, they often do not purchase flood insurance because of FEMA's high-set premiums.[7] Thus, not only are these families more physically vulnerable, they are also more financially vulnerable and less resilient to major flooding events. [8] Hurricane Matthew in 2016 serves as a

[1] A. D. Tarlock & Deborah M. Chizewer, *Living with Water in a Climate-Changed World: Will Federal Flood Policy Sink or Swim?*, 46 ENVTL. L. REV. 491, 491 (2016).
[2] *Id*.
[3] *See* Courtney Lauren Anderson, *Climate Change and Infrastructure*, 18 HOUS. J. HEALTH L. & POL'Y 1, 6 (2018).
[4] *See Id*.
[5] *Flood Zones FAQ*, FED. EMERGENCY MGMT. AGENCY, https://www.fema.gov/faq-details/Flood-Zones/ (last visited Dec. 19, 2019).
[6] *See Id*.
[7] Anderson, *supra* note 3, at 8.
[8] *See Id*.

prime example: the storm's excessive flooding left many low-income North Carolinian families' homes substantially damaged with years of recovery ahead.[9]

FEMA attempted to address this affordability issue by passing the Homeowner Flood Insurance Affordability Act of 2014 ("HFIAA"),[10] which mandated that FEMA draft an "affordability framework," and provide affordable flood insurance premiums through subsidies.[11] But, with the increase in major flooding events due to climate change, the NFIP accrues large amounts of debt each year.[12] In response, FEMA plans to adjust the NFIP's structure to a risk-rating model.[13]

This paper will first discuss the socio-economic and racial implications regarding the risk of flooding, focusing on the community of Princeville, North Carolina. It will then provide background of FEMA's NFIP, explain the NFIP's current policy, and address how its policies disparately affect low-income minority populations. Next, this paper will assess FEMA's new policy proposal to be enacted in October of 2020 and conclude with how this new proposal might lead to unintended environmental justice implications.

II. Low-Income Minority Populations are Disproportionately Affected by Flooding

Some of the poorest, most disenfranchised populations live in floodplains because the land is cheaper and moving out of these areas is not a feasible solution.[14] These communities are significantly impacted by floods and other extreme weather events and are often less equipped to

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[9] *See* John A. Lovett, *Moving to Higher Ground: Protecting and Relocating Communities in Response to Climate Change*, 42 VT. L. REV. 25, 26. (2017).
[10] U.S. DEP'T OF HOMELAND SEC., AN AFFORDABILITY FRAMEWORK FOR THE NATIONAL FLOOD INSURANCE PROGRAM (2018).
[11] THE NAT'L ACAD. OF SCI., AFFORDABILITY OF NATIONAL FLOOD INSURANCE PREMIUMS: REPORT 1 (March 2015).
[12] Dena Adler et al., *Changing the National Flood Insurance Program for a Changing Climate*, 49 ENVTL. L. RPTR. 10320, 10320–21 (2019).
[13] *NFIP Transformation and Risk Rating 2.0,* FED. EMERGENCY MGMT. AGENCY, https://www.fema.gov/nfiptransformation (last visited Dec. 19, 2019).
[14] *See* Brie Sherwin, *After the Storm: The Importance of Acknowledging Environmental Justice in Sustainable Development and Disaster Preparedness*, 29 DUKE ENVTL. L. & POL'Y FORUM, 273, 278 (2019).

rebuild afterwards or relocate.[15] These low-income communities, however, "typically do not casually decide to live in harm's way."[16] Rather, they are deeply connected to the "landscape, a culture, and a way of life that make their place home"[17] while coping with the burdens of being forced—through market forces and social, economic, and historical processes—to reside there.[18] Thus, these communities are left stranded geographically and financially making them even more susceptible to the effects of climate change.

Under the NFIP, households located in the most at-risk floodplains—identified by FEMA as "Special Flood Hazard Areas" ("SFHAs")—are mandated to purchase flood insurance.[19] FEMA prices premiums higher inside these zones than outside, since these properties are more susceptible to significant flooding events.[20] Therefore, if a low-income resident in an SFHA is able to afford a mortgage on her home, they would also be required to purchase flood insurance, probably at an unaffordable price.[21] However, since incomes tend to be lower inside SFHAs, many of these residents likely rent their properties.[22] Rental property residents are not required to purchase flood insurance under the NFIP, so many high-flood-risk, low-income families opt out of protecting their homes.[23] Using the United States Census, FEMA determined that, of the NFIP policyholders residing inside SFHAs, only 26 percent are low

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[15] Sarah Edwards, *Recurrent Flooding and Social Vulnerability: A Model Ordinance,* 41 WM. & MARY ENVTL. L. & POL'Y REV. 495 (2017); Andrew Fox & David Hill, *Decimated by Hurricanes, Rural America Needs Our Help*, New York Times (Oct. 11, 2018), https://www.nytimes.com/interactive/2018/10/11/opinion/hurricane-michael-florence-north-carolina-florida-recovery.html.
[16] Fox & Hill, *supra* note 15.
[17] *Id*.
[18] *See, e.g.*, Anderson, *supra* note 3.
[19] *Special Flood Hazard Area*, FED. EMERGENCY MGMT. AGENCY, www.fema.gov/special-flood-hazard-area (last visited Dec. 19, 2019).
[20] *Id*.
[21] *See id*.
[22] U.S. DEP'T OF HOMELAND SEC., *supra* note 10.
[23] *See id*.

income; 51 percent of the non-policyholder households in SFHAs are low income.[24] These statistics show that low-income minority populations might already be evaluating whether purchasing flood insurance is worth the cost, and ultimately determining it to be unaffordable.

North Carolina is no exception to this trend. In the NFIP Affordability Framework published in April 17, 2018, FEMA identified 92,977 North Carolina households located in an SFHA.[25] More than half of those households (57%) were non-policyholders with a household median income of $34,404.[26] The other SFHA households that were policyholders had a median income of $73,051.[27] This data shows a significant correlation between socioeconomic status and flood insurance coverage, which demonstrates the problem: households with lower incomes are less likely to purchase flood insurance than their higher-income neighbors despite living in areas with the same level of flood risk. Thus, a serious environmental justice issue arises where those unable to afford housing outside of flood zones are disparately affected by a flood insurance policy that is attempting to protect them.

III. Princeville, North Carolina: A Natural Flood Plain

Princeville, North Carolina is located in the Tar River Floodplain making it one of the more flood-prone areas in the state.[28] White landowners lived in the area before the Civil War, but after quickly discerning that flooding events frequented their properties, many offered to sell their land at a cheap price to newly freed slaves—the only ones willing to buy.[29]

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[24] *Id.* at 6.
[25] *Id.* at 60.
[26] *Id.* at 63.
[27] *Id.*
[28] Virginia Fall et al., *Damaged by Hurricanes, a Historic North Carolina Town Plans for a Resilient Future*, MEDIUM, https://medium.com/changelab-solutions/damaged-by-hurricanes-a-historic-north-carolina-town-plans-for-a-resilient-future-6fc97c0ad89e (last visited Dec. 19, 2019).
[29] *Id.*

Today, about 2,200 people live in Princeville,[30] which remains over 96% African-American with a per capita income of approximately $12,024.[31] These individuals are no strangers to increasing flood frequency and severity due to the impacts of climate change.[32] Since Princeville is located in a floodplain, it participates in the NFIP and is required to enforce minimum ordinances in the "1% chance event" floodplain (also known as a 100-year flood event).[33] The "1% chance flood event" is a flood that has a one percent probability of occurring in any given year."[34]

For Princeville residents who want flood insurance, "reasonably-priced" premiums are available.[35] However, one major challenge is that many vulnerable homes were passed down within families, so these homes are mortgage-free meaning they are not mandated under the NFIP to purchase flood insurance.[36] Thus, many residents opt out of purchasing flood insurance.[37] But, future flood-risk mapping by FEMA could place all of Princeville in the 1% chance event, which would make flood insurance mandatory and less accessible for all of its residents.[38]

With many residents without flood insurance, the community's economic vitality is tested even more during major floods because residents are displaced for longer periods of time while their homes undergo repair.[39] On October 8, 2016, Hurricane Matthew was one of those major

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[30] *Hurricane Matthew Recovery*, COASTAL RESILIENCE CENTER, https://coastalresiliencecenter.unc.edu/crc-projects/hurricane-matthew-recovery/hurricane-matthew-recovery-engagement/hurricane-matthew-recovery-princeville/ (last visited Dec. 19, 2019).
[31] U.S. ARMY CORP OF ENGINEERS, PRINCEVILLE, NORTH CAROLINA FLOOD MANAGEMENT INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL ASSESSMENT i (2016).
[32] Fall, *supra* note 28.
[33] U.S. ARMY CORP OF ENGINEERS, *supra* note 31, at 17.
[34] *Unit 3: NFIP Flood Studies and Maps,* FED. EMERGENCY MGMT. AGENCY 3-4, https://www.fema.gov/pdf/floodplain/nfip_sg_unit_3.pdf (last visited Dec. 19, 2019).
[35] U.S. ARMY CORP OF ENGINEERS, *supra* note 31, at D-26.
[36] *Id.*
[37] *See id*.
[38] *Id*. at 55.
[39] *See id*.

flooding events,[40] which dumped nearly thirteen inches of rain on Princeville and surrounding areas.[41] It was the seventh debilitating storm Princeville experienced since 1919, left 80% of the town underwater, and led to an estimated $1.5 billion in damages to more than 100,000 homes, businesses, and government buildings.[42] With many Princeville residents without flood insurance, the effects of Hurricane Matthew hit them even harder.[43]

IV. A Background of the National Flood Insurance Program

FEMA administers the federally operated NFIP, created in 1968 by the National Flood Insurance Act.[44] The goal of the NFIP is to "promot[e] widespread adoption of flood insurance."[45] The NFIP offers voluntary flood insurance to protect homeowners from costs associated with flood damages.[46] In response to increased damages from the higher magnitude and frequency of flooding events due to climate change, FEMA sought to adjust the NFIP so it would not continue to accumulate significant debt each year.[47] The Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12) attempted to resolve this issue by moving towards a risk-based pricing insurance policy system with the hope that this new system would send signals to homeowners to not live in high flood-risk areas or to better mitigate against flooding and more evenly distribute insurance claims.[48]

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[40] Lovett, *supra* note 9.
[41] *See* STACY R. STEWART, NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT: HURRICANE MATTHEW 62 (2017).
[42] Fall, *supra* note 28; Lovett, *supra* note 40.
[43] Tyler Newman, *One year on, Hurricane Matthew is still drowning communities with dilemmas*, THE SEAHAWK (October 17, 2017), https://theseahawk.org/14298/news/one-year-on-hurricane-matthew-is-still-drowning-communities-with-dilemmas/.
[44] THE NAT'L ACAD. OF SCI., *supra* note 11, at 2.
[45] *Id*. at 3.
[46] U.S. DEP'T OF HOMELAND SEC., *supra* note 10, at 1. Flood insurance is voluntary for residents who are located outside of SFHAs. As mentioned previously, resident mortgagees who are located inside SFHAs are required to purchase flood insurance.
[47] *Id*.
[48] *Id*.

In addition to passing BW-12 and largely due to public concern of increased flood insurance premiums, Congress mandated that FEMA conduct an affordability study to assess how the increased rates were affecting various populations.[49] Under the Homeowner Flood Insurance Affordability Act of 2014 ("HFIAA"), FEMA assessed the possible unaffordability of increased flood insurance rates strictly based on household income.[50] However, FEMA did not evaluate other important factors that could leave residents disparately affected by these increased flood insurance rates,[51] such as "ordinary and necessary living expenses"[52] per the number of inhabitants of a single household.[53] This limitation raises concerns regarding FEMA's ability to accurately assess which populations are financially vulnerable under the NFIP.[54]

As of December 2018, the NFIP covered approximately 5.1 million policies with the force of about $3.6 billion.[55] Via the BW-12, Congress authorized a Reserve Fund Assessment "to cover future claim and debt expenses."[56] These funds specifically relate to catastrophic disasters and provide subsidies to homeowners to make flood insurance more affordable.[57] But, these policies are not need-based and do not consider policyholders' ability to pay.[58] As a result, recent flood damages per year exceeded the NFIP's assets.[59]

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[49] *Id*. at 2.
[50] *Id*.
[51] *See id*.
[52] 22 C.F.R. § 17.6 (2019). "Ordinary and necessary living expenses include rent, mortgage payments, utilities, maintenance, food, clothing, insurance (life, health and accident), taxes, installment payments, medical expenses, support expenses when the individual is legally responsible, and other miscellaneous expenses which the individual can establish as being ordinary and necessary."
[53] U.S. DEP'T OF HOMELAND SEC., *supra* note 10, at 57.
[54] *See, e.g.*, U.S. DEP'T OF HOMELAND SEC., *supra* note 10.
[55] CONGRESSIONAL RESEARCH SERVICE, INTRODUCTION TO THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) 22 (Dec. 23, 2019).
[56] *Id.*
[57] *Id*. at 15–16.
[58] *See, e.g.*, U.S. DEP'T OF HOMELAND SEC., *supra* note 10, at 1.
[59] CONGRESSIONAL RESEARCH SERVICE, *supra* note 55, at 26.

V. The Current National Flood Insurance Program

The NFIP's current evaluations of flood insurance premiums and coverage are insufficient in assessing actual risk of major flooding events in the United States, which led to a significant deficit between revenue and damages.[60] To Determine flood insurance rates, the NFIP takes the following factors into account: (1) the year of building construction, (2) building occupancy, (3) number of floors, (4) the location of the building's contents, (5) flood risk (e.g., its flood zone), (6) the location of the lowest floor in relation to the Base Flood Elevation on the flood map, and (7) deductible and amount of building and contents coverage.[61] Establishing rates based on these factors and providing subsidies creates incentives for residents to remain in the flood plains.[62]

To make matters worse, the general flood insurance subsidies do not specifically target low-income households in high-flood-risk areas.[63] These subsidies cover some low-income households with limited assets, but they also cover wealthy, oceanfront homeowners, which leads to a disparate impact between wealthy and low-income households.[64] If these low-income residents in flood-prone areas are also mortgage-holders, they are mandated to purchase flood insurance even if they might be unable to afford it on top of their mortgage payments—making them even more financially vulnerable to significant flood events, especially as FEMA works to gradually eliminate subsidies."[65]

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[60] *See, e.g.*, Diane Katz, *The National Flood Insurance Program: Drowning in Debt and Due for Phase-Out*, THE HERITAGE FOUND., https://www.heritage.org/government-regulation/report/the-national-flood-insurance-program-drowning-debt-and-due-phase-out (last visited Dec. 19, 2019).
[61] *National Flood Insurance Program,* FED. EMERGENCY MGMT. AGENCY, https://www.floodsmart.gov/costs/why-am-i-paying-this-amount (last visited Dec. 19, 2019).
[62] Jennifer Wriggins, *Flood Money: The Challenge of U.S. Flood Insurance Reform in A Warming World*, 119 PA. ST. L. REV. 361, 424 (2014).
[63] *Id*. at 432.
[64] *Id.*
[65] *See Id*.

Rolling back what subsidies are available puts a significant burden on low-income communities.[66] These households will inevitably face an exponential increase in flood insurance premiums not only because of the rollbacks, but also because of the inherent premium increase due to more frequent 100-year flood events.[67] In North Carolina, more communities similar to Princeville will disparately feel the effects of eliminating the NFIP's flood insurance subsidies.

VI. Coming Soon: Risk Rating 2.0, Buyouts, and Environmental Justice Concerns

In October 2020, FEMA will move towards a policy that establishes a more comprehensive understanding of risk at the community and individual level.[68] FEMA calls this new policy "Risk-Rating 2.0" and claims it will "help customers better understand their flood risk" and provide them with more accurate rates based on their unique risk.[69] To enact this new structure and determine customer's flood risk, FEMA will incorporate multiple logical rating characteristics, such as: different types of floods, the building's distance from a flooding source, and the rebuilding cost of the home.[70]

Risk Rating 2.0 aims to ensure customers will not face drastic rate increases that typically accompany flood-risk map changes.[71] The goal is to ensure that every policyholder receives what they are due under the policy so that each household recovers faster.[72] However, this goal assumes that the new policy is affordable at its onset.[73] FEMA notes that the new rating engine will "allow policyholders to better understand their property's flood risk and how it is reflected in their cost of insurance."[74] But, what if these residents were only able to afford their home

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[66] *Id*. at 420.
[67] *Id*. at 405.
[68] *NFIP Transformation and Risk Rating 2.0*, *supra* note 13.
[69] *Id*.
[70] *Id*.
[71] *Id*.
[72] *See Id*.
[73] *See Id*.
[74] *Id*.

because it was located in a floodplain? If these residents are also mandated to purchase FEMA's new Risk-Rating 2.0 flood insurance, they will be disproportionately affected by the high costs associated with living in a vulnerable location.

In moving towards a more risk-based model, FEMA is also attempting to persuade residents to relocate to lower flood-risk areas.[75] Thus, an alternative for residents to enroll in the NFIP is to accept a government buyout of their property.[76] However, these communities might not want to move. As noted in Princeville, many residents want to preserve their culture and will stay despite the flood risks.[77] Additionally, residents of low-income communities are frequently skeptical of officials attempting, via buyouts, to displace them from their towns—even with good intentions.[78] These unforeseen ramifications of adjusting the NFIP's model, thus demonstrate environmental justice concerns that should be evaluated and considered.

With the increased risk of major flood events due to climate change,[79] FEMA needs to re-design the NFIP to account for socioeconomic factors that are inherent to communities living in flood zones.[80] These communities that tend to have a majority of low-income minority residents are not only geographically vulnerable, but also financially vulnerable.[81] Adjusting the NFIP to the Risk-Rating 2.0 policy will most likely see a disparate negative effect on these communities due to an inevitable increase in mandated flood insurance that more accurately accounts for flood risk.[82] These communities, that were placed in the most vulnerable and undesirable areas (via

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[75] Becky Hayat & Robert Moore, *Addressing Affordability and Long-Term Resiliency Through the National Flood Insurance Program*, 45 ENVTL. L. REP. 10338, 10339 (2015).
[76] *Id*.
[77] Jess Bidgood, *A Wrenching Decision Where Black History and Floods Intertwine*, NEW YORK TIMES (Dec. 9, 2016), https://www.nytimes.com/2016/12/09/us/princeville-north-carolina-hurricane-matthew-floods-black-history.html.
[78] *See* Lovett, *supra* note 9, at 50–51.
[79] Tarlock, *supra* note 1, at 491.
[80] *See, e.g.*, Anderson, *supra* note 3.
[81] *Id*. at 8.
[82] *See, e.g.*, *NFIP Transformation and Risk Rating 2.0*, *supra* note 13.

historically racial contexts),[83] should not be left defenseless to the increased effects of climate change. With major flood events increasing due to climate change, it is essential that policymakers evaluate who will bear the burden of harm to eliminate disparate impacts of climate change's effects. Hopefully, in adjusting the NFIP to Risk-Rating 2.0, FEMA can continue to evaluate and improve its premium rate structure to better evaluate and account for affordability. The impacts of climate change are not stagnant, and thus the NFIP should not be either.

[83] *See, e.g.*, Anderson, *supra* note 3.