Center for Water Policy

Keeping the National Flood Insurance Program (NFIP) Afloat: Updating Maps, Premiums, and Minimum Standards

Highlights

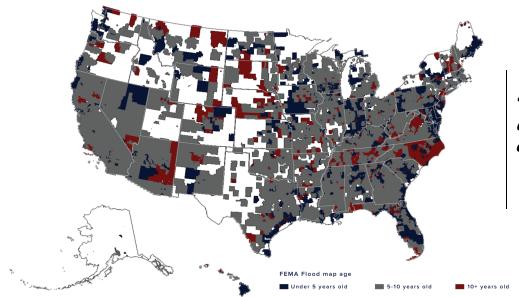
- Current flood maps greatly underestimate the nation's flood risk.
- The NFIP is in debt, with 1.3% of policies accounting for 25% of payments.
- NFIP debt can be reduced by phasing out grandfathered subsidies and updating maps, but this will financially burden communities within the floodplain.
- Means-tested subsidies can support disadvantaged communities within the floodplain who cannot bear the revisions' cost

Introduction

Flooding outpaces all other natural disasters in terms of direct economic impact and geographic reach, costing billions of dollars annually in the United States. The climate crisis is dramatically increasing the nationwide flood risk. The NFIP is one of the primary tools available to respond to this threat, but it is undermined by the financial burdens associated with its current structure. This brief considers various ways in which FEMA can revise the NFIP to increase its viability while minimizing potential inequities which may adversely affect disadvantaged communities' experiencing floods.

Context

To guide the NFIP implementation, FEMA develops flood zone maps that classify regions by their degree of flood risk. These maps may not adequately identify regions at risk for severe flood damage, as they are often outdated or unavailable for large swathes of the country. In the aftermath of Hurricane Harvey, for example, nearly 75% of residential structures damaged by flooding were located *outside* of the 100-year floodplain indicated on then-current FEMA flood maps. The inaccuracies have a disparate impact. In over two-thirds of states, areas with more residents of color have a greater amount of unmapped flood risk.

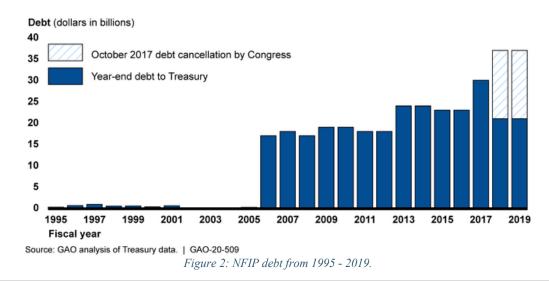


"In over two-thirds of states, areas with more residents of color have a greater amount of unmapped flood risk."

Figure 1: Map showing age of FEMA flood maps. Uncolored regions are unmapped. Source: First Street Foundation.

Context Continued

Furthermore, the NFIP is spending more than it is receiving. This problem is exacerbated by the practice of "grandfathering," which subsidizes premiums for high-risk properties. Through "grandfathering," properties constructed prior to the establishment of flood zones or in areas reclassified to higher-risk status may be charged premiums based on the previous, lower-risk status. To address this imbalance, FEMA planned revisions to NFIP premiums dubbed "Risk Rating 2.0." These revisions will set premiums based on individual property risk rather than flood zone, raising premiums for high-risk properties. However, it is important to note that taken alone this measure may overburden disadvantaged communities, an issue discussed in the "Implications" section of this brief.



Contributing to the NFIP's debt are multiple-loss properties, which experience repetitive flooding costing more than the property value. These properties constitute only 1.3% of all policies, yet account for 25% of NFIP payouts since 1978. To address these properties with a one-time investment father than a routine annual cost, insurance payouts can be treated as payment for property instead of compensation for damage. A "twice and out policy," where properties receiving payouts totaling double the home value are treated as purchase of property, can disincentivize continued development into areas with high flood-risk.

To encourage wiser development in floodplains, FEMA sets minimum floodplain management standards communities must adopt as a prerequisite to participating in the NFIP. However, existing standards may no longer be effective considering growing flood hazards. In January 2020, historic high-water levels in the Great Lakes region resulted in a federal disaster declaration for Milwaukee, Racine, and Kenosha counties. This damage occurred despite the implementation of protective structures (e.g., breakwaters, etc.) and setback distances, suggesting that minimum standards were insufficient.

FEMA recommends elevating property 1-2 feet above the "Base Flood Elevation." Requiring instead of recommending this would ensure new developments have a buffer against rising water levels. Additionally, communities could be required to maintain a minimum riparian green space corridor setback. Green space corridors can reduce flood risk and absorb stormwater runoff during smaller events.

Policy Recommendations

The Center for Water Policy recommends FEMA take the following actions:

- Update flood maps to reflect current and future flood risk.
- Set premiums based on actual flood risk and phase out grandfathered subsidies as planned in "Risk Rating 2.0"; but pair it with means-tested subsidies.
- Implement means-tested subsidies based on housing burden to support low-income households in regions with high flood-risk.
- Incorporate a property buyout program into the NFIP to manage the impact of multiple loss properties.
- Raise minimum freeboard elevation and setback requirements for new developments in floodplains.

By following these recommendations, FEMA can ensure the NFIP's financial viability, protect communities against the threat of severe flooding, and support disadvantaged communities whose finances are disproportionately affected by flooding intensified by climate disruption.

Implications

Updating flood zone maps can create opportunities for disadvantaged communities to receive insurance coverage, but at a cost. Nationwide NFIP premiums would need to increase an average of 4.5 times to adequately cover flood risk. Furthermore, market values for homes within the floodplain range from 3.5% to 12.2% lower than those outside it. Combined, these two effects could significantly strain the finances of disadvantaged communities within the floodplain.

Despite this, insurance coverage may be necessary to protect against potentially devastating losses associated with severe flooding. As of 2020, 35% of Americans stated they did not have \$400 in liquid assets to spend in the event of an emergency expense, while 12% stated they would be unable to pay for this expense by any means. A means-tested subsidy, as recommended above, could reduce premiums for low-income households with a disproportionately large housing burden. In a New York City case study, researchers determined that implementing such a subsidy resulted in \$182 million additional program revenue, suggesting other communities could see similar savings.

Sources:

- Union of Concerned Scientists, *Overwhelming Risk: Rethinking Flood Insurance in a World of Rising Seas* (Aug. 14, 2013), https://www.ucsusa.org/resources/overwhelming-risk-rethinking-flood-insurance-world-rising-seas#.WN6KD2Vd2JU.
- FEMA, *Elevating Floodprone Buildings Above Minimum NFIP Requirements* (Apr. 2017), https://www.fema.gov/sites/default/files/2020-07/elevating-flood-prone-buildings_iowa-floods-2016.pdf.
- Jeremy G. Carter, et al., *Adapting cities to climate change- exploring the flood risk management role of green infrastructure landscapes*, 61 J. of Env. Plan. and Mgmt. 1535 (Jun. 2017), https://web-p-ebscohost-
- com.ezproxy.lib.uwm.edu/ehost/pdfviewer/pdfviewer?vid=0&sid=e509172e-4be7-451d-a9ff-75b45e5bdbed%40redis.
- First Street Foundation, *Understanding FEMA Flood Maps and Limitations* (Mar. 21, 2019), https://firststreet.org/research-lab/published-research/understanding-fema-flood-maps-and-limitations/.
- Robin Kundis Craig, *Coastal adaptation, government-subsidized insurance, and perverse incentives to stay*, 152 Climatic Change 215 (2019).
- Sarah Pralle, Drawing Lines: FEMA and the politics of mapping flood zones, 152 Climate Change 227 (2019).
- Benjamin Miller et al., *Reasonable and Risk-Based? Replacing NFIP Generally Subsidized Rates with a Means-Tested Subsidy*, 85 S. Econ. J. 1180 (2019).
- Lei Zhang & Tammy Lee, Flood Hazards Impact on Neighborhood House Prices, 58 J. Real Estate Finan. Econ. 656 (2019).
- Ricardo Torres, *Evers asks Trump for federal aid for lakeshore damage; state eligible for \$10 million*, Milwaukee Journal Sentinel (Feb. 12, 2020), https://www.jsonline.com/story/news/local/milwaukee/2020/02/12/lake-michigan-evers-asks-trump-federal-aid-damaged-shoreline/4735622002/.
- FEMA, President Donald J. Trump Approves Major Disaster Declaration for Wisconsin (Mar. 11, 2020), https://www.fema.gov/news-release/20200514/president-donald-j-trump-approves-major-disaster-declaration-wisconsin.
- Christopher Flavelle, et al., *New Data Reveals Hidden Flood Risk Across America*, New York Times (Jun. 29, 2020), https://www.nytimes.com/interactive/2020/06/29/climate/hidden-flood-risk-maps.html.
- Tim Frazier et al., Socioeconomic implications of national flood insurance policy reform and flood insurance rate map revisions, 103 Natural Hazards 329 (2020).
- Saman Armal et al., Assessing Property Level Economic Impacts of Climate in the US, New Insights and Evidence from a Comprehensive Flood Risk Assessment Tool, 8 Climate 116 (2020).
- First Street Foundation, *The Cost of Climate: America's Growing Flood Risk* (Feb. 2021), https://assets.firststreet.org/uploads/2021/02/The_Cost_of_Climate_FSF20210219-1.pdf.
- NOAA, Billion-Dollar Weather and Climate Disasters, (Nov. 18, 2021), https://www.ncdc.noaa.gov/billions/.
- Cameron Wobus et al., *Climate Change, riverine flood risk and adaptation for the conterminous United States*, 16 Env. Research Letters 094034 (2021).
- Risk Management and Decision Process Center, *Closing the Flood Insurance Gap*, University of Pennsylvania (2021), https://riskcenter.wharton.upenn.edu/policy-incubator/upgrading-flood-insurance/closing-the-flood-insurance-gap/.

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