

# Local floodplain home buyouts can inform federal plans

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A residential buyout parcel in Chehalis, Washington, shown here, is part of Washington state's Floodplains by Design program. Credit: Matt Nakamoto

As climate change threatens residential areas, a longtime federal home buyout program—designed to eliminate risk to people and property—has become bureaucratically inaccessible and inequitable.

To offer solutions, Cornell researchers compared federal home buyout

policies with regional and state programs, demonstrating that coordinating local strategies at the federal level may make these buyouts more equitable and effective.

The work was published Oct. 26 in the journal *Climatic Change*.

"We have a major challenge with a spatial mismatch between where people currently live and where it is safe for people to live," said Linda Shi, assistant professor in the Department of City and Regional Planning in the College of Architecture, Art and Planning. "How do we respond to that kind of a challenge?"

The Federal Emergency Management Agency, or FEMA—an agency of the U.S. Department of Homeland Security—runs the Hazard Mitigation Grant Program (HMGP), which accounts for 70% of federally funded home buyouts. It's bought more than 43,000 homes since 1989, usually after a presidential disaster declaration. The buyouts aim to reduce flood insurance liability and turn the property into green space.

Problems with building homes on floodplains or coastal areas are inherently intricate. The researchers examined the vulnerability of homeowners in floodplains, who are offered a buyout, and what might have been left out of the decision-making process.

HMGP procedures favor single-family homeowners, nuclear households, those with a clear mortgage, U.S. citizenship and the ability to endure a burdensome process, according to the paper. Households with upside-down mortgages—where home loan debt exceeds the pre-disaster market value—are ineligible for a buyout, since such a payment would not resolve the debt.

"When you're looking at [complex problems](#), it is important to see them through a transdisciplinary lens," said Rebecca Morgenstern Brenner,

senior lecturer in the Cornell Jeb E. Brooks School of Public Policy. "It helps that we examine these problems from different fields to best understand what these communities are going to face."

In the paper, Cornell researchers and students examined five different jurisdictions, which offer insight into how buyouts can be more effectively implemented:

- New Jersey, a flood-prone, densely populated state, has seen at least eight federal flood-related disasters in the past 60 years. New Jersey's buyout program, Blue Acres, has a diverse staff that helps homeowners overcome bureaucratic hurdles and relocate faster. To date, the program has purchased 1,200 properties and demolished 700 properties in flood-susceptible inland municipalities.
- Washington has endured 30 federal flood federal disaster declarations since 1956, the researchers found. Today, the state promotes the Floodplains by Design program, which integrates floodplain management, salmon recovery and habitat restoration—encouraging communities to solve water, flood, fish and farm challenges. As of 2021, Floodplains by Design has reduced flood hazards in 59 communities, reconnected more than 7,000 acres of floodplains to their river systems, restored 50 miles of river habitat, and removed over 2,000 homes from high-risk flood zones, the researchers said.
- North Carolina's Mecklenburg County sits on the Catawba River Basin, a network of urban creeks that flashflood regularly during hurricanes. Local floods are not large enough to trigger federal disaster relief, so the region set up stormwater fees to fund an annual local budget for home buyouts—generally for homeowners that would not qualify for federal aid—an approach that enjoys popular public approval.
- Austin, Texas experiences extreme fluctuations in rainfall and is

vulnerable to flash flooding, which is exacerbated by climate change. Thirty years ago, Austin formed the Watershed Protection Department, modeled after the federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970. This group provides real estate and relocation assistance to those displaced and draws on funding sources to help owners bridge the cost between their old home and relocation. Hurricane Harvey led Austin to make buyouts a core strategy.

- Harris County, Texas—which includes Houston—has suffered seven major floods since 2016, including Hurricane Harvey that caused \$125 billion in damage. Before 2018, the Harris County Flood Control District (HCFCD) spent \$340 million buying out more than 3,000 properties and plans over 3,000 more under a new bond, the researchers said. Community groups claimed infrastructure investments were disproportionately deployed in wealthy white areas, so the Harris County Commission asked HCFCD to account for social equity and set the goal to assist people likely to experience the worst impacts first.

While the U.S. Congress has increased FEMA program funding, the agency is also trying to boost funds for pre-disasters and to become more equitable, Shi said.

"There are many things that sub-national programs have done that the national program could learn from in terms of expanding access to this program," Shi said. "This includes making it easier to join and participate, expanding access, reducing wait times, making it more transparent and having peer counselors who can walk homeowners through a complicated and emotional process."

The biggest takeaway is that communities need dedicated, long-standing programs to make the buyout process more equitable and responsive, Shi said. "Communities that start afresh after a disaster don't have the time

or capacity to be as thoughtful and inclusive," she said. "FEMA can help communities not just by giving more money for implementation, but also building institutions at state and regional levels."

**More information:** Linda Shi et al, Equitable buyouts? Learning from state, county, and local floodplain management programs, *Climatic Change* (2022). [DOI: 10.1007/s10584-022-03453-5](https://doi.org/10.1007/s10584-022-03453-5)

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