



North Carolina

Flood risk and mitigation

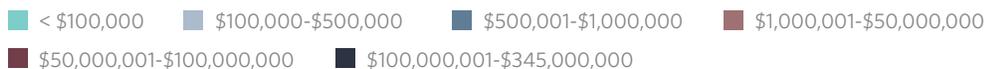
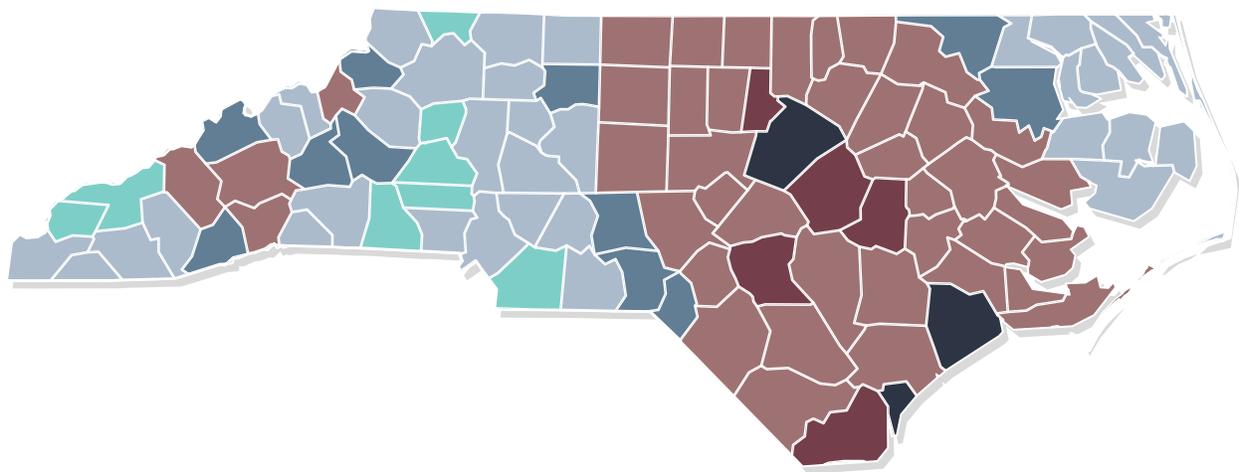
Overview

Floods and hurricanes are becoming more intense in North Carolina, and flooding is the state's second most common natural hazard, occurring every 7.6 days on average.¹ As these events become more serious, the physical and economic damage to communities and the threats to human lives and ecosystems also increase. Between 2000 and 2015, 17 federal disasters and emergencies were declared for floods, hurricanes, and severe storms in North Carolina, which exceeded \$456.3 million in total assistance from the U.S. government.²

Figure 1

Floods and Hurricanes Could Cost North Carolina Counties More Than \$1 Million a Year

Annual potential flood and hurricane loss estimates by county, 2013



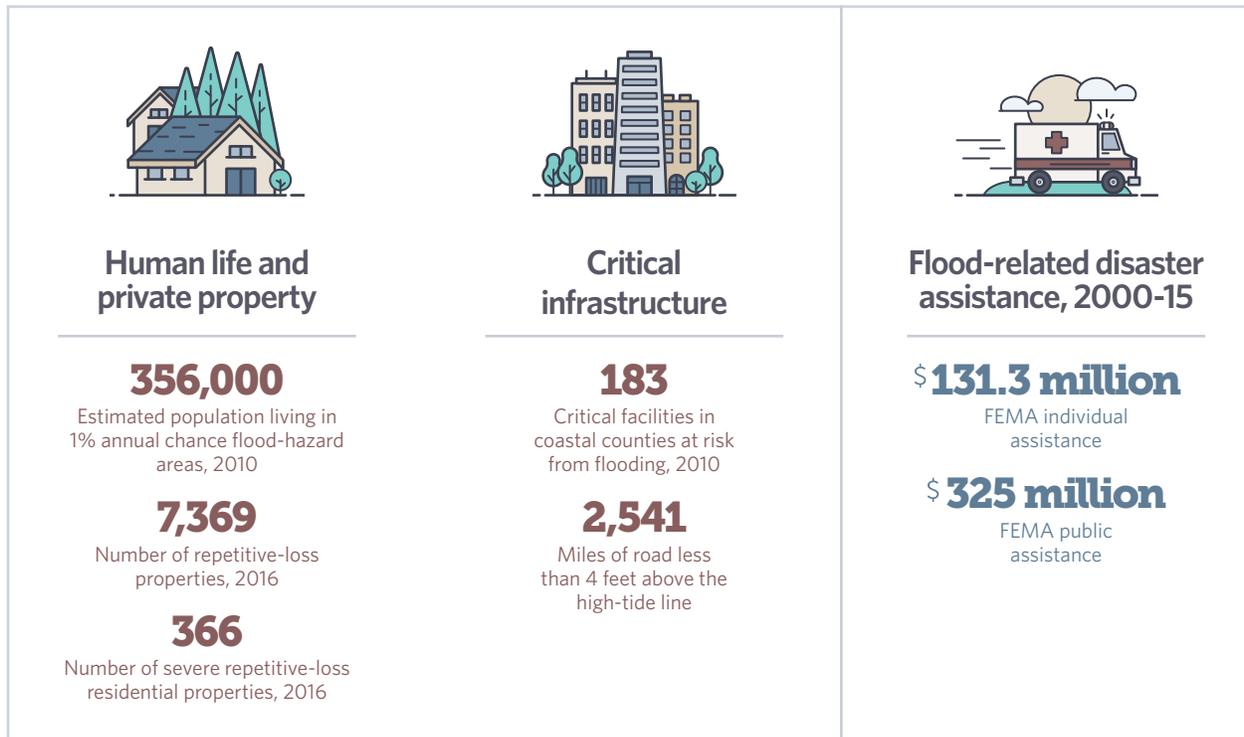
Source: North Carolina Department of Public Safety

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Figure 2

356,000 North Carolinians Live in Flood-Risk Areas

Life, property, and public infrastructure at risk from flooding, and past federal government aid



Note: One percent annual-chance flood-hazard areas are locations subject to flooding that has a 1 percent chance of being equaled or exceeded in any year. Repetitive-loss properties are National Flood Insurance Program-insured buildings and/or contents for which the program paid at least two claims of more than \$1,000 in any 10-year period since 1978. Severe repetitive-loss properties are those for which the program has either made at least four claim payments for buildings and/or contents of more than \$5,000 or at least two building-only claim payments for which the total amount exceeds the current value of the property. Critical facilities include schools, police stations, fire stations, and medical facilities from FEMA's Hazus database, and the figures shown represent those at risk of flooding from 2000 to 2001 according to FEMA's 2001 flood plain maps. Disaster assistance figures are as of May 26, 2016.

Sources: Mark English, "Special Flood Hazard Area Exposure Resource Map v2.0," accessed May 9, 2016, <http://www.arcgis.com/home/webmap/viewer.html?webmap=5767b4c3ac164e54916bc7ebc20d25d6>; Federal Emergency Management Agency, "Repetitive Loss State/Community Drilldown Nonmitigated Records Only," Jan. 31, 2016; Federal Emergency Management Agency, "Severe Repetitive Loss State Summary/Residential (Validated) Properties Only," Jan. 31, 2016; National Oceanic and Atmospheric Administration, "Coastal County Snapshots," <https://coast.noaa.gov/snapshots>; Climate Central, *North Carolina and the Surging Sea: A Vulnerability Assessment With Projections for Sea Level Rise and Coastal Flood Risk* (July 2014), <http://sealevel.climatecentral.org/uploads/ssrf/NC-Report.pdf>; and Federal Emergency Management Agency, "Disaster Declarations," accessed May 2, 2016, <https://www.fema.gov/disasters>

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Federal flood insurance helps communities prepare

Eighty-nine communities in North Carolina participate in the National Flood Insurance Program's Community Rating System. The voluntary program provides reduced insurance premiums in communities that proactively implement flood plain management practices—such as acquisition and relocation of flood-prone structures,

elevation of structures, and flood proofing—that exceed the program’s minimum requirements.³ The highest-rated communities in the state are Charlotte, Kinston, and Grifton, which each earned 25 percent discounts for eligible properties.⁴

Figure 3

State and Federal Investment Supports North Carolina’s Mitigation Efforts

Risk-reduction expenditures by program and level of government

| Program | Federal share | State share |
|-------------------------------------------------------------|----------------|----------------|
| Pre-disaster and other mitigation grants | \$55.7 million | \$13.2 million |
| Hazard Mitigation Grants made after flood-related disasters | \$48 million | \$15.1 million |

Sources: Federal Emergency Management Agency, “OpenFEMA Dataset: Hazard Mitigation Grants–V1,” March 9, 2016, <http://www.fema.gov/openfema-dataset-hazard-mitigation-grants-v1>; Federal Emergency Management Agency, “Hazard Mitigation Assistance Pre-Disaster Mitigation Data,” March 9, 2016, <https://www.fema.gov/media-library/assets/documents/103341>; Federal Emergency Management Agency, “Hazard Mitigation Assistance Repetitive Flood Claims (RFC) Data,” March 9, 2016, <https://www.fema.gov/media-library/assets/documents/103321>; Federal Emergency Management Agency, “Hazard Mitigation Assistance Severe Repetitive Loss (SRL) Data,” March 9, 2016, <https://www.fema.gov/media-library/assets/documents/103337>; *Climate Central, North Carolina and the Surging Sea: A Vulnerability Assessment With Projections for Sea Level Rise and Coastal Flood Risk* (July 2014), <http://sealevel.climatecentral.org/uploads/ssrf/NC-Report.pdf>; and Federal Emergency Management Agency, “Hazard Mitigation Assistance Flood Mitigation Assistance (FMA) Data,” March 9, 2016, <https://www.fema.gov/media-library/assets/documents/103339>

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Importance of policy

Communities must prepare for weather-related catastrophes such as floods and hurricanes, and U.S. policymakers should consider reforms that improve protection and preparation; minimize disruptions to the economy; and reduce costs to the federal government and taxpayers by:

- Increasing federal investment in proactive mitigation programs that help communities prepare for and reduce risk of floods.
- Improving resilience and durability requirements for infrastructure that is rebuilt after disasters.
- Protecting ecosystems, such as wetlands, salt marshes, and dunes, which can absorb storm impacts and help shield property.
- Reforming the National Flood Insurance Program to better communicate actual risk, break the cycle of repeated loss and rebuilding in the most flood-prone areas, and provide incentives to compel communities and homeowners to prepare in advance of floods.

Endnotes

- 1 U.S. Department of Energy “State of North Carolina Energy Sector Risk Profile” (2015), <http://www.energy.gov/sites/prod/files/2015/05/f22/NC-Energy%20Sector%20Risk%20Profile.pdf>.
- 2 Federal Emergency Management Agency, “Disaster Declarations,” accessed May 26, 2016, <https://www.fema.gov/disasters>.
Sum of individual assistance and public assistance for North Carolina flood-related major disaster and emergency declarations from 2000 to 2015.
- 3 National Flood Insurance Program, “Community Rating System (CRS),” accessed Aug. 1, 2016, https://www.floodsmart.gov/floodsmart/pages/crs/community_rating_system.jsp.
- 4 Federal Emergency Management Agency, Community Rating System (June 1, 2014), http://www.fema.gov/media-library-data/1398878892102-5cbcaa727a635327277d834491210fec/CRS_Communitites_May_1_2014.pdf.

For further information, please visit:

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