



Pennsylvania

Flood risk and mitigation

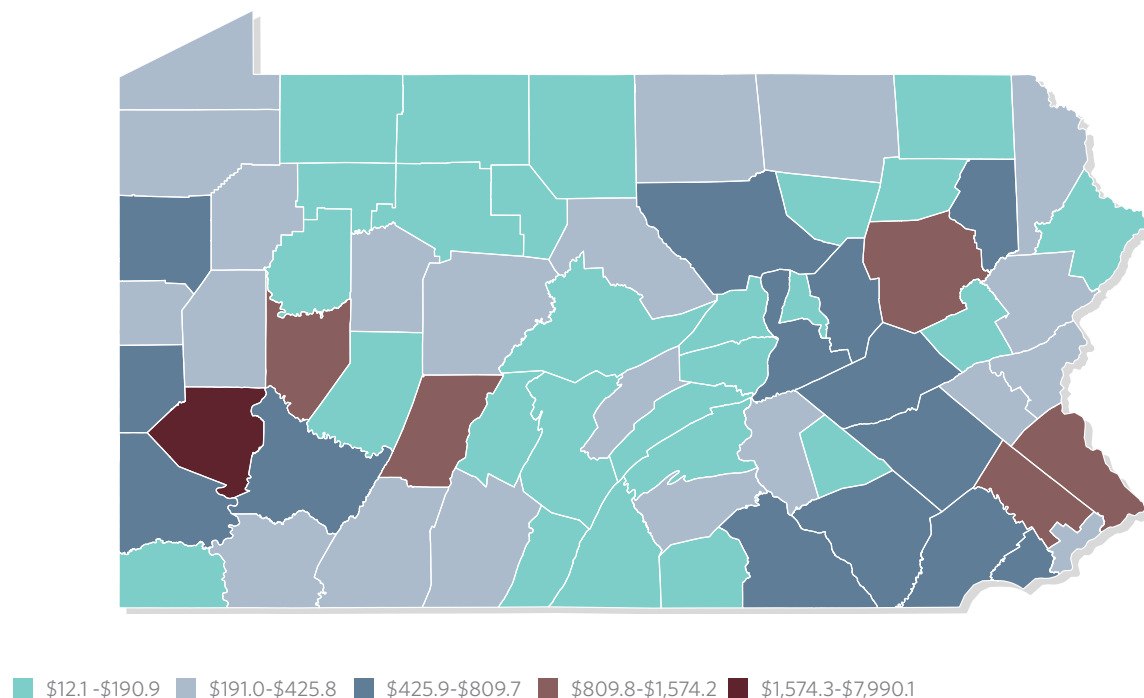
Overview

Floods and hurricanes are becoming more intense in Pennsylvania. 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, 20 federal disasters and emergencies were declared for floods, hurricanes, and severe storms in Pennsylvania that exceeded \$750 million in total assistance from the U.S. government.¹ Further, flooding is the single greatest cause of property loss due to natural hazards in the state: From 1996 to 2014, floods were responsible for \$91.6 million a year in losses.²

Figure 1

High Costs Anticipated as a Result of Flooding in Pennsylvania

Total economic loss estimates in 1% annual chance flood-hazard areas (in millions)



Note: One percent annual chance flood-hazard areas are designated locations subject to flooding that has a 1 percent chance of being equaled or exceeded in any year.

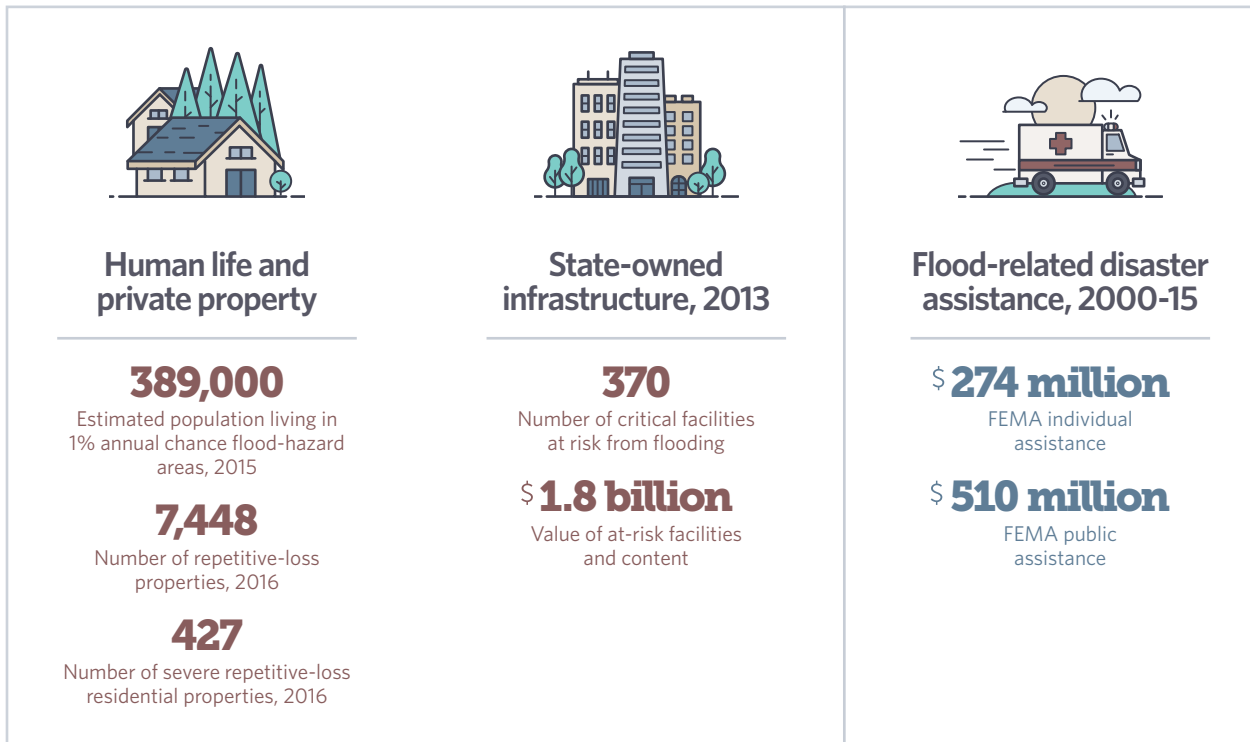
Source: Pennsylvania Emergency Management Agency

© 2016 The Pew Charitable Trusts

Figure 2

Nearly 400,000 Pennsylvanians 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 designated 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 are public and private assets and networks, physical and virtual—such as local power stations, major highway systems, and government buildings—the incapacitation or destruction of which would have a debilitating effect on national security, the economy, and/or public health and safety. Disaster assistance figures are as of April 20, 2016.

Sources: Mark English, "Special Flood Hazard Area Exposure Resource Map v2.0," accessed April 21, 2016, <http://www.arcgis.com/home/webmap/viewer.html?webmap=5767b4c3ac164e54916bc7ebc20d25d6>; 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>; Pennsylvania Emergency Management Agency, "Pennsylvania 2013 Standard State All-Hazard Mitigation Plan," <http://www.pema.pa.gov/responseandrecovery/Disaster-Assistance/Documents/General%20Mitigation%20Forms%20and%20Information/Pennsylvania%20State%20Hazard%20Mitigation%20Plan%20-%20Oct%2031%202013.pdf>; and Federal Emergency Management Agency, "Disaster Declarations," April 20, 2016, <https://www.fema.gov/disasters>

© 2016 The Pew Charitable Trusts

Federal flood insurance helps communities prepare

Thirty-one communities in Pennsylvania 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, relocation, and elevation of structures;

restoration and protection of natural spaces; and flood proofing—that exceed the program’s minimum requirements.³ The highest-rated communities in the state are the cities of Harrisburg and Wilkes-Barre, which each earned a 20 percent discount for eligible properties.⁴

Figure 3

State and Federal Investment Supports Pennsylvania’s Mitigation Efforts

Risk-reduction expenditures by program and level of government, 2000-15

Program	Federal share	State share
Pre-disaster and other mitigation grants	\$26.2 million	\$5.4 million
Hazard Mitigation Grants made after flood-related disasters	\$101.6 million	\$30.6 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>; 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>

© 2016 The Pew Charitable Trusts

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, that can absorb storm impacts and help shield property.
- Reforming the National Flood Insurance Program to better reflect actual risk, ensure sufficient financial reserves, and compel communities and homeowners to be more proactive in preparing for floods.

Endnotes

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

For further information, please visit:

pewtrusts.org/flood-prepared-communities

Contact: Laura Lightbody

Email: llightbody@pewtrusts.org

Project website: pewtrusts.org/flood-prepared-communities

The Pew Charitable Trusts is driven by the power of knowledge to solve today's most challenging problems. Pew applies a rigorous, analytical approach to improve public policy, inform the public, and invigorate civic life.