Congressional Budget Office

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Age of Flood Maps in Selected Counties That Account for Most of the Expected Claims in the National Flood Insurance Program: Supplemental Material for *The National Flood Insurance Program: Financial Soundness and Affordability*

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In this document, the Congressional Budget Office provides additional information about the age of flood maps in counties where CBO estimates that one-year expected claims for the National Flood Insurance Program are greater than $2 million. More information on how the agency estimated expected claims can be found in *The National Flood Insurance Program: Financial Soundness and Affordability*.[1]

[1] Congressional Budget Office, *The National Flood Insurance Program: Financial Soundness and Affordability* (September 2017), www.cbo.gov/publication/53028.

The Federal Emergency Management Agency (FEMA) develops flood insurance rate maps (FIRMs) that indicate various communities' flood risk. Those maps serve several purposes, including communicating flood risk to homeowners, businesses, and other entities and serving as the basis for FEMA's insurance rates. Every five years, FEMA is required to assess the need to revise and update the maps. Such updates can reflect changes in actual flood risk, which result from a variety of factors. One factor is the land's reduced ability to absorb water as development grows and permeable surfaces become scarcer. Another is increases in sea levels at various places along the coast, which can result from the ocean's rise or the land's sinking. Updates to the maps can also result from advancements in the technology available to measure flood risk.

Studies that have evaluated FEMA's progress in assessing the need to revise and update flood maps, or that have examined the percentage of flood maps of various ages, have done so either for the entire United States or for large regions, such as along all inland waterways.[2] However, because of the Congressional Budget Office's finding that expected flood insurance claims are concentrated in relatively few counties, the age of the maps for those counties is of particular interest.[3] Those maps cover most expected claims and underlie the insurance rates for the bulk of coverage under the National Flood Insurance Program (NFIP). In its September report, CBO found that 166 counties, or roughly 5 percent of counties in the contiguous United States, each had annual expected claims of at least $2 million and together accounted for 89 percent of the $3.7 billion of annual expected claims that CBO estimated for the NFIP as a whole. (That $3.7 billion is the one-year estimate of expected claims for all policies that were in place on August 31, 2016.) Among those 166 counties, 83 counties, accounting for 34 percent of all expected claims, had maps that were no more than 5 years old. And 17 counties, accounting for 14 percent of expected claims, had maps that were 16 years or older (see Table 1). Expected claims are further concentrated among the 166 counties. For example, CBO found that 16 counties each had expected claims of more than $50 million and together accounted for 56 percent of all NFIP expected claims.

FEMA and others have identified several factors that can affect the speed with which flood maps are updated. Those factors include funding limitations; local resistance to new maps (which might show a larger floodplain, requiring some homeowners to purchase insurance who had not

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[2] For example, a September 2017 report by the Department of Homeland Security's inspector general found that flood maps for 58 percent of the miles of inland flooding sources (such as rivers and streams) had not been verified within the prescribed five-year period; that is, they either required revision or had not yet been assessed for need of revision. See Office of Inspector General, *FEMA Needs to Improve Management of Its Flood Mapping Programs* (September 2017), p. 3, www.oig.dhs.gov/sites/default/files/assets/2017/OIG-17-110-Sep17.pdf. In 2008, the Government Accountability Office found that half of all flood maps in the United States were at least 15 years old. See Government Accountability Office, *FEMA's Rate Setting Process Warrants Attention* (October 2008), p. 28, www.gao.gov/products/GAO-09-12. And a recent Bloomberg analysis of FEMA data indicated that of the roughly 22,000 communities in the NFIP, 37 percent had FIRMs that were 5 years old or newer, 41 percent had FIRMs that were between 6 and 10 years old, 7 percent had FIRMs that were between 11 and 15 years old, and 15 percent had FIRMs that were at least 16 years old. See Michael Keller, Mira Rojanasakul, David Ingold, Christopher Flavelle, and Brittany Harris, "Outdated and Unreliable: FEMA's Faulty Flood Maps Put Homeowners at Risk," *Bloomberg* (October 6, 2017), www.bloomberg.com/graphics/2017-fema-faulty-flood-maps/.

[3] Counties often contain several NFIP communities, but FIRMs within a county are generally updated together as part of a flood map study.

previously been required to do so, or might show a higher level of risk within an existing floodplain, boosting insurance rates there); the expiration of mapping contracts before completion of the studies required for updating; and delays in mapping while levees, which alter flooding risks, are under construction.[4] CBO was not able to identify the reasons that FIRMs in any particular county were more or less up to date than those in another county.

[4] See National Research Council, *Tying Flood Insurance to Flood Risk for Low-Lying Structures in the Floodplain* (National Academies Press, 2015), www.nap.edu/catalog/21720/tying-flood-insurance-to-flood-risk-for-low-lying-structures-in-the-floodplain; Michael Keller, Mira Rojanasakul, David Ingold, Christopher Flavelle, and Brittany Harris, "Outdated and Unreliable: FEMA's Faulty Flood Maps Put Homeowners at Risk," *Bloomberg* (October 6, 2017), www.bloomberg.com/graphics/2017-fema-faulty-flood-maps; Office of Inspector General, *FEMA Needs to Improve Management of Its Flood Mapping Programs* (September 2017), www.oig.dhs.gov/sites/default/files/assets/2017/OIG-17-110-Sep17.pdf.

Table 1.
Number of Counties With More Than $2 Million in One-Year Expected Claims, and Their Percentage of All Claims, by Age of Counties' Flood Maps

Age of Counties' Flood Maps	Counties' Expected Claims (Millions of dollars) 2 to 10	10 to 50	More than 50	Total
	Number of Counties			
0 to 5 years	62	15	6	83
6 to 10 years	26	10	5	41
11 to 15 years	16	5	4	25
16 years or more	9	7	1	17
All ages	113	37	16	166
	Counties' Percentage of All Expected Claims			
0 to 5 years	7	8	19	34
6 to 10 years	3	5	21	29
11 to 15 years	2	4	7	12
16 years or more	1	4	9	14
All ages	13	20	56	89

Source: Congressional Budget Office, using data from FEMA and Guy Carpenter and Company.

The data are based on the FEMA-issued FIRMs that were effective for each county on October 20, 2017. The effective FIRMs for a county are generally updated together; if they were not, the date of the newest effective FIRM is used for the county.

The table excludes the 2,942 counties with one-year expected claims of less than $2 million. Expected claims in the 166 counties that each had one-year expected claims of more than $2 million totaled $3.3 billion. CBO estimated total one-year expected claims for NFIP policies in place on August 31, 2016, in the contiguous United States to be $3.7 billion. That estimate approximates annual expected claims for the NFIP currently.

Components may not add up to totals because of rounding.

FEMA = Federal Emergency Management Agency; FIRM = flood insurance rate map; NFIP = National Flood Insurance Program.