



FACT SHEET

LOSING GROUND: SEVERE REPETITIVE FLOODING IN THE UNITED STATES

Frequently Asked Questions

BACKGROUND

What is the National Flood Insurance Program?

The National Flood Insurance Program (NFIP) was created in 1968 to provide affordable insurance against flood risk. The program is administered by the Federal Emergency Management Agency (FEMA). Today the NFIP covers about five million properties in more than 22,000 communities across the United States.¹

In addition to providing flood insurance, the program produces and distributes flood risk maps and establishes minimum building and zoning codes that are intended to guide new development away from flood-prone areas. For NFIP coverage to be available in a given community, that community must participate in the NFIP and adhere to those minimum codes and standards.

What is a Severe Repetitive Loss Property?

Severe Repetitive Loss Properties (SRLPs) are the most flood-prone properties covered by the NFIP. Under the NFIP, a property is considered an SRLP if it has received:

- four or more separate claim payments of more than \$5,000 each (including claims for both the building and its contents);
or
- two or more separate claim payments (for the building only) where the total of those payments exceeds the value of the property.²

As of December 2022, the nation's approximately 44,000 SRLPs accounted for more than 10 percent of all the damage claims paid out by the program, despite representing less than 1 percent of NFIP policies.³

Keep in mind that, by definition, every property designated an SRLP is covered (or was once covered) by an NFIP policy. There are undoubtedly more properties across the nation with similar flood histories, but they are not captured by NFIP statistics and are not included in this dashboard.

What does it mean if an SRLP is “mitigated”?

If an SRLP is listed as “mitigated,” that means it received some kind of hazard mitigation action to reduce risk and decrease the impact of a future flood. This might mean elevating the building, demolishing it as part of a voluntary buyout, replacing it with a new structure that can better withstand flooding, or even relocating it outside the floodplain. These actions are proven to reduce flood risk and save money in the long term.⁴ However, over the life of the NFIP, less than one-quarter of SRLPs (10,601 out of 44,616 properties) have been mitigated, according to data NRDC received from FEMA. It is clear that mitigation efforts are not keeping pace with increasing flood risk.

Unlike the dataset used for the original Losing Ground dashboard, the December 2022 dataset that FEMA provided to NRDC did not include information about the types of mitigation applied to SRLPs. But based on FEMA’s earlier dataset (covering the creation of the NFIP through May 2018), we found that 51 percent of mitigated SRLPs were relocated or demolished, 27 percent were elevated, 11 percent were replaced by a new elevated or flood-proofed building, and the rest received some other kind of action. Mitigation actions are not generally funded directly by NFIP claim payments; funds might come from federal grants or loans, Increased Cost of Compliance (ICC) coverage under the NFIP, state or local programs, self-funding by the building owner, or a combination of funding sources.

What is an “insured” SRLP?

The dashboard distinguishes between SRLPs that are not mitigated but are currently insured under the NFIP and SRLPs that are not mitigated but are *not* currently insured under the NFIP—that is, SRLPs that appear to have dropped out of the program. Out of the 34,015 SRLPs that have not been mitigated, 16,382 (48 percent) are insured and 17,633 (52 percent) are not.

What do the different flood zones mean?

FEMA’s Flood Insurance Rate Maps (FIRMs) divide land into zones according to the level of flood risk (as calculated by the agency). The “Flood Zones” tab at the bottom of the dashboard shows how many SRLPs in the selected state are categorized into the following zones:

- A zones are considered to be inside a Special Flood Hazard Area (SFHA). The SFHA covers what is commonly referred to as a “100-year floodplain” or “1 percent annual chance floodplain.” Based on its calculations, FEMA expects this area to have a 1 percent chance of flooding in any given year.⁵ During the lifetime of a standard 30-year mortgage, a home in the 100-year floodplain has a 26 percent chance of flooding at least once.⁶ Properties in the SFHA may be required to be covered by flood insurance.⁷
- V zones are also within an SFHA/100-year floodplain, but they have additional risk from high waves during coastal storms.
- B, C, and X zones are considered to have lower risk because they are outside the 100-year floodplain. However, they can still experience flooding.
- Other zones, which are grouped together in the chart, include areas for which FEMA has not determined risk. This category also includes SRLPs that do not have a reported flood zone.

Overall, about 80 percent of SRLPs are within the 100-year floodplain. If a state or community has a relatively large percentage of SRLPs outside the 100-year floodplain, it is likely that local flood maps are out of date and do not accurately reflect areas with high flood risk.

What does “Flood Map Status” mean?

The “Flood Map Status” tab shows how many SRLPs in a given state were built before and after the first Flood Insurance Rate Map (FIRM) was adopted for that location: a “pre-FIRM” property was built before the first FIRM was adopted in its community, and a “post-FIRM” property was built after.⁸

The FIRMs not only indicate locations that FEMA considers to be at higher risk of flooding, but they also are used by communities to determine and adopt floodplain management plans regulating where and how floodplain development can take place. On average, we expect pre-FIRM properties to have a higher flood risk than post-FIRM properties because they were not held to the NFIP’s minimum location and construction standards when they were built. According to FEMA’s dataset, approximately 82 percent of SRLPs are pre-FIRM properties.

In some locations, however, post-FIRM properties make up a larger proportion of SRLPs. For example, in Santa Rosa County, Florida, more than 60 percent of all SRLPs are categorized as post-FIRM. This suggests that development has been allowed in areas that the local government knows are vulnerable to flooding.

ABOUT THE DATA

What information is included in the dashboard? Where did it come from?

NRDC obtained the SRLP dataset directly from FEMA. The dataset used in the updated version of the dashboard contains information through December 11, 2022. It includes detailed information on the nine most recent NFIP claim payments for each SRLP, as well as the total number of claims, the total amount paid on those claims by the NFIP, and characteristics of the building (e.g., value, mitigation status, insurance status, and building type).

Some calculations in the Losing Ground dashboard use publicly available datasets of NFIP claims and policies, which were downloaded from FEMA's OpenFEMA site in September 2023.⁹

Is the SRLP dataset publicly available?

You can download the current version of the SRLP dataset, in Microsoft Excel format, from the main Losing Ground website. The spreadsheet contains the data and explanatory information that FEMA provided to NRDC. (It does not include the additional calculations that NRDC performed to estimate SRLP trends over time.) Please note that the FEMA dataset may include errors, omissions, misclassifications, or other inaccuracies.

You are free to use the downloaded dataset for any purpose. If you use it to create a compelling graphic or tell an interesting story, please let us know! You can contact us via the NRDC website, <https://www.nrdc.org/contact-us>, or tag us on social media. We'd love to see what you come up with.

METHODS

Which data fields did NRDC calculate?

To display trends in SRLPs over time, NRDC estimated the date when each property qualified as an SRLP and (if applicable) when it was mitigated or when it dropped insurance. The SRLP dataset, as provided by FEMA, includes detailed information on the claim history of each property. However, it does not specify when each property became an SRLP (i.e., when it first met the SRLP definition). Also, while the dataset indicates whether properties have been mitigated and whether they are currently insured under the NFIP, it does not specify when a mitigation action took place or when insurance coverage was dropped. NRDC estimated those dates using the methods described below.

How did you estimate the date that each property became an SRLP?

As described above, a property becomes an SRLP by meeting one of two sets of criteria.¹⁰ It has received either:

- four or more separate claim payments of more than \$5,000 each (including claims for both the building and its contents);
or
- two or more separate claim payments (for the building only) where the total of those payments exceeds the value of the property.

We refer to these as Definition A and Definition B, respectively. To estimate the date when each property qualified as an SRLP (the property's "SRLP date"), NRDC performed two sets of calculations. If a property met the criteria under both definitions, NRDC used the earlier date as the SRLP date.

Definition A: Four or More Claim Payments of \$5,000 Each

For each property, NRDC determined whether there was a claim payment of at least \$5,000 (counting both building and contents claim amounts) preceded by three previous payments that were also at least \$5,000.

- 32,151 SRLPs met this definition.
- 977 additional SRLPs appear to have met the Definition A criteria either prior to their most recent nine claims (based on the total number of claims prior to the most recent nine and the average value of those claims) or at an unknown time during their claim history. Because it is impossible to determine the SRLP date for these properties, NRDC excluded them from further analysis.

Definition B: Two or More Claims That Together Exceed the Property Value

For each property, NRDC determined when the total claim amount (using building claims only) exceeded the reported building value. (By definition, all of the properties in the SRLP dataset have at least two claims.)

- 18,829 SRLPs met this definition.
- An additional 3,007 SRLPs have a reported building value of zero. NRDC excluded these properties from further analysis.
- An additional 186 properties appear to have met the Definition B criteria prior to their most recent nine claims. Because it is impossible to determine the SRLP date for these properties, NRDC excluded them from further analysis.

If a property was excluded from either definition (because it appeared to meet the criteria before the most recent nine losses), it was excluded from all further calculations, even if it also qualified under the other definition.

Ultimately, NRDC was able to assign an SRLP date to 40,092 properties (90 percent of the dataset).

How did you estimate the date when a property was mitigated? How did you estimate the date when a property dropped insurance?

The SRLP dataset provided by FEMA does not specify mitigation dates or the date that a property became uninsured. In both of these cases, NRDC used the date of the most recent claim as a proxy.

These dates are likely to be older than the actual dates, especially in the case of mitigation; for example, an NRDC analysis of FEMA data showed that voluntary buyouts take an average of five years to complete after the date of a flood or storm.¹¹ However, because most federal funding for flood mitigation becomes available in response to a disaster, this approach visually links large flooding events (which cause many properties to become SRLPs) and the mitigation efforts funded in response to those events.¹²

How did you determine where a property is (or was) located?

For privacy reasons, FEMA redacted the street addresses of the SRLPs before providing the data. However, the SRLP dataset does include the NFIP participating community (the jurisdiction overseeing NFIP requirements in that location), the city name, the zip code, and the county.

The 2020 version of the Losing Ground dashboard displayed SRLPs by county. However, in the dataset, the actual county where SRLPs are located was unclear (e.g., because the county was not consistent with the zip code), and NRDC had to manually review the county assignment of each SRLP. To provide a more consistent and accurate illustration of where SRLPs are located, the updated version of the dashboard uses NFIP participating communities rather than counties. For more information on NFIP participating communities, see FEMA's Community Status Book.¹³ The map indicates the number of SRLPs in each NFIP participating community at the center of that community's area, according to the "political jurisdiction" layer in the National Flood Hazard Layer as of October 2023.¹⁴

USING THE DASHBOARD

How do I view the data for a particular state or county?

Use the drop-down menus at top of the bar chart to filter according to state and NFIP participating community (or county equivalent). You may select more than one state or community (to select communities in multiple states, leave the state filter blank). The number of SRLPs and the graphs/charts will update to reflect your selection, and the map will zoom to that area.

You can also use the navigation buttons at the upper left of the map. Hover over the left side of the map to view the menu, then use the (+) and (-) icons to zoom in and out, use the home icon to return to the default view, and click the triangle icon to access additional navigation options, including zoom (the rectangle icon with the magnifying glass) and pan (the icon with four arrows). Click a particular location to change the selection, or hover over the map to view selected data points for an NFIP participating community.

Can I look up a specific address?

FEMA redacted street addresses from the SRLP dataset for privacy reasons. To view or use the data at a higher level of geographic precision than shown in the dashboard (e.g., by zip code), download the full dataset from the Losing Ground website.

What does the bar chart at the top of the dashboard show?

This graph shows how we are losing ground—literally and figuratively—by failing to reduce flood risk.

The total height of each bar represents the total number of properties that have met the criteria to become SRLPs in a given state or NFIP participating community. The orange area in the lower sections of the graph shows the number of current (non-mitigated) SRLPs. A steep jump, such as in 2017 in Texas, means that many properties became SRLPs in that year; not only did Hurricane Harvey cause massive flooding in August 2017, but for many residents it was the third flood in the same number of years. Texas properties that had already sustained damage in 2015 and/or 2016 were especially likely to qualify as SRLPs after Harvey.

The gray areas of the bars show the number of mitigated SRLPs. As described above, the graph likely does not show the actual year that a mitigation action took place, but rather indicates the flood event that led to the mitigation. As a result, mitigation tends to increase along with an increase in new SRLPs, but it levels off shortly thereafter. The red areas show the number of SRLPs that became uninsured without mitigation (e.g., because property owners could no longer afford insurance and dropped their coverage).

The numbers in the bar chart may be slightly different from the numbers shown on the map. This is because the chart includes only the SRLPs for which we could estimate dates. See the Methods section above for a discussion of why certain SRLPs were excluded from the time-frame analysis.

ENDNOTES

- 1 Diane P. Horn and Baird Webel, “Introduction to the National Flood Insurance Program (NFIP),” Congressional Research Service, November 27, 2023, R44593, <https://crsreports.congress.gov/product/pdf/R/R44593>.
- 2 Federal Emergency Management Agency (hereinafter FEMA), “Guidance for Severe Repetitive Loss Properties,” October 1, 2011, https://www.fema.gov/pdf/nfip/manual201205/content/20_srl.pdf.
- 3 These figures were calculated using the SRLP dataset that NRDC received from FEMA, in combination with NFIP claim and policy data available from OpenFEMA (<https://www.fema.gov/about/openfema/data-sets>).
- 4 National Institute of Building Sciences Multi-Hazard Mitigation Council, *Natural Hazard Mitigation Saves: 2019 Report*, December 2019, <https://www.nibs.org/projects/natural-hazard-mitigation-saves-2019-report>.
- 5 FEMA, “Special Flood Hazard Area (SFHA),” last modified July 7, 2020, <https://www.fema.gov/glossary/special-flood-hazard-area-sfha>.
- 6 For more information on the concept of the 100-year floodplain, see U.S. Geological Survey, “100-Year Flood—It’s All About Chance,” April 2010, General Information Product 106, <https://pubs.usgs.gov/gip/106/pdf/100-year-flood-handout-042610.pdf>.
- 7 FEMA, “Mandatory Purchase,” last modified March 5, 2020, <https://www.fema.gov/node/404832>.
- 8 FEMA, “Pre-FIRM Building,” last modified July 18, 2018, <https://www.fema.gov/glossary/pre-firm-building>.
- 9 FEMA, “OpenFEMA Data Sets,” last modified December 6, 2023, <https://www.fema.gov/about/openfema/data-sets>.
- 10 Some funding programs use (or have used) slightly different definitions of SRLPs. For the purposes of this dashboard, we use the definition from FEMA’s NFIP manual. For more information, see FEMA, Appendix F, in *National Flood Insurance Program Flood Insurance Manual*, October 2022, <https://www.fema.gov/flood-insurance/work-with-nfip/manuals/current>.
- 11 Anna Weber and Rob Moore, “Going Under: Long Wait Times for Post-Flood Buyouts Leave Homeowners Underwater,” NRDC, September 12, 2019, <https://www.nrdc.org/resources/going-under-long-wait-times-post-flood-buyouts-leave-homeowners-underwater>.
- 12 Anne Stauffer, Justin Theal, and Colin Foard, “Natural Disaster Mitigation Spending Not Comprehensively Tracked,” Pew, September 2018, <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2018/09/natural-disaster-mitigation-spending--not-comprehensively-tracked>.
- 13 FEMA, “Community Status Book,” last modified March 17, 2022, <https://www.fema.gov/flood-insurance/work-with-nfip/community-status-book>.
- 14 FEMA, “National Flood Hazard Layer,” last modified August 26, 2021, <https://www.fema.gov/flood-maps/national-flood-hazard-layer>.