NRDC

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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 May 2018, the nation's approximately 37,000 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.

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.[3] However, over the life of the NFIP, less than one-third of SRLPs (9,971 out of 36,774 properties) have been mitigated. It is clear that mitigation efforts are not keeping pace with increasing flood risk.

Of the mitigated SRLPs, 51 percent were relocated or demolished, 27 percent were elevated, 11 percent were replaced by a new elevated or floodproofed 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, 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 a "current" SRLP?

Mitigated SRLPs should no longer have a high risk of flooding. While they remain in the SRLP dataset, NRDC does not consider them to be current SRLPs. The dashboard distinguishes between the total number of SRLPs in a location (all of the SRLPs that have ever been added to the list) and the current number of SRLPs (SRLPs that have not been mitigated).

The number of current SRLPs includes 11,428 properties that have not been mitigated and are not currently insured under the NFIP. NRDC considers these to be current SRLPs because it is likely that they still have a high risk of flooding.

What does "FIRM status" mean?

"FIRM" stands for Flood Insurance Rate Map. A "pre-FIRM" property was built before the first FIRM was adopted in its community.[4] These maps not only indicate locations that FEMA considers to be at higher risk of flooding, but are also 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 same location and construction standards when they were built. Approximately 85 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.

What do the different flood zones mean?

FEMA's flood insurance maps divide land into zones according to the level of flood risk (as calculated by the agency). The pie chart at the lower right of the dashboard shows how many SRLPs in the selected state or county 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 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]
- "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 county or state has a relatively large percentage of SRLPs outside the 100-year floodplain, it could mean that local flood maps are out of date and do not accurately reflect areas with high flood risk.

ABOUT THE DATA

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

NRDC obtained the SRLP dataset directly from FEMA. This dataset is an updated version of the one that NRDC used to develop its 2017 report *Seeking Higher Ground: How to Break the Cycle of Repeated Flooding With Climate-Smart Flood Insurance Reforms*. The dataset is accurate as of May 31, 2018, and contains 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, and characteristics of the building (e.g., value, mitigation status, insurance status, and building type).

To provide context for the SRLP information, the visualization tool also includes all NFIP claims data. FEMA made this impressive dataset available online for the first time in June 2019; it includes all 2.4 million NFIP flood insurance claims dating back to the start of the program.[7] NRDC will update the dashboard periodically as FEMA releases new data. You can download the latest version of this dataset on FEMA's website at *https://www.fema.gov/openfema-data-page/fima-nfip-redacted-claims*.

Is the SRLP dataset publicly available?

You can download 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 or adjust county assignments.) Please note that the 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.[8] 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.

- 26,166 SRLPs met this definition.
- 785 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. (All of the properties in the SRLP dataset have at least two claims.)

- 17,441 SRLPs met this definition.
- An additional 990 SRLPs have a reported building value of zero. NRDC excluded these properties from further analysis.
- An additional 106 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 35,000 properties (95 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, a recent report from NRDC showed that voluntary buyouts take an average of five years to complete.[9] 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.[10]

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.

When analyzing the SRLP dataset, we noticed that some of the counties did not match the reported cities or ZIP codes, or our knowledge of local flood patterns. This is likely because many NFIP participating communities span multiple counties but the SRLP dataset allows for only one county per property. For example, several SRLPs in Charleston, South Carolina, were assigned to Berkeley County while the ZIP codes indicated that they should be assigned to Charleston County.

If there appeared to be a conflict between the NFIP community, city, and/or ZIP code and the county, we determined whether and how to reassign the county on the basis of the following data sources:

- The NFIP Community Status Book[11]
- The U.S. Department of Housing and Urban Development ZIP-county crosswalk[12]
- U.S. Census Bureau ZIP Code Tabulation Areas[13]

The SRLP dataset available for download is the original version that FEMA provided to NRDC. It does not include our updated county assignments.

USING THE DASHBOARD

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

Use the drop-down menus at top of the dashboard to filter according to state and county (or county equivalent). You may select more than one state or county (to select counties 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. 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 county to change the selection, or hover over the map to view selected data points for a county.

Can I look up a specific address?

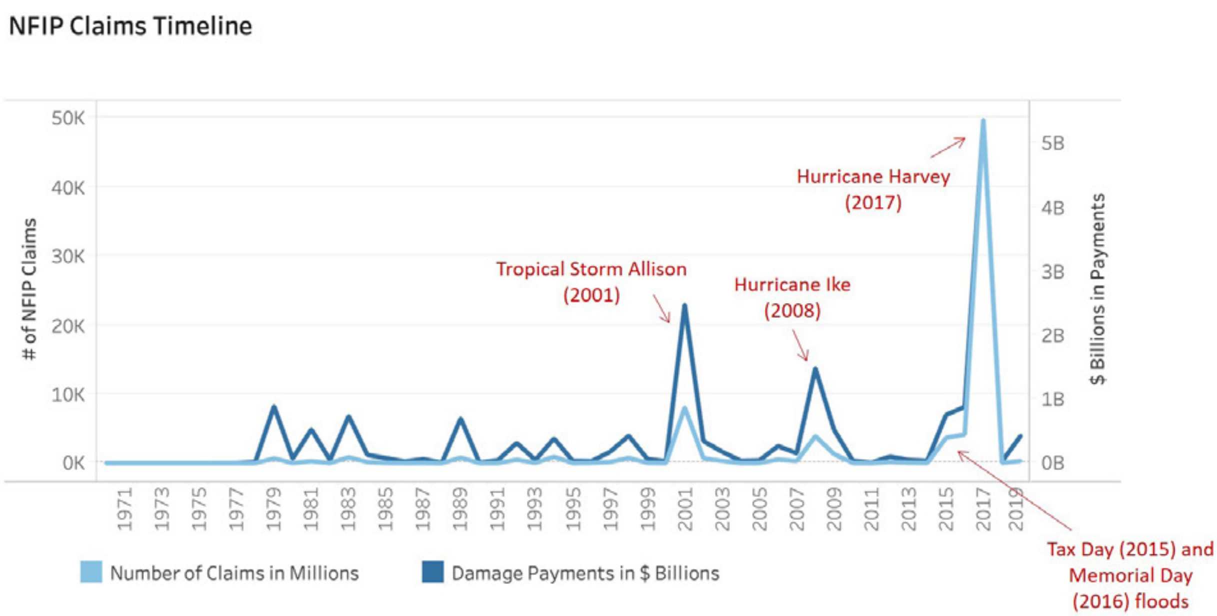
FEMA redacted street addresses from both datasets but included other geographic information such as Census tract (for NFIP claims) and ZIP code (for SRLPs). However, to protect the privacy of flood insurance policyholders and their neighbors, the dashboard summarizes information at the state and county levels.

To view or use the data at a higher level of geographic precision—the ZIP code level for the SRLP dataset and the Census tract level for the NFIP claims dataset—download the datasets from the Losing Ground website and the FEMA website, respectively.

What does the NFIP Claims Timeline show?

This graph shows the annual number of NFIP claims and the associated amount paid for the selected location(s). This can provide useful context for the SRLP Timeline because many properties qualify as SRLPs as a result of a large flood event like a hurricane or historic rainstorm—events that also trigger large numbers of flood insurance claims in general. For example, in Harris County, Texas, large spikes in flood insurance claims/payments took place in 2001 due to Tropical Storm Allison, in 2008 due to Hurricane Ike, and in 2017 due to Hurricane Harvey. The Tax Day and Memorial Day floods in 2015 and 2016, respectively, also caused widespread flooding but did not trigger as many flood insurance claims as the named storms.

NFIP CLAIMS TIMELINE EXAMPLE FOR HARRIS COUNTY, TEXAS, SHOWING MAJOR FLOOD EVENTS SINCE 2001



What does the SRLP Timeline show?

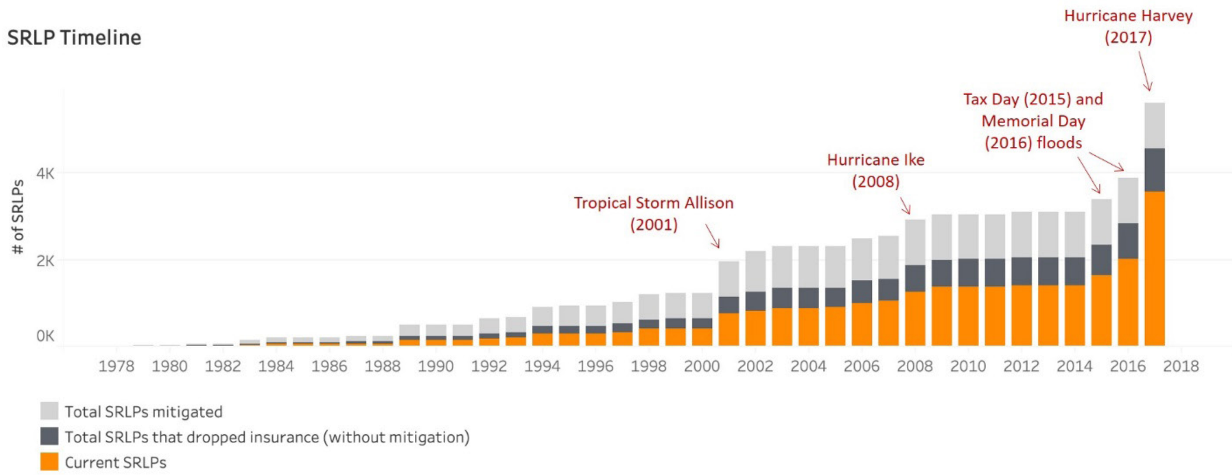
This graph shows how we are losing ground—literally and figuratively—by failing to reduce flood risk.

The orange area in the lower sections of the graph shows the number of current (non-mitigated) SRLPs. A steep jump, such as in 2001 in Harris County, Texas, means that many properties became SRLPs in that year. The increase in 2017 in Harris County is especially steep; not only did Hurricane Harvey cause massive flooding, but for many residents it was the third flood in the same number of years. Properties that had already sustained damage in 2015 and/or 2016 were especially likely to qualify as SRLPs during Harvey.

The gray areas of the graph show the number of mitigated SRLPs and the number of SRLPs that became uninsured without mitigation. 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 numbers in the SRLP Timeline may be slightly different from the numbers shown on the map or pie chart. This is because it 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 timeframe analysis.

SRLP TIMELINE EXAMPLE FOR HARRIS COUNTY, TEXAS, SHOWING MAJOR FLOOD EVENTS SINCE 2001



ENDNOTES

1 Diane P. Horn and Baird Webel, "Introduction to the National Flood Insurance Program (NFIP)," Congressional Research Service report R44593, December 2019, https://fas.org/sgp/crs/homesec/R44593.pdf.

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 National Institute of Building Sciences Multi-Hazard Mitigation Council, Natural Hazard Mitigation Saves: 2019 Report, December 2019, https://www.nibs.org/page/mitigationsaves.

4 FEMA, "Pre-FIRM Building," July 18, 2018, https://www.fema.gov/glossary/pre-firm-building.

5 FEMA, "Special Flood Hazard Area (SFHA)," 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 United States Geological Survey, "100-Year Flood—It's All About Chance," General Information Product 106, April 2010, https://pubs.usgs.gov/gip/106/pdf/100-year-flood-handout-042610.pdf.

7 For more information on this data release, see Anna Weber, "FEMA Flood Data: 2.4 Million Damage Claims and Counting," NRDC Expert Blog, June 13, 2019, https://www.nrdc.org/experts/anna-weber/fema-flood-data-24-million-damage-claims-and-counting.

8 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, "National Flood Insurance Program Flood Insurance Manual," Appendix I, April 1, 2019, https://www.fema.gov/media-library/assets/documents/178743.

9 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.

10 Anne Stauffer, Justin Theal, and Colin Foard, "Natural Disaster Mitigation Spending Not Comprehensively Tracked," The Pew Charitable Trusts, September 2018, https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2018/09/natural-disaster-mitigation-spending--not-comprehensively-tracked.

11 FEMA, "Federal Emergency Management Agency Community Status Book Report: Communities Participating in the National Flood Program," July 29, 2020, https://www.fema.gov/cis/nation.pdf.

12 HUD, "HUD USPS ZIP Code Crosswalk Files," Fourth Quarter 2019, https://www.huduser.gov/portal/datasets/usps_crosswalk.html.

13 U.S. Census Bureau, "ZIP Code Tabulation Areas (ZCTAs)," last revised July 21, 2020, https://www.census.gov/programs-surveys/geography/guidance/geo-areas/zctas.html.