

# Estimating undisclosed flood risk in real estate transactions in Minnesota

## Financial Implications for single-family home buyers

Commissioned by Natural Resources Defense Council (NRDC)

Larry Baeder, Data Scientist  
Sean Gao, Data Scientist  
Greg Dietzen, FCAS, MAAA, Consulting Actuary



## Purpose of Report

The Natural Resources Defense Council (NRDC) is a not-for-profit organization that engaged Milliman, Inc. (Milliman), an independent actuarial consulting firm, to study the potential amount of undisclosed flood risk in 25 states by estimating the total number of homes damaged by prior flooding.

## Background

Like most states, those in the study area generally do not have laws that effectively require that flood damage be disclosed in real estate transactions. Homes that have experienced flooding in the past are more likely to experience flood damage in the future, meaning buyers of previously damaged homes can unknowingly purchase homes that are at an increased risk of flooding relative to the average home. Milliman estimates that 4% of homeowners in the United States have any flood insurance coverage, potentially leaving unsuspecting buyers of previously damaged homes to be substantially more at risk of paying out of pocket for unexpected flood damages. Additionally, these home buyers could be less likely to purchase flood insurance without the awareness that a home had previously flooded or take actions to lower their risk of flood damage in the future such as raising the home or relocating important systems. Those home buyers who do purchase insurance may be subject to higher premiums to insure their homes than they had anticipated.

The following information is only specific information about the impact of flooding on the state. For a comparison of all the states in the study area as well as full details of the data sources and methodology used in the study, read the [full report](#).

FIGURE 1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

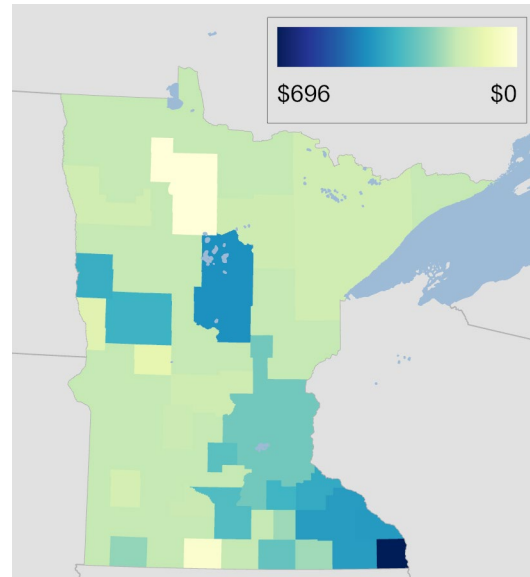


TABLE 1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	16 <sup>th</sup>
NFIP average claim amount	23 <sup>rd</sup>
Percent of homes with prior flood damage	14 <sup>th</sup>
Home sales with prior flood damage	8 <sup>th</sup>
Average Standard AAL of home with prior flood damage	22 <sup>nd</sup>
Total cost of flooding for sold homes with prior flood damage	17 <sup>th</sup>

## State Summary

Minnesota has the third lowest average NFIP paid loss of \$16,647 for single-family homes and an adjustment factor of 90% which indicates a relatively low percentage of homes with repeated flood events. In Minnesota, our analysis estimates that 11,613 homes have been previously flooded between 2010-2024 (0.7% of all single-family homes) and 847 of those were subject to sale in 2023. The total expected annual cost of flooding for these sold homes (average AAL \* the home sales by MSA) is \$226,381.

**FIGURE 2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES**

Total Single-Family Homes	1,677,874
Single-Family Homes with NFIP Claim (since 2010)	958
Estimated Single-Family Homes with Flood Damages	11,613
Estimated 2023 Home Sales with Flood Damages	847
Total Cost of Flooding	\$226,381

The map in Figure 1 shows the average Standard AAL for damaged homes by MSA across the state of Minnesota. The average Standard AAL for a previously damaged home varies from \$0 to \$696 depending on the MSA in Minnesota. The range of AALs in Minnesota is relatively small compared to other states in the study area.

In the analysis, La Crosse-Onalaska has the highest AAL of \$696, but is estimated to have 32 single-family homes with prior flood damage. Minneapolis-St. Paul-Bloomington has the largest number of single-family homes with prior flood damage, 6,833, and an average AAL of \$280.

Minnesota has the 4<sup>th</sup> lowest difference in AAL, \$227, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 49% under the High scenario to \$339. Overall, the effect of climate change may adversely impact homeowners whose homes have already been flooded more than the average homeowner in the state.

**FIGURE 3: AVERAGE ANNUAL LOSS BY SCENARIO**

	Climate Scenario		
	Standard	Medium	High
AAL All Homes	\$41	\$50	\$52
AAL Damaged Homes	269	371	391

The total cost of flood damage over the life of a 15-year or 30-year period is expected to be a significant amount for a home with previous flood damage. If a home is occupied for 15 years in Minnesota, we would expect an average flood cost of \$4,028 over the 15-year period (\$4,028 = 15 \* \$269). This difference in flood costs highlights the importance of flood disclosure laws so that home buyers have a clear picture of the potential financial burden from flooding.

**FIGURE 4: AVERAGE ANNUAL LOSS BY SCENARIO**

Average Flood Cost	Climate Scenario		
	Standard	Medium	High
15 Year	\$4,028	\$5,568	\$5,861
30 Year	8,056	11,137	11,722

Limitations of this analysis can be found included within the [full report](#).

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### CONTACT

Larry Baeder  
[larry.baeder@milliman.com](mailto:larry.baeder@milliman.com)

Greg Dietzen  
[greg.dietzen@milliman.com](mailto:greg.dietzen@milliman.com)

