Estimating undisclosed flood risk in real estate transactions

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

Milliman

Executive Summary

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,[1] 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.

KEY FINDINGS

Milliman's analysis for NRDC was developed using the KatRisk SpatialKat Flood and Storm Surge Models (KatRisk Model), flood exposure and loss data from the National Flood Insurance Program (NFIP) OpenFEMA Policy and Claim data (OpenFEMA), and single-family home property characteristics from the Milliman Market Basket (Market Basket). The analysis methodology is described fully in the Scope, Methodology, and Data section below.

Five key findings from this analysis are as follows:

1. In the study area, it is estimated that 689,267 single-family homes have had prior flood damage. This represents 1.8% of single-family homes with the results varying by state. Florida has the highest estimated percentage of flooded homes at 7.4%, and Arizona and Idaho have the lowest estimated percentage at 0.1%. See Exhibit 2, Page 1 for more details of the state level estimates.
2. The analysis found that over a 15-year period, the average buyer of a previously flooded home can expect to incur $28,226 in flood damage. Over a 30-year period those homeowners should expect to incur $56,452. Results vary by state with eight states having a 15-year expected cost under $10,000 and seven states having a 15-year expected cost over $50,000. See the table in each state's Figure 3.
3. The expected future annual losses for a home with prior flood damage are significantly higher than the average of all homes in each state, regardless of flood damage. In 15 of the 25 states in the study area, the

[1] Evans, D.D., Hunley, L.A., & Katz, B. (January 28, 2022). Unpriced Costs of Flooding: An Emerging Risk for Homeowners and Lenders. Milliman Insight. Retrieved July 15, 2022, from https://www.milliman.com/en/insight/unpriced-costs-of-flooding-an-emerging-risk-for-homeowners-and-lenders.

average annual loss (AAL)[2] is over $1,000 different between a home with prior flood damage and all the homes in the state. This represents a significant and potentially undisclosed financial risk to a home buyer over the duration of occupancy for homeowners. See the table in each state's Figure 2.

4. Climate change is expected to increase flood damage through higher average sea levels and changes in precipitation patterns. This will likely adversely impact average AALs for homes that have already been flooded more than the average home in each state. For example, in Maryland the average AAL for all homes with prior flood damage increases by $2,729, or 126% from the Standard scenario to the High scenario. This compares to an increase of only $14, or 33%, for the average home in the state. The Standard and High climate scenarios used are based on the Representative Concentration Pathway (RCP) 4.5 and 8.5 scenarios, respectively. See the Scope, Methodology, and Data section below for more details. Over the duration of occupancy, these costs can become significant expenses for homeowners. See Exhibit 2 for more details on each state.

5. There is substantial variability in mean AAL for homes with flood damages by geography. Geographic results are presented in this study by metropolitan statistical area (MSA).[3] For example, the overall range of AAL for previously flooded homes summarized by Alabama MSA's is $266 to $10,001. For the High scenario (i.e., the scenario that reflects increased risk due to climate change), this range increases to $324 to $14,630 average AAL for homes with prior flood damage. This range shows that the financial impact could be even more substantial for homes in certain areas. See Exhibit 2 state pages for complete results by geography.

6. Table 1 provides rankings for each state by key metrics in the study. Florida ranks as the riskiest state in the study area in five out of the six metrics while having the 12th highest average Standard AAL for homes with prior flood damage. Based on total cost of flooding for sold homes with prior flood damage the five riskiest states in order are Florida, Connecticut, Alabama, Virginia and Georgia. The five lowest risk states based on the same metric are Kansas, Wyoming, Montana, Idaho, and Arizona.

[2] Average annual loss is the long-term expected average loss in a given year due to flooding.
[3] MSA is defined by the U.S. Office of Management and Budget and used by the Census Bureau to define geographic areas with high population density.

TABLE 1: STATE RANKINGS FOR KEY METRICS ORDERED BY TOTAL COST OF FLOODING FOR SOLD HOMES WITH PRIOR FLOOD DAMAGE

	NFIP paid claim count (2010-2024)	NFIP average paid claim amount (2010-2024)	% of homes with prior flood damage	Number of 2023 homes sales with prior flood damage	Average Standard AAL of home with prior flood damage	Total cost of flooding for sold homes with prior flood damage
FL	1	1	1	1	12	1
CT	3	5	2	10	1	2
AL	6	3	12	7	2	3
VA	5	20	9	5	5	4
GA	8	8	19	11	3	5
MA	7	17	8	9	4	6
PA	2	10	6	4	10	7
MD	9	24	17	13	9	8
AR	11	2	4	6	18	9
IL	4	22	10	2	23	10
NH	19	19	13	20	6	11
WV	12	11	7	14	13	12
MI	10	12	11	3	24	13
VT	15	6	5	18	8	14
ME	17	7	22	22	7	15
RI	13	21	3	16	14	16
MN	16	23	14	8	22	17
UT	24	16	20	15	19	18
WI	14	14	15	12	21	19
NM	23	13	21	19	16	20
KS	18	18	18	17	20	21
WY	25	25	16	23	11	22
MT	20	9	23	24	15	23
ID	22	15	25	25	17	24
AZ	21	4	24	21	25	25

Scope, methodology, and data

The scope of Milliman's analysis is to estimate the total number of single-family homes with flood damage in the study area between 2010 and 2024, as well as the risk of future flood damage for these homes relative to the average home. Milliman used the NFIP OpenFEMA Policy and Claim data as a starting point to determine historical flood damage. While this is the largest public data source for historical flood damage, it presents two significant challenges to this scope:

1. The OpenFEMA data only provides loss information for homes that had an NFIP policy at the time of loss, and for which the loss exceeded the policy deductible. The latter is a minor concern given flood losses tend to be of high severity. The former must be accounted for given that relatively few homes

purchase NFIP policies (or any flood insurance policy), as evidenced by the fact that only 3.4% of the homes in the study area had an NFIP policy in 2022.

2. The exact locations of homes are not known, presenting a major challenge to estimating future flood damages for damaged homes, given that this estimate is highly sensitive to the geographic location and unique property features of the homes (e.g., elevation, distance to bodies of water, etc.).

To overcome these challenges, Milliman relied upon a flood model to simulate past flood events and a proprietary data set of single-family properties to produce estimates for homes not covered by the NFIP. Specifically, we relied upon the KatRisk Model, a fully probabilistic flood model capable of simulating both past and estimated future flood events. The KatRisk Model was applied to the Market Basket, a data set representing approximately 10% of single-family homes in each of the 25 states in the study area to simulate recent major flood events in the study area. Three hurricane results, Irene, Sandy, and Hermine, were removed from the Maine data, see the Maine Fact Sheet for more details.

The KatRisk Model was used to obtain estimates of flood damage to individual single-family homes for 40 prior, simulated flood events that occurred after 2010 and impacted the states in the study area (event losses). While some of these events were focused and named after states outside the study area, their impact reached beyond that specific state into the study area. Not all events impacted all states in the study area. These events were:

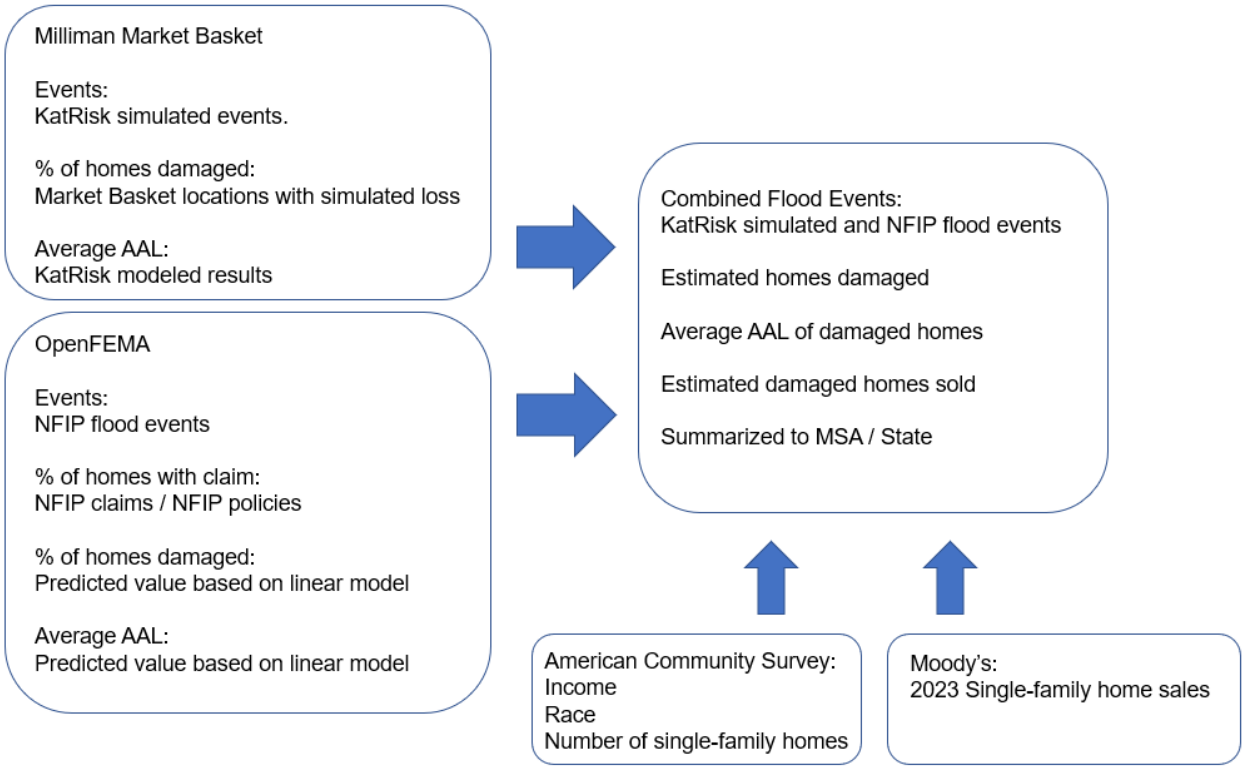
- Hurricanes and tropical storms Earl, Irene, Maria, Beryl, Debby, Isaac, Sandy, Andrea, Arthur, Ana, Colin, Hermine, Julia, Matthew, Harvey, Irma, Nate, Florence, Michael, Barry, Dorian, Isaias, Laura, Sally, Delta, Zeta, Eta, Ida, Ian
- Tennessee floods of 2010, Mississippi floods of 2011, Colorado floods of 2013, Alberta floods of 2013, Texas and Oklahoma floods of 2015, Texas floods of 2016, Louisiana floods of 2016, Nashville floods of 2021, Middle Tennessee floods of 2021, St Louis floods of 2022, Eastern Kentucky floods of 2022

Additionally, for all homes in the Market Basket, KatRisk estimated the AAL. Both event losses and AALs were modeled assuming current climate conditions (the Standard scenario) as well as two additional climate scenarios:

- A Medium scenario based on the Representative Concentration Pathway (RCP) 4.5 scenario, which is a reasonable estimation of what will happen if, on average, global economies are able to stabilize and begin to reduce greenhouse gases in the near future.
- A High scenario based on the RCP 8.5 scenario, which is generally considered to be close to a worst-case scenario wherein global economies progress with a "business as usual" approach.

For more information on the KatRisk Model, Market Basket, and Medium and High climate scenarios, please see https://www.soa.org/globalassets/assets/files/resources/research-report/2020/soa-flood-report.pdf.

FIGURE 1: DATA DIAGRAM OF ANALYSIS



For each of the simulated historical events, the number of total homes damaged and average AAL for the damaged homes were estimated. The total number of damaged homes was calculated based on the modeling of historical events and the probability that each Market Basket location was damaged. In addition to these 40 events, Milliman estimated that there are another 444 significant flood events that occurred in our study area between 2010 and 2024 based on the OpenFEMA data. These events were identified using a Density Based clustering algorithm that clustered the OpenFEMA claims by date of loss and geography. The NFIP claims associated with the simulated events were removed from the clustering analysis. The clustering looked at a 500 km radius to group the claims and a two-day window. The radius and time window were able to grow as the algorithm identified more claims to put into each cluster. The clustering was run twice. The first run required at least 100 claims to start a cluster and identified larger events. Any remaining claims were clustered again, but with a lower requirement of 20 claims to start a cluster. The combination of simulated and clustered events accounts for 92% of the total NFIP claims.

For all of the identified events, the percentage of NFIP policies that had a claim and the average NFIP paid amount were calculated. The percentage of NFIP policies with a claim was used to predict the total number of flooded homes. The average paid amount was used to predict the average AAL for each of the three scenarios. More detailed information on the models is outlined in the Damaged Homes and Average Annual Loss Predictions section.

Once the number of damaged homes was estimated for all flood events in the study area from 2010 to 2024, the number of homes damaged was summed to the MSA level. As homes were subject to repetitive damage across flood events over the period analyzed, an adjustment was applied to estimate the number of unique homes with flood damage based on the number of total claims. This adjustment factor was calculated as the statewide ratio of unique NFIP claim locations relative to total NFIP claims from 2010 to 2024. The estimate of damaged homes by MSA from 2010 to 2024 was then calculated by multiplying the number of homes damaged across all events at the MSA level by the adjustment factor.

When showing estimates of home sales, we used Moody's home sales data combined with our estimates of homes with prior flood damages to estimate the number of homes sold in 2022 with prior flood damages. This estimate was calculated as the percentage of single-family homes damaged between 2010 and 2024 multiplied by estimated single-family homes sales by MSA.

DAMAGED HOMES AND AVERAGE ANNUAL LOSS PREDICTIONS

Our analysis relies on multiple linear models to predict the percentage of damaged homes and the average AAL in previous NFIP events that we identified via the clustering analysis. The first model predicts the percentage of homes damaged in the event based on the percentage of NFIP policies with a claim and the state. Three models predict the average AAL by climate scenario of the damaged homes with the average NFIP paid claim for that event and the state of the event.

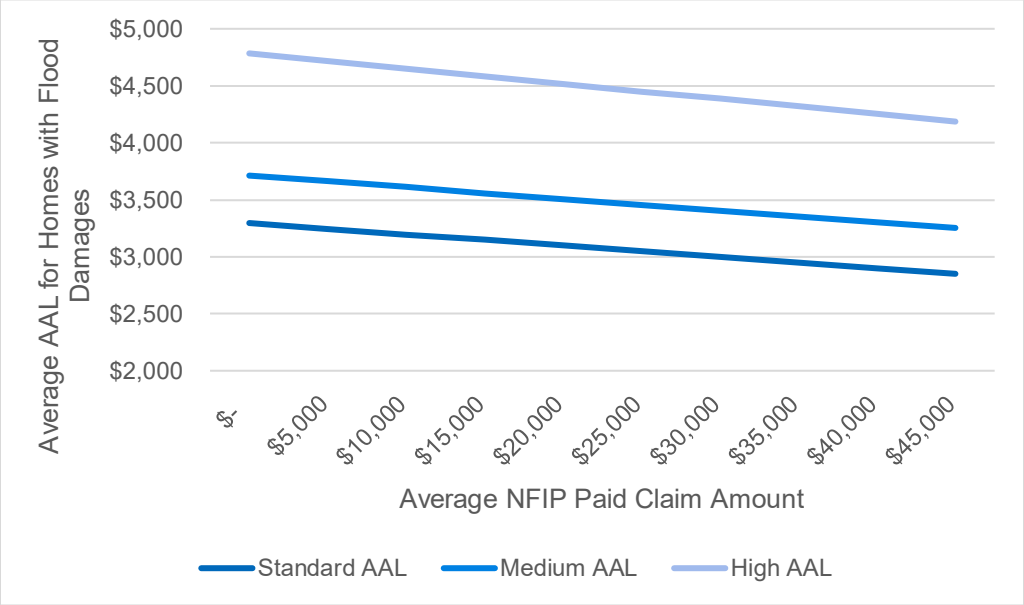
For the percentage of damaged homes model, we found a statistically significant relationship between the percentage of NFIP claims in an area and the percentage of market basket locations with a loss. As the percentage of policies with a claim increases, the total number of damaged homes increases, which is the expected relationship. Florida was separated from the other states due to its unique flood risk, as it has a larger coefficient in the model than other states. This difference indicates that as the percentage of NFIP claims increases in Florida, the percentage of impacted homes without an NFIP policy will increase more than in other states. The state adjustments were used as a control variable and not included in the model prediction.

Three models were developed to predict average AAL for each of the climate scenarios. Each model predicts the average AAL for a climate scenario (Standard, Medium, and High), predicted by the average claim amount of NFIP claims and the state. This structure allows the effects to vary between the scenarios, resulting in a representative estimate for each climate change scenario. In all the AAL models, each state is given an intercept adjustment to adjust for the overall risk level in each of the states.

As the average paid claim amount increases, the average AAL of homes with flood damage decreases. In the data, the average paid claim amount increases with the total paid amount for the event, so higher average paid claims are associated with larger events. We hypothesize that smaller events only impact the riskiest homes that have the highest AALs. As the severity of the event increases, relatively less flood-prone homes are damaged, which marginally decreases the average AAL of damaged homes. Despite this negative relationship, damaged homes in an event are estimated to have AAL significantly higher than the statewide average.

Figure 2 shows the trend line for each scenario for Florida. The overall relationship between AAL and average paid claim amount is decreasing. As expected, the Medium and High climate scenarios have larger average AALs than the Standard scenario in Florida. The Standard and Medium scenarios have similar rates of decrease, 0.0099 and 0.0102, while the High scenario decreases at a faster rate, 0.0133. Similar trend lines were seen in other states in the study area, the differences being between the overall levels of the AALs.

FIGURE 2: AVERAGE ANNUAL LOSS BY NFIP PAID CLAIM AMOUNT FOR FLORIDA



State fact sheet: Alabama

FIGURE AL1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

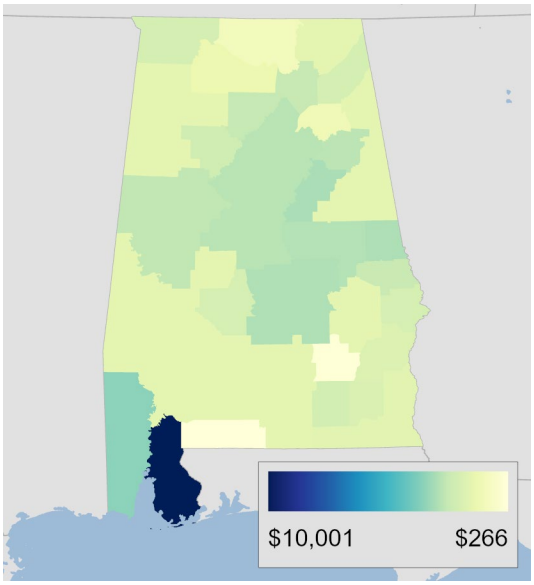


TABLE AL1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**6th**
NFIP average claim amount	**3rd**
Percent of homes with prior flood damage	**12th**
Home sales with prior flood damage	**7th**
Average Standard AAL of home with prior flood damage	**2nd**
Total cost of flooding for sold homes with prior flood damage	**3rd**

Alabama has the sixth largest amount of NFIP paid losses since 2010 with $174 million in paid losses for single-family homes. In Alabama, our analysis estimates that 11,506 homes have been previously flooded between 2010-2024 (0.8% of all single-family homes) and 1,016 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 $6,598,295.

FIGURE AL2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
1,410,235	4,872	11,506	1,016	$6,598,295

The map in Figure AL1 shows the average Standard AAL for damaged homes by MSA across the state of Alabama. The average Standard AAL for a previously damaged home varies from $266 to $10,001 depending on the MSA in Alabama. This shows that the state average AAL of $5,197 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, four MSA's have a percentage of homes with prior flood damage above 1%: Atmore, Daphne-Fairhope-Foley, Dothan, and Mobile. These MSA's represent 61% of the damaged homes in Alabama while only representing 17% of the single-family homes.

Alabama has the second largest difference in AAL, $5,121, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 46% under the High scenario to $7,501. 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 AL3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$77	$5,197	$86	$5,869	$106	$7,607

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 previously flooded home is occupied for 15 years in Alabama, we would expect an average flood cost of $77,958 over the 15-year period ($77,958 = 15 * $5,197). 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 AL4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$77,958	$88,041	$114,103	$155,916	$176,082	$228,206

State fact sheet: Arkansas

FIGURE AR1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

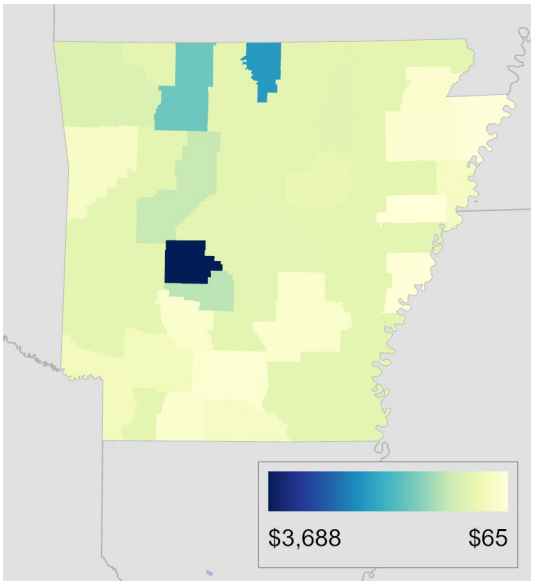


TABLE AR1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**11th**
NFIP average claim amount	**2nd**
Percent of homes with prior flood damage	**4th**
Home sales with prior flood damage	**6th**
Average Standard AAL of home with prior flood damage	**18th**
Total cost of flooding for sold homes with prior flood damage	**9th**

Arkansas has the second largest average paid claim amount for NFIP claims since 2010 with an average loss of $38,694. In Arkansas, our analysis estimates that 14,312 homes have been previously flooded between 2010-2024 (1.7% of all single-family homes) and 1,174 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 $629,379.

FIGURE AR2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
858,240	2,292	14,312	1,174	$629,379

The map in Figure AR1 shows the average Standard AAL for damaged homes by MSA across the state of Arkansas. The average Standard AAL for a previously damaged home varies from $65 to $3,688 depending on the MSA in Arkansas. This shows that the state average AAL of $580 does not accurately describe the potential financial impact for particular geographies. There are four MSA's that have an average AAL value above $1,000: Harrison, Hot Springs, Malvern, and Mountain Home.

In the analysis, Memphis has a percentage of homes damaged of 18.5% which is significantly higher than any other MSA in Arkansas. Five other MSA's have a percentage of homes damaged higher than 2% but their average AAL values are less than $1,000. These MSA's represent 53% of the damaged homes in Arkansas while only representing 26% of the single-family homes.

Arkansas has the 18th largest difference in AAL, $507, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 29% under the High scenario to $655. 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 AR3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$73	$580	$77	$641	$85	$740

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 Arkansas, we would expect an average flood cost of $8,696 over the 15-year period ($8,696 = 15 * $580). 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 AR4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$8,696	$9,611	$11,106	$17,392	$19,222	$22,212

State fact sheet: Arizona

FIGURE AZ1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

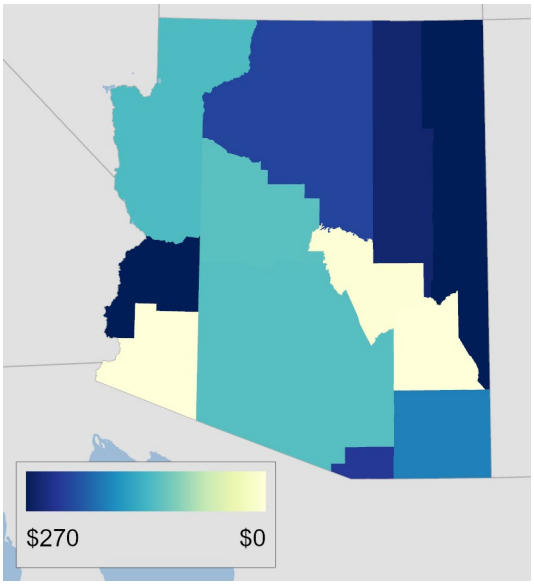


TABLE AZ1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**21st**
NFIP average claim amount	**4th**
Percent of homes with prior flood damage	**24th**
Home sales with prior flood damage	**21st**
Average Standard AAL of home with prior flood damage	**25th**
Total cost of flooding for sold homes with prior flood damage	**25th**

Arizona has the lowest average AAL for homes with prior flood damage and percentage of homes with prior flood damage of all the states in the study area. In Arizona, our analysis estimates that 1,995 homes have been previously flooded between 2010-2024 (0.1% of all single-family homes) and 102 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 $11,436.

FIGURE AZ2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
1,933,048	370	1,995	102	$11,436

The map in Figure AZ1 shows the average Standard AAL for damaged homes by MSA across the state of Arizona. The average Standard AAL for a previously damaged home varies from $0 to $270 depending on the MSA. In comparison to other states in the study, Arizona has a low risk of flooding.

In the analysis, only one MSA has a percentage of homes with prior flood damage above 1% which is Payson. Phoenix-Mesa-Chandler has the most estimated homes with prior flood damage at 1,242, but that is 0.1% of the homes in the MSA and an average AAL of $123.

Arizona has the lowest difference in AAL, $18, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 81% under the High scenario to $33. In Exhibit 2 Page 4, there are six MSA's that have a negative value for the dollar difference, meaning that the average home in the MSA has a higher AAL than a home that has been previously flooded. We believe this is due to the small data size and lack of flooding in Arizona. Since most homes in Arizona have low flood risk, this results in an unintuitive result for certain areas in the state.

FIGURE AZ3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$95	$113	$99	$119	$119	$152

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 Arizona, we would expect an average flood cost of $1,691 over the 15-year period ($1,691 = 15 * $113). 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 AZ4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$1,691	$1,792	$2,281	$3,381	$3,584	$4,563

State fact sheet: Connecticut

FIGURE CT1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

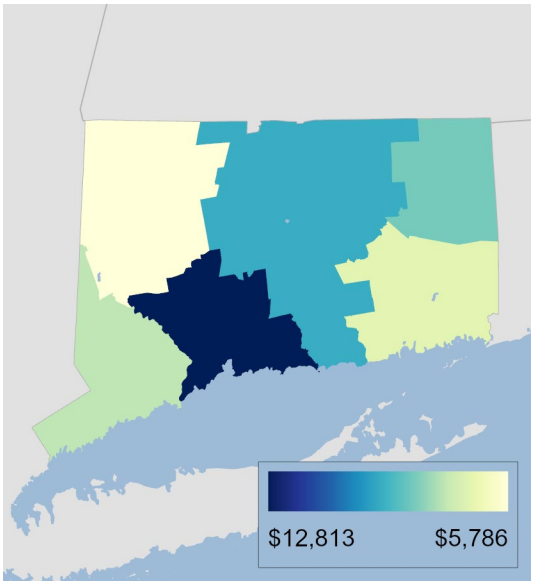


TABLE CT1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**3rd**
NFIP average claim amount	**5th**
Percent of homes with prior flood damage	**2nd**
Home sales with prior flood damage	**10th**
Average Standard AAL of home with prior flood damage	**1st**
Total cost of flooding for sold homes with prior flood damage	**2nd**

Connecticut has the third highest number of NFIP claims since 2010 for single family homes in the study area. It also has the highest number of repeated flooded homes based on the adjustment factor in Exhibit 1. In Connecticut, our analysis estimates that 19,930 homes have been previously flooded between 2010-2024 (2.2% of all single-family homes) and 802 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 $7,617,723.

FIGURE CT2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
925,193	9,416	19,930	802	$7,617,723

The map in Figure CT1 shows the average Standard AAL for damaged homes by MSA across the state of Connecticut. The average Standard AAL for a previously damaged home varies from $5,786 to $12,813 depending on the MSA in Connecticut. This shows that the state average AAL of $9,441 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, three MSA's have a percentage of homes with prior flood damage above 2.7%: Bridgeport-Stamford-Norwalk, New Haven-Milford, and Norwich-New London. These MSA's represent 80% of the damaged homes in Connecticut while only representing 55% of the single-family homes.

Connecticut has the largest difference in AAL, $9,219, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 28% under the High scenario to $11,824. 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 CT3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$222	$9,441	$258	$10,149	$344	$12,168

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 Connecticut, we would expect an average flood cost of $141,616 over the 15-year period ($141,616 = 15 * $9,441). 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 CT4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$141,616	$152,236	$182,515	$283,232	$304,472	$365,030

State fact sheet: Florida

FIGURE FL1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

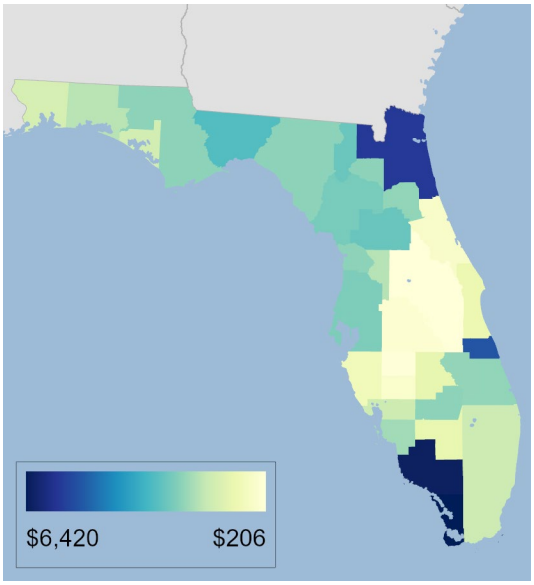


TABLE FL1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**1st**
NFIP average claim amount	**1st**
Percent of homes with prior flood damage	**1st**
Home sales with prior flood damage	**1st**
Average Standard AAL of home with prior flood damage	**12th**
Total cost of flooding for sold homes with prior flood damage	**1st**

Florida has the largest flood risk in the country with the highest number of NFIP policies, claims, and total paid claims. The NFIP has paid out $4.8 billion in flood claims since 2010 in Florida. In Florida, our analysis estimates that 401,737 homes have been previously flooded between 2010-2024 (7.4% of all single-family homes) and 28,194 of those were subject to sale in 2023. Florida also has the most homes sold with previous flood damage, 28,194. The total expected annual cost of flooding for these sold homes (average AAL * the home sales by MSA) is $42,513,128.

FIGURE FL2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
5,427,166	73,976	401,737	28,194	$42,513,128

The map in Figure FL1 shows the average Standard AAL for damaged homes by MSA across the state of Florida. The average Standard AAL for a previously damaged home varies from $206 to $6,420 depending on the MSA in Florida. This shows that the state average AAL of $1,482 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, three MSA's have a percentage of homes with prior flood damage above 15%: Deltona-Daytona Beach-Ormond Beach, Orlando-Kissimmee-Sanford, and Wauchula, and there are six other MSA's with percentages above 10%. These MSA's represent 56% of the damaged homes in Florida while only representing 26% of the single-family homes.

Florida has the 13th largest difference in AAL, $1,214, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 37% under the High scenario to $1,668. Overall, the effect of climate change will adversely impact homeowners whose homes have already been flooded significantly more than the average homeowner in the state.

FIGURE FL3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$268	$1,482	$313	$1,653	$407	$2,076

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 Florida, we would expect an average flood cost of $22,231 over the 15-year period ($22,231 = 15 * $1,482). 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 FL4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$22,231	$24,796	$31,135	$44,462	$49,593	$62,270

State fact sheet: Georgia

FIGURE GA1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

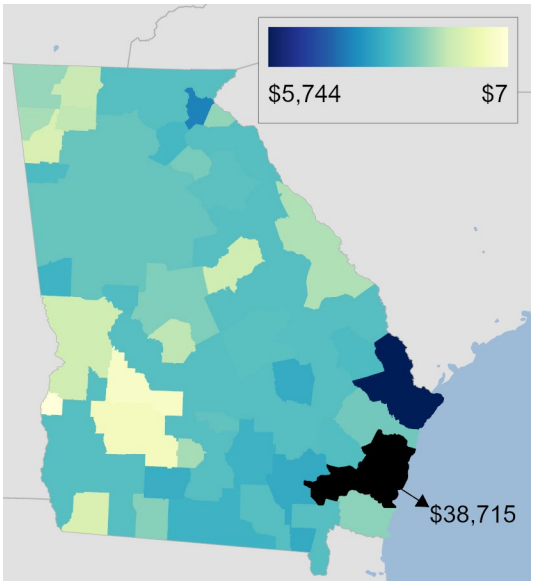


TABLE GA1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**8th**
NFIP average claim amount	**8th**
Percent of homes with prior flood damage	**19th**
Home sales with prior flood damage	**11th**
Average Standard AAL of home with prior flood damage	**3rd**
Total cost of flooding for sold homes with prior flood damage	**5th**

Georgia has the third largest NFIP single-family home policy count in 2022 with 62,321 policies, and the NFIP has paid out $120 million in flood claims since 2010 for single-family homes. In Georgia, our analysis estimates that 12,586 homes have been previously flooded between 2010-2024 (0.4% of all single-family homes) and 758 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 $3,972,881.

FIGURE GA2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
2,856,104	4,148	12,586	758	$3,972,881

The map in Figure GA1 shows the average Standard AAL for damaged homes by MSA across the state of Georgia. The average Standard AAL for a previously damaged home varies from $7 to $5,744 depending on the MSA in Georgia but Brunswick has an average AAL of $38,715. This shows that the state average AAL of $4,730 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, four MSA's have a percentage of homes with prior flood damage above 2%: Albany, Brunswick, Cordele, and Moultrie. The largest number of flood damaged homes are in Atlanta-Sandy Spring-Alpharetta with 4,035 homes, but that only represents 0.2% of homes in the MSA with an average AAL of $2,428.

Georgia has the 3rd largest difference in AAL, $4,662, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 16% under the High scenario to $5,387. 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 GA3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$68	$4,730	$77	$4,882	$97	$5,485

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 Georgia, we would expect an average flood cost of $70,956 over the 15-year period ($70,956 = 15 * $4,730). 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 GA4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$70,956	$73,229	$82,272	$141,913	$146,457	$164,543

State fact sheet: Idaho

FIGURE ID1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

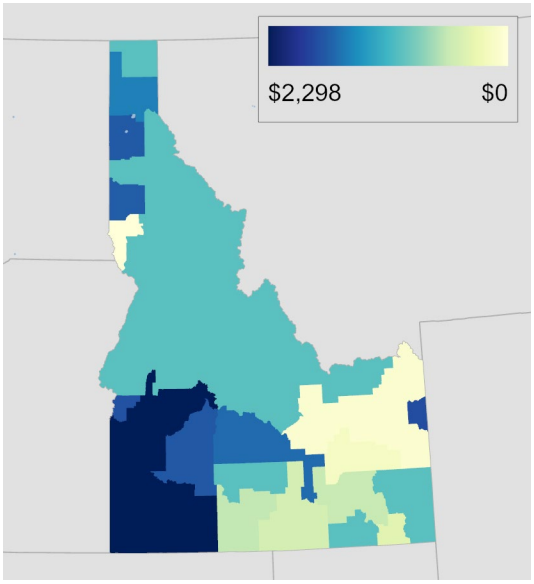


TABLE ID1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**22nd**
NFIP average claim amount	**15th**
Percent of homes with prior flood damage	**25th**
Home sales with prior flood damage	**25th**
Average Standard AAL of home with prior flood damage	**17th**
Total cost of flooding for sold homes with prior flood damage	**24th**

Idaho has the fourth lowest number of NFIP claims since 2010 for single-family homes with 110 and $2,420,786 in total paid losses. In Idaho, our analysis estimates that 503 homes have been previously flooded between 2010-2024 (0.1% of all single-family homes) and 45 of those were subject to sale in 2023. Idaho has the lowest number of homes sold with previous flood damage in the study area. The total expected annual cost of flooding for these sold homes (average AAL * the home sales by MSA) is $30,431.

FIGURE ID2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
524,777	110	503	45	$30,431

The map in Figure ID1 shows the average Standard AAL for damaged homes by MSA across the state of Idaho. The average Standard AAL for a previously damaged home varies from $0 to $2,298 depending on the MSA in Idaho. This shows that the state average AAL of $669 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, Idaho Falls is the MSA that has the largest number of homes with previous flood damage with an average AAL is $66. Boise City has the highest average AAL of $2,298 but is only estimated to have had 25 homes previously flooded. While the flood risk in Idaho is generally low, the KatRisk model indicates there are some potential areas of flooding.

Idaho has the 17th largest difference in AAL, $593, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 59% under the High scenario to $941. 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 ID3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$76	$669	$83	$822	$93	$1,034

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 Idaho, we would expect an average flood cost of $10,040 over the 15-year period ($10,040 = 15 * $669). 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 ID4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$10,040	$12,337	$15,516	$20,081	$24,674	$31,031

State fact sheet: Illinois

FIGURE IL1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

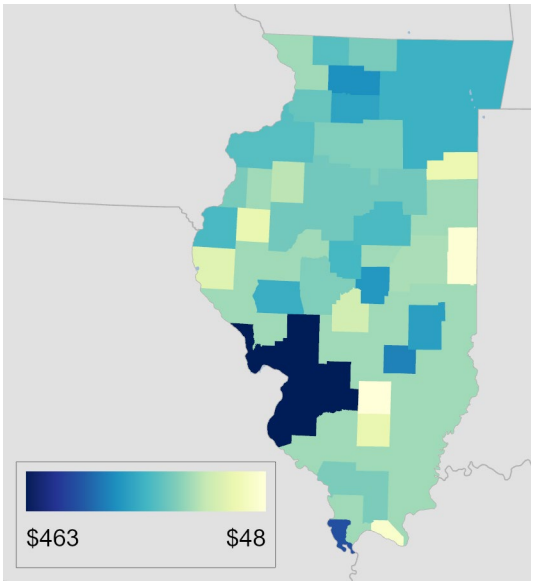


TABLE IL1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**4th**
NFIP average claim amount	**22nd**
Percent of homes with prior flood damage	**10th**
Home sales with prior flood damage	**2nd**
Average Standard AAL of home with prior flood damage	**23rd**
Total cost of flooding for sold homes with prior flood damage	**10th**

Illinois has the fourth highest number of NFIP claims with 8,577 claims for single-family homes and the fourth lowest average paid claim amount at $18,211. In Illinois, our analysis estimates that 35,273 homes have been previously flooded between 2010-2024 (1.1% of all single-family homes) and 2,309 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 $609,874.

FIGURE IL2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
3,267,408	8,577	35,273	2,309	$609,874

The map in Figure IL1 shows the average Standard AAL for damaged homes by MSA across the state of Illinois. The average Standard AAL for a previously damaged home varies from $48 to $463 depending on the MSA in Illinois. This indicates that the severity of flooding in Illinois is not high, but there are 35,273 homes with previous flood damage which is the third highest number in the study area.

In the analysis, nine MSA's have a percentage of homes with prior flood damage above 1%: Burlington, Cape Girardeau, Chicago-Naperville-Elgin, Fort Madison-Keokuk, Freeport, Galesburg, Paducah, Peoria, and St. Louis. These MSA's represent 82% of the damaged homes in Illinois while representing 72% of the single-family homes.

Illinois has the 3rd lowest difference in AAL, $211, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 44% under the High scenario to $302. 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 IL3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$55	$266	$63	$335	$68	$370

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 Illinois, we would expect an average flood cost of $3,989 over the 15-year period ($3,989 = 15 * $266). 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 IL4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$3,989	$5,027	$5,551	$7,978	$10,054	$11,102

State fact sheet: Kansas

FIGURE KS1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

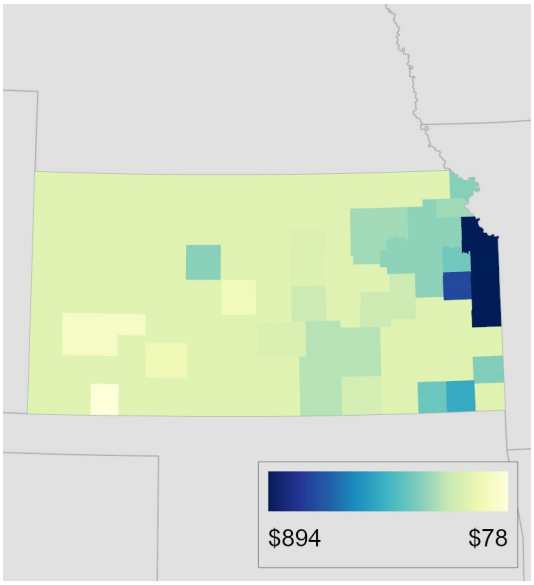


TABLE KS1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**18th**
NFIP average claim amount	**18th**
Percent of homes with prior flood damage	**18th**
Home sales with prior flood damage	**17th**
Average Standard AAL of home with prior flood damage	**20th**
Total cost of flooding for sold homes with prior flood damage	**21th**

Kansas has a low number of NFIP claims, 667, relative to the 6,162 policies in 2022 for single-family homes. In Kansas, our analysis estimates that 4,174 homes have been previously flooded between 2010-2024 (0.5% of all single-family homes) and 173 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 $101,335.

FIGURE KS2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
900,537	667	4,174	173	$101,335

The map in Figure KS1 shows the average Standard AAL for damaged homes by MSA across the state of Kansas. The average Standard AAL for a previously damaged home varies from $78 to $894 depending on the MSA in Kansas. This shows that the state average AAL of $471 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, two MSA's have a percentage of homes with prior flood damage above 1%: Great Bend and Hays. Kansas City has the largest estimated number of homes with flood damage, 1,281 and the highest average AAL of $894.

Kansas has the 20th largest difference in AAL, $428, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 68% under the High scenario to $717. 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 KS3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$43	$471	$53	$682	$58	$775

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 Kansas, we would expect an average flood cost of $7,061 over the 15-year period ($7,061 = 15 * $471). 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 KS4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$7,061	$10,227	$11,625	$14,123	$20,455	$23,250

State fact sheet: Massachusetts

FIGURE MA1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

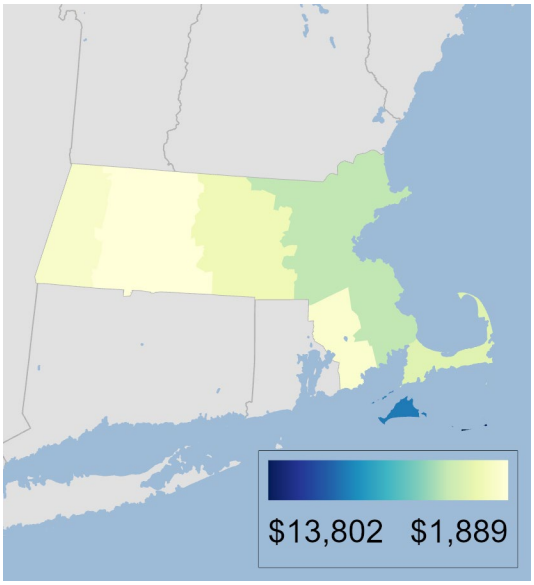


TABLE MA1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**7th**
NFIP average claim amount	**17th**
Percent of homes with prior flood damage	**8th**
Home sales with prior flood damage	**9th**
Average Standard AAL of home with prior flood damage	**4th**
Total cost of flooding for sold homes with prior flood damage	**6th**

Massachusetts has had 4,396 NFIP claims for single-family homes since 2010 with an average paid loss of $20,089. The adjustment factor of 81.5% indicates that Massachusetts has more repeated flooded locations than many other states in the study. In Massachusetts, our analysis estimates that 19,442 homes have been previously flooded between 2010-2024 (1.2% of all single-family homes) and 843 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 $3,912,147.

FIGURE MA2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
1,568,463	4,396	19,442	843	$3,912,147

The map in Figure MA1 shows the average Standard AAL for damaged homes by MSA across the state of Massachusetts. The average Standard AAL for a previously damaged home varies from $1,889 to $13,802 depending on the MSA in Massachusetts. This shows that the state average AAL of $4,479 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, four MSA's have a percentage of homes with prior flood damage above 1%: Barnstable Town, Boston-Cambridge-Newton, Non-MSA (all locations outside the defined MSA's), and Providence-Warwick. These MSA's represent 83% of the damaged homes in Massachusetts while representing 67% of the single-family homes.

Massachusetts has the 4th largest difference in AAL, $4,370, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 25% under the High scenario to $5,463. 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 MA3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$109	$4,479	$126	$4,779	$165	$5,628

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 Massachusetts, we would expect an average flood cost of $67,182 over the 15-year period ($67,182 = 15 * $4,479). 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 MA4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$67,182	$71,690	$84,421	$134,365	$143,381	$168,842

State fact sheet: Maryland

FIGURE MD1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

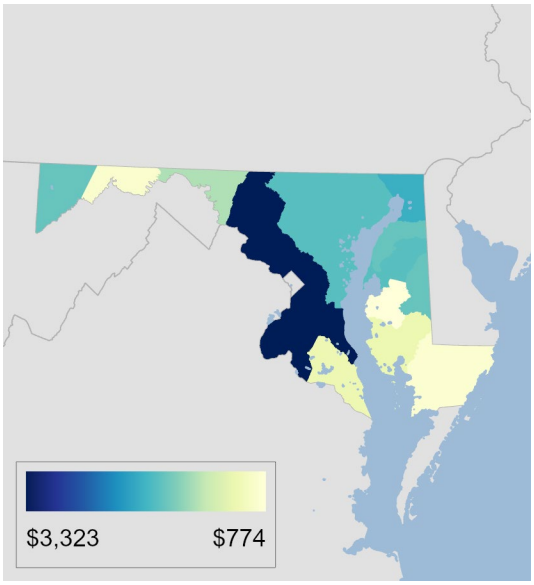


TABLE MD1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**9th**
NFIP average claim amount	**24th**
Percent of homes with prior flood damage	**17th**
Home sales with prior flood damage	**13th**
Average Standard AAL of home with prior flood damage	**9th**
Total cost of flooding for sold homes with prior flood damage	**8th**

Maryland has the second lowest average paid loss at $14,157 per claim since 2010 for single-family homes. The percentage change in AALs from the Standard to the High scenario for Maryland are the highest of all the states indicating that Maryland may be more impacted by climate change than other states. In Maryland, our analysis estimates that 10,150 homes have been previously flooded between 2010-2024 (0.6% of all single-family homes) and 401 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 $941,917.

FIGURE MD2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
1,707,500	3,173	10,150	401	$941,917

The map in Figure MD1 shows the average Standard AAL for damaged homes by MSA across the state of Maryland. The average Standard AAL for a previously damaged home varies from $774 to $3,323 depending on the MSA in Maryland. This shows that the state average AAL of $2,197 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, three MSA's have a percentage of homes with prior flood damage above 2%: Cambridge, Cumberland, and Salisbury. Washington-Arlington-Alexandria has the most estimated homes with prior flood damage, 4,042, and the largest average AAL of $3,323.

Maryland has the 9th largest difference in AAL, $2,156, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 126% under the High scenario to $4,870. 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 MD3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$42	$2,197	$47	$3,013	$55	$4,926

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 Maryland, we would expect an average flood cost of $32,961 over the 15-year period ($32,961 = 15 * $2,197). 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 MD4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$32,961	$45,190	$73,889	$65,922	$90,380	$147,778

State fact sheet: Maine

FIGURE ME1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

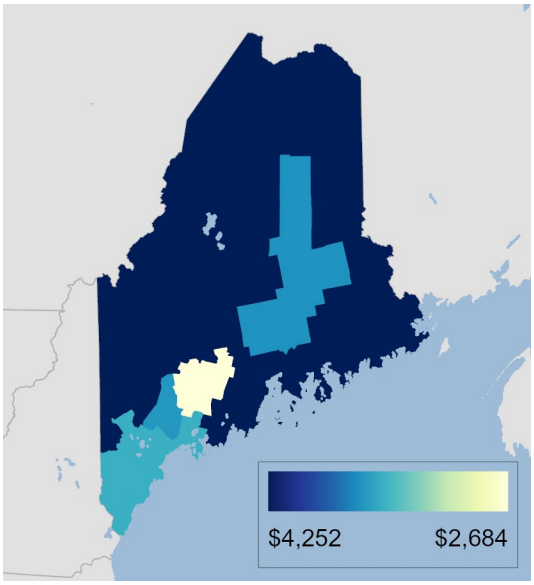


TABLE ME1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**17th**
NFIP average claim amount	**7th**
Percent of homes with prior flood damage	**22nd**
Home sales with prior flood damage	**22nd**
Average Standard AAL of home with prior flood damage	**7th**
Total cost of flooding for sold homes with prior flood damage	**15th**

Maine has the 7th highest average NFIP paid loss amount in the study area while having the 17th most NFIP paid claims. In Maine, our analysis estimates that 1,448 homes have been previously flooded between 2010-2024 (0.4% of all single-family homes) and 82 of those were subject to sale in 2023. The total cost of flooding for these sold homes (average AAL * the home sales by MSA) is $300,410.

In addition to other historical events, the KatRisk modeling results included impacts on Maine market basket locations from Hurricanes Irene, Sandy, and Hermine. The modeled results differed from the relatively insignificant NFIP claims record in Maine for these events. Therefore, the impact of these storms on Maine market basket locations was removed from the KatRisk modeling results. These storms were not removed from the historical modeling results for other states.

FIGURE ME2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
406,709	709	1,448	82	$300,410

The map in Figure ME1 shows the average Standard AAL for damaged homes by MSA across the state of Maine. The average Standard AAL for a previously damaged home varies from $2,684 to $4,252 depending on the MSA in Maine.

In the analysis, Portland-South Portland has the most estimated single-family homes with prior flood damage, 881, and an average AAL of $3,504. All the other MSA's combined have 567 estimated homes with prior flood damage.

Maine has the 7th largest difference in AAL, $3,394, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 12% under the High scenario to $3,790. Overall,

the effect of climate change will adversely impact homeowners whose homes have already been flooded significantly more than the average homeowner in the state.

FIGURE ME3: AVERAGE ANNUAL LOSS BY STATE AND SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$293	$3,687	$325	$3,929	$420	$4,211

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 Maine, we would expect an average flood cost of $55,309 over the 15-year period ($55,309 = 15 * $3,687). 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 ME4: AVERAGE FLOOD COST BY STATE FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$55,309	$58,940	$63,159	$110,618	$117,879	$126,318

State fact sheet: Michigan

FIGURE MI1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

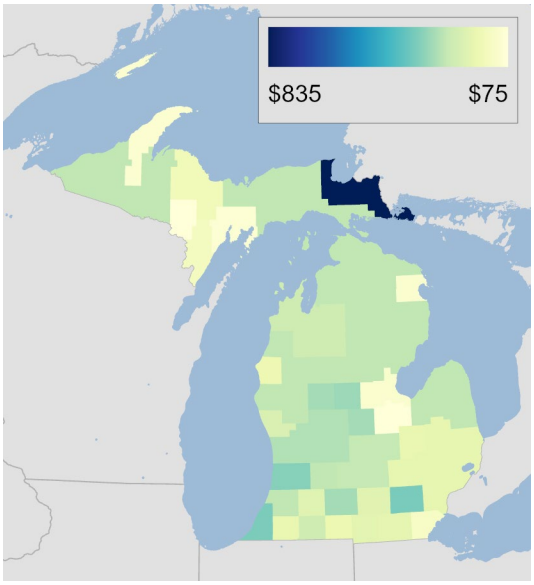


TABLE MI1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**10th**
NFIP average claim amount	**12th**
Percent of homes with prior flood damage	**11th**
Home sales with prior flood damage	**3rd**
Average Standard AAL of home with prior flood damage	**24th**
Total cost of flooding for sold homes with prior flood damage	**13th**

Michigan has the second lowest average Standard AAL, $217, for a home with prior flood damage of all the states in the study. In Michigan, our analysis estimates that 29,507 homes have been previously flooded between 2010-2024 (1.0% of all single-family homes) and 1,847 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 $397,024.

FIGURE MI2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
3,098,418	2,845	29,507	1,847	$397,024

The map in Figure MI1 shows the average Standard AAL for damaged homes by MSA across the state of Michigan. The average Standard AAL for a previously damaged home varies from $75 to $835 depending on the MSA in Michigan. This shows that the state average AAL of $217 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, sixteen of the MSA's have a percentage of homes with prior flood damage above 1%. These MSA's represent 43% of the damaged homes in Michigan while only representing 28% of the single-family homes. The MSA with the highest average AAL of $835 is Sault Ste. Marie, but it is estimated to have only 10 homes with prior flood damage.

Michigan has the 2nd lowest difference in AAL, $175, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 53% under the High scenario to $268. 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 MI3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$42	$217	$47	$269	$52	$321

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 Michigan, we would expect an average flood cost of $3,256 over the 15-year period ($3,256 = 15 * $217). 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 MI4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$3,256	$4,040	$4,811	$6,513	$8,081	$9,623

State fact sheet: Minnesota

FIGURE MN1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

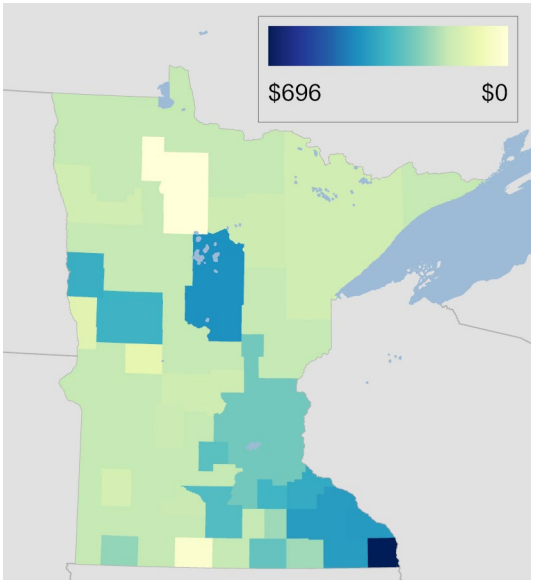


TABLE MN1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

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

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 MN2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

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

The map in Figure MN1 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 4th 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 MN3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$41	$269	$50	$371	$52	$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 MN4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

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

State fact sheet: Montana

FIGURE MT1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

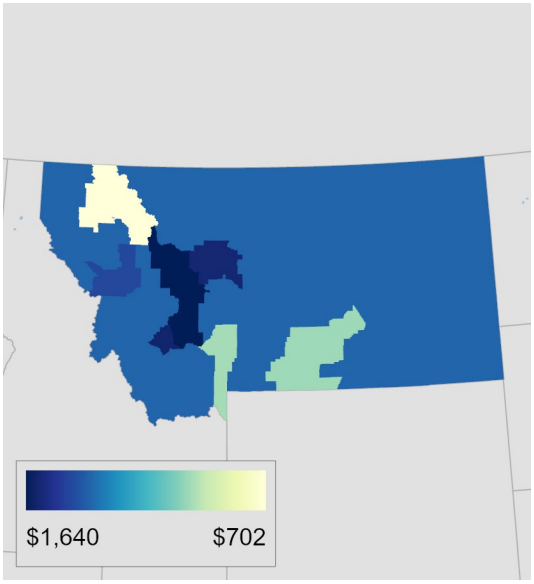


TABLE MT1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**20th**
NFIP average claim amount	**9th**
Percent of homes with prior flood damage	**23rd**
Home sales with prior flood damage	**24th**
Average Standard AAL of home with prior flood damage	**15th**
Total cost of flooding for sold homes with prior flood damage	**23rd**

Montana has a low number of NFIP paid claims, 393, with $10,525,000 in total paid claims since 2010 for single-family homes. In Montana, our analysis estimates that 1,103 homes have been previously flooded between 2010-2024 (0.3% of all single-family homes) and 62 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 $75,563.

FIGURE MT2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
327,376	393	1,103	62	$75,563

The map in Figure MT1 shows the average Standard AAL for damaged homes by MSA across the state of Montana. The average Standard AAL for a previously damaged home varies from $702 to $1,640 depending on the MSA in Montana. This shows that the state average AAL of $1,192 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, Billings had the largest estimated number of single-family homes with prior flood damage, 473, and an average AAL of $1,005. Helena had the highest average AAL at $1,640 with 93 estimated single-family homes with prior flood damage.

Montana has the 15th largest difference in AAL, $1,071, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 39% under the High scenario to $1,494. 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 MT3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$120	$1,192	$130	$1,312	$144	$1,638

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 Montana, we would expect an average flood cost of $17,878 over the 15-year period ($17,878 = 15 * $1,192). 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 MT4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$17,878	$19,673	$24,565	$35,756	$39,345	$49,129

State fact sheet: New Hampshire

FIGURE NH1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

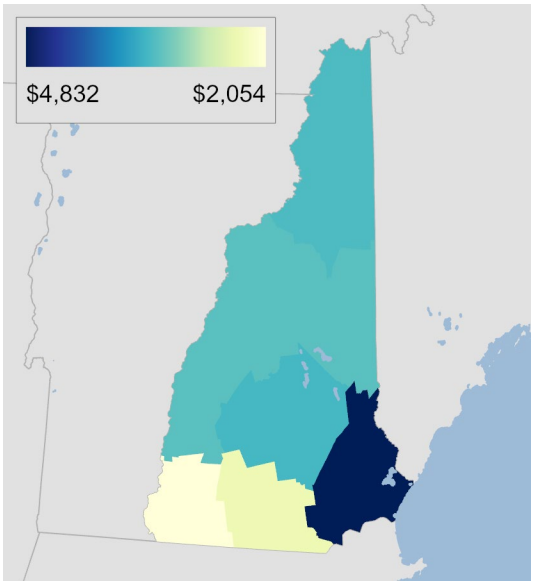


TABLE NH1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**19th**
NFIP average claim amount	**19th**
Percent of homes with prior flood damage	**13th**
Home sales with prior flood damage	**20th**
Average Standard AAL of home with prior flood damage	**6th**
Total cost of flooding for sold homes with prior flood damage	**11th**

New Hampshire has had 499 NFIP claims since 2010 with a total paid loss amount of $9,613,690 for single-family homes. In New Hampshire, our analysis estimates that 2,982 homes have been previously flooded between 2010-2024 (0.8% of all single-family homes) and 116 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 $483,824.

FIGURE NH2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
372,919	499	2,982	116	$483,824

The map in Figure NH1 shows the average Standard AAL for damaged homes by MSA across the state of New Hampshire. The average Standard AAL for a previously damaged home varies from $2,054 to $4,832 depending on the MSA in New Hampshire. This shows that the state average AAL of $4,036 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, Boston-Cambridge-Newton is the only MSA with a percentage of single-family homes with prior damage above 1%. It also has the highest average AAL, $4,832, and the most estimated homes with prior flood damage, 1,859. This accounts for 62% of all the estimated homes with prior flood damage in New Hampshire.

New Hampshire has the 7th largest difference in AAL, $3,902, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 60% under the High scenario to $6,236. 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 NH3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$155	$4,036	$180	$4,709	$214	$6,424

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 New Hampshire, we would expect an average flood cost of $60,534 over the 15-year period ($60,534 = 15 * $4,036). 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 NH4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$60,534	$70,633	$96,356	$121,069	$141,267	$192,712

State fact sheet: New Mexico

FIGURE NM1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

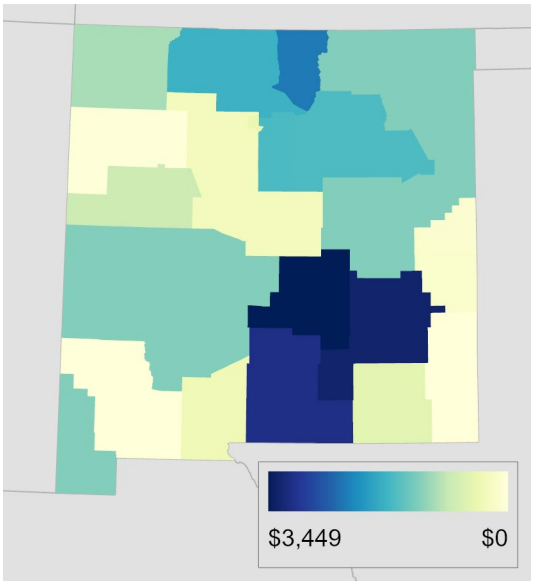


TABLE NM1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**23rd**
NFIP average claim amount	**13th**
Percent of homes with prior flood damage	**21st**
Home sales with prior flood damage	**19th**
Average Standard AAL of home with prior flood damage	**16th**
Total cost of flooding for sold homes with prior flood damage	**20th**

New Mexico has the third lowest number of NFIP claims in the study area, but 13th largest number of NFIP policies for single-family homes. In New Mexico, our analysis estimates that 2,049 homes have been previously flooded between 2010-2024 (0.4% of all single-family homes) and 120 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 $113,010.

FIGURE NM2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
564,541	74	2,049	120	$113,010

The map in Figure NM1 shows the average Standard AAL for damaged homes by MSA across the state of New Mexico. The average Standard AAL for a previously damaged home varies from $0 to $3,449 depending on the MSA in New Mexico. This shows that the state average AAL of $974 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, Española has a percentage of single-family homes with prior flood damage of 4.1% which is the largest in New Mexico. The average AAL is $1,776 which is higher than average, but not as high as other MSA's. Albuquerque has the most estimated single-family homes with prior flood damage, 944, and an average AAL of $294.

New Mexico has the 16th largest difference in AAL, $891, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 25% under the High scenario to $1,118. 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 NM3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$82	$974	$89	$1,153	$99	$1,216

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 New Mexico, we would expect an average flood cost of $14,604 over the 15-year period ($14,604 = 15 * $974). 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 NM4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$14,604	$17,299	$18,246	$29,207	$34,598	$36,492

State fact sheet: Pennsylvania

FIGURE PA1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

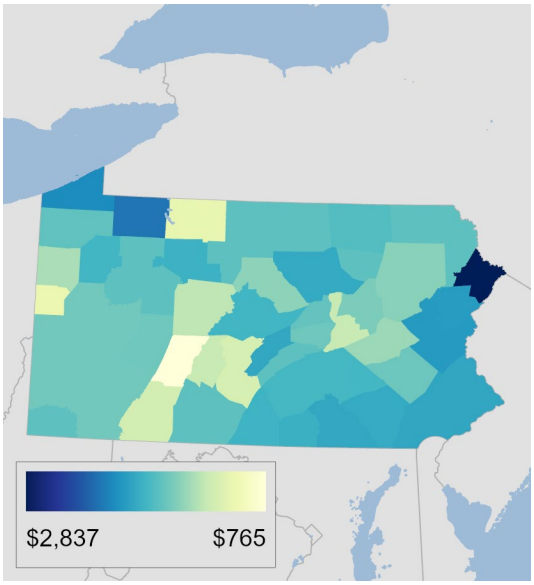


TABLE PA1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**2nd**
NFIP average claim amount	**10th**
Percent of homes with prior flood damage	**6th**
Home sales with prior flood damage	**4th**
Average Standard AAL of home with prior flood damage	**10th**
Total cost of flooding for sold homes with prior flood damage	**7th**

Pennsylvania has the second largest number of NFIP claims for single-family homes in the study area since 2010 with 13,225. The state also has a relatively low adjustment factor, 83.7%, indicating more homes with repeated flood events. In Pennsylvania, our analysis estimates that 52,477 homes have been previously flooded between 2010-2024 (1.3% of all single-family homes) and 1,668 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 $2,936,411.

FIGURE PA2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
3,978,010	13,225	52,477	1,668	$2,936,411

The map in Figure PA1 shows the average Standard AAL for damaged homes by MSA across the state of Pennsylvania. The average Standard AAL for a previously damaged home varies from $765 to $2,837 depending on the MSA in Pennsylvania. This shows that the state average AAL of $1,743 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, 28 out of 38 MSA's have a percentage of homes with prior flood damage above 1%. New York-Newark-Jersey City has the highest average AAL at $2,837, but only 413 estimated single-family homes with prior flood damage. Philadelphia-Camden-Wilmington has the highest number of estimated single-family homes with prior flood damage, 17,448, with an average AAL of $1,910.

Pennsylvania has the 10th largest difference in AAL, $1,650, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 16% under the High scenario to $1,920. 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 PA3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$92	$1,743	$104	$1,939	$111	$2,032

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 Pennsylvania, we would expect an average flood cost of $26,144 over the 15-year period ($26,144 = 15 * $1,743). 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 PA4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$26,144	$29,082	$30,475	$52,287	$58,165	$60,950

State fact sheet: Rhode Island

FIGURE RI1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

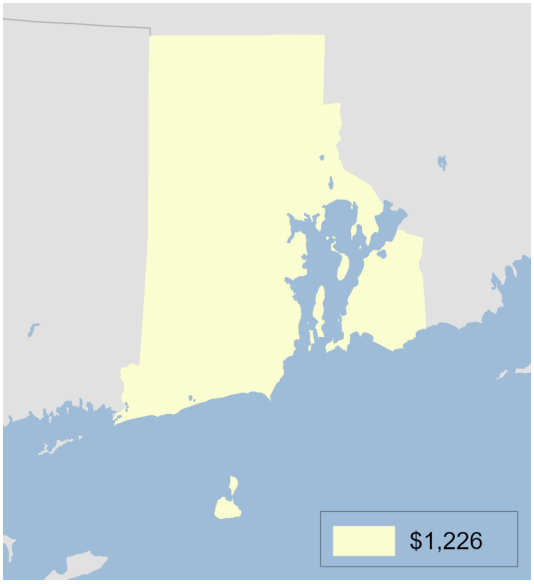


TABLE RI1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**13th**
NFIP average claim amount	**21st**
Percent of homes with prior flood damage	**3rd**
Home sales with prior flood damage	**16th**
Average Standard AAL of home with prior flood damage	**14th**
Total cost of flooding for sold homes with prior flood damage	**16th**

Rhode Island has had 2,044 NFIP claims since 2010 for single-family homes with an adjustment factor of 94% which indicates few repeated events for flooded homes. In Rhode Island, our analysis estimates that 5,197 homes have been previously flooded between 2010-2024 (2.0% of all single-family homes) and 214 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 $262,349.

FIGURE RI2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
260,463	2,044	5,197	214	$262,349

The map in Figure RI1 shows the average Standard AAL for damaged homes by MSA across the state of Rhode Island. Rhode Island is the only state with only one MSA, Providence-Warwick. The average AAL for Providence-Warwick is $1,226 with an estimated number of single-family homes with flood damage of 5,197. These homes have an increased AAL under the Medium and High scenarios of $1,364 and $1,959 respectively.

Rhode Island has the 14th largest difference in AAL, $1,177, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 61% under the High scenario to $1,890. 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 RI3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$49	$1,226	$55	$1,364	$69	$1,959

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 Rhode Island, we would expect an average flood cost of $18,393 over the 15-year period ($18,393 = 15 * $1,226). 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 RI4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$18,393	$20,463	$29,385	$36,785	$40,925	$58,771

State fact sheet: Utah

FIGURE UT1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

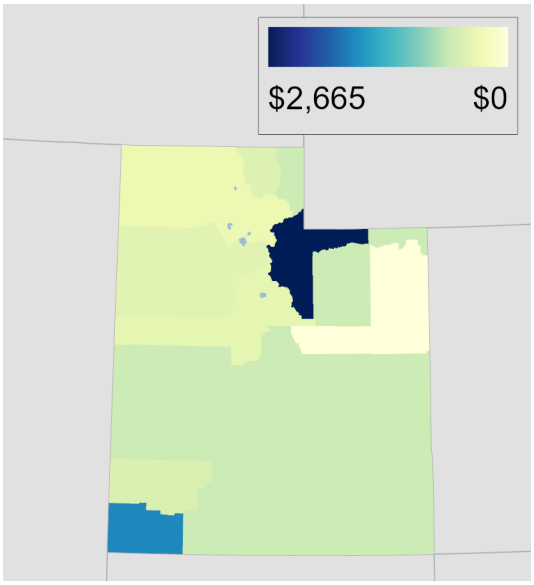


TABLE UT1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**24th**
NFIP average claim amount	**16th**
Percent of homes with prior flood damage	**20th**
Home sales with prior flood damage	**15th**
Average Standard AAL of home with prior flood damage	**19th**
Total cost of flooding for sold homes with prior flood damage	**18th**

Utah has the second lowest number of NFIP claims since 2010 for single-family homes with 20 claims and $426,863 in total paid losses. In Utah, our analysis estimates that 2,962 homes have been previously flooded between 2010-2024 (0.4% of all single-family homes) and 288 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 $177,189.

FIGURE UT2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
813,174	20	2,962	288	$177,189

The map in Figure UT1 shows the average Standard AAL for damaged homes by MSA across the state of Utah. The average Standard AAL for a previously damaged home varies from $0 to $2,665 depending on the MSA in Utah. This shows that the state average AAL of $546 does not fully illustrate the potential financial impact for certain geographies.

Salt Lake City has the highest estimated number of single-family homes with prior flood damage, 1,701, with an average AAL of $447. The highest average AAL is in Heber with $2,665 and 155 estimated single-family homes with prior flood damage.

Utah has the 19th largest difference in AAL, $464, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 63% under the High scenario to $755. Overall, the effect of climate change will adversely impact homeowners whose homes have already been flooded significantly more than the average homeowner in the state.

FIGURE UT3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$82	$546	$90	$646	$111	$866

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 Utah, we would expect an average flood cost of $8,186 over the 15-year period ($8,186 = 15 * $546). 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 UT4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$8,186	$9,694	$12,993	$16,373	$19,388	$25,985

State fact sheet: Virginia

FIGURE VA1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

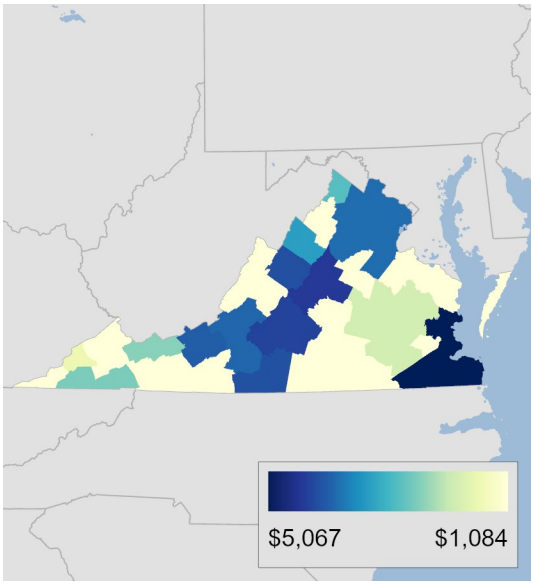


TABLE VA1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**5th**
NFIP average claim amount	**20th**
Percent of homes with prior flood damage	**9th**
Home sales with prior flood damage	**5th**
Average Standard AAL of home with prior flood damage	**5th**
Total cost of flooding for sold homes with prior flood damage	**4th**

Virginia has the sixth largest NFIP total paid loss with $140,566,506 in paid losses since 2010 for single-family homes. In Virginia, our analysis estimates that 26,641 homes have been previously flooded between 2010-2024 (1.1% of all single-family homes) and 1,348 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 $6,002,189.

FIGURE VA2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
2,420,379	7,465	26,641	1,348	$6,002,189

The map in Figure VA1 shows the average Standard AAL for damaged homes by MSA across the state of Virginia. The average Standard AAL for a previously damaged home varies from $1,084 to $5,067 depending on the MSA in Virginia. This shows that the state average AAL of $4,242 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, six MSA's have a percentage of homes with prior flood damage above 1%: Big Stone Gap, Bluefield, Charlottesville, Martinsville, Non-MSA (all areas that are not included in an MSA), and Virginia Beach-Norfolk-Newport News. These MSA's represent 76% of the damaged homes in Virginia while only representing 33% of the single-family homes.

Virginia has the 5th largest difference in AAL, $4,163, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 41% under the High scenario to $5,889. 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 VA3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$79	$4,242	$92	$4,858	$116	$6,006

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 Virginia, we would expect an average flood cost of $63,634 over the 15-year period ($68,634 = 15 * $4,242). 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 VA4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$63,634	$72,865	$90,088	$127,268	$145,730	$180,176

State fact sheet: Vermont

FIGURE VT1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

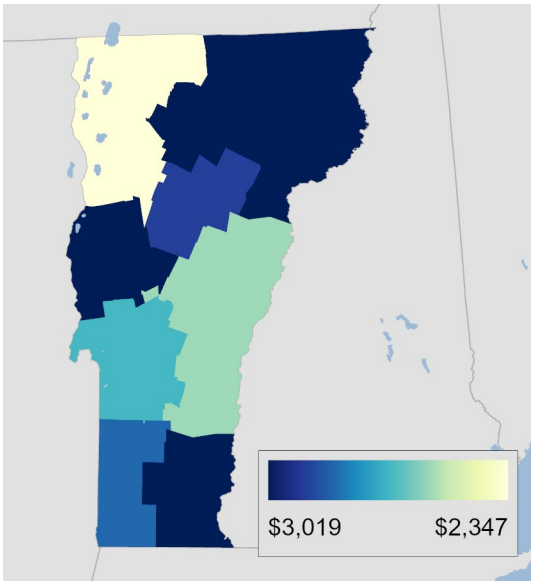


TABLE VT1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**15th**
NFIP average claim amount	**6th**
Percent of homes with prior flood damage	**5th**
Home sales with prior flood damage	**18th**
Average Standard AAL of home with prior flood damage	**8th**
Total cost of flooding for sold homes with prior flood damage	**14th**

Vermont has the sixth largest NFIP average paid loss, $34,013, in the study area for single-family homes since 2010. In Vermont, our analysis estimates that 2,582 homes have been previously flooded between 2010-2024 (1.4% of all single-family homes) and 132 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 $361,569.

FIGURE VT2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
188,349	1,123	2,582	132	$361,569

The map in Figure VT1 shows the average Standard AAL for damaged homes by MSA across the state of Vermont. The average Standard AAL for a previously damaged home varies from $2,347 to $3,019 depending on the MSA in Vermont. This shows that the state average AAL of $2,729 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, all the MSA's in Vermont have an estimated percentage of single-family homes with prior flood damage above 1%. Barre has the largest percentage, 2.4%, with an average AAL of $2,911. The locations outside the MSA's have the highest average AAL of $3,019 and the largest estimated number of homes with prior flood damage.

Vermont has the 8th largest difference in AAL, $2,511, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 38% under the High scenario to $3,462. Overall, the effect of climate change will adversely impact homeowners whose homes have already been flooded significantly more than the average homeowner in the state.

FIGURE VT3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$218	$2,729	$255	$3,198	$294	$3,756

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 Vermont, we would expect an average flood cost of $40,932 over the 15-year period ($40,932 = 15 * $2,729). 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 VT4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$40,932	$47,974	$56,344	$81,864	$95,948	$112,688

State fact sheet: Wisconsin

FIGURE WI1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

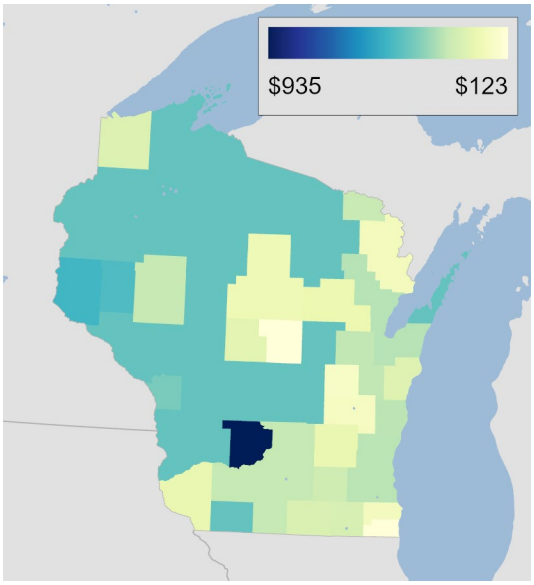


TABLE WI1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**14th**
NFIP average claim amount	**14th**
Percent of homes with prior flood damage	**15th**
Home sales with prior flood damage	**12th**
Average Standard AAL of home with prior flood damage	**21st**
Total cost of flooding for sold homes with prior flood damage	**19th**

Wisconsin has had 1,274 NFIP claims since 2010 for single-family homes with 8,839 policies in 2022. In Wisconsin, our analysis estimates that 11,213 homes have been previously flooded between 2010-2024 (0.7% of all single-family homes) and 506 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 $165,262.

FIGURE WI2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
1,721,833	1,274	11,213	506	$165,262

The map in Figure WI1 shows the average Standard AAL for damaged homes by MSA across the state of Wisconsin. The average Standard AAL for a previously damaged home varies from $123 to $935 depending on the MSA in Wisconsin. This shows that the state average AAL of $333 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, six MSA's have a percentage of homes with prior flood damage above 1%: Baraboo, Chicago-Naperville-Elgin, Fond du Lac, Manitowoc, Minneapolis-St. Paul-Bloomington, and Oshkosh-Neenha. These MSA's represent 19% of the damaged homes in Wisconsin while representing 10% of the single-family homes.

Wisconsin has the 5th lowest difference in AAL, $294, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 41% under the High scenario to $416. 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 WI3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$39	$333	$46	$431	$50	$465

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 Wisconsin, we would expect an average flood cost of $4,996 over the 15-year period ($4,996 = 15 * $333). 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 WI4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$4,996	$6,471	$6,977	$9,992	$12,942	$13,955

State fact sheet: West Virginia

FIGURE WV1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

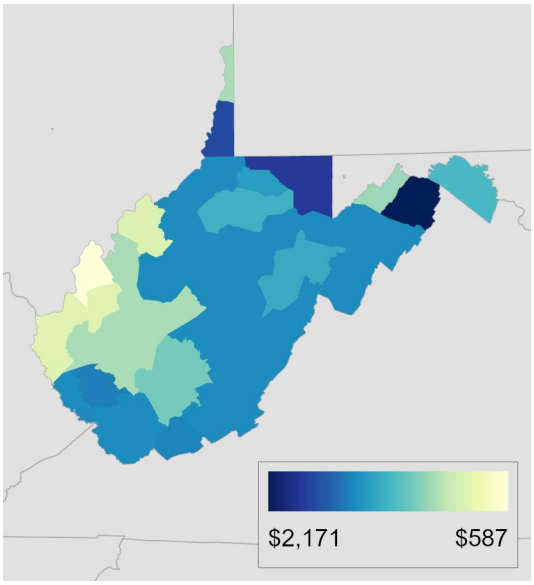


TABLE WV1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**12th**
NFIP average claim amount	**11th**
Percent of homes with prior flood damage	**7th**
Home sales with prior flood damage	**14th**
Average Standard AAL of home with prior flood damage	**13th**
Total cost of flooding for sold homes with prior flood damage	**12th**

West Virginia has had 2,224 NFIP claims since 2010 for single-family homes with an average paid loss of $26,071. In West Virginia, our analysis estimates that 6,833 homes have been previously flooded between 2010-2024 (1.3% of all single-family homes) and 295 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 $416,431.

FIGURE WV2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
536,129	2,224	6,833	295	$416,431

The map in Figure WV1 shows the average Standard AAL for damaged homes by MSA across the state of West Virginia. The average Standard AAL for a previously damaged home varies from $587 to $2,171 depending on the MSA in West Virginia. This shows that the state average AAL of $1,370 does not fully illustrate the potential financial impact for certain geographies.

Winchester has the highest average AAL of $2,171, but only has 38 estimated homes with prior flood damage. The locations outside all the MSA's have the largest amount of homes with prior flood damage, 1,789, and an average AAL of $1,593. While Mount Gay-Shamrock has the highest percentage of homes with prior flood damage, 6.0%, and an average AAL of $1,643.

West Virginia has the 12th largest difference in AAL, $1,219, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 36% under the High scenario to $1,653. 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 WV3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$152	$1,370	$172	$1,635	$187	$1,840

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 West Virginia, we would expect an average flood cost of $20,557 over the 15-year period ($20,557 = 15 * $1,370). 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 WV4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$20,557	$24,525	$27,606	$41,114	$49,051	$55,212

State fact sheet: Wyoming

FIGURE WY1: AVERAGE STANDARD AAL FOR DAMAGED HOME BY MSA

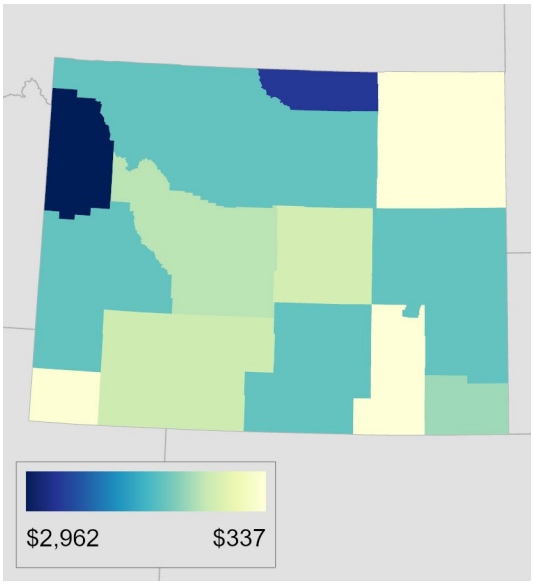


TABLE WY1: RANKING OF KEY METRICS IN 25 STATE STUDY AREA

NFIP paid claims count	**25th**
NFIP average claim amount	**25th**
Percent of homes with prior flood damage	**16th**
Home sales with prior flood damage	**23rd**
Average Standard AAL of home with prior flood damage	**11th**
Total cost of flooding for sold homes with prior flood damage	**13th**

Wyoming has the lowest number of NFIP claims since 2010 for states in the study with 19 claims for single-family homes and the NFIP has paid out $226,172 dollars in flood claims. In Wyoming, our analysis estimates that 1,052 homes have been previously flooded between 2010-2024 (0.6% of all single-family homes) and 62 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 $100,778.

FIGURE WY2: SUMMARY STATISTICS ON NUMBER OF SINGLE-FAMILY HOMES

Total Single-Family Homes	Single-Family Homes With NFIP Claim (since 2010)	Estimated Single-Family Homes With Flood Damages	Estimated 2023 Home Sales With Flood Damages	Total Cost of Flooding
173,570	19	1,052	62	$100,778

The map in Figure WY1 shows the average Standard AAL for damaged homes by MSA across the state of Wyoming. The average Standard AAL for a previously damaged home varies from $337 to $2,962 depending on the MSA in Wyoming. This shows that the state average AAL of $1,631 does not fully illustrate the potential financial impact for certain geographies.

In the analysis, two MSA's have a percentage of homes with prior flood damage above 1%: Riverton and Sheridan. These MSA's represent 46% of the damaged homes in Wyoming while only representing 12% of the single-family homes.

Wyoming has the 11th largest difference in AAL, $1,488, between a home that has been previously flooded and the state average for the Standard scenario. This dollar difference grows by 26% under the High scenario to $1,881. 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 WY3: AVERAGE ANNUAL LOSS BY SCENARIO

Standard Scenario		Medium Scenario		High Scenario	
AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes	AAL All Homes	AAL Damaged Homes
$143	$1,631	$174	$2,105	$171	$2,052

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 Wyoming, we would expect an average flood cost of $24,469 over the 15-year period ($24,469 = 15 * $1,631). 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 WY4: AVERAGE FLOOD COST FOR STANDARD SCENARIO OVER 15 OR 30 YEARS

Average Flood Cost 15 Year			Average Flood Cost 30 Year		
Standard Scenario	Medium Scenario	High Scenario	Standard Scenario	Medium Scenario	High Scenario
$24,469	$31,572	$30,780	$48,939	$63,145	$61,560

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In performing the services we relied on data and other information obtained from FEMA, KatRisk, Moody's Analytics and other sources. Beyond the scope of work as previously described, we will not audit, verify, or review the data and other information for reasonableness and consistency. Such a review is beyond the scope of our assignment. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete. In that event, the results of our analysis may not be suitable for the intended purpose.

Variability of results

Any projection of future loss relativities involves estimates of future contingencies. While our analysis is based on sound actuarial principles, it is important to note that variation from the projected result is not only possible, but, in fact, probable. While the degree of such variation cannot be quantified, it could be in either direction from the projections. Such uncertainty is inherent in any set of actuarial projections.

Model reliances

Our analysis is based in part on the KatRisk SpatialKat Flood and Storm Surge Models. To the extent that the selected models are biased, the resulting rates will be biased. An analysis based on different catastrophe models would likely produce a different result.

Uncertainty

Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for the analyses. It is certain that actual experience will not conform exactly to the assumptions to be used in these analyses. Actual amounts will differ from projected amounts to the extent that actual experience is better or worse than expected.

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CONTACT

Larry Baeder

Larry.Baeder@milliman.com

Greg Dietzen

Greg.Dietzen @milliman.com

milliman.com

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
All States

(1)	(2)	(3)	(4)	(5)	(6)
State	Total NFIP Paid Claims Note (2)	Average NFIP Paid Loss Note (2)	Total Paid Loss Note (2)	Adjustment Factor Note (3)	NFIP Policy Count Note ()
AL	4,872	$35,841	$174,617,787	84.8%	28,614
AR	2,292	38,694	88,686,927	81.5%	9,447
AZ	370	35,153	13,006,453	89.9%	19,544
CT	9,416	34,774	327,434,234	77.2%	19,974
FL	73,976	64,914	4,802,044,688	91.1%	868,873
GA	4,148	29,004	120,310,508	86.6%	62,321
ID	110	22,007	2,420,786	91.3%	4,168
IL	8,577	18,211	156,193,332	82.8%	23,496
KS	667	19,996	13,337,349	87.9%	6,162
MA	4,396	20,089	88,309,101	81.5%	30,363
MD	3,173	14,157	44,919,390	88.3%	31,988
ME	704	33,618	23,666,755	87.4%	5,337
MI	2,845	23,997	68,271,682	83.5%	16,232
MN	958	16,647	15,948,180	90.0%	6,098
MT	393	26,781	10,525,000	88.9%	3,255
NH	499	19,266	9,613,690	84.8%	3,864
NM	74	22,848	1,690,761	88.4%	9,274
PA	13,225	26,403	349,173,835	83.7%	33,721
RI	2,044	18,375	37,559,096	93.8%	7,758
UT	20	21,343	426,863	93.0%	2,731
VA	7,465	18,830	140,566,506	86.4%	75,549
VT	1,123	34,013	38,196,799	88.5%	2,100
WI	1,274	22,192	28,272,419	89.2%	8,839
WV	2,224	26,071	57,982,725	89.2%	8,733
WY	19	11,904	226,172	92.0%	1,329
	144,864		$6,589,734,284		1,284,433

Notes:
1. Open FEMA datasets downloaded on 6/6/2024
2. Data from Open FEMA data sets filtered to single-family homes and starting in 2010 to 2024.
3. Adjustment factor is unique OpenFEMA locations with paid claims, divided by the total number of OpenFEMA paid claims for each state after 2010.
4. Single-family homes NFIP policy count as of 1/1/2022.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
All States

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
State	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (3) / (2)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (7) - (8)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (10) - (11)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (13) - (14)
AL	1,410,235	11,506	0.8%	94,097	1,016	$5,197	$77	$5,121	$5,869	$86	$5,783	$7,607	$106	$7,501
AR	858,240	14,312	1.7%	67,121	1,174	580	73	507	641	77	563	740	85	655
AZ	1,933,048	1,995	0.1%	97,367	102	113	95	18	119	99	20	152	119	33
CT	925,193	19,930	2.2%	36,880	802	9,441	222	9,219	10,149	258	9,891	12,168	344	11,824
FL	5,427,166	401,737	7.4%	382,021	28,194	1,482	268	1,214	1,653	313	1,340	2,076	407	1,668
GA	2,856,104	12,586	0.4%	168,290	758	4,730	68	4,662	4,882	77	4,804	5,485	97	5,387
ID	524,777	503	0.1%	45,589	45	669	76	593	822	83	739	1,034	93	941
IL	3,267,408	35,273	1.1%	210,456	2,309	266	55	211	335	63	273	370	68	302
KS	900,537	4,174	0.5%	38,510	173	471	43	428	682	53	629	775	58	717
MA	1,568,463	19,442	1.2%	67,340	843	4,479	109	4,370	4,779	126	4,654	5,628	165	5,463
MD	1,707,500	10,150	0.6%	74,266	401	2,197	42	2,156	3,013	47	2,966	4,926	55	4,870
ME	406,709	1,448	0.4%	22,246	82	3,687	293	3,394	3,929	325	3,604	4,211	420	3,790
MI	3,098,418	29,507	1.0%	193,446	1,847	217	42	175	269	47	223	321	52	268
MN	1,677,874	11,613	0.7%	122,570	847	269	41	227	371	50	322	391	52	339
MT	327,376	1,103	0.3%	20,023	62	1,192	120	1,071	1,312	130	1,181	1,638	144	1,494
NH	372,919	2,982	0.8%	13,214	116	4,036	155	3,881	4,709	180	4,529	6,424	214	6,210
NM	564,541	2,049	0.4%	33,863	120	974	82	891	1,153	89	1,064	1,216	99	1,118
PA	3,978,010	52,477	1.3%	127,652	1,668	1,743	92	1,650	1,939	104	1,834	2,032	111	1,920
RI	260,463	5,197	2.0%	10,724	214	1,226	49	1,177	1,364	55	1,309	1,959	69	1,890
UT	813,174	2,962	0.4%	85,282	288	546	82	464	646	90	556	866	111	755
VA	2,420,379	26,641	1.1%	109,664	1,348	4,242	79	4,163	4,858	92	4,766	6,006	116	5,889
VT	188,349	2,582	1.4%	9,537	132	2,729	218	2,511	3,198	255	2,943	3,756	294	3,462
WI	1,721,833	11,213	0.7%	75,005	506	333	39	294	431	46	385	465	50	416
WV	536,129	6,833	1.3%	22,622	295	1,370	152	1,219	1,635	172	1,463	1,840	187	1,653
WY	173,570	1,052	0.6%	10,278	62	1,631	143	1,488	2,105	174	1,931	2,052	171	1,881
	37,918,415	689,267	1.8%	2,138,063	43,401	$1,882	$106		$2,098	$121		$2,572	$149	$2,573

Notes:
1. Data from American Community 5-year Survey 2022
2. = (2) x predicted number of damaged homes x adjustment factor. Adjustment factor is unique OpenFEMA locations with paid claims, divided by the total number of OpenFEMA paid claims for each state after 2010-2024.
3. Home sales from Moody's Analytics Baseline Scenario.
4. Damaged home sales from individual state exhibits, as they are weighted by the number of homes sold in each MSA.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Alabama

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
AL	Albertville	28,226	135	0.5%	1,572	8	$2,663	$40	$2,623	$3,026	$45	$2,982	$3,890	$53	$3,836
AL	Alexander City	14,551	74	0.5%	810	4	3,013	68	2,944	3,414	71	3,343	4,375	78	4,297
AL	Anniston-Oxford	33,062	22	0.1%	1,841	1	2,846	44	2,802	3,199	47	3,152	4,112	59	4,053
AL	Atmore	9,171	314	3.4%	511	17	266	38	228	283	39	243	324	43	282
AL	Auburn-Opelika	41,459	61	0.1%	33	0	2,579	61	2,518	2,747	66	2,681	3,331	71	3,259
AL	Birmingham-Hoover	319,975	1,815	0.6%	26,076	148	2,939	54	2,885	3,330	58	3,272	4,276	69	4,208
AL	Columbus	16,341	97	0.6%	706	4	2,230	29	2,201	2,518	31	2,487	3,199	33	3,165
AL	Cullman	24,328	75	0.3%	1,355	4	2,694	42	2,652	3,114	48	3,067	3,995	55	3,940
AL	Daphne-Fairhope-Foley	69,008	3,963	5.7%	9,156	526	10,001	372	9,630	11,268	431	10,836	14,630	588	14,042
AL	Decatur	45,341	222	0.5%	2,631	13	1,473	44	1,429	1,686	51	1,635	2,148	59	2,089
AL	Dothan	43,526	501	1.2%	2,280	26	1,824	35	1,789	2,073	38	2,034	2,622	42	2,580
AL	Enterprise	15,815	107	0.7%	881	6	2,310	34	2,276	2,612	36	2,576	3,301	39	3,261
AL	Eufaula	5,252	23	0.4%	293	1	2,008	25	1,983	2,322	27	2,294	2,939	29	2,910
AL	Florence-Muscle Shoals	46,415	148	0.3%	5,701	18	2,237	48	2,190	2,589	55	2,535	3,252	60	3,191
AL	Fort Payne	18,479	72	0.4%	1,029	4	2,237	77	2,160	2,550	85	2,465	3,327	107	3,220
AL	Gadsden	30,770	64	0.2%	38	0	1,309	25	1,283	1,477	27	1,451	1,896	31	1,865
AL	Huntsville	151,655	637	0.4%	8,946	38	1,157	113	1,045	1,379	130	1,248	1,821	160	1,661
AL	Jasper	16,102	87	0.5%	897	5	2,421	40	2,381	2,739	43	2,696	3,484	46	3,438
AL	LaGrange	9,528	40	0.4%	531	2	3,113	6	3,107	3,515	7	3,508	4,509	7	4,502
AL	Mobile	124,317	2,347	1.9%	7,855	148	3,715	136	3,580	4,202	153	4,049	5,491	190	5,301
AL	Montgomery	111,454	127	0.1%	7,529	9	3,095	34	3,061	3,495	36	3,459	4,484	39	4,445
AL	Non-MSA	103,080	233	0.2%	5,741	13	1,752	37	1,715	2,011	40	1,971	2,525	44	2,481
AL	Ozark	13,922	71	0.5%	775	4	2,107	15	2,091	2,374	17	2,358	3,011	18	2,993
AL	Scottsboro	14,753	31	0.2%	822	2	1,739	38	1,700	1,968	42	1,926	2,547	52	2,494
AL	Selma	9,433	7	0.1%	525	0	2,231	40	2,191	2,516	42	2,474	3,220	47	3,173
AL	Talladega-Sylacauga	21,368	37	0.2%	1,190	2	3,152	48	3,104	3,562	51	3,511	4,570	61	4,509
AL	Troy	7,441	25	0.3%	414	1	360	15	345	382	16	366	427	17	410
AL	Tuscaloosa	65,463	169	0.3%	3,958	10	2,776	64	2,712	3,149	71	3,078	4,035	82	3,954
		1,410,235	11,506	0.8%	94,097	1,016	$5,197	$76.63	$5,121	$5,869	$86	$5,783	$7,607	$106	$7,501

Notes:
1. Data from American Community 5-year Survey 2022
2. = (2) x predicted number of damaged homes x adjustment factor. Adjustment factor is unique OpenFEMA locations with paid claims, divided by the total number of OpenFEMA paid claims for each state after 2010-2024.
3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Arkansas

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
AR	Arkadelphia	5,066	32	0.6%	410	3	$201	$16	$185	$225	$17	$208	$249	$18	$231
AR	Batesville	15,573	411	2.6%	1,260	33	643	41	601	686	43	643	789	48	741
AR	Blytheville	10,959	167	1.5%	887	13	77	28	50	87	30	57	93	32	61
AR	Camden	7,391	69	0.9%	598	6	151	10	141	171	11	160	189	11	178
AR	El Dorado	10,960	17	0.2%	887	1	306	24	282	339	25	314	379	26	353
AR	Fayetteville-Springdale-Rogers	152,542	2,733	1.8%	12,340	221	734	68	666	854	75	779	1,020	85	935
AR	Forrest City	5,256	159	3.0%	425	13	65	11	55	74	11	63	83	12	71
AR	Fort Smith	61,164	486	0.8%	4,299	34	290	28	261	335	31	304	410	35	376
AR	Harrison	14,611	168	1.1%	1,182	14	1,557	73	1,485	1,702	79	1,623	2,011	93	1,918
AR	Helena-West Helena	4,501	135	3.0%	364	11	88	50	39	129	57	71	144	60	84
AR	Hope	7,587	48	0.6%	614	4	387	12	375	423	12	410	525	14	511
AR	Hot Springs	30,668	223	0.7%	1,041	8	3,688	366	3,322	3,930	378	3,552	4,508	414	4,094
AR	Jonesboro	37,183	1,116	3.0%	4,527	136	168	34	134	194	38	156	217	40	177
AR	Little Rock-North Little Rock-Conway	214,061	1,790	0.8%	15,498	130	635	71	564	715	75	640	835	83	752
AR	Magnolia	5,437	8	0.1%	440	1	182	10	172	205	11	194	217	11	205
AR	Malvern	8,712	37	0.4%	705	3	1,045	58	987	1,075	61	1,014	1,307	68	1,239
AR	Memphis	13,584	2,515	18.5%	1,099	203	321	164	157	361	180	181	375	186	190
AR	Mountain Home	14,912	96	0.6%	1,206	8	2,228	73	2,155	2,336	77	2,259	2,693	88	2,605
AR	Non-MSA	144,519	3,206	2.2%	11,691	259	615	81	534	649	85	564	758	92	666
AR	Paragould	13,065	177	1.4%	1,057	14	193	29	164	216	32	185	236	34	201
AR	Pine Bluff	22,148	312	1.4%	1,873	26	212	37	175	238	38	200	262	39	223
AR	Russellville	23,486	123	0.5%	1,900	10	958	78	880	1,051	82	968	1,241	93	1,149
AR	Searcy	19,467	267	1.4%	1,575	22	544	39	505	536	40	496	520	43	477
AR	Texarkana	15,388	18	0.1%	1,245	1	384	32	353	432	33	399	504	36	468
		858,240	14,312	1.7%	67,121	1,174	$580	$73	$507	$641	$77	$563	$740	$85	$655

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Arizona

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
AZ	Flagstaff	32,086	31	0.1%	1,535	1	$223	$252	-$29	$233	$290	-$57	$296	$361	-$65
AZ	Lake Havasu City-Kingman	63,289	8	0.0%	3,154	0	128	178	-51	133	177	-44	171	194	-23
AZ	Nogales	13,431	6	0.0%	691	0	233	160	73	243	178	65	308	201	107
AZ	Non-MSA	19,760	14	0.1%	1,017	1	270	334	-65	281	342	-61	358	373	-15
AZ	Payson	15,955	239	1.5%	821	12	3	182	-179	3	194	-191	4	268	-264
AZ	Phoenix-Mesa-Chandler	1,306,567	1,242	0.1%	67,230	64	123	82	40	131	85	46	170	103	67
AZ	Prescott Valley-Prescott	74,963	217	0.3%	3,857	11	121	93	28	128	100	28	157	120	37
AZ	Show Low	27,325	1	0.0%	1,406	0	258	48	210	269	50	218	341	63	278
AZ	Sierra Vista-Douglas	34,917	58	0.2%	1,714	3	180	27	153	186	28	158	220	31	189
AZ	Tucson	288,092	179	0.1%	13,709	9	123	114	8	127	121	6	149	149	0
AZ	Safford	8,710	0	0.0%	448	0	0	47	-47	0	49	-49	0	59	-59
AZ	Yuma	47,953	0	0.0%	1,785	0	0	41	-41	0	44	-44	0	46	-46
		1,933,048	1,995	0.1%	97,367	102	$113	$95	$18	$119	$99	$20	$152	$119	$33

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Conneticut

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
CT	Bridgeport-Stamford-Norwalk	228,287	7,743	3.4%	9,589	325	$7,628	$397	$7,231	$8,622	$466	$8,155	$11,395	$638	$10,756
CT	Hartford-East Hartford-Middletown	321,663	3,571	1.1%	12,689	141	9,498	118	9,380	10,100	135	9,965	11,582	172	11,410
CT	New Haven-Milford	207,856	6,047	2.9%	8,630	251	12,813	271	12,542	13,187	312	12,875	14,618	415	14,203
CT	Norwich-New London	76,250	2,083	2.7%	2,394	65	6,892	136	6,756	7,719	160	7,559	9,690	224	9,465
CT	Torrington	58,822	293	0.5%	2,320	12	5,786	158	5,629	6,308	177	6,131	7,456	203	7,253
CT	Worcester	32,315	192	0.6%	1,258	7	8,536	39	8,497	9,224	43	9,181	11,139	50	11,089
		925,193	19,930	2.2%	36,880	802	$9,441	$222	$9,219	$10,149	$258	$9,891	$12,168	$344	$11,824

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Florida

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
FL	Arcadia	7,240	338	4.7%	557	26	$460	$71	$389	$493	$75	$418	$593	$82	$510
FL	Cape Coral-Fort Myers	210,567	29,572	14.0%	20,083	2,820	2,160	755	1,405	2,409	887	1,522	2,836	1,124	1,712
FL	Clewiston	7,981	85	1.1%	614	7	1,070	273	797	1,117	268	849	1,301	277	1,023
FL	Crestview-Fort Walton Beach-Destin	85,990	3,957	4.6%	7,832	360	1,909	90	1,820	2,111	104	2,008	2,705	140	2,565
FL	Deltona-Daytona Beach-Ormond Beach	211,840	44,731	21.1%	13,797	2,913	522	136	387	577	157	421	735	209	526
FL	Gainesville	75,790	3,603	4.8%	3,457	164	2,610	117	2,493	2,868	126	2,742	3,590	138	3,452
FL	Homosassa Springs	51,437	5,505	10.7%	3,369	361	2,363	197	2,165	2,614	221	2,393	3,262	267	2,995
FL	Jacksonville	440,659	17,687	4.0%	29,372	1,179	5,550	170	5,380	6,217	207	6,010	7,543	291	7,253
FL	Key West	22,144	2,212	10.0%	1,703	170	6,420	4,166	2,254	8,340	5,500	2,840	12,330	8,450	3,881
FL	Lake City	13,943	1,043	7.5%	1,072	80	2,788	29	2,758	3,056	30	3,026	3,834	31	3,803
FL	Lakeland-Winter Haven	178,214	13,987	7.8%	11,393	894	358	28	330	387	29	358	478	29	449
FL	Miami-Fort Lauderdale-Pompano Beach	1,258,979	41,647	3.3%	96,828	3,203	1,632	299	1,333	1,809	348	1,462	2,317	450	1,867
FL	Naples-Marco Island	90,393	5,770	6.4%	6,952	444	6,301	1,571	4,730	6,850	1,857	4,993	7,881	2,383	5,498
FL	Non-MSA	64,040	6,778	10.6%	4,925	521	2,372	263	2,108	2,794	301	2,494	3,807	379	3,428
FL	North Port-Sarasota-Bradenton	253,484	22,369	8.8%	18,094	1,597	792	336	456	912	389	523	1,192	504	688
FL	Ocala	111,210	1,751	1.6%	7,738	122	2,810	70	2,740	3,070	73	2,997	3,854	76	3,778
FL	Okeechobee	8,409	134	1.6%	647	10	2,306	348	1,957	2,495	341	2,154	3,171	379	2,792
FL	Orlando-Kissimmee-Sanford	648,497	111,421	17.2%	43,713	7,510	206	55	151	218	56	162	259	60	200
FL	Palatka	15,317	441	2.9%	1,178	34	2,326	36	2,291	2,530	38	2,492	3,198	48	3,150
FL	Palm Bay-Melbourne-Titusville	183,073	6,890	3.8%	12,844	483	958	175	784	1,030	196	834	1,235	248	987
FL	Panama City	49,026	3,087	6.3%	5,314	335	1,527	84	1,442	1,692	98	1,594	2,179	137	2,043
FL	Pensacola-Ferry Pass-Brent	152,515	18,463	12.1%	8,732	1,057	1,438	63	1,375	1,581	68	1,513	1,993	81	1,912
FL	Port St. Lucie	144,835	5,661	3.9%	9,378	367	2,338	281	2,057	2,564	312	2,252	3,390	426	2,964
FL	Punta Gorda	65,074	6,867	10.6%	5,484	579	1,607	1,214	394	1,933	1,409	524	2,531	1,766	765
FL	Sebastian-Vero Beach	49,300	2,730	5.5%	3,746	207	5,035	666	4,368	5,672	798	4,874	7,439	1,127	6,312
FL	Sebring-Avon Park	31,802	721	2.3%	2,446	55	1,085	46	1,039	1,179	47	1,133	1,483	49	1,434
FL	Tallahassee	93,592	6,165	6.6%	4,359	287	3,085	64	3,020	3,355	72	3,283	4,201	80	4,121
FL	Tampa-St. Petersburg-Clearwater	842,531	36,851	4.4%	52,888	2,313	2,553	223	2,329	2,833	256	2,576	3,669	328	3,342
FL	The Villages	53,868	179	0.3%	3,090	10	1,925	47	1,879	2,089	48	2,041	2,610	49	2,561
FL	Wauchula	5,416	1,094	20.2%	417	84	220	31	189	237	32	205	286	32	254
		5,427,166	401,737	7.4%	382,021	28,194	$1,482	$268	$1,214	$1,653	$313	$1,340	$2,076	$407	$1,668

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Georgia

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
GA	Albany	39,066	955	2.4%	2,056	50	$494	$25	$469	$528	$27	$500	$606	$29	$576
GA	Americus	8,067	67	0.8%	475	4	311	16	295	344	17	327	387	19	368
GA	Athens-Clarke County	53,422	80	0.1%	3,072	5	2,556	30	2,526	2,736	32	2,704	3,278	37	3,241
GA	Atlanta-Sandy Springs-Alpharetta	1,660,264	4,035	0.2%	97,737	238	2,428	53	2,375	2,629	57	2,572	3,159	66	3,094
GA	Augusta-Richmond County	107,573	249	0.2%	6,902	16	1,662	45	1,617	1,796	48	1,748	2,016	60	1,957
GA	Bainbridge	7,079	48	0.7%	417	3	1,084	60	1,024	1,167	66	1,100	1,371	72	1,299
GA	Brunswick	30,378	701	2.3%	2,210	51	38,715	870	37,846	35,872	1,126	34,747	33,901	1,654	32,247
GA	Calhoun	15,816	65	0.4%	931	4	1,497	39	1,458	1,636	42	1,593	2,019	53	1,967
GA	Cedartown	12,277	166	1.3%	723	10	2,731	53	2,677	2,916	58	2,858	3,473	72	3,400
GA	Chattanooga	45,406	129	0.3%	2,673	8	1,909	77	1,833	2,096	84	2,011	2,656	109	2,547
GA	Columbus	72,999	342	0.5%	3,154	15	1,253	32	1,220	1,324	35	1,289	1,542	37	1,505
GA	Cordele	4,972	270	5.4%	293	16	355	35	320	386	38	348	439	41	398
GA	Cornelia	11,291	27	0.2%	665	2	3,793	92	3,701	4,088	100	3,988	5,242	123	5,119
GA	Dalton	34,761	223	0.6%	1,115	7	1,390	51	1,338	1,529	56	1,472	1,931	70	1,861
GA	Douglas	10,402	40	0.4%	612	2	2,924	22	2,902	3,127	23	3,103	3,691	24	3,667
GA	Dublin	14,703	87	0.6%	866	5	2,564	36	2,528	2,749	39	2,710	3,250	45	3,205
GA	Eufaula	492	0	0.1%	29	0	7	7	0	7	8	-1	7	8	-1
GA	Fitzgerald	4,256	16	0.4%	251	1	2,500	13	2,487	2,669	14	2,655	3,161	15	3,146
GA	Gainesville	53,776	126	0.2%	3,281	8	2,821	32	2,789	3,009	33	2,977	3,591	36	3,555
GA	Hinesville	17,590	206	1.2%	1,727	20	2,301	70	2,231	2,975	83	2,892	3,944	105	3,839
GA	Jefferson	21,473	18	0.1%	1,264	1	2,235	21	2,214	2,412	22	2,389	2,914	26	2,888
GA	Jesup	6,836	5	0.1%	402	0	2,664	33	2,630	2,845	35	2,810	3,367	36	3,331
GA	LaGrange	19,767	341	1.7%	1,164	20	2,905	6	2,899	3,106	6	3,100	3,667	7	3,660
GA	Macon-Bibb County	62,165	237	0.4%	3,660	14	2,150	37	2,113	2,337	42	2,295	2,764	47	2,717
GA	Milledgeville	11,555	12	0.1%	680	1	1,277	30	1,247	1,416	33	1,383	1,690	37	1,654
GA	Moultrie	10,383	235	2.3%	611	14	3,026	16	3,010	3,227	17	3,210	3,838	18	3,819
GA	Non-MSA	193,090	1,080	0.6%	11,367	64	2,617	83	2,533	2,836	91	2,745	3,476	112	3,364
GA	Rome	27,025	138	0.5%	1,617	8	1,101	60	1,041	1,191	65	1,126	1,515	82	1,433
GA	Savannah	110,172	2,060	1.9%	7,309	137	5,744	266	5,478	6,762	335	6,427	8,861	478	8,383
GA	St. Marys	14,890	198	1.3%	877	12	2,024	138	1,886	2,469	175	2,294	3,394	259	3,135
GA	Statesboro	17,385	22	0.1%	1,023	1	2,737	22	2,715	2,934	23	2,912	3,439	24	3,415
GA	Summerville	6,525	40	0.6%	384	2	1,744	74	1,670	1,905	82	1,823	2,357	105	2,252
GA	Thomaston	7,615	60	0.8%	448	4	2,687	48	2,639	2,908	54	2,854	3,419	60	3,359
GA	Thomasville	12,274	37	0.3%	723	2	2,087	51	2,036	2,237	57	2,180	2,618	62	2,556
GA	Tifton	9,593	26	0.3%	565	2	1,758	30	1,728	1,889	32	1,857	2,229	35	2,194
GA	Toccoa	7,169	14	0.2%	422	1	1,958	18	1,940	2,127	19	2,108	2,609	22	2,586
GA	Valdosta	38,050	74	0.2%	2,251	4	2,927	15	2,912	3,130	16	3,114	3,694	17	3,677
GA	Vidalia	7,735	63	0.8%	455	4	3,079	37	3,042	3,286	40	3,246	3,898	43	3,855
GA	Warner Robins	54,524	80	0.1%	3,098	5	1,510	29	1,481	1,623	32	1,591	1,912	35	1,876
GA	Waycross	13,288	12	0.1%	782	1	3,107	18	3,089	3,315	19	3,296	3,937	20	3,917
		2,856,104	12,586	0.4%	168,290	758	$4,730	$68	$4,662	$4,882	$77	$4,804	$5,485	$97	$5,387

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Idaho

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
ID	Blackfoot	12,615	46	0.4%	1,161	4	$155	$19	$136	$182	$20	$161	$216	$21	$195
ID	Boise City	229,440	25	0.0%	18,637	2	2,298	82	2,216	2,801	87	2,714	3,527	92	3,436
ID	Burley	12,651	95	0.7%	1,165	9	471	89	381	562	93	470	688	98	590
ID	Coeur d'Alene	50,408	8	0.0%	5,359	1	1,750	30	1,720	2,185	32	2,153	2,779	39	2,740
ID	Hailey	7,003	12	0.2%	645	1	1,648	481	1,167	2,080	573	1,507	2,641	698	1,943
ID	Idaho Falls	42,121	116	0.3%	3,413	9	66	24	42	76	26	50	83	28	56
ID	Jackson	3,301	1	0.0%	304	0	1,838	38	1,800	2,275	43	2,232	2,896	48	2,849
ID	Logan	4,098	8	0.2%	412	1	367	46	321	629	54	574	801	62	738
ID	Moscow	9,783	26	0.3%	901	2	1,729	33	1,696	2,164	37	2,126	2,751	47	2,704
ID	Mountain Home	7,856	11	0.1%	723	1	1,771	51	1,720	2,207	56	2,150	2,807	63	2,744
ID	Non-MSA	42,765	42	0.1%	3,937	4	1,025	200	824	1,241	228	1,012	1,592	271	1,321
ID	Ontario	7,416	4	0.1%	683	0	1,803	10	1,793	2,240	11	2,229	2,850	11	2,839
ID	Pocatello	25,727	51	0.2%	2,223	4	562	42	520	667	49	618	765	55	710
ID	Rexburg	8,757	5	0.1%	806	0	61	41	20	71	44	26	79	48	31
ID	Sandpoint	14,974	7	0.0%	1,378	1	1,533	114	1,419	1,886	127	1,759	2,570	160	2,410
ID	Twin Falls	33,027	47	0.1%	3,131	4	589	13	576	750	14	735	1,003	17	985
ID	Lewiston	12,835	0	0.0%	712	0	0	43	-43	0	46	-46	0	50	-50
		524,777	503	0.1%	45,589	45	$669	$76	$593	$822	$83	$739	$1,034	$93	$941

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Illinois

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
IL	Bloomington	46,726	244	0.5%	3,074	16	$246	$39	$207	$315	$45	$270	$356	$53	$304
IL	Burlington	2,481	38	1.5%	126	2	207	33	174	278	42	236	308	49	258
IL	Cape Girardeau	1,259	51	4.0%	64	3	377	530	-153	439	536	-97	449	540	-91
IL	Carbondale-Marion	38,065	285	0.7%	2,319	17	207	17	189	242	19	223	274	21	253
IL	Centralia	10,824	96	0.9%	549	5	48	11	37	57	11	46	73	13	60
IL	Champaign-Urbana	56,081	425	0.8%	3,726	28	171	32	139	193	34	158	250	41	209
IL	Charleston-Mattoon	18,286	74	0.4%	928	4	288	27	260	327	29	298	415	37	377
IL	Chicago-Naperville-Elgin	1,961,590	23,498	1.2%	139,664	1,673	262	67	195	337	77	261	374	83	291
IL	Danville	24,372	182	0.7%	1,436	11	55	9	46	92	9	83	83	11	72
IL	Davenport-Moline-Rock Island	69,896	573	0.8%	3,910	32	236	20	216	318	24	295	356	25	330
IL	Decatur	35,382	47	0.1%	2,427	3	298	25	273	369	27	342	420	33	387
IL	Dixon	11,101	53	0.5%	563	3	281	34	248	360	40	320	402	42	359
IL	Effingham	11,321	49	0.4%	575	2	322	15	307	381	16	365	481	18	463
IL	Fort Madison-Keokuk	6,469	62	1.0%	328	3	248	12	237	324	14	310	366	16	350
IL	Freeport	15,115	344	2.3%	767	17	237	33	205	307	40	267	333	44	289
IL	Galesburg	16,581	164	1.0%	842	8	158	22	136	223	29	194	246	32	214
IL	Jacksonville	12,286	26	0.2%	624	1	266	20	246	335	23	312	375	27	348
IL	Kankakee	31,202	201	0.6%	1,357	9	99	28	71	135	30	105	143	33	111
IL	Lincoln	9,270	4	0.0%	471	0	251	15	237	379	17	362	479	19	460
IL	Macomb	8,270	72	0.9%	420	4	103	11	92	170	14	156	162	16	146
IL	Mount Vernon	10,259	37	0.4%	521	2	103	7	96	118	8	111	143	8	135
IL	Non-MSA	200,837	1,747	0.9%	10,195	89	180	32	148	238	34	204	256	38	218
IL	Ottawa	51,988	347	0.7%	2,639	18	203	27	176	274	31	243	293	32	261
IL	Paducah	4,243	95	2.2%	215	5	65	7	58	83	8	75	91	8	83
IL	Peoria	136,535	1,435	1.1%	8,089	85	214	24	190	293	29	264	314	32	282
IL	Pontiac	11,859	19	0.2%	602	1	214	33	181	272	37	235	306	41	265
IL	Quincy	22,103	202	0.9%	1,122	10	118	23	96	179	29	149	192	35	156
IL	Rochelle	17,656	139	0.8%	896	7	306	47	259	406	54	352	425	58	367
IL	Rockford	103,311	854	0.8%	6,897	57	208	31	177	275	35	240	293	37	257
IL	Springfield	70,984	289	0.4%	2,366	10	202	22	181	288	25	263	349	29	320
IL	St. Louis	219,810	3,420	1.6%	11,158	174	463	92	371	506	96	410	552	100	452
IL	Sterling	19,629	142	0.7%	996	7	224	21	204	286	25	262	319	26	293
IL	Taylorville	11,617	62	0.5%	590	3	135	20	115	168	23	145	204	28	176
		3,267,408	35,273	1.1%	210,456	2,309	$266	$55	$211	$335	$63	$273	$370	$68	$302

Notes:
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4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Kansas

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
KS	Atchison	4,711	4	0.1%	100	0	$338	$14	$324	$558	$19	$539	$690	$22	$668
KS	Coffeyville	10,521	31	0.3%	224	1	413	54	359	604	61	543	695	66	629
KS	Dodge City	8,720	18	0.2%	186	0	170	17	153	178	18	160	181	18	163
KS	Emporia	9,947	27	0.3%	212	1	267	17	250	385	21	364	441	22	418
KS	Garden City	9,613	72	0.8%	205	2	130	53	77	147	57	90	121	50	71
KS	Great Bend	8,134	106	1.3%	174	2	155	24	131	192	27	165	215	28	186
KS	Hays	9,034	183	2.0%	193	4	369	44	325	407	49	358	404	49	355
KS	Hutchinson	21,003	123	0.6%	448	3	232	21	211	339	24	315	386	24	362
KS	Kansas City	270,801	1,281	0.5%	17,785	84	894	63	831	1,320	83	1,237	1,516	94	1,422
KS	Lawrence	32,196	87	0.3%	1,630	4	406	30	376	641	36	605	780	40	740
KS	Liberal	4,920	33	0.7%	105	1	78	16	62	84	17	67	79	16	63
KS	Manhattan	32,670	174	0.5%	1,437	8	333	20	313	501	24	477	574	26	547
KS	McPherson	10,163	19	0.2%	217	0	267	25	242	384	30	354	443	33	411
KS	Non-MSA	135,059	800	0.6%	2,881	17	216	28	187	315	32	283	346	33	313
KS	Ottawa	8,375	19	0.2%	179	0	740	33	707	856	40	816	1,047	45	1,001
KS	Parsons	6,950	11	0.2%	148	0	516	45	472	682	50	632	752	55	697
KS	Pittsburg	12,638	48	0.4%	270	1	378	21	357	527	25	502	620	29	591
KS	Salina	20,437	38	0.2%	436	1	225	52	173	276	56	220	307	59	248
KS	St. Joseph	2,291	20	0.9%	141	1	373	15	358	529	20	509	618	23	596
KS	Topeka	77,975	333	0.4%	1,413	6	364	32	331	565	43	521	674	49	624
KS	Wichita	194,111	707	0.4%	9,907	36	305	45	260	415	51	365	453	52	401
KS	Winfield	10,268	41	0.4%	219	1	246	12	234	412	14	398	447	14	432
		900,537	4,174	0.5%	38,510	173	$471	$43	$428	$682	$53	$629	$775	$58	$717

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Massachusetts

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
MA	Barnstable Town	85,267	817	1.0%	4,362	42	$3,918	$184	$3,734	$4,148	$227	$3,921	$5,372	$344	$5,029
MA	Boston-Cambridge-Newton	913,948	14,757	1.6%	39,420	636	4,976	126	4,850	5,286	145	5,141	6,166	190	5,975
MA	Non-MSA	3,847	39	1.0%	872	9	13,802	397	13,405	16,996	531	16,465	25,942	932	25,010
MA	Pittsfield	38,137	265	0.7%	1,716	12	2,457	226	2,231	2,788	259	2,529	3,310	300	3,010
MA	Providence-Warwick	132,138	1,354	1.0%	5,285	54	2,320	58	2,263	2,520	65	2,455	3,017	81	2,936
MA	Springfield	176,444	866	0.5%	6,034	30	1,889	66	1,822	2,120	74	2,046	2,507	85	2,422
MA	Vineyard Haven	6,073	39	0.6%	1,377	9	10,006	338	9,668	12,589	438	12,151	20,080	739	19,341
MA	Worcester	212,609	1,304	0.6%	8,274	51	3,128	36	3,092	3,354	40	3,313	3,917	46	3,870
		1,568,463	19,442	1.2%	67,340	843	$4,479	$109	$4,370	$4,779	$126	$4,654	$5,628	$165	$5,463

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Maryland

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
MD	Baltimore-Columbia-Towson	815,692	2,781	0.3%	38,281	131	$1,927	$32	$1,895	$2,653	$36	$2,618	$4,278	$40	$4,238
MD	California-Lexington Park	33,609	219	0.7%	1,457	9	1,073	53	1,020	1,615	63	1,552	2,806	90	2,716
MD	Cambridge	10,486	433	4.1%	194	8	1,086	76	1,010	1,492	104	1,389	2,704	192	2,512
MD	Cumberland	21,997	843	3.8%	898	34	862	79	783	1,012	89	923	1,197	96	1,101
MD	Easton	13,497	69	0.5%	250	1	774	93	681	1,040	107	933	1,703	143	1,560
MD	Hagerstown-Martinsburg	46,424	206	0.4%	1,950	9	1,518	57	1,460	1,995	66	1,929	2,882	69	2,813
MD	Non-MSA	26,953	182	0.7%	498	3	1,852	86	1,766	2,249	98	2,151	2,978	116	2,862
MD	Philadelphia-Camden-Wilmington	32,062	178	0.6%	1,058	6	2,101	64	2,038	2,497	69	2,428	3,598	77	3,521
MD	Salisbury	54,819	1,196	2.2%	1,014	22	838	62	776	1,086	80	1,006	1,765	134	1,630
MD	Washington-Arlington-Alexandria	651,961	4,042	0.6%	28,665	178	3,323	45	3,278	4,628	50	4,579	7,743	56	7,687
		1,707,500	10,150	0.6%	74,266	401	$2,197	$42	$2,156	$3,013	$47	$2,966	$4,926	$55	$4,870

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Maine

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
ME	Augusta-Waterville	35,297	58	0.2%	1,797	3	$2,684	$27	$2,657	$2,890	$30	$2,860	$3,108	$34	$3,075
ME	Bangor	41,477	31	0.1%	2,107	2	3,655	27	3,628	3,908	29	3,879	4,231	33	4,198
ME	Lewiston-Auburn	27,807	79	0.3%	1,478	4	3,626	19	3,608	3,880	20	3,859	4,187	22	4,164
ME	Non-MSA	138,523	399	0.3%	7,051	20	4,252	43	4,209	4,480	49	4,431	4,780	60	4,720
ME	Portland-South Portland	163,605	881	0.5%	9,814	53	3,504	676	2,828	3,754	750	3,004	4,027	974	3,052
		406,709	1,448	0.4%	22,246	82	$3,687	$293	$3,394	$3,929	$325	$3,604	$4,211	$420	$3,790

Notes:
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5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Michigan

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
MI	Adrian	31,433	177	0.6%	1,911	11	$187	$31	$156	$243	$34	$208	$298	$41	$258
MI	Alma	11,684	120	1.0%	710	7	309	62	247	379	70	309	459	78	381
MI	Alpena	10,214	53	0.5%	621	3	97	19	78	112	20	92	116	21	95
MI	Ann Arbor	96,284	561	0.6%	5,472	32	367	56	310	466	61	405	575	71	504
MI	Battle Creek	40,453	521	1.3%	3,007	39	310	41	269	344	44	299	432	52	380
MI	Bay City	36,702	317	0.9%	2,814	24	101	25	76	132	27	105	149	29	120
MI	Big Rapids	11,823	183	1.5%	719	11	311	173	138	430	205	225	503	223	281
MI	Cadillac	14,924	104	0.7%	907	6	245	46	199	307	55	253	359	61	298
MI	Coldwater	13,073	132	1.0%	795	8	168	44	124	195	49	146	249	60	189
MI	Detroit-Warren-Dearborn	1,354,376	10,557	0.8%	84,663	660	185	35	150	233	38	195	282	43	239
MI	Escanaba	12,728	41	0.3%	774	2	91	10	81	108	11	97	123	12	111
MI	Flint	132,248	1,742	1.3%	10,531	139	175	34	141	221	38	183	277	44	232
MI	Grand Rapids-Kentwood	303,341	3,587	1.2%	18,437	218	293	68	225	373	77	296	431	85	345
MI	Hillsdale	14,457	198	1.4%	879	12	193	34	159	236	38	198	305	47	259
MI	Holland	36,276	418	1.2%	2,205	25	348	67	281	423	76	347	497	87	410
MI	Houghton	11,695	116	1.0%	711	7	93	9	84	151	10	141	165	11	154
MI	Iron Mountain	9,813	47	0.5%	596	3	75	14	61	68	15	53	89	18	71
MI	Jackson	48,861	1,024	2.1%	593	12	201	26	175	229	28	201	277	32	245
MI	Kalamazoo-Portage	73,099	1,166	1.6%	6,623	106	202	37	165	252	41	211	318	48	270
MI	Lansing-East Lansing	160,429	1,188	0.7%	8,309	62	266	43	223	278	45	233	308	48	260
MI	Ludington	9,608	35	0.4%	584	2	165	41	124	236	49	187	269	54	215
MI	Marinette	8,057	42	0.5%	490	3	131	13	118	166	14	153	197	16	181
MI	Marquette	20,208	106	0.5%	1,228	6	150	15	136	176	16	160	213	20	193
MI	Midland	27,090	888	3.3%	1,933	63	99	81	18	123	92	31	140	100	40
MI	Monroe	50,492	245	0.5%	3,056	15	119	32	87	156	34	122	180	38	142
MI	Mount Pleasant	16,012	189	1.2%	973	12	323	91	231	418	106	312	469	115	354
MI	Muskegon	53,900	445	0.8%	4,086	34	216	52	165	252	59	193	291	63	229
MI	Niles	50,382	1,091	2.2%	3,062	66	365	59	305	449	67	382	541	75	465
MI	Non-MSA	278,306	2,285	0.8%	16,916	139	270	48	222	339	56	283	396	63	333
MI	Saginaw	63,389	1,274	2.0%	3,943	79	76	33	43	94	37	58	108	41	67
MI	Sault Ste. Marie	10,826	10	0.1%	658	1	835	18	817	1,046	21	1,025	1,349	25	1,323
MI	South Bend-Mishawaka	17,745	288	1.6%	1,079	18	180	25	154	213	27	186	248	30	218
MI	Sturgis	18,700	146	0.8%	1,137	9	245	37	208	288	39	249	341	44	297
MI	Traverse City	49,790	211	0.4%	3,026	13	243	33	211	322	37	284	383	41	342
		3,098,418	29,507	1.0%	193,446	1,847	$217	$42	$175	$269	$47	$223	$321	$52	$268

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Minnesota

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
MN	Albert Lea	10,934	84	0.8%	733	6	$298	$19	$279	$424	$24	$401	$452	$25	$427
MN	Alexandria	13,581	24	0.2%	910	2	101	18	83	162	21	141	137	21	116
MN	Austin	12,821	65	0.5%	859	4	221	26	196	320	32	288	312	33	279
MN	Brainerd	33,105	61	0.2%	2,219	4	433	38	395	660	46	615	765	49	716
MN	Duluth	80,499	458	0.6%	6,584	37	149	19	130	244	22	222	222	24	198
MN	Fairmont	7,230	10	0.1%	485	1	24	6	19	30	6	24	31	6	25
MN	Fargo	18,135	39	0.2%	1,216	3	367	52	315	430	58	372	445	60	386
MN	Faribault-Northfield	17,876	185	1.0%	1,198	12	349	59	289	488	73	414	512	79	433
MN	Fergus Falls	20,490	63	0.3%	1,373	4	354	54	300	435	59	376	459	60	398
MN	Grand Forks	9,571	21	0.2%	642	1	151	32	119	187	35	152	198	36	162
MN	Grand Rapids	14,498	11	0.1%	972	1	157	31	126	241	36	205	241	41	201
MN	Hutchinson	11,557	165	1.4%	775	11	312	38	274	359	42	317	376	44	332
MN	La Crosse-Onalaska	7,024	32	0.5%	384	2	696	81	615	925	107	818	931	109	822
MN	Mankato	27,724	366	1.3%	1,858	25	324	63	261	453	74	379	460	76	384
MN	Marshall	7,595	94	1.2%	509	6	142	27	115	181	32	149	183	30	153
MN	Minneapolis-St. Paul-Bloomington	995,327	6,833	0.7%	77,893	535	280	42	238	385	50	335	411	53	358
MN	New Ulm	9,182	106	1.2%	615	7	168	15	153	216	17	198	229	18	211
MN	Non-MSA	178,274	1,425	0.8%	11,949	96	176	30	146	246	35	211	245	37	209
MN	Owatonna	12,135	153	1.3%	813	10	225	43	181	343	53	290	344	57	288
MN	Red Wing	15,066	164	1.1%	1,010	11	377	72	305	567	91	476	612	97	514
MN	Rochester	70,611	550	0.8%	3,451	27	409	85	324	541	108	433	584	113	471
MN	St. Cloud	55,031	300	0.5%	2,796	15	155	20	135	211	23	188	216	24	192
MN	Wahpeton	2,173	2	0.1%	146	0	115	19	96	134	21	114	140	21	120
MN	Willmar	13,842	97	0.7%	928	6	163	17	145	211	19	192	222	19	203
MN	Winona	14,297	194	1.4%	958	13	413	88	325	617	115	501	651	120	532
MN	Worthington	6,368	113	1.8%	427	8	237	23	214	307	28	279	321	27	294
MN	Bemidji	12,928	0	0.0%	867	0	0	104	-104	0	115	-115	0	122	-122
		1,677,874	11,613	0.7%	122,570	847	$269	$41	$227	$371	$50	$322	$391	$52	$339

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Montana

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
MT	Billings	56,159	473	0.8%	2,499	21	$1,005	$82	$923	$1,106	$88	$1,017	$1,316	$95	$1,222
MT	Bozeman	32,932	143	0.4%	2,149	9	995	156	839	1,202	162	1,040	1,694	182	1,512
MT	Butte-Silver Bow	11,798	38	0.3%	770	2	1,602	21	1,580	1,720	24	1,696	2,149	27	2,122
MT	Great Falls	25,236	37	0.1%	1,657	2	1,588	117	1,471	1,725	123	1,602	2,149	131	2,019
MT	Helena	25,828	93	0.4%	1,685	6	1,640	90	1,551	1,764	99	1,665	2,189	109	2,080
MT	Kalispell	32,345	33	0.1%	2,110	2	702	54	648	799	58	741	945	65	880
MT	Missoula	31,725	49	0.2%	1,888	3	1,468	122	1,347	1,583	128	1,455	1,970	134	1,836
MT	Non-MSA	111,353	238	0.2%	7,265	16	1,391	167	1,224	1,495	183	1,312	1,893	206	1,686
		327,376	1,103	0.3%	20,023	62	$1,192	$120	$1,071	$1,312	$130	$1,181	$1,638	$144	$1,494

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
New Hampshire

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
NH	Berlin	9,322	28	0.3%	269	1	$3,370	$189	$3,182	$3,801	$223	$3,578	$5,010	$245	$4,765
NH	Boston-Cambridge-Newton	123,856	1,859	1.5%	5,342	80	4,832	155	4,677	5,676	185	5,491	7,882	245	7,636
NH	Concord	40,752	176	0.4%	1,178	5	3,419	208	3,212	3,860	241	3,620	5,060	269	4,791
NH	Keene	21,316	141	0.7%	616	4	2,054	118	1,937	2,382	134	2,248	3,015	152	2,863
NH	Laconia	19,202	20	0.1%	555	1	3,411	188	3,223	3,842	212	3,631	5,064	231	4,833
NH	Lebanon	35,077	130	0.4%	1,014	4	3,301	220	3,081	3,724	258	3,466	4,889	289	4,600
NH	Manchester-Nashua	105,854	544	0.5%	3,733	19	2,376	114	2,262	2,749	128	2,621	3,491	145	3,346
NH	Non-MSA	17,540	83	0.5%	507	2	3,298	129	3,169	3,727	151	3,575	4,913	166	4,747
		372,919	2,982	0.8%	13,214	116	$4,036	$155	$3,881	$4,709	$180	$4,529	$6,424	$214	$6,210

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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
New Mexico

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
NM	Alamogordo	15,376	8	0.1%	875	0	$3,129	$45	$3,083	$2,975	$46	$2,928	$3,499	$55	$3,444
NM	Albuquerque	267,218	944	0.4%	16,460	58	294	47	247	330	52	278	358	57	301
NM	Carlsbad-Artesia	17,008	30	0.2%	968	2	538	144	393	531	143	387	606	149	457
NM	Clovis	14,755	28	0.2%	840	2	91	21	69	112	23	89	121	23	97
NM	Española	8,299	342	4.1%	472	19	1,776	361	1,415	2,120	418	1,702	2,090	435	1,655
NM	Farmington	23,491	10	0.0%	1,841	1	1,042	34	1,008	1,164	36	1,128	1,294	38	1,256
NM	Gallup	13,757	0	0.0%	783	0	8	40	-33	8	45	-37	9	53	-44
NM	Grants	5,746	6	0.1%	327	0	804	151	653	922	169	754	969	197	772
NM	Las Cruces	52,430	17	0.0%	3,240	1	365	85	280	389	82	307	445	96	349
NM	Las Vegas	7,523	170	2.3%	428	10	1,633	221	1,412	1,949	273	1,676	1,954	271	1,682
NM	Los Alamos	5,774	88	1.5%	329	5	441	26	415	537	30	507	587	31	556
NM	Non-MSA	16,574	53	0.3%	943	3	1,267	118	1,149	1,298	123	1,174	1,718	151	1,568
NM	Portales	4,943	37	0.7%	281	2	134	90	43	158	101	57	178	111	67
NM	Roswell	17,619	6	0.0%	1,002	0	3,318	330	2,988	3,391	337	3,053	3,928	382	3,546
NM	Ruidoso	5,423	54	1.0%	309	3	3,449	218	3,231	3,675	231	3,444	4,286	279	4,007
NM	Santa Fe	48,034	217	0.5%	2,457	11	1,653	86	1,566	2,126	103	2,023	2,317	108	2,209
NM	Taos	10,576	38	0.4%	602	2	2,351	236	2,115	3,259	284	2,975	3,199	283	2,916
NM	Deming	5,093	0	0.0%	290	0	0	30	-30	0	24	-24	0	33	-33
NM	Hobbs	17,589	0	0.0%	1,001	0	0	113	-113	0	105	-105	0	127	-127
NM	Silver City	7,313	0	0.0%	416	0	0	115	-115	0	118	-118	0	168	-168
		564,541	2,049	0.4%	33,863	120	$974	$82	$891	$1,153	$89	$1,064	$1,216	$99	$1,118

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Pennsylvania

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
PA	Allentown-Bethlehem-Easton	224,350	2,204	1.0%	8,026	79	$1,990	$104	$1,887	$2,259	$119	$2,140	$2,404	$128	$2,276
PA	Altoona	39,120	849	2.2%	491	11	1,270	109	1,162	1,475	129	1,346	1,499	135	1,364
PA	Bloomsburg-Berwick	25,693	799	3.1%	759	24	1,554	96	1,458	1,773	115	1,658	1,759	118	1,641
PA	Bradford	12,938	97	0.7%	338	3	1,061	110	950	1,269	134	1,135	1,343	143	1,201
PA	Chambersburg-Waynesboro	50,532	483	1.0%	1,431	14	1,815	114	1,701	2,034	133	1,901	2,108	139	1,968
PA	DuBois	24,659	494	2.0%	644	13	1,305	71	1,234	1,459	83	1,376	1,499	87	1,412
PA	East Stroudsburg	51,837	624	1.2%	3,114	37	1,983	111	1,871	2,324	131	2,193	2,486	141	2,345
PA	Erie	80,289	200	0.2%	1,897	5	2,079	39	2,040	2,295	45	2,250	2,293	48	2,245
PA	Gettysburg	33,509	386	1.2%	907	10	1,849	61	1,788	2,053	70	1,983	2,073	72	2,000
PA	Harrisburg-Carlisle	181,155	2,656	1.5%	5,630	83	1,780	84	1,696	2,023	97	1,926	2,046	100	1,946
PA	Huntingdon	12,347	294	2.4%	322	8	1,176	159	1,017	1,385	184	1,201	1,441	192	1,249
PA	Indiana	24,356	216	0.9%	636	6	1,613	48	1,565	1,816	56	1,760	1,854	59	1,795
PA	Johnstown	45,650	407	0.9%	581	5	765	31	734	900	36	864	939	37	902
PA	Lancaster	162,674	1,519	0.9%	5,108	48	1,874	65	1,809	2,090	75	2,015	2,078	80	1,998
PA	Lebanon	44,401	800	1.8%	1,427	26	1,786	79	1,707	1,995	92	1,903	1,967	98	1,869
PA	Lewisburg	10,905	138	1.3%	285	4	1,648	192	1,456	1,960	226	1,734	1,985	228	1,756
PA	Lewistown	14,866	245	1.6%	388	6	1,905	186	1,719	2,295	221	2,073	2,386	230	2,156
PA	Lock Haven	11,020	199	1.8%	288	5	1,486	234	1,252	1,878	281	1,597	1,952	289	1,664
PA	Meadville	25,355	101	0.4%	662	3	1,663	51	1,613	1,851	59	1,792	1,891	62	1,829
PA	New Castle	29,167	346	1.2%	761	9	1,032	19	1,013	1,141	21	1,120	1,164	22	1,143
PA	New York-Newark-Jersey City	22,041	413	1.9%	575	11	2,837	284	2,553	3,148	311	2,837	3,345	327	3,018
PA	Non-MSA	115,534	1,936	1.7%	3,016	51	1,677	176	1,501	2,030	208	1,822	2,131	221	1,910
PA	Oil City	17,472	90	0.5%	456	2	1,796	52	1,744	2,010	57	1,953	2,041	60	1,981
PA	Philadelphia-Camden-Wilmington	1,208,761	17,448	1.4%	39,906	576	1,910	109	1,801	2,024	118	1,906	2,202	130	2,073
PA	Pittsburgh	788,528	9,323	1.2%	29,142	345	1,594	50	1,544	1,811	56	1,755	1,856	58	1,798
PA	Pottsville	48,331	720	1.5%	1,262	19	1,436	113	1,323	1,646	134	1,512	1,699	143	1,556
PA	Reading	129,293	1,222	0.9%	4,143	39	1,615	59	1,556	1,826	68	1,759	1,882	73	1,810
PA	Sayre	18,067	482	2.7%	472	13	1,726	160	1,567	2,000	190	1,810	2,004	200	1,804
PA	Scranton--Wilkes-Barre	177,998	2,777	1.6%	4,647	73	1,502	167	1,336	1,754	189	1,564	1,813	198	1,615
PA	Selinsgrove	11,849	226	1.9%	309	6	1,607	134	1,473	1,878	161	1,717	1,889	164	1,725
PA	Somerset	23,461	698	3.0%	613	18	1,205	79	1,126	1,347	91	1,256	1,400	97	1,304
PA	St. Marys	11,374	203	1.8%	297	5	1,827	94	1,733	2,057	111	1,946	2,102	120	1,983
PA	State College	39,069	473	1.2%	987	12	1,793	144	1,650	2,146	170	1,976	2,194	175	2,019
PA	Sunbury	31,027	571	1.8%	810	15	1,269	97	1,172	1,487	118	1,369	1,497	121	1,376
PA	Warren	12,804	66	0.5%	334	2	2,205	338	1,868	2,595	390	2,205	2,724	407	2,317
PA	Williamsport	35,239	1,033	2.9%	946	28	1,885	167	1,718	2,168	199	1,969	2,201	202	1,999
PA	York-Hanover	146,222	1,560	1.1%	5,101	54	1,903	46	1,857	2,099	53	2,046	2,130	56	2,074
PA	Youngstown-Warren-Boardman	36,117	177	0.5%	943	5	1,383	18	1,365	1,513	20	1,493	1,544	21	1,523
		3,978,010	52,477	1.3%	127,652	1,668	$1,743	$92	$1,650	$1,939	$104	$1,834	$2,032	$111	$1,920

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Rhode Island

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
RI	Providence-Warwick	260,463	5,197	2.0%	10,724	214	$1,226	$49	$1,177	$1,364	$55	$1,309	$1,959	$69	$1,890
		260,463	5,197	2.0%	10,724	214	$1,226	$49	$1,177	$1,364	$55	$1,309	$1,959	$69	$1,890

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Utah

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
UT	Cedar City	14,030	18	0.1%	2,013	3	$502	$19	$484	$597	$20	$576	$791	$23	$768
UT	Heber	21,666	155	0.7%	3,108	22	2,665	246	2,420	3,192	274	2,918	3,892	346	3,547
UT	Logan	30,712	10	0.0%	3,087	1	486	29	457	573	34	539	758	40	718
UT	Non-MSA	40,731	80	0.2%	5,843	11	621	98	523	715	119	597	808	135	674
UT	Ogden-Clearfield	181,750	695	0.4%	15,655	60	322	29	293	297	31	265	400	36	365
UT	Provo-Orem	145,976	281	0.2%	15,029	29	412	37	375	522	40	482	573	47	526
UT	Salt Lake City	309,845	1,701	0.5%	28,713	158	447	70	377	555	78	477	806	96	710
UT	St. George	53,385	24	0.0%	9,670	4	1,724	438	1,286	2,090	474	1,615	2,777	601	2,176
UT	Price	6,213	0	0.0%	891	0	0	50	-50	0	56	-56	0	67	-67
UT	Vernal	8,866	0	0.0%	1,272	0	0	13	-13	0	13	-13	0	14	-14
		813,174	2,962	0.4%	85,282	288	$546	$82	$464	$646	$90	$556	$866	$111	$755

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Virginia

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitan Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
VA	Big Stone Gap	10,159	114	1.1%	331	4	$1,555	$104	$1,451	$1,741	$118	$1,623	$2,104	$146	$1,958
VA	Blacksburg-Christiansburg	41,998	311	0.7%	1,366	10	4,082	47	4,036	4,679	53	4,626	5,725	62	5,663
VA	Bluefield	12,904	127	1.0%	420	4	2,508	89	2,419	2,892	106	2,786	3,557	129	3,428
VA	Charlottesville	64,854	255	0.4%	3,861	15	4,510	71	4,439	5,125	79	5,046	6,270	86	6,183
VA	Danville	32,731	652	2.0%	1,065	21	4,227	10	4,217	4,829	11	4,818	5,895	12	5,883
VA	Harrisonburg	36,352	104	0.3%	1,926	6	3,382	129	3,253	3,850	143	3,707	4,657	158	4,499
VA	Kingsport-Bristol	28,838	145	0.5%	938	5	2,593	72	2,521	3,021	83	2,939	3,803	101	3,702
VA	Lynchburg	76,877	439	0.6%	3,305	19	4,395	26	4,369	5,000	29	4,972	6,118	32	6,087
VA	Martinsville	19,468	488	2.5%	633	16	4,218	26	4,192	4,813	30	4,783	5,883	36	5,847
VA	Non-MSA	250,397	2,524	1.0%	8,147	82	1,084	72	1,012	1,366	83	1,283	2,040	105	1,934
VA	Richmond	397,012	1,565	0.4%	17,925	71	1,929	52	1,877	2,210	56	2,154	2,636	60	2,576
VA	Roanoke	98,216	600	0.6%	3,832	23	3,989	50	3,939	4,555	57	4,498	5,587	67	5,520
VA	Staunton	40,310	142	0.4%	1,311	5	4,233	99	4,134	4,820	111	4,708	5,873	124	5,749
VA	Virginia Beach-Norfolk-Newport News	495,153	16,404	3.3%	28,549	946	5,067	140	4,927	5,782	177	5,605	7,135	267	6,869
VA	Washington-Arlington-Alexandria	778,712	2,665	0.3%	34,238	117	3,922	70	3,852	4,512	77	4,436	5,464	80	5,383
VA	Winchester	36,398	107	0.3%	1,818	5	2,898	39	2,859	3,315	42	3,272	4,002	45	3,957
		2,420,379	26,641	1.1%	109,664	1,348	$4,242	$79	$4,163	$4,858	$92	$4,766	$6,006	$116	$5,889

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Vermont

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
VT	Barre	17,369	416	2.4%	916	22	$2,911	$332	$2,579	$3,466	$394	$3,071	$4,091	$465	$3,626
VT	Bennington	11,007	117	1.1%	581	6	2,836	351	2,485	3,388	415	2,973	3,975	476	3,499
VT	Burlington-South Burlington	59,296	641	1.1%	2,728	29	2,347	79	2,268	2,617	86	2,531	3,019	95	2,924
VT	Lebanon	28,925	382	1.3%	1,526	20	2,563	394	2,168	3,065	467	2,597	3,601	537	3,065
VT	Non-MSA	53,611	798	1.5%	2,829	42	3,019	240	2,779	3,570	282	3,287	4,219	329	3,891
VT	Rutland	18,141	227	1.3%	957	12	2,678	132	2,546	3,170	156	3,014	3,746	180	3,566
		188,349	2,582	1.4%	9,537	132	$2,729	$218	$2,511	$3,198	$255	$2,943	$3,756	$294	$3,462

Notes:
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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Wisconsin

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
WI	Appleton	76,661	471	0.6%	3,303	20	$333	$24	$309	$306	$28	$278	$384	$32	$352
WI	Baraboo	20,251	214	1.1%	829	9	935	88	847	1,165	106	1,059	1,287	117	1,170
WI	Beaver Dam	26,861	231	0.9%	1,100	9	231	26	205	280	30	250	330	33	297
WI	Chicago-Naperville-Elgin	46,789	601	1.3%	3,331	43	124	25	99	193	28	164	180	30	150
WI	Duluth	13,972	38	0.3%	1,143	3	269	22	246	341	27	314	368	28	340
WI	Eau Claire	51,223	249	0.5%	1,406	7	324	51	273	441	61	379	460	63	398
WI	Fond du Lac	31,666	558	1.8%	1,710	30	179	36	143	234	42	191	260	47	213
WI	Green Bay	98,153	918	0.9%	3,064	29	348	39	310	419	44	375	501	50	452
WI	Iron Mountain	1,802	10	0.5%	74	0	320	35	284	354	38	315	401	44	357
WI	Janesville-Beloit	52,315	133	0.3%	1,162	3	275	29	247	358	33	325	389	35	354
WI	La Crosse-Onalaska	33,735	244	0.7%	1,845	13	436	83	353	569	103	466	598	106	492
WI	Madison	180,987	683	0.4%	8,334	31	325	44	281	446	52	395	495	57	438
WI	Manitowoc	26,851	321	1.2%	1,099	13	262	33	230	328	38	289	380	44	335
WI	Marinette	15,062	54	0.4%	617	2	195	16	179	236	18	218	281	21	260
WI	Menomonie	12,197	43	0.4%	499	2	505	51	455	733	61	672	777	63	714
WI	Milwaukee-Waukesha	398,916	1,751	0.4%	16,334	72	341	34	307	433	38	395	469	41	428
WI	Minneapolis-St. Paul-Bloomington	42,516	425	1.0%	3,327	33	529	85	443	724	111	613	779	116	663
WI	Non-MSA	254,658	2,017	0.8%	10,427	83	470	53	417	655	67	588	665	70	595
WI	Oshkosh-Neenah	51,160	507	1.0%	2,579	26	171	27	143	164	29	135	179	31	147
WI	Platteville	15,781	123	0.8%	646	5	231	20	210	331	25	306	312	25	287
WI	Racine	60,044	320	0.5%	3,549	19	189	30	160	254	34	220	267	35	231
WI	Shawano	15,182	45	0.3%	622	2	226	25	200	303	29	275	327	33	295
WI	Sheboygan	35,707	154	0.4%	1,481	6	339	35	304	383	41	341	440	46	394
WI	Stevens Point	21,369	170	0.8%	875	7	123	27	96	157	29	127	166	31	134
WI	Watertown-Fort Atkinson	25,956	84	0.3%	1,063	3	306	23	283	378	25	353	415	27	388
WI	Wausau-Weston	54,729	507	0.9%	2,241	21	211	21	190	264	25	239	290	27	263
WI	Whitewater	32,033	196	0.6%	1,312	8	281	39	242	387	46	341	405	49	356
WI	Wisconsin Rapids-Marshfield	25,257	146	0.6%	1,034	6	250	16	234	329	19	310	350	20	330
		1,721,833	11,213	0.7%	75,005	506	$333	$39	$294	$431	$46	$385	$465	$50	$416

Notes:
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3. Home sales from Moody's Analytics Baseline Scenario.
4. Column values are (5) x (6), total is sum of column.
5. Average AAL from KatRisk model, weighted by number of homes with prior flood damage.
6. Average AAL from KatRisk model for all Market Basket locations, weighted by census single-family homes.

Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
West Virginia

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
WV	Beckley	35,154	744	2.1%	1,427	30	$1,209	$112	$1,097	$1,468	$127	$1,340	$1,643	$137	$1,506
WV	Bluefield	17,037	120	0.7%	886	6	1,621	92	1,528	2,165	114	2,051	2,636	138	2,498
WV	Charleston	77,085	849	1.1%	1,722	19	1,065	204	861	1,274	222	1,052	1,401	232	1,169
WV	Clarksburg	27,817	129	0.5%	1,446	7	1,396	103	1,293	1,629	116	1,512	1,809	125	1,684
WV	Cumberland	8,598	274	3.2%	351	11	1,101	181	920	1,256	200	1,056	1,387	218	1,169
WV	Elkins	7,480	53	0.7%	389	3	1,436	435	1,001	1,671	493	1,178	1,920	563	1,357
WV	Fairmont	18,687	156	0.8%	972	8	1,514	143	1,371	1,759	160	1,599	1,930	168	1,761
WV	Hagerstown-Martinsburg	44,254	350	0.8%	1,859	15	1,349	72	1,277	1,578	80	1,498	1,742	85	1,657
WV	Huntington-Ashland	55,843	568	1.0%	2,595	26	855	116	738	1,049	125	924	1,171	131	1,039
WV	Morgantown	35,957	237	0.7%	1,550	10	1,947	84	1,863	2,287	95	2,191	2,524	103	2,421
WV	Mount Gay-Shamrock	9,650	580	6.0%	502	30	1,643	548	1,095	1,931	645	1,287	2,191	727	1,464
WV	Non-MSA	95,563	1,789	1.9%	4,969	93	1,593	220	1,373	1,920	257	1,663	2,216	291	1,925
WV	Parkersburg-Vienna	29,212	173	0.6%	1,001	6	877	39	838	1,064	45	1,019	1,185	48	1,137
WV	Point Pleasant	7,309	44	0.6%	380	2	587	36	551	676	41	636	744	44	700
WV	Washington-Arlington-Alexandria	18,348	78	0.4%	807	3	1,358	81	1,277	1,577	89	1,488	1,761	93	1,667
WV	Weirton-Steubenville	18,039	289	1.6%	427	7	1,065	77	988	1,287	88	1,198	1,401	93	1,307
WV	Wheeling	23,360	363	1.6%	1,004	16	1,866	235	1,632	2,146	277	1,868	2,320	296	2,024
WV	Winchester	6,736	38	0.6%	336	2	2,171	133	2,038	2,370	145	2,225	2,709	157	2,552
		536,129	6,833	1.3%	22,622	295	$1,370	$152	$1,219	$1,635	$172	$1,463	$1,840	$187	$1,653

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Natural Resources Defense Council
Undisclosed Flood Risk

Estimated Homes Sold with Prior Flood Damage, and AAL Per Home with Flood Damage
Wyoming

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
State	Metropolitian Statistical Area	Single-Family Homes Note (1)	Single-Family Homes Prior Flood Damage Note (2)	Percent of Homes with Prior Flood Damge = (4) / (3)	Total Home Sales Note (3)	Homes Sales Prior Flood Damage Note (4)	Average AAL Standard Prior Flood Damage Note (5)	Average AAL Standard All Homes Note (6)	Dollar Difference Standard = (8) - (9)	Average AAL Medium Prior Flood Damage Note (5)	Average AAL Medium All Homes Note (6)	Dollar Difference Medium = (11) - (12)	Average AAL High Prior Flood Damage Note (5)	Average AAL High All Homes Note (6)	Dollar Difference High = (14) - (15)
WY	Casper	25,086	96	0.4%	1,603	6	$887	$107	$779	$1,171	$130	$1,042	$1,066	$122	$945
WY	Cheyenne	31,654	243	0.8%	1,818	14	1,176	27	1,149	1,281	32	1,249	1,186	28	1,157
WY	Evanston	5,392	12	0.2%	316	1	391	57	334	384	62	322	444	79	366
WY	Gillette	15,898	2	0.0%	933	0	337	50	287	510	69	442	410	61	349
WY	Jackson	6,842	8	0.1%	402	0	2,962	399	2,563	3,752	438	3,314	4,166	463	3,703
WY	Laramie	9,653	39	0.4%	567	2	361	61	300	419	74	345	397	66	331
WY	Non-MSA	46,907	152	0.3%	2,753	9	1,471	128	1,342	1,917	153	1,764	1,936	153	1,783
WY	Riverton	10,926	125	1.1%	641	7	1,044	161	883	1,197	186	1,010	1,344	197	1,146
WY	Rock Springs	11,066	19	0.2%	649	1	930	47	883	986	49	938	1,080	53	1,027
WY	Sheridan	10,146	357	3.5%	595	21	2,610	843	1,767	3,587	1,086	2,502	3,452	1,053	2,399
		173,570	1,052	0.6%	10,278	62	$1,631	$143	$1,488	$2,105	$174	$1,931	$2,052	$171	$1,881

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