

# INFORMED DECISIONS ON CATASTROPHE RISK

## *How long do homeowners keep their flood insurance coverage?*

### **An Analysis of Contract Choices and Insurance Tenure under the National Flood Insurance Program (NFIP)**

#### **Reforming the operation of the National Flood Insurance Program (NFIP) is on the agenda of Congress.**

- In the United States, the main provider of flood insurance to homeowners is the federally-run National Flood Insurance Program (NFIP), which was established in 1968.
- Coverage for flood damage resulting from rising water is explicitly excluded in standard homeowners' insurance policies. Limits greater than the \$250,000 available for building coverage under the NFIP can be obtained from commercial insurers.
- The NFIP today covers approximately 5.5 million households and businesses across the country for a total of \$1.25 trillion in exposure.
- The NFIP has been extended eight times since October 1, 2008 (sometimes for only one month), and was renewed on October 1, 2010 for one year. It is set to expire again on September 30, 2011.
- NFIP coverage is currently offered as a one-year contract.

#### **Many homeowners do not have flood insurance, even when it is required.**

- The U.S. government requires that homes located in high flood-hazard areas purchase insurance as a condition for a federally backed mortgage.
- After major floods, however, it is often discovered that many people who live in flood-prone areas and who have suffered a flood had not purchased flood insurance or had let their insurance policy expire (enforcement issues).
- For example, in the Louisiana parishes affected by Hurricane Katrina in 2005, the percentage of homeowners with flood insurance ranged from 57.7% in St. Bernard's and 40% in Orleans Parish to 7.3% in Tangipahoa.

#### **The median tenure of flood insurance in the country is 2 to 4 years. This finding is relatively stable over time and levels of flood hazard.**

- Improving catastrophe management will require developing adequate and sustainable financial protection for potential victims of future disasters.
- Determining how long individuals keep their flood insurance policy on average can help tailor adequate solutions to incentivize those exposed to flood risk to keep their coverage longer.
- Our analysis of flood tenure is based on the entire portfolio of the NFIP over the period 2000-2009.

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**During the 20<sup>th</sup> century in the United States, floods accounted for the most lives lost and the most property damage of all natural disasters.**

**Disasters constitute a massive but unappreciated liability to the federal government.**

- Over the period 1958-2008, about two-thirds of all U.S. Presidential disaster declarations were for flood-related events.
- As the concentration of population and values in high-risk areas are growing and there seems to be higher climate variability, we are likely to see more extreme catastrophes in the coming years.
- The 2005 hurricane season triggered a historical amount of *federal relief* for natural disasters, \$89 billion (in 2010 prices).
- Between 2005 and 2008, and as authorized by law, the program had to borrow a total of \$19.3 billion from the U.S. Treasury to pay historical claims (mainly from the 2005 and 2008 hurricane seasons and resulting storm surge).
- Unless a much greater number of properties are adequately covered against disasters, federal relief is likely to continue to increase significantly in the coming years.

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**We analyzed over 40 million NFIP flood insurance policies, the largest dataset studied by any research team.**

- In order to measure how long people keep their flood insurance, we tracked all new flood insurance policies entering the program in a given year and measured over time how many of these identified policies were still in place as time passed. We analyzed the impact of risk exposure, location and flood experience.
- These studies provide a detailed analysis of the operation of the National Flood Insurance Program and contract choices (the deductible and limit most insureds select).
- We find that of the more than 1 million flood insurance policies-in-force in Florida in 2005, 98.3 percent of customers chose a deductible lower than the maximum available. Further, almost 80 percent of policyholders chose the lowest possible deductible, \$500.
- The current building coverage limit (\$250,000) is not binding for the majority of homeowners, even though the number of those buying this limit has significantly increased recently.

How long homeowners keep their policies can explain the lower than desired take-up rates in many flood-prone areas in the United States. This is an open question discussed in a *U.S. Government Accountability Office* report published in 2006. Our findings on this topic can be used as part of the discussions about NFIP’s reform to make it a more sustainable program moving forward.

Table 1 below presents the main results for our analysis. For each year, we look at the number of new policies issued by the NFIP and their respective durations through 2009 by establishing a unique identifier for each one of them and tracking them over time. Table 1 can be interpreted as follows: of the 841,000 new policies in 2001, only 73% were still in force one year later. By 2009 (8 years later) only 20% were still in force.

New Business Year	2001	2002	2003	2004	2005	2006	2007	2008
Housing Units	841,000	876,000	1,186,000	986,000	849,000	1,299,000	974,000	894,000
1 year	73%	67%	77%	78%	76%	73%	74%	73%
2 years	49%	52%	65%	65%	63%	59%	58%	
3 years	39%	44%	57%	55%	53%	48%		
4 years	33%	38%	50%	48%	44%			
5 years	29%	33%	44%	38%				
6 years	25%	30%	33%					
7 years	22%	26%						
8 years	20%							

**Table 1. Duration of New NFIP Policies by Year after First Purchase -- 2001-2009**

Our analysis reveals three main findings.

(1) The median tenure of flood insurance in the country is between 2 and 4 years. This tenure is relatively stable over time. While some residents might have simply moved or changed insurers (which would trigger the cancellation of the flood policy), our analysis of the American Community Survey reveals that the median length of residence was about 6 years over this period.

(2) Residents living in high-risk special flood hazard areas (SFHAs; one-hundred year return flood zones) exhibit the same short insurance tenure behavior as those outside of these flood zones.

(3) Residents in the Northeast and Texas tend to keep their flood policy longer than the national average; residents in Florida and California have a shorter tenure for flood insurance than the national average.

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**For more information, please access the full research articles or contact the authors:**

Erwann Michel-Kerjan and Carolyn Kousky. **Come Rain or Shine: Evidence from Flood Insurance Purchases in Florida**, *Journal of Risk and Insurance*, 2010, Vol. 77, No. 2, 369-397.

Erwann Michel-Kerjan, Sabine Lemoyne de Forges and Howard Kunreuther. **Policy Tenure under the U.S. National Flood Insurance Program**, *Risk Analysis*, 2011.

*ISSUE BRIEFS DISTILL KEY FINDINGS FROM EXTENSIVE RESEARCH BY THE WHARTON RISK CENTER. COMPREHENSIVE RESULTS CAN BE FOUND IN THE FULL STUDIES.*

## **Issue Brief: *How long do homeowners keep their flood insurance coverage?***

INFORMED DECISIONS ON CATASTROPHE RISKS issue briefs are published by the Wharton Risk Management and Decision Processes Center of the University of Pennsylvania. For additional information, contact Carol Heller, [hellerc@wharton.upenn.edu](mailto:hellerc@wharton.upenn.edu) or 215-898-5688.

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