FY2015 Annual Report

The Future of the National Flood Insurance Program

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1. Executive Summary

Floods are the one natural disaster where the federal government currently plays a major role in designing and implementing strategies for reducing future losses and aiding financial recovery, through the National Flood Insurance Program (NFIP). Hurricane Sandy triggered $60 billion in federal relief; the NFIP had to borrow nearly $10 billion from the Treasury to pay its claims, increasing its debt to nearly $27 billion.

Encouraging organizations and individuals to adopt risk reduction measures that will improve economic recovery after a disaster is a national priority. Insurance has a critical role to play in national resilience as it provides the necessary safety net to facilitate a rapid recovery following a disaster while at the same time providing a signal of risk and encouraging adoption of loss reduction measures prior to a disaster. Public-private partnerships such as the NFIP can encourage investment in protective measures, deal with affordability problems and provide coverage for catastrophic risks. Moreover, improving our understanding of how individuals perceive and respond to low-probability, high-consequence risks is of considerable importance. In particular, improving insights into how perceptions of probabilities and damage of such events relate to the objective probability and damage can guide the design of policies to help people make better risk assessments and precautionary decisions.

The PIs benefit from unique access to the NFIP's policy portfolio to undertake studies with practical relevance for how the federal government could improve protection before the next disaster. This ongoing research with CREATE on flood risk insurance in the U.S. is conducted in

close collaboration with the top management of FEMA at the U.S. Department of Homeland Security.

STUDY 1. DIVERGENCE BETWEEN INDIVIDUAL PERCEPTIONS AND OBJECTIVE INDICATORS OF TAIL RISKS: EVIDENCE FROM FLOODPLAIN RESIDENTS IN NEW YORK CITY

Six months after Hurricane Sandy, we surveyed homeowners in New York City who live in a flood-prone area about their flood risk perceptions and flood insurance purchases. The survey was completed by 1,035 people who own a home with a ground floor in a flood-prone area of New York City. Respondents were asked over 100 questions on the following topics: flood risk perceptions, motivations for flood preparedness activities, flood insurance purchases, flood risk mitigation measures implemented and their socio-demographic characteristics. The study finds that:

- Most respondents perceive the flood risk to be high: 86% of the respondents believe that they live in a flood-prone area. However, most underestimate the damage a flood could cause to their residence.
- Over 40% of respondents expect that climate change will not increase their flood risk in the future. This finding suggests that many people are not in line with the scientific consensus about the projected climate change impact of increased storm surge and sea level rise on flood risk in New York City.
- Only 21% bought flood insurance voluntarily. 44% of respondents stated they purchased flood insurance because it was mandatory. 33% did not have coverage, and 2% did not know whether they had flood coverage.

We suggest these measures to correct individuals' risk perception and encourage them to purchase insurance protection when needed:

- Instead of framing the chances of a flood as 1-in-100 in any given year, inform residents that the chances are greater than 1-in-5 (20%) of flooding in the next 25 years.
- Highlight the financial consequences if a flood occurs and the homeowner is uninsured. (FEMA flood maps currently depict only the likelihood of a flood without depicting the resulting damage should a flood occur.)

STUDY 2. ADDRESSING AFFORDABILITY IN THE NATIONAL FLOOD INSURANCE PROGRAM

We propose a program to couple means-tested vouchers with required hazard mitigation, financed with low-interest loans. By requiring hazard mitigation, future disaster losses would be reduced both for the National Flood Insurance Program (NFIP) and for families. The proposed voucher program is based on risk-based insurance premiums which are essential for communicating information about flood risk. The vouchers would not only cover a portion of the insurance premium, but also would cover the costs of the loan to reduce future damage to the residence. To qualify for the insurance voucher, the homeowner would be required to elevate the house to one foot above BFE and would be given a loan for this purpose.

In a study of Ocean County, New Jersey following Hurricane Sandy, we find that for any pre-mitigation premium in the A zone greater than $2,200 and in the V zone greater than $10,360, it is less expensive to elevate the property and obtain the lower NFIP premium. The insurance and loan voucher program is financially attractive for higher costs of elevation as well, and for a range of loan terms.

2. Research and Research Transition Accomplishments

2.1. Research Results

STUDY 1. DIVERGENCE BETWEEN INDIVIDUAL PERCEPTIONS AND OBJECTIVE INDICATORS OF TAIL RISKS: EVIDENCE FROM FLOODPLAIN RESIDENTS IN NEW YORK CITY

Our main research questions are the following:

- How do New York residents and small business in flood prone areas perceive the flood risk that they face, and how are these perceptions shaped?
- How accurate (rational) are they in assessing their risks? (comparing individuals' risk assessment to those by FEMA and other flood hazard models to which we have access);
- How prepared are individuals and small businesses for flooding (i.e., physical and financial preparedness), and what factors drive their current level of preparedness?
- What is the willingness of residents and small business to pay for flood insurance, flood protection and what is their expectation of receiving federal disaster relief in the future?
- What are the options for addressing issues of affordability while still preserving the concept of risk based pricing of insurance?
- What strategies are likely to be effective in encouraging households and small businesses to invest in mitigation measures (e.g. low interest long-term loans) for reducing future flood-related losses and lowering insurance premiums?
- What access to credit do small businesses have in the aftermath of a disaster?

Six months after Hurricane Sandy, we surveyed homeowners in New York City who live in a flood-prone area about their flood risk perceptions and flood insurance purchases. The survey was completed by 1,035 people who own a home with a ground floor in a flood-prone area of New York City. Respondents were asked over 100 questions on the following topics: flood risk perceptions, motivations for flood preparedness activities, flood insurance purchases, flood risk mitigation measures implemented and their socio-demographic characteristics.

Comparing flood risk perceptions with experts' estimates

The risk perception variables encompass both quantitative metrics, such as the perceived flood probability and expected damage should a flood occur, and emotionally driven indicators such as worry. Flood risk perceptions among survey respondents were found to be generally high with 86% of the respondents indicating that they believe or are certain that they live in a flood-prone area. On average, homeowners perceive a relatively high expected flood frequency of 1-in-72 years (or 1.34% chance of flood every year) and a high expected mean flood damage relative to the house value of 39%. The majority of homeowners are highly worried about experiencing future flooding. But somewhat surprisingly, only 59% of the respondents expect climate change to increase their flood risk in the future, implying that the perceptions of many people are not in line with scientific consensus about projected climate change impacts, such as sea level rise, on flood risk in NYC.

Data from the probabilistic flood damage model used here enabled us to compare expert estimates of the flood risk with homeowners' risk perceptions. This probabilistic model estimates flood risk for NYC at a census tract level using 549 storm surge simulations. While only experts know the results of the flood risk model, the public can gain insight into their own risk by examining official FEMA flood maps of NYC. By examining publicly available flood risk information from Geographic Information Systems (GIS)'s analyses of respondent locations

together with the FEMA flood maps, we can assess homeowners' flood risk perceptions relative to flood probabilities of the FEMA flood zones.

Table 1 shows that **the perceptions of a substantial number of homeowners do not match up** well with the FEMA flood zone classification in which the respondents live. **About 60% of the respondents who think that they have a flood probability lower than 1-in-100 actually live in the FEMA 1-in-100 year flood zone**.

Table 1. Relation between perceptions of living in the 1/100 year flood zone as percentage of the FEMA classification of the respondent's home

	Perceived flood probability			
Respondent lives in:	**Higher than 1/100**	**Equal to 1/100**	**Lower than 1/100**	**Not sure**
FEMA 1/100 zone	58%	55%	60%	58%
FEMA 1/500 zone	32%	34%	32%	33%
FEMA X zone	11%	10%	9%	9%

Note: percentages are rounded and might not add up to 100%

FLOOD RISK PERCEPTION: Most respondents perceive the flood risk to be high: 86% of the respondents believe that they live in a flood-prone area. However, most underestimate the damage a flood could cause to their residence.

IMPACT OF CLIMATE CHANGE: Over 40% of respondents expect that climate change will not increase their flood risk in the future. This finding suggests that many people are not in line with the scientific consensus about the projected climate change impact of increased storm surge and sea level rise on flood risk in New York City.

FLOOD INSURANCE PURCHASE: 44% of respondents stated they purchased flood insurance because it was mandatory. Only 21% bought flood insurance voluntarily, 33% did not have coverage, and 2% did not know whether they had flood coverage.

We suggest two measures to correct individuals' risk perception and encourage them to purchase insurance protection when needed:

- Instead of framing the chances of a flood as 1-in-100 in any given year, inform residents that the chances are greater than 1-in-5 (20%) of flooding in the next 25 years.
- Highlight the financial consequences if a flood occurs and the homeowner is uninsured. (FEMA flood maps currently depict only the likelihood of a flood without depicting the resulting damage should a flood occur.)

Output: The study is forthcoming in *Judgment and Decision Making*, one of the leading peer-reviewed journals in the field.

STUDY 2. ADDRESSING AFFORDABILITY IN THE NATIONAL FLOOD INSURANCE PROGRAM

We examine the tension between risk-based insurance rates and affordability through a case study of Ocean County, New Jersey, an area heavily damaged by Hurricane Sandy. We propose a program to couple means-tested vouchers with required hazard mitigation, financed with low-

interest loans. By requiring hazard mitigation, future disaster losses would be reduced both for the National Flood Insurance Program (NFIP) and for families. The proposed voucher program has two key features. First, it is based on risk-based insurance premiums which are essential for communicating information about flood risk. Second, the vouchers not only cover a portion of the insurance premium, but also would cover the costs of the loan to reduce future damage to the residence. The amount of the combined insurance and loan voucher would be based on annual family income, taking into account financial assets and family size. Policyholders would be given a low-interest loan to invest in the necessary flood loss reduction measure. We propose that the insurance voucher be tied to the policyholder's income, and the mitigation loan be tied to the property. Such a program could be modeled on similar HUD voucher programs and could be administered outside of FEMA.

One important determinant of insurance premiums that reflect risk is the height of the home in relation to the Base Flood Elevation (BFE). As shown in Table 2, raising a house above BFE could save thousands, if not tens of thousands, of dollars on annual flood insurance costs.

Table 2. 2013 NFIP Annual Premiums for a One-to-Four-Family Residence for $250,000 Coverage

	3 feet below BFE	***1 foot below BFE***	***At BFE***	***1 foot above BFE***	***4 feet above BFE***
A zone	Not rated	$2,199–$4,483	$778–$1,315	$429–$616	$296
V zone	$13,950–$23,150	$8,950–$15,925	$6,750–$12,050	$4,675–$8,725	$2,050–$4,150

Source: Federal Emergency Management Agency [FEMA]. 2013. National Flood Insurance Program: Flood Insurance Manual, Revised January, 2013. Washington, DC. http://www.fema.gov/media-library/assets/documents/29840?id=6713 (accessed August 19, 2013).

Note: These premiums are for houses that were built after FEMA Flood Insurance Rate Maps were established. Premiums for A zone properties vary based on the number of stories and whether the property has a basement. Premiums for V zone properties vary based on the ratio of the amount of coverage relative to the replacement value of the property. Rates in V zones are higher than in A zones because of surge risk.

Consider two property owners – one in an A zone and one in a V zone – that want to elevate their homes to reduce future damage from flooding and storm surge caused by hurricanes. Both purchase an NFIP policy for $250,000 coverage. Assume that each property is three feet below BFE, and that the annual premium for the A zone resident is $4,000, and the annual premium for the V zone resident is $18,550. Further assume that each homeowner is eligible for a flood insurance voucher and currently makes $50,000 a year. Using 5 percent of gross income as our measure, these individuals would be expected to pay $2,500 toward flood insurance. If no loss reduction measures were undertaken, the A zone resident would receive a flood insurance voucher for $1,500, and the V zone resident would receive a voucher for $16,050. (See top panel of Table 3.)

Table 3. Example Calculation of Costs of Mitigation Loan and NFIP Premiums

	A Zone Property	V Zone Property
Insurance voucher without mitigation		
Premium for house 3 feet below BFE	$4,000	$18,550
Homeowner pays	$2,500	$2,500
Flood insurance voucher provided by federal government	$1,500	$16,050
Insurance voucher with mitigation		
Cost to elevate house to 1 foot above BFE	$25,000	$55,000
Annual loan payment (3%, 20 years)	$1,680	$3,660

Premium for house 1 foot above BFE	$520	$6,700
Homeowner pays	$2,200	$2,500
Combined insurance and loan voucher provided by federal government	$0	$7,860
Total savings from mitigation	$1,800	$8,190

Now, link the insurance voucher program to hazard mitigation. To qualify for the insurance voucher, the homeowner would be required to elevate the house to one foot above BFE and would be given a loan for this purpose. The voucher would cover the combined costs of the annual loan payment and the insurance premium in excess of $2,500.

We assume that the cost of elevation is $25,000 for the A zone property and $55,000 for the V zone property. Both residents receive a 20-year loan at a 3 percent rate to cover these costs. The resulting annual payments are $1,680 and $3,660, respectively. Once the homes are elevated, the annual NFIP premiums drop to $520 for the A zone resident and $6,700 for the V zone resident.

After elevation, no voucher is required for the A zone resident because the coupled loan payment and premium, at $2,200, is less than the $2,500 that the homeowner is required to pay (based on income) for insurance. For the V zone resident, after mitigation, the combined payment for the loan and premium payment is $10,360; the homeowner pays $2,500 and the federal government pays $7,860. (See bottom panel of Table 3.) The savings from coupling mitigation with the insurance voucher are quite substantial, as shown in the last row of Table 3 and in Figure 1. During the life of the loan, the annual savings (the difference between the premium with no mitigation and the combined loan and premium after mitigation) are $1,800 for the A zone property and $8,190 for the V zone property.

For any pre-mitigation premium in the A zone greater than $2,200 and in the V zone greater than $10,360, it is less expensive to elevate the property and obtain the lower NFIP premium. The insurance and loan voucher program is financially attractive for higher costs of elevation as well, and for a range of loan terms.

FEMA may also want to consider the cost-effectiveness of other hazard mitigation measures and provide premium discounts to reflect the reduced flood-related damage to the property and contents. These may include raising electrical outlets, installing a backflow valve, and making sure the grading in the yard directs water away from the building.

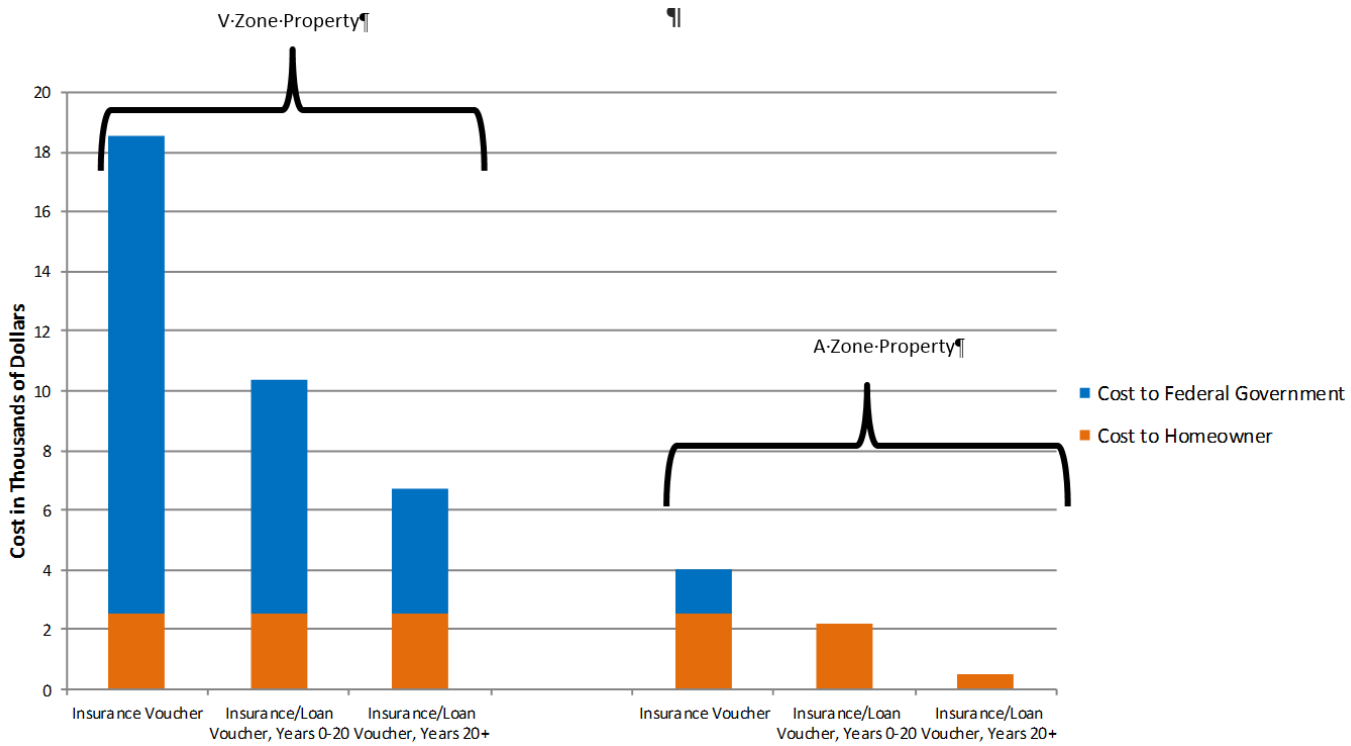

Figure 1. Cost of Program to the Federal Government and Homeowner (Example)

Output: The study was published in the *Journal of Extreme Events.*

2.2. Research Transition

We are currently working with the **Mitigation Directorate** and the top management of the **Federal Insurance & Mitigation Administration** at **DHS-FEMA.** We have ongoing interactions with several offices of Senators and Representatives and have provided expert opinions to the U.S. Government Accountability Office (GAO), the Federal Insurance Office (FIO) at the U.S. Treasury and to the Office of Management and Budget (OMB) at the White House, and NOAA. Additionally, the PIs serve on several committees that are working on ways the redesign the NFIP to improve national resilience.

Howard Kunreuther currently serves on these initiatives: Technical Mapping Advisory Council (TMAC), Federal Emergency Management Agency; Assessing Incentives for Uptake and Distributional Consequences of the National Flood Insurance Program (funded by the Sloan Foundation); Roundtable on Risk, Resilience, and Extreme Events. Policy and Global Affairs Division (National Academies / National Research Council); Committee on Analysis of Costs and Benefits of Reforms to the National Flood Insurance Program – Phase 1 (National Academies / National Research Council). He has served on the New York City Panel on Climate Change (NPCC) as part of the Special Initiative for Rebuilding and Resiliency by the New York City Mayor's Office, June 2013 and currently serves on the 3rd NPCC that will release a report to the Mayor's office in 2015. Additionally, he is a recipient of the 2015 Shin Research Excellence Award awarded by the Geneva Association and the International Insurance Society (IIS) in recognition of outstanding work on the role of public-private partnerships in mitigating and managing risks.

Erwann Michel-Kerjan currently serves on the Committee on Risk-Based Methods for Insurance Premiums of Negatively-Elevated Structures in the National Flood Insurance Program (National Academies / National Research Council). He is the recipient of the 2014 Lloyd's Science of Risk Prize for his joint work with Aerts, Botzen, Emanuel, Lin and de Moel on evaluating resilience strategies for costal megacities (published in *Science* in 2014).

In these roles, the PIs are bringing the research findings directly to the U.S. Department of Homeland Security and other agencies that can positively impact our national resilience to natural disasters.

2.3. Publications, Reports and Presentations

2014-2015 CREATE PUBLICATIONS BY THE CO-PIS	**Research Theme**	**Referred**	**Not Referred**	**PDF Sent to CREATE**
1. Aerts, J.C., Botzen, W.J.W., Emanuel, K., Lin, N., de Moel, H., **Michel-Kerjan, E.O.** (2014). Evaluating Flood Resilience Strategies for Coastal Megacities. *Science*, *344*(6183), 473-475.	X	X		
2. Atreya, A., Ferreira, S., **Michel-Kerjan, E.** (2015). What drives households to buy flood insurance? New evidence from Georgia. *Ecological Economics*, 117, 153-161.	X	X		
3. Botzen, W.J.W., **Kunreuther, H., Michel-Kerjan, E.** (2015). Divergence between Individual Perceptions and Objective Indicators of Tail Risks: Evidence from Floodplain Residents in New York City. *Judgment and Decision Making*, 10(4): 365-385.	X	X		
4. Kousky, C., **Kunreuther, H.** (2014) Addressing Affordability in the National Flood Insurance Program. *Journal of Extreme Events* 1(1): 1-28.	X	X		
5. Kousky, C., **Michel-Kerjan, E.,** Raschky, P. (2015). Does Federal Disaster Assistance Crowd Out Private Insurance? Wharton Risk Center, Working Paper. http://opim.wharton.upenn.edu/risk/library/WP201404_CK-EMK-PAR_Does-assistance-crowd-out-insurance.pdf	X		X	
6. **Kunreuther, H.** (2015). The Role of Insurance in Reducing Losses from Extreme Events: The Need for Public-Private Partnerships. *Geneva Papers on Risk and Insurance*. 1018-5895/15, 2015 (pp. 1-22). Recipient of the 2015 Shin Award from the Geneva Papers and the International Insurance Society.	X	X		
7. **Kunreuther, H., Michel-Kerjan, E.** (2015). Demand for Fixed-Price Multi-Year Contracts: Experimental Evidence from Insurance Decisions." *Journal of Risk and Uncertainty* 51(2) October.	X	X		
8. **Kunreuther, H.,** Weber, E. (2014). Aiding Decision-Making to Reduce the Impacts of Climate Change. *Journal of Consumer Policy*, 10.1007/s10603-013-9251-z.	X	X		
9. **Michel-Kerjan, E.** (2015). Effective risk response needs a prepared mindset. *Nature,* 517(7535) January.	X	X		
10. **Michel-Kerjan, E.**, Czajkowski, J., **Kunreuther, H.** (2015). Could Flood Insurance be Privatised in the United States? A Primer. *Geneva Papers on Risk and Insurance* 40(2): 179-208.	X	X		

CREATE Scholarly/Conference Presentations

1. NIST International Resilience Symposium National Institute of Standards and Technology (NIST), 100 Bureau Dr, Gaithersburg, MD, Sept 3-4, 2014.
2. NRC Committee on the Analysis of Costs and Benefits of Reforms to the National Flood Insurance Program, Washington DC, July 10, 2014.
3. NRC/NAS Resilience Roundtable, Washington, DC. July 22, 2014.
4. NAS Committee on Risk-Based Methods for Insurance Premiums of Negatively-Elevated Structures in the National Flood Insurance Program. Irvine, CA, August 21, 2014.
5. NRC Committee on the Analysis of Costs and Benefits of Reforms to the National Flood Insurance Program, Washington DC, November 3, 2014.
6. NRC/NAS Resilience Roundtable, Washington, DC. November 4-5, 2014.
7. Experiments on the Role of Emotions in Insurance Decision Making: Implications for Behavioral Welfare Economics. ASSA-AEA, Boston, MA, January 3, 2015.
8. NRC/NAS Resilience Roundtable, Irvine, CA. February 5-6, 2015.
9. Disaster Risk Reduction and Resilience Collaboration Workshop, NOAA, Washington DC, April 2, 2015.
10. New Frontiers in Systemic Risk Measures and Extreme Risk Management "Are we Ready for the Next Financial Crisis?" New York, NY, June 4, 2015.
11. CREATE conference on Aviation security. Los Angeles, July 2015.

CREATE Outreach Presentations

1. Blouin Creative Leadership Summit 2014, (Kunreuther), New York, NY, September 24, 2014.
2. Zurich LIVE! “Winds of Change” Planning greater resilience against tomorrow’s natural catastrophes, (Michel-Kerjan), IBHS, Richburg, South Carolina, September 24, 2014.
3. Sustainable Property Transactions: Closing Deals and Capturing Market Opportunities.” Risk Management Technologies, Philadelphia, PA October 8, 2014.
4. Shared Risks, Shared Solutions: Finding the Leading Risk Expertise in An Interconnected World. Risk Assistance Network + Exchange, New York, NY, November 14, 2014.
5. KPMG Global Insurance Academies, Wharton School, University of Pennsylvania, December 1, 2014.
6. Cybersecurity and Law Enforcement Back Doors. Wharton School, University of Pennsylvania, December 9, 2014.
7. Climate Change Policy and the Upcoming Paris COP21 Talks, Wharton School, University of Pennsylvania, March 24, 2015.
8. How Innovation Will Drive Our Mitigation and Adaptation to Climate Change, Wharton School, University of Pennsylvania, April 22, 2015.
9. “The Role of Insurance in Reducing Losses from Extreme Events: The Need for Public-Private Partnerships.” E. Deane Kanaly Lecture Series Feature Presentation (Kunreuther), Price School of Business, University of Oklahoma, April 23-24, 2015.
10. Panel Discussion - A New Approach? Designing an Updated NFIP, 2015 National Flood Conference, Washington, DC, May 18, 2015.
11. ASFPM annual conference, Atlanta, GA, June 2-4, 2015.
12. IIS Global Insurance Forum, “Insuring Against Extreme Events: The Need for Public-Private Partnerships.” New York, NY, June 14-17, 2015.

3. Education Programs

CREATE STUDENTS

	Last Name	First Name	University	School	Department	Degree	Research Area	CREATE Funded?	Graduated (Year)
1.	Ma	Chenyi	Univ. of Penn.	School of Social Policy and Practice		Candidate: MSW, PhD	Flood risk	indirectly	
2.	Zhao	Wendy	Univ. of Penn.	Wharton	Economics	Candidate B.S.	Flood insurance	indirectly	

CREATE RELATED COURSES, CERTIFICATES AND DEGREE PROGRAMS

	Instructor	University	New or Modified	Course Title
1.	Howard Kunreuther	Univ. of Penn.	modified	Risk Analysis and Environmental Management
2.	Erwann Michel-Kerjan	Univ. of Penn.	modified	Environmental Sustainability and Value Creation (MBA class)

CREATE RELATED AWARDS AND RECOGNITION

	Name (Who or What)	Award/Recognition	Date	Other Details
1.	Howard Kunreuther	2015 Shin Research Excellence Award	February 2015	From the Geneva Association and the International Insurance Society (IIS) in recognition of Prof. Kunreuther's outstanding work on the role of public-private partnerships in mitigating and managing risks.
2.	Erwann Michel-Kerjan	2014 Lloyd's Science of Risk Prize	November 2014	For the paper: Aerts, J. C., Botzen, W. W., Emanuel, K., Lin, N., de Moel, H., Michel-Kerjan, E. O. (2014). Evaluating Flood Resilience Strategies for Coastal Megacities. *Science*, *344*(6183), 473-475. The jury recognized its innovative multidisciplinary approach and applicability to building resilience and measuring return on investment that could be deployed around the world.

4. Outreach Programs

We continue to interact closely with FEMA. The two PIs also serve on NAS initiatives directly linked to DHS/FEMA.

MEMBERSHIP IN MAJOR DHS-RELATED COMMITTEES		
Name and Committee	**Institution**	**Time Period**
Howard Kunreuther		
Committee on Analysis of Costs and Benefits of Reforms to the National Flood Insurance Program – Phase 1	National Research Council /National Academies of Science	2014-present
Roundtable on Risk, Resilience, and Extreme Events. Policy and Global Affairs Division	National Research Council /National Academies of Science	2014-present
FEMA Technical Mapping Advisory Council	FEMA	2014-present
New York City Panel on Climate Change as part of the Special Initiative for Rebuilding and Resiliency	New York City Mayor's Office	2012-2013
Erwann Michel-Kerjan		
Committee on Risk-Based Methods for Insurance Premiums of Negatively-Elevated Structures in the National Flood Insurance Program	National Research Council /National Academies of Science	2014- present

CONGRESSIONAL TESTIMONY		
Event Title	**Brief (2-3 sentence) Description of Testimony**	**Dates / Time Period**
U.S. House Committee on Transp & Infrastructure: What is Driving the Increasing Costs and Rising Losses from Disasters?	Erwann Michel-Kerjan	March 18, 2015. Rayburn Building, Washington DC.
Roundtable: Subcommittee on Economic Development, Public Buildings, and Emergency Management, "The State of Pennsylvania.	Howard Kunreuther	May 28, 2015. Federal Emergency Management Agency (FEMA) Region III Offices, 615 Chestnut Street, Philadelphia, PA.

5. Project Performance Metrics

Table 1: FY2015 Project Performance Metrics

Categories of Accomplishments – Number of:	FY2015 (Year 11)
Papers	10
Requests for assistance or advice from DHS (# of different DHS contacts/projects/requests)	ongoing
Presentations	22
Congressional Testimonies	2
Projects Completed	1