


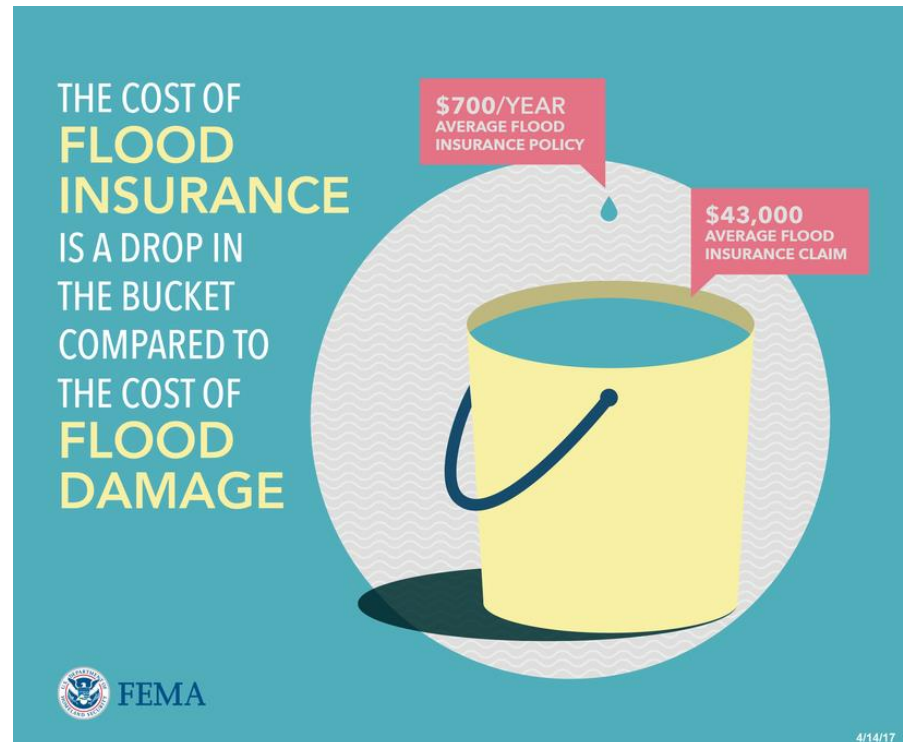
# How do we encourage more people to get flood insurance?

Carl Davis, CFM & Rebecca Starosta, PE, CFM  
MAFSM Conference, November 8, 2018



# Agenda

- FEMA Moonshots
- Why are people not buying Flood Insurance?
- Data to help convey the message
- Case Study: Houston and Hurricane Harvey
- Case Study: The Carolinas and Hurricane Florence
- Outreach opportunities
- Conclusion



# FEMA Moonshots



# FEMA Moonshots



"5 million more flood insurance policies."

"We need both the NFIP *and an expanded private market* if we want to markedly increase flood insurance coverage for the nation."

**-Roy Wright,  
National Flood  
Conference 2017**

# The Insurance Moonshot



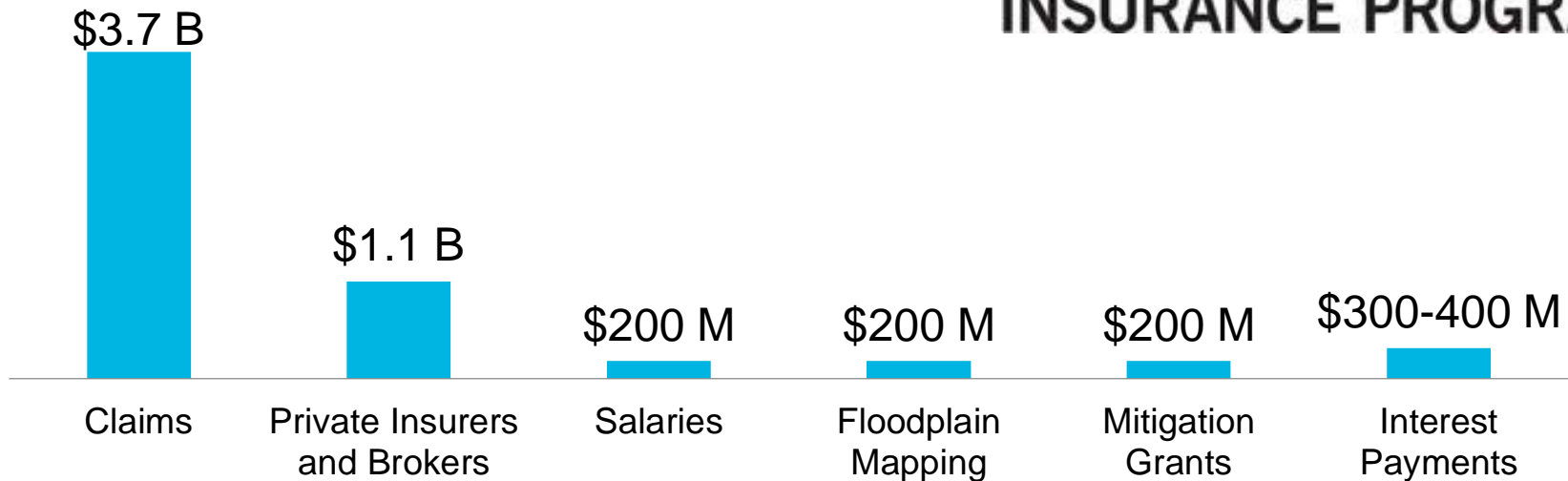
Leveraging technology and data will streamline the underwriting and policy issuance process

A more credible view of risk will encourage coverage in all risk-prone areas

- **Expand the private insurance market**
  - Increase revenue
  - Allow for more innovation
  - Allow for competition
  - Larger focus on structures outside the floodplain
    - \*\*Needs to have similar fees as current policies\*\**
  - What happens if they can't pay again?
  
- **Reform the “in or out of floodplain”**
  - Add Risk Zones
    - Floodway
    - 1% Annual Chance (100 year)
    - 0.2% Annual Chance (500 year)
    - Velocity / Depth
    - Repeat Claims

# Moonshot: Why is it Important?

- NFIP was in the black until 2005
  - Hurricane Katrina left it in \$17 Billion in debt
  - Hurricane Sandy added \$7 Billion more to the debt
  - Each major disaster keeps adding to the debt
- Congressional Budget Office (CBO)
  - NFIP spends about \$5.7 Billion a year
  - NFIP brings in about \$4.3 Billion in revenue
- Where does the money go?



– **Current reauthorization is set for November 30, 2018**

# Moonshot : Benefits of Having Flood Insurance

## Flood Insurance

- Claims paid even if a disaster is not declared by the President
- Over 20% of NFIP claims come from outside of mapped SFHAs
- There is no payback requirement
- Financial stability of your community
  - Average annual premium is about \$700
  - Moderate-to-low risk property is about \$420

## Disaster Assistance

- Most forms of Federal disaster assistance require a Presidential declaration
- Federal disaster assistance declarations are not awarded in all flooding incidents
- The most typical form of disaster assistance is a loan that must be repaid with interest

# Benefits of Having Flood Insurance

- A participating community can **reduce risk** and **protect its citizens and the community** against much of the devastating financial losses resulting from flood disasters
- More resilient community
- Better construction practices
- Better floodplain management policies



**However we can't fix stupid....**

“Well, that’s what insurance is for.”



*HGTV's Buying the Beach*



**Why are people not buying flood insurance?**

# Why are people not buying flood insurance?

## Interesting fact:

- In a recent survey by the website InsuranceQuotes.com:  
More than half (56 percent) of people queried said they believed flood damage was covered by a standard homeowners policy

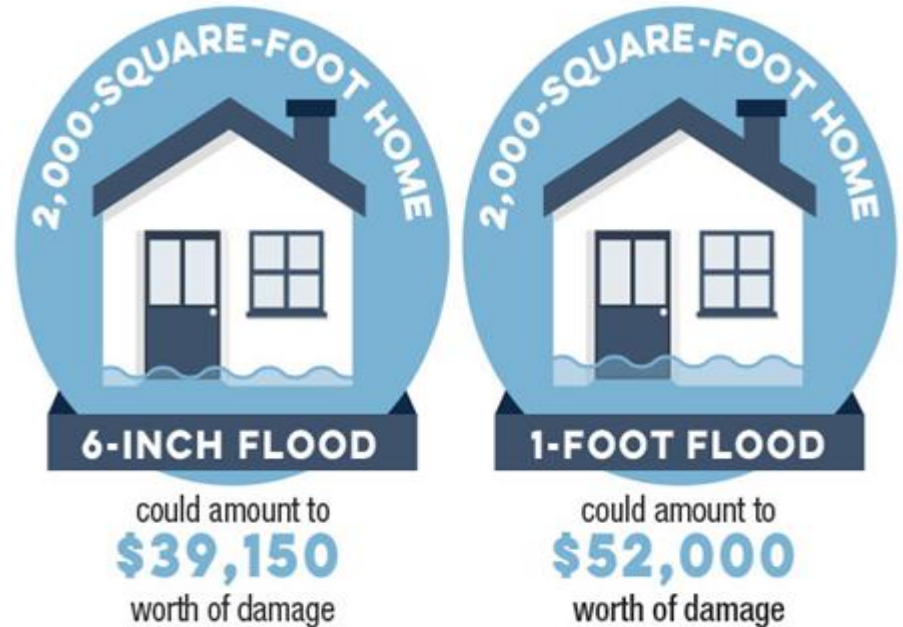
For millennials ages 18 to 36,  
the percentage rose to 67 percent

A home is often a person's largest investment,  
that could be a very costly misconception



# Why are people not buying flood insurance?

- Not understanding the 1% and 0.2% (100 year or 500 year floodplain)
- Mortgage is paid off...I'm out!!!!
- "It won't happen to me...I have lived here for over 60 years!"
- Don't understand the NFIP
- Don't understand the cost of flood damage



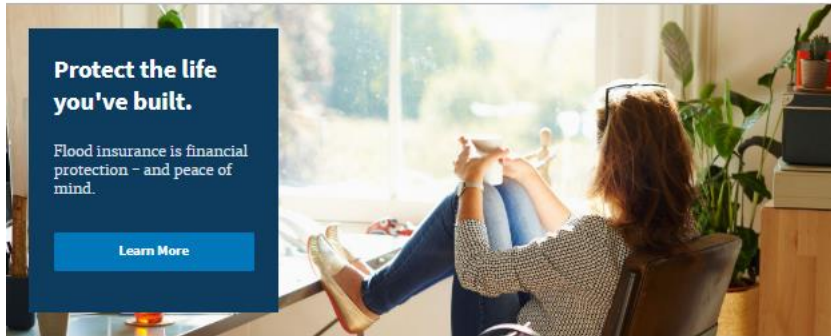
# Why are people not buying flood insurance?

## FloodSmart.gov



Q Search | For Agents

Why Buy or Renew   How to Buy or Renew   Understanding Costs   Before and After a Flood



### [How to buy or renew flood insurance](#)

Looking to protect your home or business? You can buy flood insurance through your insurance agent.



### [Why you need flood insurance](#)

Floods are the nation's most common natural disaster. Flood damage is rarely covered under your homeowners or renters policy.



### [Understand your risk](#)

What do flood maps mean for you? Look up your address in the FEMA [Flood Map Service Center](#) and then use interactive tools to learn more about your risk.



### [How to reduce your cost](#)

Many factors play a role in flood risk and damage protection and can reduce the cost of your policy.



## [How to buy or renew flood insurance](#)

Looking to protect your home or business? You can buy flood insurance through your insurance agent.

## [Why you need flood insurance](#)

Floods are the nation's most common natural disaster. Flood damage is rarely covered under your homeowners or renters policy.

## [Understand your risk](#)

What do flood maps mean for you? Look up your address in the FEMA [Flood Map Service Center](#) and then use interactive tools to learn more about your risk.

## [How to reduce your cost](#)

Many factors play a role in flood risk and damage protection and can reduce the cost of your policy.

# Why are people not buying flood insurance?

<https://www.floodsmart.gov/why/why-buy-flood-insurance>

Which home is most like yours?

1,000 sq. ft., one-story    2,500 sq. ft., one-story    5,000 sq. ft., two-story

1,000 sq. ft.  
one-story



\$21,161    6"

↑  
↓

Which home is most like yours?

1,000 sq. ft., one-story    2,500 sq. ft., one-story    5,000 sq. ft., two-story

2,500 sq. ft.  
one-story



\$52,037    6"

↑  
↓

Which home is most like yours?

1,000 sq. ft., one-story    2,500 sq. ft., one-story    5,000 sq. ft., two-story

5,000 sq. ft.  
two-story



\$103,505    6"

↑  
↓

# Why are people not buying flood insurance?

Table 26. Calculate Premium for a PRP

STEP	ACTION	REFERENCE
1	Identify the base premium	PRP premium table corresponding to the building occupancy type and description.
2	Apply multiplier	Apply a multiplier of 1.00 for PRPs.
3	Add Increased Cost of Compliance (ICC) premium	<p>Residential Building Coverage:</p> <ul style="list-style-type: none"> <li>• \$1 to \$230,000: \$5.00</li> <li>• \$230,001 to \$500,000: \$4.00</li> </ul> <p>Non-Residential Business and Other Non-Residential Building Coverage:</p> <ul style="list-style-type: none"> <li>• \$1 to \$480,000: \$5.00</li> <li>• \$480,001 to \$500,000: \$4.00</li> </ul> <p>Do not apply ICC premium to contents-only policies or to policies for individual condominium units in a multi-unit building.</p>
4	Apply Reserve Fund Assessment	See the Reserve Fund Assessment table for applicable percentage.
5	Add Probation Surcharge	<p>Community Master File or insurer to determine if community is on probation.</p> <p>Add a \$50 Probation Surcharge if community is on NFIP probation.</p>
6	Add HFIAA Surcharge  Homeowner Flood Insurance Affordability Act of 2014 (HFIAA)	<p>Policies covering single-family primary residences, individual residential condominium units, or contents-only for apartments used as a primary residence by the named insured, have a \$25 HFIAA Surcharge.</p> <p>All other policies have a \$250 HFIAA Surcharge.</p>
7	Add Federal Policy Fee	For PRP and contents-only: Add the \$25 Federal Policy Fee to the Total Premium.

## Example: \$30,000 w/ Basement

1. \$160 Base Premium
  2. 1.00 Multiplier
  3. Townhouse, ICC N/A
  4. \$24 (15% \* Base Premium)
  5. N/A (Frederick County)
  6. \$25 HFIAA Surcharge
  7. \$25 Federal Policy Fee
- = \$234 annually or \$19.50 per month**

# Data to help convey the message

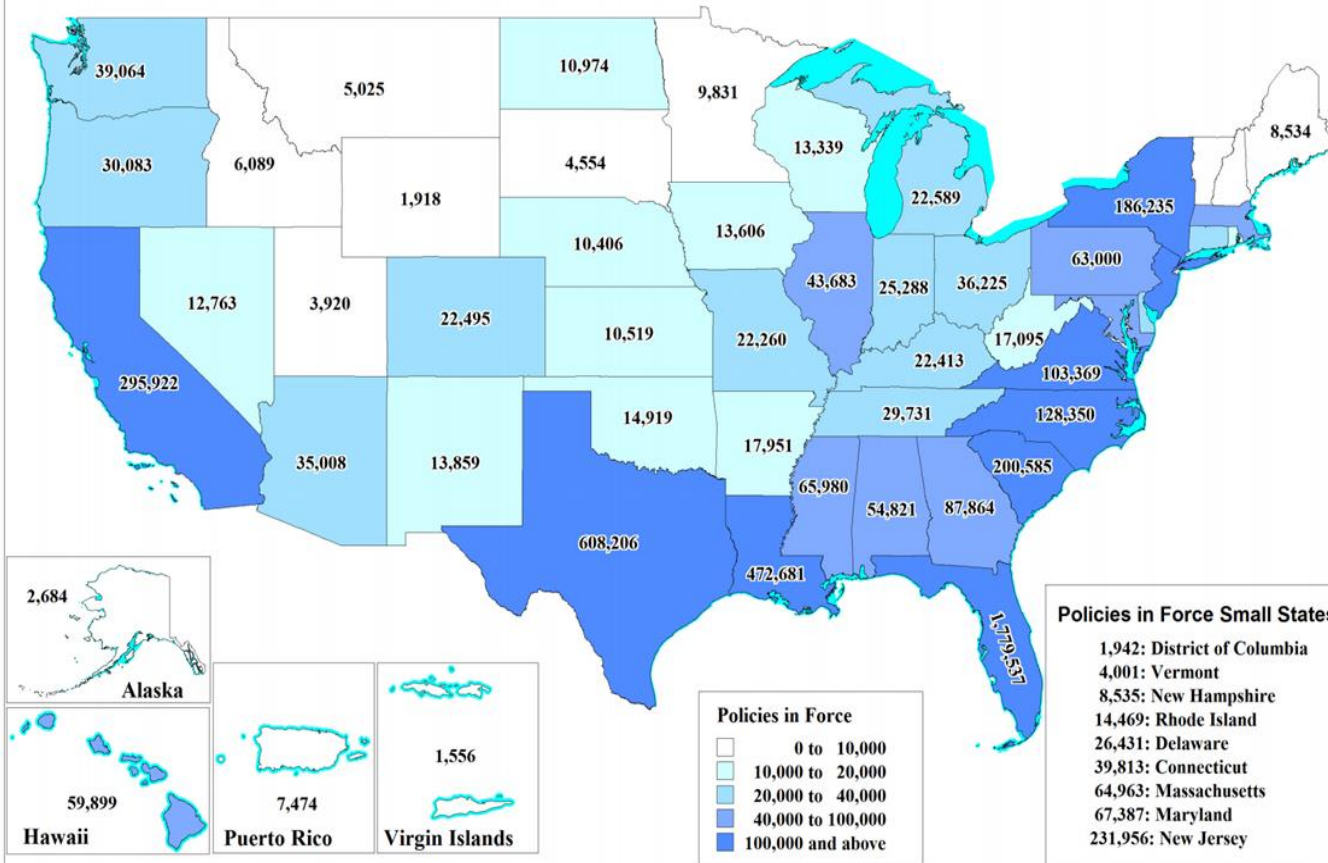




# Data to help convey the message

## National Flood Insurance Program Total Number of Policies in Force

AS OF SEPTEMBER 30, 2016



Over 5 Million Policies:

1. Florida
2. Texas
3. Louisiana
4. California
5. New Jersey

11. Maryland

2016: 67,387

2018: 66,515

*-872 policies*

### Policies in Force Small States

- 1,942: District of Columbia
- 4,001: Vermont
- 8,535: New Hampshire
- 14,469: Rhode Island
- 26,431: Delaware
- 39,813: Connecticut
- 64,963: Massachusetts
- 67,387: Maryland
- 231,956: New Jersey

Source Report: PIFW0902

Providing Coverage Amounts of \$1,241,342,749,500

# Data to help convey the message

## Protect your Home with Flood Insurance

**98%**

The percent of U.S. counties impacted by a flooding event

**\$43,000**

The average flood claim payout from the National Flood Insurance Program

**\$700**

The average annual flood insurance policy premium cost

## Historical Flood Impact

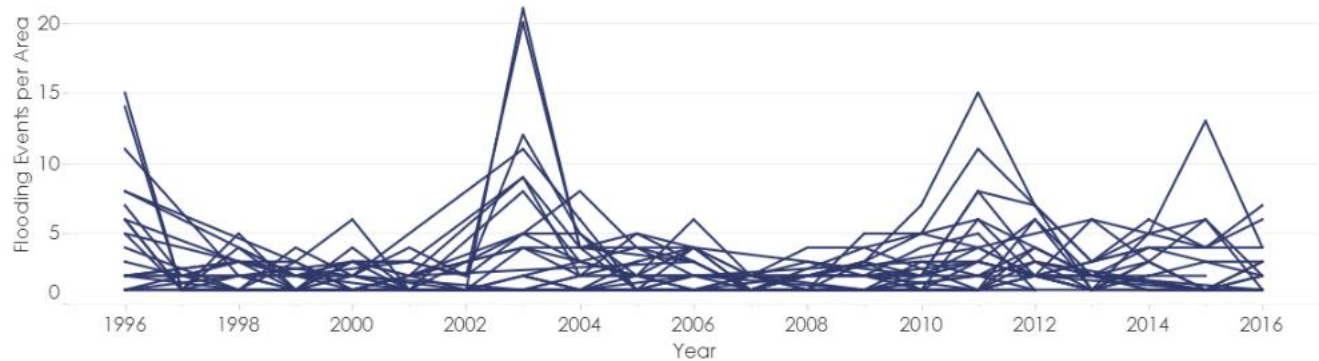
See how floods have impacted your state according to data from NOAA's Storm Events Database.

### Choose a State

Maryland

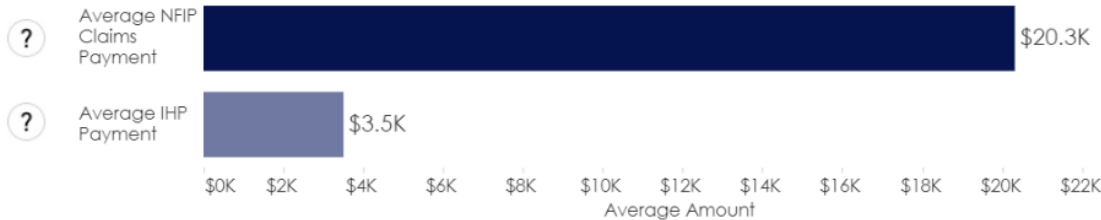
### Map Legend

- 1 - 10 Events
- 10 - 20 Events
- 20 - 35 Events
- 35+ Events



## Costs of Flooding

The National Flood Insurance Program (NFIP) provides flood insurance to homeowners, renters, and business owners. FEMA's Individuals and Households Program (IHP) provides financial assistance and direct services to eligible individuals and households who have uninsured or underinsured necessary expenses and serious needs. See differences in NFIP claims paid to individuals from 1996-2016 and funding from IHP for flood-related damages from 2006-2016 for your state.

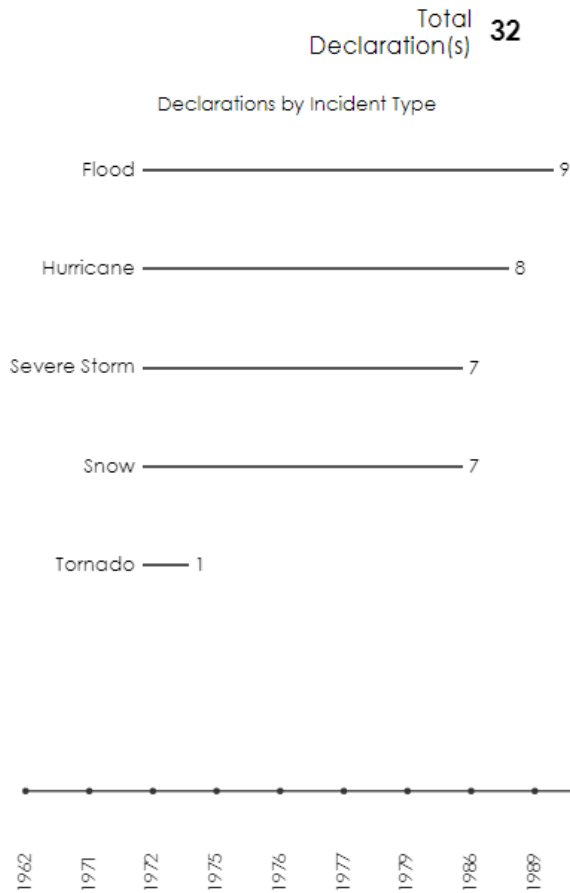


<https://www.fema.gov/data-visualization>

# Data to help convey the message

**Then**, learn about the Federally declared disasters in Maryland since 1953.

**Finally**, see how FEMA has supported Maryland with disaster assistance and preparedness grants since 2005.



*Click on each bar for more information.*



<https://www.fema.gov/data-visualization>

# Data to help convey the message

Is your County vulnerable to a large storm?

County	Number of Policies	Percent of Properties with a Policy	Total Claims since 1978	Annual Premium	Average claim amount	What would it cost if all Policy Holders had an average claim at once?	What if there weren't policies for 20% of the properties in this scenario?
						What if there weren't policies for 20% of the properties in this scenario?	What if there weren't policies for 20% of the properties in this scenario?
ALLEGANY COUNTY	310	0.8%	328	\$475,468	\$10,281	\$3,187,013	\$637,403
ANNE ARUNDEL COUNTY	6,005	2.8%	2,493	\$4,141,578	\$19,337	\$116,117,909	\$23,223,582
BALTIMORE CITY	2,788	1.2%	988	\$2,088,002	\$25,422	\$70,876,195	\$14,175,239
BALTIMORE COUNTY	3,584	1.2%	3,113	\$3,924,453	\$21,327	\$76,434,444	\$15,286,889
CALVERT COUNTY	839	2.0%	484	\$673,462	\$17,935	\$15,047,150	\$3,009,430
CAROLINE COUNTY	188	1.1%	74	\$172,759	\$17,259	\$3,244,618	\$648,924
CARROLL COUNTY	216	0.3%	133	\$215,286	\$6,886	\$1,487,355	\$297,471
CECIL COUNTY	957	2.0%	639	\$985,658	\$18,042	\$17,266,474	\$3,453,295
CHARLES COUNTY	716	1.1%	305	\$528,651	\$19,152	\$13,712,914	\$2,742,583
DORCHESTER COUNTY	1,536	6.6%	937	\$1,246,773	\$18,070	\$27,755,677	\$5,551,135
FREDERICK COUNTY	656	0.7%	244	\$647,674	\$7,412	\$4,862,554	\$972,511
GARRETT COUNTY	97	0.3%	118	\$84,901	\$8,990	\$872,022	\$174,404
HARFORD COUNTY	950	1.0%	321	\$724,993	\$9,339	\$8,871,680	\$1,774,336
HOWARD COUNTY	1,059	1.0%	375	\$783,805	\$33,886	\$35,884,856	\$7,176,971
KENT COUNTY	596	4.4%	335	\$532,523	\$24,497	\$14,599,954	\$2,919,991
MONTGOMERY COUNTY	2,244	0.7%	594	\$1,202,189	\$4,619	\$10,365,504	\$2,073,101
PRINCE GEORGE'S COUNTY	3,659	1.2%	762	\$2,531,366	\$5,859	\$21,437,932	\$4,287,586
QUEEN ANNE'S COUNTY	2,337	9.0%	973	\$1,411,023	\$14,345	\$33,523,926	\$6,704,785
SOMERSET COUNTY	1,895	11.1%	1,112	\$1,511,527	\$11,559	\$21,903,625	\$4,380,725
ST. MARY'S COUNTY	1,284	2.6%	541	\$1,092,381	\$18,989	\$24,381,741	\$4,876,348
TALBOT COUNTY	2,205	10.3%	617	\$1,500,501	\$19,323	\$42,606,393	\$8,521,279
WASHINGTON COUNTY	356	0.6%	406	\$322,296	\$10,431	\$3,713,512	\$742,702
WICOMICO COUNTY	759	1.6%	227	\$565,619	\$23,962	\$18,187,181	\$3,637,436
WORCESTER COUNTY	31,279	47.0%	2,546	\$10,636,747	\$7,739	\$242,073,673	\$48,414,735
<b>State Total</b>	<b>66,515</b>	<b>2.8%</b>	<b>18,665</b>	<b>\$37,999,635</b>	<b>\$16,107</b>	<b>\$1,071,345,431</b>	<b>\$214,269,086</b>

# Case Study: Houston and Hurricane Harvey (2017)



# Case Study: Houston and Hurricane Harvey

Prior to the Hurricane, Rice University and Texas A&M Galveston 2017 study

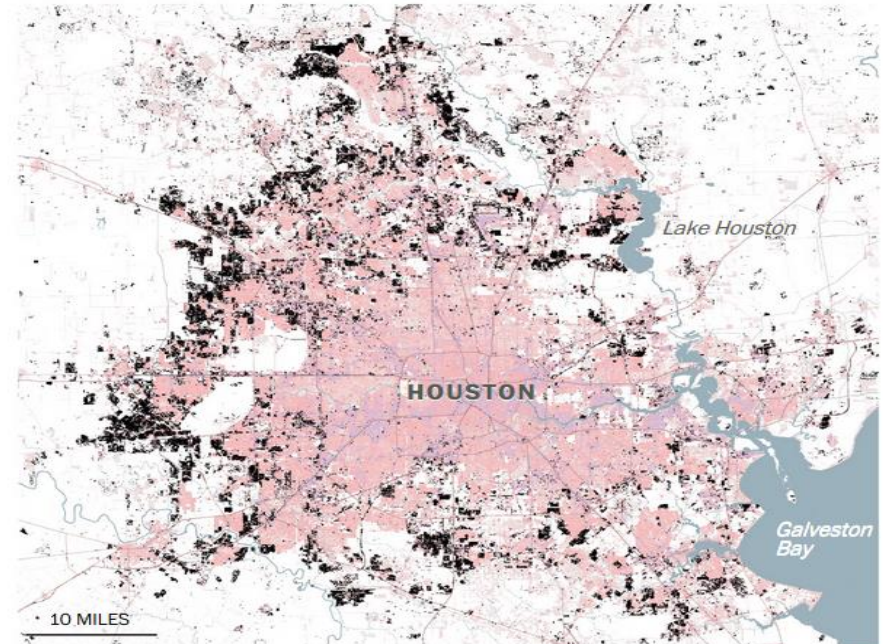
- Looked at 5 major flood events, from 1999-2009 in 100-year flood plains around Armand Bayou's 60-square-mile watershed in southeast Harris County.
- 75% of flood damage came from outside the 100 year floodplain
  - Poor community planning
  - Old FIRMS



## THE EDGE OF HOUSTON HAS ADDED A LOT OF CONCRETE

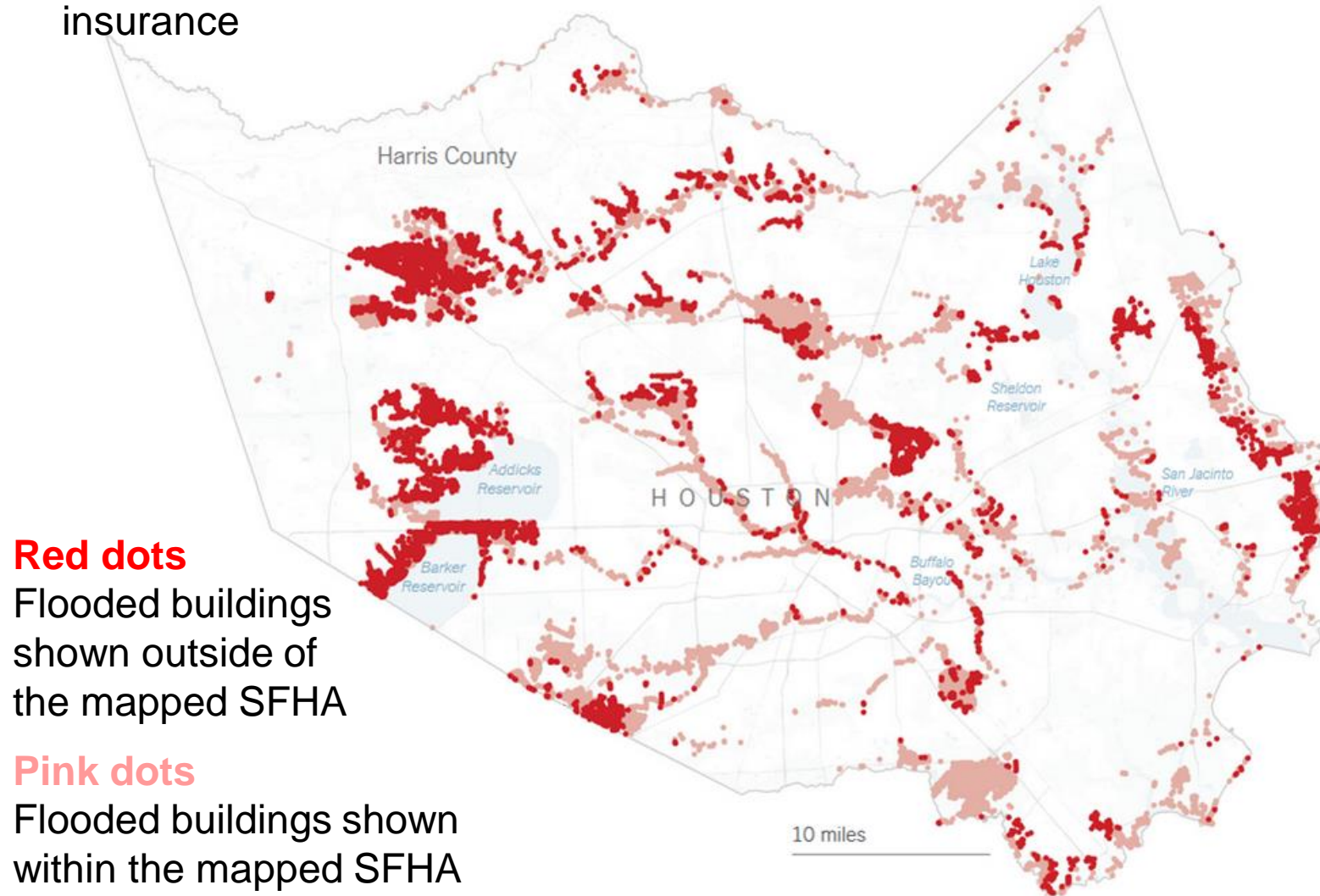
Developed impermeable surfaces in greater Houston

Impermeable surfaces ■ As of 2011 ■ Added between 1996 and 2010



# Case Study: Houston and Hurricane Harvey

- In August of 2016- 15% of the 1.6 million homes in Harris County had flood insurance



## Red dots

Flooded buildings shown outside of the mapped SFHA

## Pink dots

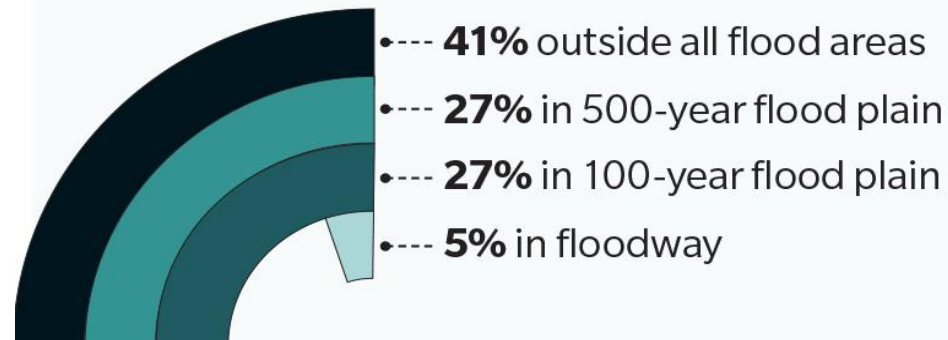
Flooded buildings shown within the mapped SFHA

# Case Study: Houston and Hurricane Harvey

# HARVEY

hits **HARD**

An analysis by the Kinder Institute estimates the number of homes damaged in Hurricane Harvey.



Estimated



# 144,485

residential homes flooded during Harvey in Harris County.



# Case Study: The Carolinas and Hurricane Florence (2018)



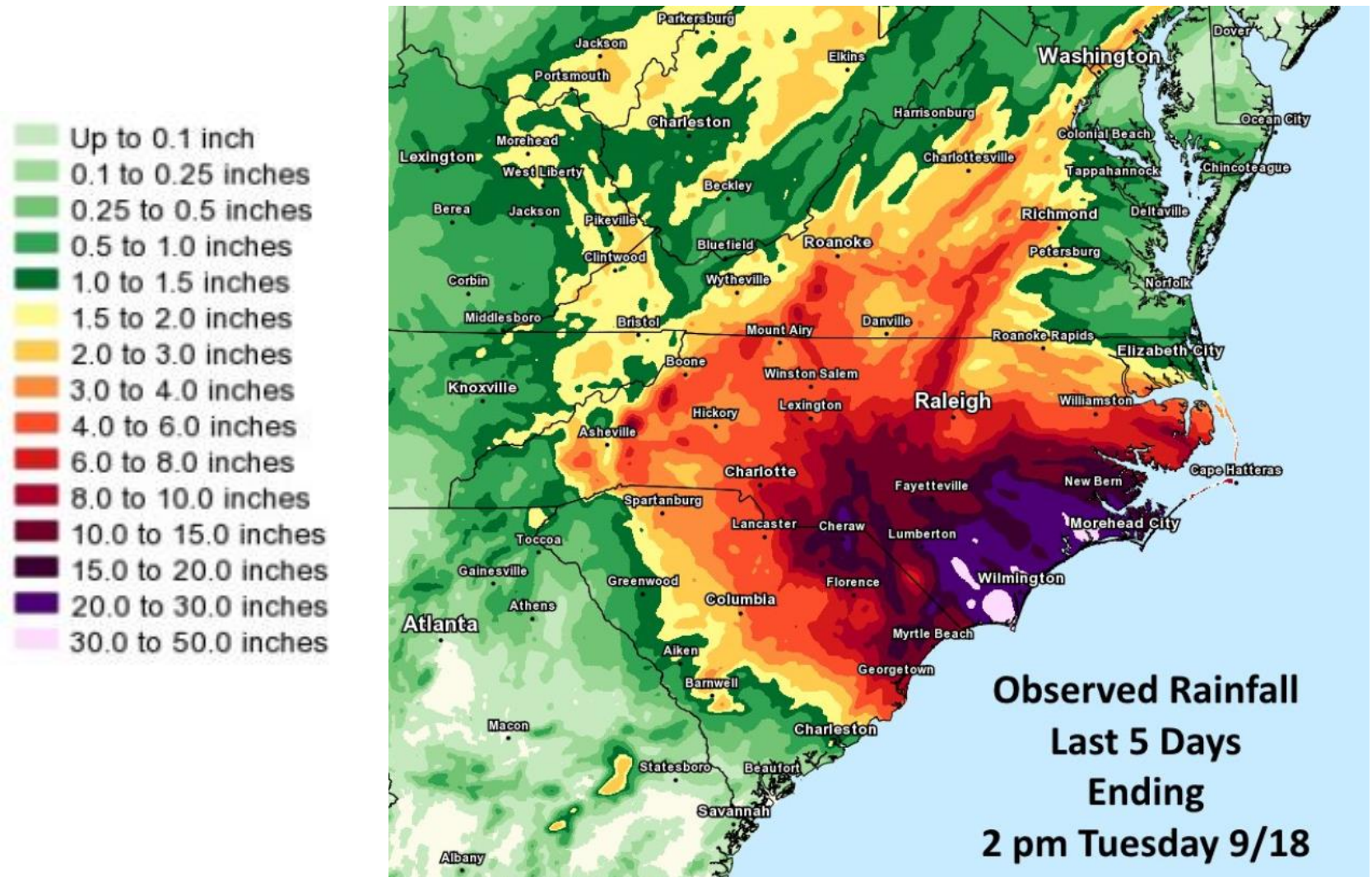
Dillon, SC



Engelhard, NC



# Case Study: The Carolinas and Hurricane Florence (2018)



National Weather Service, Observed Precipitation

# Case Study: Hurricane Florence (2018)

## Residential and Commercial Insured and Uninsured Flood (Storm Surge and Inland) Losses by State (\$ Billion)

State	Insured Flood Loss	Uninsured Flood Loss
North Carolina	4.5 - 7.5	10 - 14.5
South Carolina	1 - 2	2.5 - 3.5
Virginia	~ 0.5	~ 0.5
<b>Total</b>	<b>6 - 10</b>	<b>13 - 18.5</b>

Source: CoreLogic September 2018

© CoreLogic, Inc. All rights reserved.



OF THE  
YEAR.

ene

EN

EL SOC  
MIN



FEMA



AECOM

# Outreach Opportunities

# Outreach Opportunities - Special Events

- Word of mouth communication
- Special events
- Establish a presence at high-traffic locations your stakeholders frequent



# Outreach Opportunities - Open Houses

- FEMA initiated opportunities
  - Discovery Meeting
  - Flood Risk Review Meeting
  - CCO/ PDCC meeting
  - Resiliency Meeting
- Local council meetings



# Outreach Opportunities

- Door to Door
- Realtors
- Websites/ Social Media

The screenshot shows the Facebook profile for the Town of Hilton Head Island Government. The profile picture is the town's official seal, which includes a ship and the text 'TOWN OF HILTON HEAD ISLAND SOUTH CAROLINA' and '1663-1983'. The cover photo is a wide shot of a beach with people walking and a person on a bicycle. The main post is from the town, dated 4 hours ago, and is about National Heart Month and CPR classes. The post text reads: 'February is National Heart Month. This is a great time to learn CPR and how to use an AED. Contact Fire Rescue's Fire & Life Safety Educator at 843-682-5141 to register for a CPR class.' Below the text is a video thumbnail for 'Ken Jeong AHA Hands-Only CPR video' with a description: 'Ken Jeong suits up in new Stayin' Alive video to promote Hands-Only CPR. Please visit http://bit.ly/AHACrowd...'. The right sidebar shows a 4.7 star rating, 17,332 likes, and 17,847 followers. There is also a map showing the town's location on Hilton Head Island, South Carolina, with a red pin and the address '1 Town Center Ct (699.97 mi)'.

# In Conclusion...

- Need to protect property
- Need to inform people
- Need to build more resilient communities
- Lets shoot for the moon!!!



# Contact Information

**Carl Davis, CFM**

**AECOM**

Flood Study Processing Coordinator  
Floodplain Analysis and Coastal Engineering  
D +1-301-820-3360  
[carl.davis@aecom.com](mailto:carl.davis@aecom.com)

**Rebecca Starosta, PE, CFM**

**AECOM**

Civil-Water Resources Engineer  
Floodplain Analysis and Coastal Engineering  
D +1-301-820-3534  
[rebecca.starosta@aecom.com](mailto:rebecca.starosta@aecom.com)



**AECOM**

Imagine it.  
Delivered.