



FEMA



Federal Insurance Marketing & Outreach Branch

Chasing the Rain-

Data Analytics Applications for the NFIP

June 19, 2018

Agenda:

- Introduction
- Data Tour
- How Data Informs Campaigns
- Call To Action
- Next Steps



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Strategic Plan

Helping People. Together.

FEMA Mission: Helping people

STRATEGIC GOALS

I. BUILD A CULTURE OF PREPAREDNESS



1.1 Incentivize investments that reduce risk, including pre-disaster mitigation, and reduce disaster costs at all levels



1.2 Close the insurance gap



1.3 Help people prepare for disasters



1.4 Better learn from past disasters, improve continuously, and innovate

OBJECTIVES

FEMA Vision:
A prepared and resilient

STRATEGIC GOALS

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OBJECTIVES



line the disaster survivor and experience

the National Disaster Recovery work

innovative systems and processes that enable FEMA's resiliency to rapidly and effectively achieve the agency's mission

when grants management, increase transparency, and improve analytics



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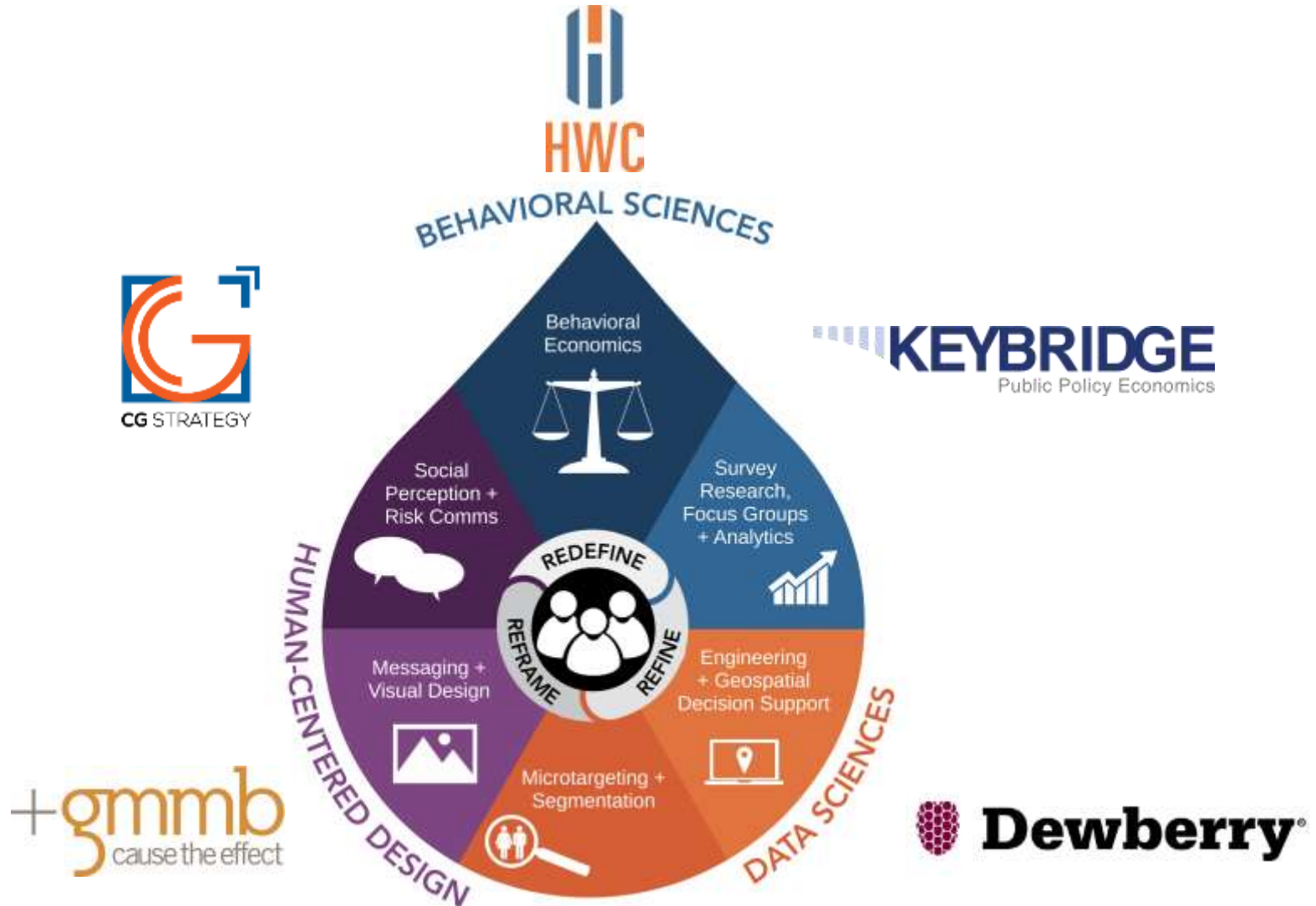
C3 is helping the NFIP demonstrate the value of flood insurance and dramatically increase policy coverage across the nation.



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The C3 Team consists of companies with deep expertise in behavioral sciences, data sciences, and human-centered design.



Our approach relies on a mix of data-driven tools and science-based methods to influence customer behavior.

Key Elements of the C3 Solution



**Advanced
Analytics**



**Behavioral
Science**

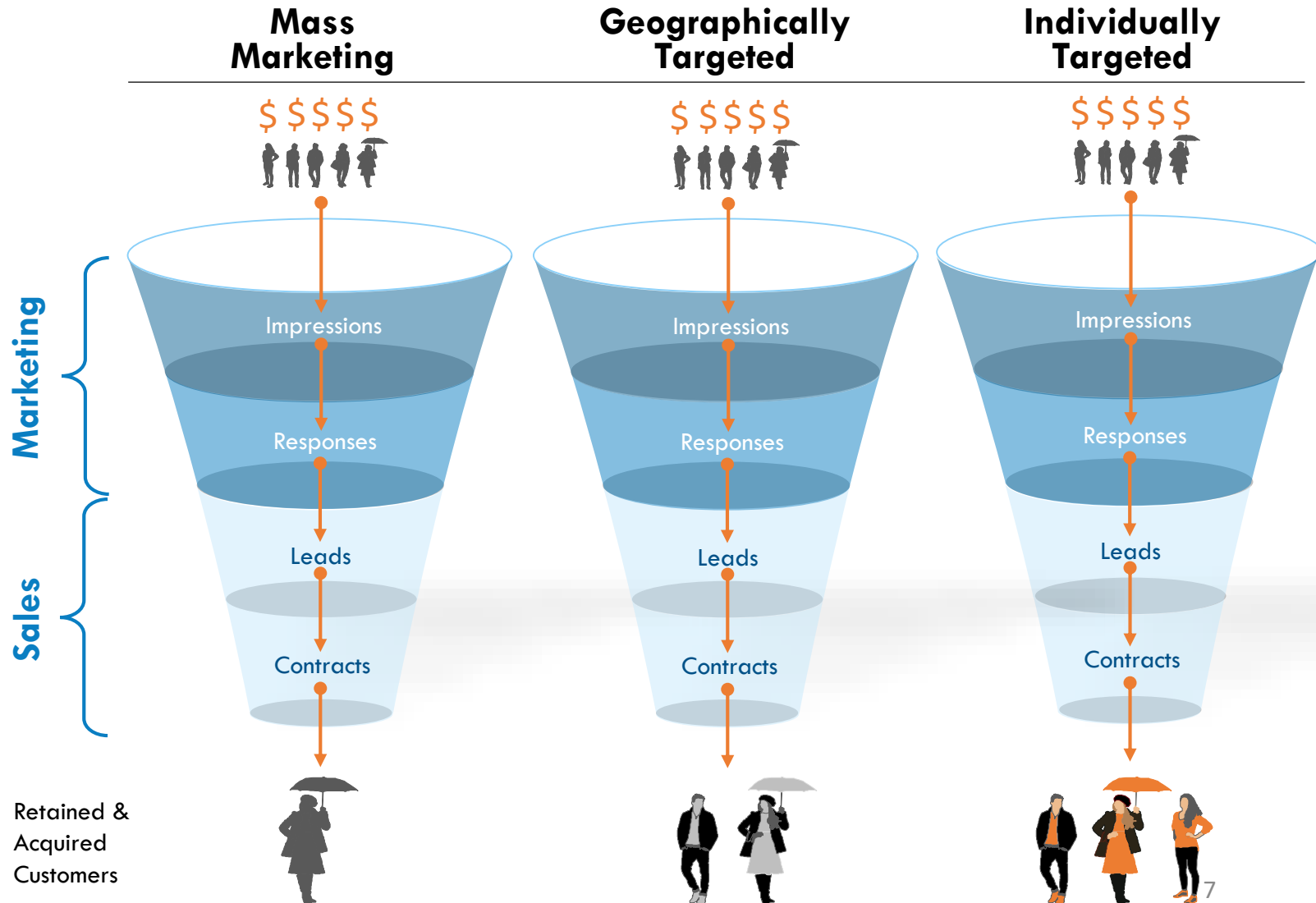


**Infomediaries
& Stakeholders**

We deliver value by:

- (1) Using advanced analytics to improve target selection and measure impact.**
- (2) Using behavioral science best practices to improve content and messaging.**
- (3) Using infomediaries and stakeholders to amplify direct marketing.**

The C3 solution is designed to maximize CIF per marketing dollar by improving response rates and delivering quality prospects into the sales funnel.





Advanced Analytics

Flood Hazard Analytics
(June 2018)

Region
(All)

State
(All)

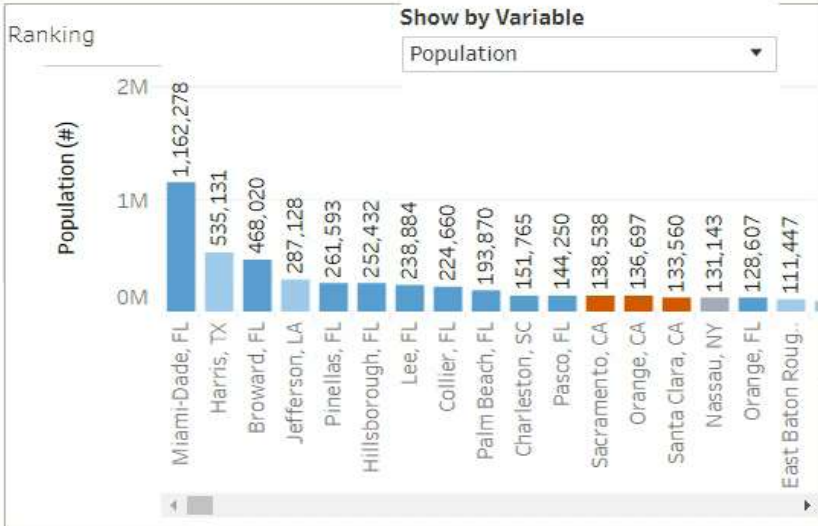
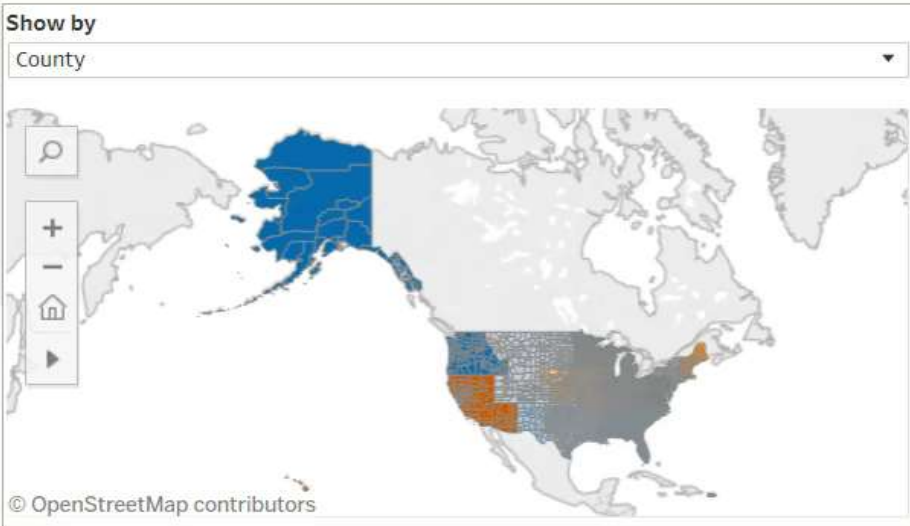
County St
(All)

State District
(All)



Area	3,604,520
Population (2010)	311,014,907
Housing Units (2010)	132,729,092

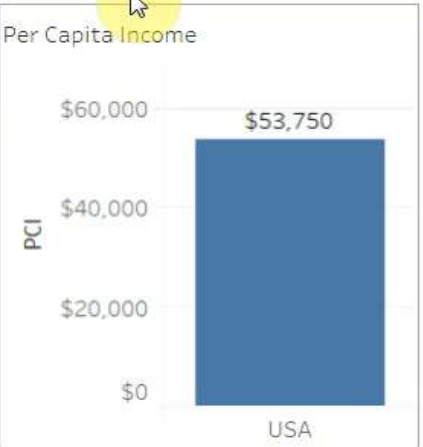
	Coastal Detail	Riverine	
		Approximate	Detail
Area	10,143 sq. mi.	162,991 sq. mi.	86,816 sq. mi.
% Area	0.3%	4.5%	2.4%
Population (2010)	248,369	4,327,788	15,728,688
% Population (2010)	0.1%	1.4%	5.1%
Housing Units	275,667	1,918,248	7,511,942
% Housing Units	0.2%	1.4%	5.7%



Population & Area

Coastal	Detail	10,143 sq. mi.	248,369	275,667
Riverine	Detail	86,816 sq. mi.	15,728,688	7,511,942
	Approximate	162,991 sq. mi.	4,327,788	1,918,248
		200,000 sq. mi.	0 20,000,000	0 10,000,000
		Area	Population (201..	Housing Units

■ Detail ■ Approximate



Levee Analytics

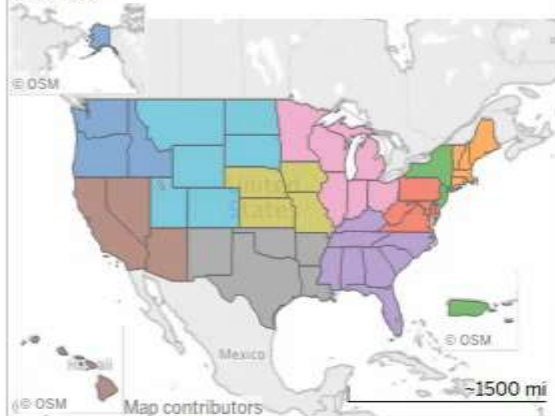
May 2018

Region: (All) County St: (All) HUC8: (All)

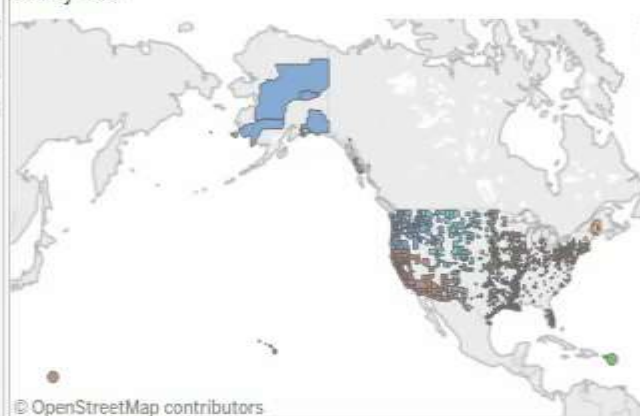
Total Levee Miles: 28,401.19 mi.
Total Number of Levees: 28,951
Number of Counties with Levees: 801

I II III IV V VI VII VIII IX X

State View



County View



Levee

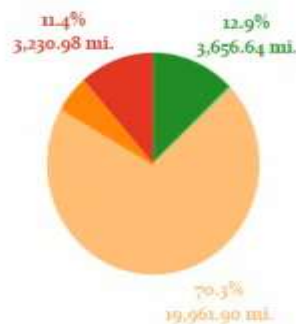


Accredited Currently in PAL Not Accredited To be Accredited To be Not Accredited

Regional/State/County Summary

Region	Accredited	Currently in PAL	Not Accredited	To be Accredited	To be Not Accredited
I	34.46 mi.		24.40 mi.		10.16 mi.
II	0.03 mi.		143.77 mi.	5.06 mi.	85.38 mi.
III	14.37 mi.	0.30 mi.	124.08 mi.	10.42 mi.	66.61 mi.
IV	488.58 mi.	35.89 mi.	1,651.81 mi.	631.35 mi.	67.65 mi.
V	201.05 mi.	11.35 mi.	2,019.84 mi.	111.52 mi.	360.56 mi.
VI	1,856.84 mi.		3,344.84 mi.	427.43 mi.	1,202.17 mi.
VII	704.19 mi.		2,536.72 mi.	66.83 mi.	744.29 mi.
VIII	146.06 mi.		383.10 mi.	4.44 mi.	78.77 mi.
IX	283.25 mi.		8,035.05 mi.	217.11 mi.	489.74 mi.
X	181.94 mi.	8.34 mi.	952.67 mi.	11.94 mi.	191.34 mi.

Levee Miles



Levee Miles in P4 as of FY17Q4

ST	Miles
Grand Total	1,354.42 mi.
AK	47.20 mi.
AR	14.70 mi.
AZ	12.00 mi.
CA	56.00 mi.
HI	9.00 mi.
IA	27.00 mi.
IL	43.00 mi.
KS	175.00 mi.
KY	4.00 mi.
MA	4.83 mi.
MO	180.00 mi.

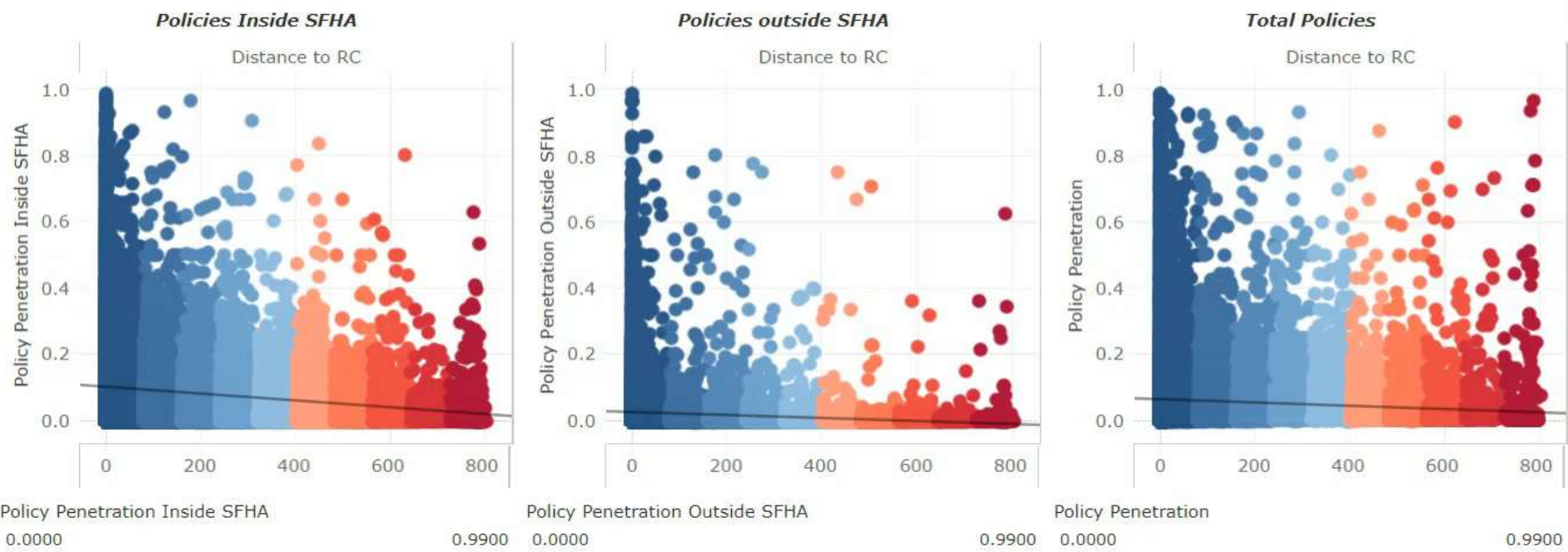
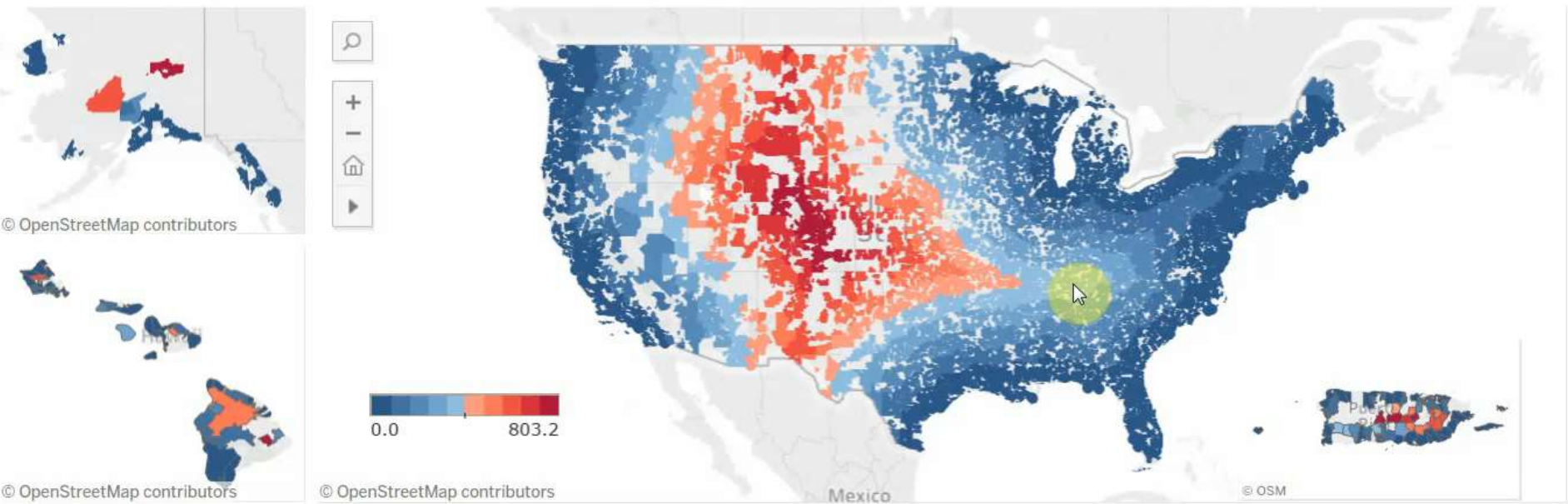
Levee Area Summary

Levee Name	SFHA	Area	Population
Grand Total		68,868.59 sq.mi.	16,075,331
8.5 Square Mile Area L-357W	Has SHFA	2.68 sq.mi.	286
95 Ranch	No SFHA	4.18 sq.mi.	572
	Has SHFA	0.15 sq.mi.	8
	No SFHA	0.05 sq.mi.	3
A-1 Levee Association	Has SHFA	7.31 sq.mi.	27
	No SFHA	0.02 sq.mi.	0
Abbott /	Has SHFA	4.04 sq.mi.	189

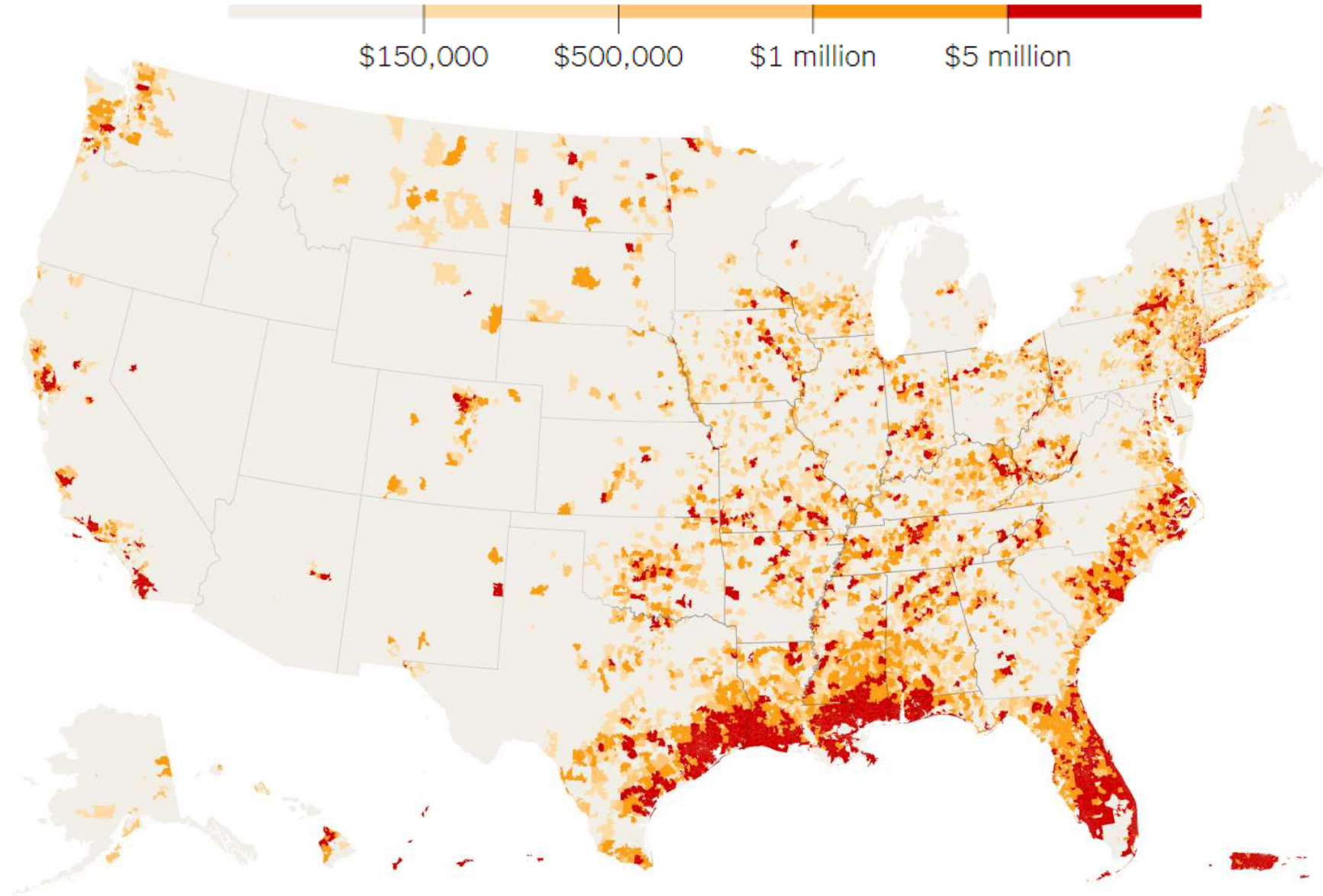
C3 Data Visualization

State
(All) ▼

Show by Variable
Distance to RC ▼



Losses in each ZIP code from major natural disasters, 2002-17



How Big Data Informs Targeting



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Marketing Flood Insurance: A Conceptual Framework

Generally, avoid a “one-size-fits-all” approach. Any marketing intervention should be designed, developed, and executed with the target audience in mind.



WHEN

is the best time to market flood insurance?



WHERE

are the best areas to market flood insurance?



WHAT

are the messages we should communicate?



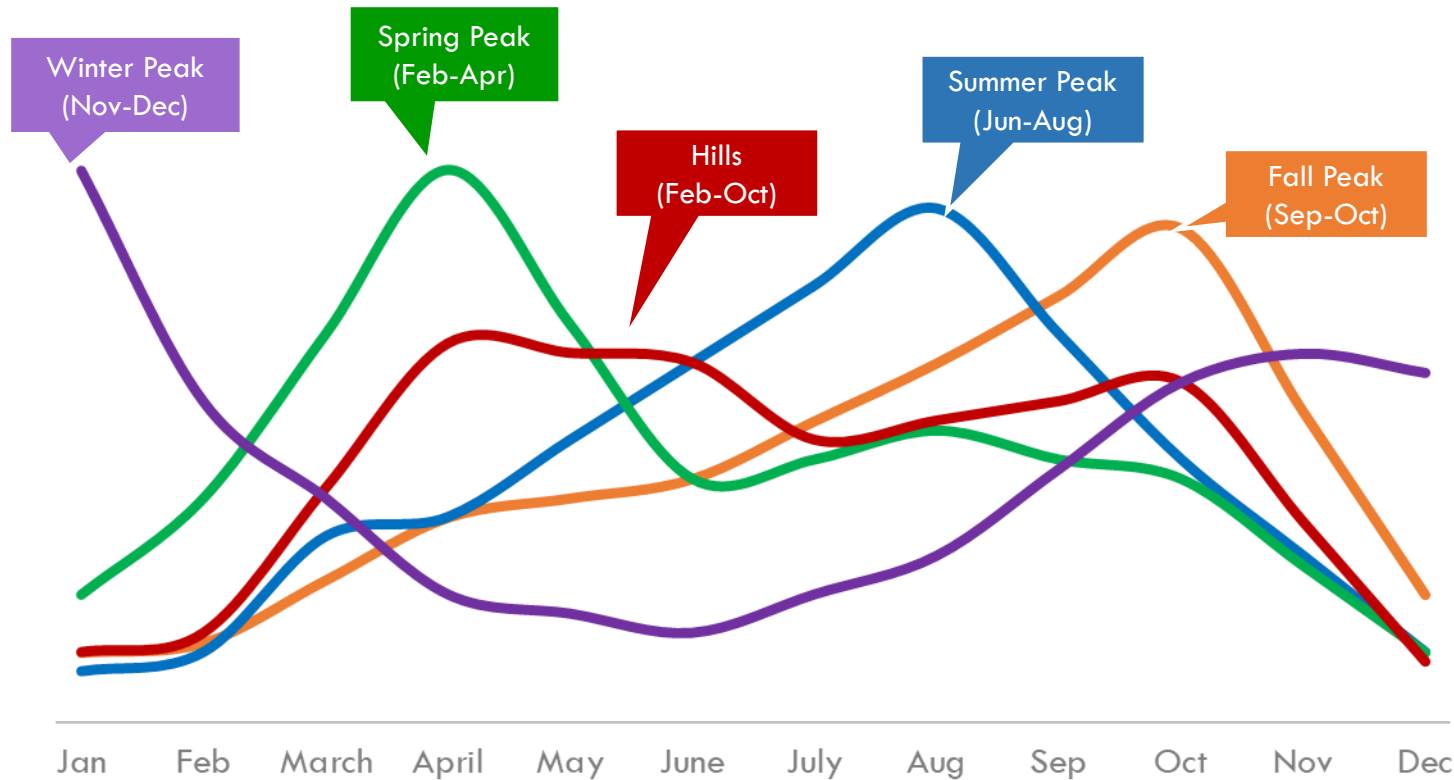
HOW

should we deliver messages using marketing channels?

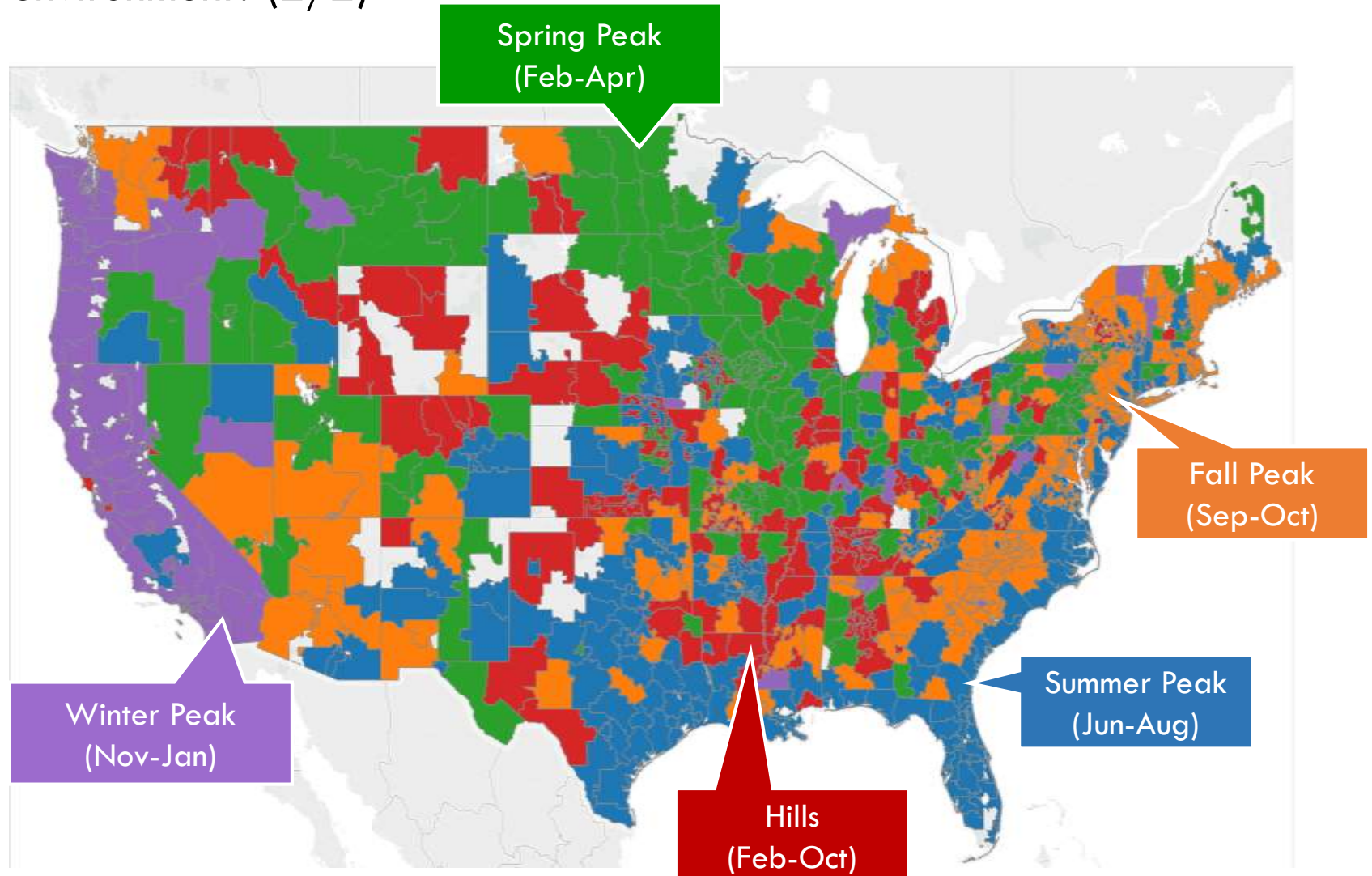
When is the best time to engage customers in a “steady state” environment? (1 / 2)

Demand Curve Clusters by Shape

Standardized CIF Counts at the 3-Digit Zip Code Level



When is the best time to engage customers in a “steady state” environment? (2/2)



Where are the best targets likely to reside? (1 / 2)

Our geo-targeting models use a blend of economic theory and empirical evidence to score areas (e.g., zip codes) based on a range of factors, including:

Heightened Sense of Personal Financial Exposure

- A high degree of homeownership (percent owner-occupied homes)
- A “low” built environment (percent of single-family homes)

Heightened Awareness of Flood Risk

- Seasonality of flood insurance purchases (shape of the demand curve)
- One or more highly visible hazards (distance to coast, rivers, lakes)
- Experienced significant flooding in the past 5-10 years (disaster declarations)

Favorable Affordability Conditions

- A significant share of homes that are likely to qualify for lower-cost policies (share of structures in X zone; CRS discounts)
- A significant share of homeowners who are likely to have the means to afford insurance (COLA-adjusted discretionary income)

Where are the best targets likely to reside? (2/2)

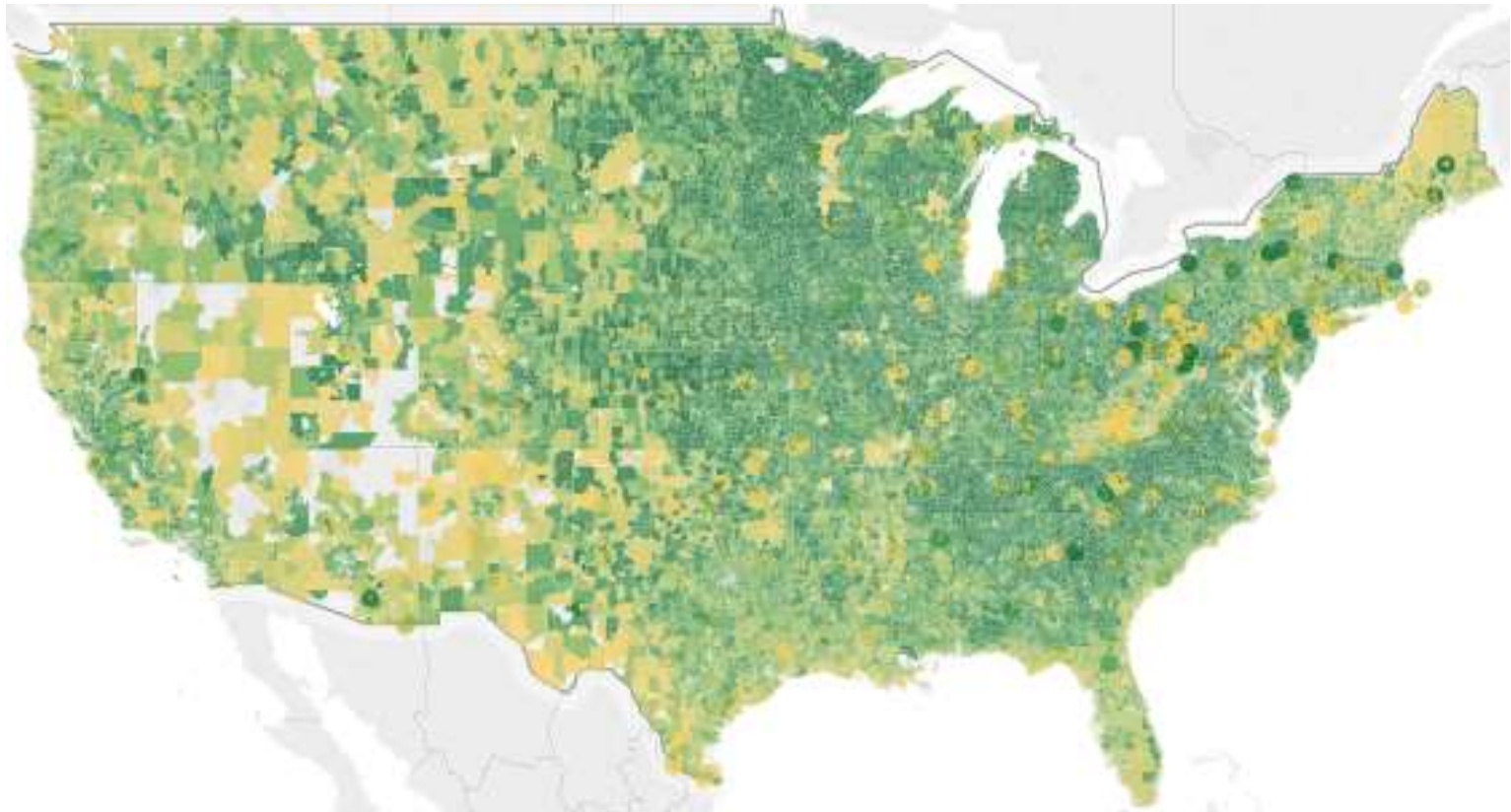
C3 Cost Burden Index by Zip Code

Index = Expected Premium / Discretionary Earnings

Low Cost Burden



High Cost Burden



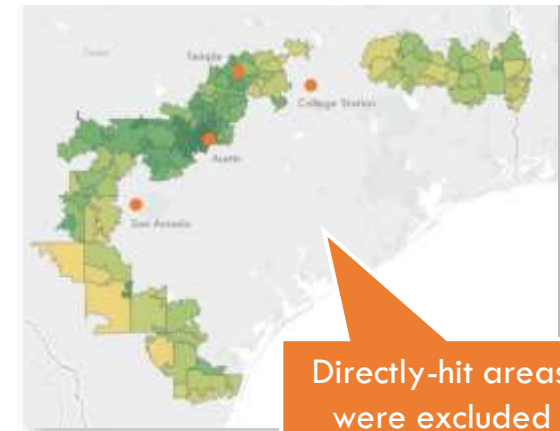
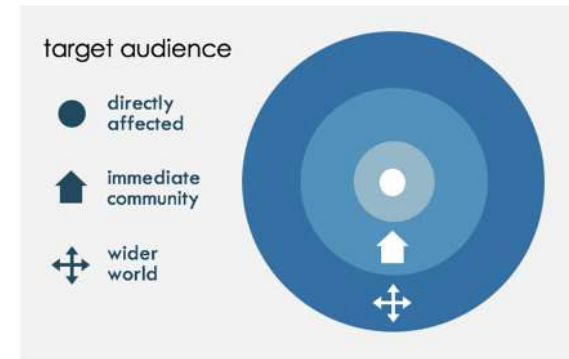
Overview + Audience

For the FY18 Hurricane Season Campaign, we will focus our marketing efforts on “target rich” markets within Harvey and Irma-impacted areas and the wider world.

We will use the results from our 2017 initiatives, along with findings from academic literature, to identify zip codes that should have a high-density of valuable targets.

We will consider data variables including:

- Distance from the Atlantic or Gulf coasts
- Direct experience with Harvey, Irma, or other disasters
- Ability to afford flood insurance, as measured by a ratio of expected premium to discretionary income
- Flood zone (e.g., share of NSFHA households)
- Relative proportion of single-family homes, primary v. secondary homes, homeownership rate, etc.



Directly-hit areas in TX were excluded from FY17 campaign, but will be included in FY18

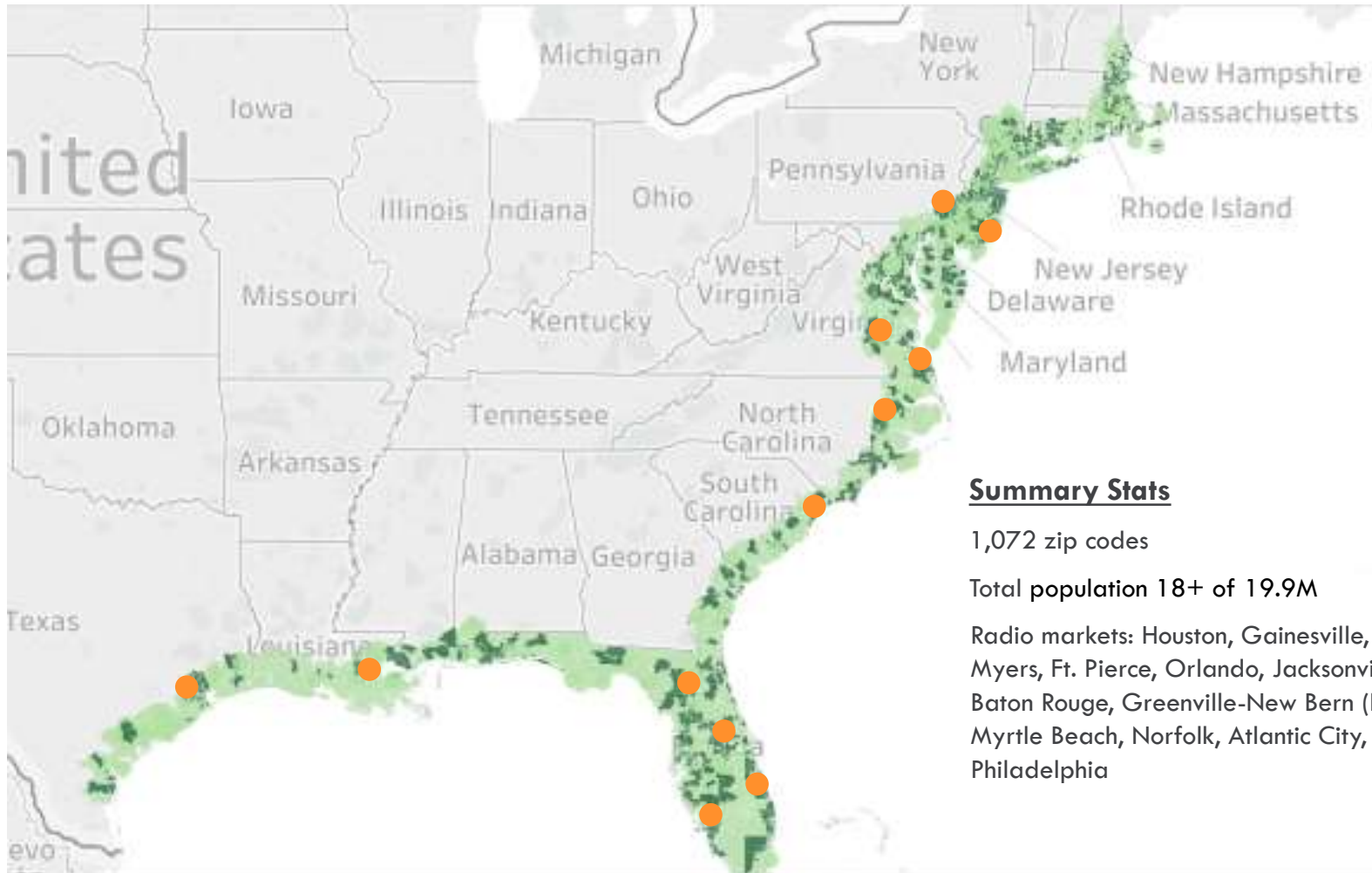
Focus and phases of the C3 Flood Event-Based Strategy



Targeting

KEY

- Considered Area
- Recommended Targets
- Radio Market



Summary Stats

1,072 zip codes

Total population 18+ of 19.9M

Radio markets: Houston, Gainesville, Ft. Myers, Ft. Pierce, Orlando, Jacksonville, Baton Rouge, Greenville-New Bern (NC), Myrtle Beach, Norfolk, Atlantic City, Philadelphia

Overview + Audience

For the FY18 NatGeo Campaign, we will use analyses of historical policy data at the zip code level to identify peak times for policy sales across the country (based on policy effective dates). This strategy will naturally align our campaign messages to those geographies that are primed to receive them based on seasonal drivers of purchasing behavior (e.g., flash flooding from summer rainstorms).

Deliverables + Services:



Geographic targeting, monitoring, and evaluation



Digital display and paid search advertising that drives potential customers to FloodSmart.gov's "Why Buy" content



Radio ads in select markets

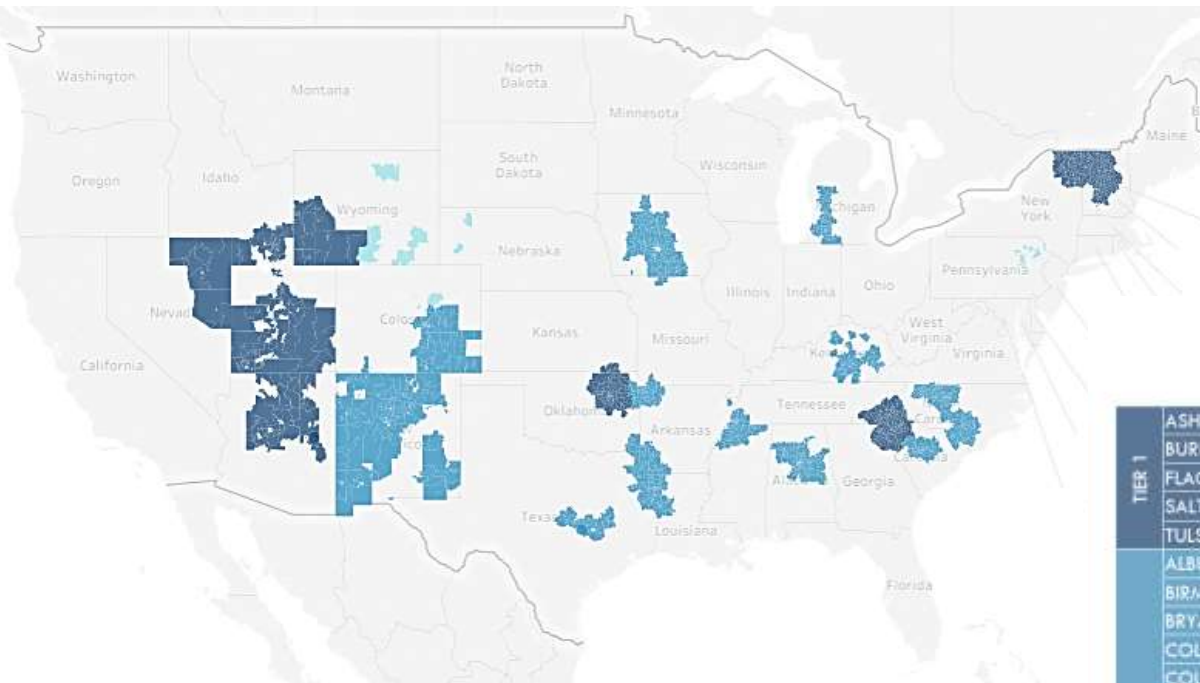


Earned media and infomediary-based outreach to create surround-sound messaging in select markets



Visibility and integration with key NFIP stakeholders + infomediaries, including Regions

Targeting



- Tier 1 – Infomediary + Radio + Digital
- Tier 2 – Radio + Digital
- Tier 3 – Digital Only

CBI Threshold of <0.50
 Digital Target Population: 4.0 million
 Radio Target Population: 16.3 million

	Media Market	Paid Media Channel		Surround-Sound Overlay
		Digital	Radio	Infomediary
TIER 1	ASHEVILLE, NC	✓	✓	✓
	BURLINGTON, VT/PLATTSBURGH, NY	✓	✓	✓
	FLAGSTAFF-PRESCOTT, AZ	✓	✓	✓
	SALT LAKE CITY-OGDEN-PROVO, UT	✓	✓	✓
	TULSA, OK	✓	✓	✓
TIER 2	ALBUQUERQUE, NM	✓	✓	
	BIRMINGHAM, AL	✓	✓	
	BRYAN-COLLEGE STATION, TX	✓	✓	
	COLORADO SPRINGS, CO	✓	✓	
	COLUMBIA, SC	✓	✓	
	DES MOINES, IA	✓	✓	
	FAYETTEVILLE (NORTHWEST ARKANSAS)	✓	✓	
	FAYETTEVILLE, NC	✓	✓	
	GRAND RAPIDS, MI	✓	✓	
	GREENSBORO-WINSTON-SALEM-HIGH POINT, NC	✓	✓	
	KILLEEN-TEMPLE, TX	✓	✓	
	LEXINGTON-FAYETTE, KY	✓	✓	
	MEMPHIS, TN	✓	✓	
	SHREVEPORT, LA	✓	✓	
TIER 3	DENVER-BOULDER, CO	✓		
	WILKES BARRE-SCRANTON, PA	✓		

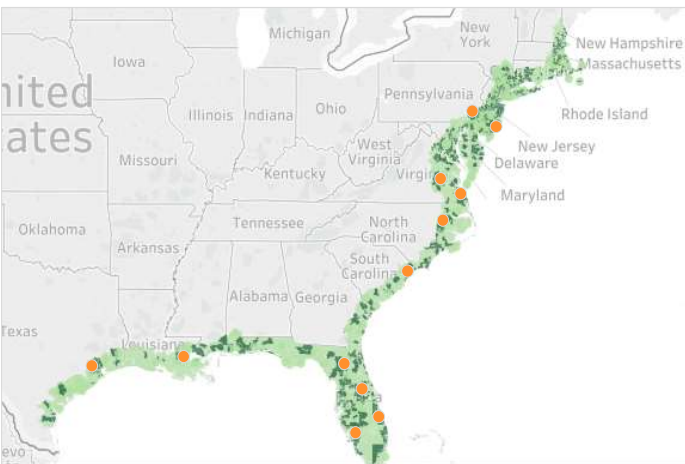
Call to Action- Leverage C3 Learnings and Tools





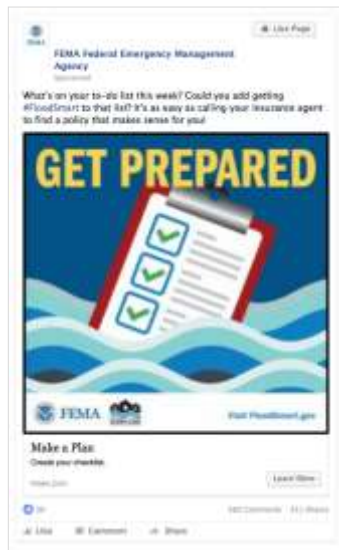
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Hurricane Season + Nat Geo



A	B	C	D	E	F	G
						 
Hurricane Season Campaign 2018 - Digital Target Zip Codes						
Blue: digital and radio ads in market						
White: digital ads only						
#	Zip Code	State	County	DMA Market	Advertising Wave	
1	33496	FL	Palm Beach	WEST PALM BEACH-BOCA RATON	1	
2	2025	MA	Norfolk	BOSTON	2	
3	11937	NY	Suffolk	NASSAU-SUFFOLK (LONG ISLAND)	2	
4	11968	NY	Suffolk	NASSAU-SUFFOLK (LONG ISLAND)	2	
5	2554	MA	Nantucket	BOSTON	2	
6	21662	MD	Talbot	BALTIMORE	1	
7	33434	FL	Palm Beach	WEST PALM BEACH-BOCA RATON	1	
8	33473	FL	Palm Beach	WEST PALM BEACH-BOCA RATON	1	
9	2563	MA	Barnstable	BOSTON	2	
10	2631	MA	Barnstable	BOSTON	2	



<https://www.fema.gov/media-library/assets/documents/165317>



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