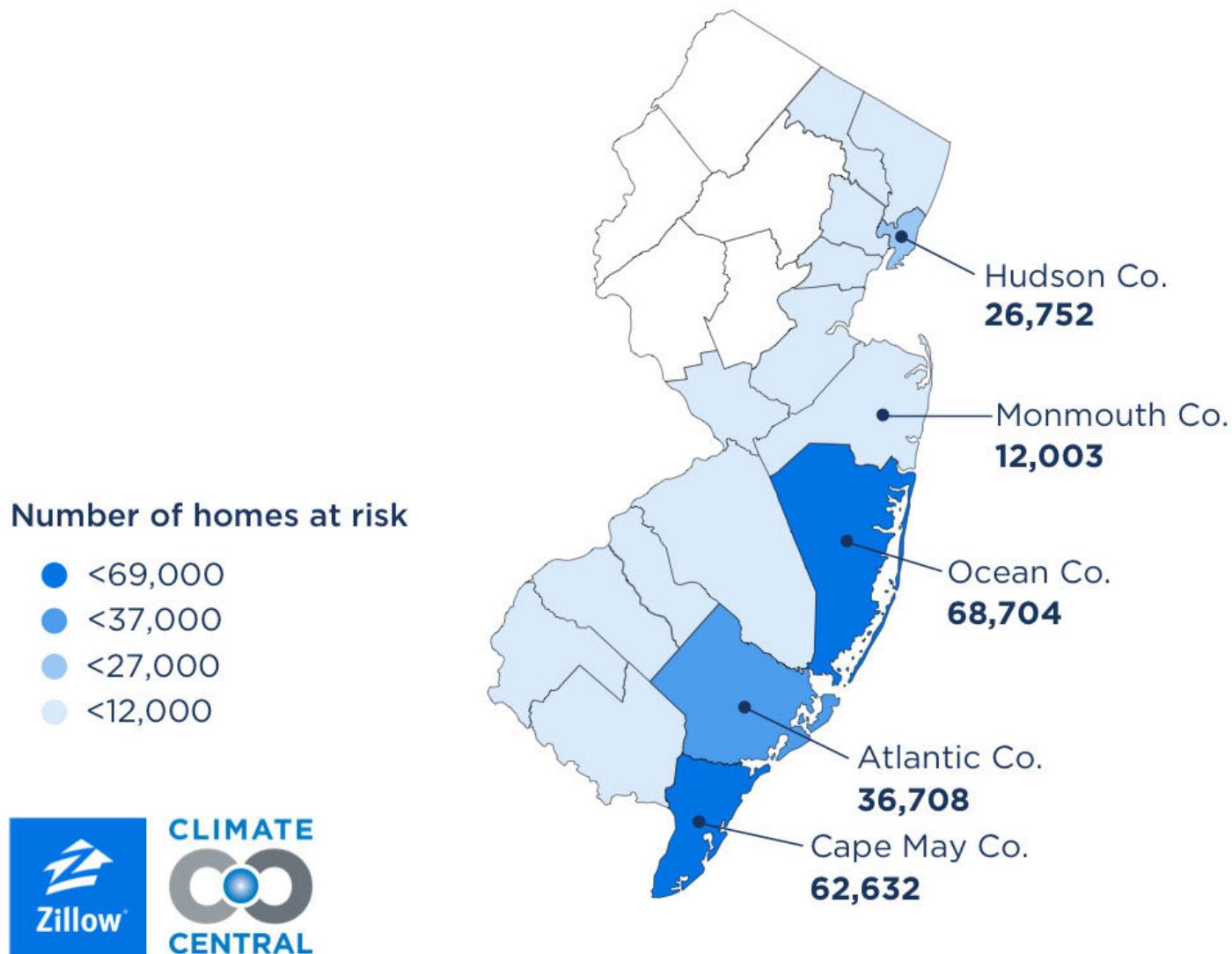# Predicting Flood Risk

Paria Rezaeinia

Data Incubator Final Interview
August 2019

Nearly 400,000 U.S. Homes Will Experience Flooding by 2050

Total homes at risk of yearly coastal flooding by 2100
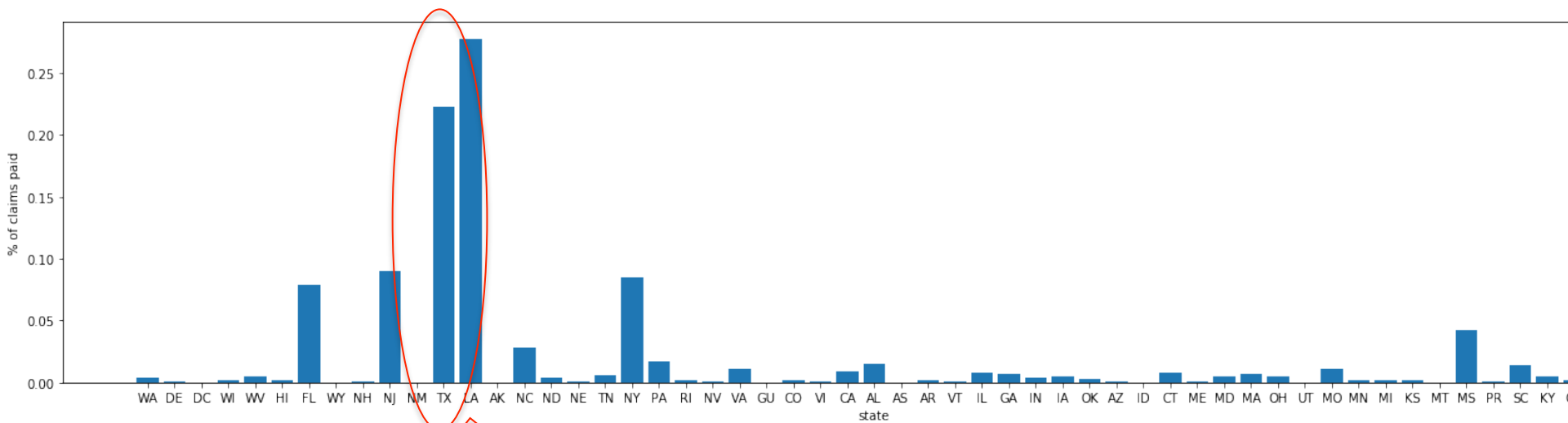
Number of homes at risk in New Jersey counties*

Hudson Co.
26,752

Monmouth Co.
12,003

Ocean Co.
68,704

Atlantic Co.
36,708

Cape May Co.
62,632

Number of homes at risk

● <69,000
● <37,000
● <27,000
● <12,000

Zillow®

CLIMATE CENTRAL

*Housing data are for homes built through 2017
50th percentile (mid-sensitivity) sea-level rise projections based on Kopp et al. 2017 asssuming no cuts in heat-trapping pollution (RCP 8.5).
Source: Elevation data, lidar; administrative boundaries, US Census. Zestimate home values and housing data provided by Zillow.
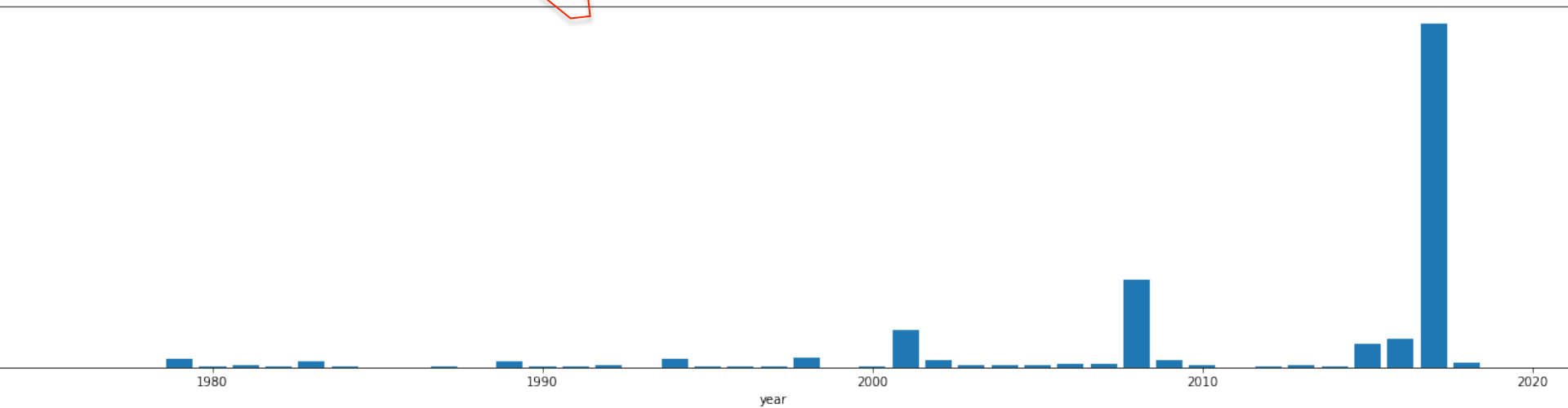
National Flood Insurance Program (NFIP)

- Reduce future flood losses
- Provide insurance protection

- More than 2,000,000 claims since 1970
- Updates every 45-60 days

- 600 MB

basementeno	reportedcity	condominiur	policycount	countycode	crsdiscount	dateofloss	elevatedbuil	elevati
0	OCEANSIDE	N	1	6073	0	2/7/98	N	
0	NEW ORLEAI	N	1	22071	0	8/29/05	N	
0	NAVARRE	N	1	12113	0.05	9/28/98	N	
1	BEAUFORT	N	1	45013	0	10/7/94	N	
0	MELBOURNE	N	1	12009	0	3/11/96	N	
0	VIRGINIA BE/	N	1	51810	0	2/3/98	Y	
0	HOUSTON	N	1	48201	0.1	8/27/17	N	
0	WAIANAE	N	1	15003	0	9/11/92	N	
0	MARATHON	U	1	12087	0.1	9/28/98	N	
0	CARMEL	N	1	6053	0.1	3/11/95	N	
2	NEPTUNE BE	N	1	12111	0.05	10/17/95	N	
1	FORT PIERCE	N	1	12111	0.05	8/18/08	N	
2	PENSACOLA	N	1	12033	0.05	10/5/95	Y	
0	SAVANNAH	N	1	13051	0	6/29/99	N	
0	OCEAN SPRII	N	1	28059	0	8/29/05	N	
0	PALM BEACH	N	1	12099	0	1/11/99	N	
0	TAMPA	N	1	12057	0.05	10/4/95	N	
0	MARY ESTHE	N	1	12091	0	10/4/95	N	
2	ANNAPOLIS	N	1	24003	0	9/6/96	N	
2	ANNAPOLIS	N	1	24003	0	9/18/03	N	
0	MONTGOME	N	1	1101	0	1/30/99	N	
0	MYRTLE BEA	N	1	45051	0.15	6/15/99	Y	
0	PENSACOLA	N	1	12033	0.1	9/16/04	N	
0	ARLINGTON	N	1	48439	0	5/17/89	N	
0	HOUSTON	N	1	48201	0	9/12/08	N	

How to Use the Data?

- Consumer targeting

- Risk assessment and pricing

- Claim management

- Fraud detection

- Automatic underwriting

CITY OF ENCINITAS
060726

SAN DIEGO COUNTY
060284

CITY OF SOLANA BEACH
060725

CITY OF DEL MAR
060288

CITY OF SAN DIEGO
06ST

CITY OF SAN DIEGO
06ST

CITY OF SAN DIEGO
060295

SAN DIEGO COUNTY
060284

CITY OF SAN DIEGO

Lusardi Creek
Los Peñasquitos Creek
Carroll Canyon Creek

Streets

06073C1063 G
eff. 5/16/2012

06073C1065 G
eff. 5/16/2012

06073C1068 G
eff. 5/16/2012

06073C1070 G
eff. 5/16/2012

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eff. 5/16/2012

06073C1326 G
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06073C1332 G
eff. 5/16/2012

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5/16/2012
Not Printed

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eff. 5/16/2012

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eff. 5/16/2012

06073C1342 G
eff. 5/16/2012

06073C1361 G
eff. 5/16/2012

esri