# State of FLOOD INSURANCE

in the US



Carrier Management

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## State of Flood Insurance in the US

The following report takes the first step in defining the private flood insurance market as a benchmark from which future trends, growth and change may be identified. With the passing of a modification to statutory reporting, in 2016, to include private flood as a separate line item, we may now track this line relative to the National Flood Insurance Program (NFIP) and monitor the impact of legislative change on this market.

As private flood insurance is written through many means that are not reported within this statutory line item we recognize that there remains a segment for which we cannot quantify and the figures presented are to provide context and a benchmark based upon the best available data.

On June 16, 2016, the NAIC adopted the modification to Property/Casualty Exhibit of Premiums and Losses (Statutory Page 14) and Insurance Expense Exhibit, Parts II and III of the NAIC Annual Statement Blank which added "Line 2.5 - Private Flood" for writers of the private market coverage.

We applaud this modification in reporting, as it provides us with the tools to commence our own evaluation of the marketplace.

#### THE JUSTIFICATION FOR THE CHANGE:

"Currently, flood coverage that is not part of the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) is included in Line 2.1, Allied Lines. Coverage provided by the NFIP through insurers participating in the NFIP's Write Your Own (WYO) program is reported under Line 2.3, Federal Flood."

"Adding another line of business titled 'Private Flood' to further capture the entire spectrum of flood data will aid state regulators in determining the effect of catastrophic flood events in the U.S. insurance market and the percentage of policies sold through the private market versus those reinsured by the FEMA. This data will also be useful to regulators and policymakers when evaluating proposed changes to the NFIP."

The definition of private flood insurance to be reported: Private market coverage (primary standalone, first dollar policies that cover the flood peril and excess flood) for flood insurance that is not offered through the National Flood Insurance Program. Exclude: Sewer/water backup coverage issued as an endorsement to a homeowner or commercial policy. Crop flood peril coverage appropriately reported on Lines 2.2 and 2.4.

## Flood Insurance Program (NFIP) vs. Private Flood Insurance Carriers

At year end 2016, the admitted property casualty insurance carriers report nearly \$358 million in direct premiums written across the United States. This equates to 9% of the market largely monopolized by NFIP, based upon NFIP direct premiums written as of March, 2017.

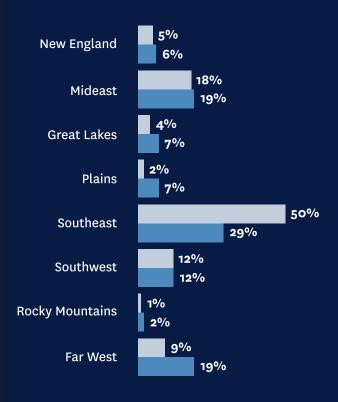
Figures 2 through 4 compare the geographic portfolios of the NFIP and private flood carriers in order to obtain a view of geographic concentration of demand for the NFIP and the strategic geographic concentrations of carriers of private flood insurance. For example, Figure 2 illustrates that 19% of the private market portfolio resides in the Far West, while only 9% of the NFIP portfolio. As we anticipated the private market to parallel NFIP in its geographic focus, our interest was peaked by clear variations, which we deemed worthy of exploration.

We also considered this an opportunity to benchmark market activity in order to monitor shifts based upon the anticipation that state and federal regulations will create greater opportunity for carriers to participate in the flood insurance market in the future.

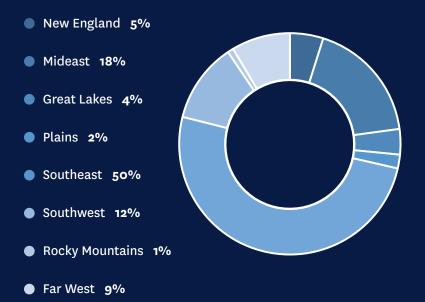
## FIGURE 1: NFIP VS PRIVATE FLOOD DIRECT PREMIUMS WRITTEN



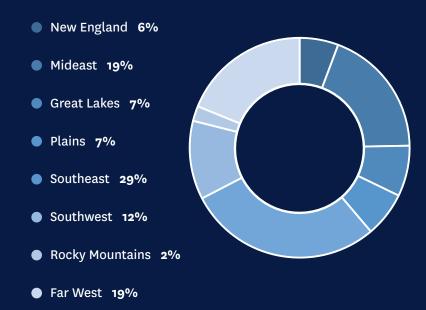
## FIGURE 2: NFIP & PRIVATE FLOOD PERCENTAGE OF BUSINESS BY REGION



#### FIGURE 3: NFIP PREMIUMS 3/17



#### **FIGURE 4: PRIVATE FLOOD DIRECT PREMIUMS WRITTEN 2016**



As Figures 3 and 4 illustrate, regions such as the Far West, the Plains and Great Lakes comprise a greater proportion of the geographic portfolio of the private flood insurance market than the NFIP, while the Southeast, accounting for 50% of the NFIP's coverage, far exceeds that of the private flood portfolio at 29%.

The regional analysis to follow highlights carrier participation, identification of composition of residential and commercial coverage, regional risk and greatest concentrations of policies written, in order to illustrate areas of opportunity in the flood market.

### **Private Flood Insurance Carriers**

As the analysis of the private flood market is limited to direct premiums written in dollars, rather than number of policies, a judgement as to 'major players' and whether residential or commercial carriers are leading the charge into the private flood market remains somewhat ambiguous.

As shown in Figure 5, commercial lines account for nearly \$240 million, or 67% of the private market on a premium dollar basis. However, as indicated by Figure 6, the leading carrier of those policies is FM Group, which specializes in large, global commercial risk. Hence, it is very possible that while on a premium basis, they are the market leader and commercial carriers are at the forefront of private flood insurance, they may be insuring far fewer properties than the residential carriers.

In total, 21 commercial property casualty carriers reported participation in the commercial flood market, of which most fall under the umbrella of those carriers shown in Figure 6.

"Other," representing less than a million in combined premiums written include the Hanover companies, Mitsui Sumitomo Ins. and West Bend Mutual.

## FIGURE 5: PRIVATE FLOOD DIRECT PREMIUMS 2016



- Commercial Flood\$239,618,273
- Residential Flood\$118,315,462

## FIGURE 6: PRIVATE FLOOD INSURANCE COMMERCIAL CARRIERS 2016



- FM Group\$205,605,775
- RSUI Indemnity\$13,074,312
- Allianz\$11,307,954
- Western World Ins.\$6,443,637
- National Fire& Marine Ins.\$2,399,993
- Other \$786,602

Twenty five carriers reported writing private residential flood insurance, predominately falling under the six companies illustrated in Figure 7. AIG accounts for 53% of the business written, half of which is written through AIG Property Casualty. An additional 25% is attributed to AIG's Lexington Insurance, which also markets surplus lines through The Private Market Flood and The Flood Insurance Agency.

Westport Insurance Company represents 85% of Swiss Re's participation in the residential market, the remainder written by First Specialty Ins. AIG, Swiss Re and Chubb report coverage in all states throughout the country through their portfolio of companies.

## FIGURE 7: PRIVATE FLOOD INSURANCE RESIDENTIAL CARRIERS 2016



## Surplus Lines

The National Association of Surplus Lines Offices, Ltd. (NAPSLO) provides a window into the surplus market through extrapolation of figures tracked within a few key states. From those figures, we are able to further segment the flood market as NASLO estimates that surplus lines account for another \$375.7 million in premiums written in 2016. With the addition of the surplus lines, private flood carriers represent an estimated 17% of the market.

The NAPSLO's estimation is derived from the \$205.6 million written in the states illustrated in Figure 9. These states, representing \$205.6 million in surplus flood written, address commercial (48%) and residential (20%) needs with an additional 20% uncategorized in New York.

NAPSLO has identified the largest surplus lines participants in the marketplace to be Lloyds, Lexington Insurance and Western World Insurance.

## FIGURE 8: ESTIMATE OF FLOOD MARKET INCLUDING SURPLUS LINES



- NFIP Premiums 3/17\$3,541,061,616
- Surplus Lines 2016\$375,700,000
- Private Flood Direct Premiums 2016\$357,933,735

## FIGURE 9: REPORTED SURPLUS LINES PREMIUMS WRITTEN 2016



- FL \$83,785,736
- NY \$40,846,257
- CA \$26,053,616
- TX \$19,132,936
- UT \$18,800,000
- PA \$9,882,668
- WA \$3,313,420
- IL \$1,957,630
- MS \$1,820,221

## Regional View

The following section provides a geographic breakdown of admitted carrier participation in the private flood market. The data is clustered by region as follows:

Eastern	New England - CT, ME, MA, NH, RI, VT
Region	Mideast - DE, DC, MD, NJ, NY, PA, VA
Southern Region	Southeast - AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, WV
Midwest	Great Lakes - IL, IN, MI, OH, WI
Region	Plains - IA, KS, MN, MO, NE, ND, SD
Western Region	Southwest - AZ, NM, OK, TX Rocky Mountains - CO, ID, MT, UT, WY Far West - AK, CA, HI, NV, OR, WA

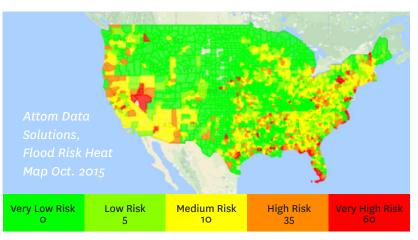
Top carrier data is accompanied by a flood index graph of each state to provide relative market/risk within each region.

Flood risk data is provided by ATTOM Data Solutions and contains all counties within states where sufficient sales data has been obtained in order to accurately reflect 'average estimated values.' The expected correlation exists between elevated risk, home values above \$250,000 and participation by admitted carriers in the states of CT, MA, NJ, NY, CA and TX.

We find an exception to this in the southern states of NC, SC, LA and KY where private carrier participation occurs in a region characterized by property values generally below \$300,000, in higher risk areas.

The following section also provides insights into states where the number of residential houses in high risk zones exceeds the number of policies written by the NFIP, providing another insight into private market opportunity and current participation. We can only conclude that these homes are currently insured privately, force placed or uninsured - and potentially underserved.

With exception to NY, FL and SC markets, private commercial coverage exceed private residential coverage in all states by admitted carriers.



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## New England CT, MA, ME, NH, RI, VT

The New England region is the third smallest flood insurance market, with just over 140,000 policies written by the NFIP at year end 2016. For perspective of relative flood risk and market size, the total insurance in force in this region is less than in the state of North Carolina.

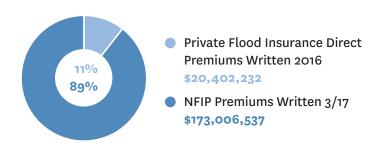
The concentration of NFIP insurance is sold in the states of Massachusetts and Connecticut, 46% and 28%, respectively. The private market activity is most significant in these states, which have characteristically higher valued homes along the moderate to high risk index.

In New Hampshire and Vermont, there remain a combined 1,200 homes in high risk zones that are not covered by the NFIP as of year end 2016. Though these states generally exhibit a moderate flood risk portfolio, these particular homes fall within the high risk zones.

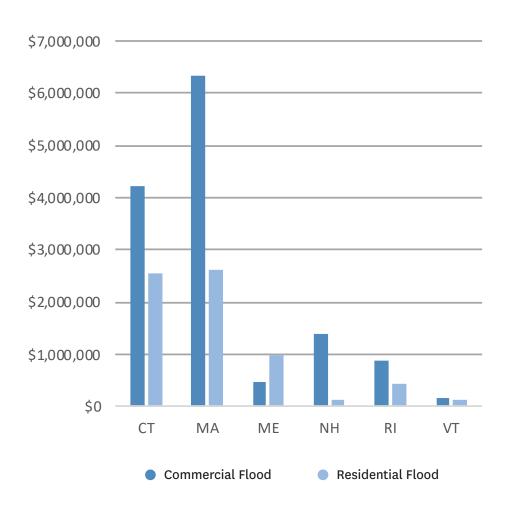
Homes not covered by the NFIP are concentrated in New Hampshire's Carroll County, home to water front properties along Lake Winnipesaukee, and Vermont's Washington County, with the cross section of the Winsooski and Mad Rivers. Each of these states has relatively low participation from private carriers.

## New England CT, MA, ME, NH, RI, VT





#### FIGURE 11: NEW ENGLAND PRIVATE FLOOD DIRECT PREMIUMS 2016



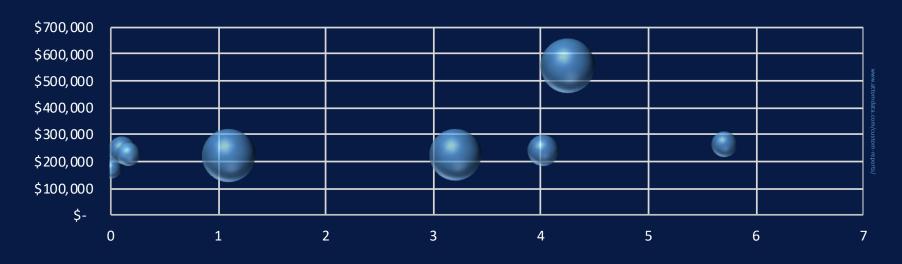
## New England CT, MA, ME, NH, RI, VT

Commercial Flood Pren	niums Written	Residential Flood Premit	ıms Written
FM Group	\$12,420,016	AIG Property Casualty Company	\$3,463,479
Allianz Global Risks Us Insurance Company	\$467,104	Westport Insurance Corporation	\$1,471,211
Landmark American Insurance Company	\$258,850	Federal Insurance Company	\$1,059,625
Rsui Indemnity Company	\$146,700	American Modern Home Insurance Company	\$430,496
National Fire & Marine Insurance Company	\$110,675	Lexington Insurance Company	\$330,966
Citizens Insurance Company of America	\$79,633	First Specialty Insurance Corporation	\$63,939
Massachusetts Bay Insurance Company	\$11,829	Commerce And Industry Insurance Company	\$60,495
Allianz Underwriters Insurance Company	\$3,816	AIG Specialty Insurance Company	\$11,853
The Hanover Insurance Company	\$2,660	Cincinnati Insurance Company	\$2,550
The Hanover American Insurance Company	\$2,371	American Western Home Insurance Company	\$1,782
Mitsui Sumitomo Insurance Usa Inc.	\$500	Voyager Indemnity Insurance Company	\$1,682



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,402,785
AIG Property Casualty Co.(Res.)	\$1,478,239
FM Global (Com.)	\$350,295
Federal Ins. Co Chubb (Res.)	\$327,790
Westport Ins. Corp. (Res.)	\$322,666

#### FIGURE 12: CONNECTICUT PROPERTY VALUE / FLOOD RISK INDEX

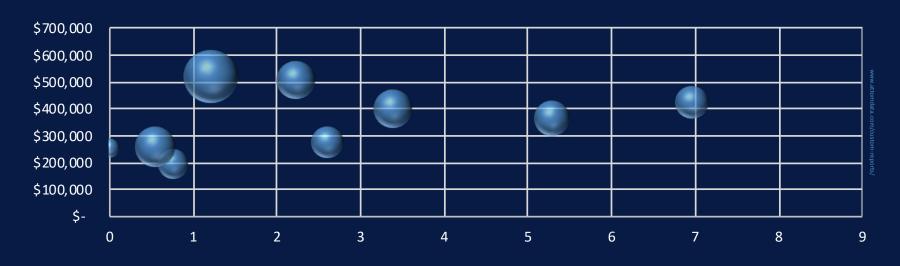


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,741,611
FM Global (Com.)	\$2,197,295
AIG Property Casualty Co.(Res.)	\$1,414,359
Federal Ins. Co Chubb (Res.)	\$635,847
Westport Ins. Corp. (Res.)	\$329,727

#### FIGURE 13: MASSACHUSETTS PROPERTY VALUE / FLOOD RISK INDEX

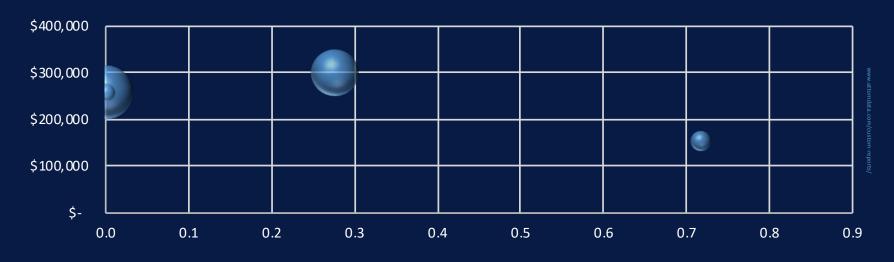


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Top 5 Admitted Carriers	Premiums Written
Westport Ins. Corp. (Res.)	\$742,501
Factory Mutual Ins. Co FM Global (Com.)	\$308,317
AIG Property Casualty Co.(Res.)	\$107,726
FM Global (Com.)	\$107,024
Commerce And Industry Ins. Co AIG (Res)	\$60,495

#### FIGURE 14: MAINE PROPERTY VALUE / FLOOD RISK INDEX

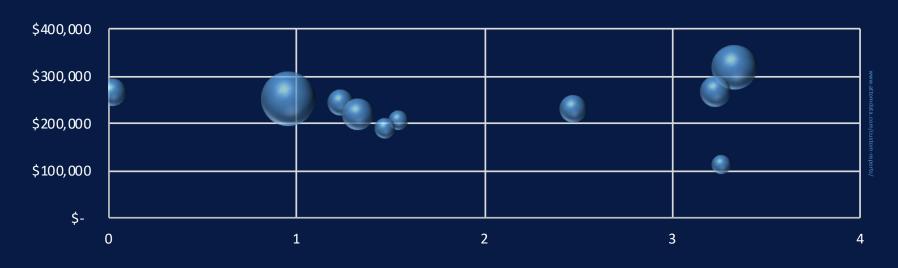


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Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$1,197,409
FM Global (Com.)	\$160,685
AIG Property Casualty Co.(Res.)	\$50,502
Westport Ins. Corp. (Res.)	\$38,304
Citizens Ins. of America - Hanover (Com.)	\$34,286

#### FIGURE 15: NEW HAMPSHIRE PROPERTY VALUE / FLOOD RISK INDEX

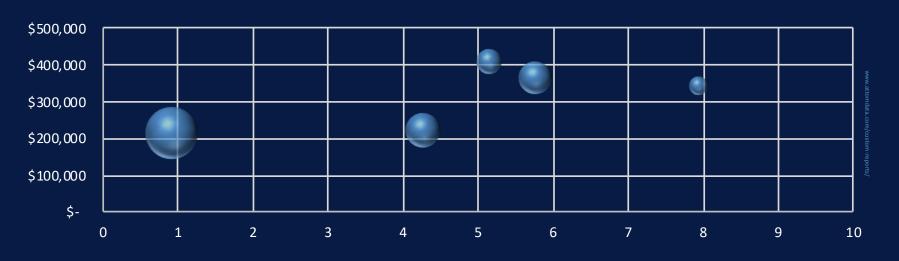


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Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$736,763
AIG Property Casualty Co.(Res.)	\$335,113
FM Global (Com.)	\$66,944
Lexington Ins. Company-AIG (Res.)	\$45,911
Federal Ins. Co Chubb (Res.)	\$33,067

#### FIGURE 16: RHODE ISLAND PROPERTY VALUE / FLOOD RISK INDEX

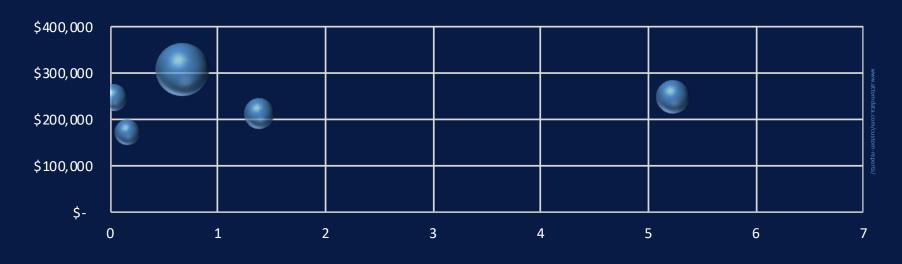


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Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$133,516
AIG Property Casualty Co.(Res.)	\$77,540
American Modern Home Ins. Co Munich Re (Res.)	\$32,138
Federal Ins. Co Chubb (Res.)	\$19,522
FM Global (Com.)	\$17,372

#### FIGURE 17: VERMONT PROPERTY VALUE / FLOOD RISK INDEX



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## Mideast DE, DC, MD, NJ, NY, PA, VA

This region represents the 3rd largest flood market with 576,951 policies written, at year end 2016, by the NFIP. The states of New Jersey and New York represent the largest markets accounting for 40% and 32%, respectively. As the New Jersey and New York graphics illustrate, much of the real estate market exceeds the \$250,000 coverage available through the NFIP.

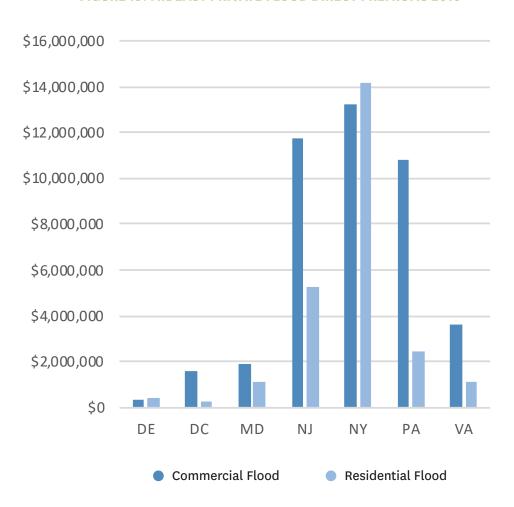
Estimates for private flood of \$40 million in surplus lines and \$27 million in private flood represent approximately 24% of the New York flood insurance premiums written at year end 2016.

## Mideast DE, DC, MD, NJ, NY, PA, VA

## FIGURE 18: MIDEAST NFIP VS PRIVATE FLOOD DIRECT PREMIUMS WRITTEN



#### **FIGURE 19: MIDEAST PRIVATE FLOOD DIRECT PREMIUMS 2016**



## Mideast DE, DC, MD, NJ, NY, PA, VA

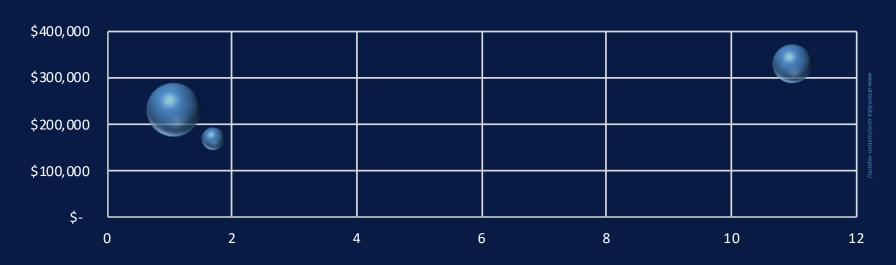
Commercial Flood	Premiums Written
FM Group	\$35,747,819
Landmark American Insurance Compa	ny \$2,503,612
Rsui Indemnity Company	\$2,135,247
Allianz Global Risks Us Insurance Comp	pany \$1,825,090
National Fire & Marine Insurance Comp	pany \$643,994
Massachusetts Bay Insurance Company	\$138,450
Western World Insurance Company	\$79,313
Mitsui Sumitomo Insurance Company of	America \$56,510
Citizens Insurance Company of Americ	a \$49,892
Allianz Underwriters Insurance Compa	ny \$49,004
Fireman'S Fund Insurance Company	\$40,809
National Surety Corporation	\$34,448
The Hanover American Insurance Com	pany \$7,193
The Hanover Insurance Company	\$4,909
The American Insurance Company	\$906
Mitsui Sumitomo Insurance Usa Inc.	\$101

Residential Flood	Premiums Written	
AIG Property Casualty Company	\$10,794,463	
Westport Insurance Corporation	\$6,209,681	
Federal Insurance Company	\$3,125,772	
Lexington Insurance Company	\$2,317,784	
American Modern Home Insurance Cor	mpany \$1,234,545	
First Specialty Insurance Corporation	\$653,016	
AIG Specialty Insurance Company	\$253,549	
Voyager Indemnity Insurance Company	\$73,972	
Cincinnati Insurance Company	\$43,617	
Commerce And Industry Insurance Cor	npany \$12,772	
Germantown Insurance Company	\$2,200	
American Western Home Insurance Con	mpany \$1,625	
Philadelphia Contributionship Insurance Company \$992		



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$246,881
AIG Property Casualty Co.(Res.)	\$157,843
AIG Specialty Ins. Co.(Res.)	\$146,227
Federal Ins. Co Chubb (Res.)	\$77,641
FM Global (Com.)	\$42,662

#### FIGURE 20: DELAWARE PROPERTY VALUE / FLOOD RISK INDEX

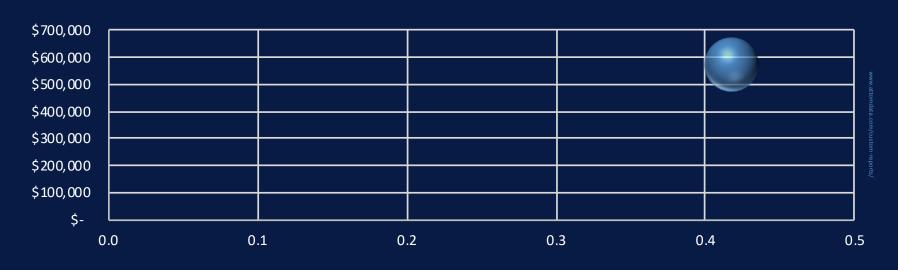


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$1,137,608
FM Global (Com.)	\$380,245
Federal Ins. Co Chubb (Res.)	\$82,942
Landmark American Ins. Co RSUI (Com.)	\$80,204
Westport Ins. Corp. (Res.)	\$69,598

#### FIGURE 21: DISTRICT OF COLUMBIA PROPERTY VALUE / FLOOD RISK INDEX

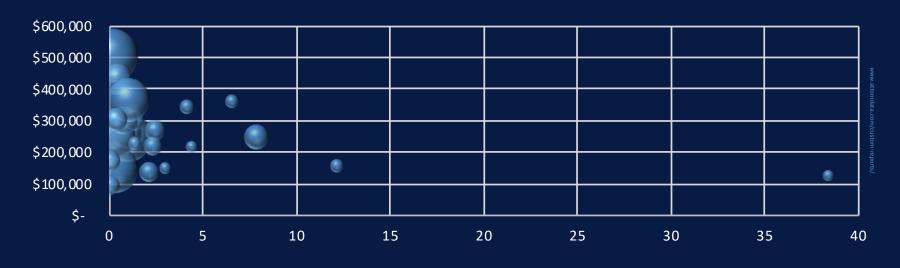


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Top 5 Admitted Carriers	Premiums Written
FM Global (Com.)	\$809,697
Factory Mutual Ins. Co FM Global (Com.)	\$638,424
AIG Property Casualty Co.(Res.)	\$296,989
Westport Ins. Corp. (Res.)	\$292,233
Federal Ins. Co Chubb (Res.)	\$271,859

#### FIGURE 22: MARYLAND PROPERTY VALUE / FLOOD RISK INDEX

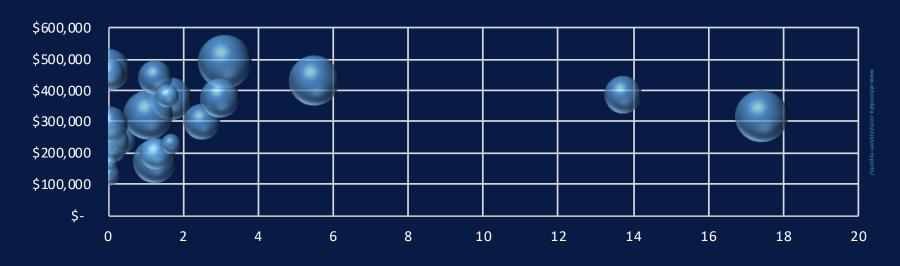


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Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$8,070,940
FM Global (Com.)	\$2,256,422
AIG Property Casualty Co.(Res.)	\$1,647,830
Westport Ins. Corp. (Res.)	\$1,363,623
Lexington Ins. Company-AIG (Res.)	\$1,199,281

#### FIGURE 23: NEW JERSEY PROPERTY VALUE / FLOOD RISK INDEX

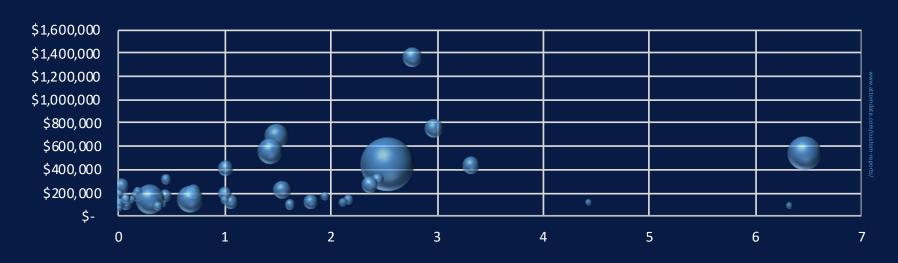


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Top 5 Admitted Carriers	Premiums Written
AIG Property Casualty Co.(Res.)	\$8,198,109
Factory Mutual Ins. Co FM Global (Com.)	\$6,085,135
FM Global (Com.)	\$2,791,772
Westport Ins. Corp. (Res.)	\$2,360,556
Federal Ins. Co Chubb (Res.)	\$1,888,660

#### FIGURE 24: NEW YORK PROPERTY VALUE / FLOOD RISK INDEX

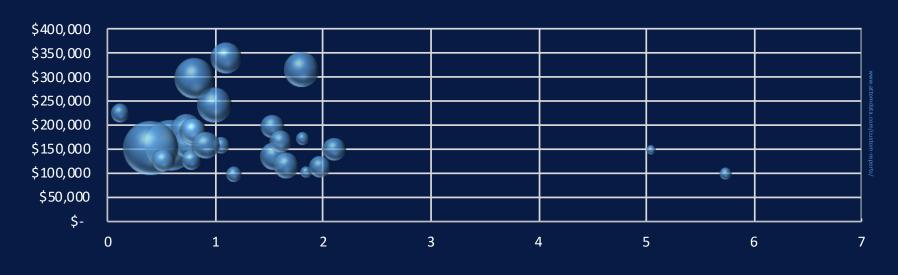


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Top 5 Admitted Carriers	Premiums Written
Factory Mutual Insurance Co FM Global (Com.)	\$9,128,580
Westport Insurance Corporation (Res.)	\$1,728,733
FM Global (Comm.)	\$916,705
American Modern Home Insurance Co Munich Re (Re	s.) \$432,978
RSUI Idemnity Company (Commercial)	\$255,288

#### FIGURE 25: PENNSYLVANIA PROPERTY VALUE / FLOOD RISK INDEX

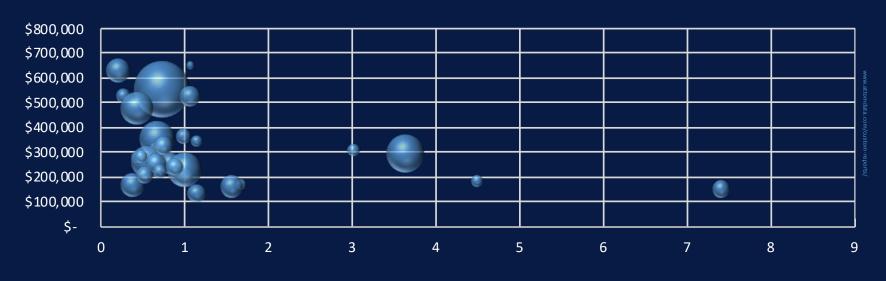


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Top 5 Admitted Carriers	Premiums Written
Factory Mutual Insurance Co FM Global (Com.)	\$2,898,451
Aig Property Casualty Company (Res.)	\$381,373
Westport Insurance Corporation (Res.)	\$369,748
FM Global (Com.)	\$344,297
American Modern Home Insurance Co Munich Re (Re	s.) \$181,863

#### FIGURE 26: VIRGINIA PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

## Southeast AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, WV

The southern region is the largest flood insurance market, with nearly 3 million policies written by the NFIP at year end 2016. Floridian properties account for 60% of the policies, with the greatest participation from private carriers of any state, though still only 12% of the market.

Arkansas has in excess of 6,800 homes in high risk areas not covered by NFIP. The most significant concentration of these homes fall within Pulaski County, home to Little Rock, the Arkansas River and numerous lakes.

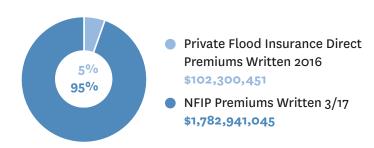
Further, an estimated 35,000 homes in the state of Georgia are not covered by the NFIP. Though these are disbursed across the state, two noted concentrations include the coastal county of Glynn offering 4,000 residences and Dougherty county, with the city of Albany situated along the Flint River, offering 3,000 homes not covered by NFIP.

Based upon our review, the state of Tennessee has in excess of 32,000 homes located in high risk areas that are not covered by the NFIP. These homes are not concentrated in any one county. Rather, it appears most counties are underserved and based upon the graphic are of lower market value.

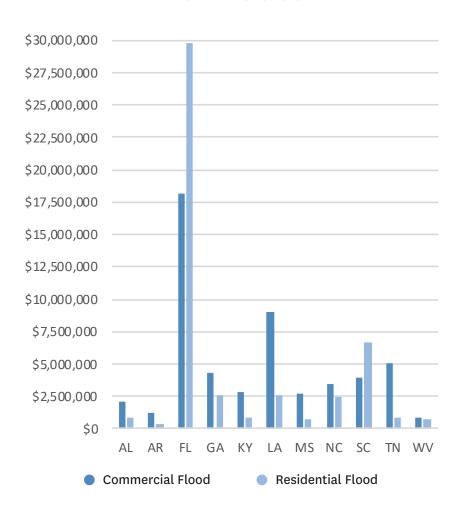
West Virginia's at risk homes exceed the NFIP coverage by more than 12,000 homes with a concentration of 5,000 homes in Kanawha county, which includes Charleston and the Kanawha Rivers. Ohio county offers another 1,200 homes along the Ohio river.

## Southeast AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, WV

## FIGURE 27: SOUTHEAST NFIP VS PRIVATE FLOOD DIRECT PREMIUMS WRITTEN



## FIGURE 28: SOUTHEAST PRIVATE FLOOD DIRECT PREMIUMS 2016



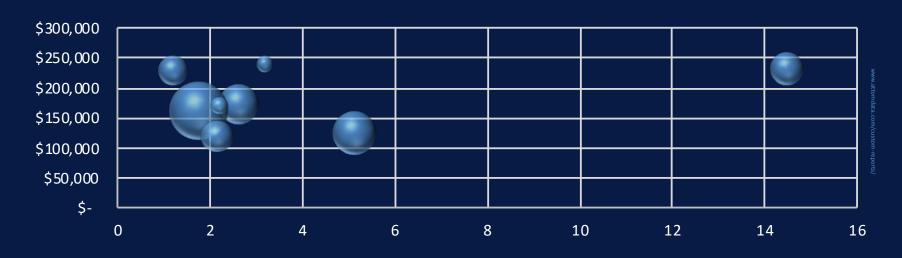
## Southeast AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, WV

Commercial Flood Pres	niums Written	Residential Flood Premi	ums Written
FM Group	\$43,956,860	Lexington Insurance Company	\$12,547,000
Landmark American Insurance Company	\$3,209,643	American Home Assurance Company	\$12,078,821
Western World Insurance Company	\$3,010,172	Westport Insurance Corporation	\$7,614,427
Allianz Global Risks Us Insurance Company	\$2,144,159	AIG Property Casualty Company	\$5,564,802
Rsui Indemnity Company	\$934,119	Federal Insurance Company	\$3,710,751
National Fire & Marine Insurance Company	\$332,585	First Specialty Insurance Corporation	\$1,441,791
Mitsui Sumitomo Insurance Company of Am	erica \$45,284	Voyager Indemnity Insurance Company	\$1,416,468
Allianz Underwriters Insurance Company	\$44,111	American Modern Home Insurance Company	\$1,295,177
Massachusetts Bay Insurance Company	\$12,163	American Strategic Insurance Corp	\$1,130,057
Fireman's Fund Insurance Company	\$8,000	American Western Home Insurance Company	\$935,780
The Hanover American Insurance Company	y \$6,987	American Southern Home Insurance Company	\$366,790
National Surety Corporation	\$4,817	AIG Specialty Insurance Company	\$211,458
Mitsui Sumitomo Insurance Usa Inc.	\$1,155	Asi Preferred Insurance Corp	\$175,360
The Hanover Insurance Company	\$593	Asi Lloyds	\$63,278
Citizens Insurance Company of America	\$492	Cincinnati Insurance Company	\$14,336
		Centauri Specialty Insurance Company	\$13,013
		Asi Assurance Corp	\$10,002



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$932,762
FM Global (Com.)	\$380,493
RSUI Idemnity Co.(Com.)	\$335,132
Lexington Ins. Company-AIG (Res.)	\$293,983
Westport Ins. Corp. (Res.)	\$274,356

#### FIGURE 29: ALABAMA PROPERTY VALUE / FLOOD RISK INDEX

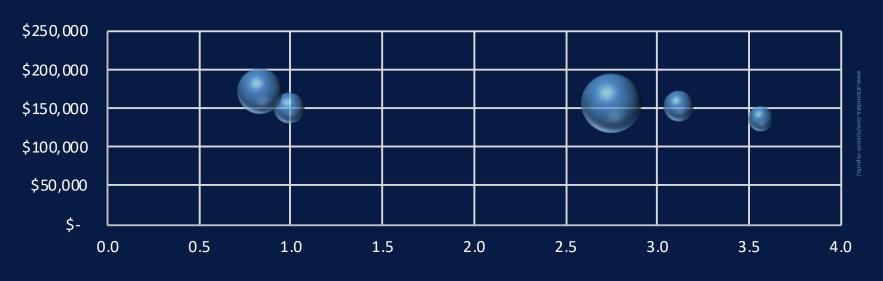


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$937,808
FM Global (Com.)	\$243,506
Westport Ins. Corp. (Res.)	\$223,632
American Modern Home Ins. Co Munich Re (Res.)	\$38,573
National Fire & Marine Ins. Co Berkshire Hathaway (Co	om.) \$33,716

#### FIGURE 30: ARKANSAS PROPERTY VALUE / FLOOD RISK INDEX

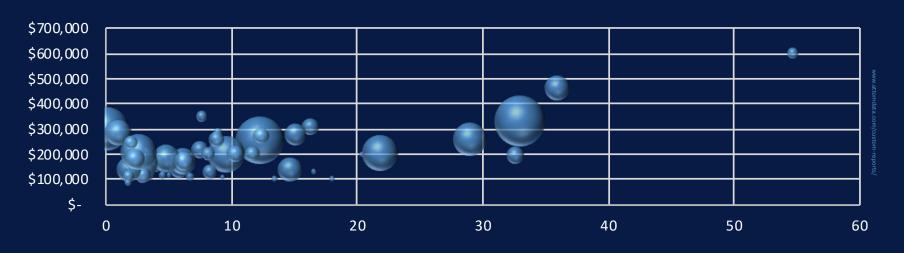


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
American Home Assurance Co AIG (Res.)	\$12,078,821
Factory Mutual Ins. Co FM Global (Com.)	\$11,480,957
Lexington Ins. Company-AIG (Res.)	\$7,191,285
Westport Ins. Corp. (Res.)	\$2,930,495
Western World Ins. Co.(Com.)	\$2,500,825

#### FIGURE 31: FLORIDA PROPERTY VALUE / FLOOD RISK INDEX

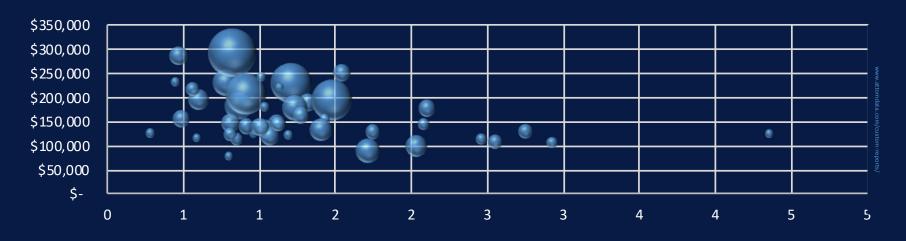


HOW TO READ THESE GRAPHS // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,092,642
Westport Ins. Corp. (Res.)	\$736,948
AIG Property Casualty Co.(Res.)	\$725,550
Lexington Ins. Company-AIG (Res.)	\$621,548
FM Global (Com.)	\$479,651

#### FIGURE 32: GEORGIA PROPERTY VALUE / FLOOD RISK INDEX

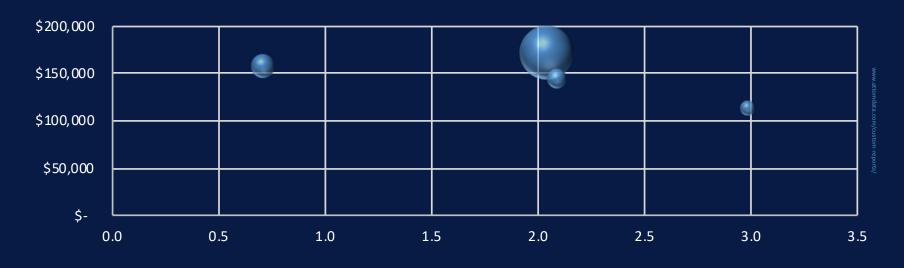


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$2,375,018
American Modern Home Ins. Co Munich Re (Res.)	\$358,639
Westport Ins. Corp. (Res.)	\$344,655
FM Global (Com.)	\$250,631
AIG Property Casualty Co.(Res.)	\$53,014

#### FIGURE 33: KENTUCKY PROPERTY VALUE / FLOOD RISK INDEX

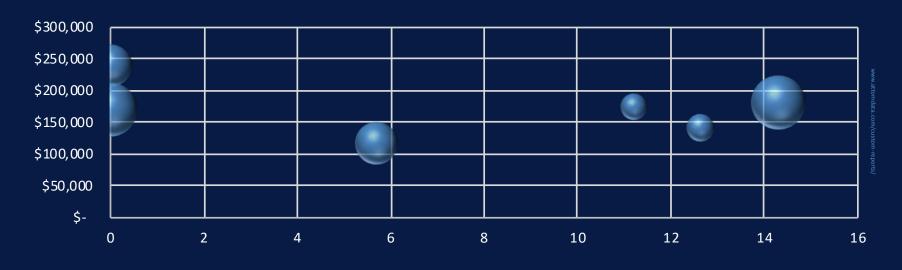


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$6,831,874
Westport Ins. Corp. (Res.)	\$1,198,460
FM Global (Com.)	\$1,096,442
Western World Ins. Co.(Com.)	\$509,347
AIG Property Casualty Co.(Res.)	\$435,093

#### FIGURE 34: LOUISIANA PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



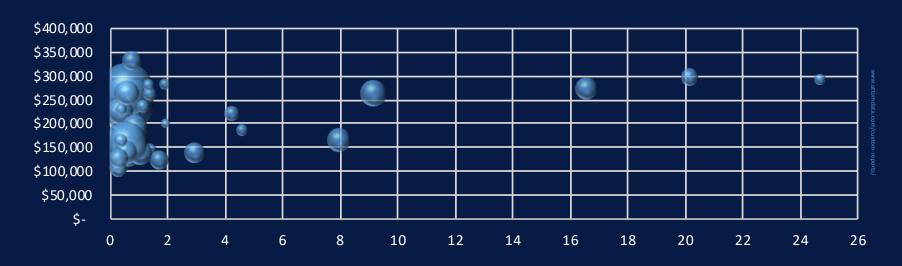
Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$2,269,808
FM Global (Com.)	\$344,063
Westport Ins. Corp. (Res.)	\$324,269
Lexington Ins. Company-AIG (Res.)	\$224,951
American Modern Home Ins. Co Munich Re (Res.)	\$128,376

Insufficient county data was available at the date of this report to create a meaningful graphical depiction.



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$2,313,041
Lexington Ins. Company-AIG (Res.)	\$743,727
AIG Property Casualty Co.(Res.)	\$510,670
FM Global (Com.)	\$496,359
American Western Home Ins. Co Munich Re (Res.)	\$394,097

#### FIGURE 35: NORTH CAROLINA PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

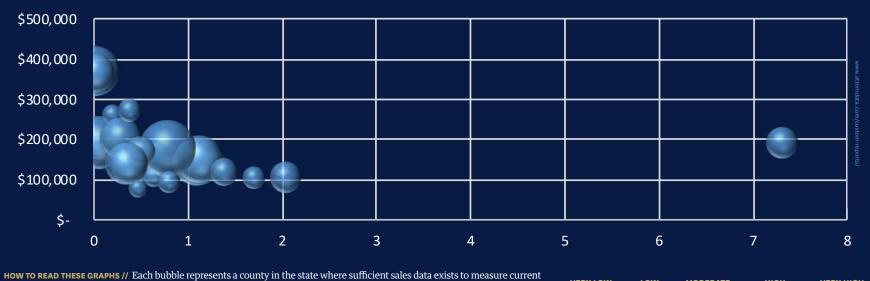


Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,113,647
Lexington Ins. Company-AIG (Res.)	\$3,050,640
AIG Property Casualty Co.(Res.)	\$2,530,275
Federal Ins. Co Chubb (Res.)	\$417,309
FM Global (Com.)	\$262,997

#### FIGURE 36: SOUTH CAROLINA PROPERTY VALUE / FLOOD RISK INDEX

estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes

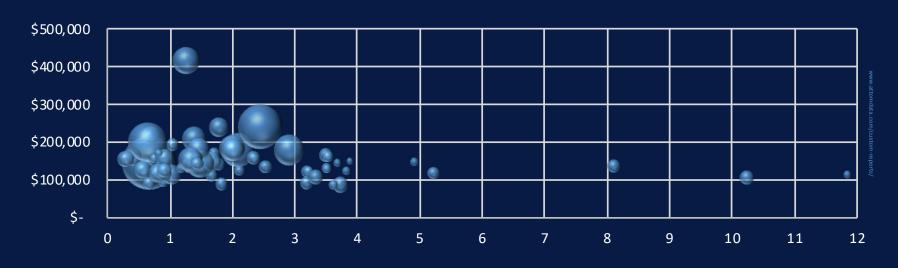
in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



## **TENNESSEE**

Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,835,663
FM Global (Com.)	\$906,396
Westport Ins. Corp. (Res.)	\$436,040
AIG Property Casualty Co.(Res.)	\$132,609
Federal Ins. Co Chubb (Res.)	\$115,362

#### FIGURE 37: TENNESSEE PROPERTY VALUE / FLOOD RISK INDEX

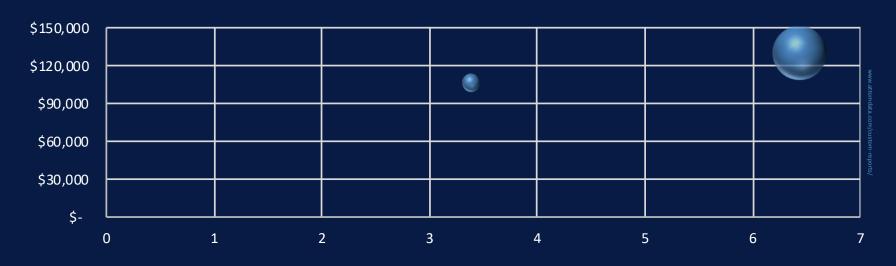


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$730,429
Westport Ins. Corp. (Res.)	\$651,447
American Modern Home Ins. Co Munich Re (Res.)	\$79,077
FM Global (Com.)	\$78,887
Landmark American Ins. Co RSUI (Com.)	\$8,471

#### FIGURE 38: WEST VIRGINIA PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

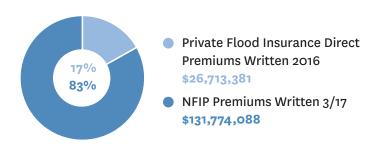
### Great Lakes IL, IN, MI, OH, WI

The lake region falls to the middle of the flood market with 141,124 policies written at year end by the NFIP. There remains very low participation from private carriers in the residential market. Most NFIP coverage is written in the state of Illinois, accounting for 31% of the region's portfolio.

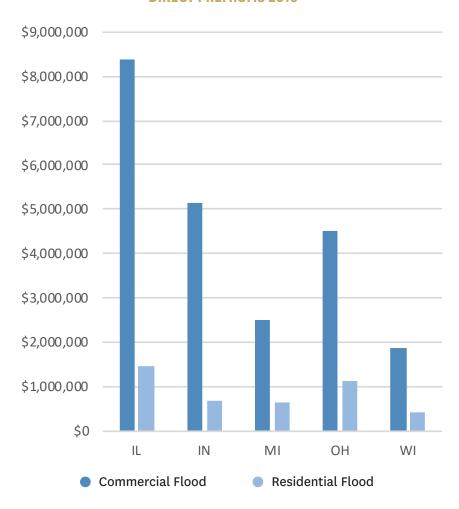
Excluding Illinois, this region offers just over 63,500 homes in high risk areas not insured by the NFIP. Most significant are the Wayne and St. Clair counties of Michigan, along the great lake, representing 10,400 and 5,000 homes respectively. In Ohio, Luca and Ottawa counties offer 2,900 homes. Indiana's Vanderburgh county, located on the Ohio river reflects an excess of 2,300 home not participating in the NFIP. Concentrations of homes in Wisconsin lake counties of Brown, Roc and Winnebago also exceed NFIP policy counts.

### Great Lakes IL, IN, MI, OH, WI

### FIGURE 39: GREAT LAKES NFIP VS PRIVATE FLOOD DIRECT PREMIUMS WRITTEN



### FIGURE 40: GREAT LAKES PRIVATE FLOOD DIRECT PREMIUMS 2016



# Great Lakes IL, IN, MI, OH, WI

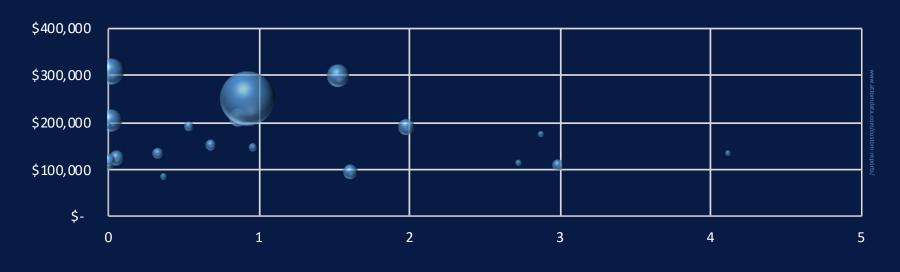
Commercial Flood F	Premiums Written
FM Group	\$18,702,454
Allianz Global Risks Us Insurance Comp	any \$1,914,456
Landmark American Insurance Compan	y \$824,313
Rsui Indemnity Company	\$417,725
National Fire & Marine Insurance Compa	any \$343,470
West Bend Mutual Insurance Company	\$92,809
Citizens Insurance Company of America	\$29,132
Massachusetts Bay Insurance Company	\$27,496
Mitsui Sumitomo Insurance Usa Inc.	\$17,894
Allianz Underwriters Insurance Compan	ıy \$15,330
The Hanover Insurance Company	\$8,348
Mitsui Sumitomo Insurance Company of A	merica \$4,476
The Hanover American Insurance Comp	any \$117

Residential Flood	Premiums Written
Westport Insurance Corporation	\$2,470,476
AIG Property Casualty Company	\$592,000
Federal Insurance Company	\$548,317
American Modern Home Insurance Cor	mpany \$404,079
First Specialty Insurance Corporation	\$196,736
American Western Home Insurance Co	mpany \$86,731
Lexington Insurance Company	\$15,171
Cincinnati Insurance Company	\$1,851



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$6,916,401
Westport Ins. Corp. (Res.)	\$691,145
FM Global (Com.)	\$482,328
Federal Ins. Co Chubb (Res.)	\$339,871
AIG Property Casualty Co.(Res.)	\$265,757

#### FIGURE 41: ILLINOIS PROPERTY VALUE / FLOOD RISK INDEX

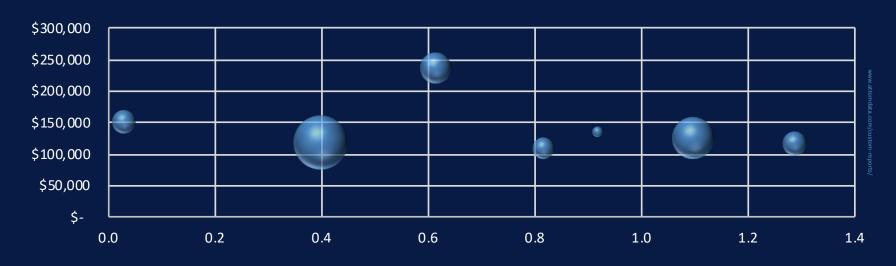


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,607,314
Landmark American Ins. Co RSUI (Com.)	\$466,101
Westport Ins. Corp. (Res.)	\$413,533
FM Global (Com.)	\$400,819
American Modern Home Ins. Co Munich Re (Res.)	\$173,202

#### FIGURE 42: INDIANA PROPERTY VALUE / FLOOD RISK INDEX

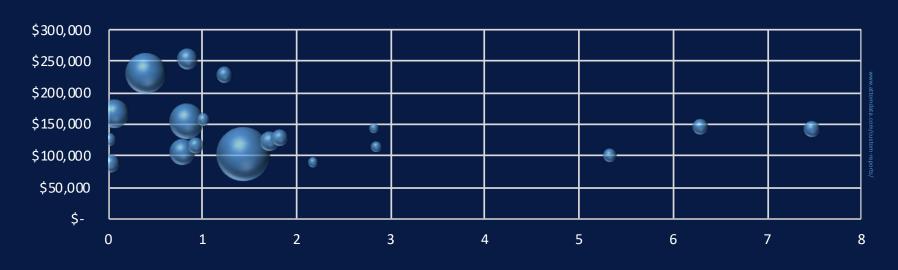


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$1,616,578
Westport Ins. Corp. (Res.)	\$479,071
FM Global (Com.)	\$351,226
Landmark American Ins. Co RSUI (Com.)	\$95,584
RSUI Idemnity Co.(Com.)	\$84,591

#### FIGURE 43: MICHIGAN PROPERTY VALUE / FLOOD RISK INDEX

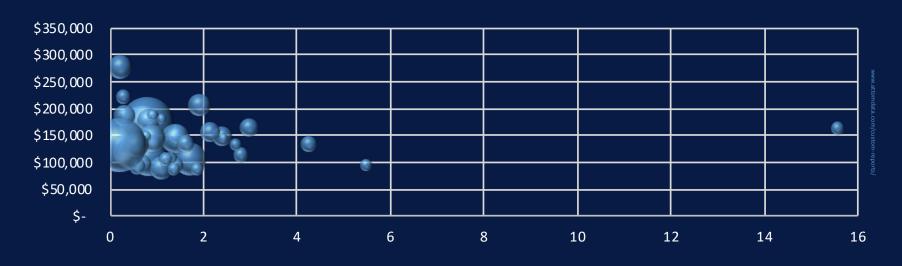


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$2,821,481
FM Global (Com.)	\$878,410
Westport Ins. Corp. (Res.)	\$691,226
AIG Property Casualty Co.(Res.)	\$163,153
RSUI Idemnity Co.(Com.)	\$159,043

#### FIGURE 44: OHIO PROPERTY VALUE / FLOOD RISK INDEX

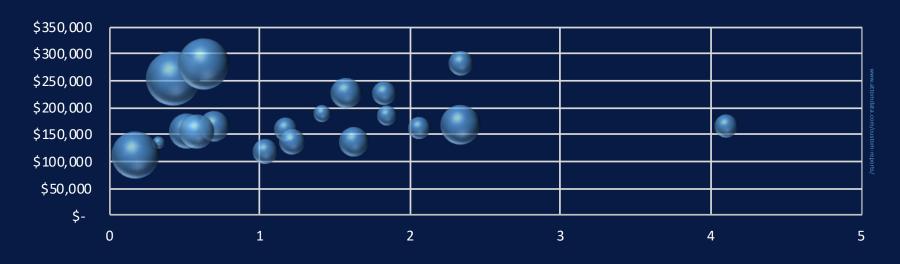


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$1,297,580
FM Global (Com.)	\$330,317
Westport Ins. Corp. (Res.)	\$195,501
AIG Property Casualty Co.(Res.)	\$89,380
Federal Ins. Co Chubb (Res.)	\$58,079

#### FIGURE 45: WISCONSIN PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

### Plains IA, KS, MN, MO, NE, ND, SD

As the second smallest flood market, the NFIP has written a total of 82,150 policies at year end 2016. Participation by private carriers in the residential market is low and housing prices hover at or below the coverage provided by the NFIP.

The flood market is predominately insured by NFIP, with just over 5,000 homes in Iowa and Kansas not covered. Those are concentrated in Iowa along the Cedar, Missouri and Mississippi Rivers in Black Hawk, Pottawattamie and Scott counties. A concentration of homes are covered by other than NFIP in Sedgwick county within the zone of the Arkansas River.

# Plains IA, KS, MN, MO, NE, ND, SD

FIGURE 46: PLAINS NFIP VS PRIVATE FLOOD
DIRECT PREMIUMS WRITTEN

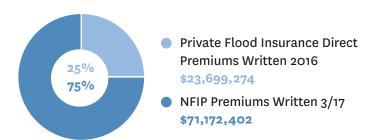
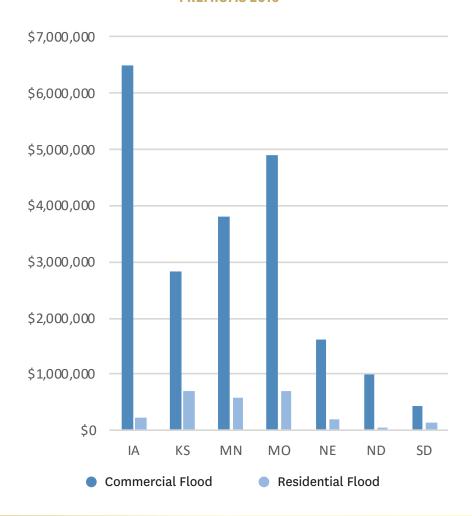


FIGURE 47: PLAINS PRIVATE FLOOD DIRECT PREMIUMS 2016



# Plains IA, KS, MN, MO, NE, ND, SD

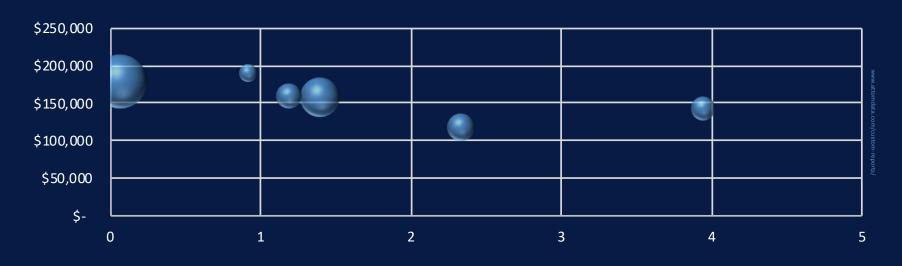
Commercial Flood	Premiums Written
FM Group	\$19,507,615
Allianz Global Risks Us Insurance Com	pany \$644,713
Landmark American Insurance Compa	nny \$511,766
Rsui Indemnity Company	\$267,985
National Fire & Marine Insurance Com	pany \$54,298
Mitsui Sumitomo Insurance Company of	America \$47,608
Allianz Underwriters Insurance Compa	any \$22,415
West Bend Mutual Insurance Company	\$6,720
The Hanover Insurance Company	\$6,012
Citizens Insurance Company of Americ	ca \$5,695
The Hanover American Insurance Com	npany \$2,996
Massachusetts Bay Insurance Compan	y \$2,647

Residential Flood	Premiums Written
Westport Insurance Corporation	\$1,726,439
AIG Property Casualty Company	\$295,271
American Modern Home Insurance Con	npany \$247,581
Federal Insurance Company	\$226,526
First Specialty Insurance Corporation	\$110,158
Lexington Insurance Company	\$12,037
Cincinnati Insurance Company	\$792



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$5,799,597
FM Global (Com.)	\$262,083
Landmark American Ins. Co RSUI (Com.)	\$191,697
Westport Ins. Corp. (Res.)	\$175,555
RSUI Indemnity Co.(Com.)	\$121,500

#### FIGURE 48: IOWA PROPERTY VALUE / FLOOD RISK INDEX

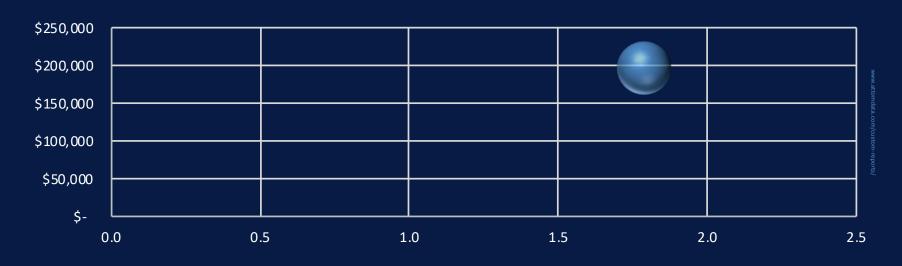


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$2,403,759
Westport Ins. Corp. (Res.)	\$554,030
FM Global (Com.)	\$241,473
Federal Ins. Co Chubb (Res.)	\$51,566
First Specialty Ins Swiss Re (Res.)	\$47,990

#### FIGURE 49: KANSAS PROPERTY VALUE / FLOOD RISK INDEX

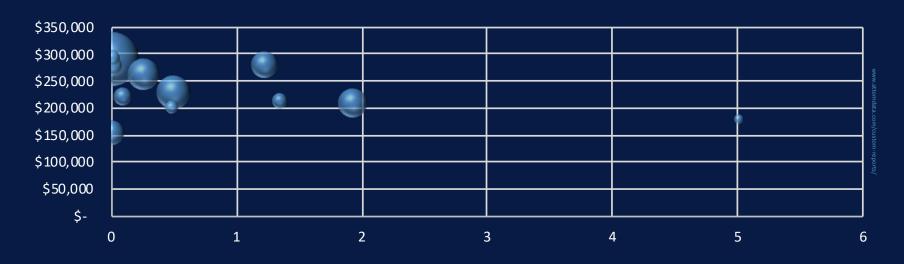


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$2,988,802
FM Global (Com.)	\$532,685
Westport Ins. Corp. (Res.)	\$384,275
AIG Property Casualty Co.(Res.)	\$75,467
Landmark American Ins. Co RSUI (Com.)	\$60,721

#### FIGURE 50: MINNESOTA PROPERTY VALUE / FLOOD RISK INDEX

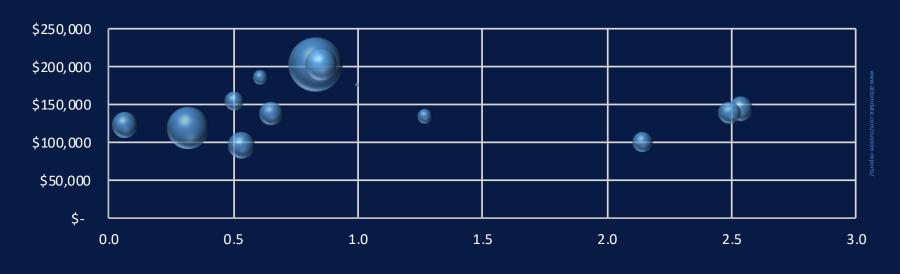


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,091,980
FM Global (Com.)	\$1,409,444
Westport Ins. Corp. (Res.)	\$426,278
AIG Property Casualty Co.(Res.)	\$135,079
Federal Ins. Co Chubb (Res.)	\$101,761

#### FIGURE 51: MISSOURI PROPERTY VALUE / FLOOD RISK INDEX

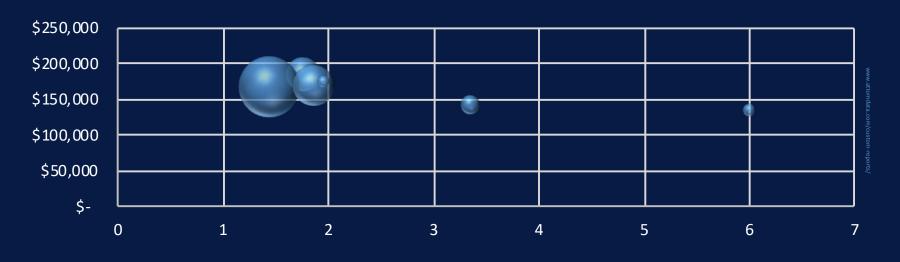


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$1,348,344
FM Global (Com.)	\$139,356
Westport Ins. Corp. (Res.)	\$112,210
Landmark American Ins. Co RSUI (Com.)	\$78,099
RSUI Indemnity Co.(Com.)	\$49,818

#### FIGURE 52: NEBRASKA PROPERTY VALUE / FLOOD RISK INDEX

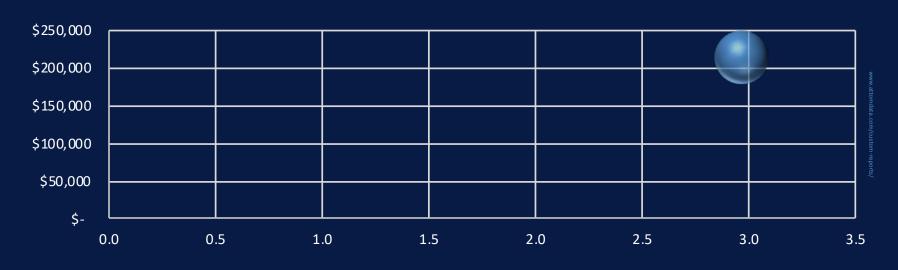


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

# NORTH DAKOTA

Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$725,648
FM Global (Com.)	\$155,196
Landmark American Ins. Co RSUI (Com.)	\$48,179
Westport Ins. Corp. (Res.)	\$27,359
American Modern Home Ins. Co Munich Re (Res.)	\$14,629

#### FIGURE 53: NORTH DAKOTA PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

# SOUTH DAKOTA

Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$349,803
American Modern Home Ins. Co Munich Re (Res.)	\$68,318
FM Global (Com.)	\$59,445
Westport Ins. Corp. (Res.)	\$46,732
AIG Property Casualty Co.(Res.)	\$28,010

Insufficient county data was available at the date of this report to create a meaningful graphical depiction.

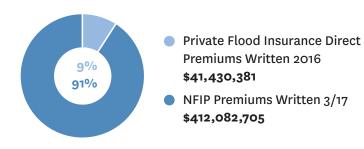
### Southwest AZ, NM, OK, TX

The Southwest region is the second largest flood market, with 90% of the 600,000 policies written by the NFIP attributed to the state of Texas. Despite its size, and over 223,000 homes located in the highest risk flood zones, there is very limited participation by admitted residential carriers. Inclusive of surplus lines, private insurance represents 37% of this market, largely commercial.

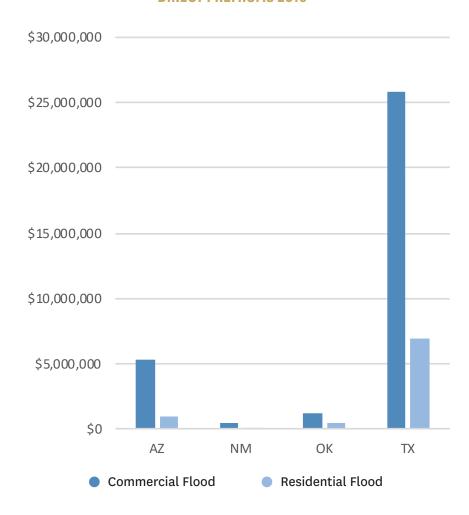
Areas underserved are found in Oklahoma and New Mexico. of the 14,300 homes not covered by the NFIP in New Mexico, the largest cluster of 8,900 homes is found in the flood zones of the Rio Grande in Valencia County. In Oklahoma, where 16,717 homes are not covered by NFIP, the largest concentration of homes are found in high risk areas of Oklahoma County (3,211), Tulsa County (3,310) and Garvin county (1,989).

### Southwest AZ, NM, OK, TX

### FIGURE 54: SOUTHWEST NFIP VS PRIVATE FLOOD DIRECT PREMIUMS WRITTEN



### FIGURE 55: SOUTHWEST PRIVATE FLOOD DIRECT PREMIUMS 2016



# Southwest AZ, NM, OK, TX

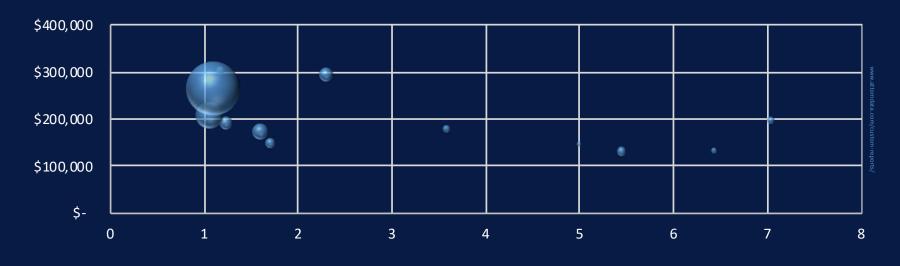
Commercial Flood	Premiums Written
FM Group	\$26,986,876
Western World Insurance Company	\$3,100,451
Allianz Global Risks Us Insurance Comp	pany \$1,425,125
Landmark American Insurance Compa	ny \$603,973
Rsui Indemnity Company	\$395,683
National Fire & Marine Insurance Comp	pany \$321,618
Hanover Lloyd'S Insurance Company	\$22,031
Allianz Underwriters Insurance Compa	ny \$20,364
Mitsui Sumitomo Insurance Company of A	America \$4,261
Massachusetts Bay Insurance Company	\$2,270
The Hanover American Insurance Comp	pany \$1,021
The Hanover Insurance Company	\$828
National Surety Corporation	\$629

Residential Flood	Premiums Written
Westport Insurance Corporation	\$3,149,915
AIG Property Casualty Company	\$1,796,197
First Specialty Insurance Corporation	\$1,461,670
Lexington Insurance Company	\$775,897
Federal Insurance Company	\$625,484
American Modern Home Insurance Cor	mpany \$417,894
Asi Lloyds	\$182,975
American Western Home Insurance Con	mpany \$69,764
Voyager Indemnity Insurance Company	y \$58,652
Cincinnati Insurance Company	\$6,802



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$3,820,328
FM Global (Com.)	\$1,152,393
Westport Ins. Corp. (Res.)	\$349,861
AIG Property Casualty Co.(Res.)	\$215,535
Federal Ins. Co Chubb (Res.)	\$175,787

#### FIGURE 56: ARIZONA PROPERTY VALUE / FLOOD RISK INDEX

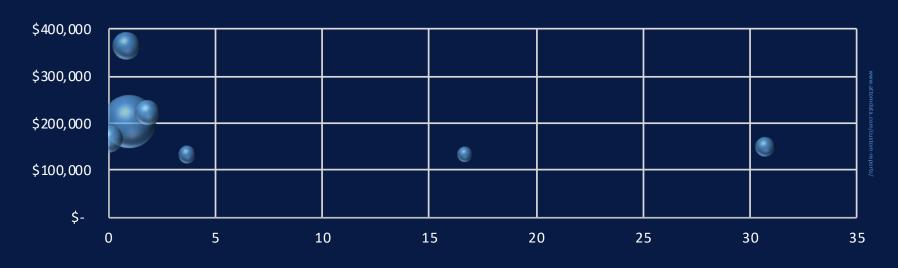


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
FM Global (Com.)	\$249,633
Factory Mutual Ins. Co FM Global (Com.)	\$190,306
AIG Property Casualty Co.(Res.)	\$58,673
American Modern Home Ins. Co Munich Re (Res.)	\$46,467
Westport Ins. Corp. (Res.)	\$43,154

#### FIGURE 57: NEW MEXICO PROPERTY VALUE / FLOOD RISK INDEX

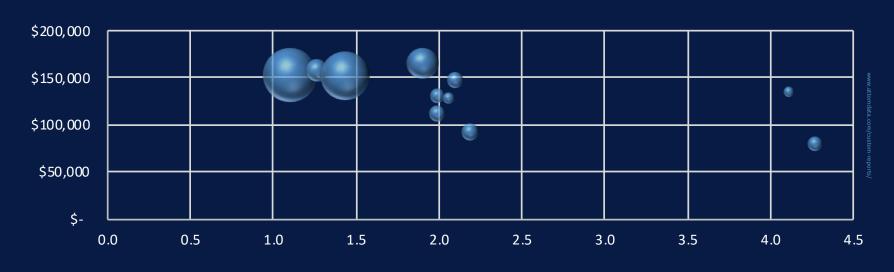


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$836,532
Westport Ins. Corp. (Res.)	\$350,431
FM Global (Com.)	\$237,328
AIG Property Casualty Co.(Res.)	\$69,831
American Western Home Ins. Co Munich Re (Res.)	\$69,228

#### FIGURE 58: OKLAHOMA PROPERTY VALUE / FLOOD RISK INDEX

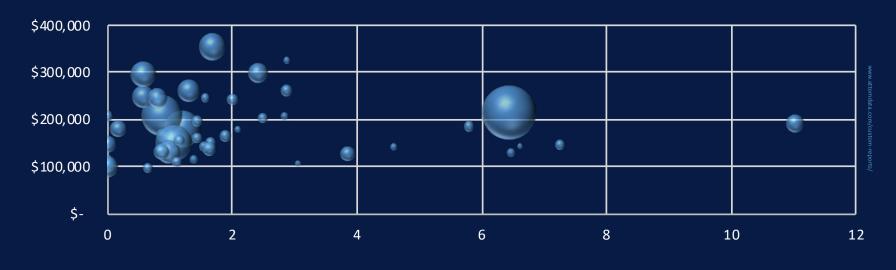


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$17,689,903
Western World Ins. Co.(Com.)	\$3,100,451
FM Global (Com.)	\$2,810,453
Westport Ins. Corp. (Res.)	\$2,406,469
AIG Property Casualty Co.(Res.)	\$1,452,158

#### FIGURE 59: TEXAS PROPERTY VALUE / FLOOD RISK INDEX



HOW TO READ THESE GRAPHS // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

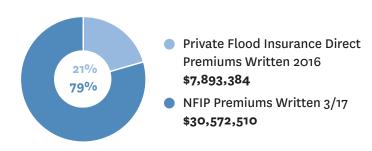
### Rocky Mountains co, ID, MT, UT, WY

This region has the smallest flood insurance market in the analysis, with just over 39,000 policies written by the NFIP at year end 2016. Colorado contains the greatest flood risk, representing 56% of NFIP's Rocky Mountain insurance portfolio.

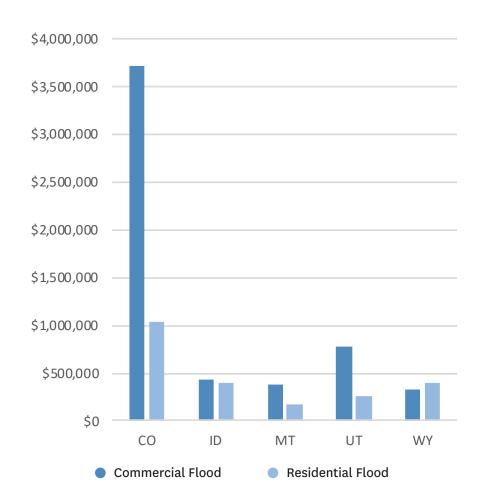
Only the state of Idaho reflects a portion of its high risk housing unserved by the NFIP. of the 1,287 homes either privately insured or uninsured, the majority are located in the county of Shoshone, which is intersected by the St. Joe River.

### Rocky Mountains co, ID, MT, UT, WY

### FIGURE 60: ROCKY MOUNTAINS NFIP VS PRIVATE FLOOD DIRECT PREMIUMS WRITTEN



### FIGURE 61: ROCKY MOUNTAINS PRIVATE FLOOD DIRECT PREMIUMS 2016



# Rocky Mountains co, ID, MT, UT, WY

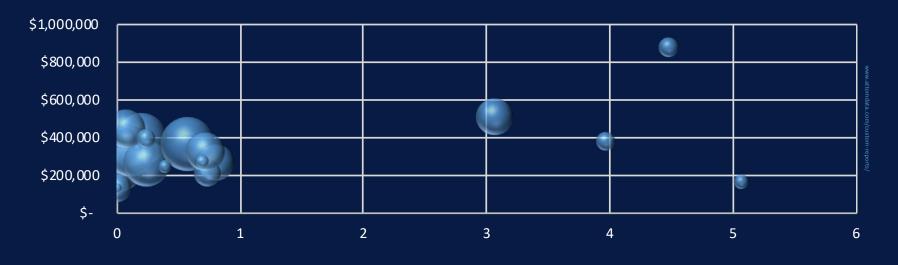
Commercial Flood	Premiums Written
FM Group	\$5,157,280
Allianz Global Risks Us Insurance Comp	any \$297,632
Landmark American Insurance Compan	s43,144
Rsui Indemnity Company	\$41,187
National Fire & Marine Insurance Comp	any \$32,655
Allianz Underwriters Insurance Compar	1y \$21,676
The Hanover Insurance Company	\$17,110
Massachusetts Bay Insurance Company	\$10,408
Citizens Insurance Company of America	\$2,876
The Hanover American Insurance Comp	pany \$2,213

Residential Flood Pren	niums Written
AIG Property Casualty Company	\$1,415,902
Federal Insurance Company	\$318,624
Westport Insurance Corporation	\$314,316
American Modern Home Insurance Compan	sy \$88,452
First Specialty Insurance Corporation	\$68,758
AIG Specialty Insurance Company	\$35,034
Lexington Insurance Company	\$26,117



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$2,489,836
FM Global (Com.)	\$978,482
AIG Property Casualty Co.(Res.)	\$651,703
Federal Ins. Co Chubb (Res.)	\$171,278
Westport Ins. Corp. (Res.)	\$128,919

#### FIGURE 62: COLORADO PROPERTY VALUE / FLOOD RISK INDEX

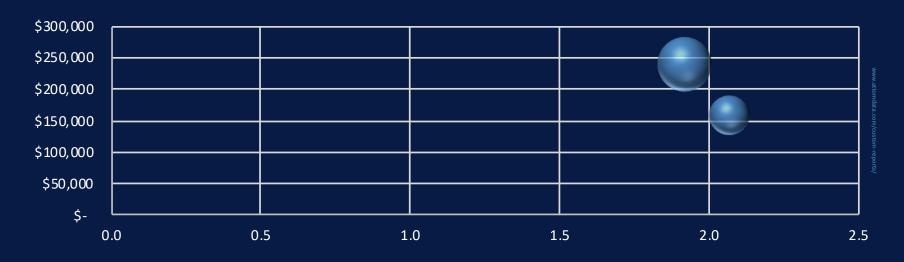


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
AIG Property Casualty Co.(Res.)	\$301,674
FM Global (Com.)	\$234,096
Factory Mutual Ins. Co FM Global (Com.)	\$114,358
Federal Ins. Co Chubb (Res.)	\$36,629
American Modern Home Ins. Co Munich Re (Res.)	\$30,664

#### FIGURE 63: IDAHO PROPERTY VALUE / FLOOD RISK INDEX

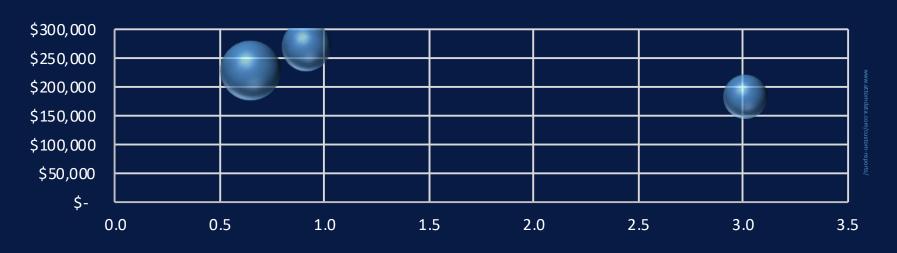


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$243,591
FM Global (Com.)	\$93,058
AIG Property Casualty Co.(Res.)	\$74,873
AIG Specialty Ins. Co.(Res.)	\$35,034
American Modern Home Ins. Co Munich Re (Res.)	\$19,224

#### FIGURE 64: MONTANA PROPERTY VALUE / FLOOD RISK INDEX

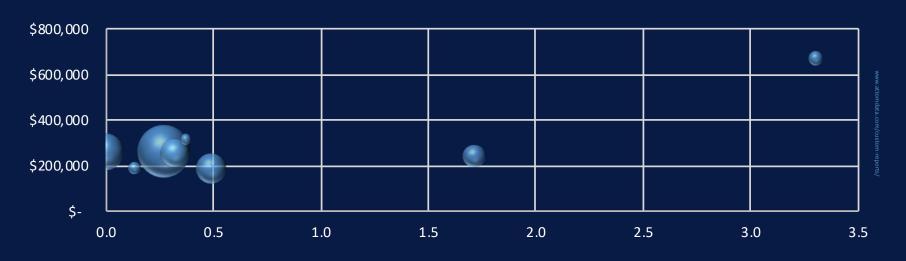


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
FM Global (Com.)	\$450,694
Factory Mutual Ins. Co FM Global (Com.)	\$255,790
Westport Ins. Corp. (Res.)	\$127,569
AIG Property Casualty Co.(Res.)	\$97,085
Federal Ins. Co Chubb (Res.)	\$28,972

#### FIGURE 65: UTAH PROPERTY VALUE / FLOOD RISK INDEX

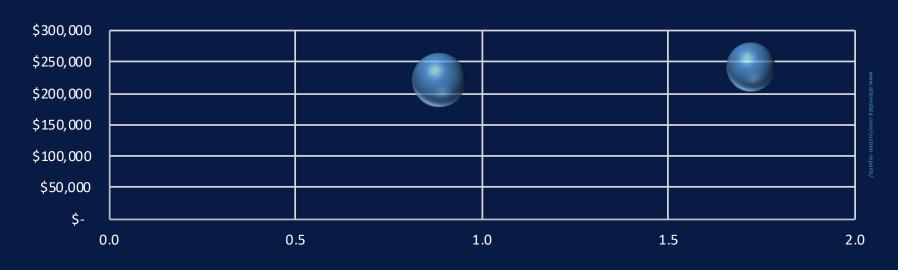


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
AIG Property Casualty Co.(Res.)	\$290,567
Factory Mutual Ins. Co FM Global (Com.)	\$271,836
Federal Ins. Co Chubb (Res.)	\$66,825
FM Global (Com.)	\$25,539
Westport Ins. Corp. (Res.)	\$16,036

#### FIGURE 66: WYOMING PROPERTY VALUE / FLOOD RISK INDEX



HOW TO READ THESE GRAPHS // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

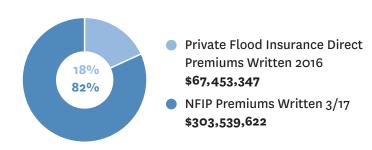
### Far West AK, CA, HI, NV, OR, WA

As the 4th largest region for the flood insurance market, 440,415 policies were written by NFIP at year end 2016. (For context, this about 30,000 policies fewer than were written in the state of Louisiana in 2016.)

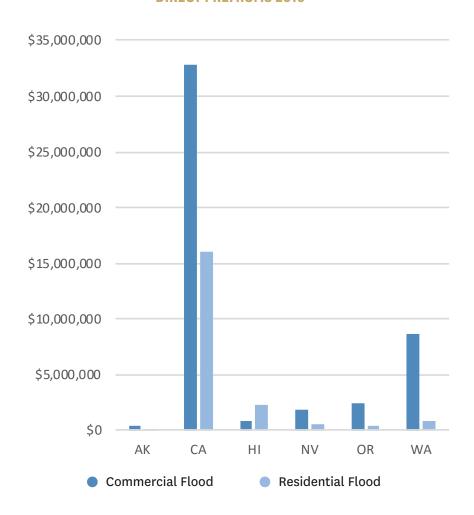
Within this region, California represents 67% of the market, which is characterized by higher value homes in the moderate to very high risk ranges. The private market is active, with \$15 million in residential premiums written in 2016, the second highest in the country (behind Florida and just slightly ahead of New York.) No underserved pockets of significance have been identified through our analysis.

# Far West AK, CA, HI, NV, OR, WA

## FIGURE 67: FAR WEST NFIP VS PRIVATE FLOOD DIRECT PREMIUMS WRITTEN



## FIGURE 68: FAR WEST PRIVATE FLOOD DIRECT PREMIUMS 2016



# Far West AK, CA, HI, NV, OR, WA

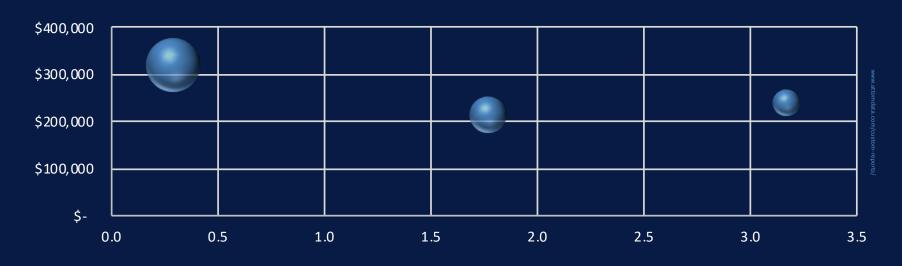
Commercial Flood	Premiums Written
FM Group	\$43,126,855
Allianz Global Risks Us Insurance Com	pany \$2,295,679
Landmark American Insurance Compa	any \$732,477
National Fire & Marine Insurance Com	pany \$560,698
Western World Insurance Company	\$253,701
Rsui Indemnity Company	\$47,888
Mitsui Sumitomo Insurance Company of	America \$43,755
Allianz Underwriters Insurance Compa	any \$24,531
Citizens Insurance Company of Americ	ca \$4,223
Fireman'S Fund Insurance Company	\$3,102
Massachusetts Bay Insurance Compan	y \$1,501
The Hanover American Insurance Com	npany \$917
Mitsui Sumitomo Insurance Usa Inc.	\$489

Residential Flood	Premiums Written
AIG Property Casualty Company	\$9,216,757
Westport Insurance Corporation	\$5,962,154
Federal Insurance Company	\$2,095,786
Commerce And Industry Insurance Comp	pany \$1,063,094
American Modern Home Insurance Con	npany \$625,377
Lexington Insurance Company	\$477,179
American Western Home Insurance Cor	mpany \$456,879
First Specialty Insurance Corporation	\$321,081
AIG Specialty Insurance Company	\$91,762
Cincinnati Insurance Company	\$27,652
Voyager Indemnity Insurance Company	\$17,776
Centauri Specialty Insurance Company	\$1,970



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$192,109
Westport Ins. Corp. (Res.)	\$124,573
FM Global (Com.)	\$39,620
Landmark American Ins. Co RSUI (Com.)	\$23,238
National Fire & Marine Ins. Co Berkshire Hathaway (Co	om.) \$8,157

#### FIGURE 69: ALASKA PROPERTY VALUE / FLOOD RISK INDEX

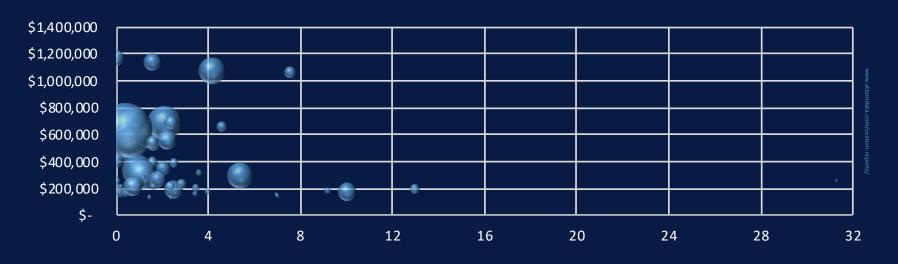


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$25,462,088
AIG Property Casualty Co.(Res.)	\$8,721,077
FM Global (Com.)	\$4,957,914
Westport Ins. Corp. (Res.)	\$4,157,483
Federal Ins. Co Chubb (Res.)	\$1,687,652

#### FIGURE 70: CALIFORNIA PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



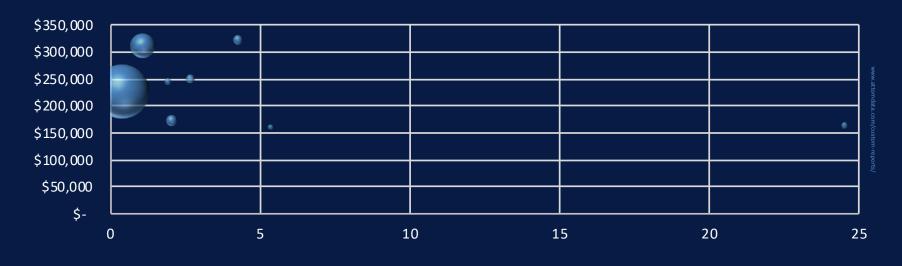
Top 5 Admitted Carriers	Premiums Written
Commerce And Industry Ins. Co AIG	\$1,063,094
Westport Ins. Corp. (Res.)	\$895,691
Factory Mutual Ins. Co FM Global (Com.)	\$751,701
Lexington Ins. Company-AIG (Res.)	\$195,130
Federal Ins. Co Chubb (Res.)	\$127,213

Insufficient county data was available at the date of this report to create a meaningful graphical depiction.



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$1,097,942
FM Global (Com.)	\$417,725
Westport Ins. Corp. (Res.)	\$327,115
National Fire & Marine Ins. Co Berkshire Hathaway (Co	om.) \$222,635
AIG Property Casualty Co.(Res.)	\$134,427

#### FIGURE 71: NEVADA PROPERTY VALUE / FLOOD RISK INDEX

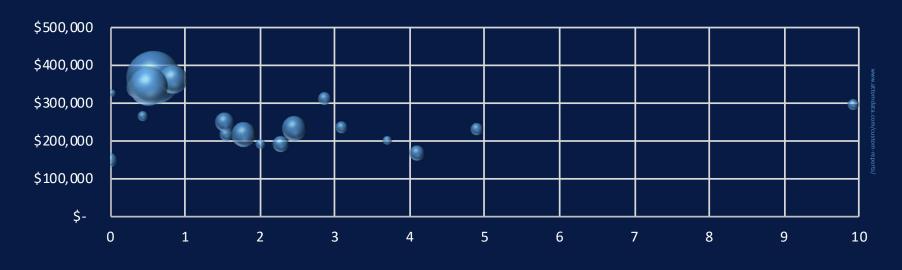


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$1,632,526
FM Global (Com.)	\$499,384
Westport Ins. Corp. (Res.)	\$184,417
Landmark American Ins. Co RSUI (Com.)	\$153,845
Lexington Ins. Company-AIG (Res.)	\$105,402

#### FIGURE 72: OREGON PROPERTY VALUE / FLOOD RISK INDEX

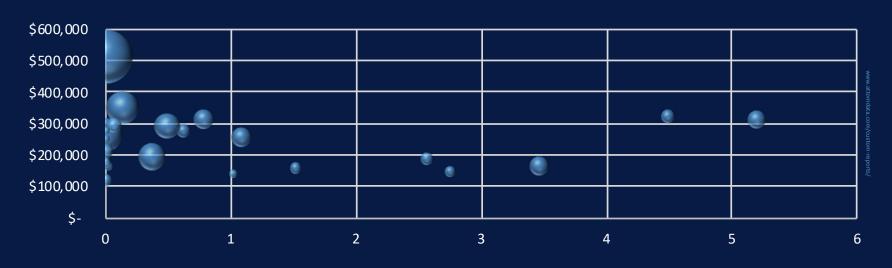


**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:



Top 5 Admitted Carriers	Premiums Written
Factory Mutual Ins. Co FM Global (Com.)	\$5,496,442
FM Global (Com.)	\$2,533,836
AIG Property Casualty Co.(Res.)	\$321,950
Westport Ins. Corp. (Res.)	\$272,875
National Fire & Marine Ins. Co Berkshire Hathaway (Co	om.) \$144,757

#### FIGURE 73: WASHINGTON PROPERTY VALUE / FLOOD RISK INDEX



**HOW TO READ THESE GRAPHS** // Each bubble represents a county in the state where sufficient sales data exists to measure current estimated values for the marketplace. The relative size of the bubbles represents the proportional number of residential homes in each county. Placement of that county along the flood risk index is based upon ATTOM Data Solutions rating as follows:

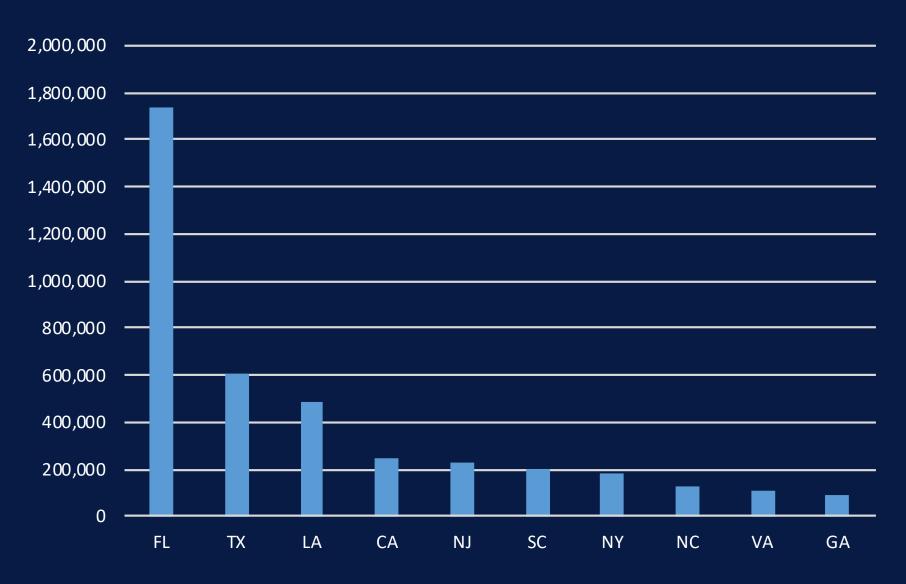
## Concluding Insights // Top 10 Flood Markets

Figure 74 provides a final benchmark of the top 10 states in which policies are written by the NFIP, as of April 2017. As of this date, the composition of coverage is 68% residential, 21% condominium, 5% other residential and 6% commercial.

Figure 75 illustrates the number of homes in the highest risk zones by state. The states of Tennessee and Pennsylvania emerge within the top 10, replacing South Carolina and Virginia from Figure 74. With advanced CAT modeling solutions, these areas of greatest risk offer new opportunity to the private market.

We expect continued shift toward the private market with the emergence of new players in both the admitted and surplus markets, that were not reported in 2016. California gained Golden Bear Ins. Co. and Palomar Specialty Ins., Florida added Typ Tap (HCI), Johnson & Johnson is rolling out its national FloodPlus program, as are multiple Lloyd coverholders. Many are marketing directly to the homeowner through on-line presence and creating efficient platforms for greater agent engagement and ease in selling private flood policies. As states like Florida and Pennsylvania continue to urge private participation, we hope to reported measured shifts to the private market within the next year.

FIGURE 74: NFIP POLICIES WRITTEN AS OF APRIL 2017



#### FIGURE 75: HOMES IN HIGHEST RISK AREAS (A, A99, AE, AH, AO, V, VE)



## **Index Methodology & Citations**

For its third annual Natural Hazard Housing Index, ATTOM Data Solutions indexed more than 3,000 U.S. counties based on risk of six natural disasters: earthquakes, floods, hail, hurricane storm surge, tornadoes and wildfires. ATTOM also analyzed home sales and price trends in more than 800 counties with at least 100 single family home sales in the first six months of 2016.

A flood risk index was created for the flood risk in the 3,111 counties with natural hazard data available. The flood risk index was divided into five categories of risk: Very High, High, Moderate, Low and Very Low based on a severity scale. The maximum index for each category of risk is 60, and the maximum possible total index score is 360.

For the home sales and price trends analysis, the indexes in 804 counties

with sufficient home sales and price data available were split into five equal groups (quintiles) matching the aforementioned five categories of risk.

Flood zone data is based on flood zones created by the Federal Emergency Management Agency (FEMA), and the level of risk was based on the percentage of homes in each county located in high-risk flood zones: A, A99, AE, AH, AO, V, and VE.

Estimate of homes not covered by the NFIP is a conservative estimate based upon the number of homes identified by ATTOM Data Solutions as located within the highest risk zones of A, A99, AE, AH, AO, V & VE. These are then compared to total policies written at year end 2016 by NFIP. Please note that 68% of the NFIP portfolio is residential but such break down is not

available on a state by state basis and has not been applied to this analysis. Further, we have not included zones A1-30. "Not covered by NFIP" reflects a combination of privately insured and uninsured properties and hence, opportunity for private carriers.

All NFIP Data obtained from 'Statistics' at https://www.fema.gov/policy-claim-statistics-flood-insurance

NAPSLO Data obtained from January 24, 2017 - Surplus Lines Market Data and Statistics

All figures reflecting private commercial and residential flood insurance written by carriers has been determined through discussions with carriers, state agencies and brokers. This has been a best effort based upon information available.