

THE STATE OF  
**Earthquake  
Coverage** 

Statistics Section  
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**DIFP**

Department of Insurance,  
Financial Institutions &  
Professional Registration

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## Introduction

Missouri is the third largest market for earthquake insurance among the states, exceeded only by California and Washington.<sup>1</sup> The primary earthquake risk in the state is associated with the New Madrid fault, and is greatest in the Southeast quadrant of the state extending from the bootheel northwards to St. Louis and beyond. However, it is precisely in this high-risk area that the market for earthquake insurance has significantly contracted over the past 10 to 15 years – many insurers have left the market entirely while others refuse to issue new policies in the New Madrid area. Among insurers still willing to sell coverage, stricter underwriting standards make some types of dwellings ineligible for coverage. Those who can obtain coverage find that they are required to “self-insure” to a much greater extent than in the past. Deductibles up to 20 percent of the dwelling value are not uncommon, and “stacked” deductibles are often applied separately to the dwelling and contents. While coverage has contracted, the price of coverage has increased significantly, in some counties by more than 500 percent over the last 15 years. In short, coverage has become significantly less available and less affordable in the areas that require it most.

This report presents data on market trends over the past 15 years. Missouri is one of the few states that collect residential insurance data by ZIP code, including data for earthquake coverage. These data afford a fairly precise measure of market penetration and price by geographic region. In addition, these data were supplemented by a survey of Missouri’s largest writers regarding market practices related to earthquake coverage.

## Summary of Findings

Earthquake coverage has become less available and less affordable over the last 15 years. Where the coverage is available, prices have significantly increased and consumers are required to self-insure to a greater extent than ever before.

- On average, earthquake premiums in the six counties that comprise the New Madrid area have increased by nearly 500 percent between 2000 and 2014, and in one county by almost 700 percent.
- While rates have increased throughout the state, the rates in the highest risk areas of the state have increased much more rapidly, widening the costs between high and low risk areas. In 2000, average annual premium in the New Madrid area was only 64 percent higher than the lowest risk counties of Missouri. By 2015, premiums were nearly 330 percent higher.
- In 2000, over 60 percent of residences in the New Madrid area had earthquake insurance. By 2014, the rate of coverage had plummeted to just 20 percent.
- In other high risk areas outside of the New Madrid zone, take-up rates also substantially decreased, from 67.6 percent to 52.1 percent over the same period.

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<sup>1</sup> Including territories, Puerto Rico also has a somewhat higher premium volume for earthquake insurance. However, Puerto Rico is a special case, in that earthquake insurance is required for most residences.

- A total of 562,734 residences that are not covered for earthquake losses are located in a Missouri county rated 7 or higher on the Mercalli scale (a measurement of vulnerability to earthquakes, see below). The total property value of these unprotected residences, excluding the value of contents that may also be at risk, is estimated to exceed \$86 billion.
- Based on the Missouri market share for homeowners insurance,
  - Carriers with 10 percent of the market write no earthquake coverage
  - 19 percent write somewhere in Missouri, but will not provide the coverage in the New Madrid area
  - 44 percent issue some coverage in the New Madrid area, but with significant additional underwriting restrictions, such as refusing to insure masonry homes.
  - Only 26.6 percent of the market issues coverage in New Madrid on the same basis as elsewhere in the state.
- Those able to obtain earthquake insurance must still “self-insure” to a significant degree. No insurer (among those surveyed) offers a deductible of less than 10 percent of the insured value of the residence. Over 40 percent of the market requires a deductible of 20 percent or higher. Often, deductibles are “stacked,” such that they apply separately to the building and contents.
- Of those who have earthquake coverage and are located in areas with a risk of 7 or higher on the Mercalli scale, the amount of risk they still retain due to deductibles exceeds \$14.8 billion. When this amount is added to homes that have no earthquake coverage, the value of self-insured residential property in moderate to high-risk zones exceeds \$100 billion (\$86.2 billion with no earthquake insurance + 14.8 billion retained due to deductible).

In the following report, these trends are displayed by Missouri region and by county. More detailed tables can be found in the appendices.

## Missouri's Earthquake Risk

Over the winter of 1811-1812, the New Madrid area of Missouri experienced a series of powerful earthquakes. By most estimates, these quakes were among the strongest ever experienced on what is now the continental US, at least since its settlement by Europeans. According to the US Geological Survey (USGS), the area of strong ground motion exceeded the 1964 Alaska earthquake by a factor of two to three, and was approximately ten times as large as the 1909 San Francisco earthquake. Because of the lack of instrumentation at the time, estimates of the magnitude of these earthquakes are primarily based on written accounts of those who witnessed the quake or its aftermath. The majority of researchers believe the three primary quakes ranged in magnitude from 7.0 to 7.5, with several aftershocks ranging from 6.0 to 6.5 (see USGS, <http://earthquake.usgs.gov/earthquakes/states/events/1811-1812.php>).

Eyewitness accounts of the event(s) vividly describe the extraordinary violence unleashed by the New Madrid fault. One eyewitness close to the epicenter of the December 16, 2011 earthquake details "...a scene truly horrible" in which the Mississippi River reversed course for a time:

*On the 16th of December, 1811, about two o'clock, A.M., we were visited by a violent shock of an earthquake, accompanied by a very awful noise resembling loud but distant thunder, but more hoarse and vibrating, which was followed in a few minutes by the complete saturation of the atmosphere, with sulphurous vapor, causing total darkness. The screams of the affrighted inhabitants running to and fro, not knowing where to go, or what to do - the cries of the fowls and beasts of every species - the cracking of trees falling, and the roaring of the Mississippi - the current of which was retrograde for a few minutes, owing as is supposed, to an irruption in its bed -- formed a scene truly horrible.<sup>2</sup>*

Strong tremors and some property damage were reported as far away as Cleveland (where a local newspaper reported "serious alarm" at "shocks far more violent than any before experienced"), Alexandria, Pittsburgh, Washington D.C., New York and other eastern cities.

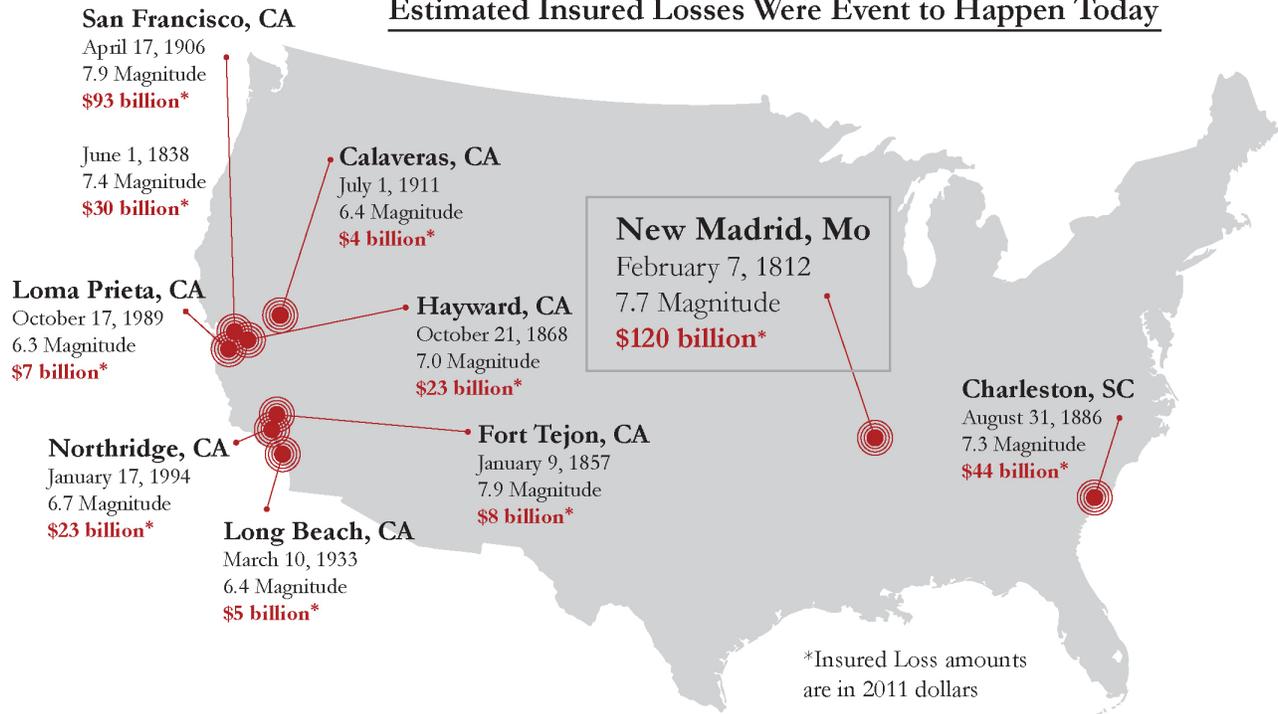
Were an earthquake of similar magnitude to occur today along the New Madrid fault, losses would be staggering. The risk modeling firm AIR Worldwide has estimated that a New Madrid recurrence would produce *insured* losses of \$120 billion (2011 dollars). More recently, global reinsurer Swiss Re estimated total insured losses at \$150 billion.<sup>3</sup> Such losses would only be rivaled by a repeat of the 1906 San Francisco earthquake, with estimated losses of \$93 billion.

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<sup>2</sup> Letter from Eliza Bryan, March 22, 1816. Reprinted by USGS, available at <http://hsv.com/genlintr/newmadr/acnt1.htm>

<sup>3</sup> Swiss Re. 2015. **Four Earthquakes in 54 Days**. Swiss Re American Holding Corporation. 175 King Street, Armonk, NY 10504.

## Estimated Insured Losses Were Event to Happen Today



Source: AIR Worldwide. Estimated losses include property and contents loss, additional living expense, business interruption for residential, mobile home, commercial and automobile losses. Estimates include demand surge and fire following earthquake, and are based on earthquake insurance take-up rates in each area. See <http://www.air-worldwide.com/Publications/AIR-Currents/2012/Top-10-Historical-Hurricanes-and-Earthquakes-in-the-U-S---What-Would-They-Cost-Today/>

The USGS has estimated that the probability of a magnitude 7.5 or greater earthquake in the New Madrid zone over the next 50 years is between 7-10 percent. The probability of an earthquake exceeding magnitude 6 over the same time period is 25-40 percent.<sup>4</sup> A joint assessment by the Mid-America Earthquake Center of the University of Illinois and the Federal Emergency Management Agency predicted that a major New Madrid event could entail total economic losses of \$300 billion, damage 715,000 buildings, and result in 86,000 casualties and 3,500 fatalities. It would constitute the highest total economic loss of any natural disaster in US history.<sup>5</sup>

The Missouri counties most vulnerable to earthquake risk are the six southeastern-most counties in the bootheel: Dunklin, Mississippi, New Madrid, Pemiscot, Scott and Stoddard. Other high risk areas include counties adjacent to the New Madrid Region, extending north to St. Louis. The entire western portion of the state has a relatively lower risk for earthquake damage, a fact important for Missouri's earthquake insurance market.

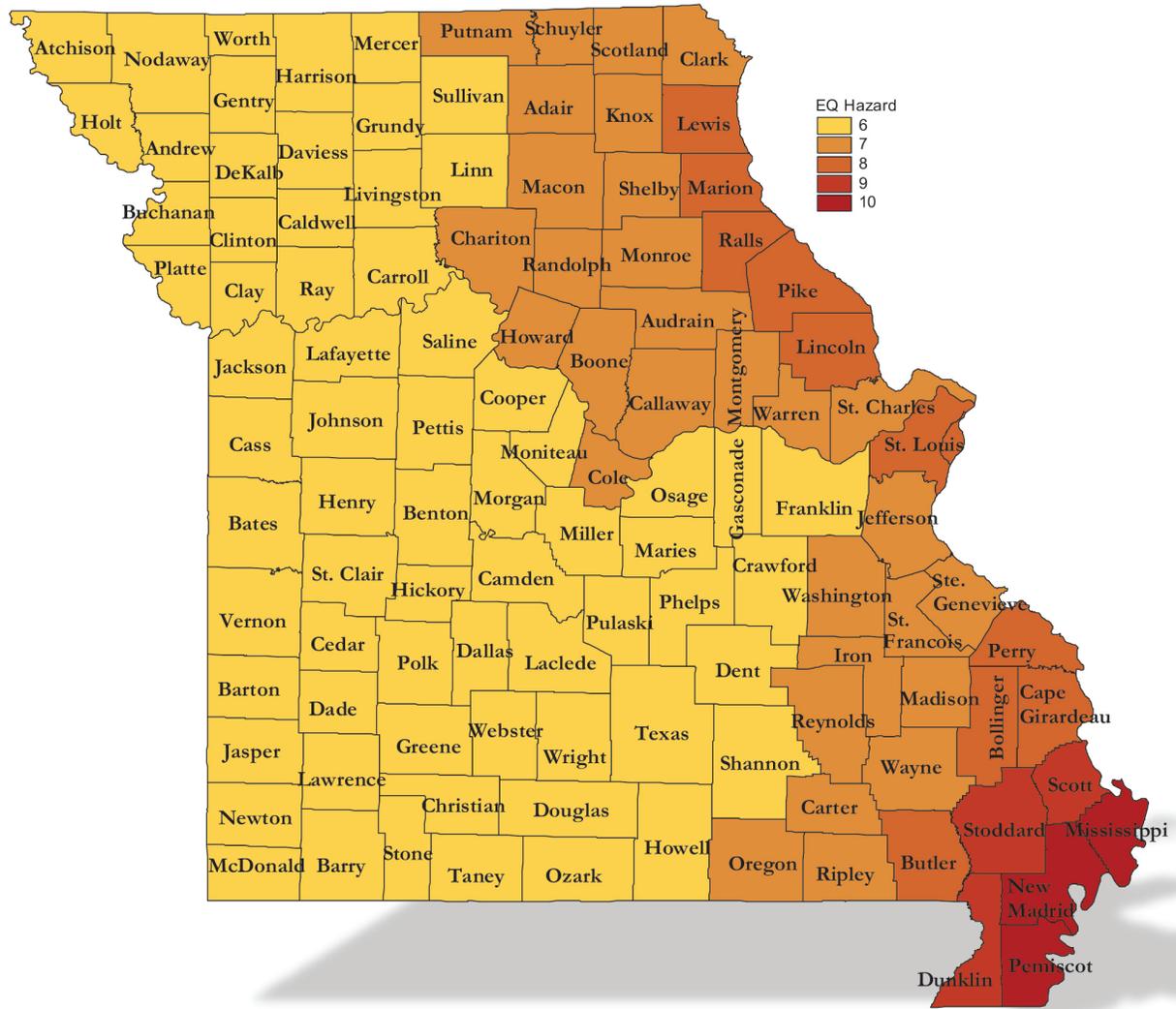
The Mercalli Scale, a measure of shaking intensity ranging from 1 to 12, is depicted in the map on page 6. If a large New Madrid event were to occur today, large portions of the state would be subjected to shaking ranging from 7 to 10 on this scale. The remainder of the state would be subject to shaking intensity rated at a level of 6. The levels are defined by the intensity of ground movement, as follows:

<sup>4</sup> US Geological Survey Fact Sheet FS-131-02. October, 2002.

<sup>5</sup> Elnashai, Amr, Lisa Cleveland, Theresa Jefferson and John Harrald. 2009. Impact of New Madrid Seismic Zone Earthquakes on the Central USA, Vol I & II. MAE Center Report No. 09-03

## Mercalli Scale (Projected Earthquake Intensity)

### Projected Intensity from a 7.6 Magnitude Earthquake in New Madrid



*Source: Adapted from the Missouri State Emergency Management Agency.*

## Mercalli Intensity Scale

According to the Missouri State Emergency Management Agency, the intensities are described as follows:

1 – People do not feel any Earth movement.

2 – A few people might notice movement.

3 – Many people indoors feel movement. Hanging objects swing.

4 – Most people indoors feel movement. Dishes, windows, and doors rattle. Walls and frames of structures creak. Liquids in open vessels are slightly disturbed. Parked cars rock.

5 – Almost everyone feels movement. Most people are awakened. Doors swing open or closed. Dishes are broken. Pictures on the wall move. Windows crack in some cases. Small objects move or are turned over. Liquids might spill out of open containers.

6 – Everyone feels movement. Poorly built buildings are damaged slightly. Considerable quantities of dishes and glassware, and some windows are broken. People have trouble walking. Pictures fall off walls. Objects fall off shelves. Plaster in walls might crack. Some furniture is overturned. Small bells in churches, chapels and schools ring.

7 – People have difficulty standing. Considerable damage in poorly built or badly designed buildings, adobe houses, old walls, spires and others. Damage is slight to moderate in well-built buildings. Numerous windows are broken. Weak chimneys break at roof lines. Cornices from towers and high buildings fall. Loose bricks fall from buildings. Heavy furniture is overturned and damaged. Some sand and gravel stream banks cave in.

8 – Drivers have trouble steering. Poorly built structures suffer severe damage. Ordinary substantial buildings partially collapse. Damage slight in structures especially built to withstand earthquakes. Tree branches break. Houses not bolted down might shift on their foundations. Tall structures such as towers and chimneys might twist and fall. Temporary or permanent changes in springs and wells. Sand and mud is ejected in small amounts.

9 – Most buildings suffer damage. Houses that are not bolted down move off their foundations. Some underground pipes are broken. The ground cracks conspicuously. Reservoirs suffer severe damage.

10 – Well-built wooden structures are severely damaged and some destroyed. Most masonry and frame structures are destroyed, including their foundations. Some bridges are destroyed. Dams are seriously damaged. Large landslides occur. Water is thrown on the banks of canals, rivers, and lakes. Railroad tracks are bent slightly. Cracks are opened in cement pavements and asphalt road surfaces.

11 – Few if any masonry structures remain standing. Large, well-built bridges are destroyed. Wood frame structures are severely damaged, especially near epicenters. Buried pipelines are rendered completely useless. Railroad tracks are badly bent. Water mixed with sand, and mud is ejected in large amounts.

12 – Damage is total, and nearly all works of construction are damaged greatly or destroyed. Objects are thrown into the air. The ground moves in waves or ripples. Large amounts of rock may move. Lakes are dammed, waterfalls formed and rivers are deflected.

According to the Missouri State Emergency Management Agency, intensity is a numerical index describing the effects of an earthquake on the surface of the Earth, on man, and on structures built by man. There will actually be a range in intensities within any small area such as a town or county, with the highest intensity generally occurring at only a few sites.

Source: Taken directly from the Missouri State Emergency Management Agency, available at [http://sema.dps.mo.gov/docs/programs/Planning-Disaster-Recovery/HazardAnalysis/2013-State-Hazard-Analysis/Annex\\_F\\_Earthquakes.pdf](http://sema.dps.mo.gov/docs/programs/Planning-Disaster-Recovery/HazardAnalysis/2013-State-Hazard-Analysis/Annex_F_Earthquakes.pdf).

## Background: Managing Risk with Insurance Markets

Earthquake insurance markets possess features that depart significantly from what might be called “ideal” insurance markets, and such peculiarities are largely attributable to the nature of the underlying risk. In competitive markets, the price of a product reflects the cost of production plus administrative expenses and a normal rate of return (and, of course, elasticity of demand). Unlike traditional and particularly tangible products, the cost of insurance isn’t known with certainty at the time the price is established and the product sold. To price in a meaningful way, insurers require a high degree of confidence that predictions regarding likely losses are accurate. The greater the uncertainty regarding the true risk and ultimate payout in claims, the less well a market will function in the traditional sense. Of course, this same uncertainty regarding the true nature of the risk is shared by consumers, which complicates decisions about incurring a known loss (the premium payment) to avoid a possible greater loss of unknown or uncertain probability.<sup>6</sup>

Traditionally, the most predictable and therefore insurable events are those characterized by high frequency and low severity losses. Statistical models rely on the “law of large numbers,” such that the more one is able to observe an event over time, the greater the certainty that meaningful probabilities of loss can be ascertained.<sup>7</sup> In addition, risks are manageable because losses of this kind are *statistically independent events*. The probability that Driver B in Kansas City will be involved in an automobile accident on a given day isn’t affected by the fact that Driver A in St. Louis experienced a crash. While automobile and homeowners insurance can be subject to catastrophic large-scale losses due to a single event, such losses are manageable and are generally a small proportion of overall losses when extended over a sufficient time period. Most automobile losses, for example, are due to day-to-day crashes whose costs are highly predictable over time, and where loss probabilities aren’t subject to significant swings from year-to-year. In general, prior year losses are a very good predictor of current year losses.

Clearly, earthquake insurance markets depart from the idealized features discussed above in several important ways. First, the likelihood of a significant event cannot be determined with a high degree of confidence and precision, certainly not in a way that is analogous to predicting automobile losses. Secondly, rather than “high frequency / low severity” losses, earthquakes present exactly the opposite risk in which losses are very infrequent (in Missouri) but have the potential to be catastrophic. Nor are losses *independent events* – a loss on one policy will quite possibly entail losses of virtually every policy within the area of risk. Lastly, the earthquake risk in Missouri is largely localized geographically to the southeastern quadrant of the state, so there is little incentive for individuals residing outside of the high risk zone to purchase coverage (and in fact few homeowners in low risk areas have earthquake coverage). It is therefore difficult to spread risk geographically using traditional market mechanisms.

Many of these types of events have at various times in history become uninsurable by private markets. Some risks have been assumed by public bodies in whole or in part when private markets failed to produce adequate or affordable coverage. Examples include flood insurance, crop insurance and the terrorism risk backstop, where at various times such risks were considered too unpredictable and possible losses too

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<sup>6</sup> See the excellent discussion of precisely this problem in Kunreuther, Howard, and Mark Pauly. 2004. Neglecting disaster: Why don’t people insure against large losses? *Journal of Risk & Uncertainty*. 28(1): 5-21. The authors discuss “bounded rationality” stemming from information costs, and offer a formal model that explains why people fail to make optimal (in the economic sense) choices regarding the purchase of insurance for catastrophes when probabilities are very uncertain and generally very low.

<sup>7</sup> The “law of large numbers” explains why predictions about the ratio of heads to tails in a coin flip are much more accurate for 1,000 flips than 10 flips; or why larger sample sizes are more precise (have smaller margins of errors).

catastrophic for the private market to insure them via normal market operation. Similarly, after the 1994 Northridge Earthquake, the public California Earthquake Authority was established to stabilize the market, and it currently issues more than three-fourths of all residential earthquake policies in the state.<sup>8</sup>

### **Alternative Risk Management Mechanisms –Reinsurance**

As noted above, primary insurance markets cannot easily accommodate risks when hazards are geographically localized. As discussed further below, few individuals residing outside the area of highest risk are likely to purchase coverage, and they are likely to be much more sensitive to price. An insurer willing to provide earthquake coverage will inevitably experience a degree of “adverse selection,” and find that insureds are concentrated where the risk is greatest and minimal where the risk is least.

However, there are alternative market mechanisms available. One such mechanism is *reinsurance* - essentially insurance for insurance companies. Large reinsurers operate on a global scale, and primary insurers can transfer significant portions of the risk associated with a book of business to these entities in exchange for a premium. As might be expected, earthquake coverage is highly reinsured. In 2014, a little over 70 percent of direct earthquake premium was ceded to reinsurance.<sup>9</sup> Other mechanisms include catastrophe bonds, or securities issued by insurers to pass risk on to investors. Total outstanding catastrophe bonds amounted to more than \$20 billion in 2015 and cover risks such as hurricanes and earthquakes.<sup>10</sup>

Reinsurance markets work well to manage catastrophic risks such as earthquakes. However, high dependence on reinsurance means that prices and availability of primary coverage is sensitive to the price of reinsurance. This sensitivity means that events unrelated to Missouri’s earthquake risk can impact the price of insurance coverage in Missouri. As is apparent in the chart below, reinsurance became more expensive and less available after events such as the 9-11 terrorist attacks and the active 2005 hurricane season that included Katrina. However, the price of reinsurance has been on a downward trend since 2007, and does not appear to account for current market retractions in Missouri.

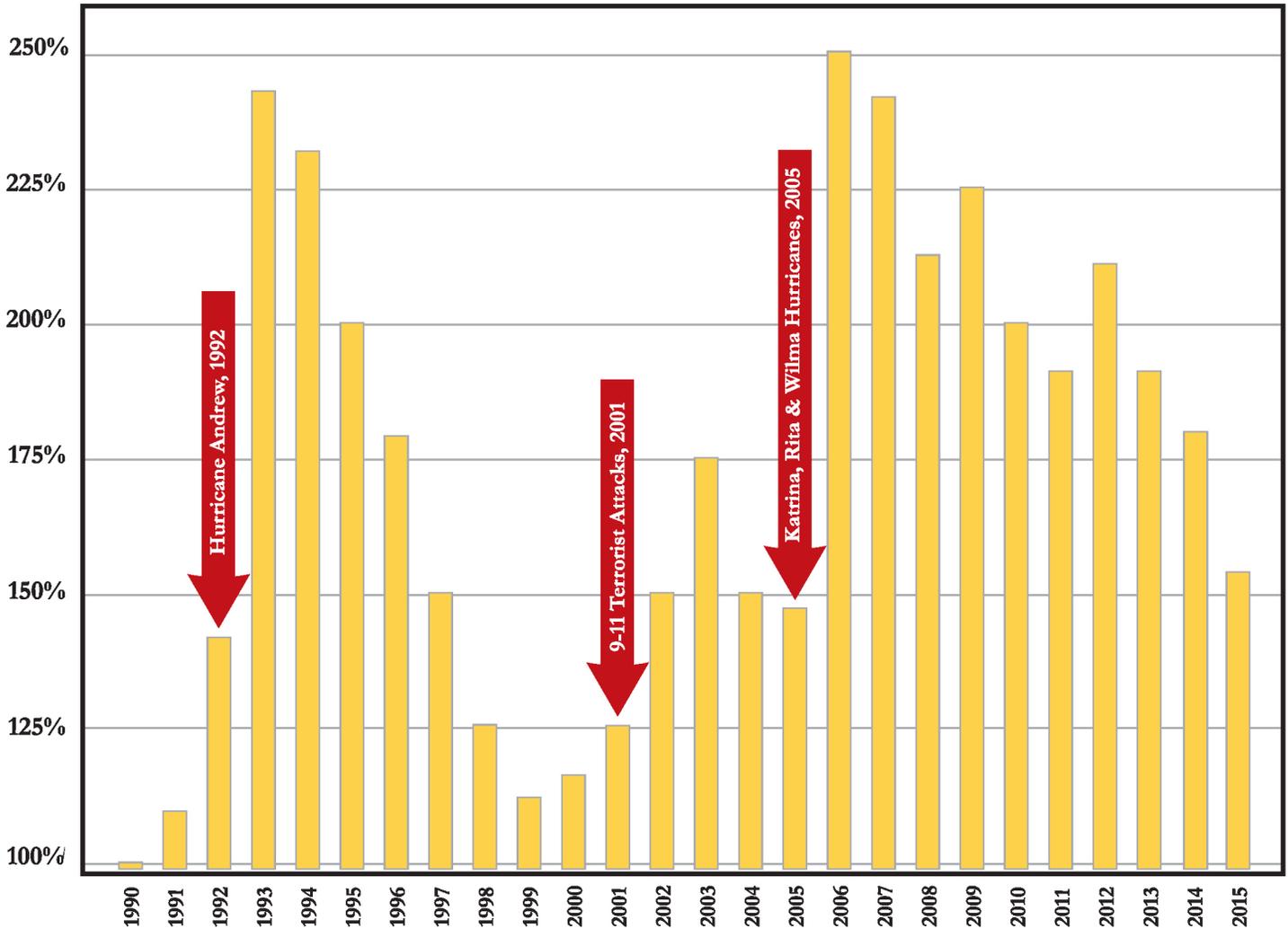
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<sup>8</sup> California Earthquake Authority. 2013 Report to the Legislature. August, 2014. This report can be found on the CEA’s website at [www.earthquakeauthority.com](http://www.earthquakeauthority.com)

<sup>9</sup> Calculated from insurers’ financial annual statements, Exhibit of Premium Written.

<sup>10</sup> ARTEMIS. Q1 2015 Catastrophe Bond and ILS Market Report.

## Reinsurance Price Index in US (1990 = 100%)



Source: Adapted from Guy Carpenter.

### Missouri’s Contracting Earthquake Insurance Market

As the previous discussion makes clear, it doesn’t appear that anything in reinsurance markets accounts for the deterioration of the Missouri earthquake market, particularly in recent years. Rather, it appears that insurers have either determined that the New Madrid fault presents a risk greater than previously believed or, as is the case of at least one major insurer, have developed less tolerance for all catastrophe risks. Allstate announced in 2006 that it was pulling out of the earthquake market in all states, describing it as a general business decision to reduce exposure to all forms of catastrophe risks.<sup>11</sup> At the time, Allstate provided earthquake insurance to over 37,000 Missouri residences.

Other companies quickly followed Allstate’s lead. Between 2000 and 2014, 64 insurers exited the Missouri earthquake market. Between them, these insurers had provided coverage to 113,923 residences in 2000. While 34 insurers entered the market over the same time period, those carriers only insured 53,923

<sup>11</sup> Jolayne Hoytz. Allstate Ends Quake Coverage. *The Seattle Times*, 6/2/2006.

policies in 2014. Over the same period, companies that remained in the market stopped writing in high risk areas or tightened underwriting criteria, scaled back the amount and type of coverage offered, and dramatically increased prices. The net result of these market practices has been a significant decline in the number of earthquake policies issued. Since 2000, the number of homeowners policies with earthquake coverage declined by 21 percent, from 670,968 in 2000 to 529,797 in 2014.

The remainder of this report examines these trends in detail. The figures in the following tables are derived from two primary data sources. Information pertaining to premium and policy counts<sup>12</sup> by geographic region is derived from residential insurance data collected by ZIP Code, pursuant to 20 CSR 600-3.100 (see <http://www.sos.mo.gov/adrules/csr/current/20csr/20c600-3.pdf>). Additional information was obtained by a survey of the largest homeowners writers in the state. In 2015, insurers with a combined homeowners insurance market share of 80 percent completed a questionnaire regarding market practices with respect to providing earthquake coverage.

### **The Rising Cost of Coverage in a Declining Market**

In 2000, residential earthquake coverage was readily available and inexpensive, even in the highest risk areas of the state. In that year, residents in the New Madrid region of Missouri<sup>13</sup> paid on average \$57 per year for such coverage, an amount not significantly higher than the \$35 annual premium paid by residents of the lowest risk area. Over the next 15 years, rates increased substantially, primarily within higher risk areas. By 2015, the average premium in the New Madrid area had increased by 485% to \$335. While premiums also increased elsewhere in the state, the rate of increase was substantially less than experienced in New Madrid. In the lowest risk areas, premiums increased by 123% over the same time period.

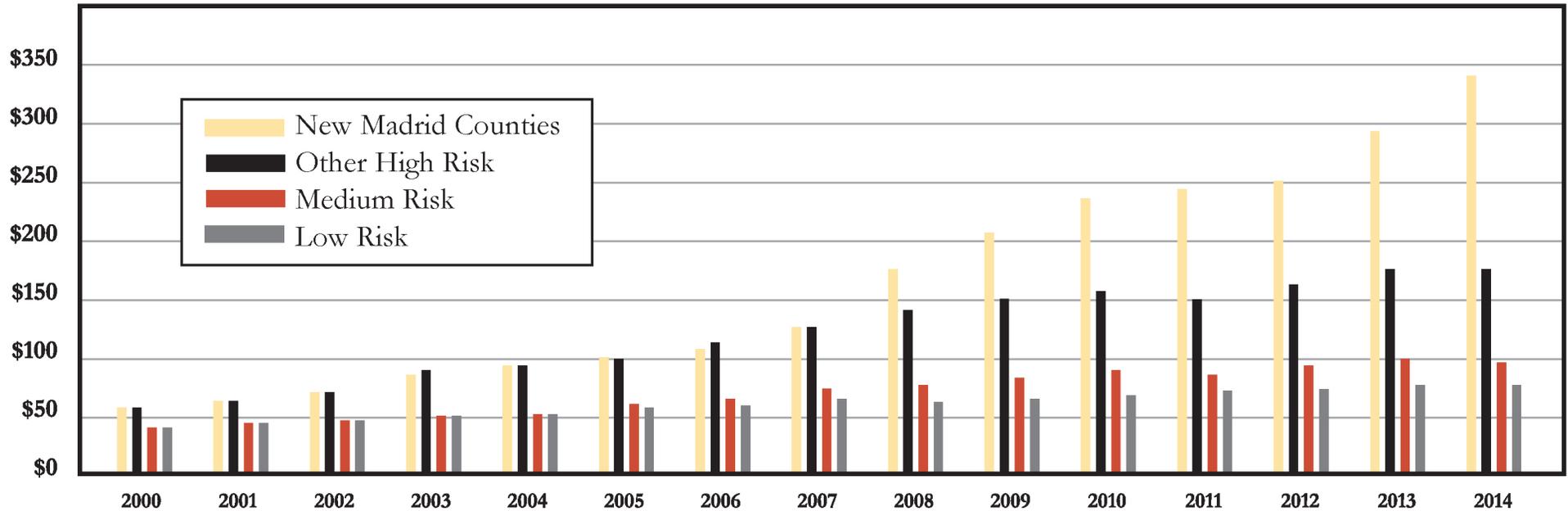
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<sup>12</sup>Or, more strictly speaking, “exposures” rather than policy counts. The term “exposure” is equivalent to coverage for one residence for one year. Two six month policies issued in a year would count as a single exposure. To avoid overuse of specialized terminology, the terms “policies” or “covered residences” are used in this report.

<sup>13</sup>For purposes of this report, the region is composed of the six southeastern-most counties in Missouri: Dunklin, Mississippi, New Madrid, Pemisot, Scott and Stoddard.

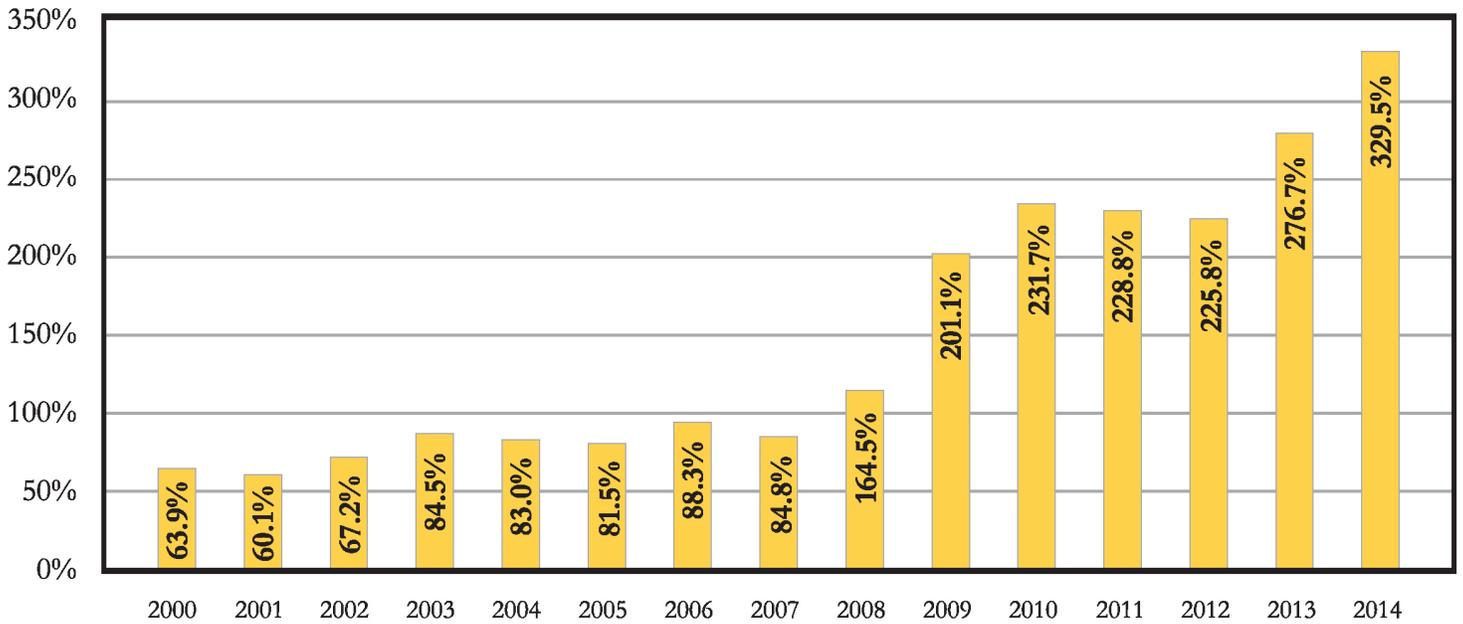
Average Annual Premium for Residential Earthquake Coverage																
Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Chg. 2000-2014
New Madrid Counties	\$57	\$60	\$67	\$89	\$98	\$102	\$114	\$124	\$174	\$206	\$236	\$242	\$249	\$293	\$335	484.9%
Other High Risk	\$63	\$66	\$71	\$84	\$93	\$99	\$106	\$122	\$137	\$149	\$155	\$153	\$162	\$175	\$175	176.3%
Medium Risk	\$39	\$41	\$44	\$55	\$60	\$62	\$68	\$76	\$80	\$88	\$90	\$88	\$94	\$98	\$94	141.2%
Low Risk	\$35	\$37	\$40	\$48	\$53	\$56	\$61	\$67	\$66	\$69	\$71	\$74	\$76	\$78	\$78	123.3%
<b>Difference - Zone 1 and Zone 4</b>	<b>63.9%</b>	<b>60.1%</b>	<b>67.2%</b>	<b>84.5%</b>	<b>83.0%</b>	<b>81.5%</b>	<b>88.3%</b>	<b>84.8%</b>	<b>164.5%</b>	<b>201.1%</b>	<b>231.7%</b>	<b>228.8%</b>	<b>225.8%</b>	<b>276.7%</b>	<b>329.5%</b>	

### Average Annual Premium - Earthquake Insurance



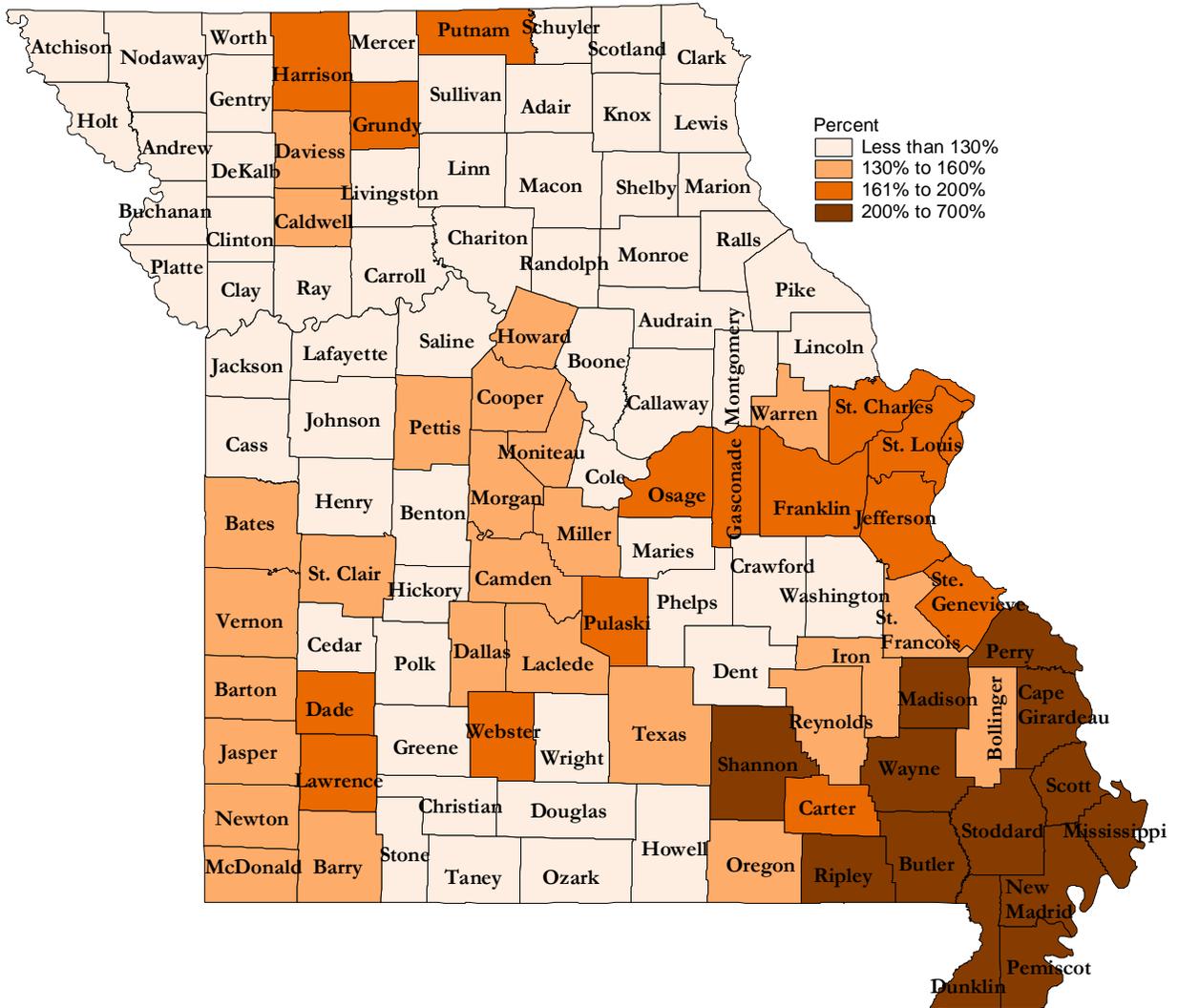
As a result of these trends, the gap in costs widened between high- and low-risk areas. In 2000, premiums in New Madrid were only 64% higher than the lowest-risk areas. The gap increased dramatically in 2008, and by 2015 had grown to 330%.

### Percent Difference in Annual Premium New Madrid Counties Vs. Low Risk Counties



The map below depicts the change in annual premium by county. The reader will note that the rate of increase was significantly higher in counties most at risk. A table of these same data can be found in Appendix A.

## % Change in Average Premium for Earthquake Coverage, 2000-2014



## Declining Take-up Rates

In 2000, nearly 44 percent of all Missouri residences had earthquake coverage. In the New Madrid area, over 60 percent were covered, and in other high risk areas, including St. Louis, the take-up rate was almost 70 percent. In New Madrid, the take-up rate had declined to less than 50 percent in 2008, and by 2014 had plummeted to 20 percent. That is, four of every five homes in the six-county New Madrid area lacked earthquake coverage last year. The decline was less precipitous in the second highest risk area, and by 2014 just over half of residences still had coverage. In the lowest risk area, comprised of the western portion of the state, coverage rates declined by nearly 7 percentage points, to 14.9 percent (see illustrations on the following page). As depicted in the following table, only in 7 counties were more than half of residences covered.

<b>% of Residences With Earthquake Coverage</b>	<b># of Counties</b>	<b>Number of Owner-Occupied Homes &amp; Mobile Homes*</b>
Less than 10%	28	117,371
10% to 19.9%	50	689,290
20% to 29.9%	18	175,218
30% to 39.9%	9	115,501
40% to 49.9%	3	57,216
50% to 59.9%	3	391,866
60% to 69.9%	4	142,660
<b>Total</b>	<b>115</b>	<b>1,689,122</b>

*\*Based on insured dwellings. A small percentage of homes that have no insurance coverage are excluded.*

*Source: Calculations based on Missouri homeowners and earthquake insurance data collected by ZIP Code*

In moderate to high-risk areas, including all counties with a rating of seven or higher on the Mercalli Scale (see map, page 3), well over half a million private residences (excluding rental properties) lacked earthquake coverage in 2014. The estimated value of these uninsured residences totaled \$86 billion, excluding the value of the contents. Even individuals that have earthquake coverage are at risk of significant loss. Assuming an average deductible equal to 15 percent of the value of the insured dwelling, property worth \$14.9 billion is self-insured in moderate to high risk areas. Together, these amounts (homes which are completely uninsured for earthquake + risk retained under the typical deductible) total to more than \$100 billion.

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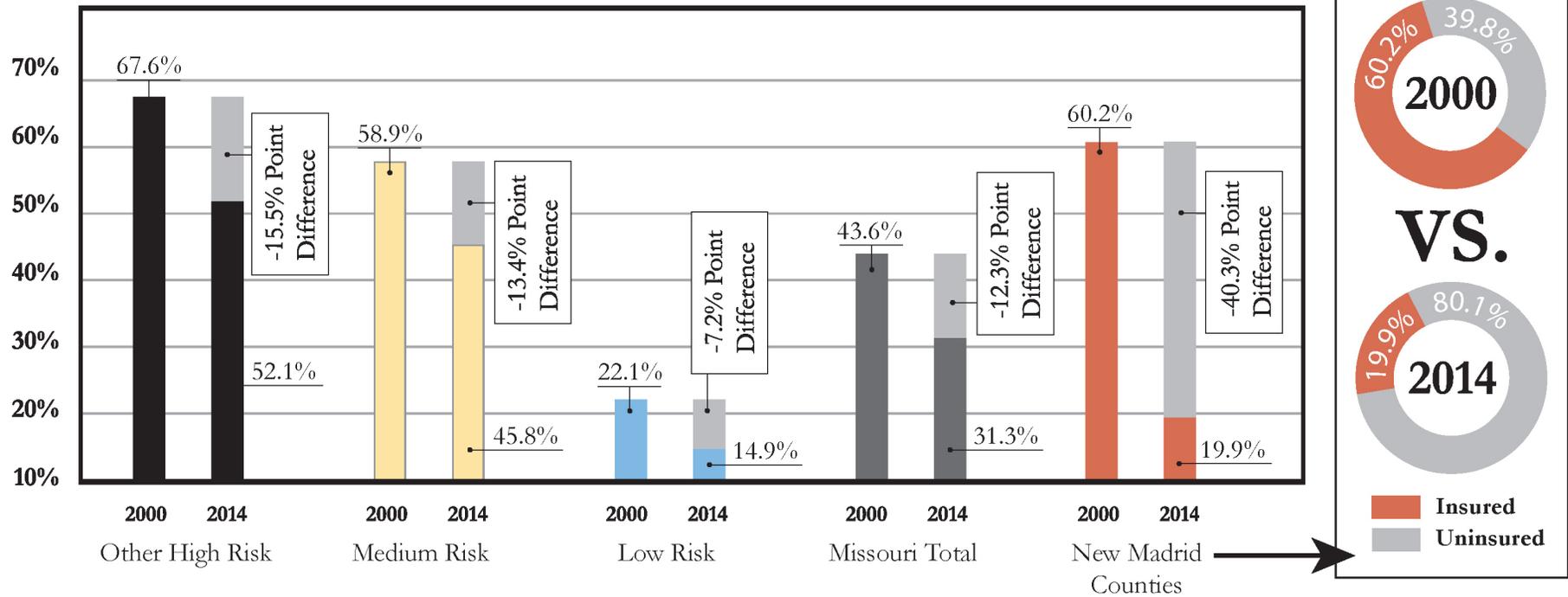
<sup>14</sup> The assumption is reasonable. Based on survey data discussed below, no insurer offers coverage with a deductible of less than 10 percent, and more than half require a deductible of between 15 and 25 percent.

<b>Value of Dwellings Not Insured for Earthquake Damage (uninsured homes + value retained under deductible)</b>				
<b>Earthquake Zone (Mercalli Scale)</b>	<b>Uninsured Dwellings</b>	<b>Uninsured Property Value</b>	<b>Value uninsured under a 15% deductible</b>	<b>Total Retained Risk</b>
7	299,621	\$45,218,080,000	\$6,542,653,188	\$51,760,733,188
8	223,808	\$36,479,436,667	\$8,090,103,813	\$44,569,540,480
9	27,272	\$3,222,370,000	\$175,807,500	\$3,398,177,500
10	12,034	\$1,262,486,250	\$46,279,625	\$1,308,765,875
<b>Total 7 - 9</b>	<b>562,734</b>	<b>\$86,182,372,917</b>	<b>\$14,854,844,126</b>	<b>\$101,037,217,043</b>

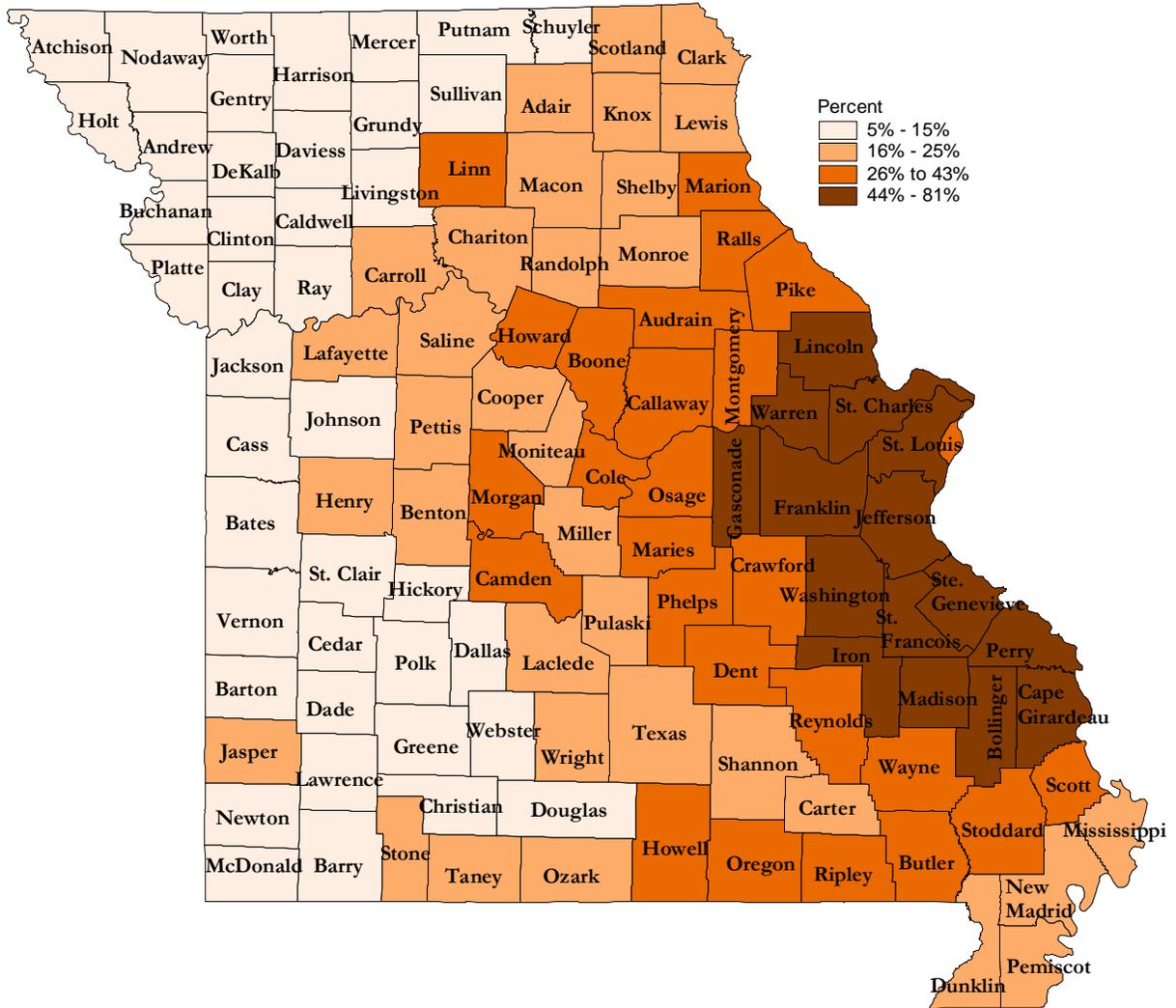
*Source: Estimates produced by DIFP.*

% of Residences With Earthquake Coverage																
Missouri Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Percentage Point Difference, 2000-2014
New Madrid	60.2%	59.3%	59.0%	57.7%	57.1%	57.1%	52.9%	53.9%	48.6%	44.9%	34.3%	33.3%	32.2%	25.9%	19.9%	-40.3%
Other High Risk	67.6%	67.8%	68.1%	67.2%	66.1%	64.7%	61.3%	55.8%	56.5%	58.1%	56.6%	57.2%	56.1%	54.6%	52.1%	-15.5%
Medium Risk	58.9%	58.0%	58.3%	57.6%	56.5%	55.6%	52.9%	50.0%	49.7%	50.4%	48.5%	48.8%	48.5%	47.6%	45.8%	-13.4%
Low Risk	22.1%	21.3%	20.6%	19.5%	18.5%	17.8%	16.9%	16.1%	15.9%	15.8%	15.5%	16.1%	16.2%	15.7%	14.9%	-7.2%
<b>Missouri Total</b>	<b>43.6%</b>	<b>43.0%</b>	<b>42.7%</b>	<b>41.7%</b>	<b>40.7%</b>	<b>39.8%</b>	<b>37.7%</b>	<b>35.2%</b>	<b>35.0%</b>	<b>35.4%</b>	<b>34.2%</b>	<b>34.6%</b>	<b>34.4%</b>	<b>33.2%</b>	<b>31.3%</b>	<b>-12.3%</b>

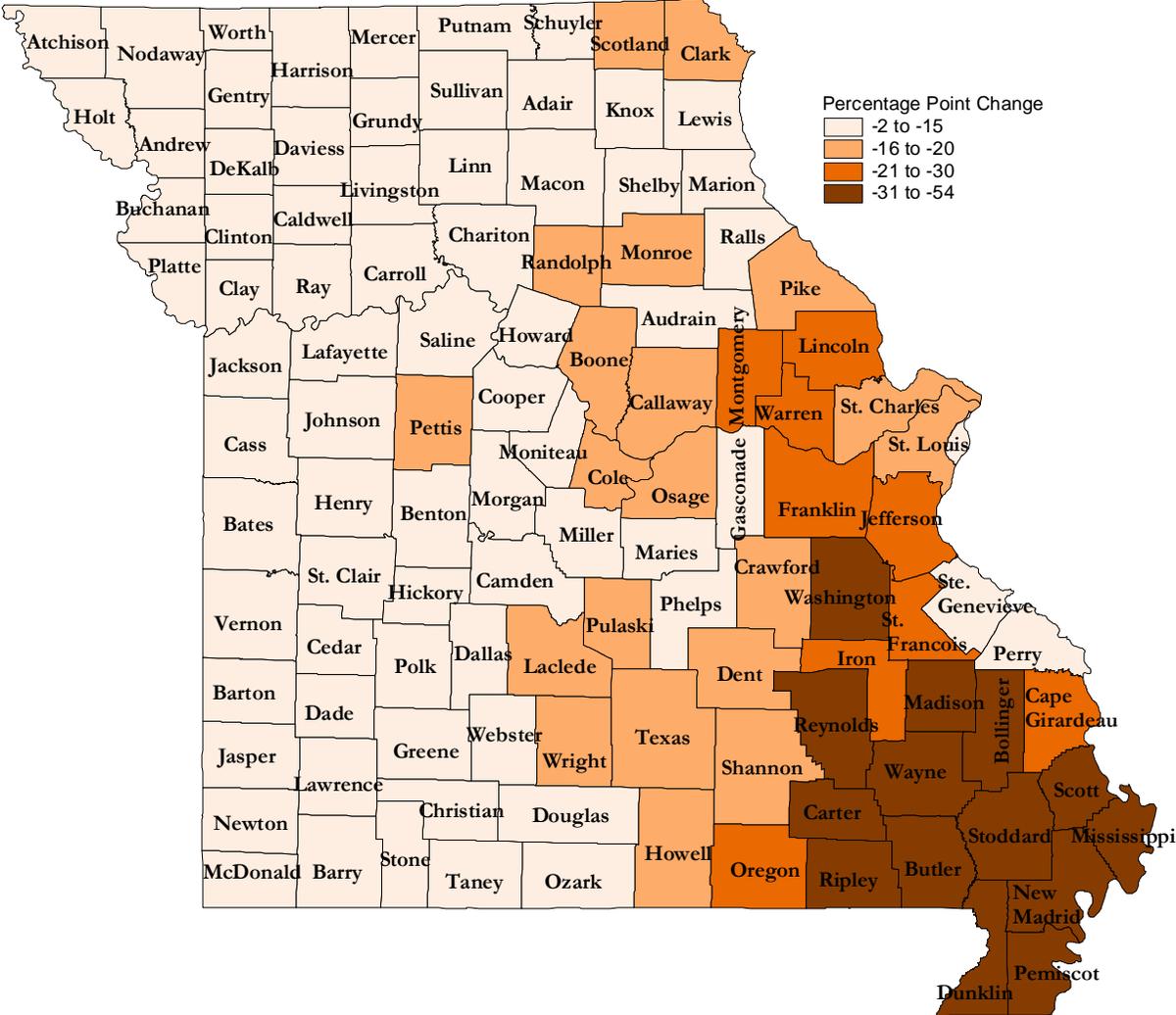
Percentage Point Difference, 2000-2014



## Percent of Residences with Earthquake Insurance, 2014



# Residences with Earthquake Insurance, Percentage Point Change, 2000-2014



## Declining Quality of Coverage

Based on survey responses from carriers representing over 80 percent of the homeowners market, most insurers still sell earthquake coverage in at least in some areas of the state. Weighting responses by market share, approximately 88 percent of the market still offers the coverage on both renewal and new business. However, coverage is far less available within the high-risk New Madrid area. Among respondents, nearly one-third of the market does not write earthquake coverage at all in New Madrid. An additional 44 percent of the market places significant additional underwriting restrictions on residences in the area. Among such restrictions are a refusal to insure specific types of dwellings and requiring substantially higher deductibles than elsewhere in the state. Only about a fourth of the market issues coverage in New Madrid on the same terms as elsewhere in the state.

<b>Coverage issued in NM Zone?</b>	<b>Responses Weighted by Market Share</b>
No, not writing eq. anywhere in MO	10.1%
No, write elsewhere in MO	19.1%
Yes, but with additional underwriting restrictions	44.2%
Yes, no additional underwriting restrictions	26.6%

*Source: DIFP survey of top homeowners insurers*

Even individuals with earthquake coverage are increasingly required to “self-insure” to a significant extent. Earthquake insurance typically requires deductibles specified as a percentage of the insured value of the dwelling. For example, a \$200,000 home with a 10% deductible would require a homeowner to pay the first \$20,000 of a claim before insurance would extend coverage. In addition, “stacked” deductibles are common, so that separate deductibles are applied to the dwelling and contents. With dual deductibles, then hypothetical insured described above would retain up to \$40,000 of risk.

Based on the DIFP survey, in no area of the state does any insurer provide coverage with a deductible of less than 10 percent. In the six-county New Madrid area, nearly 58 percent of insurers (weighted by market share) require a 10 percent deductible, and nearly a third require deductibles of 20 percent. Among all insurers writing earthquake coverage outside of the New Madrid area, 11 percent require a deductible of 25 percent.

More information about the survey respondents, and the areas of Missouri in which they offer earthquake coverage, can be found in Appendix C.

<b>Minimum Required Deductible in Each Insurers Highest Risk Zone</b>	
<b>Deductible Amount</b>	<b>Weighted Responses</b>
<b>Among carriers still writing in New Madrid</b>	
5%	0.0%
10%	57.7%
15%	9.5%
20%	32.8%
25%	0.0%
<b>Among insurers still writing anywhere in the state</b>	
5%	0.0%
10%	45.5%
15%	13.7%
20%	29.7%
25%	11.1%

*Source: DIFP survey of insurers.*

## **Conclusion**

Missouri’s earthquake insurance market has significantly contracted over the past 10 to 15 years. Relatively few insurers issue earthquake coverage in the New Madrid region without significant underwriting restrictions. For example, many refuse to cover specific kinds of residences, such as masonry homes. At the same time, the price of residential earthquake insurance has increased significantly; in the highest risk area of the state average premiums paid have increased by over 500 percent since 2000. Even when homeowners can obtain coverage, they still must retain a large portion of the risk. No insurer surveyed offered a policy with a deductible of less than 10 percent of the value of the insured dwelling, while over 40 percent required a deductible of 20 percent or higher. As a result, many individuals have dropped earthquake coverage, and the market has contracted most dramatically in the New Madrid area. In 2000, over 60 percent of dwellings in the six-county New Madrid area had earthquake coverage. By 2014, only 20 percent had such coverage. The DIFP estimates that Missouri residential property valued at over \$80 billion is exposed to significant earthquake risk but is not insured.

A comparison with Joplin is instructive. Struck by a devastating EF5 tornado on May 22, 2011, the insurance industry responded rapidly and within three months over \$1 billion was made available to insureds. By June of the following year, more than \$1.5 billion had been paid by insurers, who would eventually cover more than \$2 billion in tornado-related losses.<sup>15</sup> Almost all structures were covered for this type of loss, resulting in a rapid infusion of funds that made recovery possible. Such a recovery mechanism is almost entirely lacking in the area of the state most vulnerable to a New Madrid earthquake.

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<sup>15</sup> Based on a special data call of all P&C insurers active in Missouri.

## Appendix A

Average Annual Premium for Earthquake Insurance (Counties in the New Madrid area are highlighted)								
County FIPS Code	County	2000	2005	2010	2013	2014	% Change, 2000- 2014	% Change, 2013- 2014
001	Adair	\$31	\$52	\$58	\$60	\$58	84.9%	-3.3%
003	Andrew	\$30	\$51	\$52	\$57	\$56	86.6%	-1.8%
005	Atchison	\$35	\$52	\$65	\$69	\$71	100.4%	2.9%
007	Audrain	\$30	\$50	\$59	\$70	\$67	125.8%	-4.3%
009	Barry	\$30	\$50	\$64	\$69	\$78	156.3%	13.0%
011	Barton	\$27	\$42	\$47	\$55	\$63	134.0%	14.5%
013	Bates	\$33	\$62	\$83	\$80	\$80	138.4%	0.0%
015	Benton	\$26	\$38	\$46	\$50	\$56	117.3%	12.0%
017	Bollinger	\$48	\$82	\$105	\$118	\$112	134.6%	-5.1%
019	Boone	\$44	\$77	\$89	\$93	\$90	103.8%	-3.2%
021	Buchanan	\$34	\$52	\$63	\$68	\$67	100.1%	-1.5%
023	Butler	\$64	\$100	\$175	\$229	\$237	268.1%	3.5%
025	Caldwell	\$29	\$59	\$65	\$73	\$68	136.6%	-6.8%
027	Callaway	\$32	\$55	\$66	\$70	\$70	116.9%	0.0%
029	Camden	\$36	\$55	\$76	\$81	\$86	140.5%	6.2%
031	Cape Girardeau	\$68	\$107	\$178	\$224	\$229	237.0%	2.2%
033	Carroll	\$30	\$37	\$48	\$54	\$58	94.9%	7.4%
035	Carter	\$34	\$61	\$101	\$113	\$97	189.5%	-14.2%
037	Cass	\$35	\$57	\$68	\$77	\$80	127.7%	3.9%
039	Cedar	\$31	\$48	\$59	\$61	\$67	118.7%	9.8%
041	Chariton	\$29	\$56	\$66	\$56	\$53	80.6%	-5.4%
043	Christian	\$37	\$60	\$74	\$78	\$82	122.0%	5.1%
045	Clark	\$29	\$41	\$50	\$54	\$56	93.7%	3.7%
047	Clay	\$36	\$55	\$62	\$69	\$70	96.8%	1.4%
049	Clinton	\$34	\$55	\$57	\$62	\$60	78.7%	-3.2%
051	Cole	\$43	\$62	\$77	\$83	\$90	109.3%	8.4%
053	Cooper	\$33	\$49	\$61	\$68	\$77	134.4%	13.2%
055	Crawford	\$30	\$54	\$63	\$69	\$65	117.8%	-5.8%
057	Dade	\$27	\$43	\$55	\$62	\$71	166.5%	14.5%
059	Dallas	\$28	\$44	\$53	\$59	\$71	153.5%	20.3%
061	Daviess	\$31	\$61	\$67	\$72	\$72	131.4%	0.0%
063	DeKalb	\$37	\$55	\$57	\$70	\$65	74.8%	-7.1%
065	Dent	\$31	\$53	\$66	\$66	\$65	112.9%	-1.5%
067	Douglas	\$27	\$39	\$42	\$50	\$57	107.1%	14.0%
069	Dunklin	\$57	\$112	\$234	\$311	\$394	595.9%	26.7%
071	Franklin	\$37	\$64	\$96	\$105	\$108	190.0%	2.9%
073	Gasconade	\$29	\$47	\$65	\$76	\$78	172.3%	2.6%
075	Gentry	\$32	\$59	\$75	\$81	\$70	117.7%	-13.6%
077	Greene	\$39	\$60	\$73	\$79	\$83	114.7%	5.1%

**Average Annual Premium for Earthquake Insurance  
(Counties in the New Madrid area are highlighted)**

County FIPS Code	County	2000	2005	2010	2013	2014	%	%
							Change, 2000- 2014	Change, 2013- 2014
079	Grundy	\$27	\$40	\$56	\$65	\$71	160.7%	9.2%
081	Harrison	\$24	\$33	\$44	\$56	\$63	161.3%	12.5%
083	Henry	\$30	\$51	\$62	\$65	\$66	121.1%	1.5%
085	Hickory	\$24	\$34	\$43	\$49	\$55	128.0%	12.2%
087	Holt	\$35	\$55	\$73	\$68	\$75	116.3%	10.3%
089	Howard	\$29	\$54	\$64	\$70	\$67	135.7%	-4.3%
091	Howell	\$31	\$62	\$76	\$80	\$70	129.3%	-12.5%
093	Iron	\$32	\$50	\$71	\$77	\$74	133.1%	-3.9%
095	Jackson	\$41	\$62	\$73	\$82	\$85	107.6%	3.7%
097	Jasper	\$31	\$47	\$60	\$68	\$73	131.8%	7.4%
099	Jefferson	\$38	\$59	\$88	\$94	\$102	170.6%	8.5%
101	Johnson	\$33	\$59	\$64	\$74	\$75	125.5%	1.4%
103	Knox	\$27	\$50	\$54	\$55	\$53	100.1%	-3.6%
105	Laclede	\$30	\$46	\$60	\$65	\$71	134.5%	9.2%
107	Lafayette	\$29	\$50	\$57	\$65	\$67	129.5%	3.1%
109	Lawrence	\$27	\$44	\$63	\$69	\$72	167.3%	4.3%
111	Lewis	\$25	\$48	\$60	\$63	\$55	116.5%	-12.7%
113	Lincoln	\$34	\$59	\$74	\$79	\$77	126.2%	-2.5%
115	Linn	\$27	\$37	\$40	\$44	\$46	73.1%	4.5%
117	Livingston	\$28	\$41	\$47	\$49	\$55	94.3%	12.2%
119	McDonald	\$23	\$39	\$50	\$56	\$56	140.6%	0.0%
121	Macon	\$27	\$50	\$52	\$54	\$53	94.4%	-1.9%
123	Madison	\$34	\$55	\$82	\$94	\$102	203.7%	8.5%
125	Maries	\$29	\$52	\$62	\$66	\$60	104.1%	-9.1%
127	Marion	\$29	\$50	\$60	\$64	\$62	111.9%	-3.1%
129	Mercer	\$28	\$39	\$50	\$59	\$55	99.0%	-6.8%
131	Miller	\$26	\$46	\$57	\$60	\$64	148.0%	6.7%
133	Mississippi	\$52	\$97	\$235	\$269	\$317	515.7%	17.8%
135	Moniteau	\$27	\$50	\$59	\$62	\$66	142.3%	6.5%
137	Monroe	\$26	\$49	\$57	\$61	\$55	111.9%	-9.8%
139	Montgomery	\$31	\$54	\$68	\$73	\$70	126.3%	-4.1%
141	Morgan	\$26	\$42	\$51	\$55	\$61	138.5%	10.9%
143	New Madrid	\$54	\$85	\$281	\$350	\$364	570.6%	4.0%
145	Newton	\$27	\$42	\$55	\$61	\$65	138.3%	6.6%
147	Nodaway	\$33	\$58	\$62	\$65	\$62	85.8%	-4.6%
149	Oregon	\$33	\$56	\$69	\$78	\$82	146.3%	5.1%
151	Osage	\$32	\$85	\$107	\$110	\$93	188.2%	-15.5%
153	Ozark	\$28	\$42	\$45	\$51	\$56	99.7%	9.8%
155	Pemiscot	\$48	\$97	\$248	\$297	\$383	695.9%	29.0%
157	Perry	\$42	\$63	\$95	\$128	\$132	211.8%	3.1%
159	Pettis	\$27	\$42	\$51	\$57	\$65	136.7%	14.0%

**Average Annual Premium for Earthquake Insurance  
(Counties in the New Madrid area are highlighted)**

County FIPS Code	County	2000	2005	2010	2013	2014	%	%
							Change, 2000- 2014	Change, 2013- 2014
161	Phelps	\$32	\$54	\$68	\$74	\$72	123.4%	-2.7%
163	Pike	\$36	\$61	\$75	\$84	\$74	106.1%	-11.9%
165	Platte	\$46	\$70	\$81	\$92	\$95	103.8%	3.3%
167	Polk	\$31	\$47	\$60	\$66	\$71	125.1%	7.6%
169	Pulaski	\$29	\$58	\$74	\$88	\$87	197.2%	-1.1%
171	Putnam	\$30	\$56	\$67	\$78	\$79	164.5%	1.3%
173	Ralls	\$27	\$45	\$57	\$59	\$56	107.8%	-5.1%
175	Randolph	\$25	\$41	\$52	\$57	\$56	128.6%	-1.8%
177	Ray	\$32	\$52	\$64	\$67	\$64	100.3%	-4.5%
179	Reynolds	\$31	\$63	\$86	\$78	\$79	158.5%	1.3%
181	Ripley	\$38	\$59	\$82	\$104	\$114	200.4%	9.6%
183	Saint Charles	\$42	\$66	\$100	\$109	\$117	174.8%	7.3%
185	Saint Clair	\$28	\$45	\$55	\$61	\$73	159.9%	19.7%
186	Ste. Genevieve	\$42	\$62	\$87	\$115	\$119	184.8%	3.5%
187	Saint Francois	\$35	\$61	\$79	\$91	\$90	158.1%	-1.1%
189	Saint Louis	\$64	\$101	\$157	\$177	\$177	176.1%	0.0%
195	Saline	\$28	\$39	\$52	\$56	\$60	114.7%	7.1%
197	Schuyler	\$27	\$45	\$58	\$64	\$59	122.0%	-7.8%
199	Scotland	\$27	\$44	\$56	\$67	\$62	126.9%	-7.5%
201	Scott	\$65	\$106	\$274	\$327	\$357	448.3%	9.2%
203	Shannon	\$28	\$53	\$73	\$82	\$92	228.7%	12.2%
205	Shelby	\$27	\$49	\$56	\$59	\$52	90.2%	-11.9%
207	Stoddard	\$54	\$101	\$169	\$221	\$247	353.6%	11.8%
209	Stone	\$37	\$54	\$72	\$77	\$82	120.9%	6.5%
211	Sullivan	\$22	\$36	\$41	\$43	\$50	124.3%	16.3%
213	Taney	\$34	\$49	\$61	\$66	\$71	107.7%	7.6%
215	Texas	\$30	\$57	\$68	\$79	\$74	145.7%	-6.3%
217	Vernon	\$28	\$44	\$54	\$61	\$66	131.7%	8.2%
219	Warren	\$36	\$56	\$80	\$84	\$88	145.5%	4.8%
221	Washington	\$30	\$44	\$54	\$63	\$66	119.9%	4.8%
223	Wayne	\$34	\$53	\$84	\$101	\$108	220.0%	6.9%
225	Webster	\$33	\$54	\$77	\$78	\$86	162.8%	10.3%
227	Worth	\$29	\$32	\$52	\$49	\$57	94.4%	16.3%
229	Wright	\$32	\$44	\$52	\$60	\$63	100.5%	5.0%
510	Saint Louis City	\$68	\$103	\$167	\$185	\$184	168.5%	-0.5%
<b>999</b>	<b>Missouri</b>	<b>\$50</b>	<b>\$79</b>	<b>\$119</b>	<b>\$131</b>	<b>\$134</b>	<b>169.5%</b>	<b>2.0%</b>

## Appendix B

Percent of Residences With Earthquake Coverage (New Madrid counties are highlighted)								
County FIPS Code	County	2000	2005	2010	2013	2014	Percentage Point Difference, 2000-2014	Percentage Point Difference, 2013-2014
001	Adair	29.1%	22.9%	20.1%	18.6%	17.8%	-11.3%	-0.8%
003	Andrew	18.5%	14.9%	12.5%	12.0%	11.2%	-7.2%	-0.8%
005	Atchison	10.2%	8.4%	8.0%	6.9%	6.9%	-3.3%	0.1%
007	Audrain	36.2%	31.9%	30.8%	29.3%	28.1%	-8.0%	-1.2%
009	Barry	15.4%	11.7%	8.9%	9.2%	8.8%	-6.7%	-0.4%
011	Barton	12.6%	9.8%	7.8%	7.9%	7.1%	-5.5%	-0.8%
013	Bates	13.0%	8.6%	5.9%	6.0%	5.6%	-7.4%	-0.4%
015	Benton	22.4%	16.9%	14.7%	15.0%	13.9%	-8.5%	-1.1%
017	Bollinger	62.4%	57.1%	38.9%	37.0%	33.5%	-28.9%	-3.5%
019	Boone	37.6%	29.8%	27.0%	26.5%	25.7%	-11.9%	-0.8%
021	Buchanan	16.5%	12.9%	11.2%	10.4%	9.9%	-6.7%	-0.6%
023	Butler	57.3%	51.8%	33.8%	27.1%	22.4%	-34.9%	-4.7%
025	Caldwell	11.4%	7.8%	6.6%	6.7%	6.7%	-4.7%	0.0%
027	Callaway	37.5%	31.9%	27.0%	26.6%	25.6%	-11.9%	-1.0%
029	Camden	42.1%	40.0%	37.5%	37.2%	35.3%	-6.7%	-1.8%
031	Cape Girardeau	81.2%	79.5%	71.9%	67.5%	60.8%	-20.4%	-6.7%
033	Carroll	23.0%	16.6%	10.6%	11.2%	10.9%	-12.1%	-0.3%
035	Carter	47.7%	42.4%	20.7%	18.4%	16.7%	-31.0%	-1.7%
037	Cass	19.4%	13.9%	11.6%	11.7%	11.3%	-8.2%	-0.5%
039	Cedar	14.3%	11.7%	9.1%	9.6%	8.6%	-5.7%	-1.0%
041	Chariton	24.0%	18.3%	15.9%	17.0%	15.8%	-8.2%	-1.3%
043	Christian	16.1%	11.6%	11.8%	12.8%	11.4%	-4.7%	-1.4%
045	Clark	22.3%	17.1%	12.6%	11.4%	10.7%	-11.6%	-0.7%
047	Clay	20.5%	15.2%	13.0%	13.0%	12.5%	-8.1%	-0.5%
049	Clinton	15.3%	10.7%	8.8%	8.9%	8.5%	-6.8%	-0.3%
051	Cole	43.5%	37.9%	32.5%	31.5%	29.7%	-13.7%	-1.7%
053	Cooper	26.9%	20.5%	15.7%	16.4%	15.9%	-11.0%	-0.5%
055	Crawford	45.4%	42.9%	36.2%	34.4%	33.0%	-12.4%	-1.4%
057	Dade	12.5%	9.1%	7.5%	7.9%	7.4%	-5.1%	-0.5%
059	Dallas	15.8%	9.7%	6.6%	6.6%	6.1%	-9.7%	-0.5%
061	Daviess	9.9%	6.2%	5.2%	5.8%	5.8%	-4.1%	-0.1%
063	DeKalb	8.9%	6.5%	4.3%	4.6%	4.6%	-4.3%	0.1%
065	Dent	32.3%	24.8%	20.4%	19.1%	18.4%	-13.8%	-0.6%
067	Douglas	12.6%	10.5%	10.4%	10.0%	8.9%	-3.7%	-1.1%
069	Dunklin	55.7%	47.3%	30.4%	22.3%	15.4%	-40.3%	-6.9%
071	Franklin	64.5%	61.4%	52.6%	51.7%	49.5%	-15.1%	-2.2%
073	Gasconade	48.9%	48.1%	42.9%	40.7%	38.8%	-10.1%	-1.9%
075	Gentry	12.9%	8.8%	7.2%	7.0%	6.8%	-6.1%	-0.2%
077	Greene	18.7%	14.1%	13.0%	13.5%	12.5%	-6.2%	-1.0%

Percent of Residences With Earthquake Coverage (New Madrid counties are highlighted)								
County FIPS Code	County	2000	2005	2010	2013	2014	Percentage Point Difference, 2000-2014	Percentage Point Difference, 2013-2014
079	Grundy	12.8%	9.9%	7.3%	7.2%	6.8%	-6.0%	-0.4%
081	Harrison	8.7%	6.1%	4.4%	4.3%	4.4%	-4.2%	0.1%
083	Henry	20.1%	16.6%	14.6%	14.9%	13.8%	-6.3%	-1.1%
085	Hickory	19.4%	14.7%	10.9%	11.0%	10.2%	-9.1%	-0.8%
087	Holt	9.4%	5.4%	4.8%	4.4%	4.6%	-4.8%	0.3%
089	Howard	32.5%	26.9%	23.6%	23.4%	23.2%	-9.3%	-0.1%
091	Howell	33.5%	27.9%	24.2%	24.2%	23.4%	-10.1%	-0.7%
093	Iron	56.8%	49.4%	36.9%	36.1%	35.7%	-21.2%	-0.5%
095	Jackson	17.1%	12.9%	11.3%	11.7%	11.4%	-5.7%	-0.2%
097	Jasper	18.2%	15.6%	13.8%	16.5%	14.9%	-3.3%	-1.6%
099	Jefferson	72.8%	70.0%	60.0%	59.0%	57.2%	-15.6%	-1.9%
101	Johnson	20.1%	14.5%	12.2%	13.2%	12.7%	-7.4%	-0.5%
103	Knox	16.4%	13.3%	11.8%	11.7%	10.8%	-5.5%	-0.8%
105	Laclede	28.4%	23.4%	20.6%	19.6%	18.0%	-10.4%	-1.6%
107	Lafayette	23.2%	16.1%	13.3%	13.9%	13.6%	-9.6%	-0.3%
109	Lawrence	15.0%	10.2%	7.8%	9.2%	8.5%	-6.4%	-0.6%
111	Lewis	22.9%	18.5%	16.1%	15.9%	14.1%	-8.8%	-1.8%
113	Lincoln	53.8%	49.8%	44.4%	44.1%	42.1%	-11.7%	-2.1%
115	Linn	30.6%	27.0%	23.7%	22.1%	20.8%	-9.7%	-1.3%
117	Livingston	15.7%	11.1%	11.6%	10.8%	10.5%	-5.2%	-0.3%
119	McDonald	13.5%	7.5%	5.8%	6.5%	5.5%	-7.9%	-0.9%
121	Macon	24.7%	17.9%	17.3%	16.6%	15.8%	-8.8%	-0.8%
123	Madison	65.7%	59.9%	39.5%	38.8%	37.2%	-28.5%	-1.6%
125	Maries	31.0%	29.7%	22.4%	23.9%	24.3%	-6.7%	0.4%
127	Marion	41.5%	36.2%	33.9%	32.1%	29.7%	-11.8%	-2.4%
129	Mercer	10.2%	7.2%	5.7%	5.6%	5.3%	-4.8%	-0.2%
131	Miller	24.3%	20.5%	17.4%	18.3%	16.9%	-7.4%	-1.4%
133	Mississippi	60.1%	54.1%	30.0%	22.1%	14.8%	-45.3%	-7.4%
135	Moniteau	24.2%	20.3%	19.1%	18.3%	17.6%	-6.6%	-0.8%
137	Monroe	31.6%	25.0%	21.3%	20.2%	18.5%	-13.1%	-1.7%
139	Montgomery	47.2%	42.4%	36.6%	34.2%	33.2%	-14.0%	-1.0%
141	Morgan	35.6%	33.7%	30.4%	29.2%	26.8%	-8.8%	-2.5%
143	New Madrid	51.2%	54.8%	27.7%	20.2%	16.6%	-34.5%	-3.5%
145	Newton	14.0%	9.6%	8.5%	10.3%	9.2%	-4.8%	-1.1%
147	Nodaway	7.1%	5.2%	4.7%	5.2%	4.7%	-2.5%	-0.5%
149	Oregon	42.7%	36.8%	24.1%	23.9%	24.1%	-18.6%	0.1%
151	Osage	33.3%	28.4%	23.8%	22.6%	21.8%	-11.5%	-0.8%
153	Ozark	18.5%	15.8%	14.1%	14.1%	13.6%	-4.9%	-0.5%
155	Pemiscot	49.4%	45.7%	21.1%	15.6%	14.1%	-35.3%	-1.5%
157	Perry	77.4%	79.2%	71.9%	69.2%	68.5%	-9.0%	-0.7%
159	Pettis	30.9%	25.3%	19.2%	17.7%	16.7%	-14.2%	-1.1%

Percent of Residences With Earthquake Coverage (New Madrid counties are highlighted)								
County FIPS Code	County	2000	2005	2010	2013	2014	Percentage Point Difference, 2000-2014	Percentage Point Difference, 2013-2014
161	Phelps	34.7%	28.9%	25.6%	25.8%	24.7%	-10.0%	-1.1%
163	Pike	41.3%	35.8%	30.3%	27.9%	27.0%	-14.2%	-0.8%
165	Platte	18.8%	14.3%	12.3%	12.7%	12.2%	-6.6%	-0.5%
167	Polk	17.8%	11.9%	10.5%	11.3%	10.0%	-7.8%	-1.3%
169	Pulaski	25.9%	18.9%	13.4%	14.2%	13.4%	-12.5%	-0.9%
171	Putnam	16.5%	9.9%	6.9%	7.2%	7.2%	-9.3%	0.0%
173	Ralls	31.2%	27.1%	25.7%	26.0%	25.7%	-5.5%	-0.3%
175	Randolph	30.9%	24.9%	20.5%	18.9%	17.8%	-13.1%	-1.1%
177	Ray	19.0%	14.1%	11.4%	11.7%	10.9%	-8.2%	-0.8%
179	Reynolds	42.4%	32.6%	21.4%	21.1%	18.8%	-23.6%	-2.2%
181	Ripley	44.3%	41.7%	24.4%	23.0%	19.5%	-24.9%	-3.5%
183	Saint Charles	79.2%	75.4%	67.0%	66.4%	64.1%	-15.1%	-2.2%
185	Saint Clair	14.9%	9.8%	6.0%	5.8%	6.1%	-8.8%	0.3%
186	Ste. Genevieve	76.1%	75.9%	68.7%	66.3%	64.6%	-11.5%	-1.7%
187	Saint Francois	65.4%	64.5%	56.7%	54.4%	51.2%	-14.2%	-3.2%
189	Saint Louis	74.4%	70.7%	62.9%	61.0%	58.9%	-15.5%	-2.1%
195	Saline	25.7%	21.6%	19.3%	19.2%	19.0%	-6.6%	-0.2%
197	Schuyler	13.9%	12.5%	9.5%	7.0%	6.2%	-7.6%	-0.8%
199	Scotland	20.9%	13.8%	12.1%	10.8%	10.1%	-10.8%	-0.7%
201	Scott	70.0%	67.9%	41.5%	33.5%	26.3%	-43.7%	-7.2%
203	Shannon	31.3%	22.3%	19.0%	17.8%	17.6%	-13.6%	-0.2%
205	Shelby	21.9%	16.0%	14.4%	14.9%	14.9%	-6.9%	0.1%
207	Stoddard	63.9%	61.4%	42.2%	30.6%	22.6%	-41.3%	-8.0%
209	Stone	18.1%	15.2%	14.6%	15.5%	15.1%	-3.0%	-0.5%
211	Sullivan	14.9%	9.3%	7.1%	6.5%	5.9%	-9.0%	-0.5%
213	Taney	20.2%	18.1%	17.0%	17.5%	17.1%	-3.1%	-0.4%
215	Texas	24.6%	18.9%	14.2%	13.9%	12.6%	-12.0%	-1.3%
217	Vernon	17.0%	12.2%	9.8%	9.5%	9.1%	-7.9%	-0.4%
219	Warren	60.7%	59.3%	49.5%	49.8%	49.5%	-11.2%	-0.3%
221	Washington	53.9%	48.2%	37.2%	38.4%	37.1%	-16.8%	-1.3%
223	Wayne	51.9%	43.1%	25.1%	21.9%	19.9%	-32.0%	-2.0%
225	Webster	17.8%	13.1%	11.5%	12.3%	11.2%	-6.6%	-1.1%
227	Worth	7.8%	5.3%	4.8%	6.2%	5.2%	-2.6%	-1.0%
229	Wright	23.9%	18.0%	13.9%	13.1%	12.2%	-11.7%	-0.9%
510	Saint Louis City	46.1%	45.9%	36.2%	34.8%	32.2%	-13.9%	-2.6%
999	Missouri Total	43.6%	39.8%	34.2%	33.2%	31.3%	-12.3%	-1.8%

## Appendix C – Companies Offering Earthquake Insurance by Region

The companies below were offering new earthquake insurance policies in the regions checked (✓) as of April 2015. Each company has different restrictions on types of homes they cover and the coverage they offer. Contact the company or an agent who represents that company to find out if you can obtain coverage for your home.

Homeowners Insurers (sorted by descending market share)					
Company	Southeast Missouri	St. Louis	Kansas City	Springfield	Columbia
State Farm Fire and Casualty Co.	✓	✓	✓	✓	✓
American Family Mutual Insurance Co.	✓	✓	✓	✓	✓
Shelter Mutual Insurance Co.	✓	✓	✓	✓	✓
Safeco Insurance Co. of America		✓	✓	✓	✓
Farmers Insurance Exchange	✓	✓	✓	✓	✓
Auto Club Family Insurance Co.		✓	✓	✓	✓
Farm Bureau Town and Country Insurance Co. of Missouri					
Nationwide Affinity Insurance Co. of America	✓	✓	✓	✓	✓
The Travelers Home and Marine Insurance Co.		✓	✓	✓	✓
United Services Automobile Association (USAA)	✓	✓	✓	✓	✓
Liberty Insurance Corp.		✓	✓	✓	✓
Allstate Property & Casualty Insurance Co.					
Mid Century Insurance Co.					
Fire Insurance Exchange (Farmers)					
Liberty Mutual Fire Insurance Co.					
USAA Casualty Insurance Co.	✓	✓	✓	✓	✓
Country Mutual Insurance Co.	✓	✓	✓	✓	✓
Allstate Indemnity Co.					
Allstate Insurance Co.					
Auto Owners Insurance Co.		Did not respond to survey.			
The Standard Fire Insurance Co. (Travelers)		✓	✓	✓	✓
Palomar Specialty Insurance Company	✓	✓	✓	✓	✓

## **Insurance Consumer Hotline**

Contact DIFP's Insurance Consumer Hotline if you have questions about your insurance policy or to file a complaint against an insurance company or agent:

**difp.mo.gov**

**800-726-7390**



# DIFP

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