

REPORT

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Insurance costs trends becoming a headache for the CRE market

Summary

Insurance coverage cost and availability has become an increasing pain point for commercial real estate (CRE) market participants. Property insurance expenses traditionally inflate by roughly two to three percent per year, which is a typical expense budgeting target of underwriters, lenders and asset managers. However, year-over-year insurance cost growth has spiked to over 17% in some markets in recent years. We found that on average nationally, CRE properties have seen about a 7.6% annual growth rate since 2017. The average cost of insurance tends to be much higher for properties exposed to acute climate risks, but the elevated insurance expense growth rate is largely ubiquitous across the country.

On top of this, some property owners are struggling to get coverage or maintain the requisite coverage in their loan agreements, which leads to rippling implications for lenders. Understanding the growing insurance expense trends and availability challenges provides an important foundation from which to preemptively factor this into underwriting and structuring deals around insurance requirements. Exploring the potential drivers of these changes can also begin to indicate how these trends may evolve over time.

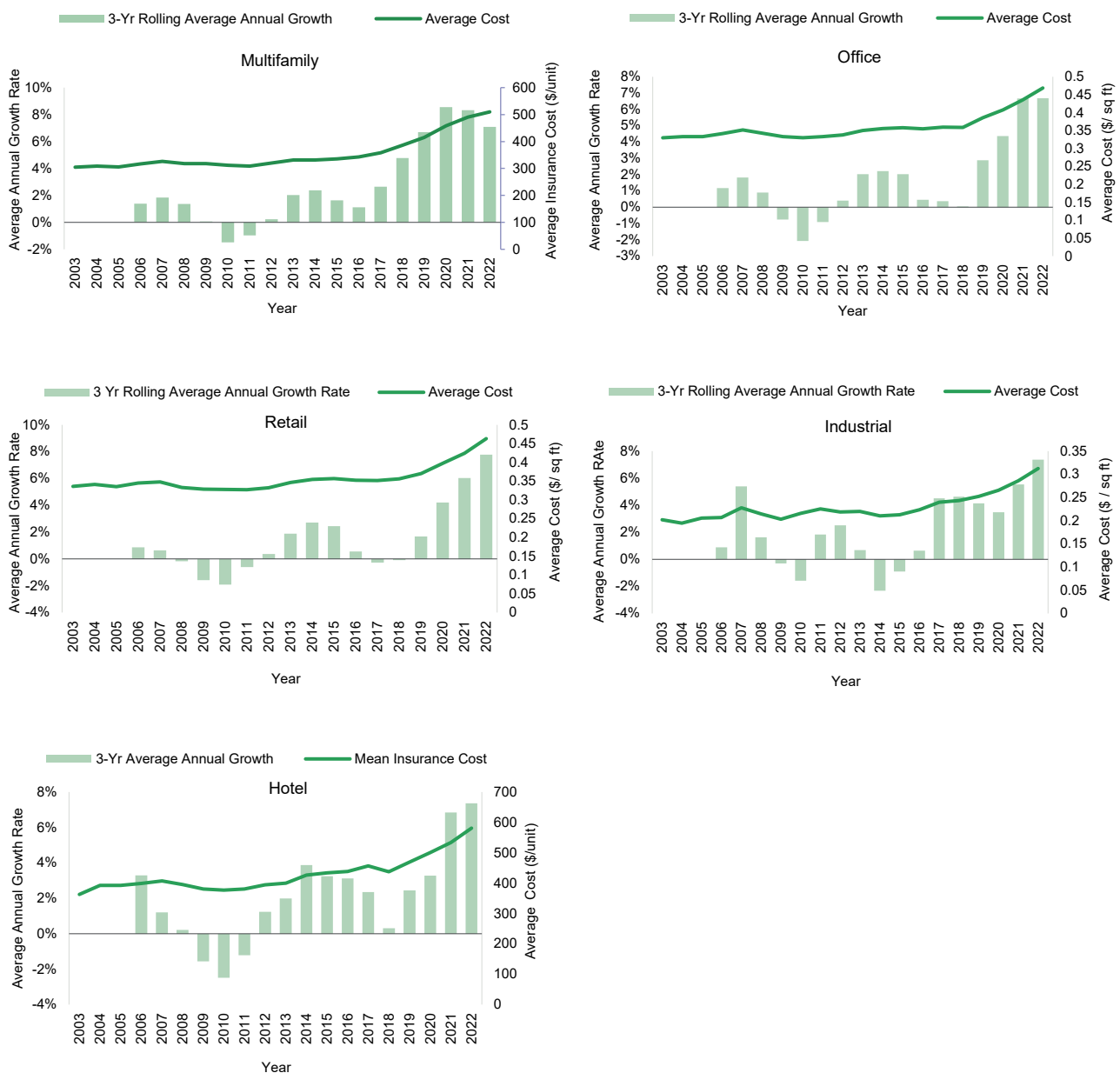
We reviewed the insurance costs trends of over 100,000 properties over the last 20 years. In this report we summarized trends in insurance rates nationally and identified the markets with the highest insurance costs and rate of cost inflation. We also differentiated properties and their insurance costs where our modeling suggests the greatest potential damage and business interruption due to acute climate-related hazards, such as hurricanes, floods and wildfires.

Insurance Rates are Rising Nationally

Insurance rates are increasing nationwide, with a particular spike in the last five years. Overall insurance rates tend to increase gradually over time, as we would expect given inflation. Our data shows that during times of economic downturn (ie 2009-2011) prices decline gradually rather than increasing gradually. We also see that beginning around 2018 or 2019, depending on the property type, the rate of increase in the past several years is noticeably higher than the gradual increase of previous years.

While different property types show moderately different rates of increase, the trend is consistent for all of them, as Figure 1 illustrates. This trend is also ubiquitous across geographies, supporting a more anecdotal theme heard repeatedly in the market over the last year: the recent rapid increase in insurance premiums is proving challenging or prohibitive for some CRE transactions, particularly for lenders that have long relied on insurance to offload most physical risks associated with properties.

Figure 1 Average annual insurance and rolling average annual growth in insurance by property type



Source: Moody's Analytics CRE

Looking Past the Averages, Cost Increases Skew High

There is a wide distribution of insurance cost growth around the national average. There is a significant share of properties that have maintained historically normal insurance inflation, but the distribution does skew toward the higher-than-average expense increases. The cost growth is not isolated to a small handful of properties or markets.

Among all properties we examined, the biggest share of them experienced insurance cost compound annual growth rates (CAGRs) above 10% from 2017 through 2022, as Figure 2 shows. This was the case across all CRE property types. Additionally, the majority of properties across each property type saw insurance premium CAGRs over 5% over the last five years.

The bottom line is that, if these trends continue, most properties are likely to see well-above historical average insurance expense growth. One of the differentiators is that some markets' insurance costs are growing at higher rates than others, which we'll dive into in the next section.

Figure 2 Distribution of insurance expense CAGR (2017-2022) across properties¹



Source: Moody's Analytics CRE.

Note: ¹National average CAGR shown in middle of charts.

Some Metros Are Trending Much Worse than Others

Insurance expenses are trending higher than prior to 2017 in the vast majority of markets, but some metros are feeling the pain much worse than others, with many having average annual growth rates above 10%. There isn't an obvious relationship between region of metros and insurance cost growth, but Texas, Sunbelt, Northeastern and California metros tended to be among the metros with highest growth rates.

We also noted that the property type with the most metros having >10% annual insurance cost growth rates since 2017 was multifamily. Therefore, in the remainder of this section, we've focused on multifamily metros and their insurance trends. Similar metro trend data for the other property types is provided in the Appendix.

Metros with the highest median rate of insurance increase are spread across the country, with 25% of the top 20 metros for multifamily located in Texas. Multifamily properties have the highest median CAGRs. Table 1 shows insurance expense CAGR alongside rent CAGR for additional context for “real” expense growth, inasmuch as expenses are impacting the bottom-line property net operating income (NOI).

Table 1. Top (left) and bottom (right) metros for 2017-2022 insurance expense and rent CAGR for multifamily^{1,2}

METRO	INSURANCE CAGR	RENT CAGR	METRO	INSURANCE CAGR	RENT CAGR
Colorado Springs	17.3%	6.3%	District of Columbia	3.4%	2.5%
Tulsa	14.9%	4.3%	Chicago	5.0%	5.6%
San Antonio	14.8%	4.7%	Minneapolis	5.1%	3.5%
Dallas	14.4%	6.1%	New York Metro	5.2%	3.8%
Oklahoma City	14.3%	4.1%	Northern New Jersey	5.6%	4.7%
Memphis	14.3%	6.8%	Long Island	5.9%	4.4%
Fort Worth	14.2%	5.2%	Pittsburgh	6.1%	4.8%
Raleigh-Durham	13.7%	6.6%	Cleveland	6.2%	6.4%
Nashville	13.4%	4.0%	Hartford	6.4%	4.7%
Kansas City	13.3%	5.2%	Buffalo	6.5%	4.9%
Austin	13.2%	5.9%	Philadelphia	6.7%	5.7%
Salt Lake City	13.2%	6.4%	Detroit	7.0%	4.9%
Los Angeles	13.0%	4.8%	Westchester	7.0%	5.7%
Knoxville	13.0%	6.8%	San Diego	7.8%	5.8%
Orlando	12.9%	7.7%	Oakland-East Bay	7.9%	4.0%
Columbia	12.8%	2.8%	Norfolk/Hampton Roads	8.0%	5.8%
Fort Lauderdale	12.7%	7.7%	Milwaukee	8.3%	5.1%
Houston	12.6%	4.1%	Suburban Virginia	8.4%	2.8%
Charlotte	12.6%	6.9%	San Jose	8.5%	2.4%
Jacksonville	12.4%	7.6%	Rochester	8.6%	6.0%

Source: Moody's Analytics CRE

Notes: ¹ To obtain the median CAGR by metro we calculated the CAGR for each property with an insurance value in 2017 and 2022 and then took the median of that sample. See the Appendix for the highest and lowest CAGRs and insurance prices for the other four property types. ² To obtain rent CAGR we used average metro level rent growth from 2017 through 2022.

Higher rates of increase of insurance expenses do not appear to be isolated to metros with the highest CAGR for rent, meaning insurance expenses are exceeding general metro-level rent inflation in most cases. However, it is noteworthy that Florida metros, many of which have some of the highest insurance cost CAGRs also have seen some of the highest growth in rents. Florida metros have experienced both high general inflation on top of having insurability issues stemming from hurricane risk. These metros exemplify that a mix of factors can drive insurance rates, which we'll discuss more in the next section.

When it comes to the level of property insurance cost, rather than rate of change, we see different metros on top, with a wide range around the average (see Table 2). Many of the metros with the highest median insurance expense are in Florida and California. These metros tend to have higher value properties per unit, and many are also in states that have been experiencing repeated climate-related disasters, namely hurricanes and wildfires.

Table 2. Top (left) and bottom (right) multifamily metros by 2022 insurance cost¹

METRO	INSURANCE (\$/UNIT)	METRO	INSURANCE (\$/UNIT)
San Francisco	1086.83	Tucson	249.01
New Orleans	1019.74	Phoenix	252.03

Miami	1004.06	San Bernardino/Riverside	310.84
New York Metro	1002.45	Cleveland	312.23
Westchester	889.96	Columbus	313.84
Palm Beach	861.22	Las Vegas	316.93
Fort Lauderdale	814.41	Salt Lake City	329.44
Long Island	706.34	Richmond	329.85
Houston	690.86	Albuquerque	339.95
Northern New Jersey	669.25	Greensboro/Winston-Salem	341.38
Boston	614.14	Orange County	342.73
Oklahoma City	609.64	Charlotte	356.71
Tampa-St. Petersburg	607.17	Pittsburgh	361.10
Memphis	585.88	Milwaukee	365.74
Oakland-East Bay	581.49	Sacramento	366.71
Fort Worth	580.47	Dayton	367.66
Central New Jersey	566.90	Knoxville	370.56
Jacksonville	554.86	Suburban Virginia	379.06
Dallas	551.76	Indianapolis	379.61
Tulsa	545.95	Detroit	380.93

Source: Moody's Analytics CRE.

Note: ¹Median insurance cost per unit for metro.

A Variety of Factors Drive Insurance Trends

We know that many factors affect the insurance market, interacting to drive insurance premiums. Among others, these factors include general inflation, social inflation, litigation, increasing frequency and severity of natural catastrophes, liquidity in the insurance capital markets, and the responses of reinsurers and regulators to these factors.

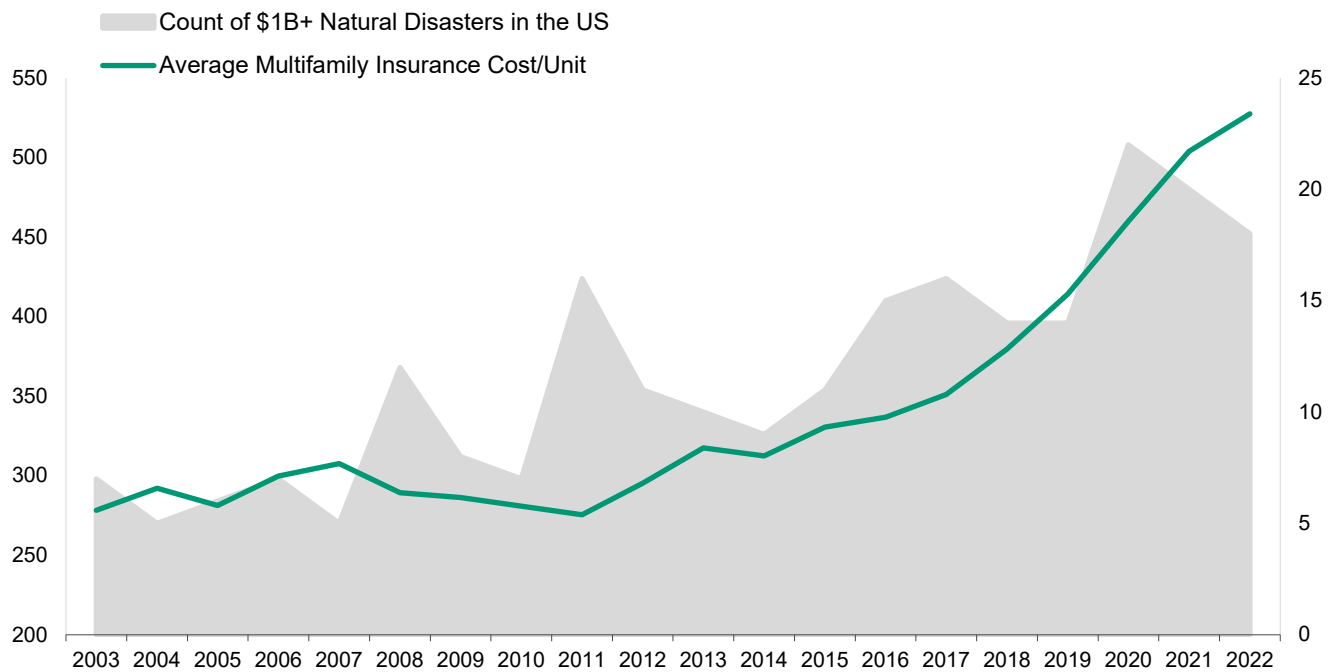
Firstly, general inflation has been affecting many aspects of the US economy, as prices continue to increase. However, as [RMS explains](#), the impact of inflation on insurance premiums is driven by more nuanced factors than the price of general goods typically captured by the Consumer Price Index. A more informative metric might be something like the Producer Price Index which shows that residential construction costs have generally been rising faster than the general inflation. However, this index is also highly volatile, reflecting the nuanced supply chain challenges and demand fluctuations specific to construction materials. As inflation of construction materials leads to higher insurance payouts, this is likely to affect insurance pricing over time. Although it's unclear how year-over-year fluctuations of a construction index like the Producer Price Index will take hold on a long-term basis. This type of inflation also affects insurers through its impact on reinsurers, potentially leading to a lag time for it to thoroughly get priced in by primary insurers.

Another factor influencing rising insurance premiums is social inflation, which refers to the way in which insurers' costs rise above the rate of economic inflation. For example, in Florida, there was a "[25 percent rule](#)" which mandated that if 25% or more of a roof is deemed damaged, the entire roof must be replaced. While the rule has since been amended, it did contribute to "loss creep," in which insurance payouts end up being higher than one would expect purely looking at storm damage. However, rules like this also paved the way for a bustling litigation landscape. In fact, Florida's Office of Insurance Regulation points to insurance fraud as a key driver of rising insurance premiums. [The state only has about 9% of insurance claims in the nation, but has over 76% of property insurance lawsuits](#). From outright fraud, such as claiming a roof is storm damaged when it's really just aging, to more nuanced litigation around proving whether or not 25% of a roof has been storm damaged, these issues play a large role in the Florida insurance market. [Detailed analysis of various risk drivers](#) can start to parse out the impact of social inflation on increasing insurers' loss ratios and in turn rising premiums.

Accelerating growth in claims from climate-related hazards is also contributing to this rise in insurance premiums, and the ramp up in insurance costs does appear to follow closely with the cost of billion-dollar-plus loss events in the US (see Figure 3). The impact on insurance costs appears particularly acute in states like California and Florida with substantial exposure to repeated

extreme events. [These states' five-year average loss ratios for homeowners insurance are 117% and 80% respectively.](#) In California, property & casualty insurers and their reinsurers had \$36 billion in losses from the 2017 and 2018 wildfires, with [their 2017 loss ratio over 200%](#). Insurers are also pulling out of these highly exposed areas, further complicating the market. For example, [State Farm will no longer write new home or business property insurance policies](#), and Allstate stopped selling new homeowners insurance policies in 2022. These challenges around insurance availability are interacting with other factors like affordability and local amenities which drive migration and development to certain areas, which in some cases continue to have a growing demand that has not yet significantly been curbed by these growing challenges.

Figure 3 Multifamily insurance costs and US natural disasters



Sources: NOAA National Centers for Environmental Information (NCEI), Moody's Analytics CRE, Moody's Analytics CMBS.

The structure of an insurance market also influences the availability and affordability of insurance, interacting with the impacts of extreme events. For example, much of the Florida insurance market is composed of [small, non-diversified insurance companies](#). From April 2022 through May 2023, [seven of Florida's local property insurers went insolvent](#), and 24 are on the regulatory watchlist. These local companies face substantial loss when a major hurricane hits, given the concentration of their business activities. They in turn rely heavily on reinsurance, which is facing similar challenges and are also [increasing their premiums accordingly](#), which in turn further challenges the primary insurers. Due to current market conditions, some reinsurers may have large unrealized losses on their fixed income investments as interest rates rise. [This can present liquidity risk if severe catastrophes do occur.](#)

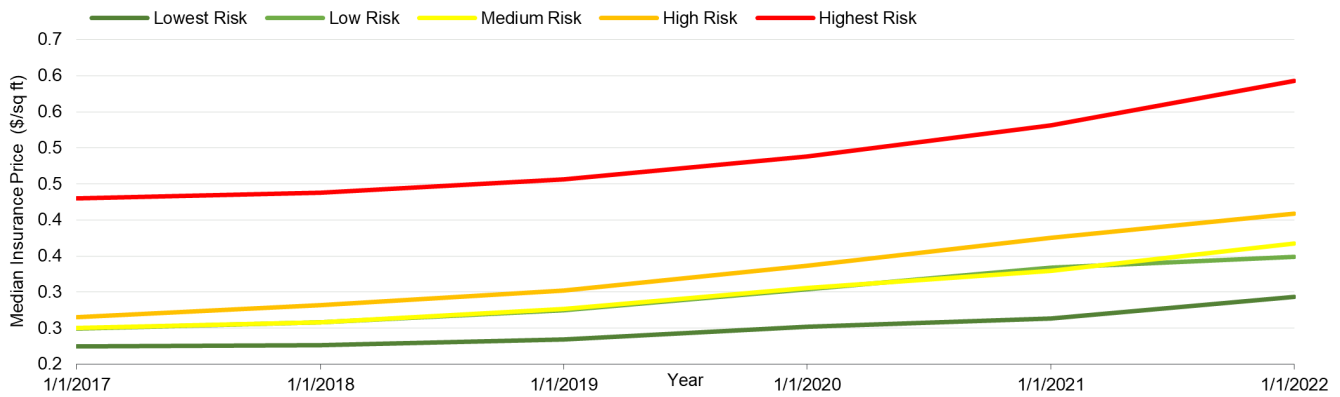
[Moody's Investors Service summarizes](#) these various pressure points for insurers, writing that "Weak sector profitability in recent years from above average catastrophe losses, inflationary pressures, a focus on the impact of climate change on catastrophe event frequency, strong demand from ceding companies and tight supply conditions in the collateralized retrocessional market all point to higher pricing in the months ahead."

Unpacking One Driver of Rising Premiums: Climate Hazard Exposure

Leveraging the expertise and analytical tools of Moody's RMS for catastrophe modeling and climate data (see box regarding data and methodologies), we dug deeper into the relationship between acute climate risk exposure and insurance expenses. As discussed above, there is ample anecdotal evidence to support such a relationship, but given the multitude of factors driving insurance costs, it is not a clear-cut relationship. This final section of our report examines the relationship between climate hazard risk and both the level and the growth rate of insurance expenses for property owners.

We overlaid the data on properties' insurance premiums with data on the estimated damage from their modeled exposure to acute climate-related hazards (floods, hurricanes and wildfires). We did not see an obvious correlation between the growth rate of insurance premiums since 2017 and the estimated acute climate risk. However, we did find that the properties with the highest insurance premiums tend to have higher estimated damage from climate hazards (see Figure 4). We show only trends for retail properties here, but this trend holds for all property types. See the Appendix for equivalent charts for the other core property types.

Figure 4 Median insurance premium by year for retail properties grouped by their acute climate risk¹



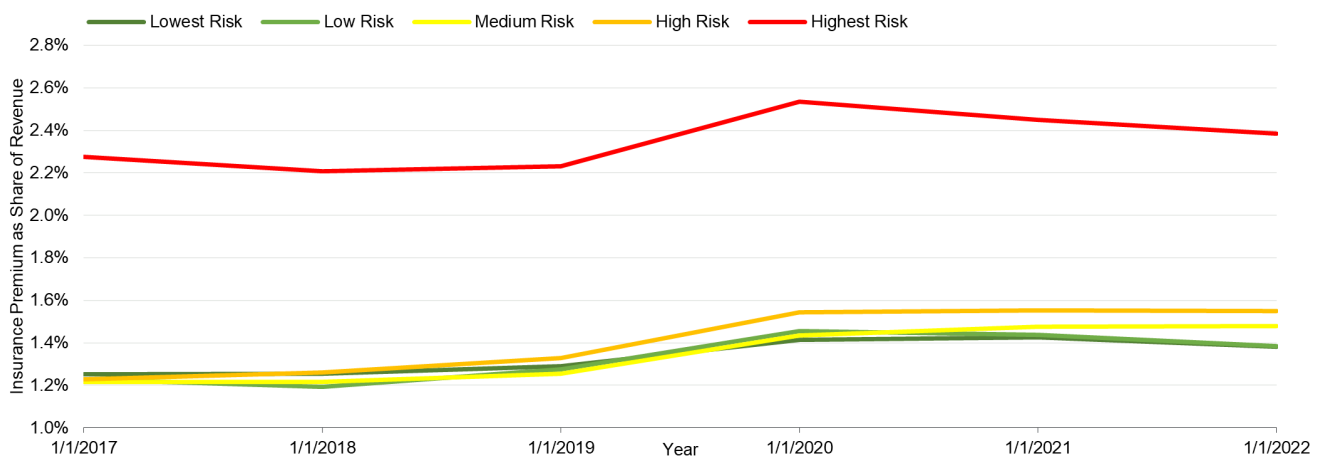
Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: 1 We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods. To see equivalent charts for the other four property types, refer to the Appendix.

This trend also persists when we normalize for property value (as proxied by gross revenue of the property). Figure 5 shows the median insurance expense as a share of gross property revenue. While the insurance expense as a share of revenue fluctuated over the last five years by climate risk group, it remained substantially higher for the group of properties with the highest exposure to acute climate hazards.

Insurance premiums are often sized by the value and revenue of a CRE property, and higher value and revenue CRE properties are often located in coastal areas with higher acute climate risk. However, insurance costs have also been consistently higher as a share of revenue for the highest climate risk properties.

Figure 5 Median insurance premium as share of gross revenue for retail properties grouped by their acute climate risk¹

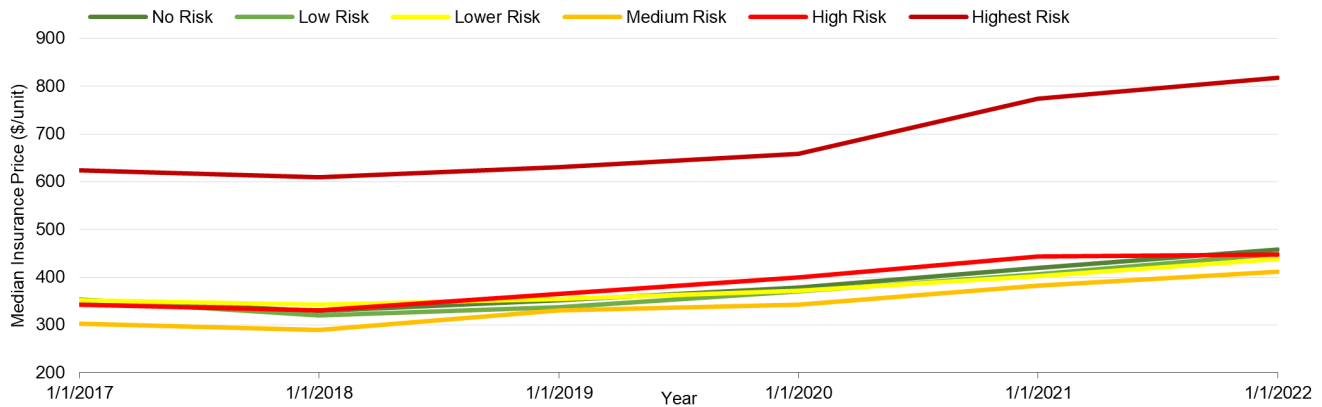


Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods. To see equivalent charts for the other four property types, refer to the Appendix.

When we unpack the relationship between type of acute hazard exposure and insurance premiums, we find **that hurricane exposure has the clearest relationship to insurance expense**. In most property types when we bucket properties by their hurricane average annual damage (AAD) estimates, those properties in the highest bucket show the highest insurance expenses consistently for the past five years. Figure 6 illustrates this trend for the hotel sector.

Figure 6 Median insurance premium by year for hotel properties grouped by their hurricane risk¹

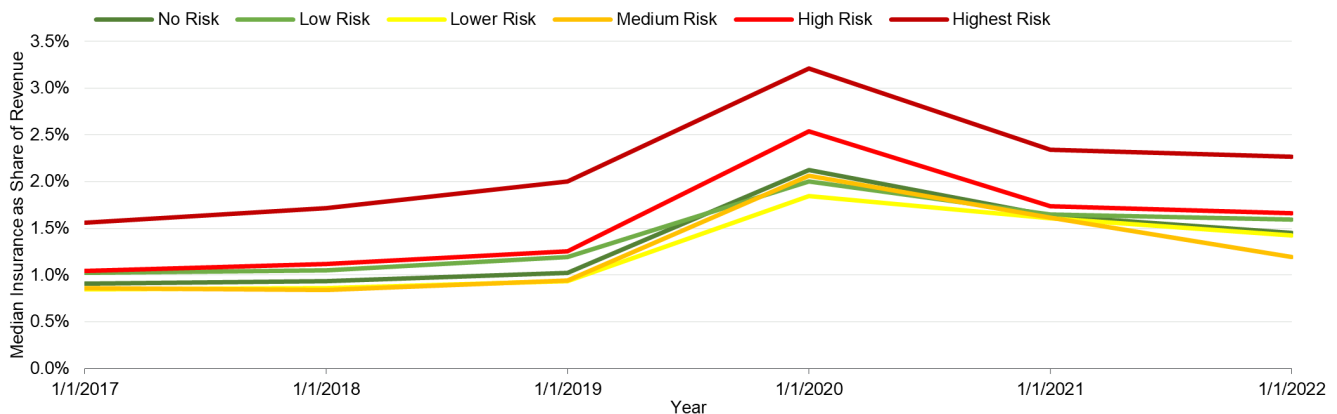


Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes. To see equivalent charts for the other four property types, refer to the Appendix.

Once again, this trend holds even when normalizing for value, by looking at the insurance expense as a share of revenue in Figure 6. [Anecdotal evidence](#) suggests that hurricane exposure is a driving force behind increasing insurance premiums along the Gulf Coast, as discussed previously. Figure 6 does show substantial volatility in insurance premiums' share of revenue, and it isn't consistently trending upward as one would expect. This reflects that both insurance markets and property markets are in flux and do not necessarily change in pace with one another.

Figure 7 Median insurance premium as a share of gross revenue for hotel properties grouped by their hurricane risk¹

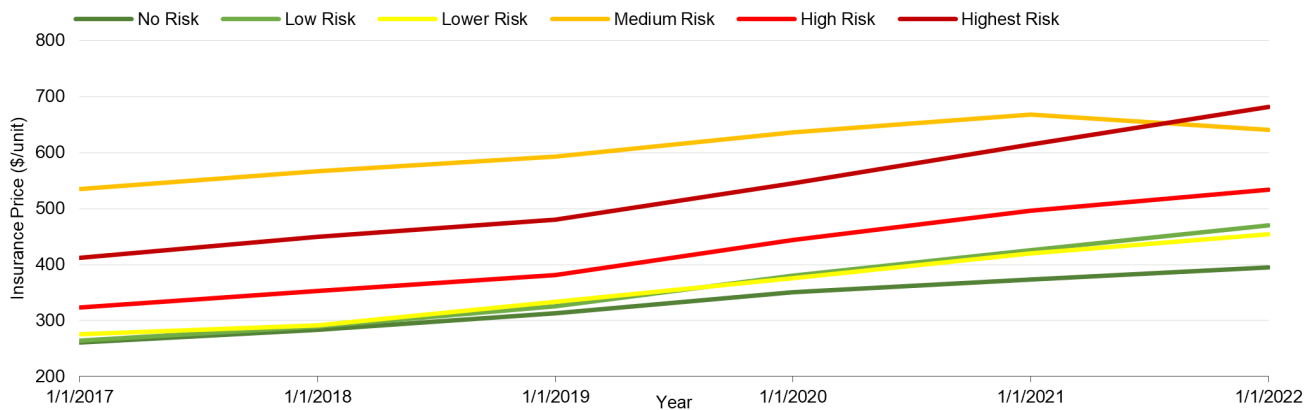


Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes. To see equivalent charts for other property types, refer to the Appendix.

The trends for multifamily follow a similar pattern but are not quite as clear cut. When looking at both median insurance premium (Figure 8) and median insurance premium as a share of revenue (Figure 9) those properties with no modeled hurricane risk are in the bottom of the insurance expense, but those in the highest hurricane risk only appear on top when normalizing for value by looking at insurance cost as a share of revenue.

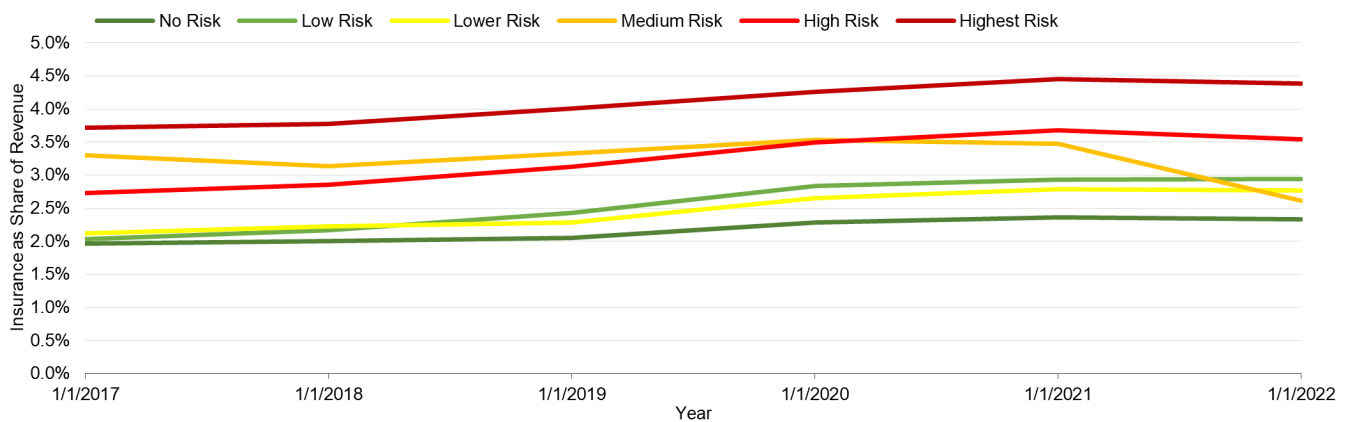
Figure 8 Median insurance premium by year for multifamily properties grouped by their hurricane risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes. To see equivalent charts for other property types, refer to the Appendix. Median insurance premium as share of gross revenue for multifamily properties grouped by their hurricane risk¹

Figure 9 Median insurance premium as share of gross revenue for multifamily properties grouped by their hurricane risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods. To see equivalent charts for other property types, refer to the Appendix.

For hotels, office and retail we find that the metro with the highest median hurricane AAD has the highest median insurance expense in 2022 (see Table 3). For retail this is true of the several top metros. The top metros for both insurance expense and AAD occur in Florida.

Table 3. Metros / property type combinations with the highest average insurance costs in 2022

PROPERTY TYPE	METRO	MEDIAN INSURANCE EXPENSE	MEDIAN HURRICANE AAD
Retail	Miami	1.64 (\$/ sq ft)	\$5,082
Office	Fort Lauderdale	1.61 (\$/sq ft)	\$4,628
Hotel	Fort Lauderdale	1435.86 (\$/unit)	\$5,072

Source: Moody's Analytics CRE.

Takeaways

This nascent research into property insurance trends demonstrates that insurance premiums are increasing, faster than years prior. The rate of increase skews higher for most properties, and some metros are experiencing insurance expense increases much

greater than their average rent growth. We also see that, while there are many factors at play driving these trends, higher climate risk generally equivocates to higher insurance cost per square foot or per unit. We also found that hurricane risk exposure was the strongest differentiator of insurance costs among acute climate risks.

Many questions remain and this lays the groundwork for further research including exploring the time horizon that insurers may be factoring climate risk into underwriting, separating catastrophe insurance out from other insurance, assessing the relationship with NOI and conducting more detailed state level analysis relative to state insurance legislature policies. This also underscores the need for solutions in the insurance industry, that best manage the desire for development with the reality that much of this development is in areas that will be repeatedly hit by devastating hazards. This is an area of active exploration in the market and is a topic we'll continue to monitor closely.

Methodology

Insurance Data

Moody's collects CMBS property income, expense, reserve and capital expenditure data in CRE Financial Council Investor Reporting Package format. The dataset contains more than 114,000 loans and 123,000 properties spanning back to the early 1990s. This dataset provides one data point covering all of a property's insurance expenses. Thus, while this analysis focuses on factors related to property and casualty insurance we are not able to parse out different types of insurance coverages.

For this analysis we focused on the past 20 years and looked specifically at multifamily, hotel, office, retail, and industrial (which includes self-storage and warehouses) properties. We cleaned the dataset by removing outliers and adjusting for incomplete data. This included annualizing statements that do not cover a full year using respective statement start & end dates. We cleaned overlapping statement periods to construct property-level annual insurance expense series (at a monthly frequency), interpolating as needed. We calculated national insurance expense indices for each property type by averaging these property-level series. For metro level analysis we only included metros with at least twenty properties in our database with data for both 2017 and 2022 so as not to skew the results with outliers.

Climate Data

For the climate risk portion of our analyses, we used data from Moody's Climate on Demand. Climate on Demand characterizes physical climate risk through exposure scores for six climate hazards that are the most common climate-related hazards that can result in significant business risk: flooding, heat stress, hurricanes & typhoons, sea level rise, water stress and wildfires. Climate on Demand includes Average Annualized Damage (AAD), an estimate of the long-term damage, including physical damage, downtime, increased operating costs and reduced productivity, that an asset faces due to each climate hazard. To inform the Climate on Demand AAD estimate users can input replacement cost of the building and its contents combined with a measure of net annual revenue. For this analysis, since we don't have this detailed data for each property, we used \$1 million of property replacement cost as the exposed value to enable comparisons between assets in relative terms. Thus, in this report AAD is in units of dollars, assuming a million dollars of exposure, with exposure defined as the combination of replacement cost and net annual revenue for the site. We focused on the AAD values for acute climate hazards most likely to influence insurance costs in the near term, including floods, wildfires and hurricanes. Climate on Demand offers RCP 4.5 and 8.5 and several time horizons including 2020, 2030, 2040, 2050, 2075 and 2100. For this analysis we used RCP 8.5 and 2050.

Appendix

Table 4. Top (left) and bottom (right) metros for 2017-2022 insurance expense and rent CAGR for Retail^{1,2}

METRO	INSURANCE CAGR	RENT CAGR	METRO	INSURANCE CAGR	RENT CAGR
Austin	11.9%	0.8%	Cleveland	2.6%	0.3%
Suburban Maryland	11.1%	0.9%	Detroit	3.3%	0.5%
San Antonio	11.0%	1.3%	San Diego	3.6%	0.7%
Dallas	10.8%	0.7%	Chicago	4.8%	0.8%
Palm Beach	10.5%	1.2%	Tampa-St. Petersburg	4.9%	0.4%

Fort Worth	9.9%	0.4%	Baltimore	5.5%	1.1%
St. Louis	9.8%		Raleigh-Durham	5.7%	1.1%
Suburban Virginia	9.4%	0.3%	Charlotte	5.8%	1.1%
Fort Lauderdale	9.1%	0.4%	Phoenix	6.0%	0.6%
Denver	9.0%	0.4%	Fresno	6.2%	-0.1%
Columbus	9.0%	0.7%	Atlanta	6.2%	0.7%
Greenville	8.9%	0.3%	Las Vegas	6.4%	0.6%
Orlando	8.6%	1.0%	Oakland-East Bay	6.4%	0.9%
Pittsburgh	8.6%	0.8%	Kansas City	6.6%	0.2%
Norfolk/Hampton Roads	8.5%	0.5%	Indianapolis	6.8%	0.3%
Houston	8.4%	1.1%	Orange County	6.8%	0.6%
Los Angeles	8.2%	0.9%	Philadelphia	7.1%	0.5%
Boston	8.1%	0.7%	New Orleans	7.4%	0.3%
San Bernardino/Riverside	8.0%	0.1%	Birmingham	7.4%	0.6%
New York Metro	7.8%		Miami	7.5%	1.4%

Source: Moody's Analytics CRE

Notes: ¹To obtain the median CAGR by metro we calculated the CAGR for each property with an insurance value in 2017 and 2022 and then took the median of that sample. See the Appendix for the highest and lowest CAGRs and insurance prices for the other four property types. ²To obtain rent CAGR we used average metro level rent growth from 2017 through 2022.

Table 5. Top (left) and bottom (right) retail metros for 2022 insurance cost¹

METRO	INSURANCE (\$/SQ FT)	METRO	INSURANCE (\$/SQ FT)
Miami	1.64	Cleveland	0.21
Palm Beach	1.33	Detroit	0.25
Fort Lauderdale	1.32	Columbus	0.26
New York Metro	1.23	Raleigh-Durham	0.27
New Orleans	1.17	Charlotte	0.29
Tampa-St. Petersburg	0.87	Phoenix	0.30
Orlando	0.81	Pittsburgh	0.30
Houston	0.73	Suburban Virginia	0.32
Northern New Jersey	0.70	Greenville	0.32
San Antonio	0.62	Birmingham	0.34
Dallas	0.56	Atlanta	0.34
Denver	0.54	Indianapolis	0.35
Oakland-East Bay	0.54	Fresno	0.36
Los Angeles	0.52	Baltimore	0.36
Boston	0.51	Kansas City	0.37
Fort Worth	0.50	Las Vegas	0.39
Philadelphia	0.50	Chicago	0.40
Austin	0.49	San Diego	0.40
San Bernardino/Riverside	0.48	Norfolk/Hampton Roads	0.42
Orange County	0.46	Suburban Maryland	0.44

Source: Moody's Analytics CRE.

Note: ¹Median insurance cost per square foot for metro.

Table 6. Metros in descending order of 2017-2022 insurance expense and rent CAGR for industrial^{1, 2, 3}

METRO	INSURANCE CAGR	RENT CAGR
Las Vegas	12.0%	4.9%
Dallas	11.3%	4.0%
Oakland-East Bay	11.1%	4.8%
Philadelphia	9.7%	4.5%
New York Metro	9.7%	2.0%
Houston	9.6%	4.3%
San Bernardino/Riverside	8.7%	12.8%
Denver	8.6%	3.8%
San Antonio	8.5%	2.8%
Chicago	8.2%	3.4%
Orange County	7.5%	5.3%
Tampa-St. Petersburg	6.3%	3.6%
San Diego	5.8%	4.8%
Los Angeles	5.7%	8.3%
Atlanta	2.0%	4.3%
Detroit	1.8%	3.3%

Source: Moody's Analytics CRE

Notes: ¹ To obtain the median CAGR by metro we calculated the CAGR for each property with an insurance value in 2017 and 2022 and then took the median of that sample. See the Appendix for the highest and lowest CAGRs and insurance prices for the other four property types. ² To obtain rent CAGR we used average metro level rent growth from 2017 through 2022. ³ For industrial properties there is not substantially more than 20 metros that have 20 or more properties in the Moody's Analytics CRE database, so rather than showing top and bottom twenty metros we show them all in descending order.

Table 7. Industrial metros in descending order of 2022 insurance cost^{1, 2}

METRO	INSURANCE (\$/SQ FT)
New York Metro	0.59
Tampa-St. Petersburg	0.47
Orange County	0.36
Houston	0.35
Dallas	0.32
San Diego	0.27
San Antonio	0.26
Denver	0.26
Los Angeles	0.25
Oakland-East Bay	0.24
San Bernardino/Riverside	0.23
Detroit	0.23
Las Vegas	0.21
Chicago	0.17
Philadelphia	0.15

Atlanta	0.13
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Source: Moody's Analytics CRE.

Notes: ¹Median insurance cost per square foot for metro. ² For industrial properties there is not substantially more than 20 metros that have 20 or more properties in the Moody's Analytics CRE database, so rather than showing top and bottom twenty metros we show them all in descending order.

Table 8. Metros in descending order of 2017-2022 insurance expense and rent CAGR for office¹

METROS	INSURANCE CAGR	RENT CAGR
Dallas	9.0%	2.1%
Los Angeles	8.6%	2.2%
Orange County	7.7%	1.1%
Pittsburgh	7.6%	1.2%
New York Metro	7.4%	0.8%
Houston	7.3%	0.3%
Central New Jersey	6.9%	1.1%
Suburban Virginia	6.7%	1.3%
San Jose	6.6%	2.5%
Fort Lauderdale	6.6%	1.7%
Philadelphia	6.6%	1.3%
Indianapolis	6.5%	1.6%
Atlanta	6.5%	2.3%
San Diego	6.2%	2.1%
Denver	6.0%	2.1%
Detroit	6.0%	1.0%
Phoenix	5.9%	2.2%
Chicago	5.4%	1.1%
San Francisco	5.4%	1.8%
Northern New Jersey	4.5%	0.8%

Source: Moody's Analytics CRE

Note: ¹ For office properties there is not substantially more than 20 metros that have 20 or more properties in the Moody's Analytics CRE database, so rather than showing top and bottom twenty metros we show them all in descending order.

Table 9. Office metros in descending order of 2022 insurance cost^{1,2}

METRO	INSURANCE (\$/SQ FT)
Fort Lauderdale	1.61
San Francisco	1.06
San Jose	0.98
New York Metro	0.82
Houston	0.54
Los Angeles	0.53
Orange County	0.44
San Diego	0.40
Northern New Jersey	0.38
Chicago	0.36

Philadelphia	0.34
Pittsburgh	0.34
Suburban Virginia	0.33
Denver	0.33
Central New Jersey	0.31
Las Vegas	0.29
Detroit	0.27
Seattle	0.27
Indianapolis	0.25
Dallas	0.25
Atlanta	0.24
Phoenix	0.23
Cleveland	0.22

Source: Moody's Analytics CRE.

Notes: ¹Median insurance cost per square foot for metro ² For office properties there is not substantially more than 20 metros that have 20 or more properties in the Moody's Analytics CRE database, so rather than showing top and bottom twenty metros we show them all in descending order.

Table 10. Metros in descending order of 2017-2022 insurance expense and rent CAGR for hotel^{1,2}

METROS	INSURANCE CAGR	ROOM RATE CAGR
Minneapolis	12.0%	1.2%
Phoenix	11.6%	5.5%
San Diego	10.3%	4.8%
San Jose	10.0%	-3.9%
Orlando	8.5%	4.0%
Los Angeles	8.5%	2.2%
Raleigh	8.4%	2.5%
Fort Lauderdale	8.1%	3.7%
District of Columbia	7.6%	
Chicago	7.5%	1.6%
Indianapolis	7.3%	1.9%
Nashville	7.2%	3.3%
Anaheim	7.2%	5.1%
New York Metro	6.5%	1.6%
Atlanta	6.2%	1.9%
Fort Worth	6.1%	2.6%
Seattle	6.0%	0.3%
Detroit	5.6%	1.3%

Virginia Beach	5.3%	4.3%
Dallas	5.1%	2.0%
Houston	4.0%	-1.0%
Philadelphia	3.1%	2.4%
Charlotte	1.5%	1.7%

Source: Moody's Analytics CRE

Notes: ¹ For hotel properties there is not substantially more than 20 metros that have 20 or more properties in the Moody's Analytics CRE database, so rather than showing top and bottom twenty metros we show them all in descending order. ² Room rate is not available for every metro.

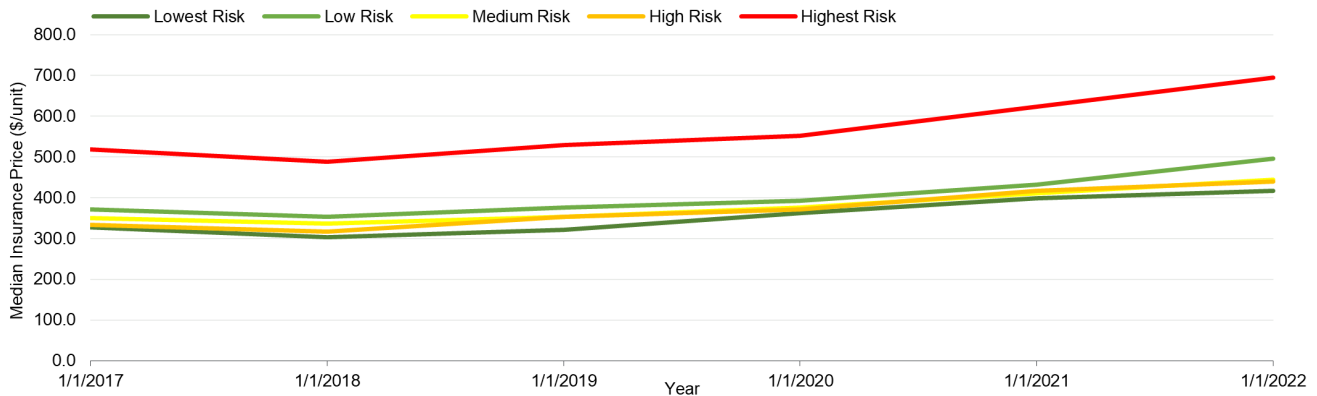
Table 11. Hotel metros in descending order of 2022 insurance cost^{1,2}

METRO	INSURANCE (\$/UNIT)
Fort Lauderdale	1435.86
Los Angeles	1018.29
New York Metro	1003.77
Anaheim	893.73
Seattle	780.44
Orlando	780.21
San Jose	727.21
Houston	624.38
San Diego	605.36
Philadelphia	597.42
Fort Worth	583.87
Phoenix	563.73
Dallas	518.28
Chicago	453.75
Nashville	449.89
Virginia Beach	443.50
District of Columbia	430.85
Indianapolis	422.57
Minneapolis	404.78
Atlanta	393.53
Detroit	329.59
Raleigh	313.21
Charlotte	309.13

Source: Moody's Analytics CRE.

Notes: ¹ Median insurance cost per unit for metro. ² For hotel properties there is not substantially more than 20 metros that have 20 or more properties in the Moody's Analytics CRE database, so rather than showing top and bottom twenty metros we show them all in descending order.

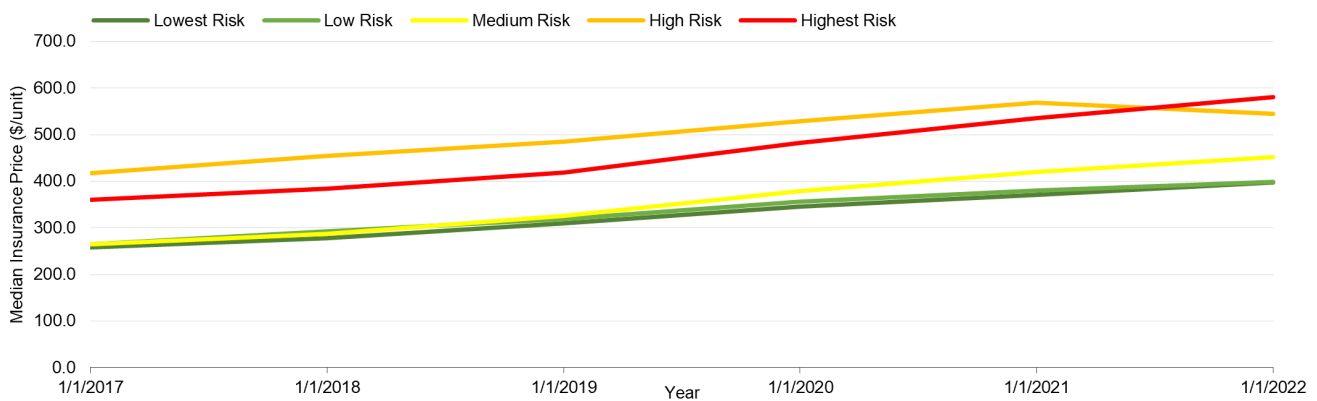
Figure 10 Median insurance premium by year for hotel properties grouped by their acute climate risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

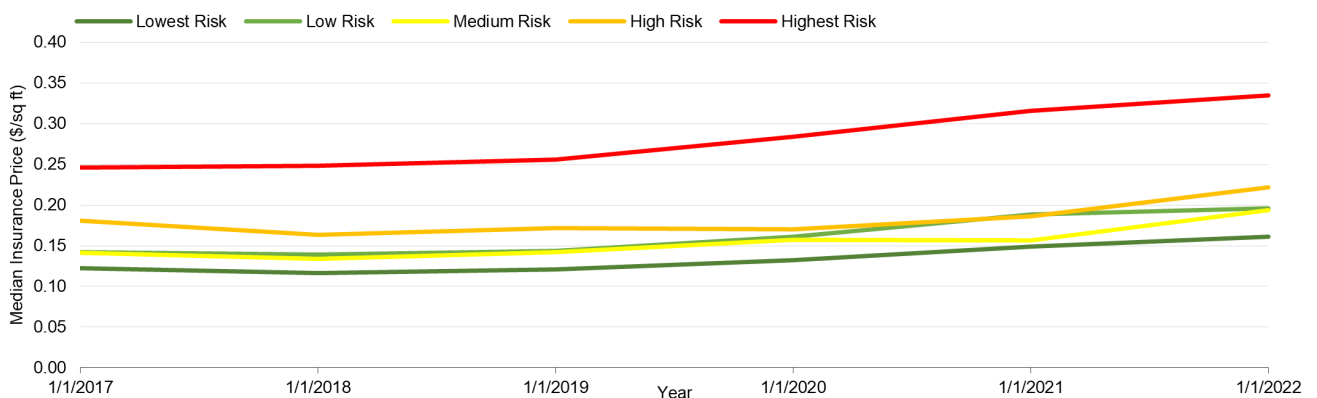
Figure 11 Median insurance premium by year for multifamily properties grouped by their acute climate risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

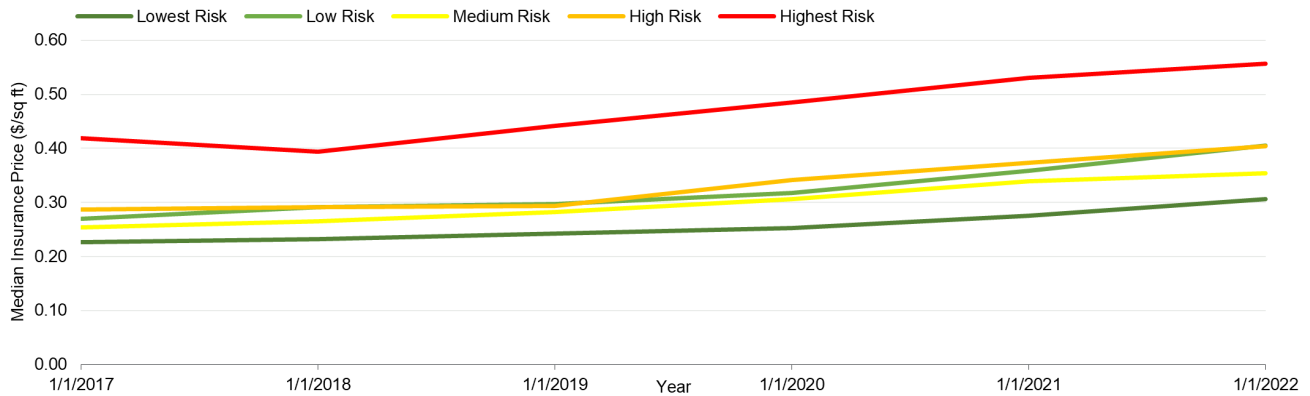
Figure 12 Median insurance premium by year for industrial properties grouped by their acute climate risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

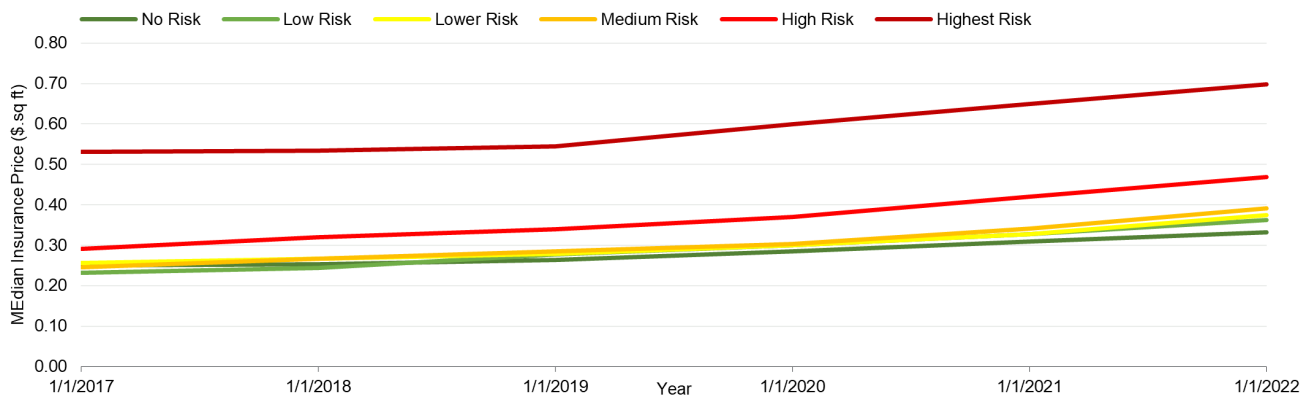
Figure 13 Median insurance premium by year for office properties grouped by their acute climate risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

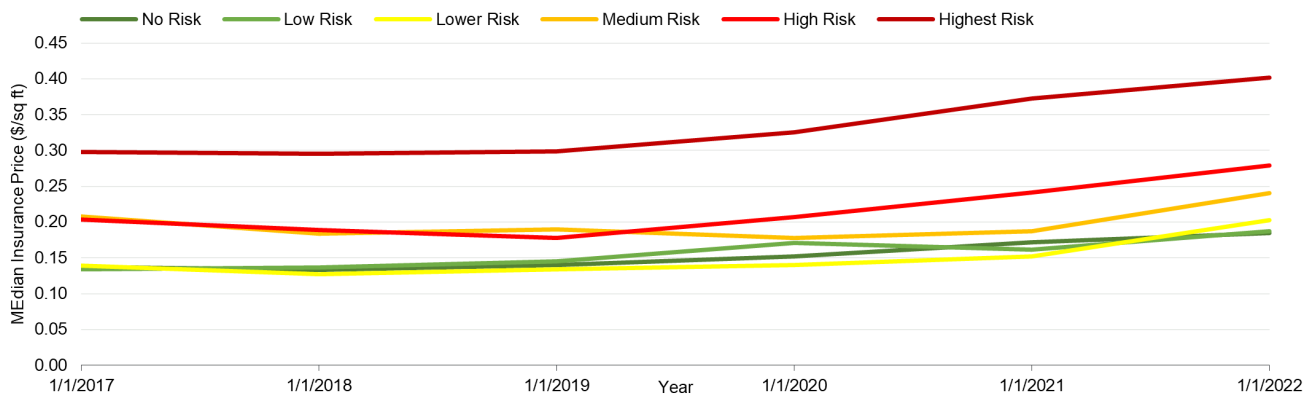
Figure 14 Median insurance premium by year for retail properties grouped by their hurricane risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes.

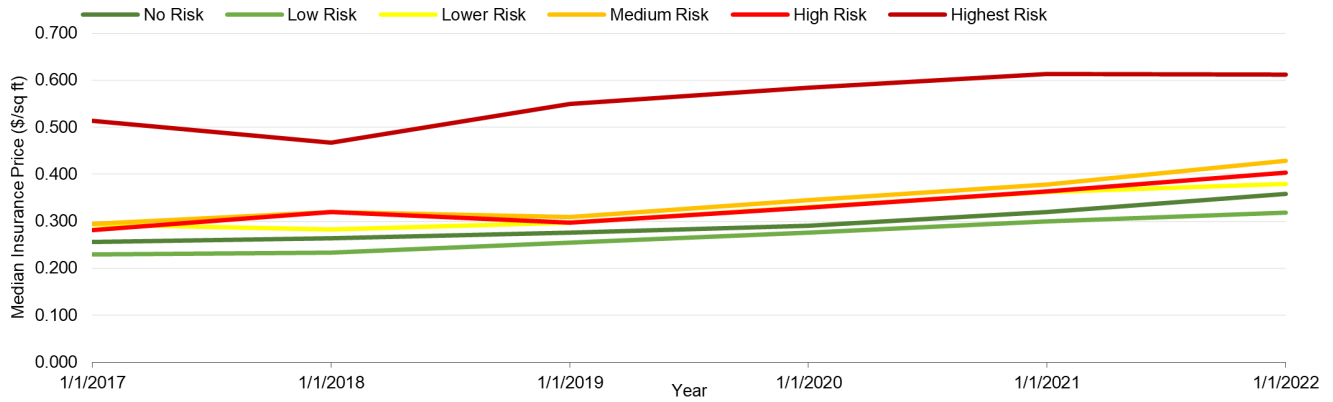
Figure 15 Median insurance premium by year for industrial properties grouped by their hurricane risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes.

Figure 16 Median insurance premium by year for office properties grouped by their hurricane risk¹



Sources: Moody's Analytics CRE, Moody's Analytics RMS.

Note: ¹ We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes.

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