



## Why use the RiskMeter Online?

Do you know the hail risk for each of your new and existing policies? We do! Check out the cities with the highest hail scores:

1. Amarillo, TX
2. Tulsa, OK
3. Wichita, KS
4. Dodge City, KS
5. Oklahoma City, OK
6. Wichita Falls, TX
7. Fort Worth, TX
8. Denver, CO
9. Kansas City, MO
10. Colorado Springs, CO



Courtesy of NOAA

For additional information,  
please call: 1.800.746.7797

## DISASTER can strike at any moment!

According to Swiss RE, 7 out of the 20 most costly insurance losses of 2006 were hail related!

*It's a fact that losses are inevitable in the insurance industry. The only factor you can control is how much risk you really want to be exposed to. Did you know there is an easy, cost-effective way to minimize your exposure to hail risk? Using the RiskMeter Online's hail report, you can take your new and existing policies and find out within a matter of seconds which policies pose the greatest risk. To learn more about this revolutionary report, please read below.*

## Features

### Simple Answers

Using the RiskMeter Online to obtain hail information is simple! Just enter an address and in a matter of seconds you will receive a detailed hail report full of useful information including:

- Frequency of hail events from 1990 - 2007
- Percentile score that compares your lookup to the rest of the U.S.
- Average number of hail events per year for the area
- Score based on the number of hail events per year

### Find More Addresses

The RiskMeter Online utilizes three different sources to determine the coordinates of a location. By using several sources, we can ensure you get the highest address match rate possible. This will be especially helpful in rural and new construction areas.

### Integration Available

Streamline your underwriting process by integrating your system with the RiskMeter Online. This will eliminate duplicate data entry, resulting in substantial time savings! Additionally, all of the RiskMeter Online's reports are available, like distance to coast, windpool eligibility, rating territories, flood zones and more! Further, through integration, the data values can be used in quoting and rules-based underwriting systems to quote and bind in real-time!

### Batch Processing

Policies can also be run through in batch to give you a comprehensive picture of your hail risk. Use this to evaluate your current book, as well as when considering new schedules.



## About the Hail Report

The RiskMeter's Hail report is based on National Climatic Data Center figures for the last 18 years (1990 – 2007). This data contains the date and location for each of the 228,600 hail storms that occurred during this time period. Although this is excellent data, there are far too many data points to easily discern a pattern (see Figure 1). What you need is a way to use the data to determine the relative risk of a location. Therefore, a different type of model needed to be built.

See Figure 2 down below right. The US was broken into rectangular grids that were 1/10 of 1 degree on each side. One degree is roughly 70 miles, so the grid squares were roughly 7 miles on each side. We say roughly because the earth is a sphere, therefore the size of each degree varies depending on the location of the degree on the earth.

For smoothing purposes, circles were drawn with 15-mile radiuses from the centroid of the grid square. We call the 15 miles the "distance of influence", which is the area from which we are counting the hail events. Then the total number of hail events within the area (circle) was determined.

The data was then normalized so that the grid square with the highest score was given a score of 100, and all other scores were calibrated accordingly. This is known as the "Hscale."

The percentile was also calculated so that the user could get a feel as to how the score compared with the country as a whole. This is known as the "Hpercentile." Figure 3 shows the finished model of the same area shown in Figure 1.

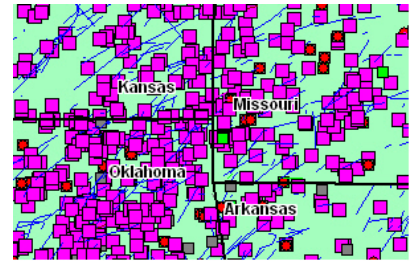


Figure 1: Raw Data

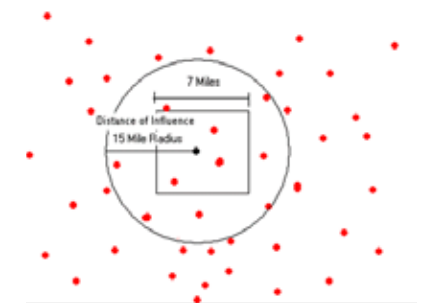


Figure 2: Processing Method

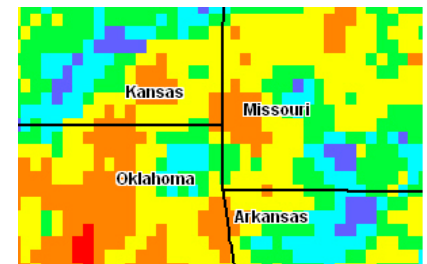


Figure 3: CDS Hail Model

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## About Hail Scores:

Since most companies have never tried to quantify hail risks in the past, CDS created the Hail Score to make it easy for an insurer to quantify hail risk. The idea was to give insurers a score which would help them understand not only the relative risk of a location, but also what it means in terms of risk. Is there an average of one hail storm a year? One hail storm every 5 years? Is one hail storm a year above or below average? The RiskMeter's hail report answers these questions. It helps an insurer to put risk into context.

CDS first calculated the average hail frequency for the U.S. This turned out to be 2.3 hail storms in an area per year. We then created a scale from 0-5 (no risk – extreme risk) which compared the frequency vs. the national average. The results can be seen below. Here are some key statistics to keep in mind.

- There are 83,934 cells (squares) in the U.S.
- The average Hscale: 6 (This is 2.3 hail storms per year).
- Highest number of hail storms: 37 hail storms per year!

## Hail Score Breakdown for the U.S.

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<u>Score</u>	<u>Hscale</u>	<u>Description</u>	<u>% of Country</u>
0 - No Hail Risk	0	No storms in the area on avg	14%
1 - Below Avg Risk	0-4	Less than 2 storms per year on avg	45%
2 - Average Risk	5-7	Approximately 2 to 3 storms per year on avg	13%
3 - Elevated Risk	8-11	3-5 storms per year on avg	15%
4 - High Risk	12-37	5-15 storms per year on avg	13%
5 - Extreme Risk	38-100	More than 15 storms per year	<1%

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## What does the RiskMeter's Hail Report Return?

**Hscale:** This is a number between 1 – 100 that represents the frequency of hail storms for the last fifteen years. For example, the national average is 6 (2.3 hail storms per/yr), so any Hscale number higher than that is more likely to have a hail storm.

**Hpercentile:** This is a percentile score that compares your lookup to the rest of the US. For example, a score of 10 means that it's in the lowest 10% of all areas in the US, or a score of 80 means that your lookup is in the top 20% compared to all areas in the US.

**Storms per Year:** This is the average number of storms per year for the area. The national average is 2.3 storms per year.

**Hail Score:** This is the hail score based upon the number of storms per year. The scores can be interpreted as follows:

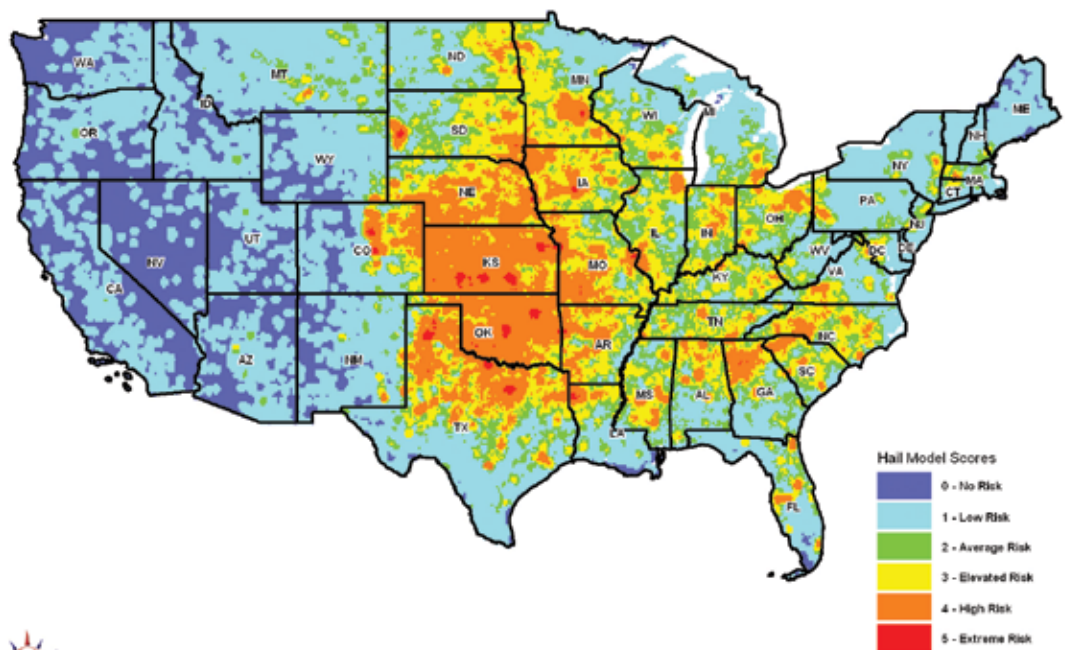
- 0 – No Hail Risk – No Storms
- 1 – Below Avg Risk – Less than 2 storms per year on average
- 2 – Average Risk – Approximately 2 to 3 storms per year on average
- 3 – Elevated Risk – 3 to 5 storms per year on average
- 4 – High Risk – 5 to 15 storms per year on average
- 5 – Extreme Risk – More than 15 storms per year on average

Due to weather patterns, hail storms occur mostly east of the Rocky Mountains.

The areas shaded yellow, orange and red are highly prone to hail storms.

14% of the country experienced no hail storms (dark blue), with a majority being in western states.

CDS Business Mapping's Hail Model 2008



Produced by CDS Business Mapping, LLC.  
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