

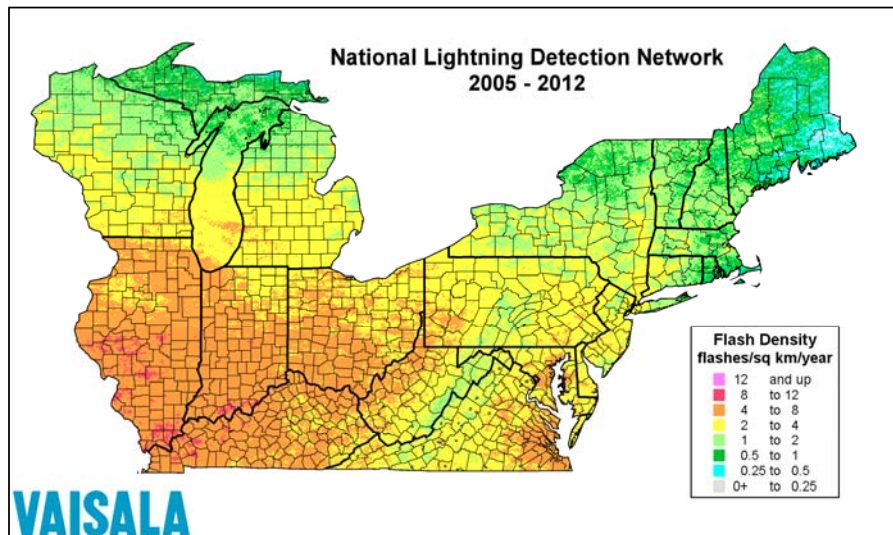
For Immediate Release

June 2013

Northeast U.S. Lightning Data from National Lightning Detection Network

Lightning frequency

The following map shows cloud-to-ground flash density for eight years in the northeast states. There is a great deal of detail to be found within this map at 2-kilometer (1.24 mile) resolution. The highest average lightning frequency is to the southwest in in southern Illinois and Indiana, where lightning frequency is an extension of the stronger and more frequent storms that occur on the Plains to the west. The highest density exceeds eight flashes per square kilometer per year in some of these areas. Less frequent lightning is shown to the northeast and northeast region of this map, especially over northern Michigan and northern New England where adjacent cool to cold ocean and lake surfaces reduce the intensity of updrafts in thunderstorms on many days. Here thunderstorms are less frequent and less intense as the deep low-level moisture needed for thunderstorm formation occurs on fewer days than in other regions. Less frequent lightning is shown to the northeast, especially over the higher terrain of the Appalachian Mountains where thunderstorms develop more often on the slopes than over the highest elevations, as seen around the world on higher terrain in humid environments. Most of the lightning occurs during June, July, and August. With regard to time of day, most areas have the most frequent cloud-to-ground lightning activity from afternoon to early evening, except the far northwestern portion has an evening maximum extending to after midnight.



June 2013

Lightning fatalities

For the entire U.S., 34 people were killed by lightning per year from 2003 to 2012, for a total of 345 during these ten recent years. The number of flashes and fatalities are shown by state in the following table. An average of ten times as many people are injured sufficiently to require medical attention as the number of fatalities. It is apparent that Illinois, Indiana, and Kentucky have the most flashes, while the populous states of New Jersey, Ohio, and Pennsylvania have the most fatalities among these states. More details on area-weighted flash densities and population-weighted fatality rates are at www.lightningsafety.noaa.gov.

| State | Flashes in 2012 | Average Flashes 1997 to 2012 | Fatalities 2003-2012 | Fatality Rank 2003-2012 |
|---------------|-----------------|------------------------------|----------------------|-------------------------|
| Connecticut | 23,797 | 20,599 | 2 | 37 |
| Delaware | 14,285 | 15,840 | 0 | 45 |
| D.C. | 567 | 783 | 0 | 46 |
| Illinois | 632,990 | 808,047 | 5 | 21 |
| Indiana | 415,031 | 504,167 | 4 | 25 |
| Kentucky | 569,187 | 551,572 | 8 | 15 |
| Maine | 45,415 | 49,254 | 4 | 26 |
| Maryland | 79,288 | 88,782 | 3 | 34 |
| Massachusetts | 22,283 | 25,351 | 4 | 27 |
| Michigan | 244,428 | 297,422 | 7 | 18 |
| New Hampshire | 24,962 | 23,460 | 0 | 48 |
| New Jersey | 59,120 | 47,628 | 13 | 6 |
| New York | 191,914 | 220,834 | 4 | 29 |
| Ohio | 421,230 | 460,074 | 11 | 9 |
| Pennsylvania | 393,759 | 317,964 | 11 | 10 |
| Rhode Island | 3,160 | 2,579 | 4 | 31 |
| Vermont | 31,956 | 28,352 | 2 | 39 |
| Virginia | 314,288 | 348,233 | 5 | 23 |
| West Virginia | 210,610 | 210,169 | 1 | 43 |
| Wisconsin | 235,440 | 299,518 | 5 | 24 |

Lightning insurance claims

According to the Insurance Information Institute and State Farm Insurance, 186,000 insurance claims were paid for lightning losses in the U.S. in 2011, at an average of \$5112 per claim for a total of about one billion dollars from this source alone – see www.vaisala.com/nldn30. There are substantial additional impacts of lightning in a very wide variety of avoidance and mitigation expenses.

Lightning safety

Safety from lightning involves being inside a large substantial building or a fully-enclosed metal-topped vehicle in the presence of lightning. In the U.S., 99% of lightning deaths in recent years occurred outside of these two safe locations. A simple rule to use for reaching these safe places is “When thunder roars, go indoors.” A substantial expansion on this lightning safety information is located on www.lightningsafety.noaa.gov.