Environment Canada Environnement Canada

Canada

Home >

Lightning Detection

Lightning Hot Spots, safety tips and general information - a series of maps showing where lightning occurs most frequently in Canada, lightning activity in major cities, safety tips and more information.

Lightning Activity

This image represents the estimated frequency of Lightning Flashes to ground derived from an analysis of lightning detected over Canada and the United States during the hour ending at the time noted above the image. Times are expressed in Universal Time Coordinates (UTC). This image is updated each hour at approximately 25 minutes past the hour.

Choose the region of interest on the map below

Lightning - Canada

Arctic | Pacific | Prairies | Ontario | Quebec | Atlantic

The estimated frequency of Lightning is depicted as flashes per 1000 square km* per minute as follows:

- Continuous (Red) = more than 9.9 per minute
- Frequent (Orange) = 2.5-9.9 per minute
- Scattered (Yellow) = 0.6-2.4 per minute
- Occasional (Green) = 0.1-0.5 per minute
- Isolated (Blue) = less than 0.1 per minute

Note*: 1000 square km represents a circle having a radius of 17.8 km

Environment Canada would like your feedback on our lightning display. Please send your comments, suggestions and questions to:
http://weatheroffice.ec.gc.ca/mainmenu/contact_us_e.html

The Canadian Lightning Detection Network

The Canadian lightning detection network increases public safety by allowing meteorologists to detect and monitor thunderstorms at an early stage in their development.

Thunderstorms are always accompanied by lightning and may produce damaging and dangerous weather such as tornadoes, hail, high winds and heavy rain. Using information from the lightning detection network and other data such as doppler radar, meteorologists will be able to detect thunderstorms earlier, track them more accurately, and if necessary, issue severe weather warnings sooner -- in some cases, one to three hours before a storm hits.

Early warnings give Canadians more time to take appropriate steps to protect themselves, such as:

- cancelling outdoor recreational activities, like baseball and soccer games;
- getting out of the water or sailing to shore before a storm strikes;
- taking shelter if working outdoors on construction sites or farmers' fields.

In Canada, lightning kills on average 9 to 10 people and seriously injures 92 to 164 people a year. Among the 9,763 fires recorded by the Canadian Forestry Service in 1994, 5,324 resulted directly from lightning. The geographic area burned by fire rose to 6,292,021 hectares. The average annual cost of forest fires between 1979 and 1993 is 14 billion dollars.

Severe weather such as thunderstorms, lightning, tornadoes, hail, heavy rains and high winds also exact a high toll. In the 1980s, tornadoes in Barrie and Edmonton killed 35 people. Hail storms in Calgary and Winnipeg in the summer of 1996 resulted in property losses of close to $300 million. In August of the same year, heavy rains hit the Ottawa/Hull area, resulting in total insured property damage of more than $20 million. That figure does not include the cost of repairing the sewers and roads.

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