



**Water
KIDZ**

Hail – Freaky force of nature



Hailstones come in various sizes.

Hail is one of the most amazing, and destructive, forms of precipitation we have in South Africa.

Hail usually occurs during summer thunderstorms. A hailstone begins as a small water drop or a round snow pellet in a cloud. The drop grows by collecting many cloud drops. The little drop is blown by a strong wind inside the cloud to where it meets with some extremely cold water drops. These supercooled drops are still liquid water even though the temperature is below freezing. When the little drop mixes with these extremely cold drops, they join, and the little drop has now become a hailstone.

The little hailstone is thrown up inside the cloud, still collecting other cold drops. The hailstone gets bigger and bigger until it goes to the top of the cloud. Then, because there is no more wind, it falls back down through the cloud. While it is falling it gets even bigger as it bangs into more supercooled drops. If it goes down very fast it can hit the earth at up to 144 kilometres per hour, bouncing like popcorn. Hail can only form in thunderstorm or Cumulonimbus clouds.

Most hailstones measure between 5 millimetres and 150 millimetres in diameter, but cricket ball-sized hailstones have been reported. Hailstones can be round or jagged. The size of hailstones depends on the strength and size of the updraught. Most of the time hailstones are smaller than 25 mm, which is about the size of a 10c piece. Large hailstones can do serious damage to crops, vehicles and buildings. Even small hail with strong winds can crush a field of wheat flat in a few minutes. It sometimes breaks windows, and can dent cars and roofs. Big hailstones can hurt and even kill small animals.

South Africa is prone to severe thunderstorms. The areas most prone to hail include areas that are adjacent to the Drakensberg mountains and other smaller mountain ranges. The eastern Free State, central and western parts of KwaZulu-Natal, the northern parts of the Eastern Cape, as well as parts of Mpumalanga therefore have the highest occurrence of hail. Statistics show that there are, on average, six to eight hail days a year in parts of Lesotho, the eastern Free State, surrounding parts of KwaZulu-Natal, as well as parts of Mpumalanga.



Hail can do severe damage to crops.

But South Africa is not the only country that receives hail. Certain parts of the world receive more hail than others. The approach of the summer monsoon season in India brings severe thunderstorms, often with tornadoes and hail. A particularly deadly hailstorm in Moradabad, India, in 1888, killed more than 250 people. China also experiences frequent hailstorms, as do parts of the Midwestern United States. In fact, the Great Plains region of the United States and Canada is called Hail Alley.

The occurrence of hail is very sporadic. For this reason, it is quite difficult to predict coming hailstorms far ahead of time. However, in the short term, weather tools such as radar and satellite technology can help predict the development and movement of hailstorms for about an hour ahead of time. This can give people enough time to move vehicles and animals to safety.



A hail-covered lawn following a thunderstorm.

Sources

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Water words

Cumulonimbus clouds: A type of cloud associated with thunderstorms and heavy precipitation

Precipitation: Any kind of water that comes down from the clouds

Updraught: Upward movement of air



A hailstone begins as a small water drop or a round snow pellet in a cloud, but can collect many layers before it falls to the ground.