

World's largest hailstone produced from storms in South Dakota; 8" in diameter and 1.9375lbs

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Image of the world's largest hailstone. 8 inches in diameter, 18.5 inches around, and a weight of 1.9375lbs.

Powerful thunderstorms with cloud tops over 50,000ft produced the world's largest hailstone in Vivian, SD.

Les Scott, a resident of Vivian, found the hailstone and took it to the National Weather Service. Finally, it was taken to the post office where it was weighed in at 1.9375 pounds (a world record). The inspection of the new world record hail wasn't done. To ensure that the hailstone didn't melt, it was then measured while inside a freezer at a local convenience store. The hailstone was down to 17 inches around, but was measured just a few days ago at 18 and a half inches, another world record number.

The cloud top from the storm that produced large hail in Vivian last Friday was at 55,000 feet, where temperatures were 96 degrees below zero.

Hail forms when updrafts in thunderstorms carry raindrops into extremely cold areas of the atmosphere. In these cold areas in the atmosphere, temperatures are well below freezing and the humidity is over 100 percent. The updrafts inside the storm allow the hail to fuse together with other hail stones or the hail runs into the humid air and collides with water droplets (a process known as collision-coalescence). When the updraft can no longer support the hail or the hail gets caught in the storm's downdraft, it falls to the ground. The strength of the updraft is directly proportional to the size of the hail. The stronger the updraft, the larger the hail.

In order to produce one-inch diameter hail, the storm typically needs an updraft around 50 miles per hour. A two-inch diameter hailstone needs close to a 70 miles per hour updraft. When we get to the four-inch hailstones and above, we're talking updrafts of over 100 miles per hour, clearly the case with the storm that produced the Vivian hail.



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