

# Skyfall: Meteorite strikes Earth

More than 1,000 Russians injured in blast 20 times the force of atomic bomb

MOSCOW (AP) — With a blinding flash and a booming shock wave, a meteor blazed across the western Siberian sky Friday and exploded with the force of 20 atomic bombs, injuring more than 1,000 people as it blasted out windows and spread panic in a city of 1 million.

While NASA estimated the meteor was only about the size of a bus and weighed an estimated 7,000 tons, the fireball it produced was dramatic. Video shot by startled residents of the city of Chelyabinsk showed its streaming contrails as it arced toward the horizon just after sunrise, looking like something from a world-ending science-fiction movie.

The largest recorded meteor strike in more than a century occurred hours before a 150-foot asteroid passed within about 17,000 miles (28,000 kilometers) of Earth. The European Space Agency said its experts had determined there was no connection between the asteroid and the Russian meteor — just cosmic coincidence.

The meteor above western Siberia entered the Earth's atmosphere about 4:20 a.m. local time (10:20 p.m. EST Thursday) at a hypersonic speed of at least 33,000 mph (54,000 kph) and shattered into pieces about 30-50 kilometers (18 to 32 miles) high, the Russian Academy of Sciences said. NASA estimated its speed at about 40,000 mph,

said it exploded about 12 to 15 miles high, released 300 to 500 kilotons of energy and left a trail 300 miles long.

"There was panic. People had no idea what was happening," said Sergey Hametov of Chelyabinsk, about 1,500 kilometers (930 miles) east of Moscow in the Ural Mountains.

"We saw a big burst of light, then went outside to see what it was and we heard a really loud, thundering sound," he told The Associated Press by telephone.

The shock wave blew in an estimated 100,000 square meters (more than 1 million square feet) of glass, according to city officials, who said 3,000 buildings in Chelyabinsk were damaged. At a zinc factory, part of the roof collapsed.

The Interior Ministry said about 1,100 people sought medical care after the shock wave and 48 were hospitalized. Most of the injuries were caused by flying glass, officials said.

Scientists estimated the meteor unleashed a force 20 times more powerful than the Hiroshima bomb, although the space rock exploded at a much higher altitude. Amy Mainzer, a scientist at NASA's Jet Propulsion Laboratory, said the atmosphere acted as a shield.

The shock wave may have shattered windows, but "the atmosphere absorbed the vast majority of that energy," she said.



A meteorite contrail is seen over a village of Bolshoe Sidelnikovo 30 miles from Chelyabinsk, Russia Friday. A meteor streaked across the sky of the Ural Mountains, causing sharp explosions and reportedly injuring around 1,000 people, including many hurt by broken glass.

## Two space rocks hours apart point to danger

CAPE CANAVERAL, Fla. (AP) — A space rock even bigger than the meteor that exploded like an atom bomb over Russia could drop out of the sky unannounced at any time and wreak havoc on a city. And Hollywood to the contrary, there isn't much the world's scientists and generals can do about it.

But some former astronauts want to give the world a fighting chance.

They're hopeful Friday's cosmic coincidence — Earth's close brush with a 150-foot asteroid, hours after the 49-foot meteor struck in Russia — will draw attention to the dangers lurking in outer space and lead to action, such as better detection and tracking of asteroids.

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## How often do meteorites hit Earth?

Experts say smaller strikes happen five to 10 times a year. Large meteors such as the one in Russia on Friday are rarer, but still occur about every five years, according to Addi Bischoff, a mineralogist at the University of Muenster in Germany. Most of them fall over uninhabited areas where they don't injure humans.

## How big was Friday's meteor and why did it cause so many injuries?

Before it entered the atmosphere, the meteor was about 49 feet in diameter and had a mass of about 7,000 tons, NASA says.

## What's the difference between a meteor and a meteorite?

Meteors are pieces of space rock, usually from larger comets or asteroids, which enter the Earth's atmosphere. Many are burned up by friction and the heat of the atmosphere, but those that survive and strike the Earth are called meteorites. They often hit the ground at tremendous speed — up to 18,650 mph — releasing a huge amount of energy, according to the European Space Agency.