# Infrasound Encyclopedia Article

## Infrasound

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# Infrasound

Infrasound is the class of sonic vibrations that are lower than the human ear can hear. That is, they have lower frequencies and longer wavelengths than the **sound waves** perceived by human beings. The lower boundary on sound perceptible with the human ear is usually around 20 Hertz, or 20 vibrations per second. These waves still travel at the **speed of sound** (about 330 m/s in air), so their wavelengths can be extremely long.

Infrasound is often produced by large vibrating objects but can also be produced by living things. Elephants, for example, can emit infrasonic waves. Large bridges can be the source of infrasonic **pulses** when they sway, and nuclear explosions have been known to give off infrasonic waves at frequencies as low as one every hundred seconds (0.01 Hz).

One of the major uses of infrasound in modern science is in the detection of catastrophic storms such as tornadoes. The eye of a tornado generates infrasonic pulses that can be detected from as far away as 100 mi (60 km), allowing for better storm warning systems. While sound, including infrasound, has been studied for many years, new applications are still being explored.