



NASA Astronaut Captures Rare Red Flash Above Storm

Description

Astronauts on the International Space Station (ISS) have captured remarkable photos of bright flashes appearing above storms on Earth. These flashes, known as red sprites and other transient luminous events (TLEs), occur high in the atmosphere and last only milliseconds, making them hard to see from the ground.

Usually, people see lightning bolts striking between clouds or down to the ground during a storm. However, some of the most spectacular electrical events happen much higher, in the upper atmosphere above the weather.

Red sprites and similar phenomena can appear as strange shapes or colours, like upside-down jellyfish. According to NASA, these flashes can occur as high as 55 miles (about 90 kilometres) above the Earth. One photo shows a large red sprite above storms close to the Texas-Mexico border.

Research relies on the Atmosphere-Space Interactions Monitor (ASIM), an important tool installed on the ISS by the European Space Agency in 2018. This device uses high-speed cameras to capture electrical events that last only fractions of a second. It has shown that lightning can influence the ionosphere, causing lights called ELVES that stretch across hundreds of miles.

Using the ISS's Cupola observation module, crew members film thunderstorms with special cameras to study lightning. These cameras can record 100,000 frames per second, allowing scientists to see details of lightning in slow motion. Researchers hope to map these flashes and understand their effect on the upper atmosphere.

Comprehension Questions

Multiple Choice

1. What are the flashes captured by astronauts on the ISS known as?

- Option: Lightning bolts
- Option: Red sprites
- Option: Thunder
- Option: Cloud formations

2. How high can red sprites occur above the Earth?

- Option: 30 miles



- Option: 55 miles
- Option: 100 miles
- Option: 10 miles

3. Which organization installed the Atmosphere-Space Interactions Monitor (ASIM)?

- Option: NASA
- Option: European Space Agency
- Option: Russian Space Agency
- Option: Indian Space Research Organization

4. In what year was the ASIM installed on the ISS?

- Option: 2015
- Option: 2016
- Option: 2018
- Option: 2020

5. What is the recording capability of the special cameras used on the ISS?

- Option: 1,000 frames per second
- Option: 10,000 frames per second
- Option: 50,000 frames per second
- Option: 100,000 frames per second

6. What unusual shapes do red sprites resemble?

- Option: Clouds
- Option: Fish
- Option: Jellyfish
- Option: Trees

True-False

7. Red sprites last for several minutes.

8. Flashes can be seen easily from the ground.

9. The ISS is located in the lower atmosphere.

10. ASIM uses high-speed cameras to capture electrical events.



11. The Cupola observation module is used to film thunderstorms.

12. ELVES are caused by the influence of lightning on the ionosphere.

Gap-Fill

13. Red sprites and other transient luminous events (TLEs) occur high in the atmosphere and last only _____ seconds.

14. Some electrical events happen in the upper atmosphere above the _____ during a storm.

15. The ASIM was installed on the ISS by the _____ Space Agency.

16. One photo shows a large red sprite above storms close to the _____ border.

17. Crew members use _____ cameras to record lightning on the ISS.

18. Researchers hope to map these flashes and understand their effect on the upper _____ .

Answer

Multiple Choice: 1. Red sprites 2. 55 miles 3. European Space Agency 4. 2018 5. 100,000 frames per second 6. Jellyfish

True-False: 7. False 8. False 9. False 10. True 11. True 12. True

Gap-Fill: 13. milliseconds 14. weather 15. European 16. Texas-Mexico 17. special 18. atmosphere

CATEGORY

1. Sci/Tech - LEVEL3

Date Created

2026/03/12

Author

aimeeyoung99