

Overview

The nationwide Eclipse Ballooning Project was initiated by Montana State University in 2014 with the goal of bringing together high-altitude ballooning teams in the [Space Grant](#) network in order to engage students in hands-on learning, provide a unique perspective of the Aug. 21 total solar eclipse, and gather additional scientific information about this awe-inspiring phenomenon.



Key facts

- There are 55 live video teams involved in the project.
- Those teams will launch at least 75 large balloons (55 with the live video system and 20+ with various other cameras and experiments).
- The large balloons will reach altitudes of roughly 80,000 feet or more during the eclipse.
- An additional 12 atmospheric science teams will fly smaller radiosonde weather balloons.

The livestream – providing a unique perspective of the eclipse

Each live video team will use cameras suspended from a high-altitude balloon to capture aerial video footage that shows the moon's shadow crossing the Earth, the curvature of the planet and the blackness of space. The video will be livestreamed to a worldwide audience on [NASA's website](#) and <http://eclipse.stream.live/>. The video footage, plus still images, will also be recorded by the balloons and distributed after the eclipse.

The science – what can be learned from the project

- 1) Video: The video footage captured by the balloons will become a resource for scientists who are seeking to better understand how cloud formations and other features of Earth's atmosphere respond to the sudden daytime darkness of a solar eclipse.
- 2) Radiosonde: The radiosondes, which are small weather monitoring instruments that are regularly used by the National Weather Service, will gather pressure, temperature and humidity data that are expected to be used by researchers to further study the atmospheric effects of the eclipse.
- 3) Resilient bacteria: An estimated 34 project teams will carry small samples of bacteria on their balloons as part of a NASA-sponsored project to study how bacteria hitching a ride on spacecraft might behave on Mars. The Earth's upper atmosphere is similar to the surface atmosphere on Mars, light levels during a solar eclipse provide further similarity, and the large number of balloons launching simultaneously on Aug. 21 provides a good opportunity for study. NASA will distribute, collect and analyze the bacteria samples.

Photo and video download

Photo: <https://montana.box.com/s/4o3zkmhukdvocfg55kma5ol9ezxlajcc>

Video: <https://montana.box.com/s/9337umop63wvtg2pujsaxfbxpcalrgsp>

Additional information

Teams and tentative launch locations: <http://eclipse.montana.edu/teams/>

Team entities: <http://eclipse.montana.edu/programs-of-the-eclipse-ballooning-project/>

Answers to frequently asked questions: <http://www.coe.montana.edu/eclipse/media.html>

Eclipse Ballooning Project webpage: <http://eclipse.montana.edu/>

Montana State University website: <http://www.coe.montana.edu/eclipse/index.html>

NASA bacteria experiment: [NASA press release](#)