



“Promoting Science and Education through Amateur Radio and High Altitude Balloons”

Introduction & FAQ

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What is EOSS?

Edge of Space Sciences (EOSS) is a Denver, Colorado based nonprofit organization that promotes science and education by exploring frontiers in amateur radio and high altitude balloons.

Since its first flight in 1990, EOSS has increased its volunteer membership's numbers and skills over the course of more than 49 launches and payload recoveries. Today, it is widely recognized as one of the premier organizations in its field.

EOSS was incorporated in the State of Colorado in 1991 and is recognized by both Colorado and the U.S. Government as a 501(c)(3), tax exempt, scientific and educational organization.

What does EOSS do?

Our members utilize amateur radio and balloons to advance scientific study of the upper atmosphere.

We regularly work with educators, offering valuable opportunities to enhance their students' studies of science, mathematics and technology through real, hands-on experience.

EOSS conducts about five balloon projects each year, sending radio-equipped payloads high into the stratosphere over eastern Colorado. Our typical apogee of 100,000 feet is above 99% of the earth's atmospheric mass, where the sky is black and the highest clouds remain far below. VHF and UHF radio signals transmitted from this height are received as far as 400 miles away!

Sometimes called “the Edge of Space,” this largely unexplored territory offers a wealth of opportunities for scientific observation and has even served as a reasonable approximation to outer space for testing prototype spacecraft. Gas balloons are the most practical means to get there, since rockets can visit it only briefly, and it's unattainable by ground-based aircraft. Because of the low cost of balloon flight expendables and recovery of payloads, one local high school teacher characterized EOSS as the “Poor Man's Space Program.”

How does EOSS help Education?

As our motto implies, education plays a very important role in EOSS activities. Although each flight is a learning experience for our members, EOSS actively solicits educators to enhance their science

and technology curricula with a trip to the edge of space. EOSS can also help others who work with young people on science-related projects.

EOSS has cooperated with many Colorado schools from middle schools in Pueblo and Longmont through high schools and Colorado Space Grant colleges. We have also assisted other science-oriented youth groups, such as the Lockheed-Martin Explorers, IAAS (International Association of Astronomical Studies) and STARS (Students of Technology And Related Sciences). Student experiments have ranged from simple temperature and pressure telemetry to gas sampling and solar telescopes. Many student groups have gained valuable knowledge simply by participating in EOSS launch, telemetry and tracking activities. Members have conducted classroom presentations ranging from short briefings to daylong seminars, and many hours have been devoted to helping students prepare their payloads for a launch.

EOSS has also provided its well-developed operational skills to several organizations engaged in scientific research, including NOAA's (National Oceanic and Atmospheric Administration) Forecast Systems Lab and contractors to JPL's (Jet Propulsion Laboratory) Mars Microballoon Project. In 1993 EOSS hosted the first National Balloon Symposium, bringing together experts from both professional and amateur balloon groups nationwide.

How much does it cost? Since amateur radio is used in launch and recovery operations, members cannot, by law, charge anything for their services. However, a modest donation is encouraged to cover the cost of items such as balloons, helium, etc.

How about EOSS Membership?

EOSS is always interested in bringing in new members who are interested in what we do. Those who are willing and able to participate in our various efforts are especially welcome. Since amateur radio plays a strong role in EOSS operations many of its members are licensed "hams." However, licensing is not a requirement. Often members have earned their ham licenses shortly after having seen how useful and fun ham radio is! Students are especially encouraged to join at a discounted rate.

Where can I learn more about EOSS?

For many, the easiest way is to check out the web site, www.eoss.org. There one may find pages that cover EOSS publications, past flight summaries and photos, payload descriptions and announcements of upcoming flights. Site visitors can also sign up for the EOSS e-mail reflector.

Those desiring a more "personal touch" are invited to attend our monthly meetings, held the 2nd Tuesday of each month at 7:00 P.M. in the Administration Building at Ft. Logan Mental Health Center on Oxford Ave, ½ mile west of Federal Blvd. in southwest Denver.

Amateur radio operators and scanner enthusiasts may join EOSS for our weekly "on-air" meetings, held each Tuesday at 8:00 P.M., except the 2nd Tuesday of each month, on the 147.225 MHz CRA (Colorado Repeater Association) repeater in the Denver area. This repeater is usually linked into Boulder (145.460 MHz) and Colorado Springs (145.160 MHz).

Lastly, EOSS may be contacted by calling 303-979-4899.