

What is Near-Space Ballooning?

Near-space balloons are fun, inexpensive, and increasingly popular tools to fly experiments in a near-space environment.

We attach payloads (containers holding experiments) along with a ham radio, GPS tracker, radar reflector, and parachute to a latex balloon filled with helium.

As the balloon rises through the air, the atmospheric pressure drops and the balloon expands. At a certain point in the stratosphere, the balloon can no longer stretch and pops! As it falls back to Earth, the parachute deploys. Ham radio operators track the balloon as it descends to Earth.

After continuously following the balloon's trajectory with tracking equipment, the chase teams pinpoint the balloon's final landing site.

Important Dates

- Oct. 2.....Proposals Due
- Oct.9.....Teams Notified of Acceptance
- Oct.12-16.....Web meeting (Indv.)
- Nov. 6.....Web Meeting (All)
- Nov. 20.....Pre-launch Meeting at UND
- Nov. 21.....Launch Day
- Dec. 5.....Back-up Launch Day

The 2015 NSBC Mission Objective:

Mission To Mars

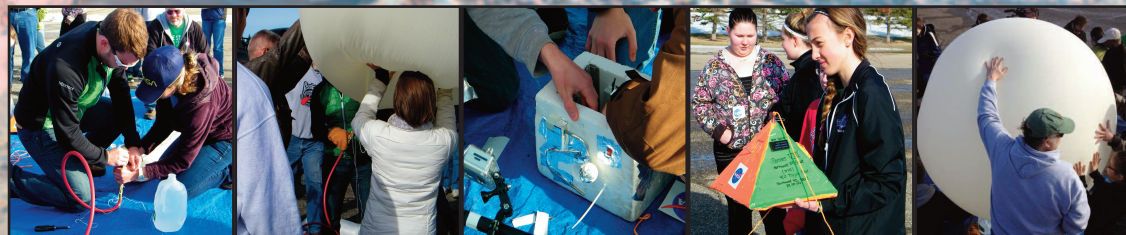
NASA plans to launch a crewed mission to Mars by 2035 and they need your help. The 2015 Near-Space Balloon Competition (NSBC) invites teams to propose a pre-cursor Mars mission, one that will provide data for NASA scientists and engineers that can help them design a future crewed mission to Mars. You have the opportunity to design a payload (engineering/science experiment) that will be launched to the stratosphere (100,000 feet!) onboard a high altitude balloon to collect your data.

This balloon launch introduces a unique environment that allows you to answer various questions about the atmosphere or planetary surface that can be applied to equipment/procedures used on a Martian mission. Will you study the temperature, pressure, ultraviolet radiation strength, or atmospheric composition? Or will you perform remote sensing to show NASA the Martian surface features and the best landing sites? What experiment will your team design, benefiting future Martian astronauts?

To learn some quick facts about Mars, check out the following links: <http://goo.gl/o6rTGf>
<http://goo.gl/w7nXTB>
<http://goo.gl/Ehz0I2>
<http://goo.gl/UVAbYS>

OVERVIEW

Students in 6th to 12th grade may propose an experiment for this year's NSBC. Teams must include one faculty advisor and 3 to 20 student members. Experiments will ascend up to 100,000 feet, above 99% of Earth's atmosphere! The grand prize winner will win the opportunity to participate in a NDSGC sponsored STEM-activity or a trip to the John D. Odegard School of Aerospace Sciences at the University of North Dakota. The trip to UND includes a tour of the Aviation facilities (including a high altitude chamber), Space Suit Lab, spacecraft simulators, and the UND Observatory. The North Dakota Space Grant Consortium (NDSGC) will fund payload construction and launch travel expenses.



Rules and Regulations

In order to comply with FAA regulations, we must follow the following:

1. The fully completed payload **MUST** be less than 2 pounds.
2. Payloads may not exceed 2 ft x 2 ft x 2 ft
3. Please do not launch animals! (Plants are allowed)
4. If you wish to use any radio equipment, please contact us.
5. Please do not incorporate anything that may explode, has a projectile, or could accidentally contact another payload.

Submit Proposals
to
balloons@ndspacegrant.org

A new NSBC website
is in the works!
Check back soon
for more info.



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North Dakota Near-Space Balloon Competition

