



# HAVING A BLAST

REACH FOR THE STARS AT WALLOPS FLIGHT FACILITY

Story by Sarah Ensor | Photos by Caroline J. Phillips  
Launch photos courtesy of NASA/Wallops Island

WAYFARING



Where does Earth end and the rest of the universe begin? In other words, where is space? According to NASA, space begins 100 kilometers (about 62 miles) above sea level. That is roughly the distance between Rock Hall and Cambridge, or Vienna to Wallops Flight Facility Visitor Center in Wallops Island, Virginia.

Wallops Flight Facility is the most recent name for NASA's Wallops Island station, which continues to play a crucial role in the space program.

Capsules for Project Mercury, the project that first launched humans into space, were tested at Wallops from 1959 to 1961. During that testing, two rhesus monkeys "manned" capsules. Sam rode 53 miles into

the sky in 1959, and in 1960, Miss Sam made it 8 miles up. Both monkeys returned safely to sea level.

These days, Wallops Flight Facility is home to NASA's sounding rocket, or research rocket, program. These sub-orbital rockets (which just means that once in space, these rockets cannot turn and begin to orbit Earth) are used to gather scientific research. The largest rockets launched from Wallops can travel as far as 900 miles from sea level but they go up and right back come down.

The Wallops Flight Facility Visitor Center offers interactive displays and regular programming, making it a great destination for a day trip that is both fun and educational (for adults as well as kids).



A great way to learn about the sounding rocket program is to attend on a day when the visitor center is hosting a model rocket launch. Before the launch, a visitor center employee will give a brief explanation of the sounding rocket program and then kids can participate in the model rocket launch to see a miniature version of how the sounding rockets work. (Without the scientific calculations and careful planning, model rockets tend not to return to Earth with the same accuracy as full-size sounding rockets.)

### THE SOUNDING ROCKET PROGRAM

According to the Visitor Center presentation, scientists who want to study something that requires a rocket launch can approach NASA. Once NASA approves such projects, they are sent to Wallops. The scientists have a mission initiation conference with NASA in which they outline what they want the mission to accomplish.

Mechanical engineers then design the body of the payload (the part of the rocket above the motors all the way through the nose cone), and electrical engineers design the inside.

Once designed, the rocket goes to fabrication. The body of the rocket is

built out of large pieces of raw aluminum in a machine shop with huge mills. Electrical technicians build the interior, which can include miles of wiring.

Sounding rockets have fins to create spin, which stabilizes a rocket (for the same reason quarterbacks put spin on their football throws, the presenter explains).

The rocket is then tested, and measurements are made to determine the rocket's targets, including where all of the pieces will land when they return to Earth.

The payload and the motors meet for the first time on the launchpad. The rocket launches and returns fairly quickly, usually within 20 minutes. A parachute deploys, motors fall into the ocean, and boats go out to collect the payload.

### VISITOR CENTER

The Visitor Center is free and open to the public. Check NASA's website, [www.nasa.gov/centers/wallops/home](http://www.nasa.gov/centers/wallops/home), or Wallops Visitor Center's Facebook page, [www.facebook.com/nasawffvisitorcenter/](http://www.facebook.com/nasawffvisitorcenter/), for seasonal hours, upcoming programming, and rocket launches, which can be viewed safely from the Visitor Center. 📍



CAPSULES FOR PROJECT MERCURY, THE PROJECT THAT FIRST LAUNCHED HUMANS INTO SPACE, WERE TESTED AT WALLOPS FROM 1959 TO 1961.

