

The West Virginia Space Public Outreach Team (SPOT)

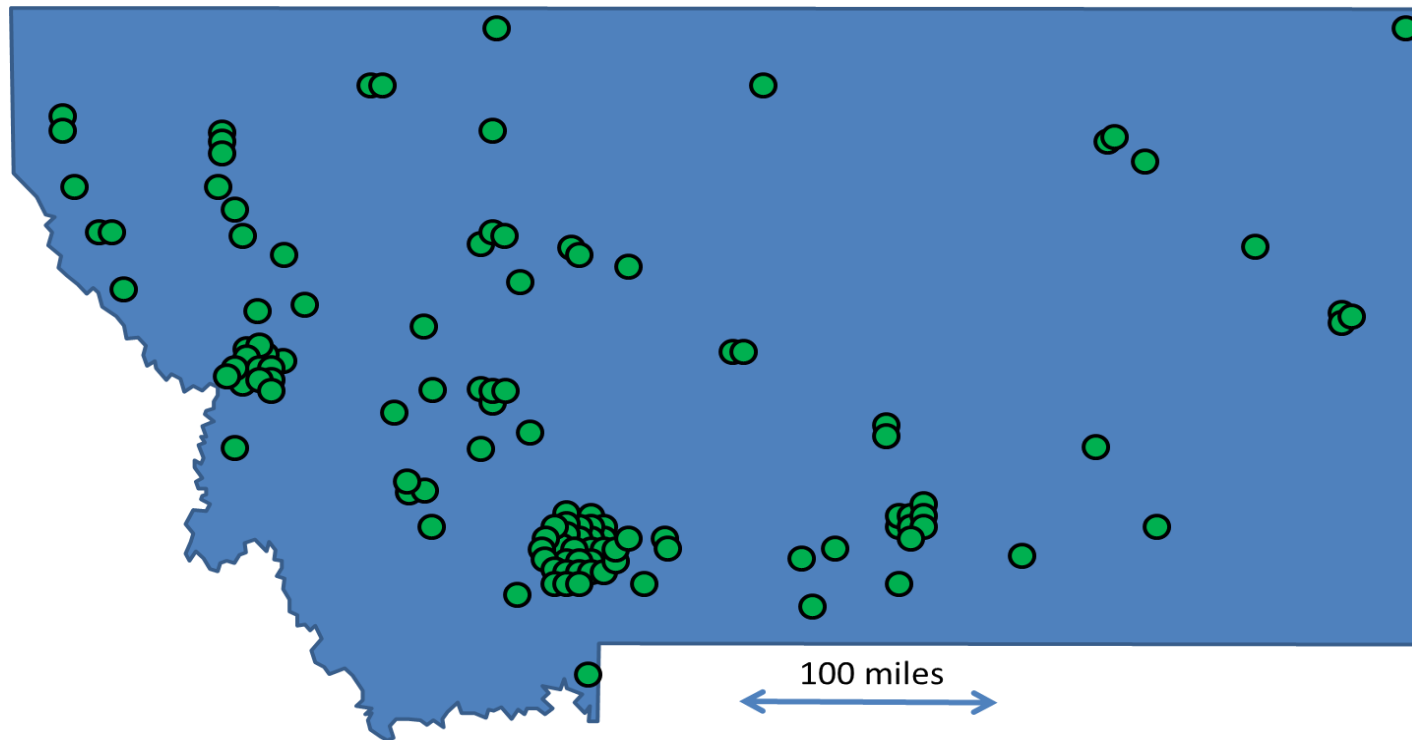


Mission:

The West Virginia Space Public Outreach Team (WVSPOT) inspires an appreciation of STEM and STEM careers in K-12 students through the delivery of interactive presentations by undergraduate students that highlight cutting edge space science and engineering research in the Mountain State.

What is SPOT?

- Adapted from an existing program in Montana that has had over 18 years of success in bringing space science to over 10,000 Montana K-12 students every year. (solar.physics.montana.edu/spot)



What are our goals?

Supported by the National Aeronautics and Space Administration (NASA), the West Virginia Space Grant Consortium, and the National Radio Astronomy Observatory (NRAO) in West Virginia.

GOALS

For K-12 audiences:

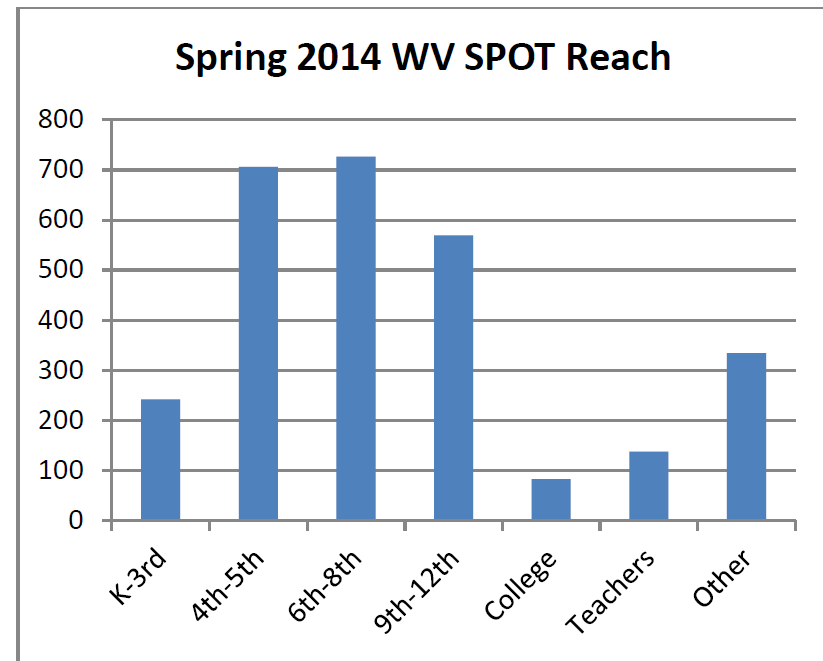
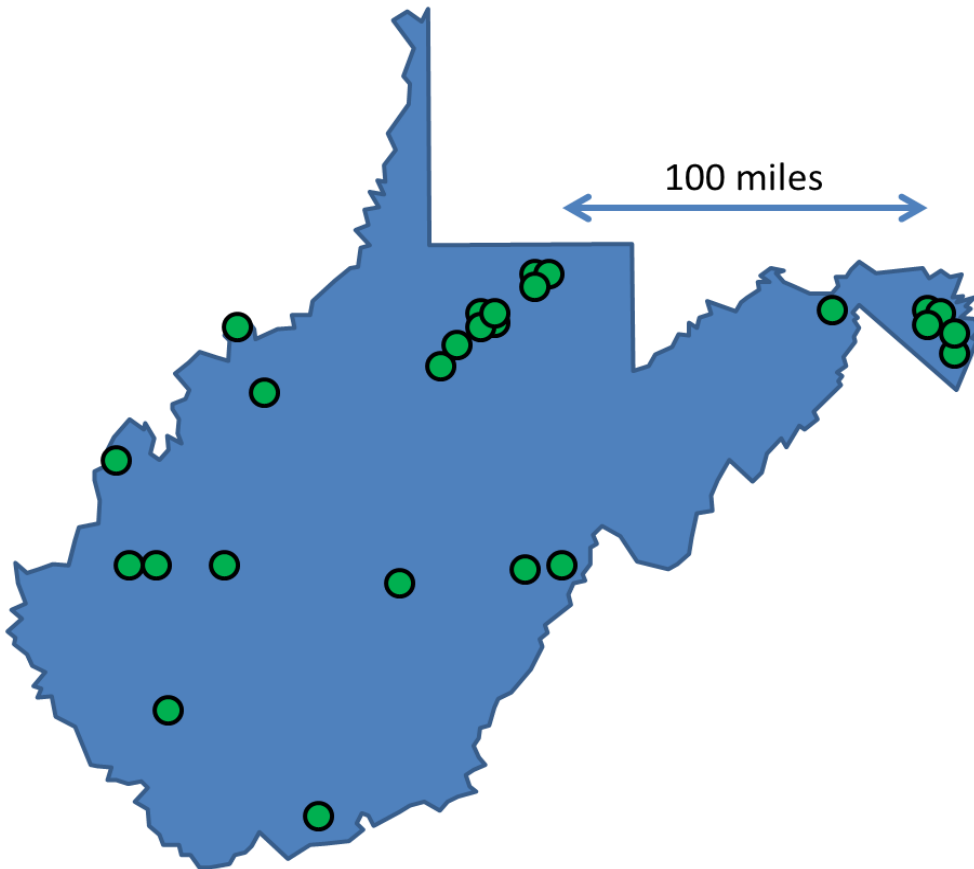
1. Increase awareness of and interest in astronomy and space-related STEM research, programs, and careers in West Virginia.
2. Increase exposure to college role models.

For college ambassadors:

1. Increase 21st century skills such as science communication, public speaking, autonomy, and ability to adapt.
2. Increase astronomy and space science content knowledge.

Huge Success!

Piloted in West Virginia during the 2013-2014 academic year. Reached over 2,600 students and 130 teachers, and ready to grow BIG!



How does WV SPOT work?

NRAO and NASA create 30-min-long engaging slide shows that feature WV space science.



Ambassadors attend a weekend training session.



Ambassadors pass a practice presentation to show they are ready to visit schools.



Teachers learn about SPOT at the West Virginia Science Teachers Association meeting and through a NASA education email listserv.



An interested teacher visits the WV SPOT website and fills out a presentation request form.

How does WV SPOT work?



NRAO/NASA schedule presentations and send notification email to SPOT ambassadors list.



Presentations are awarded on a first come/first serve basis preferably in male/female teams.



Ambassadors get paid \$50 honorarium to travel to the school and give the presentation, plus \$50 if they drive.
Teachers receive a "Teacher Pack" of fun additional resources.



Ambassadors fill out an online reporting form.
Teachers fill out an online feedback form.

What is a SPOT presentation?

- The presentations include extensive notes, with all the information you'll need to know.
- Presentations are targeted to a middle school audience, with enough information to be enhanced for a high school level, and enough things to omit for a 4-5 level.
- Presentations are designed to be engaging, with multiple-choice questions for audience members to vote.
- Presentations are designed to feature West Virginia space science, with the message that you can do real science right here!
- Can easily be adapted for other states.

Feature Presentations



The International Space Station: This presentation covers the largest space craft ever constructed. Students will learn how we built the space station. What it is like to be an astronaut living and working in space, and discuss the future of human space travel.



The Invisible Universe: This presentation explores what scientists have learned about the universe by catching and analyzing invisible messengers from space: radio waves and gravitational waves. These invisible messengers help us learn about: what happens when a star explodes, radio light houses in space called pulsars, and colliding stars and black holes that causes ripples in space.

Feature Presentations



Mars – Past, Present, Future: This presentation focuses on the various missions that have focused on the red planet, as well as what NASA hopes to do in the future. This presentation covers how space crafts get to Mars, what it is like on Mars, and provides discussions about the benefits and challenges to one day sending humans to Mars.



Space Telescopes - Searching for Other Worlds: This presentation features the Hubble Space Telescope, as well as the James Webb Space Telescope. Students learn how we use these space-based telescopes to search for planets and worlds around other stars.

Hands-On Activities

Offered as optional add-on to SPOT presentation.

- Pocket Solar System
- Programming a Robotic Arm
- GBT Engineering Design Challenge
- Sizing Up the Moon (with the Cosmos in Perspective)
- Electromagnetic War
- Cosmic Questions Card Sorting



What is a SPOT Ambassador?

- Ambassadors are primarily undergraduates, from a variety of majors.
- No specific background skills are needed. By committing to be a SPOT ambassador, their training and travel costs will be covered.
- Ambassadors inspire students. They will represent NRAO, NASA, and the state of West Virginia as a role model for young students.

Ambassador Expectations

- Learn at least 1 presentation and pass a practice presentation by October 13, 2014.
- Visit at least 2 schools over the course of the 2014-2015 academic year.
- Be prompt and professional in all SPOT correspondence.
- Make sure they are well-prepared for each presentation. All videos should be working in the slide show, and they have collected all materials for hands-on activities.
- Obtain reporting information from teachers and fill out a reporting form after each visit.
- Be adaptable and independent. SPOT managers will help coordinate the visit, but it is ultimately their responsibility to make sure all goes well.
- Have fun!

Benefits for the kids

Ambassadors

- Learn to deliver technical information to a non-technical audience.
- Add tremendous skills to a resume.
- Enhances public speaking skills .

K-12 Students

- Provide them near peer role models.
- Get them excited about work that is done in their state.
- Peak interest in STEM careers.

Benefits for Space Grants

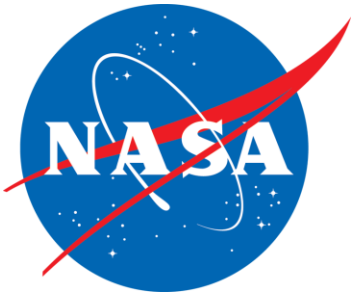
- Great outreach opportunities for college students in your state
- Great exposure for the Space Grant across the state as well as to non-traditional Space Grant majors (education, health sciences, etc)
- Excellent opportunities to promote other Space Grant activities
- Low Cost – High Reward

Future of SPOT

- Get all Mid Atlantic Region space grants involved
- Presentations can be shared and adapted for each state
- Ambassadors could do shows in other states when they return home during breaks from classes
- More states involved could help advance SPOT across the country

Contact Us

www.wvspot.org



Justin Smith – (304) 367-8355
Justin.L.Smith@nasa.gov



Kathryn Williamson – (304) 456-2338
spot.wv@gmail.com



WV Space Grant Consortium
(304) 293-3936