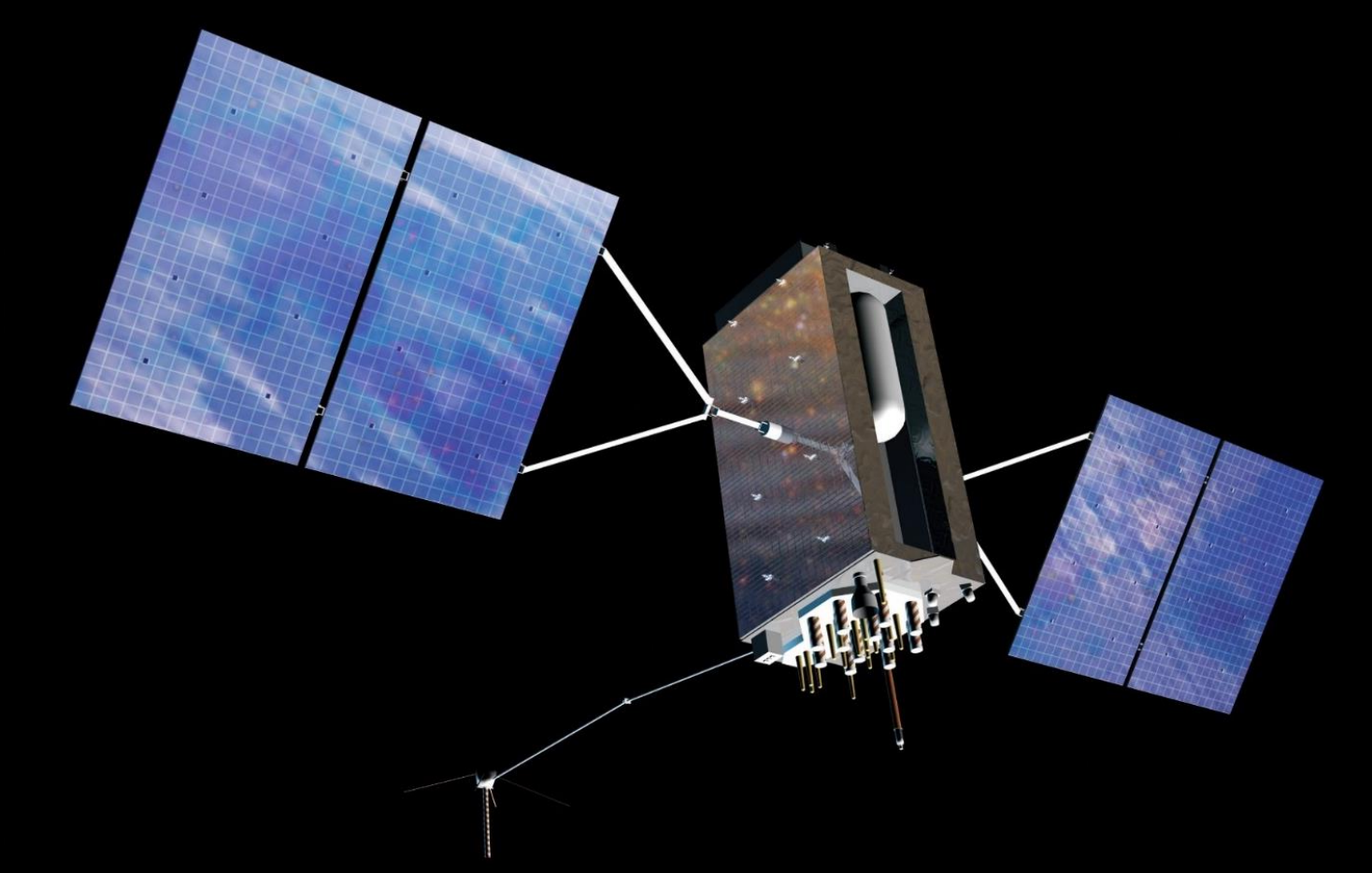


Pipeline for Remote Sensing Education and Application: Informal Education Programs

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Visitor Activities

Description: These activities engage guests of all ages for different amounts of time—an interaction may be 30 seconds or 20 minutes. Activities must be flexible to suit different ages, stay-time, abilities, and interests; eye-catching props must be exciting to grab attention on a busy exhibit floor.

Using topics and research explored in the Camps curriculum, this set of activities explores remote sensing through the lens of climate change. Because climate change is a current issue with an impact on our daily lives, guests can easily recognize and relate to the subject matter. Climate change remote sensing applications focused and defined the scope of the activity set and kept information concise.

Results

- 3,441 guests visited the cart
- Staff delivered 218 hours of presentations
- Trained 16 adult educators and 10 Discovery Corps teens to present the cart



The Project:

To increase awareness, knowledge, and understanding of remote sensing technologies and associated disciplines, we created a combination of programming to build a “pipeline” to STEM and remote sensing careers, for a continuum of audiences—third grade through adulthood.

The Challenges:

- Establish systems for interdepartmental collaboration
- Highlight interesting and accessible aspects of remote sensing
- Create and prototype a wide range of curriculum for various ages
- Build and maintain partnerships between underserved populations and the remote sensing scientific community



Our Approach:

Since this project involved a range of content across multiple programs and departments, we began by recruiting an advisory board and hiring an external developer to create extensive, in-depth curriculum. These elements functioned as a framework for collaboration, while content experts and diverse curriculum provided a foundation for all programming. Collaborative relationships provided opportunities for scientists and our audiences—particularly Discovery Corps—to prototype, review, and improve on the programming itself.

Summer Programming

STEM-OST (Out-of-School Time)

Description: This 5-workshop series for **3rd-5th grade** youth from low-income and diverse neighborhoods demonstrates that science can be fun and worth pursuing in school. Our teaching team is made up of Outreach Educators, Discovery Corps, and college students enrolled in science or education programs across the country. STEM-OST introduces remote sensing to youth via hands-on exploration, problem solving, and making real-world connections.

Results:

- Reached 1,170 underrepresented youth
- Trained and mentored 15 Discovery Corps teens and 12 college interns

STEM-OST and Camps Activity Examples:

Oceanography – Model use of SONAR to measure depth of the ocean floor

Animal Migration – Recover hidden “beacons” using active and passive remote sensing techniques

Botany/Agriculture – Measure temperature of different materials using infrared thermometers

Astronomy – Simulate NASA engineers driving Mars rovers

“I love the hands on approach and the way that it engages our students, generating excitement both for the workshops themselves and for science in general.” – Site Coordinator

Camps

Description: Week-long summer intensive program for **6th-8th grade** youth run at eight locations around Seattle. This camp is designed to increase youth awareness and interest in remote sensing and NASA’s role in contributing to this field, as well as increase their knowledge of remote sensing concepts and applications. Youth also become more aware of educational and career pathways associated with remote sensing.

Results:

- Reached 224 youth
- Full scholarships for 19 youth with backgrounds that are underrepresented in earth and space science fields



Teen Programming: Discovery Corps

Description: PRSEA enabled the Discovery Corps program at Pacific Science Center to bring in three new cohorts of high school students from the Seattle area. Discovery Corps is a career ladder informal STEM education program for teens, providing a first job and volunteer experience. In addition to staffing exhibits at Pacific Science Center, students were introduced to the concept of remote sensing and a variety of tools scientists use to record data. Students participated in educational workshops and field trips designed to increase their knowledge and help them grow professionally.

Activity Examples:

Overnight Camping at Manastash Ridge

Observatory – Exposures of night sky with University of Washington telescopes

Chat with a Scientist, Dr. Sandeep Singh – Q&A of a day in the life of a NASA scientist

Astronomy: Dark Matter Workshop – Educator presented informational workshop on dark matter

Remote Sensing Tools Workshops – Sessions on gathering data using tools, such as radar, lasers, and sonar

