

Northern Lights

BETTY ANN BOWSER, NewsHour Correspondent

Peetersberg, Alaska is a tiny town of 2,600 people that's so remote you can only get to it by boat or plane. There's no movie theater, no recreation center, no place for kids to just hang out.

So if you're a teenager like Carl Hernandez, the center of life is school. It's a chance to learn how to play the drums, in the pep or the jazz band, and a chance, this year, to be involved in an international science project.

NASA WORKER

We have ignition.

BETTY ANN BOWSER

Last winter NASA launched five satellites that, in conjunction with ground stations, will study the phenomena known as the aurora borealis, or the northern lights.

For centuries, scientists have wanted to know how the sun makes the violent storms that hurl toward earth creating the auroras and how they disrupt electrical currents. One of the places they will look is on the playground behind Mr. Trautman's 11th-grade geology class.

VICTOR TRAUTMAN, Science Teacher

This is a real deal. This is real science. This is not some phony, make believe thing that you see showing up on the television.

BETTY ANN BOWSER

After a heavy snowfall, the magnetometer that measures subtle changes in the Earth's magnetic field sometimes has to be dug out. It's a great teaching tool for Trautman.

VICTOR TRAUTMAN

So what we're going to try to do here today is, are there ways that we, as a group, can make the magnetic field move, like a solar storm would?

BETTY ANN BOWSER

Almost everyone in town has seen auroras and most, like Hernandez, have been mesmerized.

CARL HERNANDEZ, Student

Usually over the mountains, you'll see kind of a faint coloring. And it's usually kind of starts off as a light green or blue, and then, I mean, these ribbons of light will just light up the whole sky. They come out, and they're just sort of flowing, and dancing, and change colors, you know purple and pink, blue and red and it's just... it's really beautiful.

BETTY ANN BOWSER

17-year-old Hernandez never had any science instruction until his family moved to Petersburg last year. Most of his young life was spent living in a house with no electricity in the Alaskan wilderness.

CARL HERNANDEZ

We'd go out in the mornings, split firewood, bring it in, heat the house, cook breakfast, and then go down -- we have all trails. There's no roads where we live. And then we use small boats on skiffs with outboards, and go three miles -- it's open water -- three miles of open water to the nearest town and go to school. There's a small public school there.

BETTY ANN BOWSER

But things have changed since moving to the big city. Carl now has a hunch about the auroras.

CARL HERNANDEZ

It could potentially be a form of alternative energy, because the magnetic fields and the collapse when the auroras happen creates a lot of electricity in our outer atmosphere. And I think that maybe, if we learn more about it, we could understand how to harness some of that and maybe draw it into the Earth and use it for power.

BETTY ANN BOWSER

The project has also made a strong impression on 17-year-old Laura McKay. She's now thinking about a science career.

LAURA MCKAY, Student

It is a really big deal, because it's nationwide. It's not just a little small town. We're included in something that's really big. It's going to affect people everywhere to get this data and to use it.

BETTY ANN BOWSER

Sixteen-year-old Erin Streuli is now also interested in a scientific-based career. At her home computer, she can follow the readings from the school's magnetometer, to track the substorms and the auroras they create.

VICTOR TRAUTMAN

Come on in guys.

BETTY ANN BOWSER

The auroras project has become infectious. A number of Trautman's students have developed podcasts on their computers, which are now being used to teach lower-class students about the program.

VICTOR TRAUTMAN

If you have any questions, wait until the end the podcast. But the key is, don't ask me. These guys are the experts.

PODCAST NARRATOR

Looking up at the night sky, colorful bright lights flash before you, different colors, shapes, patterns. Have you ever wondered how they're formed?

BETTY ANN BOWSER

Nine other public schools in remote locations around the country also have magnetometers as a way of drawing students into the project. If the kids at Petersburg High School are any indication, the science genie is out of the bottle. Living far from the scientists, they've joined the mainstream of science. Betty Ann Bowser for *the.News*.