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PHS geology study to be filmed by McNeal Leher

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Petersburg's high school geology class project has drawn the attention of the science editor of PBS's McNeil-Leher Report. The film crew will be in Petersburg Wednesday through Friday to interview and film student's involvement in a magnetometer project funded in part by NASA and the University of California – Berkeley.

According to PHS science teacher Victor Trautman the study of the magnetic fields around the earth help locate the magnetic substorms created from the sun which influence space weather. The magnetic force given off by these substorms predict auroras, which can be viewed in the northern skies across Alaska, Canada and Russia.

Petersburg is one of 12 schools which track magnetometer readings which are collected, via satellite on a computer which is linked directly to UC-Berkeley. The collected data is also available to the public on-line in real-time, and can be viewed on the Themis website.

The school's magnetometer works in conjunction with five satellites to measure the behavior of the magnetic storms, which cause northern lights.

In explaining the importance of studying magnetic forces on the earth, the veteran PHS teacher said that one of 10 satellites in orbit are destroyed each year, due to extreme plasma energy generated from the sun that create damaging magnetic substorms in space. Expanding the predictability of these events could save millions of dollars to those who rely on satellites, as well as those who insure them.

Trautman added, "Magnetic fields around the earth cause pipeline corrosion," which is also costly to repair.

When asked why the science editor selected Petersburg, Trautman explained that PHS was one of three schools that are actively doing something with their sites. He added that there was additional interest to visit Petersburg and explore the community.

The NASA funded magnetometer sensor was installed in October, 2004 near the elementary school by UC-Berkeley engineer Don Dearborn, thanks to a \$20,000 installation grant written by Trautman. Dearborn told the Pilot that the device works in conjunction with a classroom computer that records, displays and sends data gathered. The data is streamed, in real time, to the University of California and several mirror sites.

It has taken two years to get all 12 schools outfitted with the equipment and the satellites in place.



University of California engineer Don Dearborn installed the PHS science department's NASA funded magnetometer near the Rae C. Stedman Elementary School in October 2004.

Students in Trautman's geology class have access to the computer data and are learning the research process. Trautman said students have created podcast productions explaining the research made available under the Themis project.

Trautman said the project is funded by NASA for \$200-million and one percent of that funding must be directed to education of both teachers and students.

The PHS instructor has attended two conferences that not only explained the disciplines of teaching students about this particular project, but to also get students more interested in science.

Trautman elaborated, "This is the real deal — it tweaks their interest in science. Nationwide, the schools have a mandate to each produce an engineer that will enable the industry to meet current (staffing) needs."

The Pilot will notify the public when the PBS program will air.