UNH Forest Watch Students Note Negative Effects of Warming Temps

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Recommended Citation
Sims, David, "UNH Forest Watch Students Note Negative Effects of Warming Temps" (2012). UNH Today. 3982.
https://scholars.unh.edu/news/3982

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June 4, 2012
UNH Forest Watch Students Note Negative Effects of Warming Temps

Forest Watch director Barry Rock and teacher Mary Fougere (left) with 7th graders from the Gilmanton School during the second annual Forest Watch Student Convention. Credit: Martha Carlson, UNH-EOS.

DURHAM, N.H. -- As part of the second annual Forest Watch Student Convention held recently at the University of New Hampshire, sixth and seventh grade scientists from Gilmanton and Bartlett presented research suggesting that increasing levels of ozone, or smog, across New England earlier in the year may be harming forest trees. Student research also noted that warmer spring weather is affecting the region’s sugar maple populations negatively.

Forest Watch is a unique way of conducting science with the help of primary and secondary school students in New England who collect and process data relating to air pollution damage in forest stands near their schools. At the recent event, held at the UNH Institute for the Study of Earth, Oceans, and Space (EOS) May 25, 2012, more than 60 Forest Watch students displayed posters detailing their work.

Students from the Gilmanton School, along with teacher Mary Fougere, presented their findings on ozone and its impact on white pines. Fougere has been working with Forest Watch founder and director professor Barrett Rock of EOS and the department of natural resources and the environment since 1993 to develop the outreach science program at the Gilmanton School.

According to Rock, the student findings mirror evidence that ozone and other pollutants are now occurring in May and are associated with warmer spring conditions typical of the last few years. Notes Rock, “In the past, most ozone
monitoring stations only operated during summer months but now, with warm weather events occurring in May, summer pollution is arriving earlier. This could be what the student data are detecting.” Rock suggests that such pollution damage early in the season might impact newly emerging leaf tissue thereby placing additional stress on forest trees.

In addition to the ozone data, students from the Josiah Bartlett School presented posters about the history of maple sugaring in New England. Bartlett students and their teachers Jon Marshall, Valerie Ford, and Tracy Vokey are working with Forest Watch coordinator Martha Carlson to develop a new study of climate change and its impact on sugar maples.

Carlson’s recent research regarding the effect of warmer spring weather on sugar maples indicates that New Hampshire’s trees are being impacted in negative ways resulting in the loss of newly formed foliage in some trees. “Involving young students in my study is a great idea,” says Carlson. “They learn about their own sugar maples, and in using their data I learn how the trees are responding to our changing climate.” Adds Carlson, “This is typical of the Forest Watch work, in which students practice real science.”

For 21 years, Forest Watch has demonstrated that students can collect valuable data for ongoing scientific research and learn science and mathematics by doing research in their local area. Student data have clearly shown how responsive white pines are to year-to-year variations in ozone levels.

Forest Watch is one of several outreach programs at UNH that partners teachers and students with research scientists. The program is offering four summer workshops in July and August for K-12 teachers who want to learn more about environmental studies in the schoolyard and 21st century science and technology. For more information on these workshops, email forestwatch@sr.unh.edu. For more information on the Forest Watch program, visit http://www.forestwatch.sr.unh.edu.

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea, and space-grant university, UNH is the state's flagship public institution, enrolling 12,200 undergraduate and 2,300 graduate students.

Image to download: http://www.eos.unh.edu/newsimage/fw_gilmanton_lg.jpg

Caption: Forest Watch director Barry Rock and teacher Mary Foguere (left) with 7th graders from the Gilmanton School during the second annual Forest Watch Student Convention. Credit: Martha Carlson, UNH-EOS.

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