Long Term Schoolyard Ecology Teacher Recognition Ceremony

Sally Farrow

Mary Reed

Elisa Margarita

Emilie Cushing

Kate Bennett

5 Year Schoolyard Ecology Teacher Honorees

Presenter:

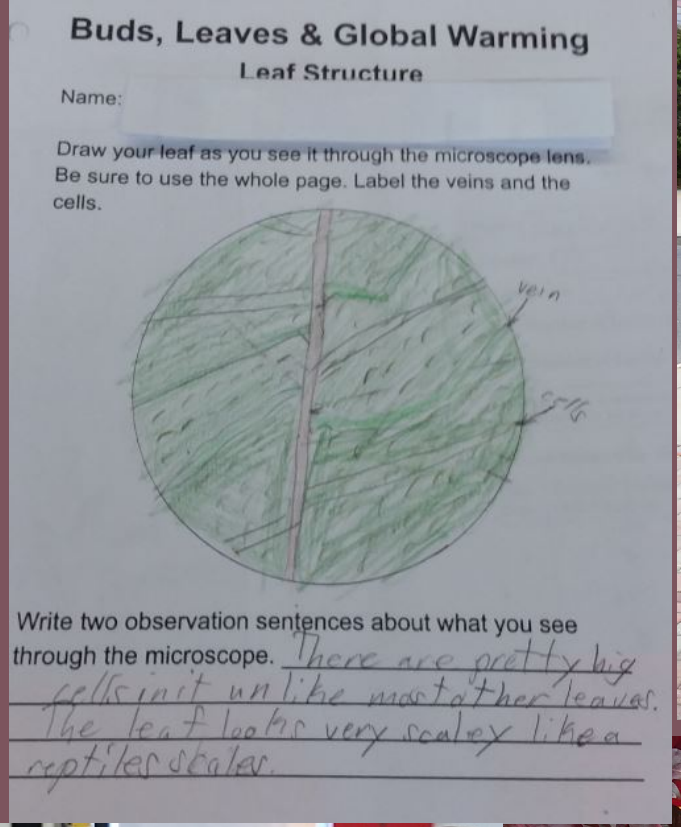
Harvard Forest Schoolyard Eco. Spring Workshop for Teachers 2019

Website Contributions:

Lesson plans and student HF website

Mary Reed

St. Mary's Parish School



Buds, Leaves & Global Warming

Leaf Structure

Name:

Draw your leaf as you see it through the microscope lens. Be sure to use the whole page. Label the veins and the cells.

vein

cells

Write two observation sentences about what you see through the microscope. There are pretty big cells in it unlike most other leaves. The leaf looks very scaley like a reptiles scales.

Presenter:

Harvard Forest Schoolyard Eco. Spring Workshop for Teachers Multiple Years

Website Contributions

Education Awards:

Excellence in Environmental Education- Mass. Office of Env. And Energy

Mass. Assoc. for Science Teachers (MAST)

Sally Farrow

Drumlin Farm and Lowell High School

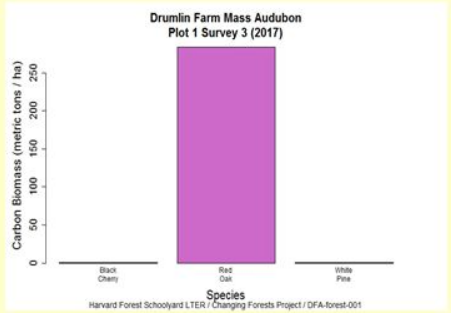
Massachusetts Audubon Society

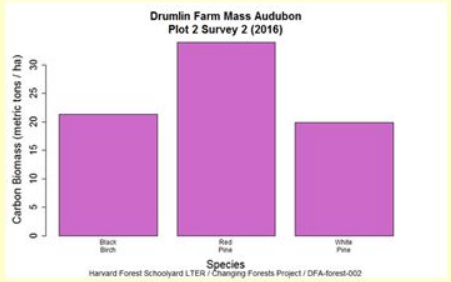
Changing Forests at Drumlin Farm 2014-2017

Plot #1 at the east end of Vernal Pool #1

Wildlife Biologists measuring DBH
Plot #2 with Carrie Lang of HF

Carbon Biomass by Species Plot # 1





Carbon Biomass by Tree Species Plot # 2

Presenter:

Mass. Assoc. Science Teachers (MAST)

Harvard Forest Schoolyard Eco. Spring Workshop for Teachers Multiple Years

Website Contributions

Education Awards:

Excellence in Environmental Education- Mass. Office of Env. And Energy

Mass. Assoc. for Science Teachers (MAST) Our Changing Forests Highstead Mini Grantee

Host: Wade Institute for Science Teaching Summer Institute

Emilie Cushing

Glen Urquhart School

Mass EOEA Excellence inf Environmental Education Award

Mass. Association of Science Teachers Conference Presenter (above)

Harvard Forest Spring Workshop for Teacher Presenter –Right

Certificate of Achievement

AWARDED TO

Elisa Margarita

FOR 5 YEARS OF DEDICATED SCHOOLYARD ECOLOGY PROJECT LEADERSHIP

BUDS, LEAVES, AND GLOBAL WARMING

APRIL 9, 2020

VE RI TAS

HARVARD FOREST

Pamela M. Snow

Pamela M. Snow
Schoolyard Ecology Coordinator

Contributes Southern Most Dataset for the Buds, Leaves and Global Warming Project from the most urban site in our network!

Online Contributions:

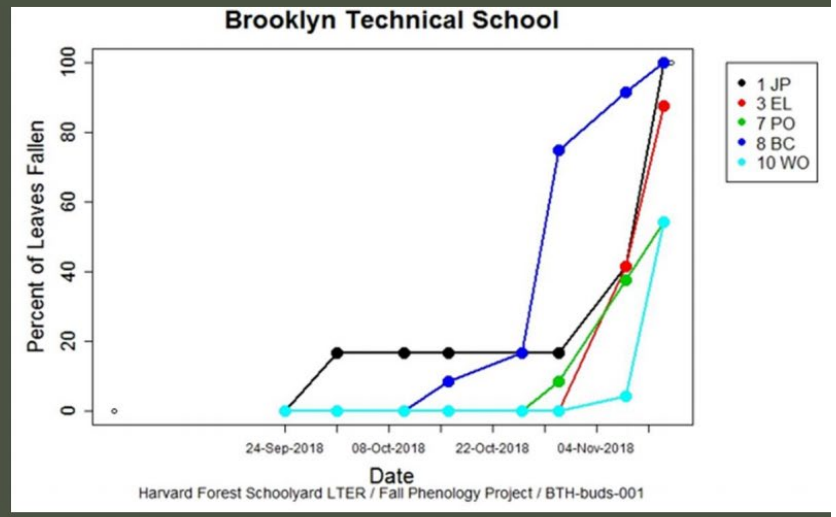
Student Graphs
Teacher Graphs
Blog photos and comments

Elisa Margarita

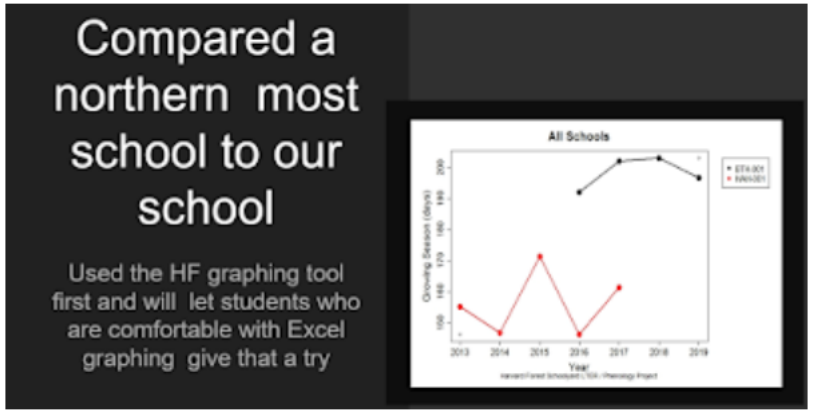
Brooklyn Technical School

Figure 15: Timing of Leaf Fall at Brooklyn Technical School 2018

- **Description of graph and related data table:**
- This graph shows the timing of leaf fall in Autumn of 2018 by tree. It was created using the Harvard Forest online graphing tool.
- **Teacher/Author:**
  Elisa Margarita
- **School:**
  Brooklyn Technical School
- **Grade Level:**
  High School
- **Harvard Forest Mentors:**
  Ann Lewis, John O'Keefe, Betsy Colburn



HARVARD FOREST HARVARD UNIVERSITY
Established 1907 Long Term Ecological Research Site since 1988



Brooklyn Technical High School Teacher, Elisa Margarita, chose to adapt the new online graph tool exercises for use by her students. Above are some excerpts from what she was able to draft during the data workshop, using her school's *Buds, Leaves, and Global Warming* project data and th northern most site as found on the field site map and data base. Elisa will also incorporate some of the content from Dr. Betsy Colburn's workshop slides to help students better understand visualizations of project data.

Katherine Bennett
Career Service Recognition

Honoring 15 Years of Dedicated Leadership of Schoolyard Ecology

Woolly Bully and the Hemlock Teacher

Engaged hundreds of

5th and 6th grade students in tracking the presence of the

Hemlock Woolly Adelgid in Ashburnham over 15 years.

Related student learning included:

Mini plot and snow depth s Hemlock vs. Hardwood studies

Invasive species video creation

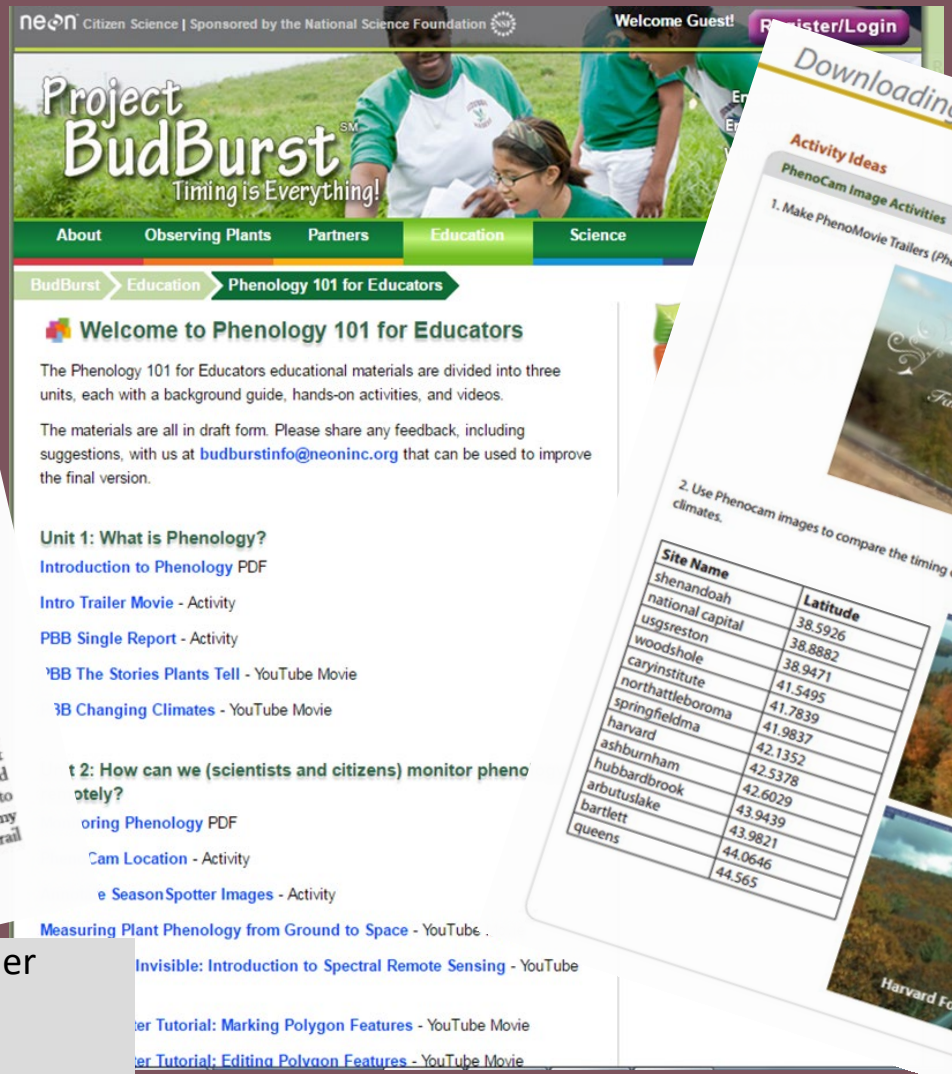
Insect pit trap studies

Buds, Leaves, and Global Warming Teacher

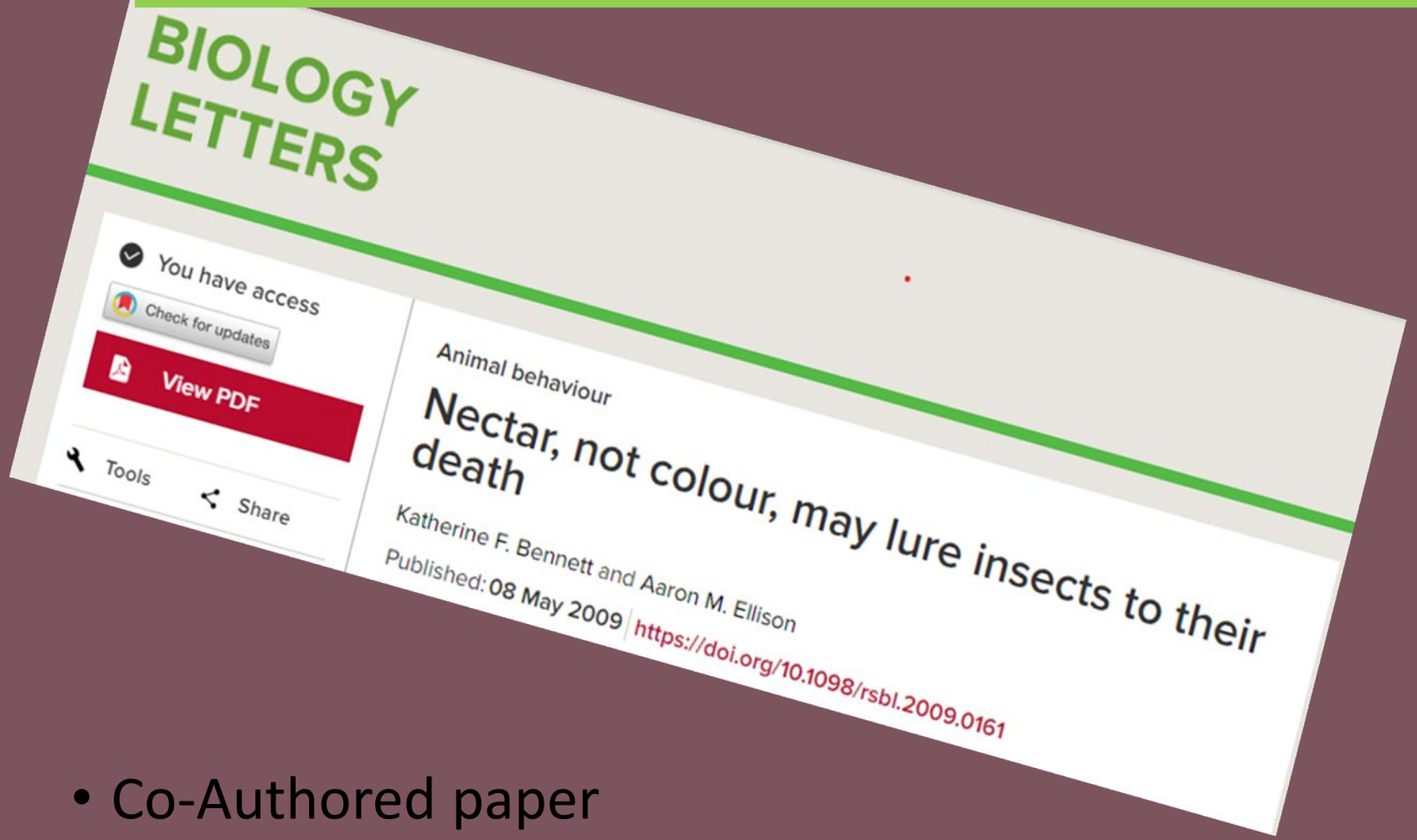
Mentor Teacher

Publications

National Science Teacher Association Journal



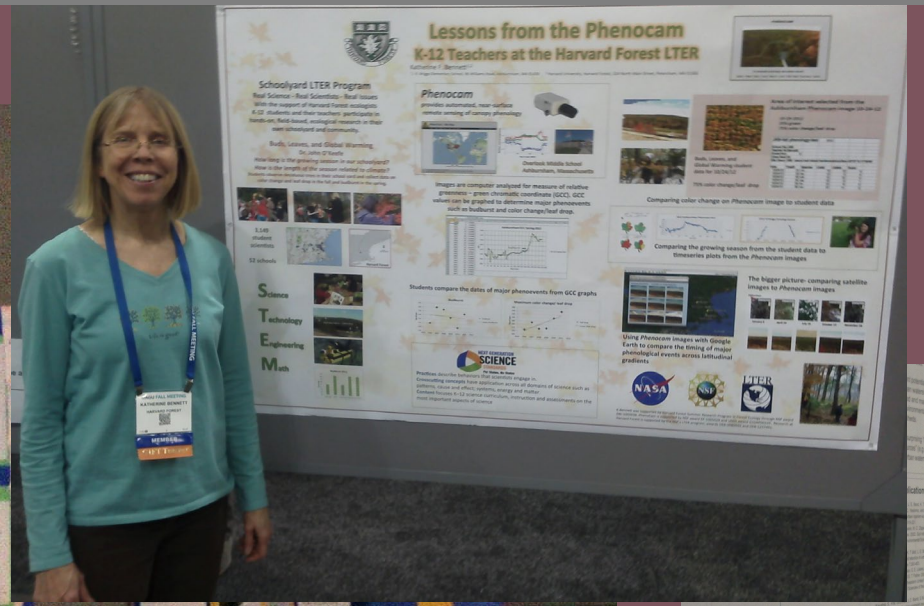
Research Experience for Teachers (RET) with Aaron Ellison



- Co-Authored paper

Conference Presentations

LTER –All Scientists Mtg; American Geophysical Union; National Science Teachers Assoc. ; Mass. Inst. For Teaching Science…



Secretary's Award for
Excellence in Environmental Education, Massachusetts
Executive Office of Environmental Affairs

Awards

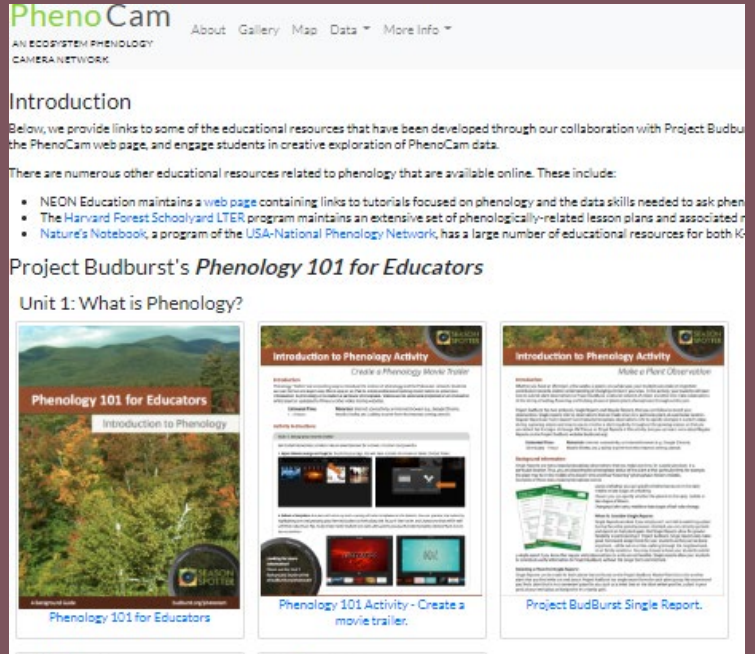
New England Environmental

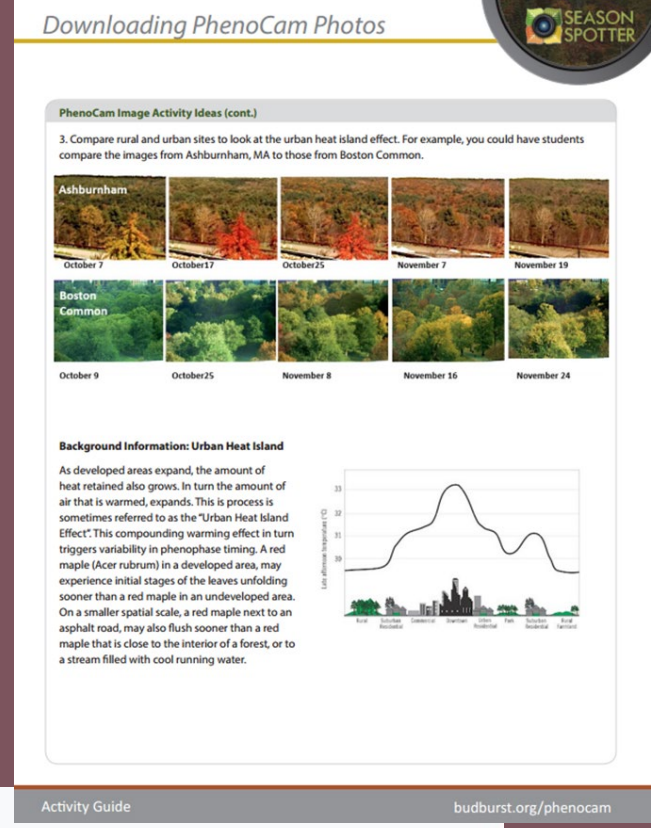
Educator Award

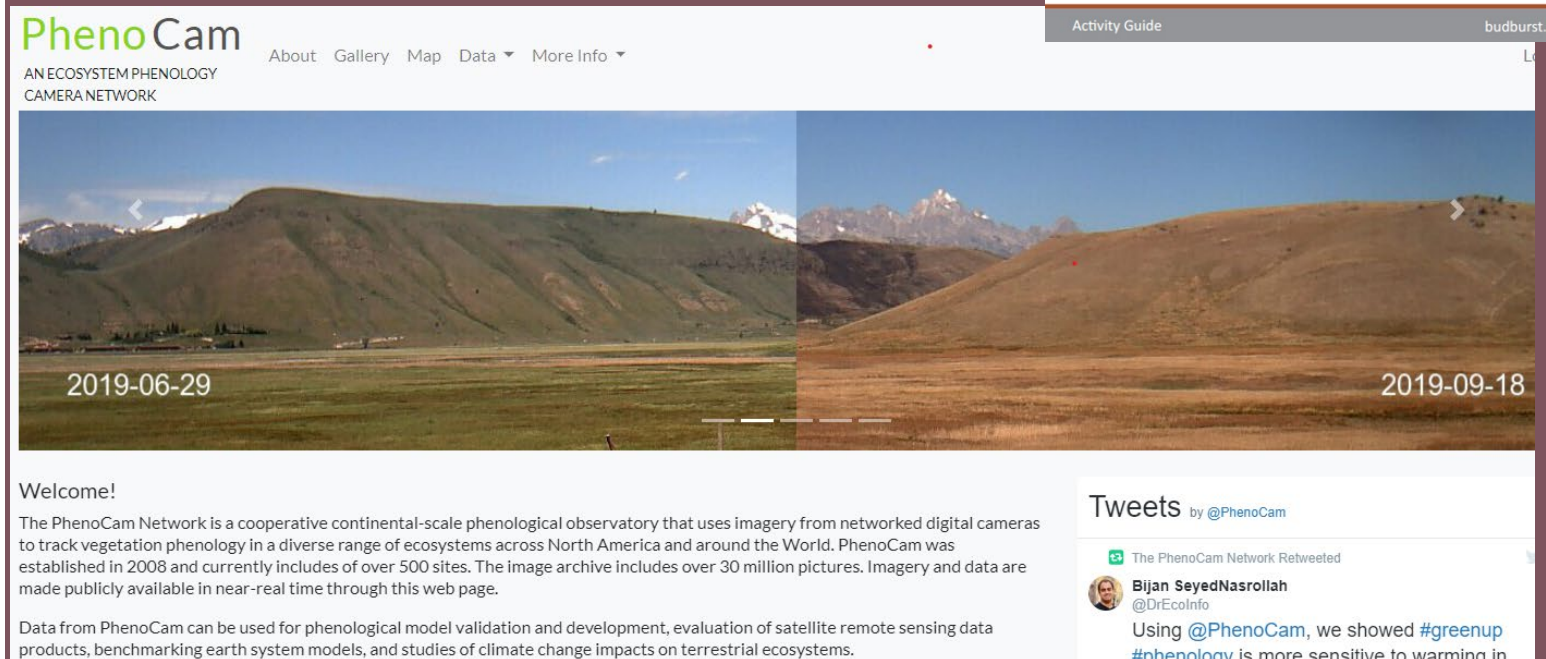
Nashua River Watershed
Association Education Award

NSF Funding Now:

Lead Education Mentor for Cross Site Phenocam Workshops-NAU and Harvard Forest







Post-Retirement…

- **Show and Tell by Ashburnham Westminster Regional Schools, Massachusetts:** This program seeks to get students excited about science through authentic research. Fourth- and fifth-grade students will collect, analyze, and share NEON-like data to answer the question: "Is the growing season changing?"

BATTELLE NEWS RELEASE

Battelle Grants Enable Student Projects to Learn with National Ecological Observatory Network Data

COLUMBUS, Ohio (Jan. 15, 2020)—Battelle announ… today that its inaugural NEON STEM Grant Program will fund $100,000 worth… research around the country, enabling five projects to leverage the … by the National Ecological Observatory Network (NEON)

NEWS RELEASE

AWRSD

Ashburnham Westminster Regional School District

ASHBURNHAM, MA (Jan. 17, 2020)—A group of scientists is hard at work, collecting and analyzing data on the local growing season. When do flowering plants bloom? When do trees bud out and lose their leaves? How does the timing of these events affect pollinators and people? To answer their questions, the scientists search a database created by researchers from across the country, and compare local and national data. All in a day's work, and nothing unusual … until you realize that these scientists are students at Briggs Elementary School in Ashburnham, Massachusetts.

Congratulations to All of our Long Term Schoolyard Ecology Teachers

You continue to renew us all, and deepen the learning experience of our entire Schoolyard Eco learning community, while directly reaching more and more students each year.

Much Gratitude from the entire Schoolyard Ecology Team at Harvard Forest