

Vermont Forest Health

Insect and Disease Observations—April 2016

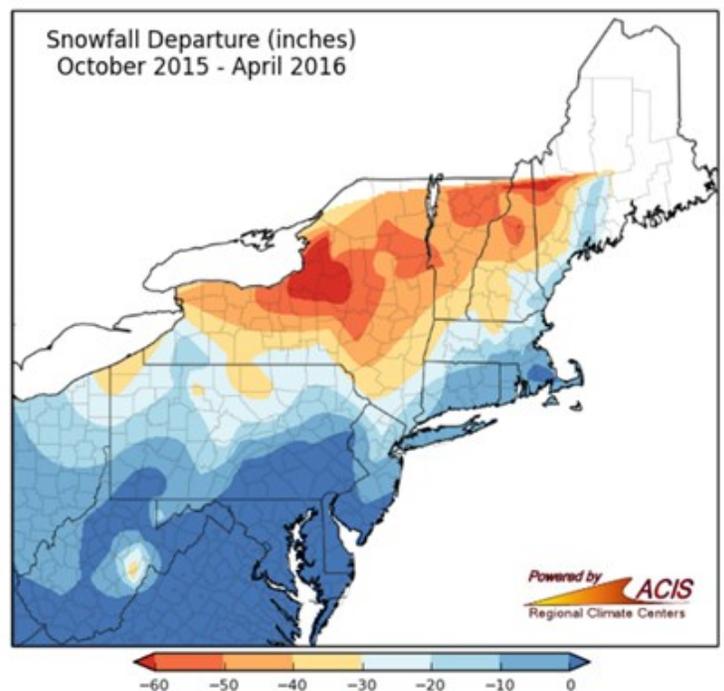
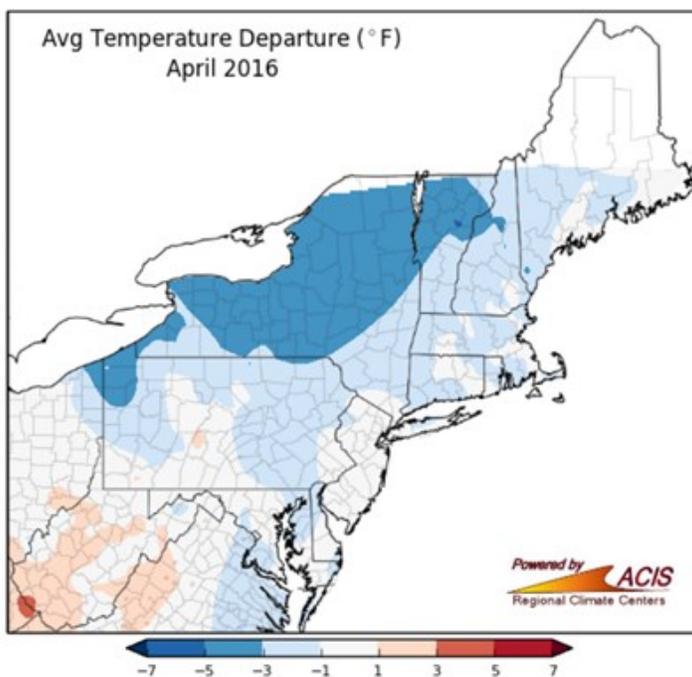
Department of Forests, Parks & Recreation
April 2016 vtforest.com

What a Winter!

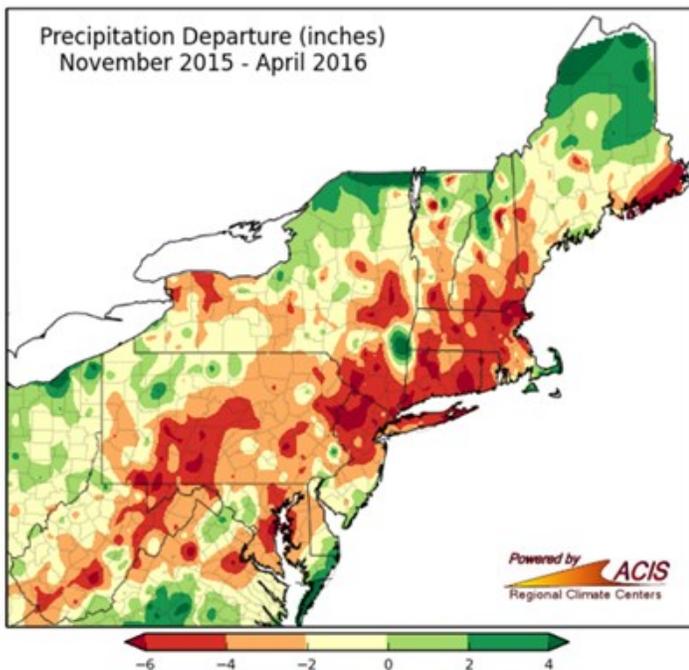
As of April 30, 2016 the National Weather Service in Burlington Vermont reported that temperatures, precipitation and snowfall were all below normal for the month. There was a warm day here and there. In fact, Burlington reached 75 degrees on April 21st and similar temps were reported all over the state.

The chilly temperatures have not been the case for most of winter. From December 2015 through March 2016, temperatures have been 2 to 10 degrees above normal. It was the warmest of the top 5 warmest winters in Burlington for the December-to-March time period.

Not only were temps warm but snow was lacking as well... a bad thing for the ski areas and others who depend on winter snow but a good thing for road budgets and heating bills. From October to April, snowfall was 30 to 60 inches below normal statewide. More snow fell at the [stake at the top of Mt. Mansfield](#) in April than it did in March, and more snow fell on April 26 in Burlington (2.1") than it did in March.



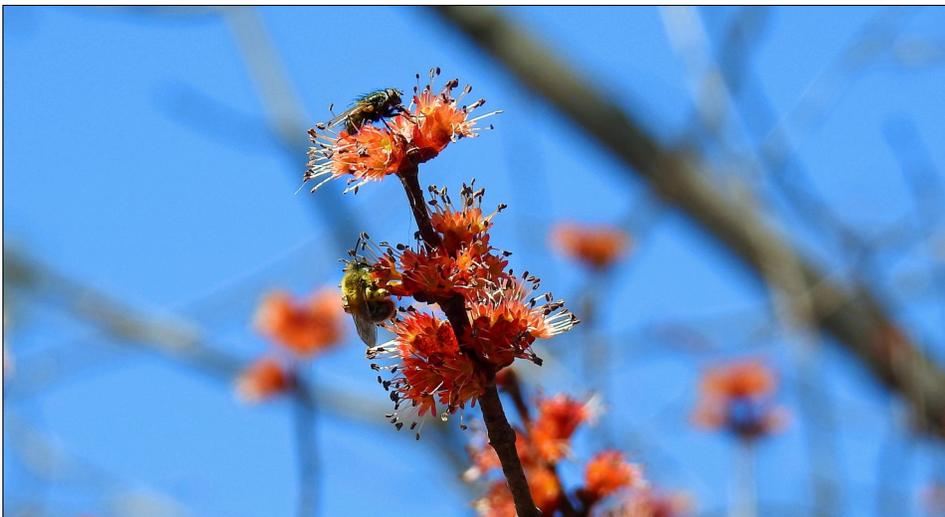
Map source: [Northeast Regional Climate Center](#).



Precipitation (snow, rain, sleet, ice, etc.) in general has been below normal for most of the state although February and much of March were wetter than normal. Since the ground was frozen, a lot of this moisture was not absorbed into the soil.

By the end of March, spring fire season got started with a series of dry days. With little to no snow cover all winter, the potential for an early start was anticipated but fire activity was minimal through mid-April. It is interesting to note, however, that there have been as many fires in the Northeastern part of the state as in the Champlain Valley and southern part due to lack of winter snow.

Since April 13, FPR has received reports of 72 fires that burned 179 acres statewide. The largest to date was a 47-acre fire in a remote location in Chelsea that started from an undetermined cause. While debris burning remains the most common cause, fires originating from improper disposal of ashes, smoking, unattended campfires and kids are all higher than normal this spring. There have also been 3 fires started by sparks from sugaring. Luckily the acreage has been small and damage minimal. And, the 2016 maple syrup season was the best by far in years!!



The showy male flowers of the red maple attract more than just our attention. Here we see one of the calypterate muscoid flies along with one of the solitary bees. Photo: B. Boccio

Firewood Quarantine

The arrival of spring and the camping season is a good reminder about issues surrounding the movement of firewood. Vermont's firewood rule has been approved. As of May 1st, firewood cut shorter than 48" cannot be brought into Vermont without a certification that it's heat treated. Waivers may be allowed, by written request, if the firewood poses minimal threat to forest health. More information can be found at:

http://fpr.vermont.gov/fpr.vermont.gov/forest/forest_health/health_management/firewood_quarantine

Winter Surprises



In February, a question came from folks who were reluctant to take down their Christmas tree. When they discovered an active population of **Giant Conifer Aphids** (*Cinara* sp.), the balsam's days were doomed. While small aphid species in sparse numbers may go unnoticed, *Cinara* aphids are more difficult to overlook. If a Christmas tree remains indoors for an extended period (particularly if it is a live tree) these aphids may produce offspring, and winged forms may occur.



Cinara aphids are among our largest native species.

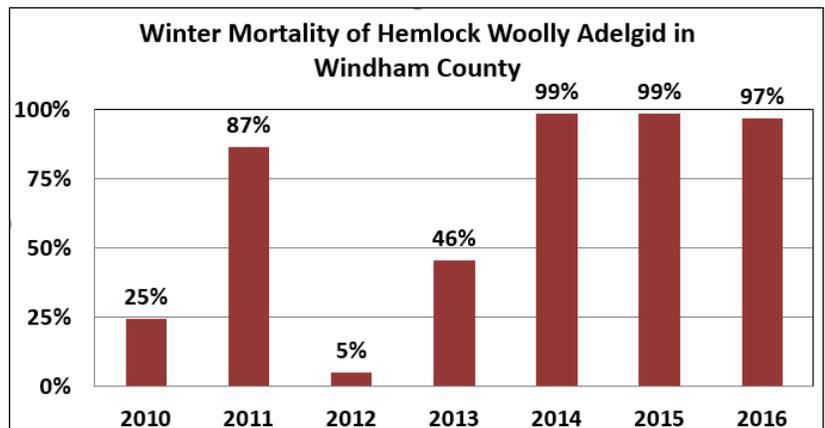
Photos: W. King (left) and [K. Hellig, BugGuide](#) (right)

A mosquito suspect found in a home in January caused quite a stir (it was black and white like the Zika-carrying *Aedes aegypti*). The insect turned out to be a **horntail**, one of a group of woodboring wasps. The species was *Xiphydria maculata*, whose larvae live in dead maple limbs. It likely emerged from firewood.



The larvae of this horntail are wood-borers that confine their attacks to dead or dying branches of deciduous trees. Photo: [K. Hellig, BugGuide](#)

Another winter surprise was the high mortality of **hemlock woolly adelgid**. With the mild winter, the consensus was that adelgids should survive quite well. However, in Vermont's four study sites, HWA overwintering mortality ranged from 94 to 99 percent. These high rates match results from other northeastern states. The insects were vulnerable to the cold snap in late February because earlier warm weather had prompted them to give up some cold-hardiness. With their freshly spun white wool, they went out in style!



Early Spring Observations

We've had a number of inquiries about **snowfleas**, also commonly referred to as spring-tails. Though present year round, these creatures often catch our attention when they show up on snow, where the contrast between their dark bodies and the light background makes them more obvious, or in large floating mats in water. One person reported a 6-inch "band" of snowfleas that appeared to be "advancing" toward his home at a rate of 2 inches per hour! Most snowfleas are soil dwellers where they feed on algae, fungi and detritus.



*Thousands of "snowmelt snowfleas" were observed in floating mats in Marshfield, VT.
Photo: G. Africa*

Squirrel populations have been high, with a lot of late winter/early spring activity reported. Hardwoods, like ash and maple, have had the bark ripped off the top sides of many branches sometimes leaving strips of bark all over the ground. Sap dripping from maples and clipping of conifer and oak shoots have also been observed.

Squirrel activity in Bristol, VT. Some of the upper canopy branches were stripped bare, and the ground was covered with shredded bark.

Photo: J Rosovsky



More than usual numbers of **eastern tent caterpillar egg masses** were observed in some parts of the state this winter. The tiny caterpillars are now emerging and white tents are being observed on cherry and apple in more southerly locations. Removal and destruction of the egg masses in winter can reduce spring populations. At this point, removal and destruction of small tents is a good option.

*Spindle-shaped egg masses of the eastern tent caterpillar
Photo: A.S. Munson, USDA Forest Service, Bugwood.org*



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"Wise Eyes" While Seeking Wildflowers in the Woods

Seed catalogs have long been abandoned, as many of us are grabbing our shovels and rakes, waiting for the weather to warm and the ground to thaw. If invasive plant control is on your "to-do" list this spring, consider taking a walk! A popular pastime in Vermont is to plan a walk through the woods just after snowmelt, and catch the brilliance of our spring ephemerals (short-lived wildflowers).

Trout lily, hepatica, trillium, and many other ephemerals complete their reproductive cycle in early spring, before the leaf out of the upper canopy. The advantages of this strategy include increased light and less competition. An early start is also practiced by several invasive plants that can take foot in Vermont's forests. Common culprits include bush honeysuckles, buckthorn, and barberry, which all leaf out early, but take the season to complete their reproductive cycles.

A set of "wise eyes" on a spring ephemeral walk can pick out the specks of green poking out of the branches of a honeysuckle, or on the bowing canes of a barberry. We can take advantage of this seemingly dastardly behavior, and start the survey season early!



Early spring green in the landscape can indicate the presence of invasive species like honeysuckle and barberry.

Photos: E. Spinney

If you want to train your "wise eyes", check out the gallery of invaders on the VTInvasives.org (hyperlink: http://www.vtinvasives.org/invaders/images/plant_common). Simply click on an individual species for a description and a "fact sheet" with identification tips.

Invasive plants do not recognize human-created boundaries, and are more than an issue in our backyards; they are an issue across the landscape. Important first steps in invasive plant management are understanding where and what species are present, how far they've spread, and which populations might be a priority to treat (e.g., newly introduced; near something of value such as a town forest, cultural site, or rare species; highly invasive- spreads quickly, hard to control). To help get a better idea of where invasive plants are in the landscape, consider logging your observations on iNaturalist (hyperlink: <http://www.inaturalist.org/projects/mapping-for-healthy-forests-vermont>)

Winter injury to balsam fir Christmas trees has been observed. Although the foliage may have been injured months ago, the browning showed up suddenly, when the air turned warm in the spring. The worst damage is on the face of the tree that's most prone to exposure, and without snow last winter to protect foliage, the winter injury this year extends to the lowest branches. Some trees are more prone than others to winter injury, so there is variability between trees.



The cold snap in late February increased damage this year. It was so warm early in the month, that needles were beginning the process of de-acclimation, exchanging their cold-hardiness for a chance to get a jump on the weather. Then the cold weather came along and killed those no-longer-cold-hardy tissues. The fact that parts of Vermont were dry towards the end of the growing season last year may play a role.

With winter injury, the buds should still be green when you cut into them, and should emerge normally as spring progresses. Balsam fir is more likely to have damage than Fraser fir. They break dormancy more quickly. Not only does that lead to earlier budbreak, but it also accelerates how quickly needles lose their tolerance of cold temperatures.

Warm temperatures in early February made needles more vulnerable to winter injury during a cold snap later in the month. Photo: J. Horst

*White woolly spots on the bark of balsam fir are a sign of balsam woolly adelgid.
Photo: [L. Livingston, Bugwood.org](http://www.bugwood.org)*



Due to a recent increase in fir mortality in Vermont caused by **balsam woolly adelgid**, a Vermont Forest Health leaflet has been written describing symptoms, impact, and management considerations.

[http://fpr.vermont.gov/sites/fpr/files/Forest and Forestry/Forest Health/Library/VTFPR%20Forest%20Health%20Leaflet Balsam%20Woolly%20Adelgid_2016.pdf](http://fpr.vermont.gov/sites/fpr/files/Forest_and_Forestry/Forest_Health/Library/VTFPR%20Forest%20Health%20Leaflet_Balsam%20Woolly%20Adelgid_2016.pdf)



<p>For more information, contact the Forest Biology Laboratory at 802-879-5687 or:</p>	Windsor & Windham Counties.....	Springfield (802) 885-8845
	Bennington & Rutland Counties.....	Rutland (802) 786-0060
Addison, Chittenden, Franklin & Grand Isle Counties.....	Lamoille, Orange & Washington Counties.....	Essex Junction (802) 879-6565
Caledonia, Orleans & Essex Counties.....		Barre (802) 476-0170
		St. Johnsbury (802) 751-0110

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