

# Vermont Forest Health

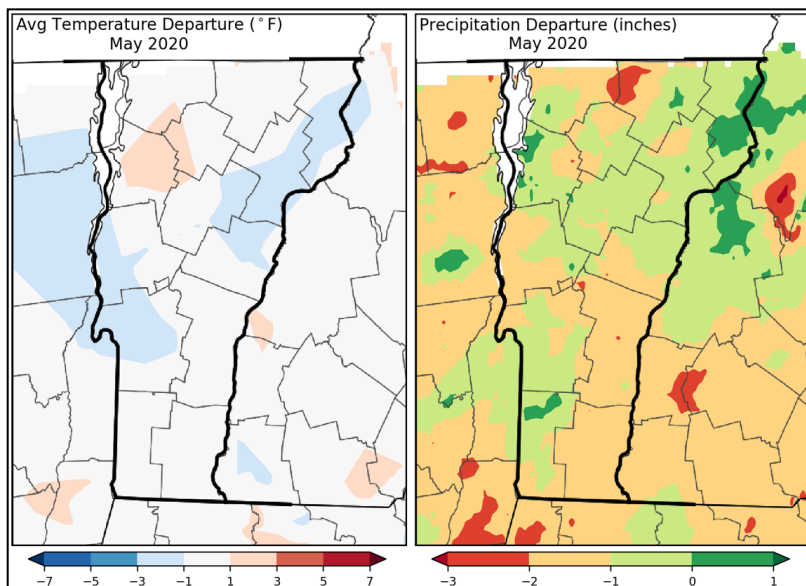
## Insect and Disease Observations — May 2020

Department of Forests, Parks & Recreation  
May 2020

[vtforest.com](http://vtforest.com)

### Weather Recap

This month's weather started off cold and wet, with snowfall occurring in most parts of the state through mid-May. Compared to last year, this month was warmer and dryer than May of 2019. Statewide temperatures averaged 52.9°F, which was 2 degrees warmer than May of last year. Statewide, precipitation averaged 2.93 inches, which is 2.73 inches less than May of last year. Minimum relative humidity (RH) values for the Northeast Kingdom were below normal. On May 23rd and 24th, the low RH at the Nulhegan remote automatic weather station was 12%, and the low RH in Montgomery and Walden was 8%. This, combined with no precipitation since May 16th, caused extremely dry fuel conditions and resulted in several fires. Soil moisture drought indices are approaching mid-summer values and large dead fuels are at the seasonal minimum.



Temperature and precipitation departure from normal. Maps and data: [Northeast Regional Climate Center](http://NortheastRegionalClimateCenter.com).

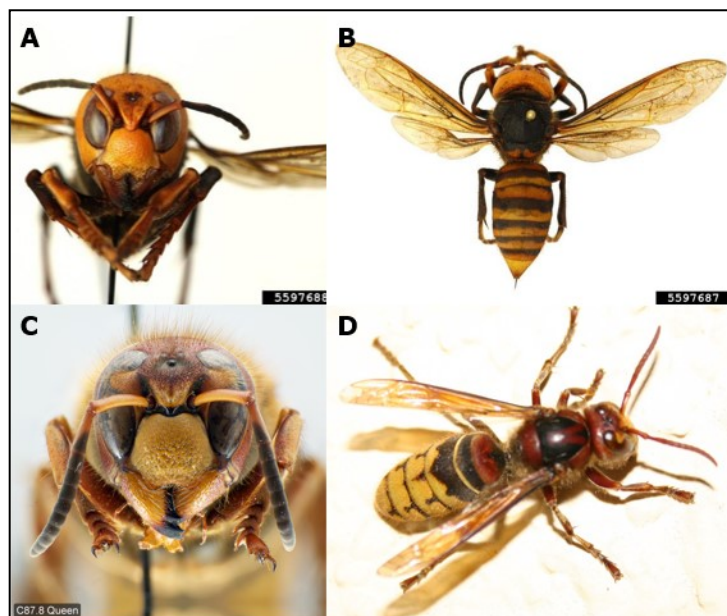


*This spring has delayed green-up in most parts of the state, with many species breaking buds later in the month. Photo credit: FPR Staff.*

Sugar maple phenology at our long-term monitoring site in Underhill had observed bud break on May 11th, with full leaf-out following two weeks later on May 26th. Each date is 8 days later than the long-term average. Some parts of the state experienced frost on May 11th and 12th, which damaged understory sugar maple. No impacts on upper canopy foliage were reported.

## Insects in the News: Asian Giant Hornets

Asian giant hornet (*Vespa mandarinia*), also known as the murder hornet, is the world's largest hornet and is native to Asia and Russia. Although they can be dangerous to people, this insect gets its common name by killing honeybees and feeding the corpses to their young. In its native range, honeybees protect their nest by working together to swarm these large invaders. Collectively, honeybees can surround the hornet and kill it by raising its internal temperature. See this teamwork in action in this [video](#). This hornet was recently detected in Washington state and has not yet been detected in the eastern U.S. This is a species of concern to native U.S. honeybees because they have not adapted a defense mechanism, meaning that hives can be destroyed in a quick time period. Despite the media attention this insect has attracted, **this is not a species of concern for human health or safety in Vermont.** These hornets are 3.5-5cm in length and can have a wingspan up to 4-7cm. The most distinct characteristic is their large orange head and black eyes. For more information check out [USDA National Invasive Species Information Center](#) and [Washington State Department of Agriculture](#) websites.



A-B) Asian giant hornet. Photo credit: Washington State Department of Agriculture. C-D) European hornet. Photo credit: (C) Buck et al. 2008 University of Guelph, Ontario, Canada (D) Sven Teschke.

In Vermont, you may see an invasive look-a-like known as the European hornet, *Vespa crabro*. This hornet is also large, measuring 1.8-2.4 cm in length and can have a wingspan up to 2.5-3.5 cm. This is distinguished from the Asian giant hornet by its smaller size and coloration. For more information or to report a sighting, visit [vtinvasives.org](http://vtinvasives.org).



## Funky Fungi

*Cryptococcus macerans* was observed covering the surface of hardwood trees in Hubbardton, VT. This bright orange fungus is not harmful to the tree and only feeds on the extruded sap from preexisting damages. This fungus is commonly observed in Spring due to the rich sap flow and is often associated with wounding from yellow-bellied sapsuckers and tap holes. This fungus gets its bright orange color from the pigment carotene, the same pigment found in carrots. Although its color and irregular shape make it look out of this world, this is a cosmopolitan fungus, meaning it can be found across the globe.

*Cryptococcus macerans*. Photo credit: Irene Garvey.



## The “More” I You Know

May starts the beginning of morel (*Morchella esculenta*) season in Vermont. This highly sought-after edible is a fungus native to the eastern United States. Although they can be hard to find, your chances can increase by foraging in mixed hardwood stands that include apple, ash, aspen, elm, and oak. In the early spring, these mushrooms are commonly found on south-facing slopes in open-grown areas and are found deeper in the woods on north-facing slopes as the season progresses.

True morels can be identified by a more uniformly shaped cap that is covered in pits and ridges. This cap is attached directly to the stalk of the mushroom, and when sliced in half, this mushroom is completely hollow. This mushroom has many look-alikes, including (but not limited to) the false morels, *Gyromitra esculenta* and *Verpa bohemica*. Neither of these false morels are completely hollow, and they are typically less uniformly shaped. *G. esculenta* is solid, and a cross-section would reveal a cauliflower-like internal structure. The cap of this mushroom is brain shaped, and is often described as squished. This species, although consumed in some cultures, can be fatal if eaten raw or uncooked, due to the carcinogenic mycotoxin, [gyromitrin](#). Mycotoxins are secondary metabolites produced by fungi that are not directly involved with normal growth and reproduction. These metabolites may indirectly aid in growth and competition, however their true purpose is still being researched. Levels of these toxins can vary between and within species, and unless laboratory work is conducted, actual levels cannot be assessed. *V. bohemica* has a cap that hangs freely from the stem, only connected at the top of the stalk. Although the cap is hollow, the stem is not. This species of mushroom is reported as suspect and toxic, and is not recommended for consumption. As with all wild mushrooms, there are risks to eating and mis-identifying them which can be both dangerous and fatal. Always ensure you have the correct identification before consuming any wild edible. **The State of Vermont accepts no liability or responsibility for the consumption and/or mis-identification of these mushrooms.**



True morels. Photo credit: Gary Lincoff, the Complete Mushroom Hunter.



**A:** True morel, *M. esculenta*, **B:** False morel, *G. esculenta*. Photo credit: Davide Cassi, University of Parma, Italy. **C:** False morel, *V. bohemica*. Photo credit: Jason Hollinger.

## Hemlock Woolly Adelgid Update

Hemlock trees in Townshend, VT experienced a heavy hemlock woolly adelgid (HWA) infestation during 2012- 2014. 2020 HWA density assessments in this area indicate that populations are greater than previous years, and trees are again experiencing high infestations. These insects cause yellow needles, needle fallout, branch dieback, crown thinning, and can lead to mortality of infested trees. For more information on HWA, please see our guide for [landowner response](#) to the insect.

HWA infested trees in Townshend, VT. Photo credit: FPR Staff.



## May Invasive Plant Phenology

Volunteers are keeping track of invasive plant phenology in order to time management treatments most effectively. Below are observations made from May 4<sup>th</sup>-8<sup>th</sup>, 2020.

**Addison County**— Bud Swell: honeysuckle; Flower Buds: garlic mustard; Flowering: garlic mustard; Leafed Out: garlic mustard, honeysuckle.

**Caledonia County**— Bud Swell: Japanese barberry; Leafed Out: honeysuckle; Vegetative Growth; knotweed (10").

**Chittenden County**— Bud Swell: Asiatic bittersweet; Flower Buds: garlic mustard; Flowering: garlic mustard; Leafed Out: common buckthorn, European spindle tree, garlic mustard, goutweed, honeysuckle, multiflora rose, Japanese barberry.

**Orleans County**— Leafed Out: Japanese barberry; Vegetative Growth: knotweed (no new shoots yet).

If interested in taking part in this project, please contact: [elizabeth.spinney@vermont.gov](mailto:elizabeth.spinney@vermont.gov).

## Invasive Species Update



Japanese stiltgrass infestation. Photo credit: Chris Evans, University of Illinois.

In the [Forest Insect and Disease Conditions Report for 2019](#), we shared that an isolated patch of what was suspected to be [Japanese stiltgrass \(\*Microstegium vimineum\*\)](#) was reported in Sandgate in late 2018 (Bennington County). At the time, there had not been botanical confirmation of the presence of that plant, because the site was treated as part of a private land management project. A potential roadside site for this plant was reported in October 2019 in Brattleboro (Windham County). These sites along with an additional site in Poultney (Rutland County) have been photographically confirmed by the Vermont Natural Heritage Program, but do not have [vouchers](#).





Japanese stiltgrass. Photo credit: Chuck Barger, University of Georgia.

Leaves are light green blades, one to three inches in length, and arranged alternately on the stem. Each stem can grow 1-3 feet tall. Each blade is held onto the stem with a leaf sheath, and where the sheath meets the stem will have little white hairs. A distinct identifying characteristic is the silvery stripe of reflective hair down the middle of each blade. Common look-alikes, like [white cut grass \(Leersia virginica\)](#), lack this silvery stripe on the blade.

The primary mode of spread is through water, and wildlife and human activity moving the prolific number of seeds (100 -1,000 per plant, thought to remain viable up to 7 years in the soil). However, the plant can grow vegetatively, creating localized monocultures of densely matted vegetation. This is an annual that dies back each fall, and that matted layer of thatch does not decompose quickly.

While previously thought to be absent from Vermont, recent sightings [provided by the public](#) have led the [Vermont Natural Heritage Program](#) to photographically confirm populations in Bennington, Rutland, and Windham County. ***This is still considered an early detection species of concern.***

Its ability to grow in a variety of conditions (habitat generalist, shade-tolerant), prolific seed production, and fast, dense vegetative growth, mean this plant can spread rapidly. That rapid and dense growth means that stiltgrass can smother other understory vegetation including native woody forest species. The environmental impact it has had in other New England states has led to its listing on the unofficial [Vermont Watchlist](#). If you find stiltgrass growing in Vermont, please report it to [VTinvasives.org](#).

This very invasive plant (an actual classification allotted by the [New York Invasiveness Ranking](#)), is also known as “Nepalese browntop”, and can be found in forests, roadsides and lawns, meadows and fields, floodplains, shores of rivers and lakes, and in disturbed habitats. The first record of this species in the U.S. was from 1918 in Tennessee. The continued spread of this plant across the US was thought to have been an accidental introduction in packing material, and has since spread to over 25 U.S. states. This annual grass, which reaches heights of 1-4 feet, is native to Japan, Korea, Malaysia, India, China, and the Caucasus region.

Leaves are light green blades, one to three inches



Japanese stiltgrass stem, showing silvery midrib, and alternating leaf arrangement. Photo credit: Bruce Ackley, Ohio State University.



<p><b>For more information, contact the Forest Biology Laboratory at 802-565-1585 or:</b></p>	<p>Windsor &amp; Windham Counties..... Bennington &amp; Rutland Counties..... Addison, Chittenden, Franklin &amp; Grand Isle Counties..... Lamoille, Orange &amp; Washington Counties..... Caledonia, Orleans &amp; Essex Counties.....</p>	<p>Springfield (802) 289-0613 Rutland (802) 786-0060 Essex Junction (802) 879-6565 Barre (802) 476-0170 St. Johnsbury (802) 751-0110</p>
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