How To Use The Oak Wilt Vectors Emergence User Interface

What Is This Interface Used For?

The oak wilt vectors emergence user interface tool provides localized information about the emergence status of the two most important insects that transmit oak wilt in Wisconsin. The tool uses a degree-day model constructed from insect trapping data (Jagemann *et al*., 2018) to provide guidance to reduce the risk of oak wilt introduction at the beginning of the high-risk period. Since this site provides information based on actual weather data, it is useful to refine the beginning of the periods when pruning, wounding and/or harvesting of oaks should be avoided.

Please note that this tool is intended to supplement, not replace, the calendar dates specified in the Wisconsin Department of Natural Resources' (DNR) oak harvesting guidelines. This tool provides degree-day-based information about the beginning of the oak wilt high-risk period, not the end of the high-risk period. At this point, the tool is not built to predict future growing degree-day information.

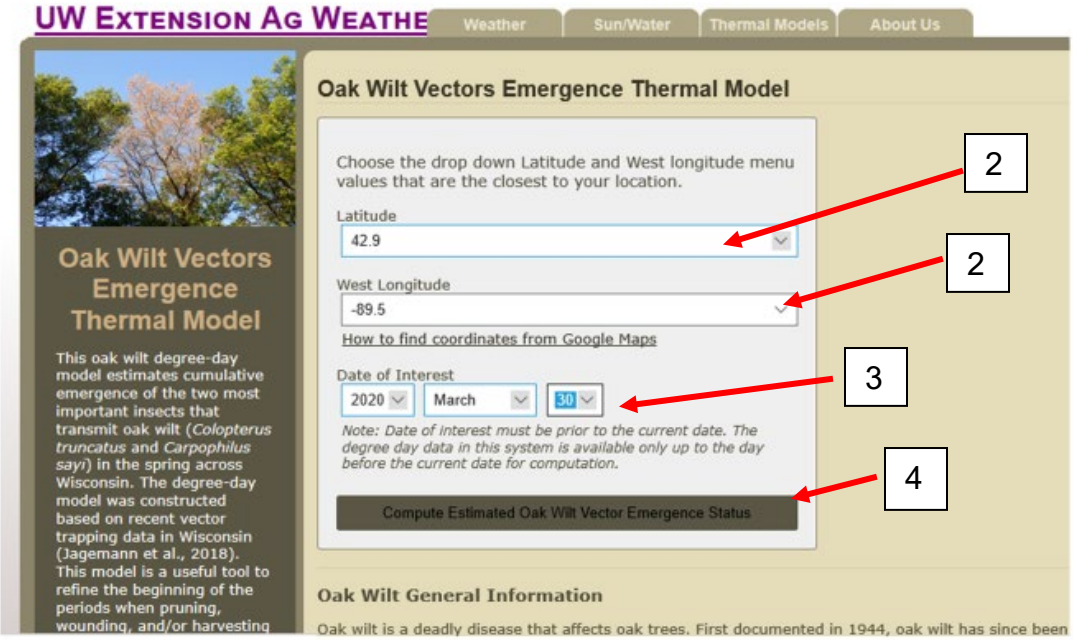
If you have any questions about the interface tool, please contact your Regional DNR Forest Health Specialist or Kyoko Scanlon at Kyoko.Scanlon@wisconsin.gov.

How Do I Use This Interface?

This document addresses the basic information you need to use the interface. A short video tuturial is also available here and on the DNR's oak wilt webpage.

This interface runs on the University of Wisconsin Ag Weather website and you only need to enter two pieces of information compute the status: the location and the date of interest.

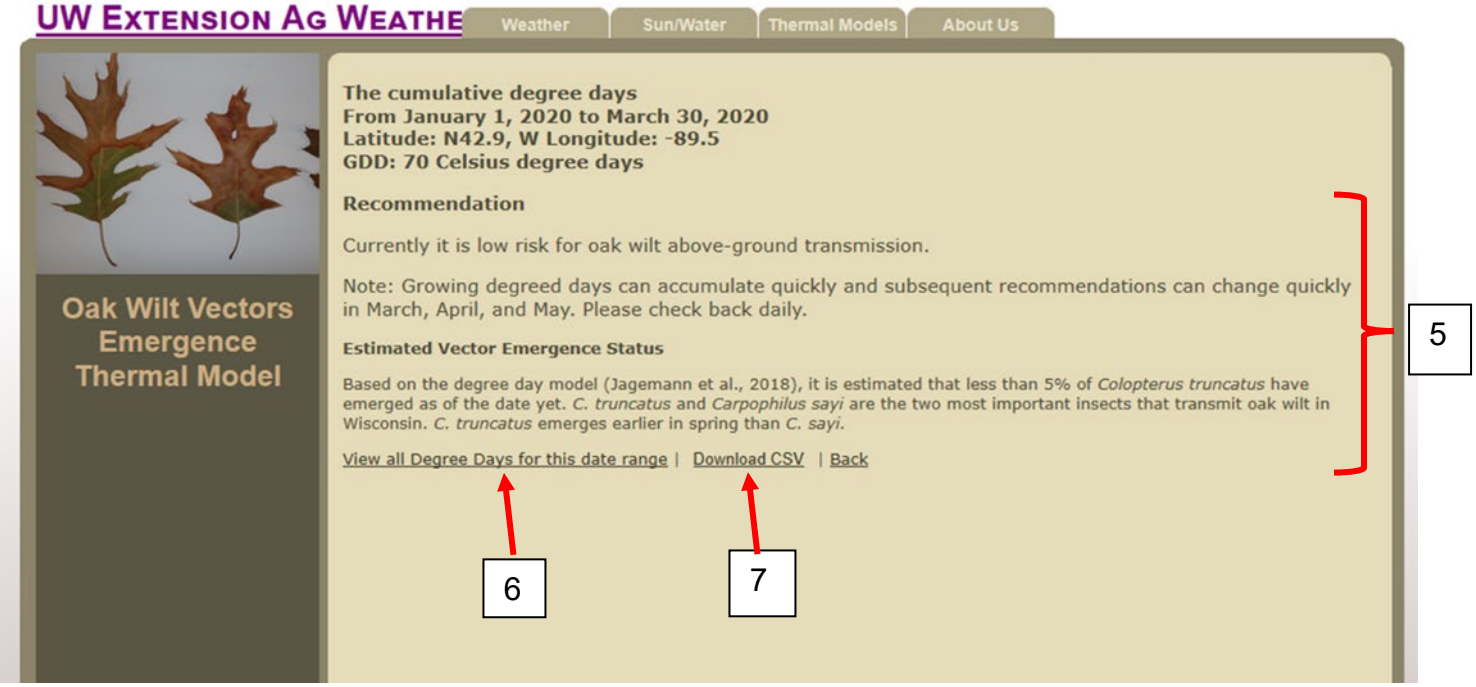
Step 1: Go to the UW Extension Ag Weather website https://agweather.cals.wisc.edu/thermal_models/oak_wilt



Step 2: Enter the latitude and longitude menu values that are the closest to the location of interest (i.e. timber sale site; your property with oak trees).

Step 3. Enter the date of interest. The system computes cumulative degree days since the first of the year up to the date that you specify as the date of interest. Data is collected at the end of every day, so the information is available only up to the day before the date you are viewing this site. The “Date of Interest” box defaults to the day before the current date. If a user chooses a future date, an error message will pop up.

Step 4: Click “Compute Estimated Oak Wilt Vector Emergence Status.”



Step 5: The result page shows information about your selection, the model recommendation and estimated vector emergence status.

Step 6: A list of daily degree-day data can be shown by clicking “View all degree days for this date range.”

Step 7: The data can be downloaded as a text file by clicking “Download CSV.” CSV stands for “Comma Separated Values” and is a text file that can be downloaded for further analysis.

Acknowledgment:
The Wisconsin DNR thanks Dr. John Panuska of University of Wisconsin-Madison for overseeing this project, and Malcolm Newsome and Bailey Bryant with 8th Light LLC for developing the site. A special thank you to researchers Stephanie Jagemann, Dr. Jennifer Juzwik, Dr. Patrick Tobin, and Dr. Ken Raffa for developing the model used in this application and their critical review of the user interface.

Reference:

Jagemann, S.M., Juzwik, J., Tobin P.C., and Raffa, K.F. 2018. Seasonal and regional distributions, degree-day models, and phoresy rates of the major sap beetle (Coleoptera: Nitidulidae) vectors of the oak wilt fungus Bretziella fagacearum, in Wisconsin. Environmental Entomology. 47(5): 1152-1164
https://www.fs.fed.us/nrs/pubs/jrnl/2018/nrs_2018_jagemann_001.pdf