Vineyard Forecast

This vineyard evaluation report was created automatically by interpreting publicly-available data as it applies to vineyard suitability. The GIS data layers used in this report are generalized and may not capture all details of a specific site. Furthermore, site management practices can significantly alter natural conditions.

The Virginia Tech Center for Geospatial Information Technology is launching a beta Real-Time Weather and Grape Disease Modeling service as a component of GeoVine, a research and outreach platform for Vineyard Site Assessment, Geodesign, and Management. The models are not yet validated, and may provide an indication of the potential disease pressure over time.

The grape disease models calculate the estimated risk for the given disease according to hourly Real-Time Mesoscale Analysis Products (RTMA) and National Digital Forecast Database (NDFD) from the National Weather Service. The risk is calculated at the site level and at the spatial extent shown in Figure 1. The yellow grid in Figure 1 represents the spatial resolution of the RTMA and NDFD data used in this report.

Figure 1: VGIN Virginia Base Mapping Program: most recently available orthoimagery (2009,2011,2012)

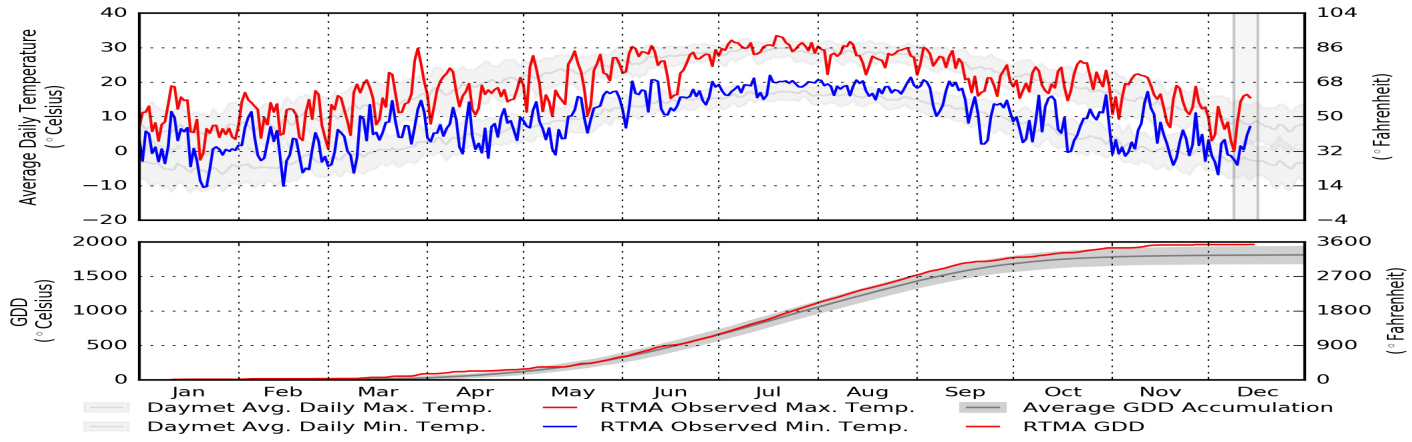

Figure 2: Daymet/RTMA Temperature and Growing Degree Day Graph

RTMA Hourly Weather Data / NDFD 36 Hour Forecast

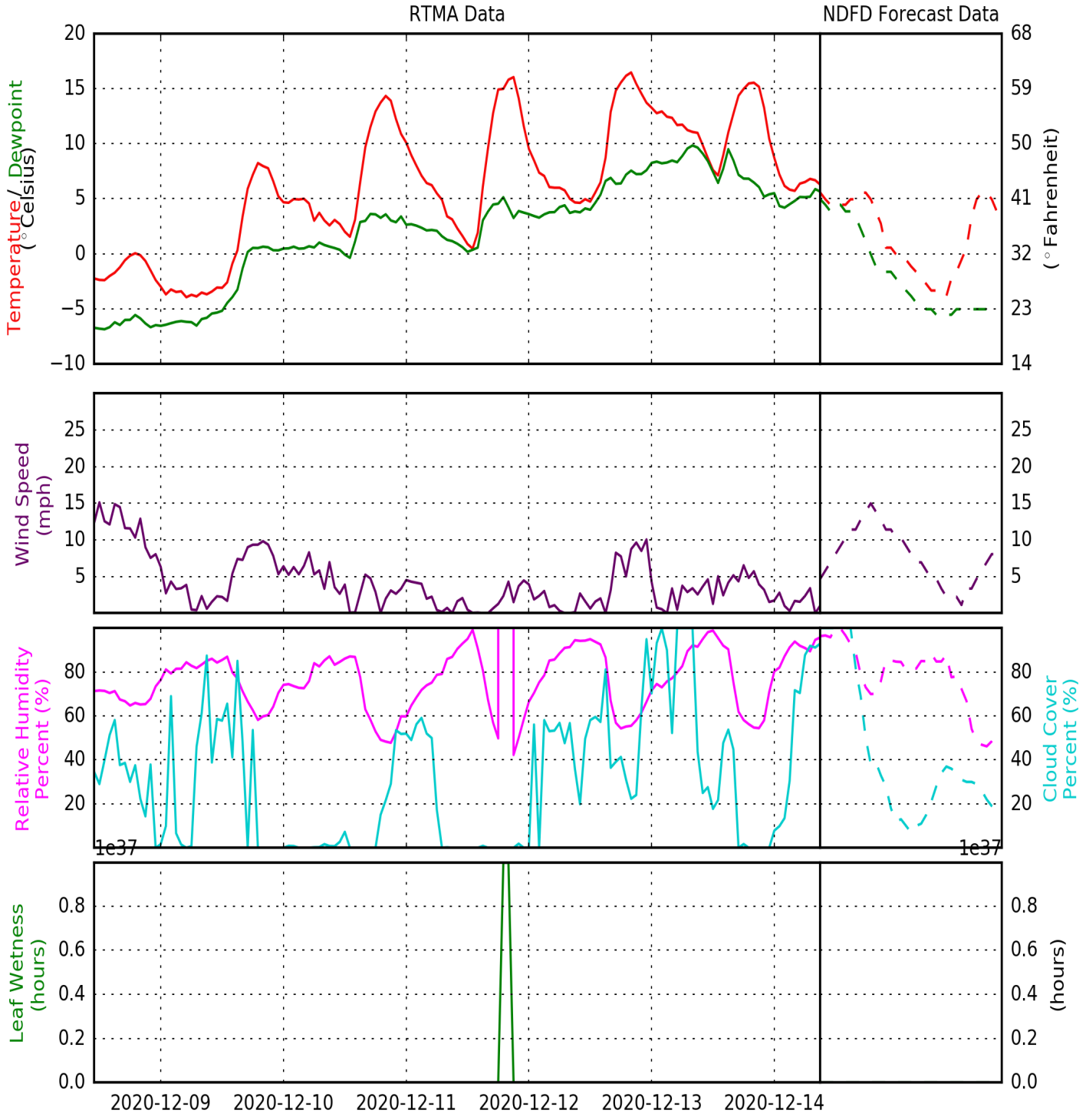

Figure 3: RTMA/NDFD Forecast Graph

The National Weather Service (NWS) Real-Time Mesoscale Analysis (RTMA) is a gridded analysis of the hydrometeorological variables.

National Weather Service National Digital Forecast Database (NDFD). Product Description: 'seamless mosaic of digital weather forecasts from National Weather Service (NWS) field offices and the National Centers for Environmental Prediction (NCEP).'

Thornton, P.E., M.M. Thornton, B.W. Mayer, Y. Wei, R. Devarakonda, R.S. Vose, and R.B. Cook. 2016. Daymet: Daily Surface Weather Data on a 1-km Grid for North America, Version 3. ORNL DAAC, Oak Ridge, Tennessee, USA. Accessed February 17, 2016. Time period: 1980-01-01 to 2015-12-31. http://dx.doi.org/10.3334/ORNLDAAC/1328

Grape Disease Models: Preliminary results, pending field validation.

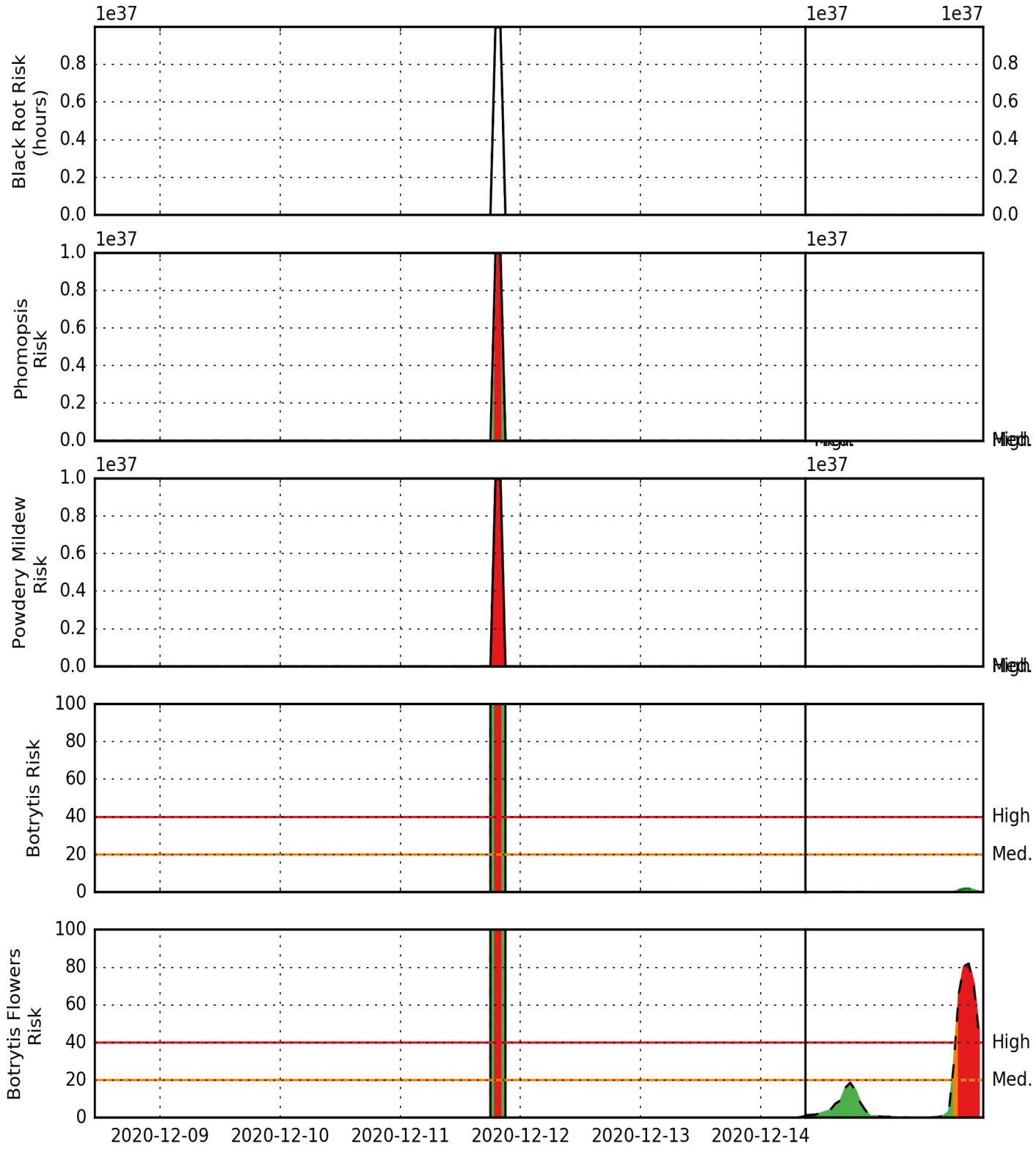

Figure 4: Grape Disease Forecast Graph

The disease models and outputs included in this report are preliminary and require additional field validation. Please provied feedback at cgitsupport@vt.edu. More information about the grape diseases included in this report can be found at: http://www.cgit.vt.edu/vineyards-weather.html