

Proposed Heat Vulnerability Work for Summer 2016

Unpaid Internship with UNC Southeast Regional Climate Center and the North Carolina Department of Health and Human Services

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Please send cover letter and CV/resume.

Main Activities:

- 1) Develop a working knowledge on heat morbidity and the associated social vulnerabilities by reading various literature and engaging with other people on the project.
- 2) Engage the public health community to ascertain the sorts of information they need to make their communities more resilient to heat. This would include identifying the demographic groups in their region who are especially vulnerable. Through these engagements (both one-on-one and sessions with everyone) they would identify pertinent information to serve as content on a heat vulnerability website. They would determine how that information could most effectively be conveyed – see examples in Appendix. In addition, they can also assess current heat response plans across North Carolina. I imagine current plans may need updating (i.e. they likely focus on extreme heat events, elderly, urban locations etc.)
- 3) Craft material and post it on the heat vulnerability website (sercc.com/hhvt) (e.g. using Word Press). They would work with Maggie Sugg from Appalachian State University to develop relevant plots (see examples below)
- 4) Identify the relevant models that should be incorporated into the heat vulnerability tool and work with Maggie to add these to the tool. See example of the tool box in appendix 1.
- 5) Organize two engagement sessions (June & September)

Heat Vulnerability Website

Develop a heat vulnerability website (e.g. using Word press) that wraps around the heat vulnerability tool (i.e. the tool will be accessed within the website). The main page would have links to charts that show temperature-heat morbidity relationships for different demographics groups across different regions of the state (see appendix). To provide perspective, we can add a baseline that shows the typical day during the summer. The temp worker would work with Maggie to construct these charts.

Another page might provide tips for recognizing heat illness, educational resources/training, information for physicians etc. This website can also identify at-risk populations and locations for heat in North Carolina and the temperature ranges in which heat-related illness is most likely to occur.

Appendix 1

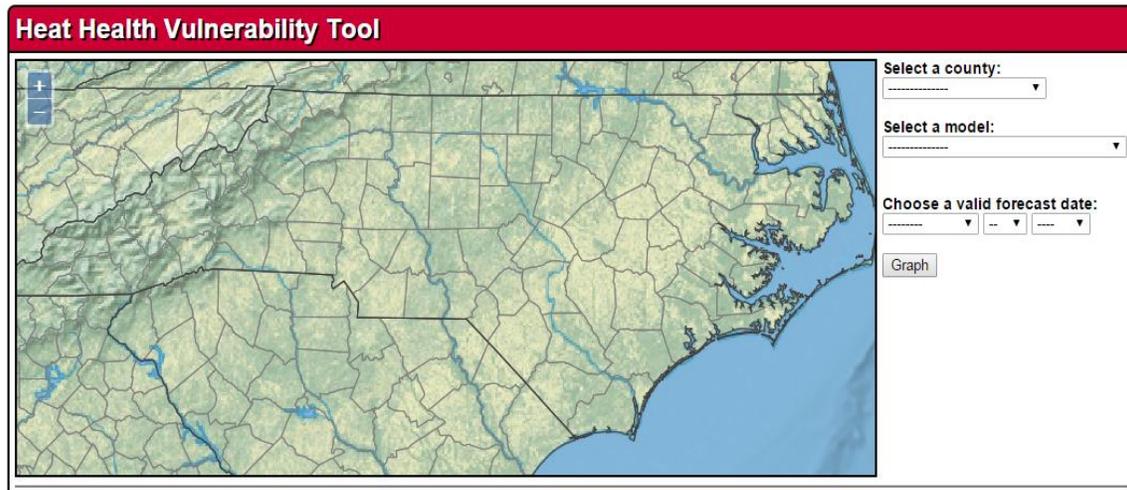


Figure 1: Current Heat-Health Vulnerability Tool website available at www.sercc.com/hhvt; the user can select a county of interest from the drop down menu. Eventually, they will also be able to click on the county of interest from the map.

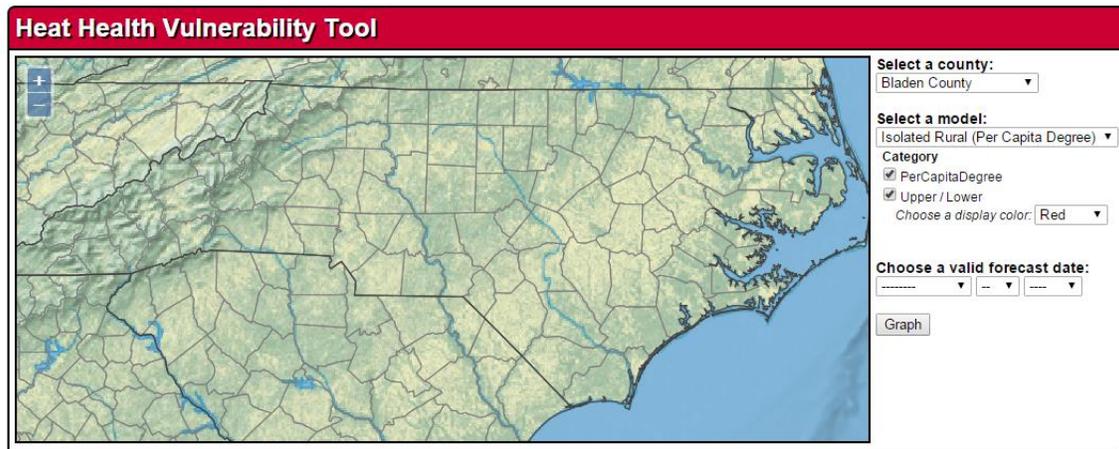
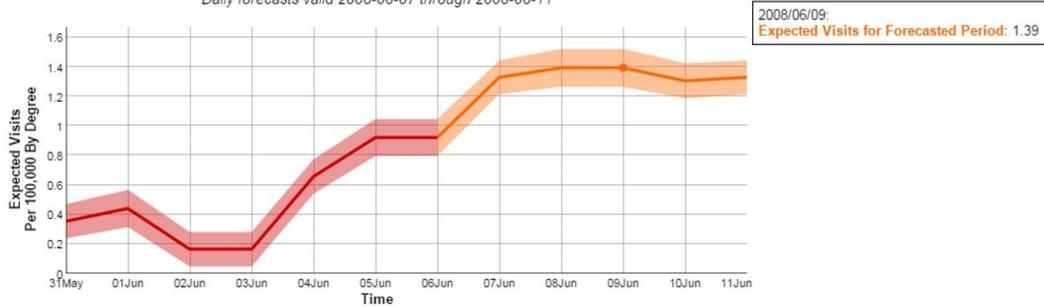


Figure2: Current Heat-Health Vulnerability Tool website after the user selects county of interest, they can select model of interest (e.g. specific demographic, rural or urban location, etc.) and time period of interest

Isolated Rural (Per Capita Degree) Model for Bladen County at Brown Field (KEYF)

Observations from 2008-05-31 through 2008-06-06
Daily forecasts valid 2008-06-07 through 2008-06-11



Maximum Temperature for Bladen County at Brown Field (KEYF)

Observations from 2008-05-31 through 2008-06-06
Daily forecasts valid 2008-06-07 through 2008-06-11

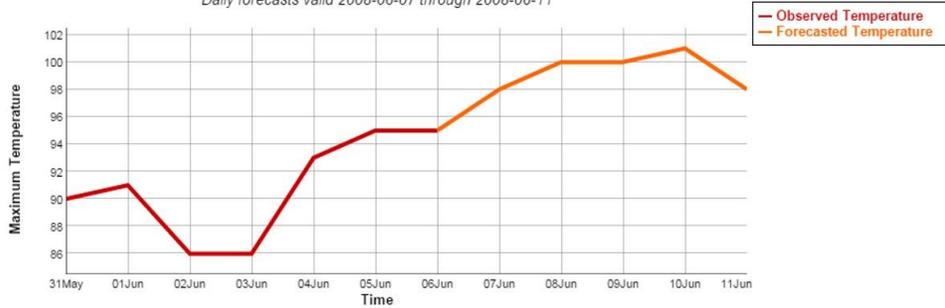
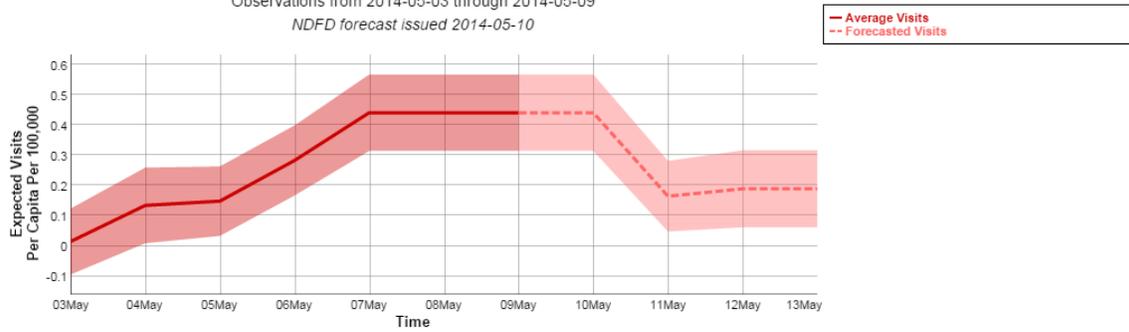


Figure 3: Output of heat-health vulnerability tool for specific location, model and dates of interest. Output includes current temperatures, forecasted temperatures, and estimated heat-related illness emergency department admissions.

Isolated Rural (Per Capita Degree) Model for Bladen County at Brown Field (KEYF)

Observations from 2014-05-03 through 2014-05-09
NDFD forecast issued 2014-05-10



Maximum Temperature for Bladen County at Brown Field (KEYF)

Observations from 2014-05-03 through 2014-05-09
NDFD forecast issued 2014-05-10

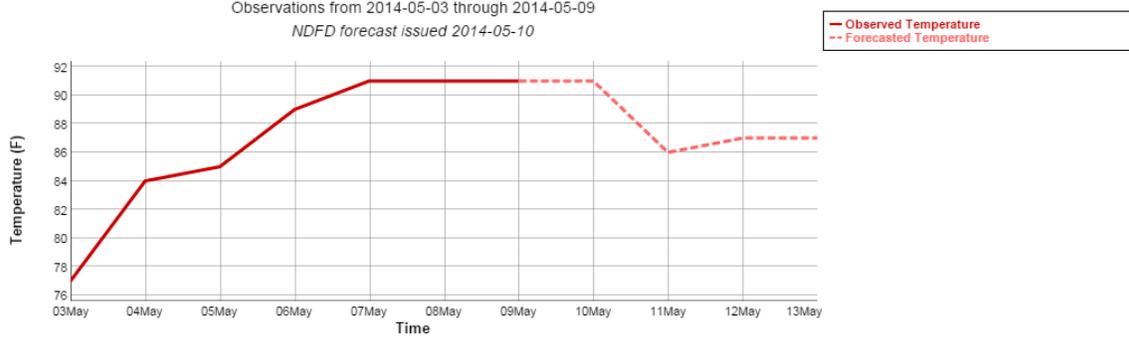


Figure 4: Heat-health vulnerability tool output for different time period.

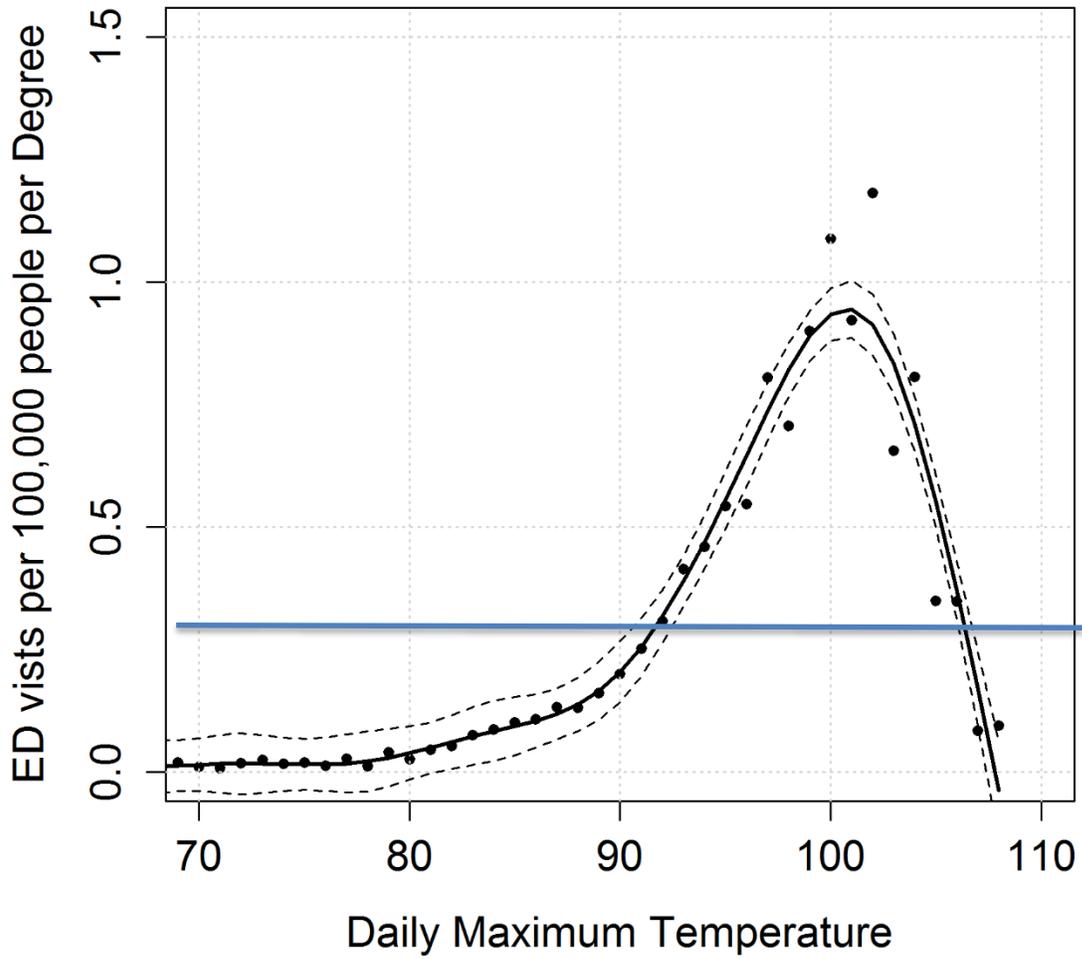


Figure 5: Daily heat-related illness incidence at the state level and hypothetical baselines for the summer period (drawn in blue)

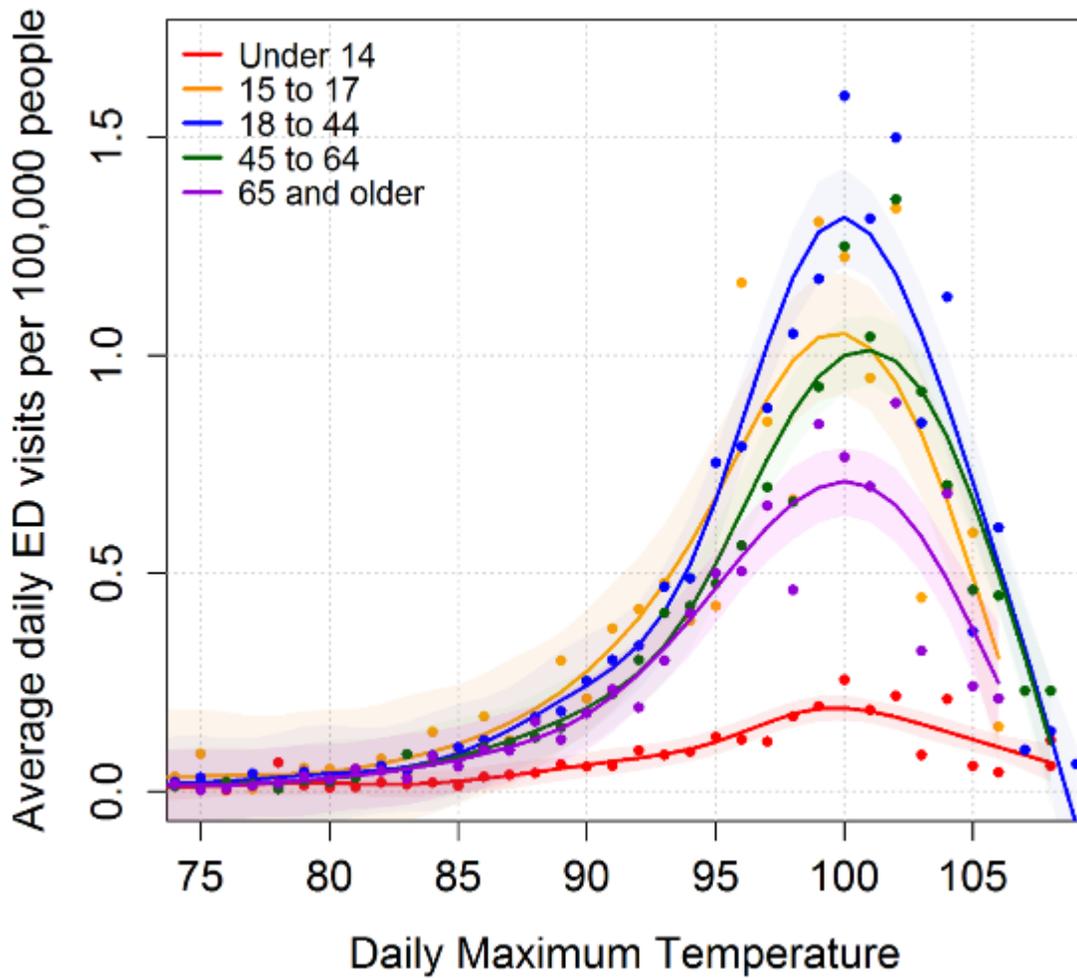


Figure 6: Daily heat-related illness incidence for the piedmont and coastal plain of North Carolina for different demographics from May – September 2007 to 2012. Hypothetical baselines could also be added for each demographic.