Study shows White House, Pentagon are literally some of the hottest spots in Washington

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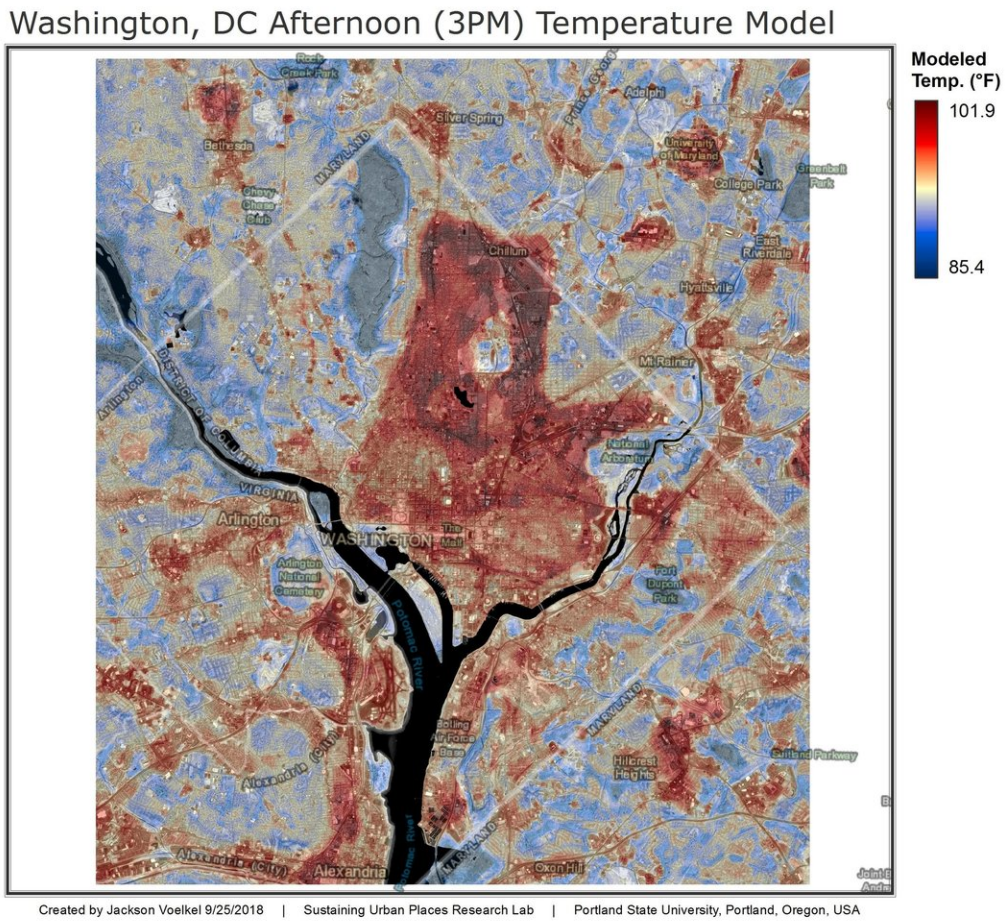

Credit: Portland State University

A heat-mapping study of Washington, D.C. and Baltimore by Portland State University researchers show that some of the most famous buildings in the nation's capital – The White House, U.S. Capital and The Pentagon – are located in areas that have the highest temperatures in the city and surrounding areas.

PSU Urban Studies and Planning Professor Vivek Shandas, the study's lead researcher, said his data showed a sharp contrast in temperatures between asphalt-laden downtown areas in Washington and Baltimore and tree-lined parks and neighborhoods. This study was funded by National Oceanic and Atmospheric Administration to better understand urban heat mapping—measuring and documenting varying temperatures within the same metro area.

Shandas and fellow researchers drove throughout the cities with heat-measuring sensors, collecting 75,000 measurements in a single day. They compiled the data and processed it to create color-coded maps, with shades of red indicating hot areas, and blue indicating relative coolness.

For example, there is a difference of 17 degrees between Washington's Rock Creek Park and the Brightwood neighborhood, barely half a mile away. Some of the most iconic government buildings are in areas much warmer than other Washington neighborhoods because of an insufficient amount of trees.

The Portland State heat mapping project, which Shandas conducted in late August, demonstrated the phenomenon of urban heat islands – areas dominated by buildings and paved surfaces, which build up and store vast amounts of heat. The result is different temperatures within the same city. Trees mitigate this effect, as do heat-friendly building materials, coloring, and the ways structures are configured, Shandas said.

Similar studies Shandas has conducted in Portland showed a direct

relationship between a lack of trees in urban areas and stressors such as air pollution. Elevated heat and pollution are hazardous to human health, especially for the elderly and the very young. Shandas discovered that these factors tend to occur more in lower-income neighborhoods.

Provided by Portland State University