



Session Speakers

Jordan Clark - CISA, UNC Chapel Hill

Ashley Ward - CISA, UNC Chapel Hill

Maggie Sugg - Appalachian State University

Darrian Bertrand - State Climate Office of North Carolina

Session Title

Too Hot to Handle: Heat and Human Health

Session Description

Exposure to extreme heat is the most common cause of weather-related fatalities in the United States. This session highlights recent research on effective indices for determining high-risk days for heat-related illness. Also discussed is the impact of chronic heat on reduced gestational age in pregnant women. And finally, emerging technologies in measuring and forecasting increased risk for heat-related illness. The first presentation will focus on the potential for utilizing wet-bulb globe temperature (WBGT) as an index to identify dangerously hot days, in comparison to other methods such as air temperature and heat index. Despite the apparent benefits of including multiple meteorological variables in its calculation, there remain several points of investigation related to the utility of the WBGT as an indicator of heat stress when compared to the use of heat index and air temperature. The second presentation will focus on the impact of chronic heat and reduced gestational age. Consistently research on this topic has focused on impacts following a single heat wave event. This work examines the association between heat and shortened gestational age over a 5 year period of heat seasons, the first of its kind in the southeastern United States. Third will be an examination of the utility of using low-cost wearable sensors to provide continuous and high-resolution geo-reference environmental exposure and health data for assessing outcomes in an occupational setting. This work focuses on the ability to characterize spatial and temporal variations in exposure; occupation, environmental, and behavioral factors that contribute to exposure; and a comparison of individual-level temperature measurements with ambient monitoring stations. Finally, in a collaborative effort, the NC State Climate Office (NCSCO), the Southeast Regional Climate Center (SERCC), and Carolinas Integrated Sciences and Assessments (CISA) have developed a forecasting tool for the wet-bulb globe temperature (WBGT). The tool provides an hourly time series of WBGT for two days into the past and future. A prototype of the tool will be presented to solicit feedback about its functionality and utility.