



## **Dynamics of urban heat stress events in climate models**

David Yang

United States (yangd5153@gmail.com)

Extreme heat stress events as measured by the wet-bulb temperature require extraordinarily high air temperatures coupled with high humidity. These conditions are rare, as relative humidity rapidly falls with rising air temperature, and this effect often results in decreasing heat stress as temperature rises. However, in certain coastal locations in the Middle East recent heat waves have resulted in wet-bulb temperatures of 33-35 degrees C, which approach the theoretical limits of human tolerance. These conditions result from the combination of extreme desert heat and humid winds off of the warm ocean waters. It is unclear if climate models properly simulate these dynamics. This study will analyse the ability of the CMIP5 model suite to replicate observed dynamics during extreme heat events in major urban areas.