

School of Earth and Environmental Sciences Spring 2024 Colloquium Series

Wednesday, March 27, 2024

12:15 PM -1:30 PM

Science Building **C-203**

Zoom ID: 827 8857 5939

Passcode: 321

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Unequal Exposure to Heat Extremes: Case Studies in Los Angeles and New York City

Cities worldwide are experiencing record-breaking summer temperatures. Urban environments exacerbate extreme heat, resulting in not only the urban heat island but also intracity variations in heat exposure.

Understanding these disparities is crucial to support equitable climate mitigation and adaptation efforts.

Focusing on the cases of Los Angeles and New York City, two megacities on both coasts of the US, I will talk about our findings regarding the disparity in heat exposure

based on Land Surface Temperature (LST) observations from the Ecosystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS). We find

that lower evapotranspiration resulting from the unequal distribution of vegetation cover is a major factor leading to higher LST in low-income neighborhoods. Disparities worsen with higher regional mean surface temperature. With more frequent and intense heat waves projected in the future, equitable mitigation measures, such as increasing surface albedo and tree cover in low-income neighborhoods, are necessary to address these disparities.

