

# System for Integrated Modeling of Metropolitan Extreme Heat Risk (SIMMER)

<http://www.ral.ucar.edu/projects/simmer/>

NASA ROSES (09-IDS09-34)

2010-2014

\$1.4 M



*Goal:* Advance methodology for assessing current and future urban vulnerability from extreme heat through integration of physical and social science models, research results, and remote sensing data

# Project Team

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## ❖ National Center for Atmospheric Research

- O. Wilhelmi, A. Monaghan, M. Hayden, K. Oleson, S. Sain, J. Boehnert, K. Sampson, M. Barlage, C. Uejio (now at FSU), M. Heaton (now at BYU), T. Greasby (now at Facebook), J. Pelzman (now at National Jewish Health), U. Lauper (also at CU-Denver), and R. Norton (also at CU-Denver)

## ❖ University of Kansas

- J. Feddema, N. Brunsell, W. Liu, L. Hu and A. Zung

## ❖ Houston Department of Health and Human Services

- D. Banerjee and V. Nepal

## ❖ Canadian collaborators

- S. Gower, C. Mee, and M. Campbell (Toronto Public Health), C. Rinner and H. Heart (Ryerson University), A. Yagouti, K.-L. Clarke, C. Simpson, J. Paterson, U. Bickis (Health Canada), C. De Jong (Toronto Environment Office), J. Liu (Ontario Ministry of Environment)

## ❖ External Advisory Board

- M. Shepherd (University of Georgia), A. de Sherbabin (CIESIN, Columbia University), R. Harriss (HARC)

# SIMMER Research Components

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- ❖ Characterizing and modeling present and future extreme heat events at regional and local scales (K. Oleson and A. Monaghan)
- ❖ Improving representation of urban land cover and its accompanying radiative and thermal characteristics at local and regional scales (J. Feddema)
- ❖ Characterizing societal vulnerability (M. Hayden) and the responses (i.e., mitigation and adaptation strategies) (O. Wilhelmi)
- ❖ Determining the combined impact of extreme heat and the characteristics of urban environmental and social systems on human health (S. Sain)

