

Heat Action Planning to Address Urban Inequities: *From risks to resilience on a rapidly warming planet*

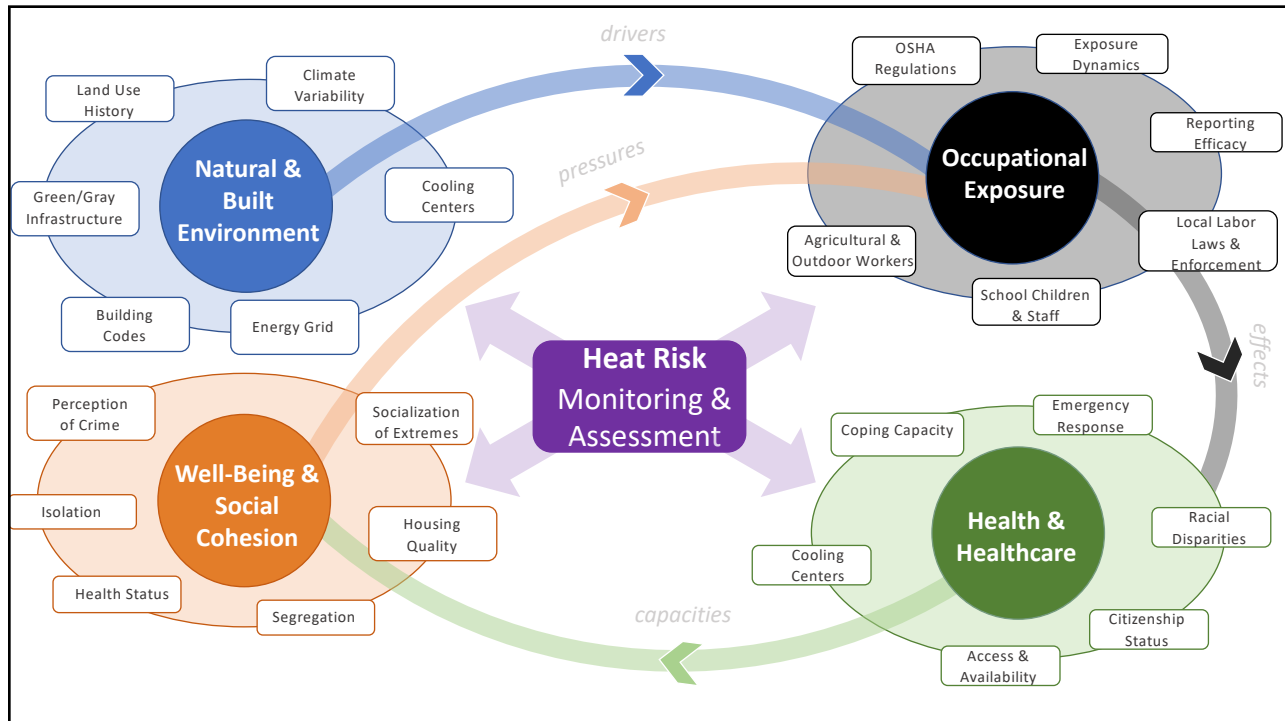
Vivek Shandas
Professor
Portland State University

National Academies Workshop: June 2023

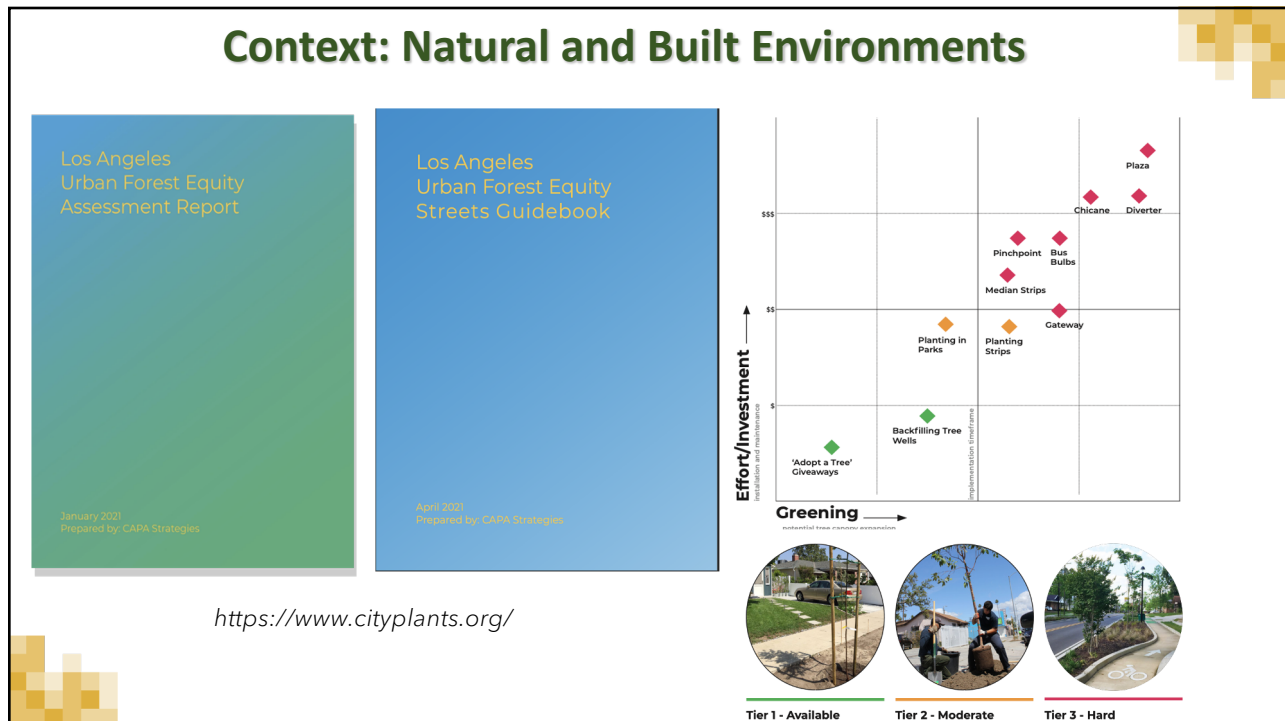
1



2

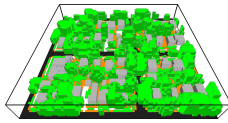


3

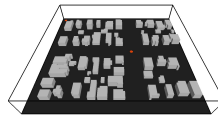


4

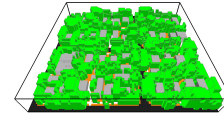
Natural and Built Environments Urban Design Strategies



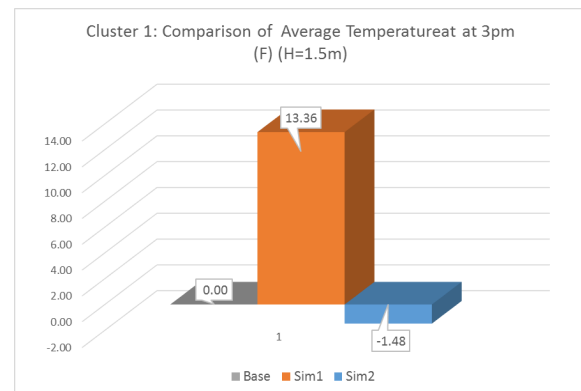
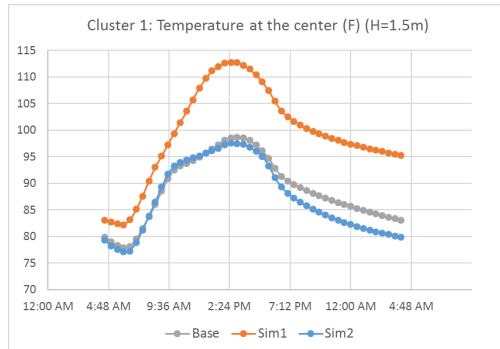
Base



Simulation 1



Simulation 2



- Removal of trees increases temps more than 13°F

5

Tacoma

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

WEEK 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

Occupational Exposures

Dynamics of inequitable exposure of environmental pollutants (heat, air pollution)



6

Health & Health Care: Emergency Response



Hollywood East



Northwest Tower



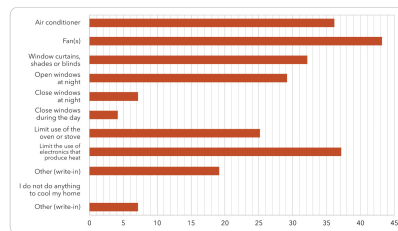
Peaceful Villa

"I appreciate the green space around our building. I used it on several days when my dog or I become over heated."

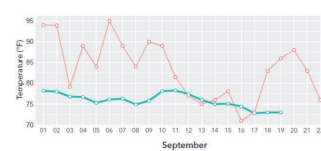
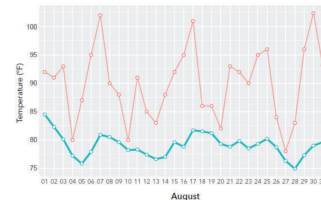
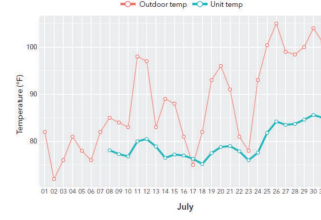
~ Building Resident

Question 13

How do you keep your home cool during the summer?
(select all that apply)



Daily Outdoor Maximum Temperature vs. Indoor Temperature



Inside Unit ###

84.1°F
Maximum Temperature

7/28
Date of Max Temperature

7PM
Average Hottest Time

78.8°F
Average Temperature

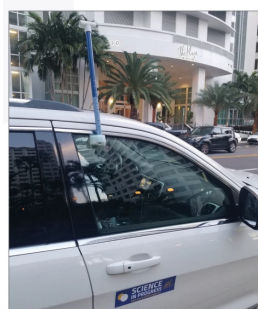
The graphs to the left show:

- 1 maximum outdoor temperature on each day of the study period ("Outdoor temp").
- 2 maximum temperature recorded in your unit on each day of the study period ("Unit temp").

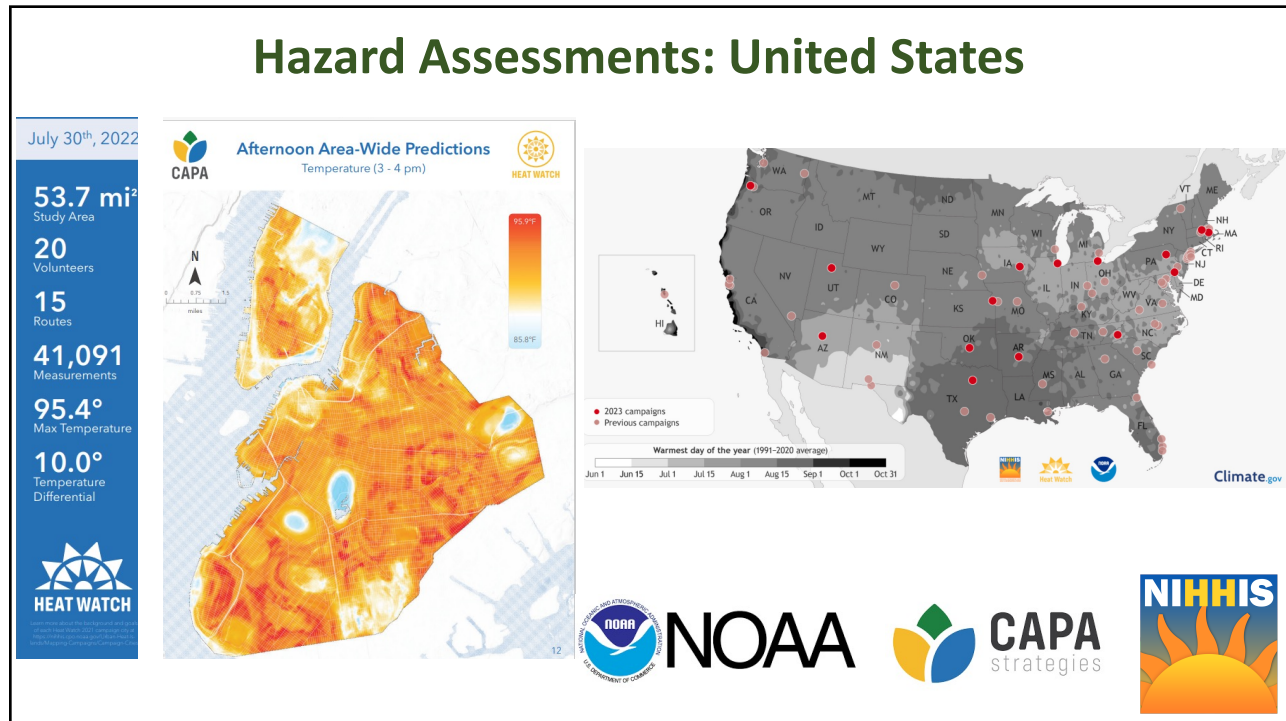
Note: If you see a gap in the Unit Temp line, it means that your sensor was not recording data on that day.

7

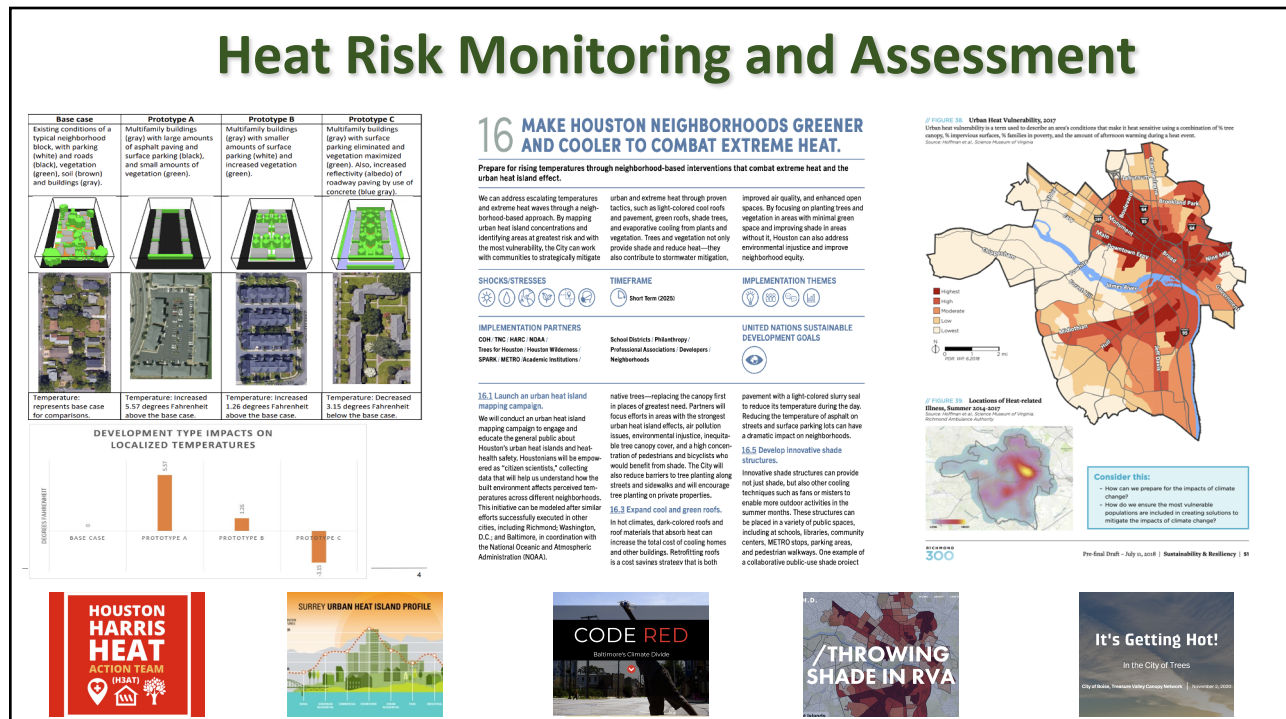
Social Cohesion: Risk Assessment



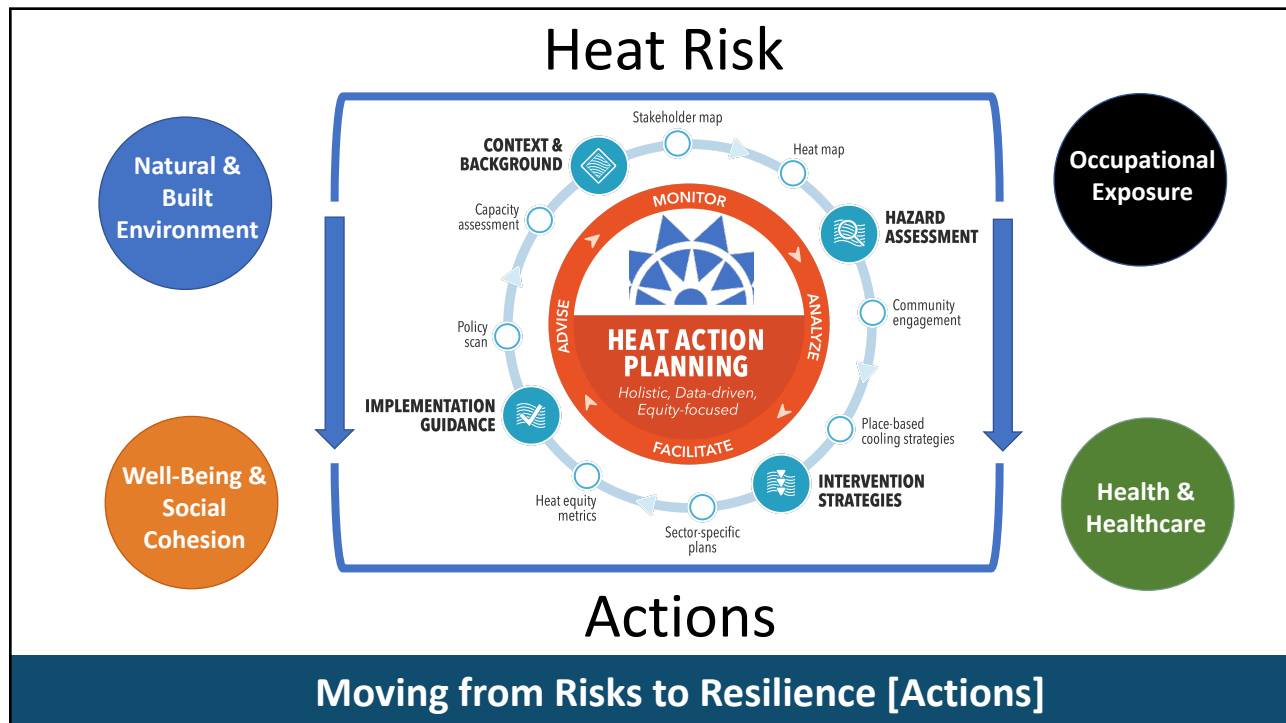
8



9



10



11

Heat Action Planning to Address Urban Inequities:

From risks to resilience on a rapidly warming planet

Contact
Vivek Shandas
vshandas@pdx.edu

12