



1



2



3



4



5



6



7



8



9



10



11



12



13



14



15



16



17




18


Children in natural outdoor settings are...

“...more relaxed, happier, less impulsive, more focused, more creative and better able to self-regulate.”

— Dr. Sam Dennis et al,
2014 Post-occupancy Study of
Nature-based Outdoor Classrooms



19



“

When we grow healthy children, we're building their resilience and their adaptability to changes that they will inevitably see.”

—Joan Lombardi
The Road to COP:
Elevating Early Childhood Development
youtu.be/2esrQTKm8sA

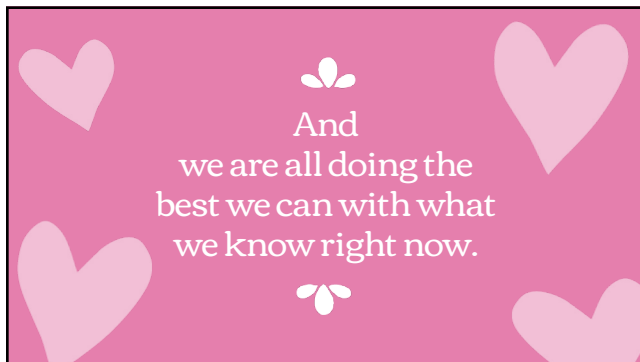
20



21



22







23



24


How do you think heat impacts children?

 Dehydration	 Heat stroke or heat exhaustion
 Less active	 Learning loss

25

Sun + heat have immediate and long-term impacts

- Increased risk of UV damage / skin cancer
- Dehydration
- Heat stroke or heat exhaustion




26

Children's developing physiology and compact bodies do not manage heat as well as adults' do



27

 Heat Impacts Learning

"Temperature increases of 5°F (2°C) and 8.5°F (4°C) of global warming are associated with, on average, 4% and 7% reductions in academic achievement per child."

—*"Climate Change and Children's Health – Executive Summary," EPA, 2023*

28



Climate Change and Children's Health and Well-Being in the United States
EXECUTIVE SUMMARY


Children, and young children especially, have **less control** over their physical environments, **less knowledge** about health effects from climate change, and **less ability** to remove themselves from harm.

—2023 Executive Summary from the EPA

29

Shade Supports Physical Health

- Reduces dehydration
- Reduces risk of heat stroke or heat exhaustion
- Increases activity levels
- Reduces risk of UV damage / skin cancer



30

Shade increases playtime



+54 min

31

Shade Supports Quality Play

Adding shade to playgrounds meant children played for **longer** and performed **more types** of play, like running, using their imagination, and exploring.

— Breann Corcoran et al
The Shade Lookbook



32

Additional Benefits of Shade

- Shade helps equipment last longer
- Shade reduces off-gassing
- Shade conserves energy
- Trees combat pollution and regulate ground water
- Trees transpire, which cools things even more



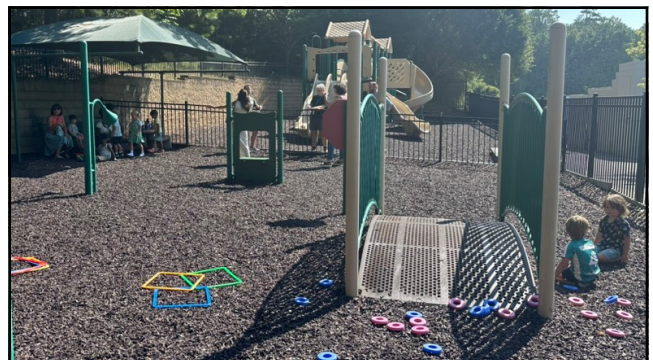
33



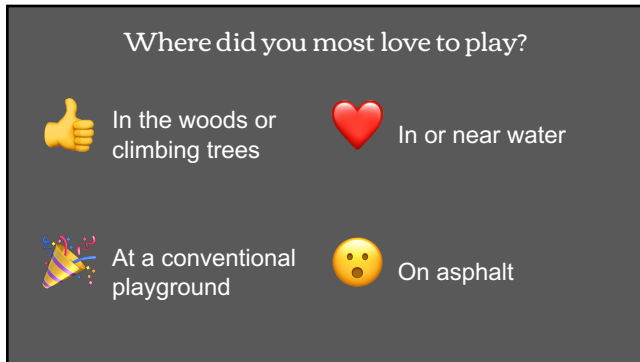
34



35



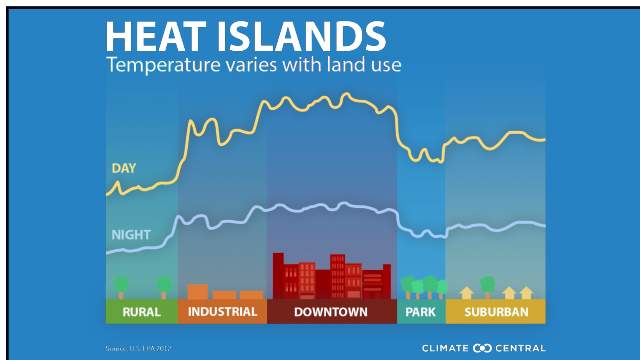
36



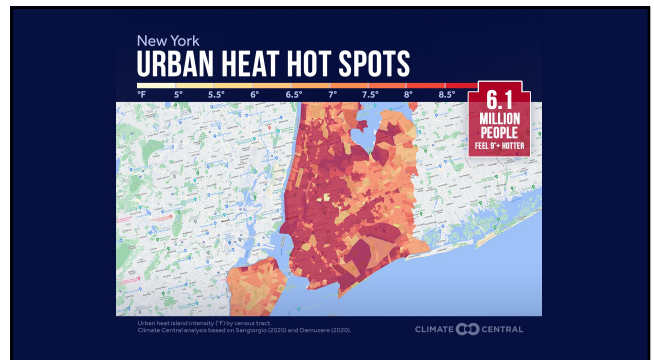
37



38

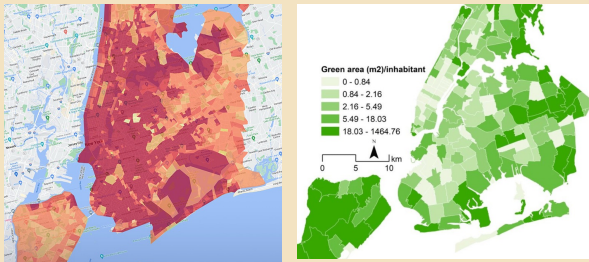


39



40

Comparing Heat Islands with Greenspace



41

Where tree planting will most lower temperatures



42

Play Space Temperatures: Let's get 'hyper local'

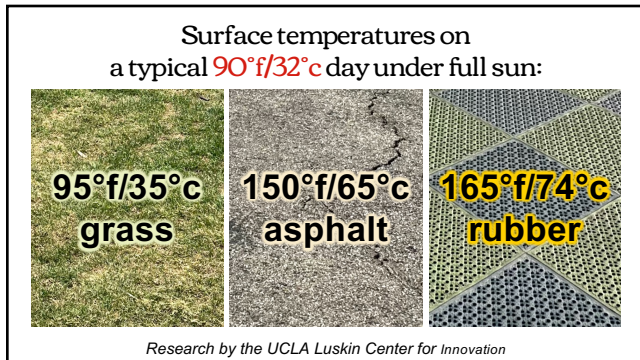


43

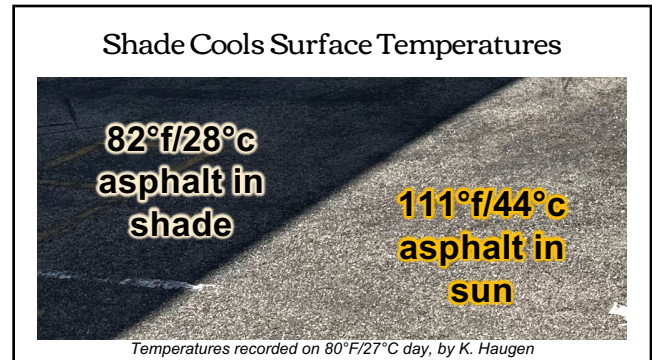
Which are the hottest surfaces?

- | | |
|-------------------|----------------------|
| 👍 Asphalt | ❤️ Composite Decking |
| 👏 Sand | 😲 Wood or Mulch |
| 🎉 Artificial turf | 😂 Grass |

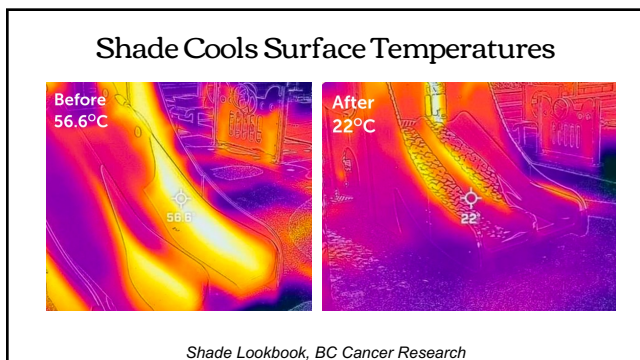
44



45



46



47



48



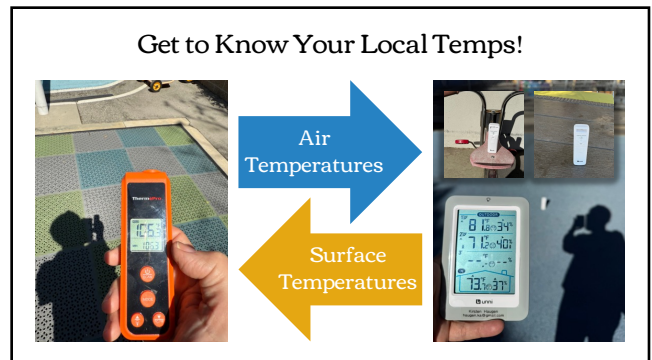
49



50



51



52

Keep 'em Hydrated!



53

Discover or Create Shady Spots!



54

Add Quick Shade



55

Invest in Permanent Shade Structures



56

Create a Nature-rich Outdoor Classroom
with a Full Range of Activities



57

Above All, Plant Trees and Help Them Grow!



58

If you support. . .

- ❖ Children's resilience, health, curiosity, and creativity
- ❖ Growing trees and greenspaces
- ❖ Outdoor time for children
- ❖ Community engagement
- ❖ Advocacy and policy

...you are improving
children's lives *and*
your local environment



59

What action will you take?



Monitor air + surface
temperatures



Plant more trees



Add some
quick shade



Advocate for more
shade in public spaces



Create a natural
outdoor classroom



Stay indoors

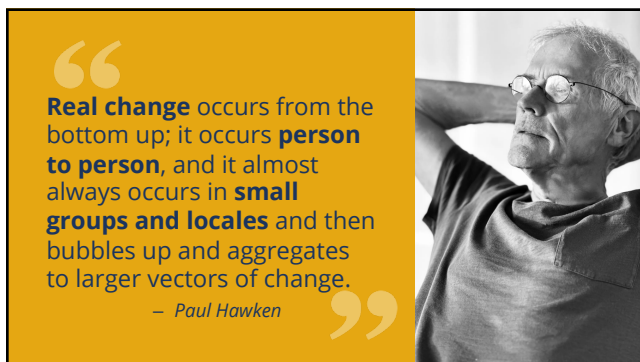
60



61



62



63



64



65



66

Let us support your journey

REFLECTIONS
Supporting Our Seven Senses
through Nature Play

A COLLABORATION BETWEEN
Exchange
for early childhood educators

- Free gift: "Supporting Our Seven Senses through Nature Play"
- Ask questions and request services or support

natureexplore.org/eci

67

World Forum
on Early Care
and Education

*Be Changed.
Change
the World*

April 14-17, 2026
worldforumfoundation.org

68



69



70

 Citations and Links

- ECDAN: The Road to COP – youtu.be/2esrQ7km8sA
- ARNEC 2022 – youtu.be/XD8I_dol0SY4
- U.S. Early Years Climate Action Plan earlyyearsclimateplan.us
- 2014 Post-occupancy Study of Nature-based Outdoor Classrooms – dimensionsfoundation.org/research/
- From Asphalt to Awesome – nsba.org/ASBI/2022/april/from-asphalt-to-awesome
- Sobel & Ernst article – hub.exchangepress.com/articles-on-demand/19958/
- Shade Lookbook – bccancer.bc.ca/prevent/about/sun-safe-bc
- Nature Explore – natureexplore.org
- World Forum on Early Care and Education – worldforumfoundation.org
- Exchange Press – exchangepress.com

71

 Citations and Links

- [The 74 Million: Extreme weather limits outdoor play](#)
- [Rapid Survey Project: Extreme Weather in California](#)
- [Protecting Children from Extreme Heat from HealthyChildren.org](#)
- [UNICEF: Heat waves impact children](#)
- Climate Central [Urban Heat Index Maps and Data](#)
- [ARCIS map: Need for Trees](#)
- [NDRC: How Urban Heat Index maps help communities adapt](#)
- Research Gate: [Greenspace per inhabitant](#)

72