



# Climate Change, Challenges, and Opportunities

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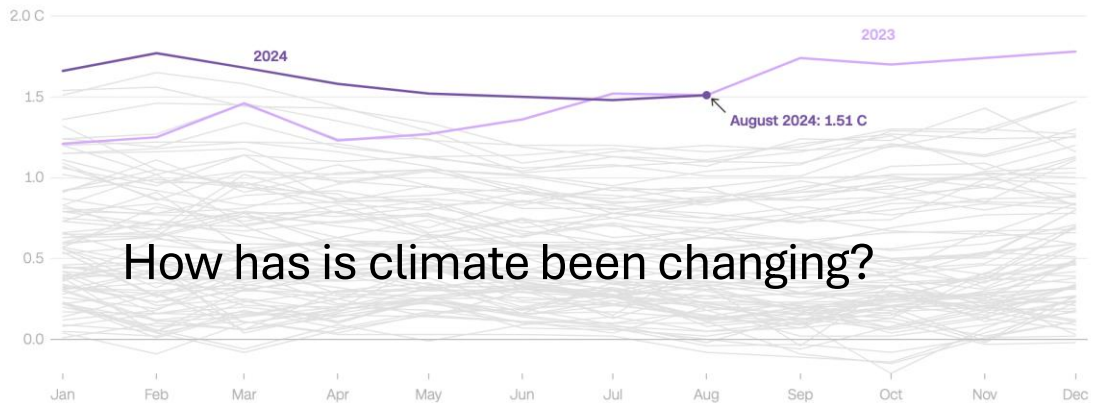
COSDA meeting, 17 Sept 2024

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## This summer was the planet's hottest on record

Global average temperatures across the last three months surpassed those in the same period in 2023. Last month was the joint-hottest August on record, together with August 2023, and was 1.51 C warmer than an average August in the 1850–1900 pre-industrial era.

Global surface air temperature anomalies since 1940, relative to the pre-industrial period

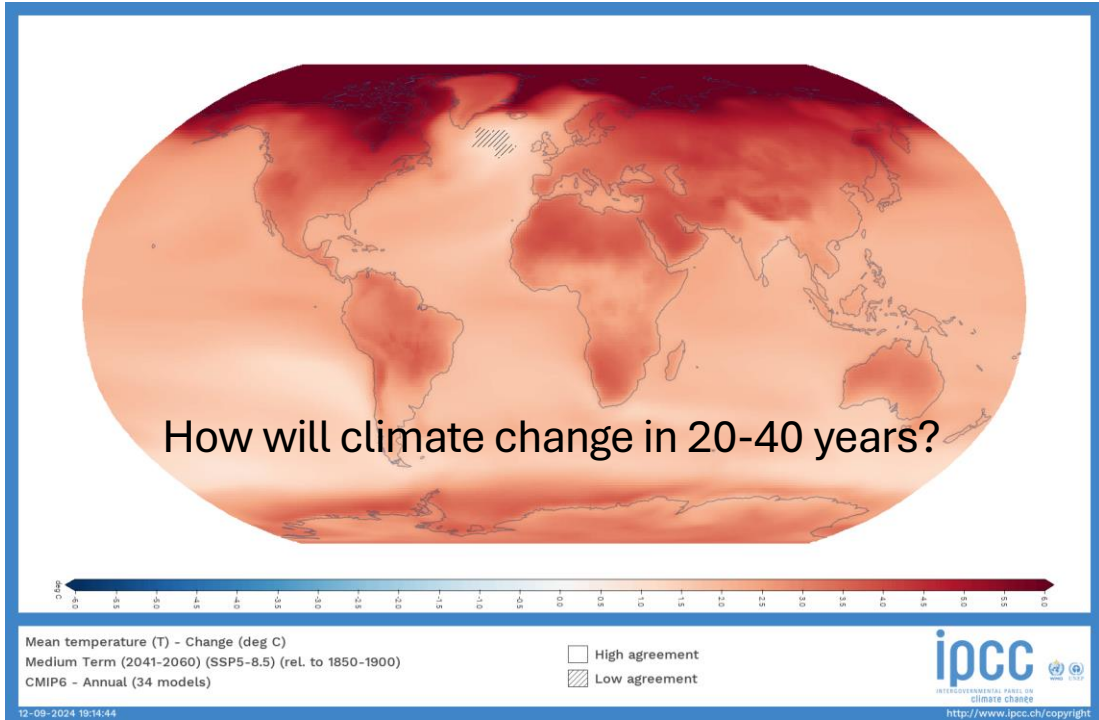


# How has is climate been changing?

Note: Each line represents one year between 1940 and 2024.

Source: Copernicus Climate Change Service  
Graphic: Soph Warnes, CNN

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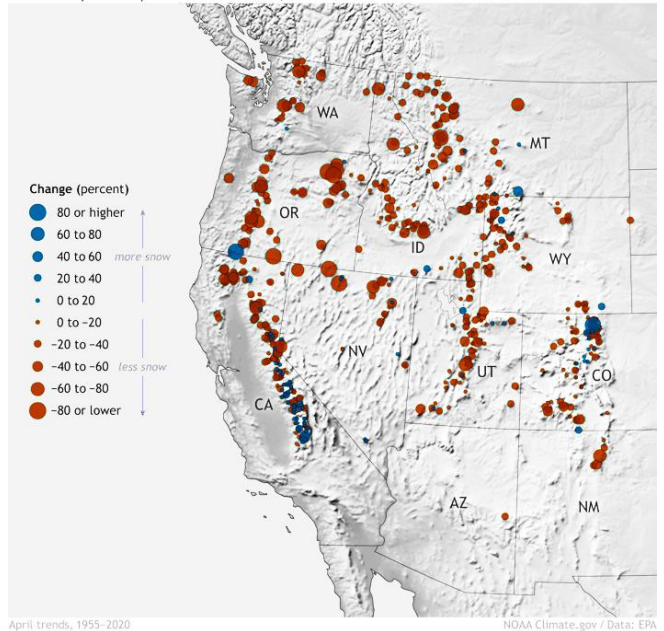
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## Current and Future Climate Change Impacts in the West

- Drought and increasing aridity
- Impacts to food and fiber production
- Wildfire
- Urban Heat Islands and health



Trends in April snowpack in the U.S. West, 1955-2020



Source: US National Climate Assessment, <https://nca2023.globalchange.gov/chapter/28/>

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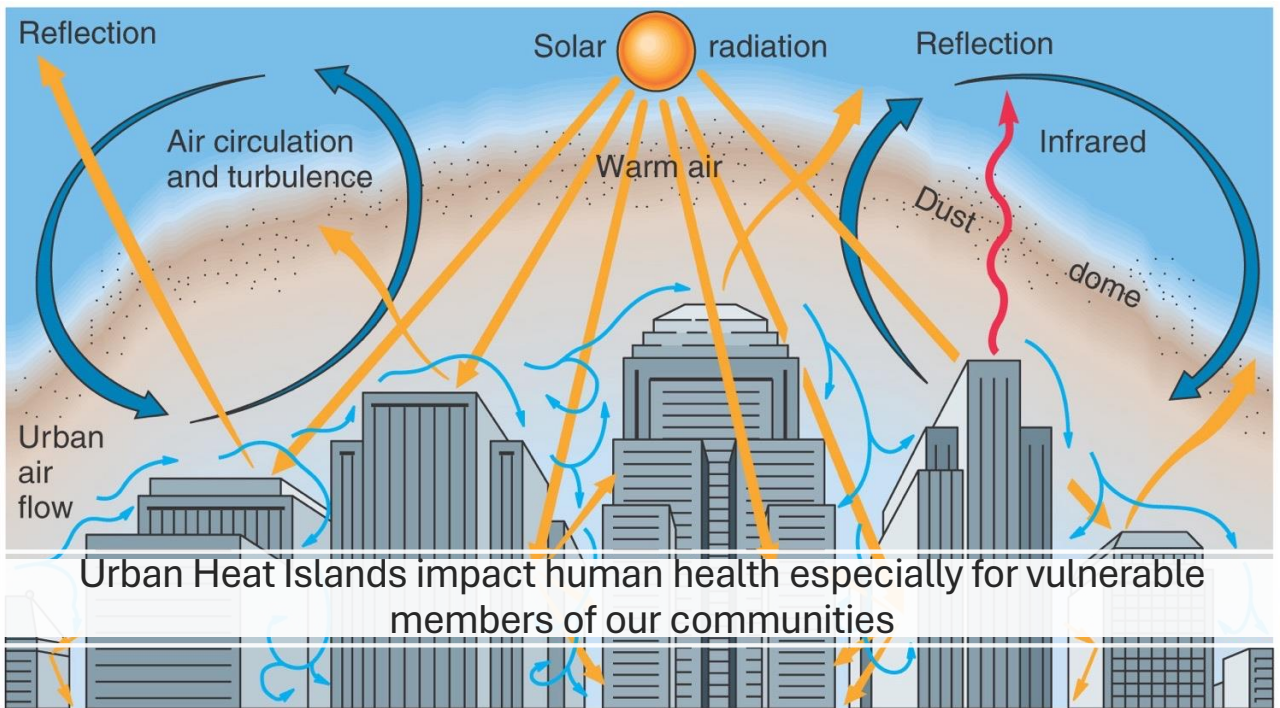


Wildfires destroy homes & infrastructure, cause evacuations and dislocations, Impact water resources, lead to erosion/flooding/landslides



Source: Getty Images

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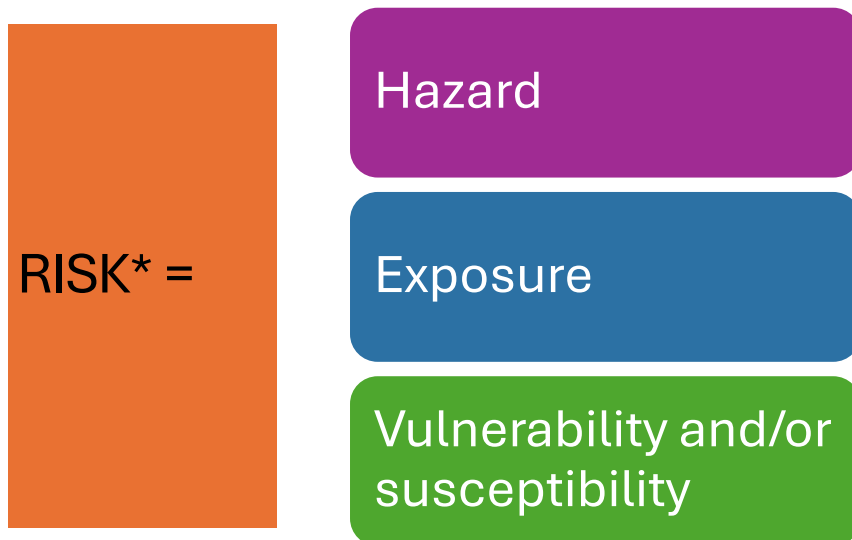
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## Cooling Demand Challenges for Urban and Rural Communities:

- The number of Cooling Demand Days (CDDs) estimate how much cooling is needed to maintain a comfortable indoor air temperature
- CDD daily average outdoor temperature minus 65°F
- Largest increase in CDD since 1970 were in Nevada, Arizona, Utah, Texas, and Florida.
- The observed rise in cooling demand is likely to continue as the planet warms.
- Access to cooling is critical to ensure health and safety in our rapidly warming world.
- Energy needed to meet rising cooling demand can drive up emissions, strain power grids, and worsen urban heat islands

(from <https://www.climatecentral.org/climate-matters/hotter-climate-higher-cooling-demand-2023>)

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This definition is from <https://www.preventionweb.net/understanding-disaster-risk>

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Risk is countered by  
**adaptive  
 capacity**  
 and  
**resilience**

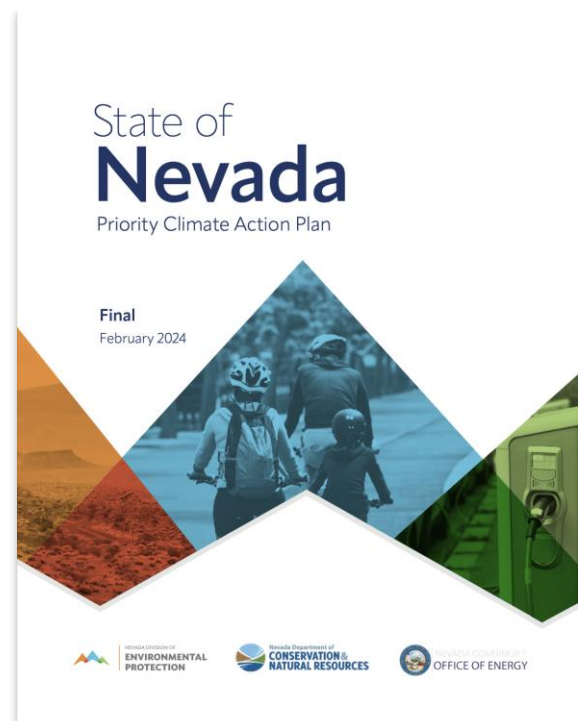
**Adaptive capacity:** “The ability to react in a way that reduces the negative impact or enhances the positive impact of a change or exposure to a hazard.

**Resilience:** The ability to keep functioning despite change.

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## Nevada Priority Climate Action Plan (PCAP)

- NV received a \$3M grant from the US EPA to the NV Division of Environmental Protection (NDEP) to reduce Nevada’s greenhouse gas (GHG) emissions
- The main PCAP objective is “to identify near-term, high-priority, implementation-ready measures to reduce GHG emissions.”
- Following the PCAP, NV shall draft a **Comprehensive Climate Action Plan (CCAP)** with longer-term term goals for reducing GHGs. Due July 2025, with updates, metrics and next steps



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## NV PCAP Six Focus Areas:

Table E2. Summary of GHG emissions reductions by focus area.

Measure	Yearly Reductions by 2025 (MtCO <sub>2</sub> e)	Yearly Reductions by 2030 (MtCO <sub>2</sub> e)	Yearly Reductions by 2050 (MtCO <sub>2</sub> e)
Transportation	24,635	896,591	993,268
Buildings	62,788	602,495	851,576
Energy Systems	1,389,966	5,999,602	5,998,085
Industry	364	256,629	256,629
Waste Reduction	0	607,951	1,591,893
Restore and Sequester	0	29	2,261
<b>Total</b>	<b>1,477,753</b>	<b>8,363,296</b>	<b>9,693,712</b>

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What are some things that states and communities could do/are doing that have to do with climate change?

1. Provide an informed framework for reducing (GHG) emissions across sectors
2. Develop an inclusive plan for local-to-regional climate adaptation and resilience
3. Create a structure for equitable climate action
4. Secure funding, partner with others, seek out tools
  - Inflation Reduction Act (IRA)
  - U.S. Climate Alliance: <https://usclimatealliance.org/>
    - Nevada was a member until 2023 (AZ, CA, NM, CO are still members)
    - Members have collectively secured billions of \$\$ from IRA funding for projects such as solar for low-income communities, reducing GHGs, EV charging, etc.
  - US Climate Resilience Toolkit: <https://toolkit.climate.gov/#steps>

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Thank you  
and  
please ask  
questions



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