U.S. Global Change Research Program

FIFTH NATIONAL CLIMATE ASSESSMENT

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National Climate Assessment Basics

- Evaluates a wide range of scientific and technical inputs from diverse and authoritative sources. Applies best expert judgment to characterize certainty.
- **Relevant for policy and decision-making but does not prescribe specific policy interventions or advocate for a particular viewpoint.**
- **Assesses a range of potential impacts, helping decision-makers better identify risks that could be avoided or reduced**
- Fully compliant with the Global Change Research Act (GCRA) and other applicable laws and policies
- Provides multiple opportunities for public engagement
- Employs an extensive review process

NCA5 Table of Contents

- Overview
- Climate Trends
- Earth System Processes
- Water
- Energy
- Land Cover and Land Use
- Forests
- Ecosystems and Biodiversity
- Coastal Effects
- Oceans and Marine Resources
- Agriculture
- Built Environment
- Transportation
- Air Quality
- Human Health
- Tribes and Indigenous Peoples
- International
- Complex Systems
- Economics
- Social Systems and Justice
- Northeast
- Southeast
- U.S. Caribbean
- Midwest
- Northern Great Plains
- Southern Great Plains
- Northwest
- Southwest
- Alaska
- Hawai'i and U.S.-Affiliated Pacific Islands
- Adaptation
- Mitigation

Focus on…

- Compound Extreme Events
- Western Wildfires
- COVID-19
- Supply Chains
- Blue Carbon

Appendices

- Process
- IQA
- Data Tools
- Indicators

✱ New chapters or features highlighted in blue

Key Takeaways from NCA5

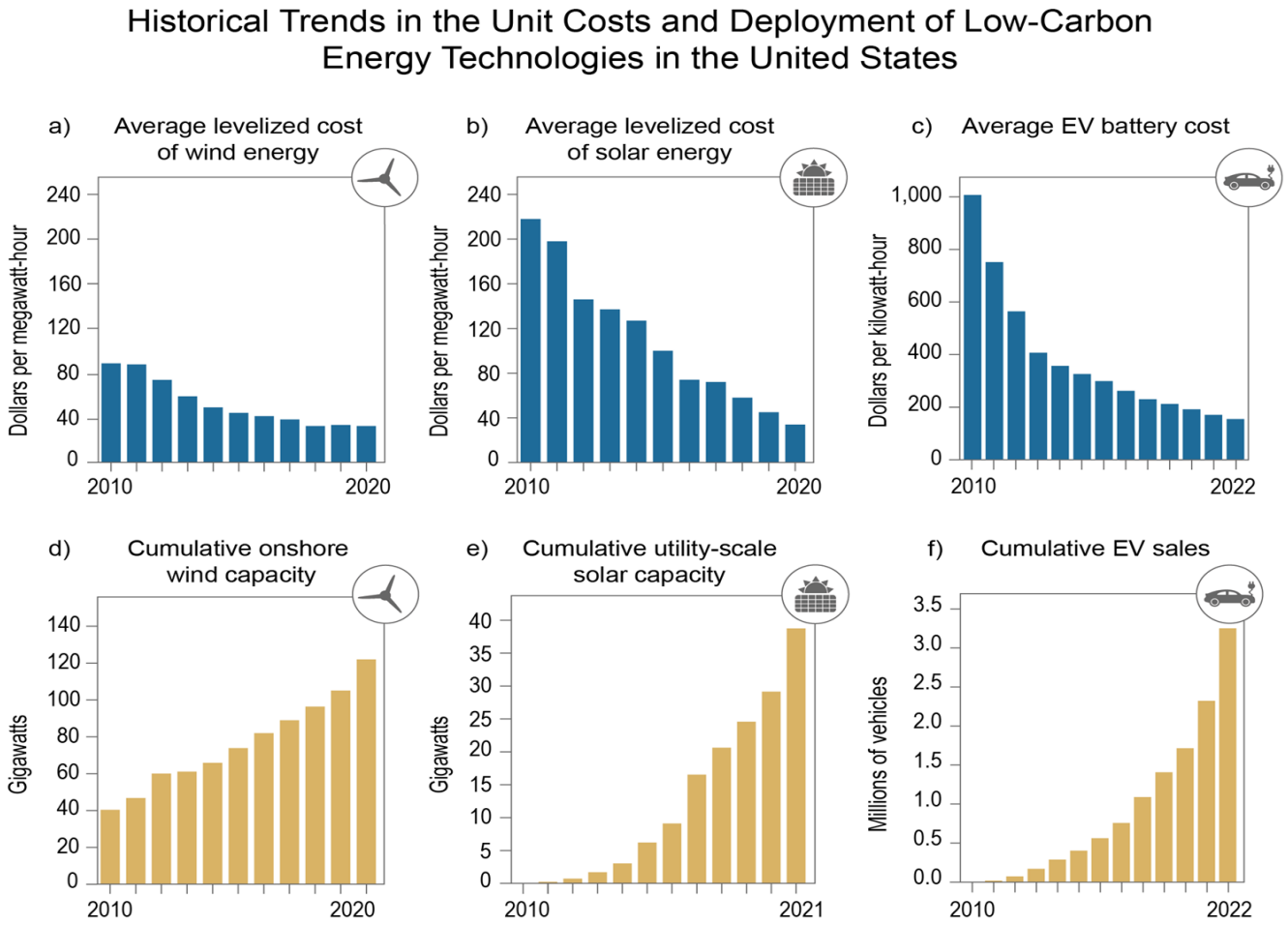
1. The United States is taking action on climate change
2. People in the United States are experiencing increased risks from extreme events
3. Climate change exacerbates social inequities
4. Available mitigation strategies can deliver substantial emissions reductions, but additional options are needed to reach net zero
5. Climate action is an opportunity to create a more resilient and just nation

KEY TAKEAWAY 1

The United States is Taking Action on Climate Change

Recent growth in renewable capacities is supported by rapidly falling costs of zero- and low-carbon energy technologies, which can support even deeper emissions reductions

Recent legislation is expected to increase deployment of low- and zero-carbon technology



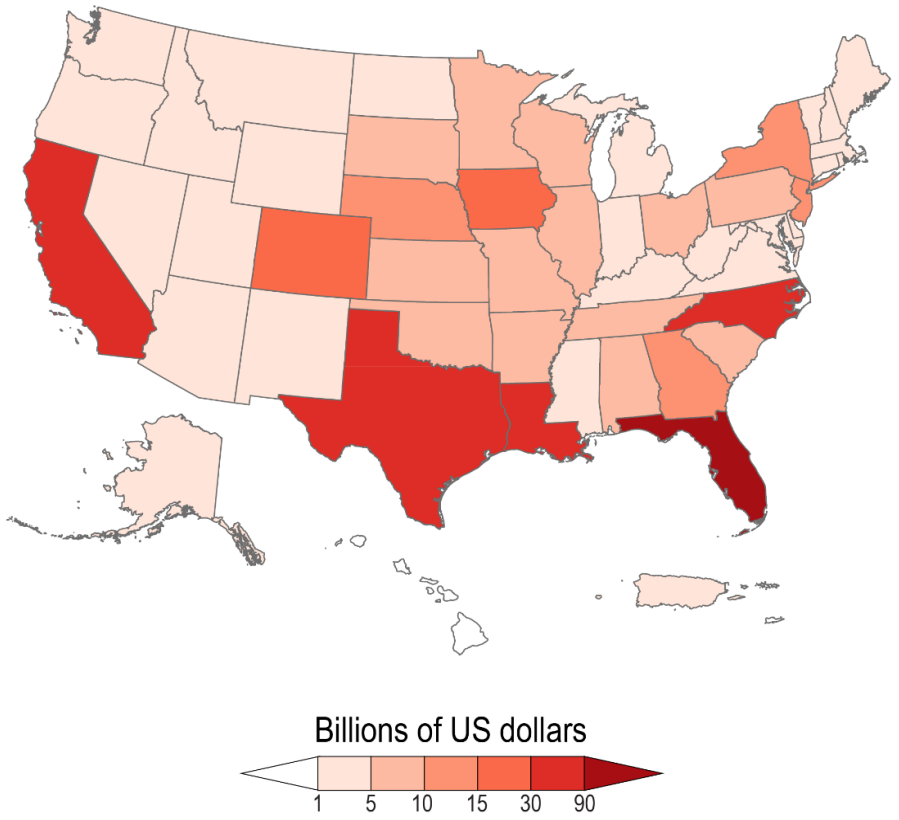
KEY TAKEAWAY 2

People in the U.S. Are Experiencing Increased Risks from Extreme Events

In the 1980s, the United States experienced one (inflation-adjusted) billion-dollar disaster every four months, on average; now, there is one every three weeks

Each additional increment of global warming is expected to lead to more damage and greater economic losses; at the same time, each avoided increment of warming will reduce risks and harmful impacts

Damages by State from Billion-Dollar Disasters in the United States (2018–2022)

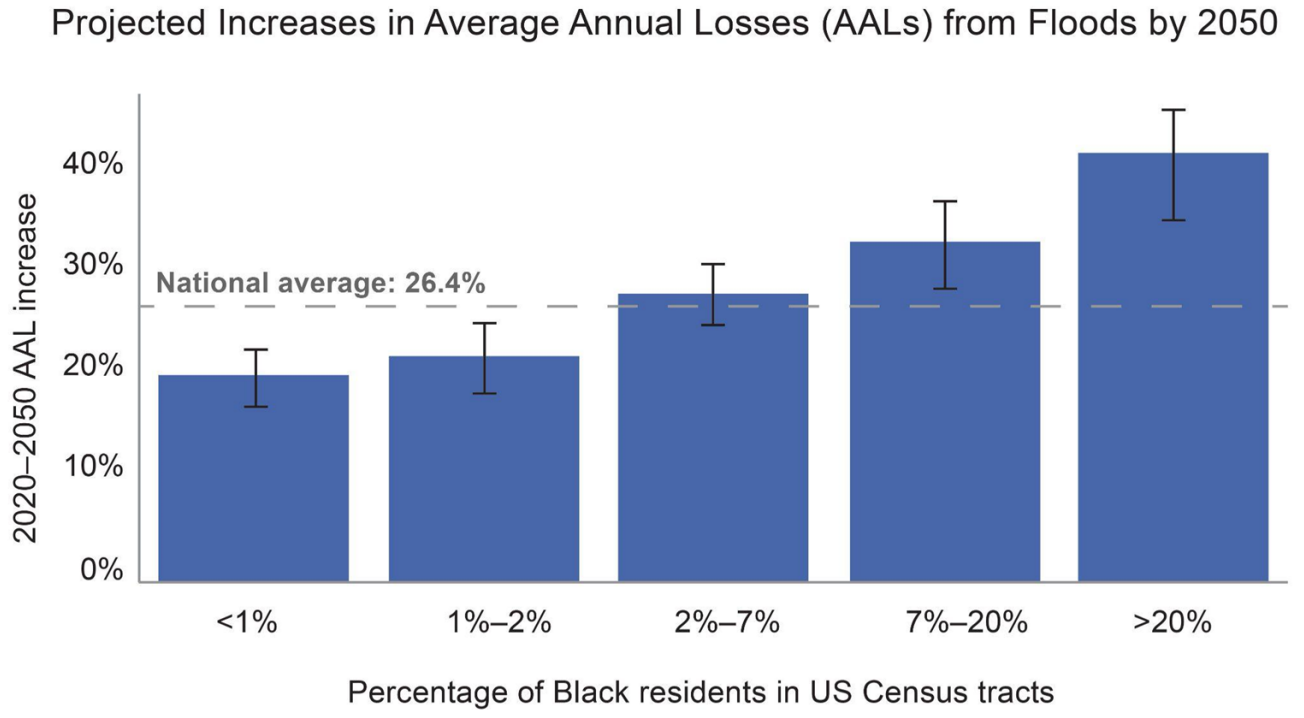


KEY TAKEAWAY 3

Climate Change Exacerbates Social Inequities

Neighborhoods that are home to racial minorities and low-income residents have the highest inland (riverine) flood exposures in the South

Black communities nationwide are expected to experience a disproportionate share of future flood damages



KEY TAKEAWAY 4

Additional Mitigation and Adaptation Strategies are Needed to Power Our Transition

Limiting global warming to 1.5°C (2.7°F) above preindustrial levels requires a path to net-zero GHG emissions in the US by 2050

In many cases, transformative adaptation will be necessary to adequately address the risks of current and future climate change

Table 1.3. Incremental Versus Transformative Adaptation Approaches

	Examples of incremental adaptation	Examples of transformative adaptation
	Using air-conditioning during heatwaves	Redesigning cities and buildings to address heat
	Reducing water consumption during droughts	Shifting water-intensive industry to match projected rainfall patterns
	Elevating homes above flood waters	Directing new housing development to less flood-prone areas

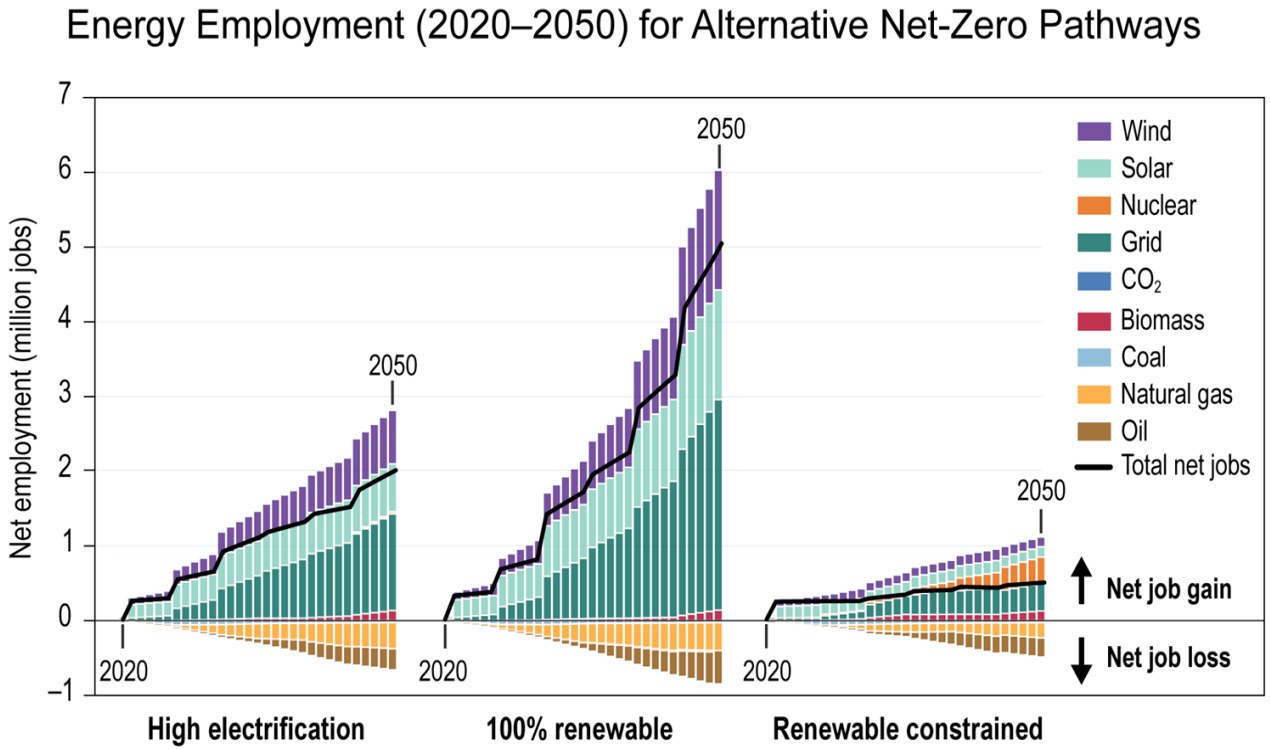
KEY TAKEAWAY 5

Climate Action is an Opportunity to Create a More Resilient and Just Nation

Actions taken now to accelerate net emissions reductions and adapt to ongoing changes can reduce risks to current and future generations

A “just transition” ensures equitable access to:

- jobs;
- affordable, low-carbon energy;
- environmental benefits such as reduced air pollution; and
- quality of life for all



Creative Communication

Improved accessibility and functionality
(e.g., alternate text for all figures, Spanish translation)

Inclusion of artworks from NCA's first-ever call for visual art and the poem "Startlement," written for the Assessment by the 24th US Poet Laureate Ada Limón

Six podcast episodes featuring interviews with authors

Recorded "audiobook" of the Overview chapter

TAMMY WEST
KEEP IT TOGETHER
(*2021, site-specific installation*)

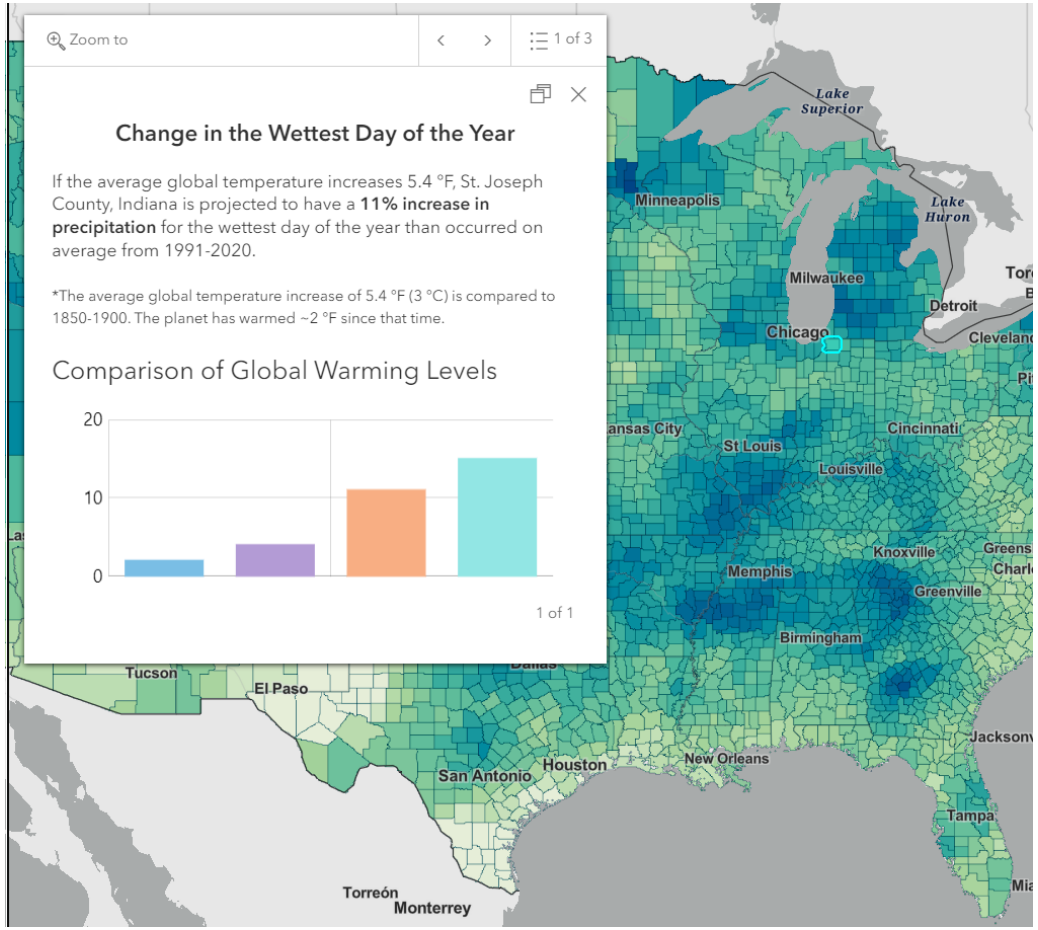
NCA Atlas (atlas.globalchange.gov)

A digital data viewer developed as an extension of the NCA5 text and figures

Atlas variables were produced with the same methodology as downscaled data in NCA5

Interactive features allow users to generate and download their own regional and local maps

Users can select from a range of global warming levels and impact-relevant climate variables (e.g., “days over 95°F”)



NCA5 Resources

NCA5 website: nca2023.globalchange.gov

- Downloadable and shareable figures
- Downloadable slides for each chapter
- 2-3 page chapter summaries
- Art x Climate gallery
- Ada Limón's poem, "Startlement"
- NCA5 Glossary

USGCRP website: globalchange.gov

- Six podcast episodes
- Audiobook recording of NCA5 Overview
- List of webinar series dates, times, and links

NCA5 Atlas: atlas.globalchange.gov

Interactive online tool that allows users to explore different scenarios and climate variables to highlight local climate projections

U.S. Global Change Research Program

Thank you

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nca2023.globalchange.gov