



VIRTUAL NATIONAL SUMMIT
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Climate and Environmental Change

A changing global climate has direct impacts at the local and community levels—especially for low-income, rural, and tribal populations, as well as populations of color.^{1,2} The present and growing threats of climate and environmental change demand equitable, inclusive, and restorative approaches to creating resilient communities while conserving our natural world.

2020 has underscored the acute dangers of climate and environmental change. The rapid intensification of Hurricane Laura from a tropical storm to a major hurricane in less than 24 hours is a hallmark of a warming climate.³ Record-shattering wildfires across the West Coast are a predictable outcome of shorter rainy seasons and more extreme dry seasons.⁴ In addition, deforestation and habitat destruction is increasing the risk of global pandemics like COVID-19.⁵

Yet, at the frontiers of science, technology, learning, and community engagement, there are many reasons for hope. Innovators around the world are figuring out how to remove carbon dioxide from the atmosphere.⁶ Drones, artificial intelligence, and advanced mapping are being deployed to accelerate global reforestation.⁷ More than half of America's largest cities have clear climate action plans,⁸ and more Americans than ever before agree that protecting the environment and dealing with global climate change should be top priorities for government.⁹

There is also a growing call for the strong action we need to combat environmental racism and recognize the fundamental right of all people to live in a safe, clean, healthy, and sustainable environment.¹⁰ Much of this critical work is being done at the local level. Indeed, research has shown that bottom-up, community-level initiatives are the best ways to address many environmental injustices.¹¹

And finally, youth-led movements across the nation and around the world are emphasizing the urgency of climate action. From organizations like [Zero Hour](#) and the [Sunrise Movement](#) to countless youth

¹ Dasgupta, P.; et al. (2014). Rural areas. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B.; et al. (eds)]. Cambridge University Press, Cambridge, United Kingdom and New York, USA.

² USGCRP (2018). *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R.; et al. (eds)]. U.S. Global Change Research Program, Washington, DC.

³ Mooney, C.; Freedman, A. (2020). [Hurricane Laura's rapid intensification is a sign of a warming climate, scientists say](#). *The Washington Post*, August 30.

⁴ Borunda, A. [The science connecting wildfires to climate change](#). *National Geographic*, September 17.

⁵ Tollefson, J. (2020). [Why deforestation and extinctions make pandemics more likely](#). *Nature*, August 7.

⁶ Lebling, K.; Rudee, A.; Levin, K. (2020). [2020 Could Be the Year Carbon Removal Takes Off](#). World Resource Institute, January 15.

⁷ Prosser, M. (2019). [How Tech Can Help Curb Emissions by Planting 500 Billion New Trees](#). SingularityHub, July 16.

⁸ Ballotpedia (2019). [Climate action plans in the 50 largest cities](#).

⁹ Funk, C.; Kennedy, B. (2020). [How Americans see climate change and the environment in 7 charts](#). Pew Research Center, April 21.

¹⁰ United Nations. (2018). [Statement by David R. Boyd, Special Rapporteur on human rights and the environment at the 73rd session of the General Assembly](#). Office of the High Commissioner for Human Rights.

¹¹ University of Pittsburgh (2019). [New study details outcomes from long-term environmental justice partnership in East End](#). Phys.org, May 29.

climate strikes,¹² students from elementary school through college are providing the leadership—and electoral pressure—on climate and environmental issues necessary to move from intent to action.

Track Themes

The Climate and Environmental Change track of the ASTC *New Frontiers* Summit will focus on what we—as individuals and institutions—can do *right now* to address climate and environmental change. During the sessions in this track, we will:

1. Share examples of innovative, market-ready solutions to our most pressing environmental challenges;
2. Explore insights from behavioral science and psychology fields that can support more effective approaches to climate and environmental issues;
3. Discuss how to build the trust and respect needed to sustain equitable, inclusive partnerships for the long term; and
4. Consider how community-based action can drive progress on climate mitigation, adaptation, and resilience.

Spotlight: Growing a community solar garden in Denver, CO

Transitioning to renewables like solar is one of the best strategies we have for addressing climate change. But almost half of households cannot access solar because they live in rented or multi-tenant buildings. Other households have shaded roofs or lack the capital to invest in solar panels.

One way to address these problems is by building **community solar gardens (CSGs)**. CSGs are small arrays of solar panels constructed near communities with limited solar capacity. Members of those communities can purchase shares of the arrays, receiving the same electricity credits that they would for rooftop solar.



Most CSGs are owned by project developers. While developer-owned CSGs can improve solar access, they can also come with barriers such as credit-score checks that exclude participation from low-income customers who could benefit most from clean, reliable, and affordable electricity.

The Denver Housing Authority (DHA) is one exception. The DHA is a quasi-municipal corporation that provides affordable housing to the city of Denver, CO. Because of contractual and physical constraints, more than 75% of the 4,000 DHA-managed homes are not viable candidates for rooftop solar. In 2016, DHA launched the [Clean Affordable Renewable Energy \(CARE\) Project](#): an effort to expand solar access among DHA residents through a community solar garden.

Through a partnership with the engineering firm [Namasté Solar](#), the test facility [SolarTAC](#), and the nonprofit [GRID Alternatives](#); financial support from a Department of Energy [grant](#); and construction assistance from more than 100 community volunteers, the effort succeeded. DHA's community solar garden expanded solar access to an additional 500 homes serving 100% low-income residents. The garden provides an average 20% energy savings to subscribers, has offset more than 50,000 tons of CO₂ emissions, and continues to provide hands-on training, certification, and employment opportunities for DHA residents. Overall, the project—the nation's first CSG developed, owned, and operated by a housing authority—is an inspiring example of the power people have to bring (electric) power to all people.

Further Reading

- [Environmentalism Was Once a Social-Justice Movement: It Can Be Again](#), Britton-Purdy, J. (2016). *The Atlantic*, December 7.
- [This book ranks the top 100 solutions to climate change. The results are surprising](#), Roberts, D. (2019). *Vox*, April 22.
- [Stop making sense: why it's time to get emotional about climate change](#), Huntley, R. (2020). *The Guardian*, July 4.

Additional Resources

- The [U.S. Global Change Research Program \(USGCRP\)](#) is the leading federal source of scientific information on climate and environmental change.
- The [Project Drawdown](#) website compiles 100 of the most promising solutions to climate change in one place.
- The [resource library](#) from the [RARE Center for Behavior & the Environment](#) collects compelling, evidence-driven insights to support more effective action on climate and environmental issues.
- [Yale Climate Connections](#), an initiative of the [Yale Program on Climate Communication](#), has an invaluable collection of audio, visual, and written resources on climate and environmental change. These include explainers of key topics, personal stories about climate impacts, commentaries on current events, and more.
- The [Mothers of Invention](#) podcast tells stories of women driving climate solutions.
- [Think 100%](#) is completely reinventing approaches to climate messaging, engagement, and activism.

Glossary of Terms

1. **Environmental justice** embodies the principle that communities and populations should not be disproportionately exposed to adverse environmental impacts. It is often defined formally as, “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”¹³
2. **Environmental racism** is the disproportionate impact of environmental hazards on people of color. Environmental justice can be viewed as a response to environmental racism.
3. **Environmental change** refers to changes (often human-induced or human-accelerated) in land productivity, oceans, water resources, atmospheric chemistry, ecological systems, and other components of the natural world that may alter the capacity of the Earth to sustain life.

¹³ U.S. Environmental Protection Agency (n.d.). Environmental Justice. Available at <https://www.epa.gov/environmentaljustice>.

4. **Climate change** is a long-term change in the average weather patterns that have come to define Earth's local, regional, and global climates. Climate change and environmental change intersect in many ways. For instance, increasing average temperatures can dry out landscapes, altering local ecology. On the other hand, deforestation can release greenhouse gases that accelerate climate change.

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