

CANYONLANDS RESEARCH CENTER AT DUGOUT RANCH

Strategic Plan 2021-2026



The Nature Conservancy's (TNC) Dugout Ranch and Canyonlands Research Center are driving the science of climate change forward and developing critical tools for dryland resiliency and sustainable rangeland management.

In the face of a warming planet—and an even more rapidly warming American West—how do we restore and protect drylands before it's too late? And how do we ensure the long-term sustainability of the communities which rely on them? The Nature Conservancy's Canyonlands Research Center (CRC) is a well-recognized science collaborative poised to answer these questions and deliver new solutions for use on the Colorado Plateau and around the world.

Based at TNC's Dugout Ranch in southeast Utah, the CRC is a collaboration of academic institutions, land managers, and state and federal research agencies working together to bring the best available science and different knowledge systems to land management decisions.

A Bold New Direction

Since its formation by TNC and partners in 2010, the CRC has built a valuable platform for climate science, dryland ecology and regional conservation solutions. As climate pressures intensify, the CRC is prepared to expand its impact. In the next five years, the CRC will become a catalyst for systemic change in the way we manage and use drylands. We will demonstrate that conservation actions and well-managed grazing can deliver landscape, economic and social resiliency at a broad scale.





Drylands. Time Running Out.

Lands that Matter. People Who Matter.

Thirty-four percent of people on Earth live in dryland regions. These areas support 44 percent of the world's cultivated systems and 50 percent of the world's livestock. Yet drylands are home to the poorest and most marginalized people in the world.

Located on every continent, drylands include grasslands, savannahs, shrublands and woodlands. They store one third of the world's soil carbon. Drylands also support a great variety of biodiversity, with unique plants and animals adapted to aridity.

In the United States, drylands make up some of our most iconic landscapes, including the Colorado Plateau, which stretches across Utah, Colorado, Arizona and New Mexico, and boasts dozens of national parks and monuments. Home to a range of Tribal Nations and many farmers and ranchers, the Colorado Plateau supports a diverse heritage of people connecting to and living off the land.

Bearing the Brunt of Climate Change

Over the past century, surface warming over global drylands has been 20 to 40 percent higher than over humid lands. These areas are extremely sensitive to degradation.

Higher temperatures and prolonged droughts are reducing soil moisture and causing a decrease in plant cover and soil stability on lands that are already compromised by activities such as over-grazing or heavy recreation.

Experts estimate that 25 to 35 percent of Earth's drylands are already degraded, with over 250 million people directly affected and about one billion people in over 100 countries at risk. On the Colorado Plateau, rising temperatures are disrupting ecosystems, threatening water sources and triggering the loss of perennial forage grasses that are the foundation of livestock production.

It is no longer adequate to say that the Colorado Plateau is experiencing a long-term drought — rather, it is undergoing the process of permanent aridification due to climate change.

Brad Udall
Director, Colorado Water Center

Our Way Forward

The next five years will be pivotal for the health of drylands and the communities they support. With a new strategic direction, the CRC can improve the resiliency of dryland ecosystems and the well-being of the ranching families and Indigenous communities who care for them. The CRC will redefine its research agenda and invest in science initiatives that address the most pressing threats to biodiversity and the biggest challenges facing dryland managers and agricultural producers in this era of climate change.

The Next 5 Years: CRC Strategies

1 Catalyze, drive and invest in collaborative research

We will solicit and support research that solves the most pressing ecological, social and economic crises facing dryland communities, including ecosystem vulnerability to climate change, wind erosion, restoring soil and grassland health, optimizing water use and promoting sustainable agriculture.

2 Execute effective conservation actions and demonstrate workable solutions

At the CRC, we will use the Dugout Ranch to demonstrate that sustainable land management also makes good business sense. We will test real-world solutions that can be applied at scale, and that can incentivize lasting change in the ranching industry. We will harness advances in technology and restoration practices to reduce impacts while also reversing land degradation.

3 Amplify our conservation impact and inspire conservation leadership

We will expand the impact of the CRC's conservation science through outreach, education, collaboration, policy and demonstration. The CRC will build on its large network of public and private partnerships to engage with university students, Indigenous communities, land managers and owners and policy makers in the U.S. Southwest and in dryland regions worldwide.

Unique Capabilities for Science & Solutions

The Dugout Ranch, acquired by TNC in 1997, lies adjacent to Canyonlands National Park, and is the largest private inholding in the Bears Ears National Monument. Since 2009, this historic ranch, which spans 5,207 private acres, with an additional 350,000 acres of adjacent public grazing allotments, has served as the base for the CRC.

With powerful partnerships and a well-staffed research facility, the CRC attracts some of the world's leading scientists in climate change, biological soil crust, rangeland management, dryland vegetation ecology and soil erosion.



Action in a Time of Urgency

The communities which depend on Earth’s drylands need our help. Impacts from climate change are already threatening lives and livelihoods. To sustain them—and to sustain the lands they rely on—we need rapid and strategic adaptations in land use, land management and restoration. At the CRC and the Dugout Ranch, in the heart of America’s “Canyonlands,” we have a chance to generate answers and demonstrate practices that will make a lasting difference for the future of our planet.

Partners & Collaborators

Collaboration and strategic partnerships have been fundamental to the success of the CRC and will define its future success. Founding partners are featured below.



Learn more at: Canyonlandsresearchcenter.org and nature.org/canyonlands

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