Midwest Trustee Summit

Climate, Nature, and Our Future

Understand Our Rapidly Changing World

Nichole Barger, Executive Vice President for Science

October 8, 2026



© Sarah Alvarez/TNC Photo Contest 2019 | Oregon

My Story




U.S.
MARINE
VETERAN
The Kankakee Sands Project
Restoring our natural heritage

The choices we make today
shape our future

The Nature Conservancy















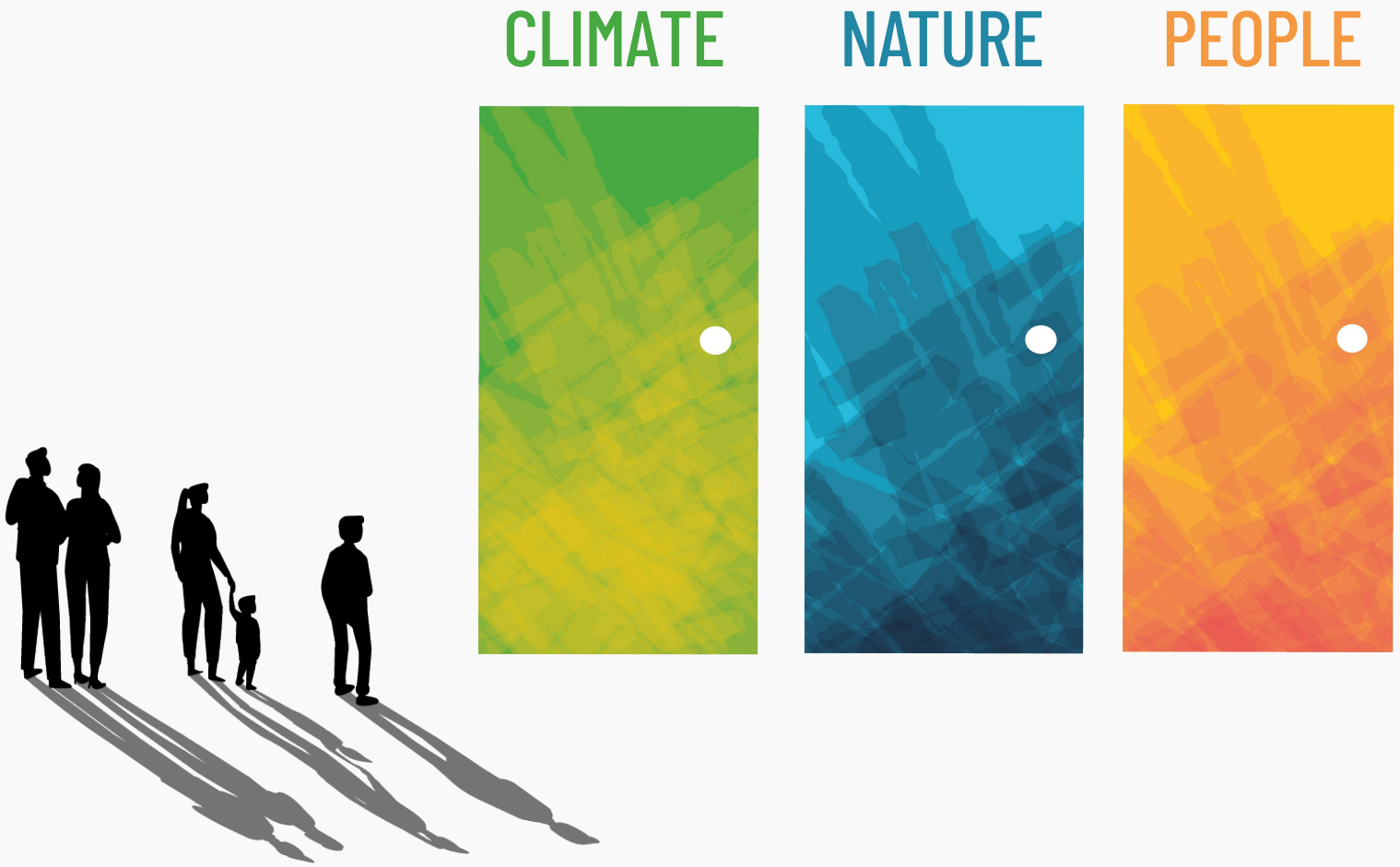






OUR GUIDING STAR: 2030 AND BEYOND

Exploring Possible Futures



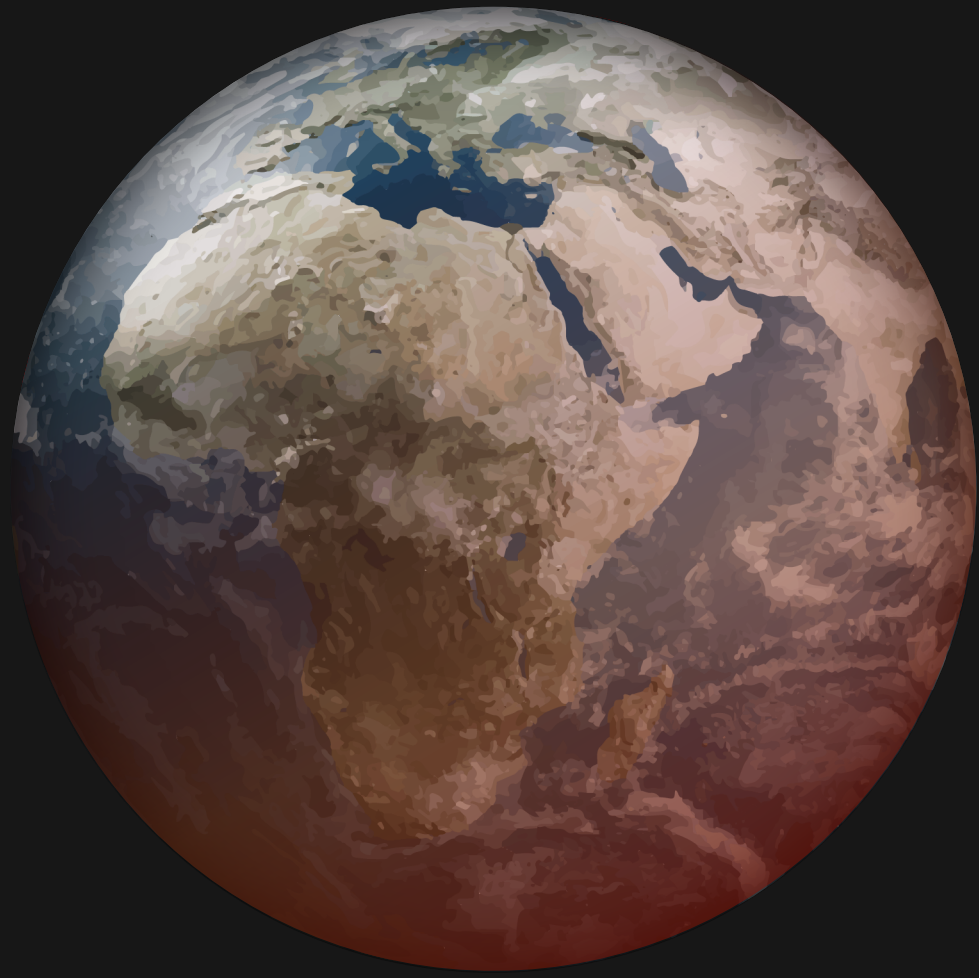
Climate Futures



Colorado River
© Joe Turk/Adobe Stock

The Nature Conservancy

We are conducting an UNPRECEDENTED experiment with the only home we have.



The Nature Conservancy

When the road is straight, our past is a reliable guide to our future.



Road to Monument Valley, Utah
© Frederic Prochasson

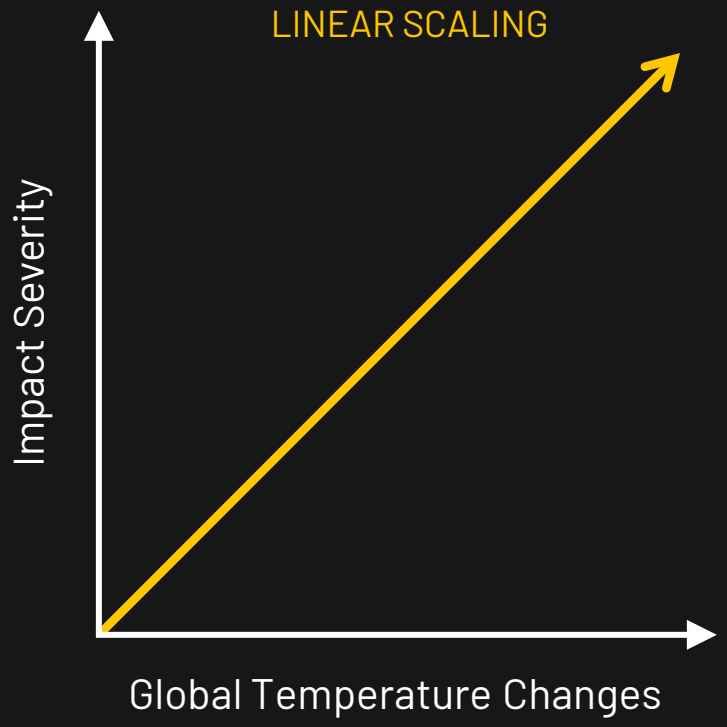


Winding Road

© Kaz Mulka

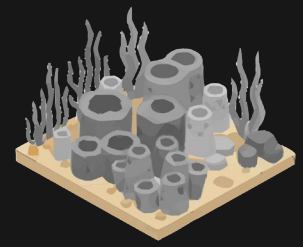
CLIMATE FUTURES

Some impacts *will scale steadily*



Average temperatures





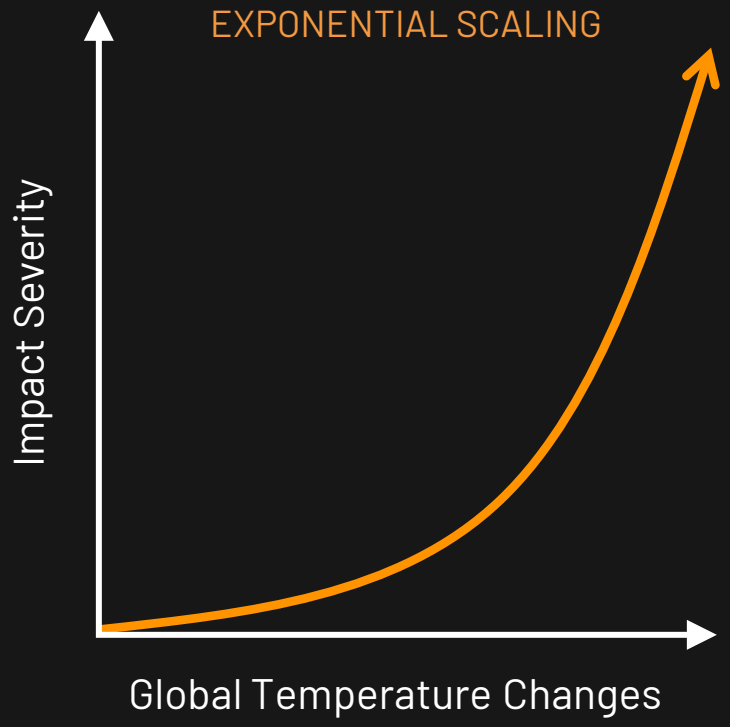
Ocean acidification

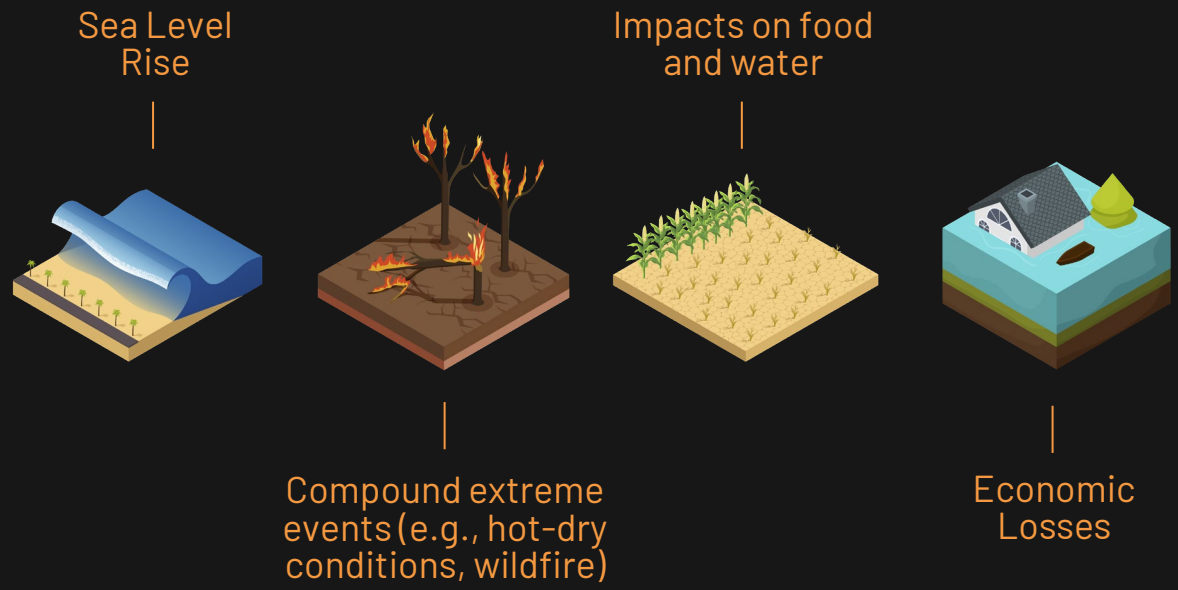
Species thermal ranges



CLIMATE FUTURES

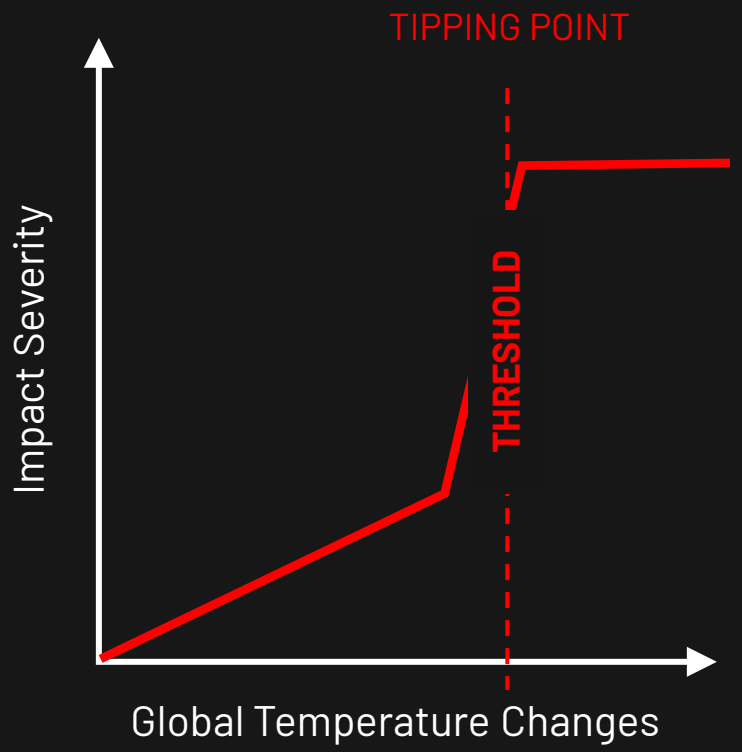
Other changes *are accelerating, too*

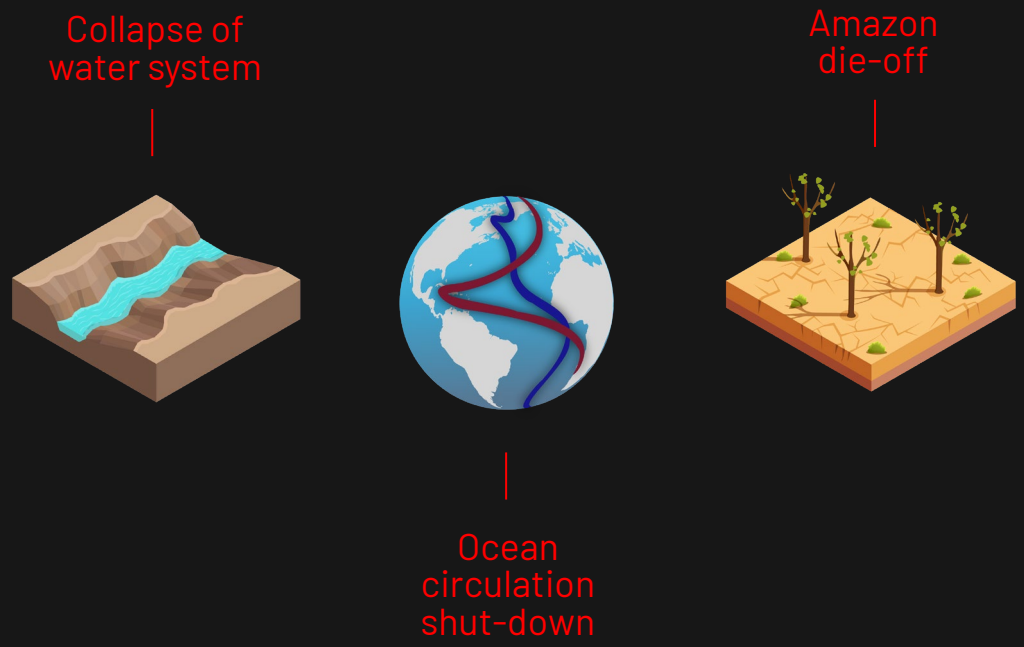




CLIMATE FUTURES

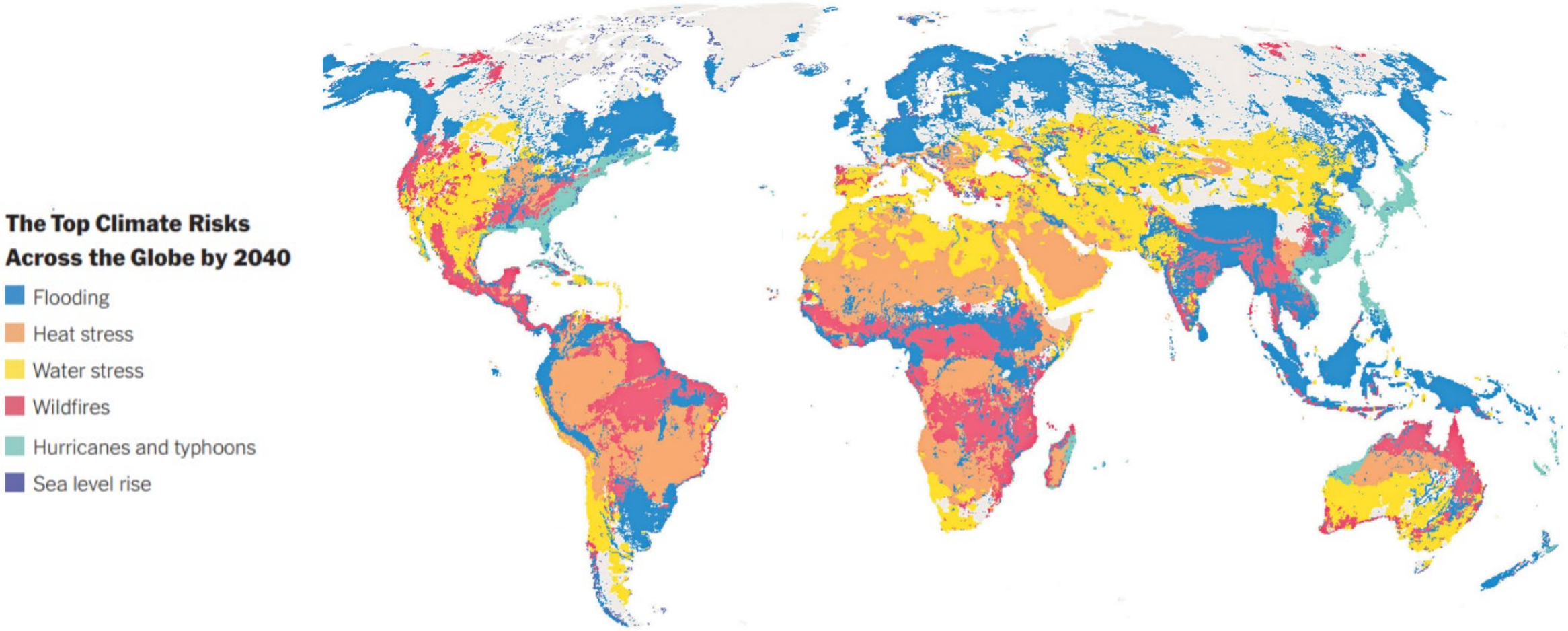
And then there's the *nonlinear tipping points*





CLIMATE FUTURES

Every country has its own risks



SOURCE: Four Twenty Seven and The New York Times

CLIMATE FUTURES

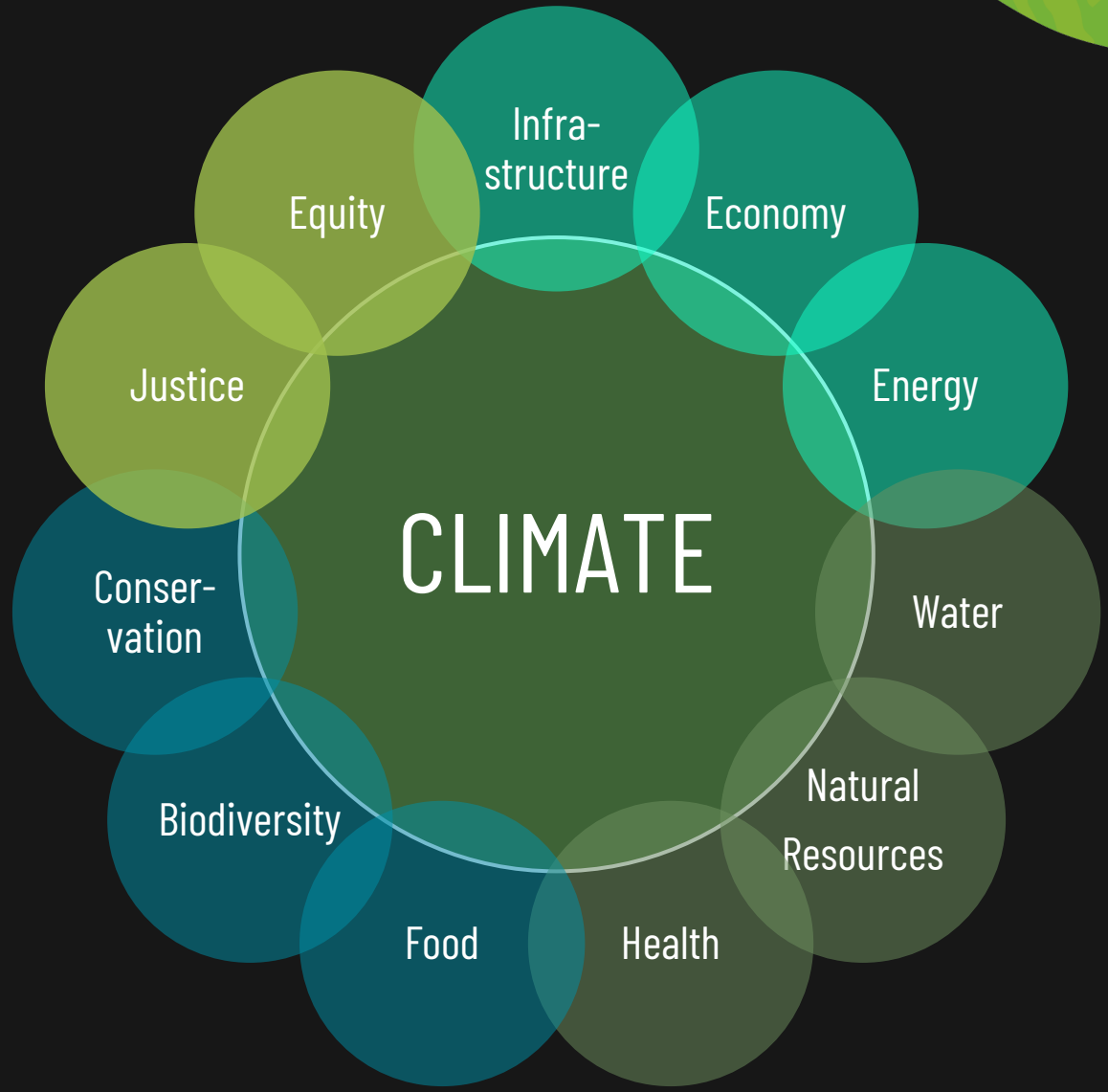
Midwest Climate Risks Meet Our Work

WHAT THE CLIMATE ASSESSMENT PROJECTS	HOW TNC IN THE MIDWEST IS RESPONDING
GREAT LAKES More runoff, rising lake temperatures, harmful algal blooms, and spread of invasive species	Restoring coasts, protecting native fisheries, and fighting invasive species
GREAT RIVERS More floods, droughts, and runoff across the Mississippi River Basin	Restoring rivers and floodplains including the Mississippi, Illinois, and rivers to reduce flooding and protect clean water
AGRICULTURAL LANDS Extreme rain and wet–dry swings mean increased runoff and soil loss and poorer water quality	Scaling regenerative agriculture with farmers to build soil health and reduce runoff
FORESTS AND PRAIRIES Rising temperatures (air and water), altered fire regimes, changing precipitation patterns (snow and rain) and less snow and ice are reshaping our natural lands and waters	Protecting the 60-million-acre Northwoods and re-connecting prairies, wetlands, and forests
CLEAN ENERGY Heat, extreme rain and increased storms are expected to strain the electrical grid	Tripling renewable energy, with at least 90% sited to conserve nature and benefit communities

SOURCE: NCA5 Ch. 24: Midwest (2023), https://doi.org/10.7930/NCA5.2023.CH24 | TNC Midwest Goals and Priorities, nature.org/en-us/about-us/where-we-work/priority-landscapes/midwest

CLIMATE FUTURES

These risks affect every aspect of our society and life on this planet.





Nature

The State and Future of Life on Earth

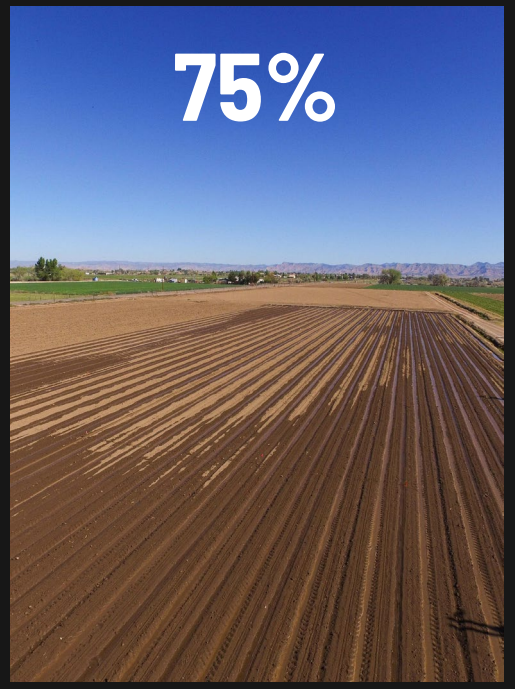
Marathon Grasslands Preserve, Texas
© Jerod Foster

NATURE FUTURES

How Humans are Reshaping Nature

Ecosystems that have been modified:

75%



Ploughed field
© Mykola Mazuryk

Species threatened with extinction:

1 Million



Greater Sage-Grouse, Utah
© TNC

Species in decline:

48%



Black rhino, Kenya
© Ami Vitale

Tree species facing extinction:

1 in 3

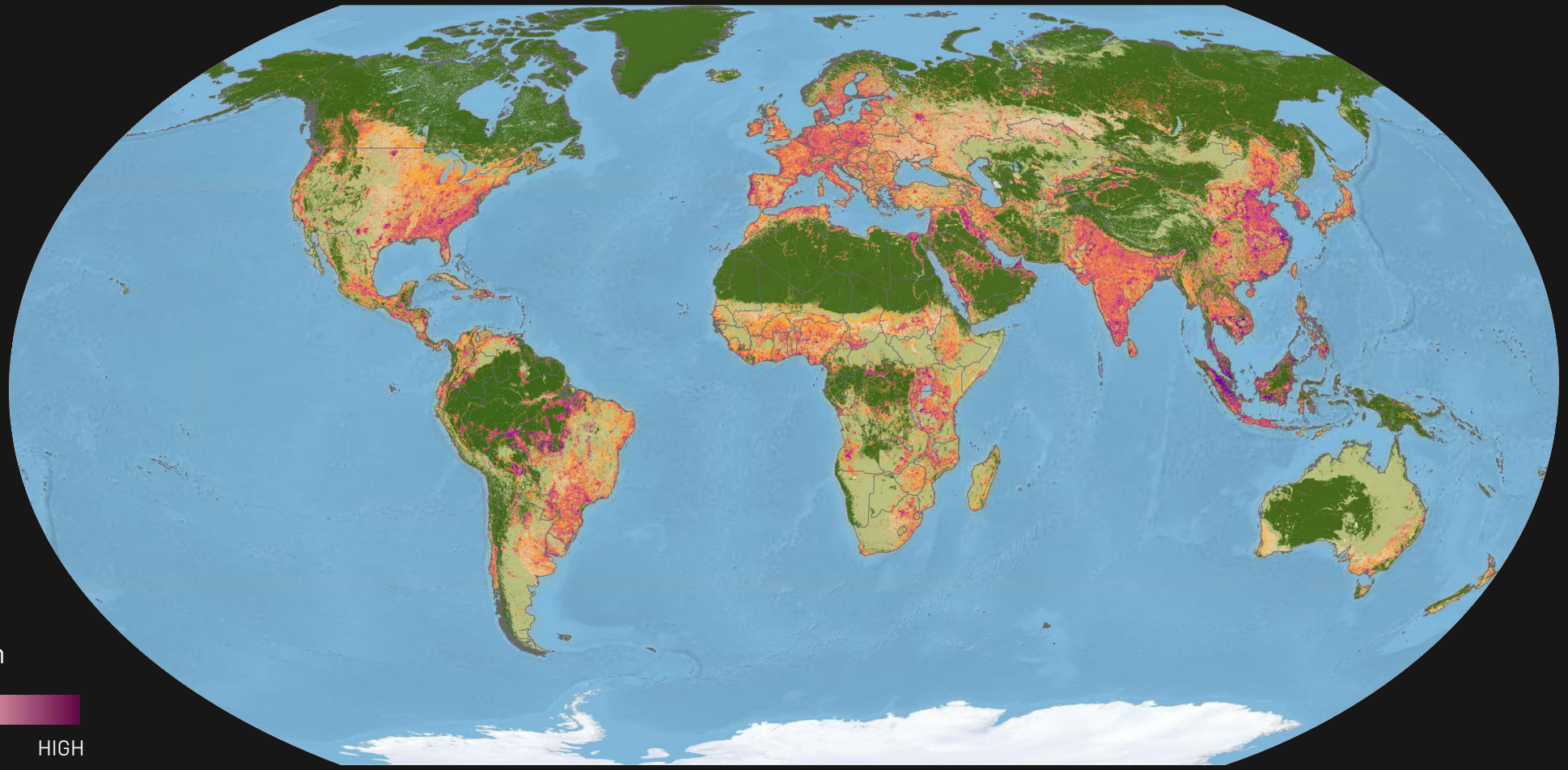


Old-growth white spruce, white cedar, sugar maple and yellow birch trees, MN
© Derek Montgomery

NATURE FUTURES

We are reshaping our planet

- 1990
- 2020
- 2040



Levels of Modification

LOW HIGH

NATURE FUTURES

Drivers of Declining Nature

Demographic and Sociocultural

Economic and Technological

Institutions and Governance

Conflicts

Climate Change

Land/Sea Use Change

Direct Exploitation

Pollution

Invasive Alien Species

Other



Land



Freshwater

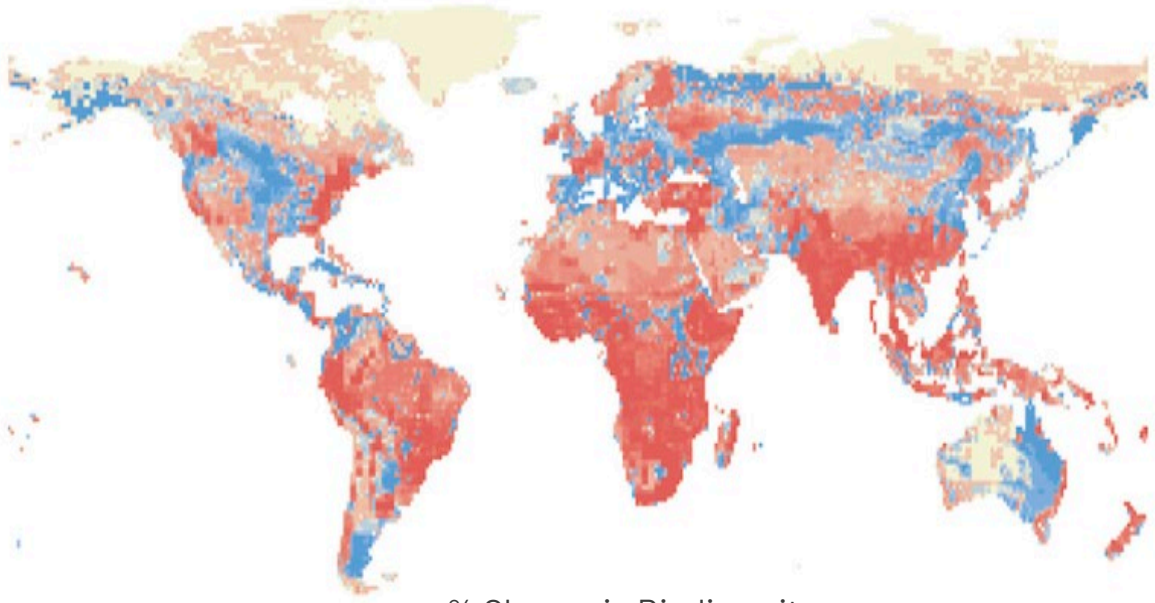


Oceans

NATURE FUTURES

Climate is a threat multiplier

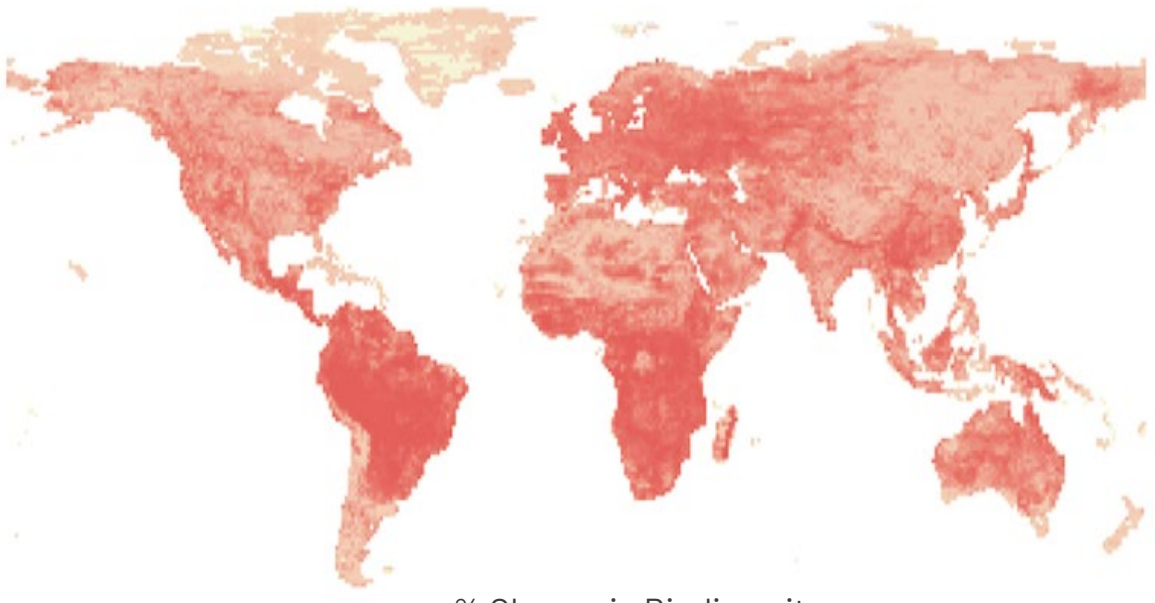
Land Use Change Alone



% Change in Biodiversity

-1.02 -0.33 -0.13 -0.03 -0.01 0 0.01 1.08

Land Use + Climate Change



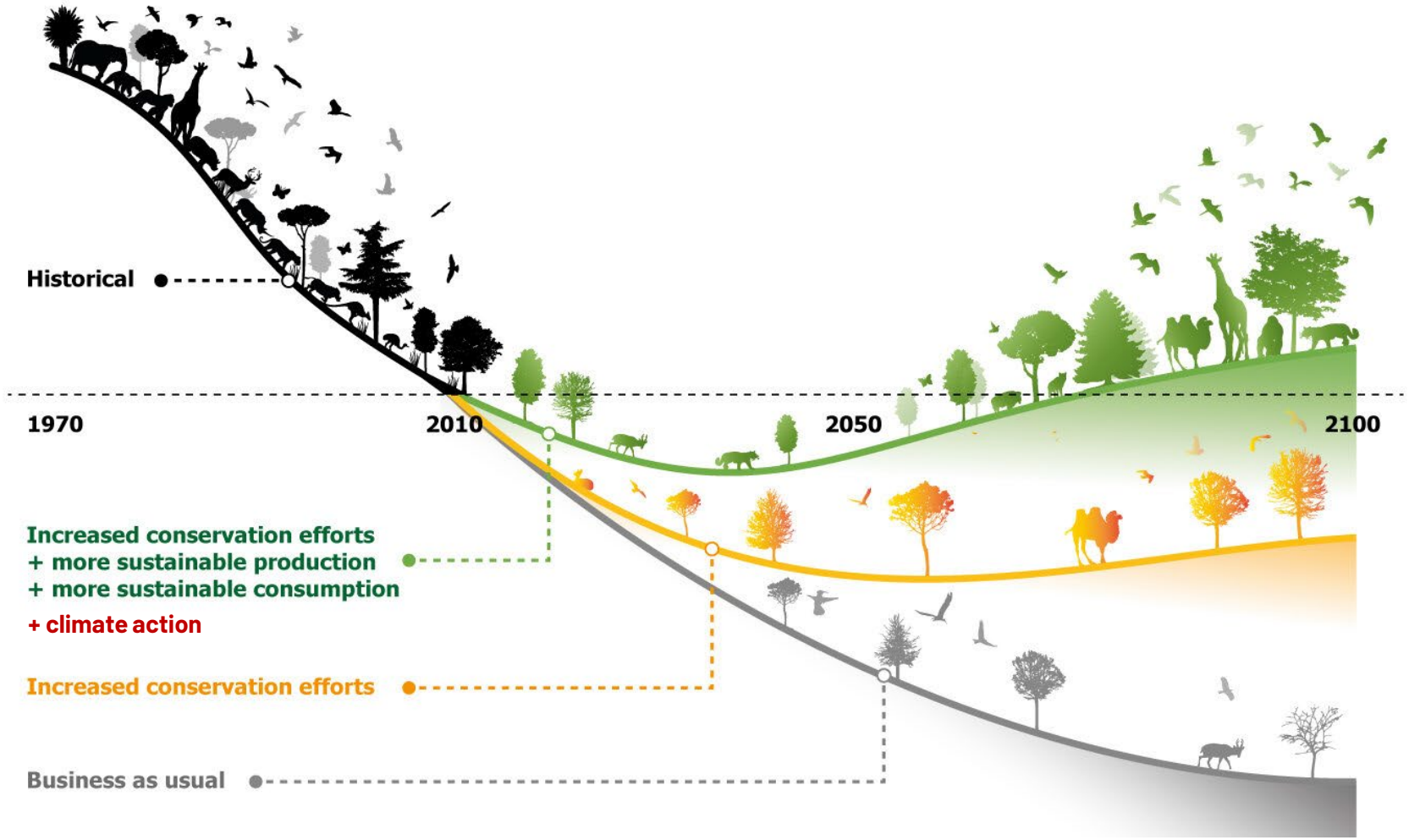
% Change in Biodiversity

-7.38 -3.47 -2.74 -2.23 -1.81 -1.18 -0.75 0 0.61

SOURCE: DOI:10.1126/science.adn3441

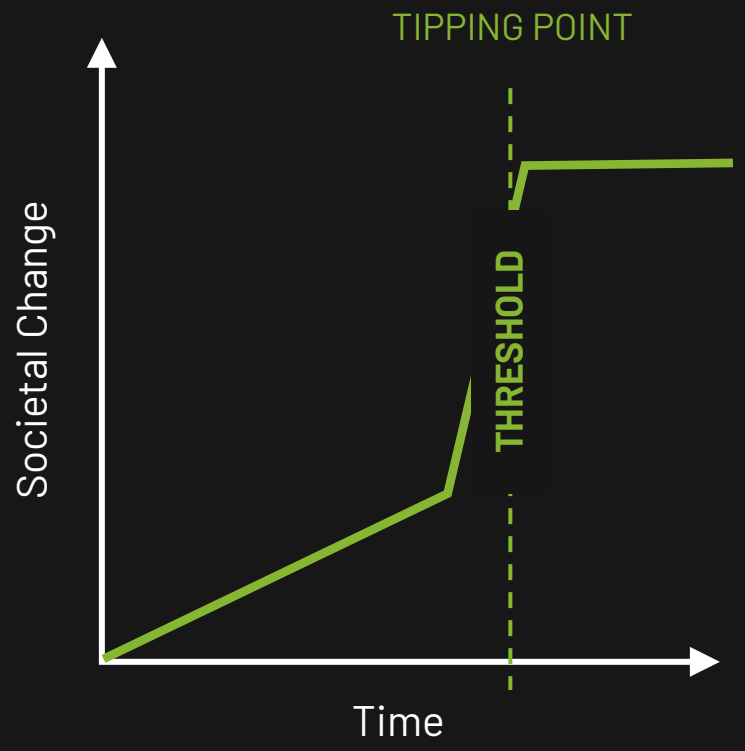
NATURE FUTURES

Nature can recover— if we help



CLIMATE FUTURES

There are also *positive tipping points!*



ARTS, HUMANITIES, & SOCIAL SCIENCES | JUNE 7, 2018

Tipping point for large-scale social change? Just 25 percent

When the size of a minority committed to social change reached just one-quarter of the group, it was consistently able to establish a new norm in the larger group, a finding with implications for behavior in the workplace, online, and in our communities.

People and. Communities

Facing Uncertainty



Waiting for Water
© R.Tee/AdobeStock

PEOPLE FUTURES

Our World Beyond 2030

A dramatically changed and rapidly changing world, facing numerous environmental, geopolitical, societal, and technological risks and uncertainties.



Ebola treatment center Rwampara, Congo, May 21, 2026
© Newsweek.com

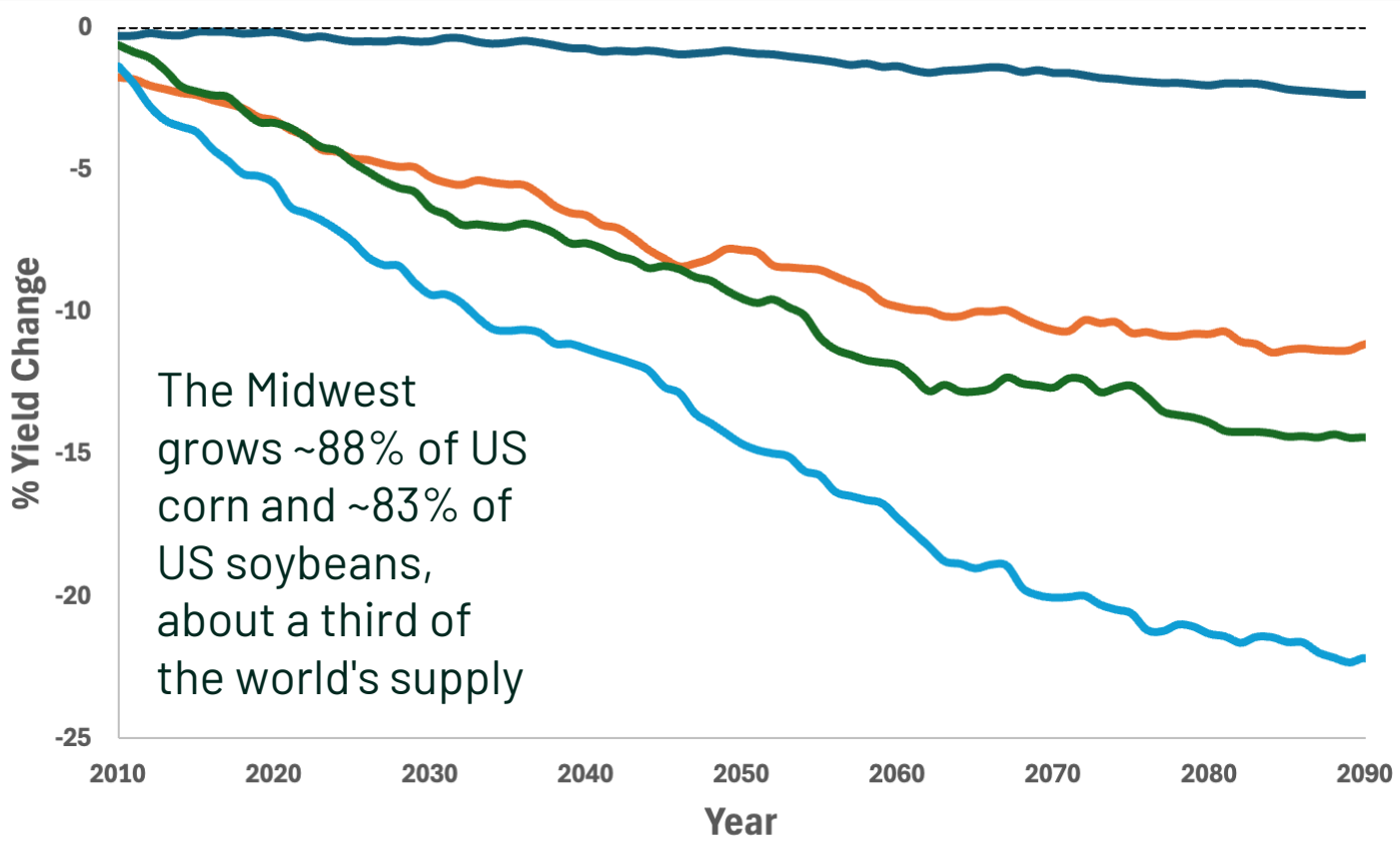


Migrants in Darién Gap, Colombia
© Jan Sochor/Getty Images

PEOPLE FUTURES

The future of our food

These four crops provide over half of the world's calories.





Rice



Maize



Wheat



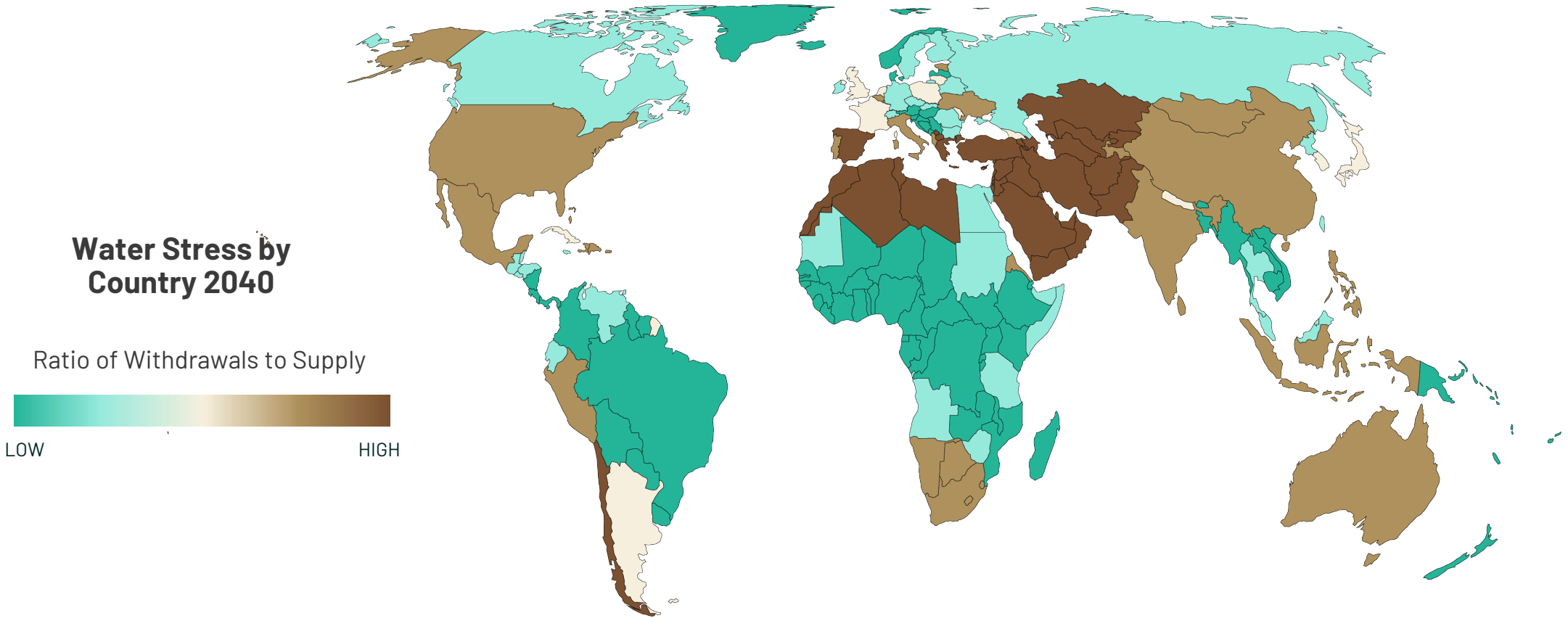
Soy

SOURCE: https://doi.org/10.1038/s41586-025-09085-w

PEOPLE FUTURES

The future of our water

Half the world's largest cities are in high water stress areas.



SOURCE: https://reliefweb.int/map/world/water-stress-country-2040

PEOPLE FUTURES

The economic cost of nature's decline

More than half of global GDP depends on nature's contributions to people and ecosystem services.

Crop pollination



Bee on a silver leaf scurfpea plant
© Chris Helzer / TNC

Natural compounds for medicines



Taxus brevifolia
© American Herbologists Guild

Coastal protection



Coastal Mangroves
© Joel Vodell

SOURCE: https://www.weforum.org/publications/nature-risk-rising/

PEOPLE FUTURES

Climate change is forcing human displacement.

46M people

were displaced by climate disasters in 2024**—double the decade average**

216M people

will be forced to migrate *within* their countries

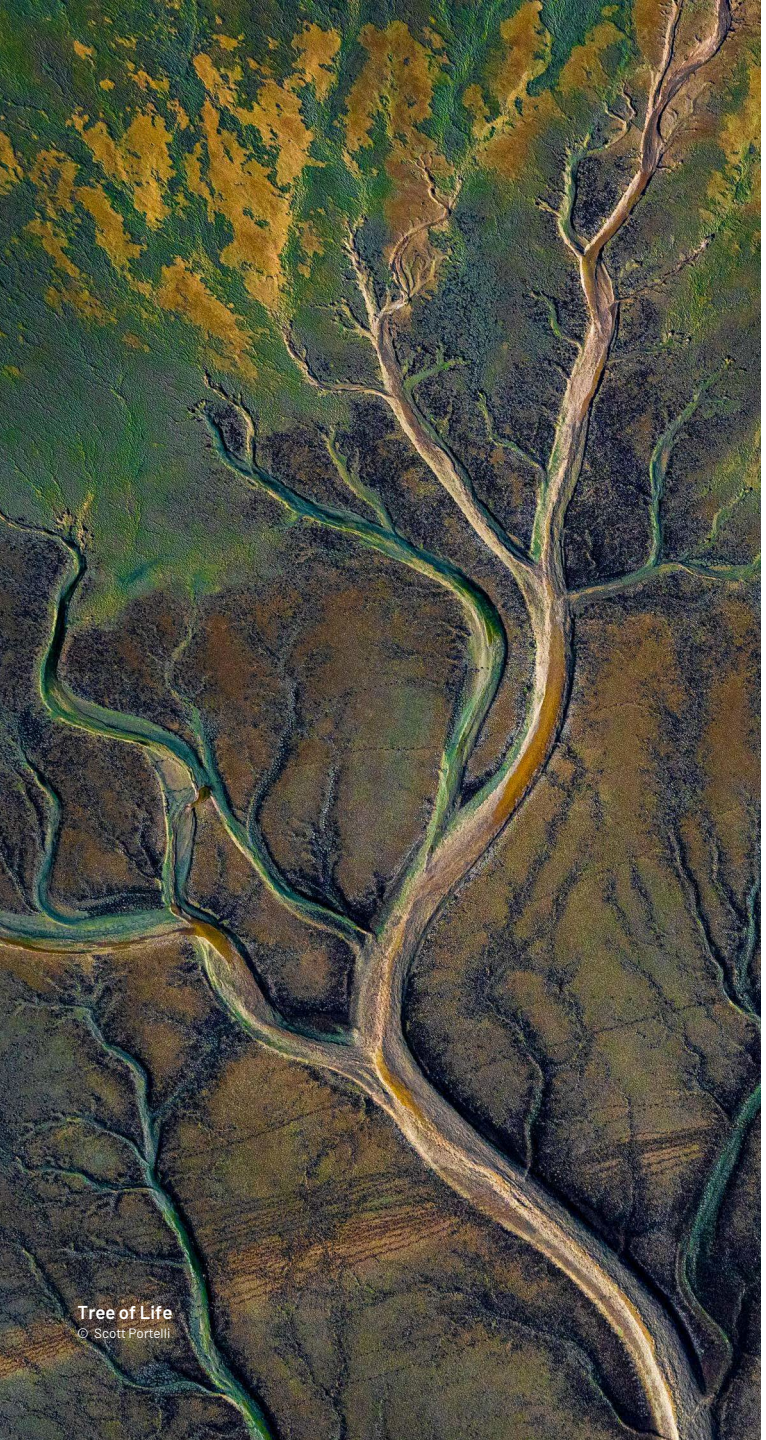
by 2050 due to climate impacts

SOURCE: https://www.internal-displacement.org/global-report/grid2025/



Displacement and migration due to conflict and storms in Somalia

© AU UNIST Photo / Tobin Jones



The Nature Conservancy

1. Some impacts are locked in. The worst are not.

→ Adaptation and resilience can protect communities and ecosystems from changes already underway. Every action now can still reduce the risk of the most severe outcomes.



Wind Turbines
© Cameron Karsten

The Nature Conservancy

1. Some impacts are locked in. The worst are not.

2. Decisions we make today will echo for generations.

→ The choices we make now will determine whether we can avoid dangerous tipping points – or accelerate changes beyond our ability to reverse.



Spruce tree
© Lorie Pouldre

1. Some impacts are already irreversible.

2. Decisions we make today will echo for generations.

3. All forms of science must inform our choices.

→ Western science, Indigenous sciences, and local knowledge each see what the others can miss. Together they give us the strongest evidence for the decisions ahead.

Our future is in our hands.



Milky Way galaxy
© Hu.Man / Pexels

Q&A

Thank You