

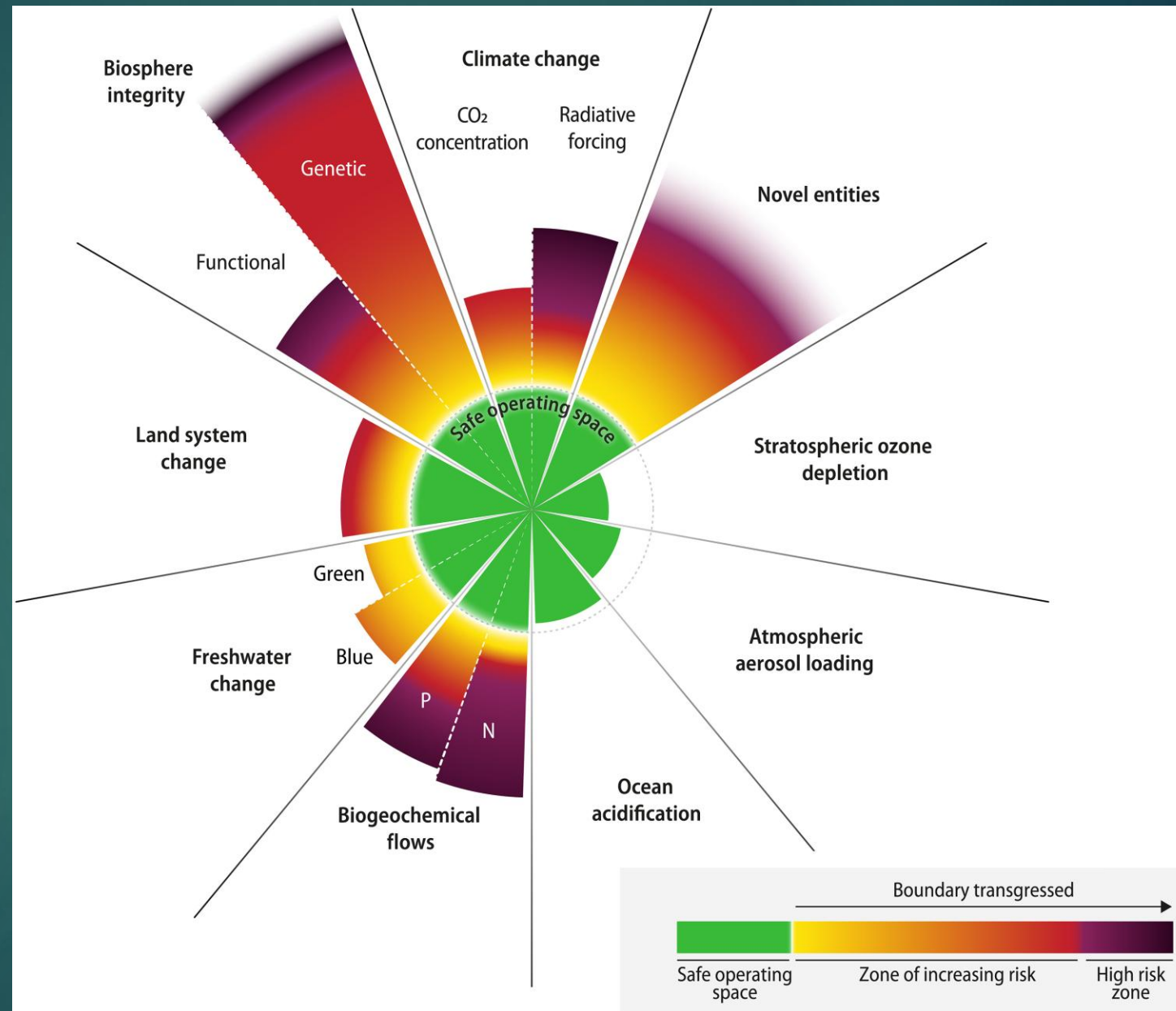


How is Psychology Used to Help Solve the Climate Crisis?

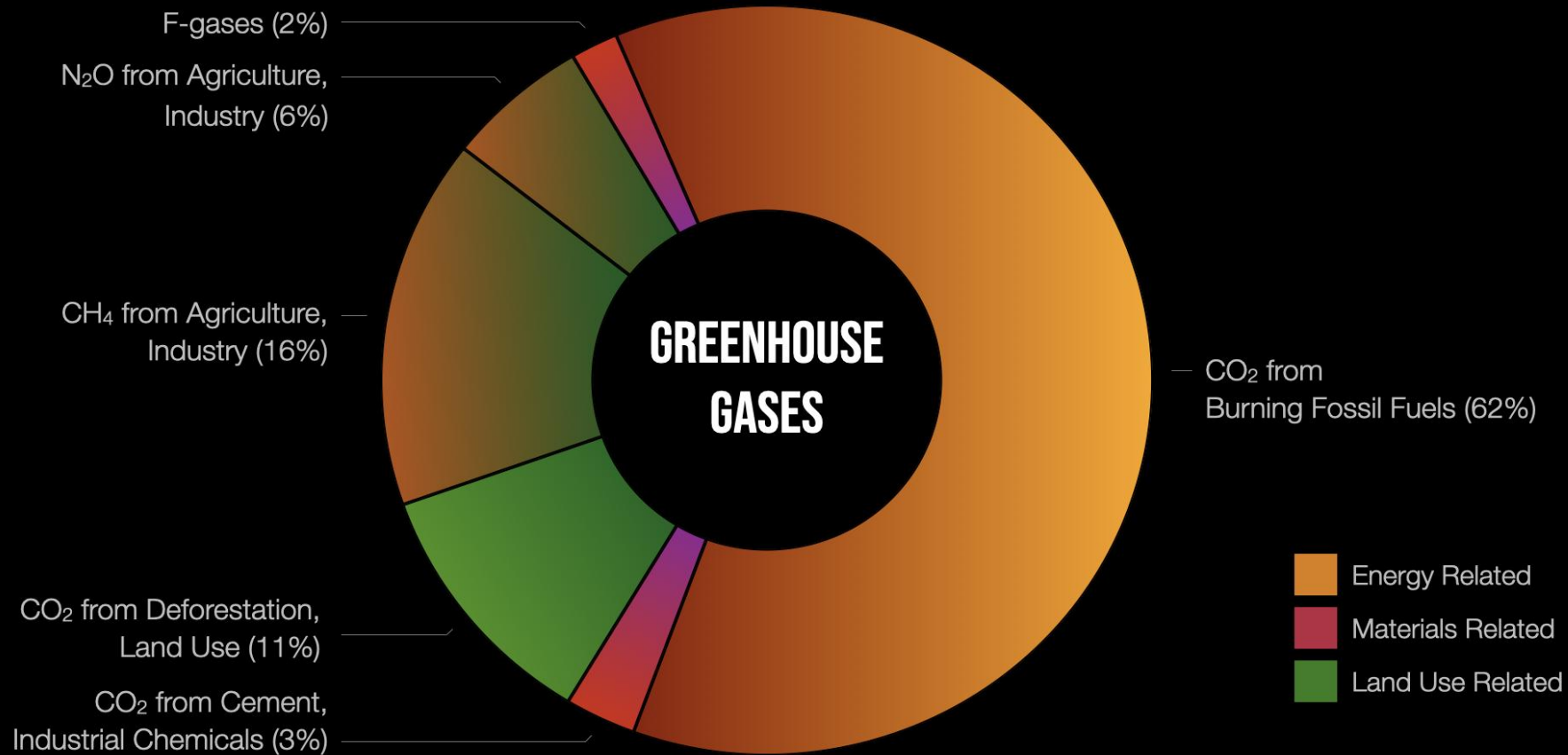
Charles Samuelson
Psychology for Climate, PSI

9 Planetary Boundaries

Source: Figure 1.
Richardson et al. (2023).
Science Advances.



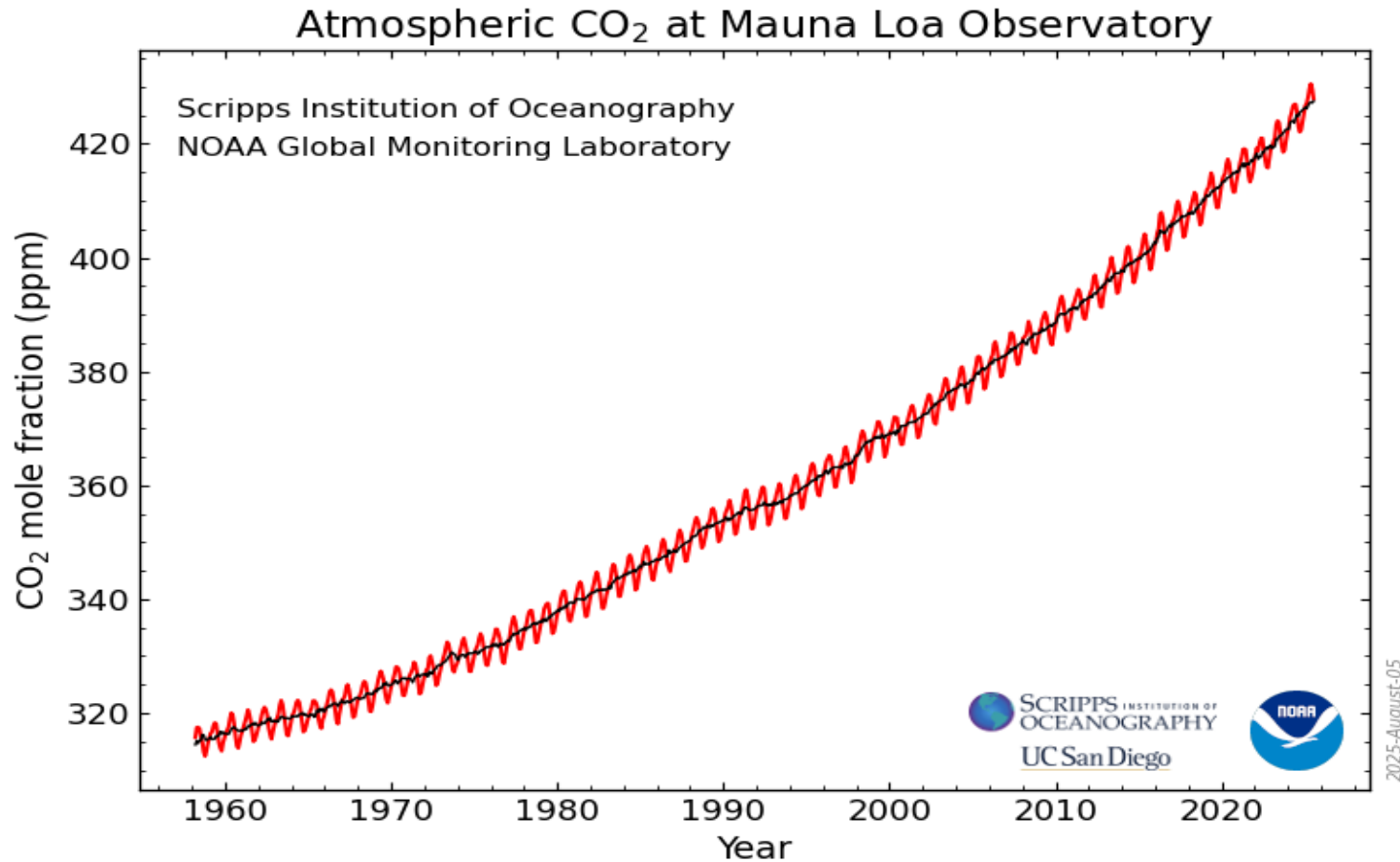
Types of Greenhouse Gases

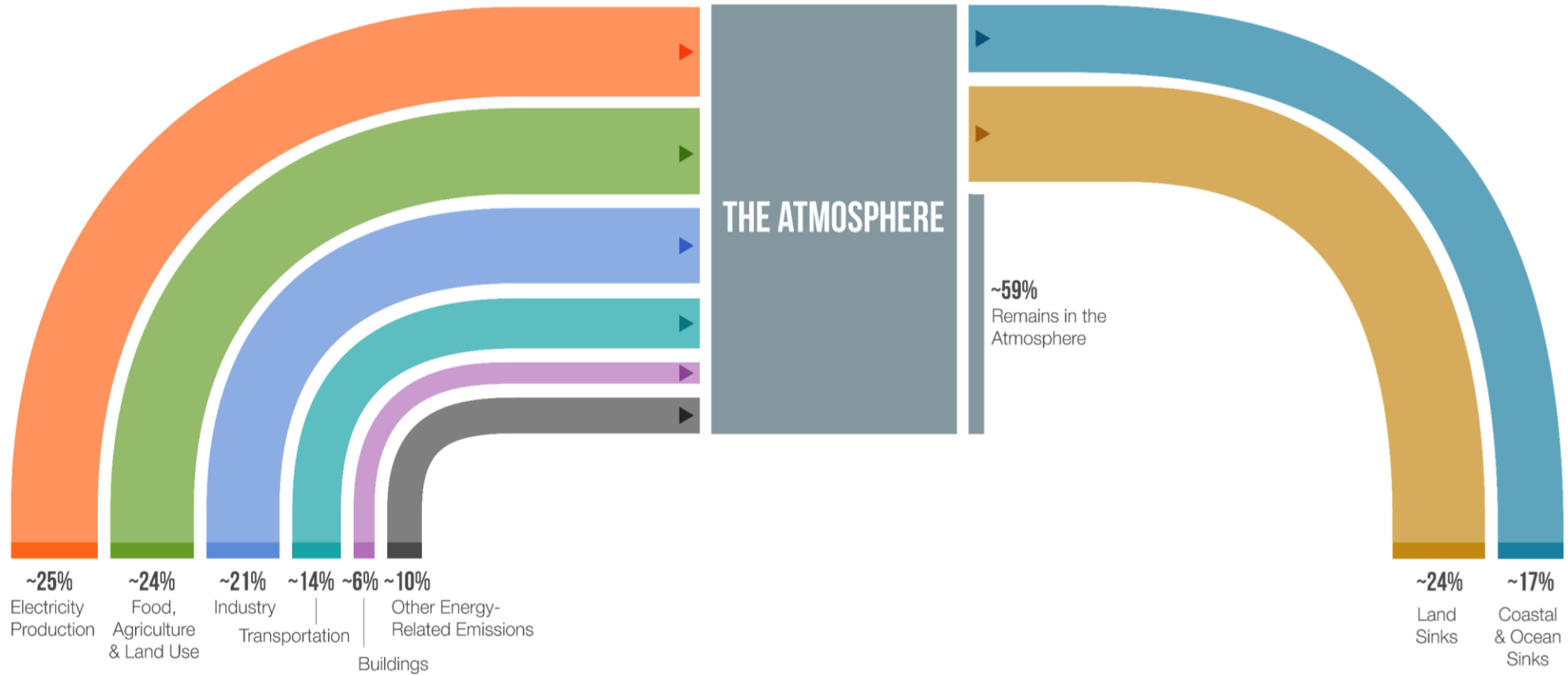


Mauna Loa Observatory: NOAA Global Monitoring Laboratory (3400 meters)



CO₂ Data (from 1958-2025)





Project Drawdown 2020 Report

Emission Sources

How Will Climate Change Alter Our Future?

- ▶ Sea level rise, more intense rainfall and flooding
- ▶ More powerful storms and natural disasters (e.g., hurricanes, tornadoes)
- ▶ Extreme heat waves, drought, water shortages
- ▶ More widespread wildfires
- ▶ Extinctions of species accelerate
- ▶ Migration of “climate refugees”



















Climate Change and Psychology: Why? How?

▶ 4 Core Features:

- ▶ 1. **Collective Threat** → Global Commons Dilemma (**Social Identity**)
- ▶ 2. **Differential Impacts** → Power and Status (**Climate Justice**)
- ▶ 3. **Destabilized Systems** → Economic / Political / Social
(**Green Energy, Ideology, Group Conflict**)
- ▶ 4. **Diffuse Impacts** → Space, Time (**Psychological Distance**)

▶ Source: Pearson, A., et al. (2016). Social climate science: A new vista for psychological science. *Perspectives on Psychological Science*, 11(5), 632-650.

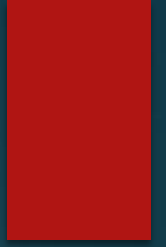
What is Environmental Psychology?

- ▶ **Definition**: “The subfield of psychology that studies the interplay between individuals and the built and natural environment.” (Steg et al., 2012).
- ▶ Subdiscipline (psychology) since late 1960s.
- ▶ Known first as “architectural psychology,” but expanded later (1980s) to include the natural environment (e.g., resource conservation, recycling).
- ▶ Where do I find current research in this field?
 - ▶ *Journal of Environmental Psychology, Environment and Behavior*

What is Climate Psychology?

- ▶ New subdiscipline on climate change in environmental psychology
- ▶ Term used to describe variety of recent research (since 2010) and practice in social and clinical psychology.
- ▶ **Definition:** “*Climate psychology is concerned with the **emotions**, and the **social and mental processes** that have contributed to the ecological and climate crisis, and our responses and processes of **adaptation** to it.*”
- ▶ Boundaries of field are fuzzy: “climate psychology” used now as more general label.
- ▶ (Climate Psychology Alliance:
<https://www.climatepsychologyalliance.org/index.php/component/content/article/what-is-climate-psychology?catid=12&Itemid=101>)

Social Psychology of Climate Change: 3 Research Areas (Clayton, 2024)



- ▶ **1. Risk Perception and Beliefs**
- ▶ **2. Behavior**
- ▶ **3. Impacts**

Risk Perception and Beliefs

- ▶ **Climate Change Denial / Skepticism**
 - ▶ Role of “attitude roots” / worldviews (ideology)
 - ▶ Political affiliation, social dominance orientation, RWA
- ▶ **Others’ Beliefs: Climate Concern and Policy Support**
 - ▶ Many people underestimate prevalence of pro-climate beliefs of fellow citizens (pluralistic ignorance).
- ▶ **Power, Status, Hierarchical Relations**
 - ▶ Influences climate risk perceptions and environmental concern (negative relationship)

Behavior

- ▶ Research shows that providing information and financial incentives is not sufficient to change pro-environmental behavior.
- ▶ Meta-analyses reveal that effective behavioral interventions involve changing **social norms** (descriptive, injunctive, dynamic).
- ▶ Collective action (participation in local climate initiatives) predicted by strength of **group identification**.
- ▶ **Behavioral spillover**: Positive more likely than negative (pro-climate values, green identity as moderators).
- ▶ Which behaviors have most climate mitigation impact? Which are easier to change (behavioral plasticity)?

Top 20 High-Impact Climate Actions for Individuals and Households

TOP 20 HIGH-IMPACT CLIMATE ACTIONS FOR HOUSEHOLDS AND INDIVIDUALS

OUR FOOD 	OUR WASTE 	OUR TRAVEL 	OUR ENERGY 
12.4%	1.3%	 2.8%	8.6%
			Distributed Solar Photovoltaics (64.9)
			Insulation (18.5)
		Public Transit (15.4)	LED Lighting (15.7)
		Carpooling (11.1)	Solar Hot Water (13.7)
Reduced Food Waste (103.1)	Recycling (11.3)	Electric Cars (9.8)	High-Performance Glass (11.3)
	Reduced Plastic (5.4)	Hybrid Cars (4.7)	High-Efficiency Heat Pumps (9.1)
	Composting (2.9)	Telepresence (4.4)	Smart Thermostats (7.3)
Plant-Rich Diets (102.2)	Recycled Paper (1.4)	Electric Bicycles (1.6)	Low-Flow Fixtures (1.5)

The data presented here represents Gt CO₂-eq | Graphic designed by Chad Frischmann

PROJECT
DRAWDOWN.

Impacts

- ▶ Main focus of research: **mental health, well-being**
- ▶ **Emotional** responses to climate change (e.g., climate worry/concern, anxiety, fear, anger, grief)
- ▶ Influence on **interpersonal relationships** (heat and aggression, interpersonal / intergroup conflict)
- ▶ Climate change perceptions and intergroup behavior (hostility toward outgroups, inequity)
- ▶ Concept of transilience: positive effects → personal growth

References

- ▶ Steg, L., et al. (2012). *Environmental psychology: An introduction* (1st ed.). Wiley-Blackwell.
- ▶ Pearson, A.R., et al. (2016). Social climate science: A new vista for psychological science. *Perspectives on Psychological Science*, 11(5), 632-650.
<https://doi.org/10.1177/1745691616639726>
- ▶ Clayton, S. (2024). A social psychology of climate change: Progress and promise. *British Journal of Social Psychology*, 63(4), 1535-1546. <https://doi.org/10.1111/bjso.12749>
- ▶ Project Drawdown. Climate solutions 101 video series. URL: <https://drawdown.org/climate-solutions-101>

Dr. Jane Goodall
1934-2025

Earth Day Message 2025

<https://www.youtube.com/watch?v=ZhrNZlasQJY>

