

# Climate Emergency & Climate Action

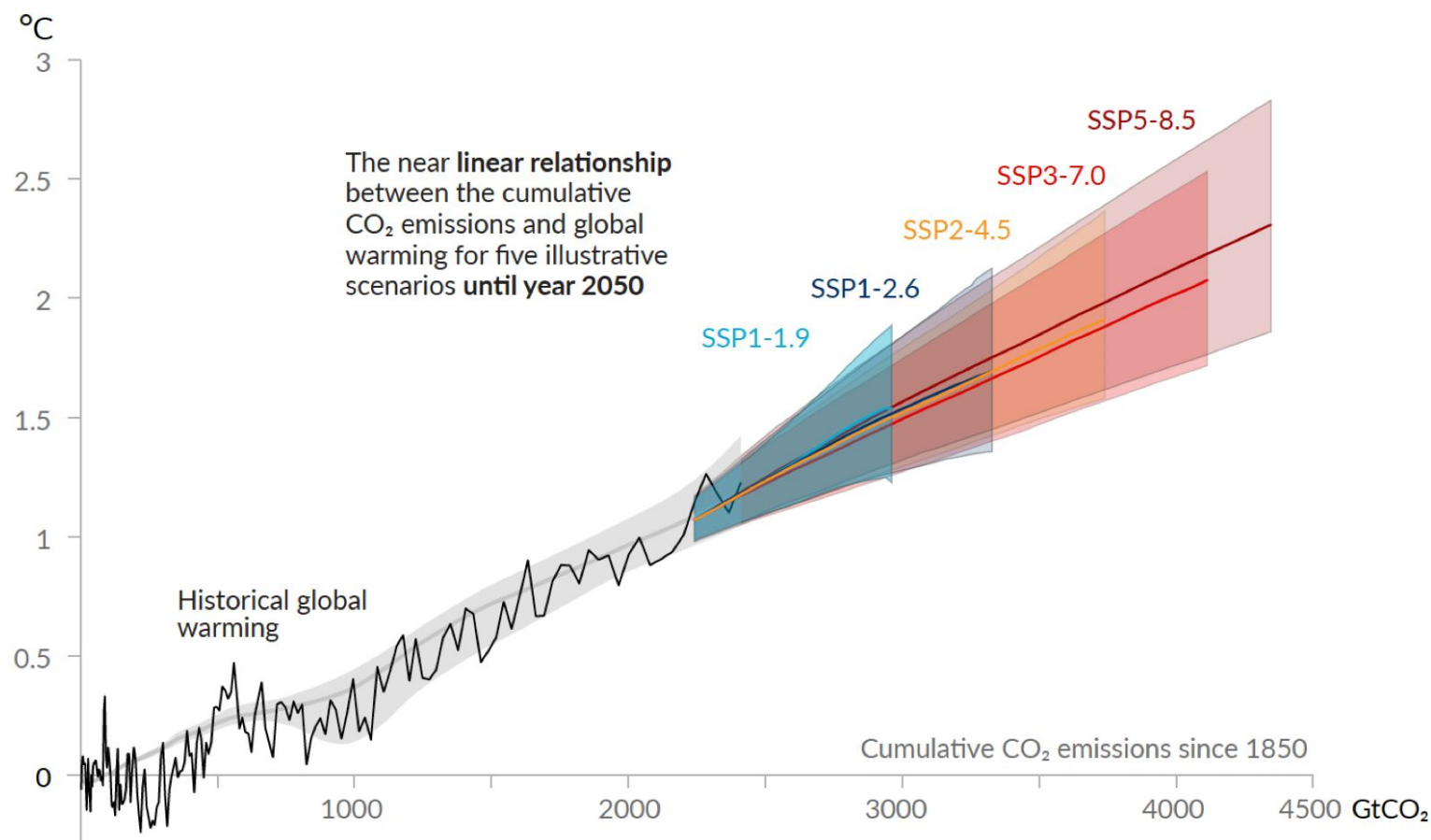
Fabian Dablander

Winter Workshop on Complex Systems, 2<sup>nd</sup> February, 2023  
Institute for Advanced Study, Amsterdam

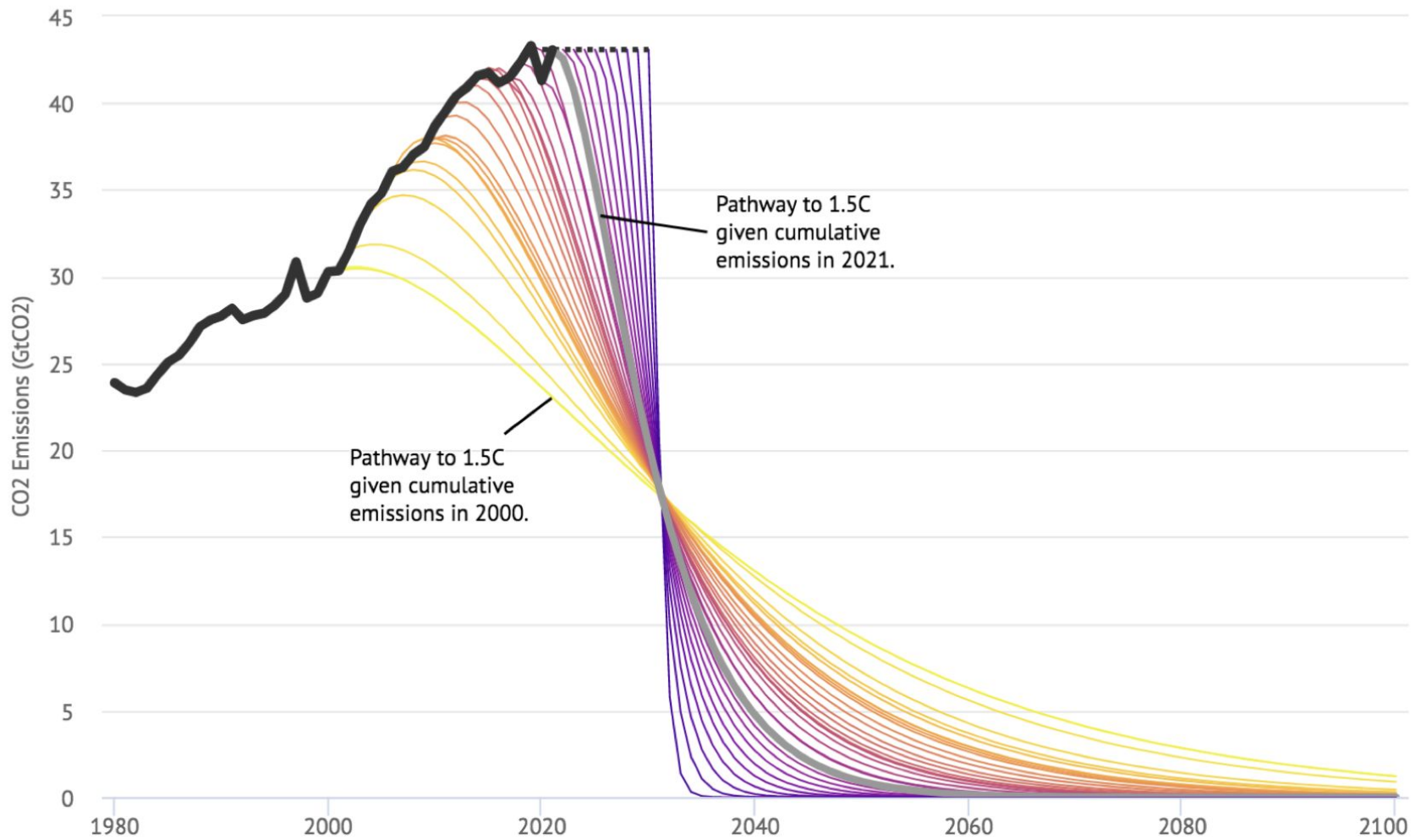
# Climate Emergency

# Every tonne of CO<sub>2</sub> emissions adds to global warming

Global surface temperature increase since 1850-1900 (°C) as a function of cumulative CO<sub>2</sub> emissions (GtCO<sub>2</sub>)



## Limiting warming to 1.5C is increasingly difficult without large-scale negative emissions



# Climate Change 2022

## Impacts, Adaptation and Vulnerability

Summary for Policymakers



“Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.”



# Exceeding 1.5°C global warming could trigger multiple climate tipping points

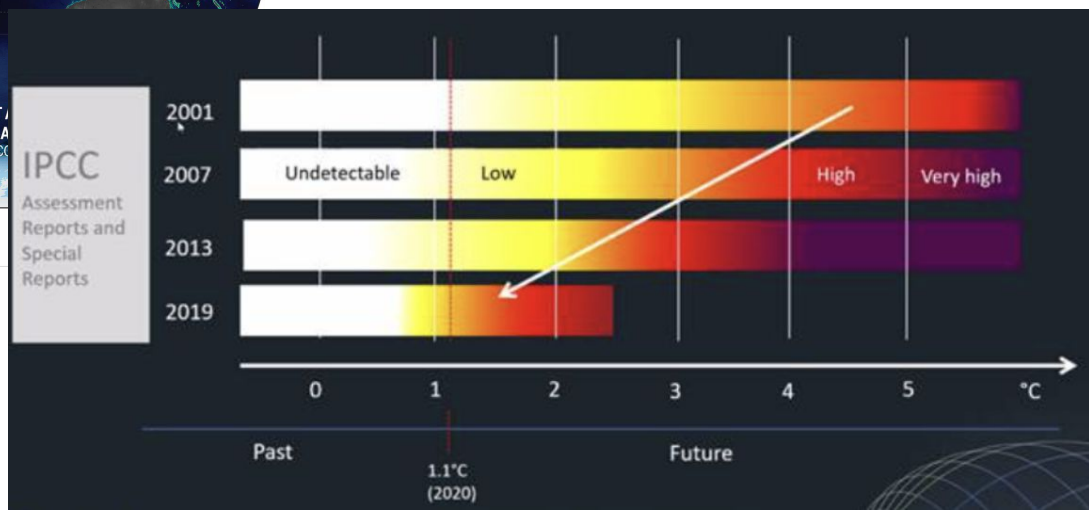
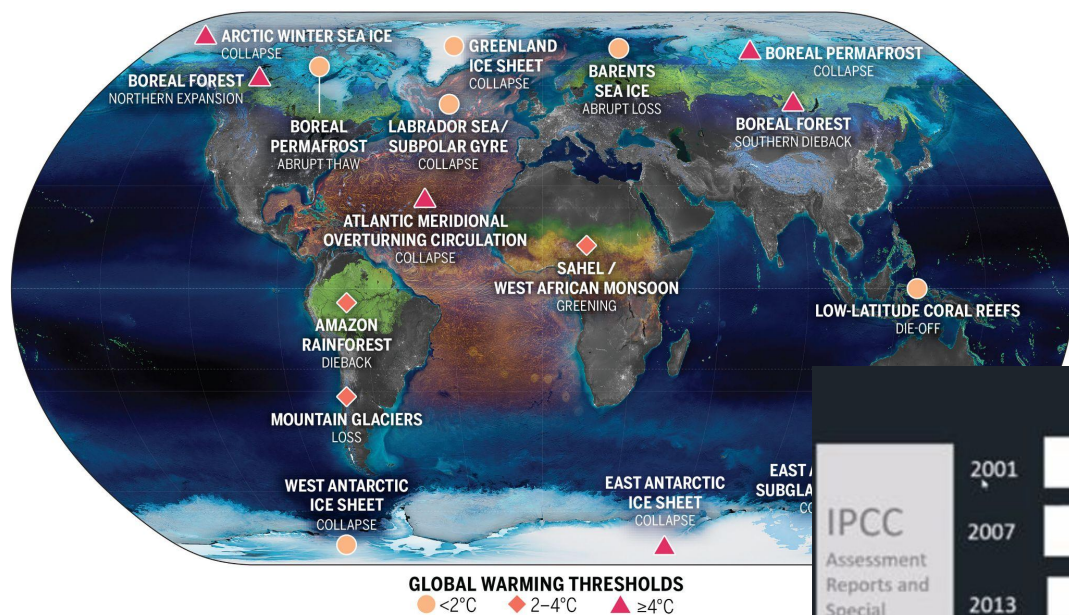
DAVID I. ARMSTRONG MCKAY , ARIE STAAL , JESSE F. ABRAMS , RICARDA WINKELMANN , BORIS SAKSCHEWSKI , SINA LORIANI , INGO FETZER ,

SARAH E. CORNELL , JOHAN ROCKSTRÖM, AND TIMOTHY M. LENTON

[fewer](#)



[Authors Info & Affiliations](#)

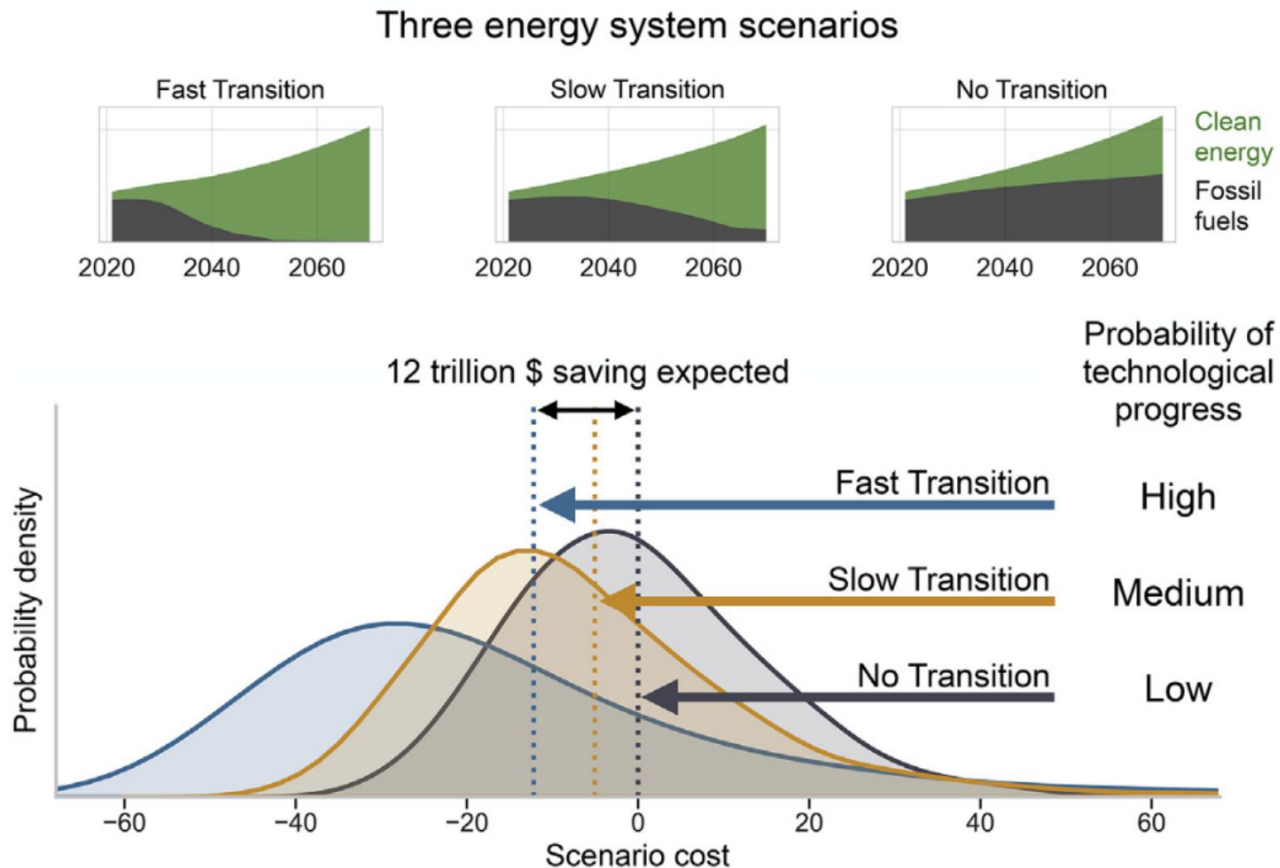
SCIENCE • 9 Sep 2022 • Vol 377, Issue 6611 • DOI: 10.1126/science.abn7950



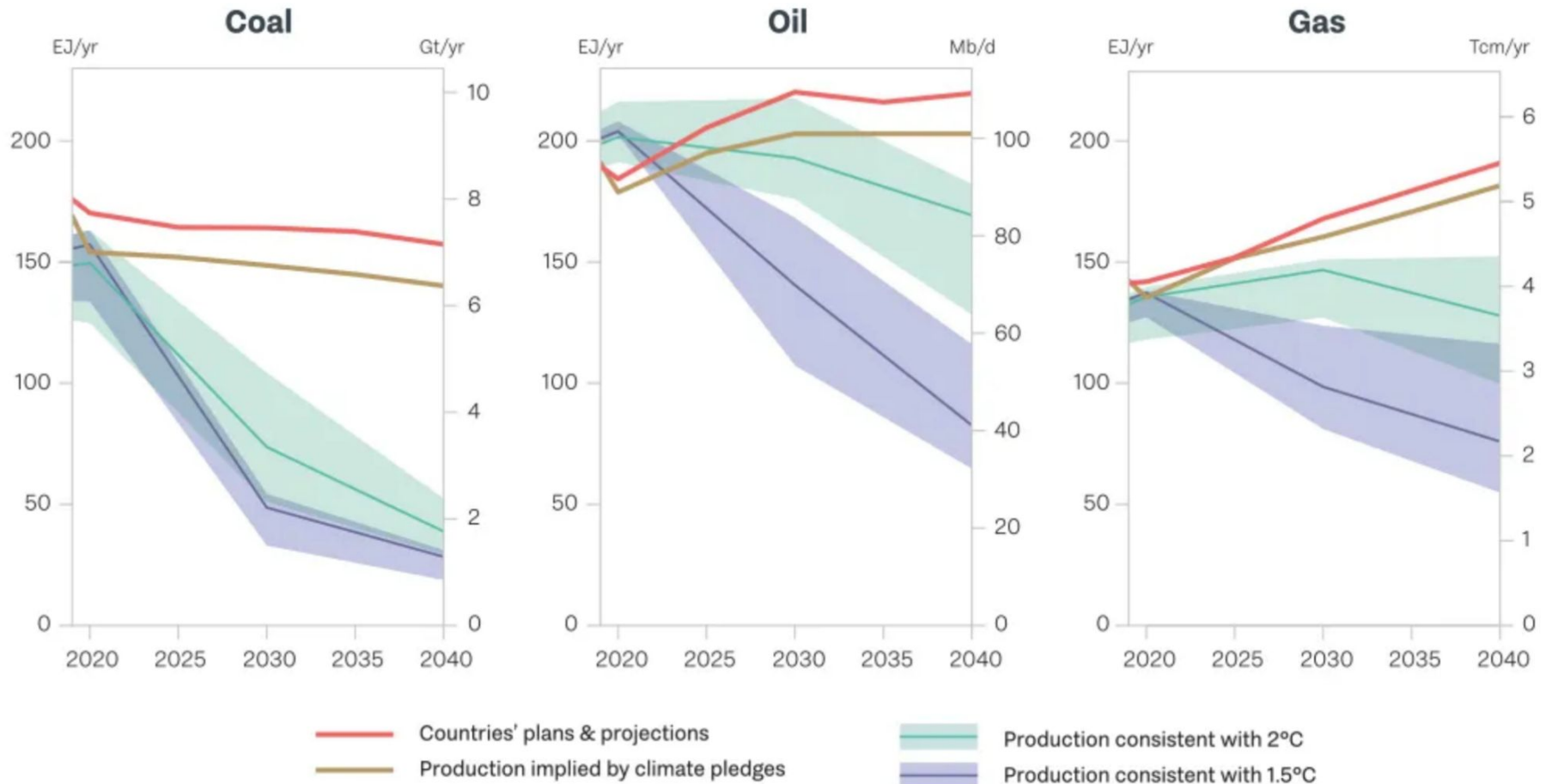
Article

# Empirically grounded technology forecasts and the energy transition

Rupert Way<sup>1, 2, 6</sup>  , Matthew C. Ives<sup>1, 2</sup>, Penny Mealy<sup>1, 2, 3</sup>, J. Doyne Farmer<sup>1, 4, 5</sup>



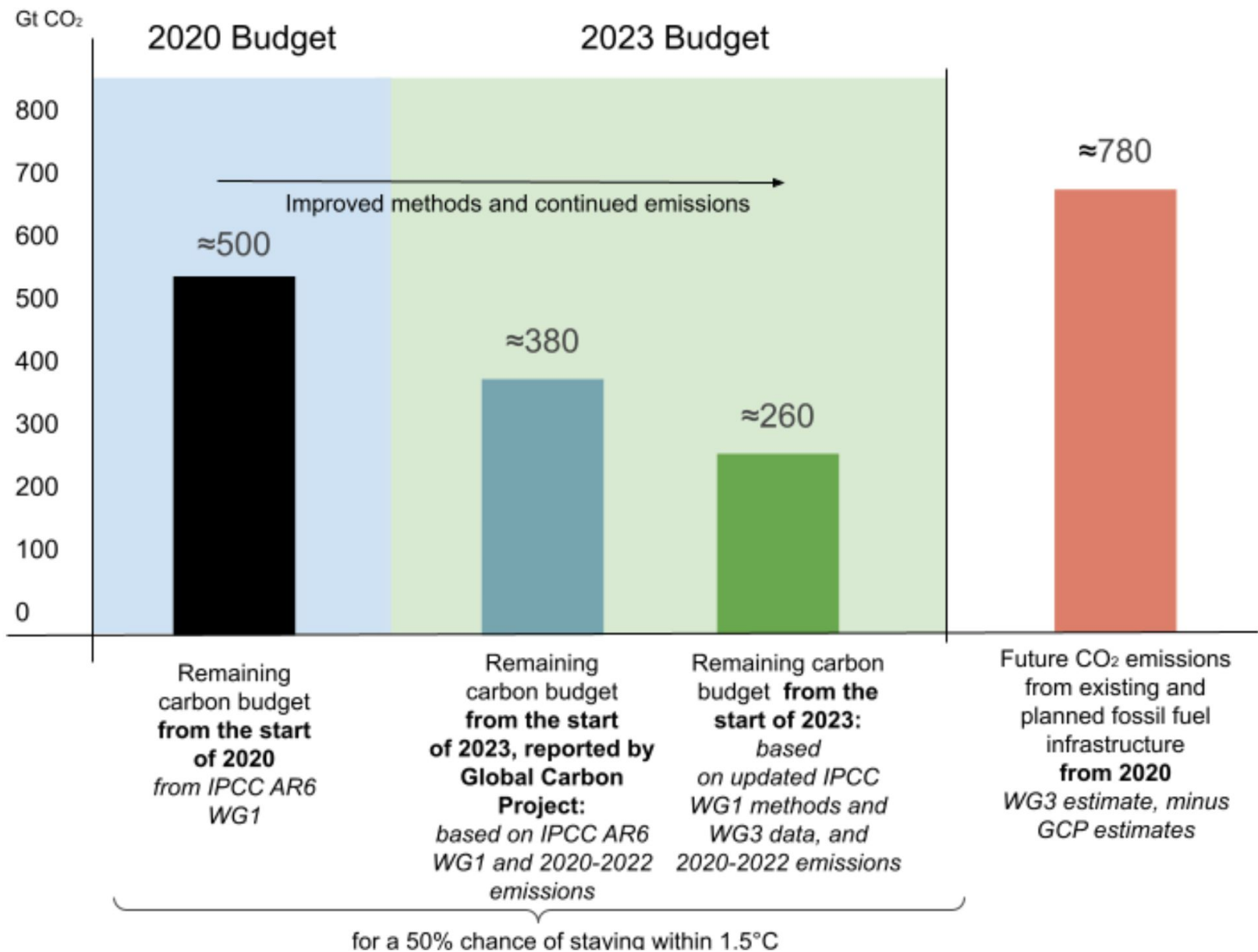
“Governments plan to produce more than twice the amount of fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C.”

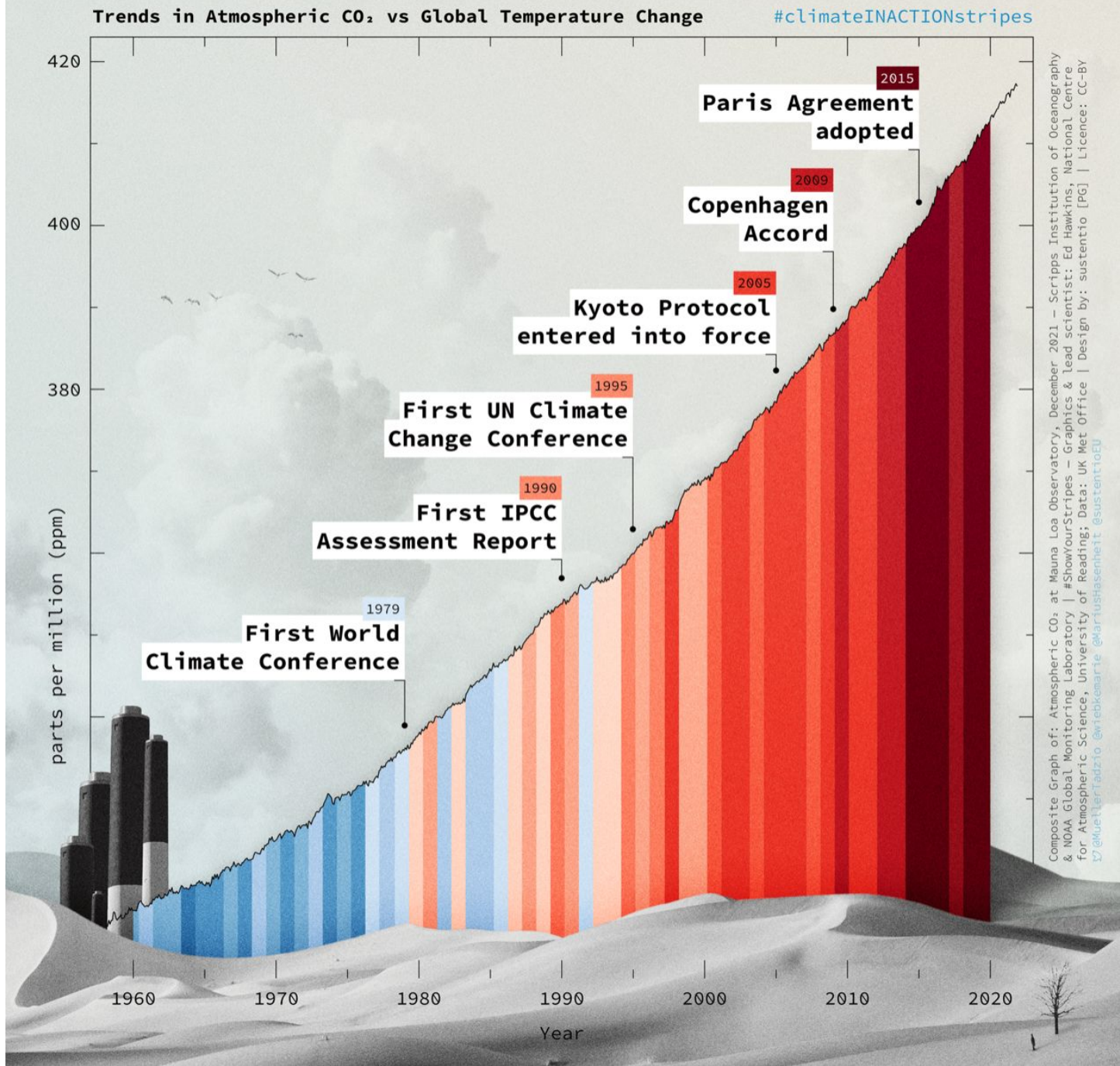


## The Production Gap

Governments' planned fossil fuel production remains dangerously out of sync with Paris Agreement limits

[Source](#)

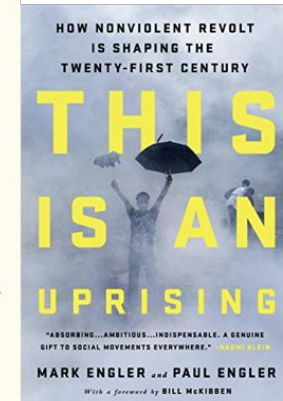
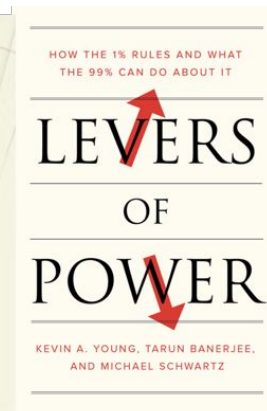
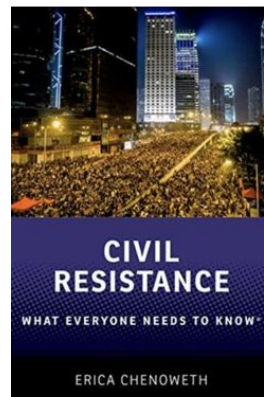




# Climate Action

# Civil Resistance

Method to change the status quo using a diverse set of nonviolent, noninstitutional actions (strikes, protests, occupations, boycotts, etc.)



# Civil Resistance

Method to change the status quo using a diverse set of nonviolent, noninstitutional actions (strikes, protests, occupations, boycotts, etc.)

## On the Duty of Civil Disobedience

by Henry David Thoreau

1849, original title: Resistance to Civil Government

---

# Civil Disobedience

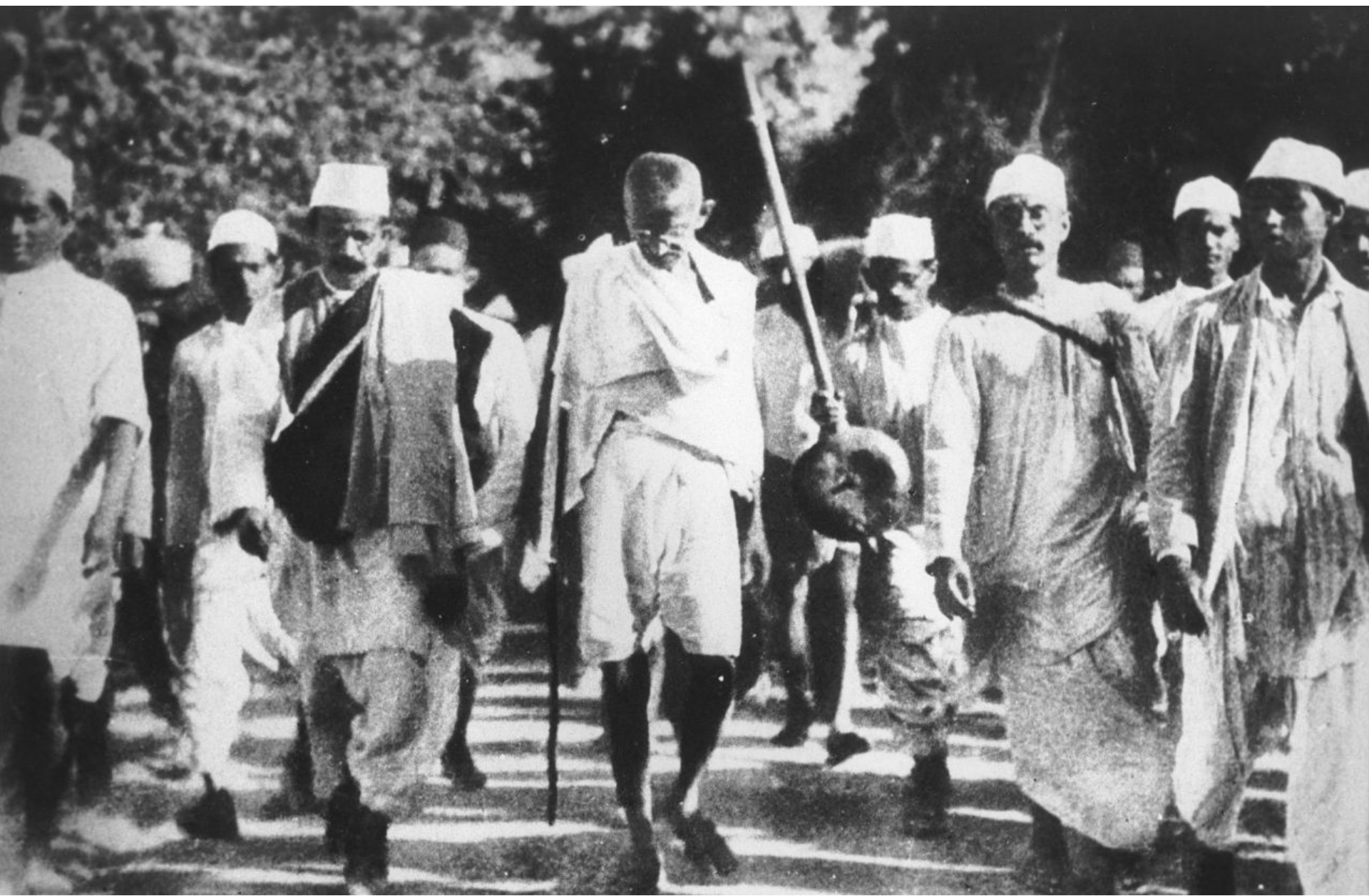
Public, conscientious and nonviolent breach of law with the aim to bring about a change in laws or government policies

## On the Duty of Civil Disobedience

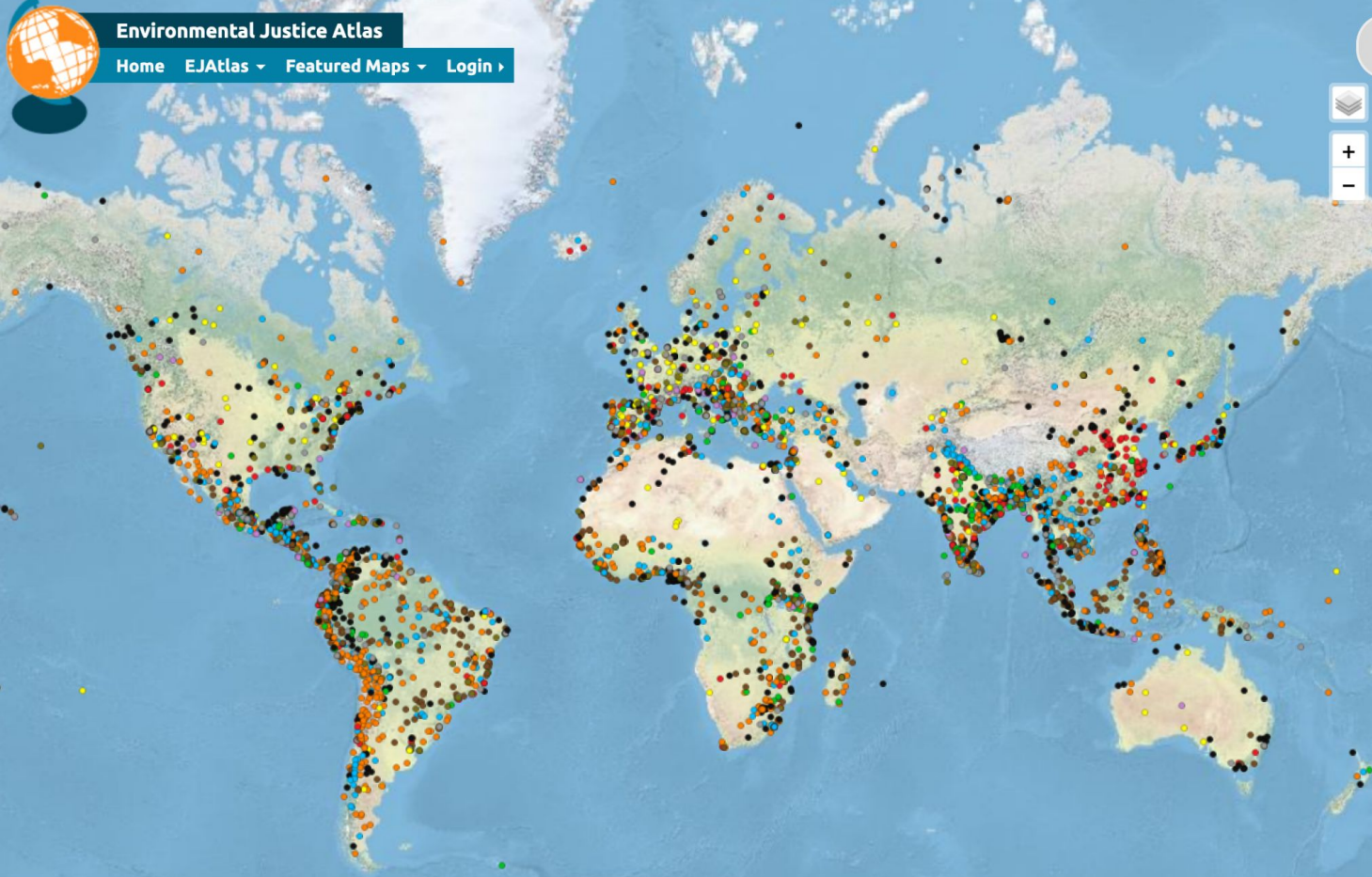
by Henry David Thoreau

1849, original title: Resistance to Civil Government

---







## Geographical Mapping of Campaigns

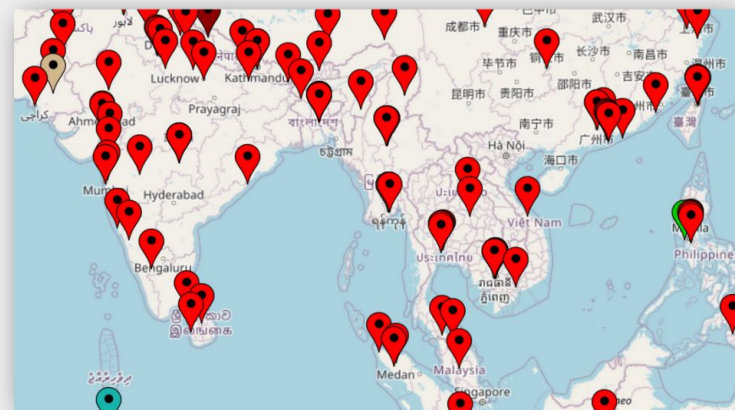
Nonviolent action campaigns are waged all over the world. See a distribution of the campaigns across the globe in our interactive map.

1,200+  
cases

100+  
countries

400+  
years covered

[View Campaigns on the Map](#)







# 1992 World Scientists' Warning to Humanity

Published Jul 16, 1992 | Updated Feb 4, 2022

---

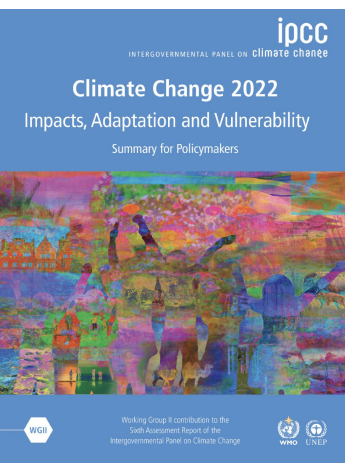
## JOURNAL ARTICLE

### World Scientists' Warning to Humanity: A Second Notice

William J. Ripple, Christopher Wolf, Thomas M. Newsome, Mauro Galetti, Mohammed Alamgir, Eileen Crist, Mahmoud I. Mahmoud, William F. Laurance, 15,364 scientist signatories from 184 countries

*BioScience*, Volume 67, Issue 12, December 2017, Pages 1026–1028, <https://doi.org/10.1093/biosci/bix125>

**Published:** 13 November 2017



[Source](#)

Ripple et al. ([2017](#))

HOME > SCIENCE > VOL. 364, NO. 6436 > CONCERNS OF YOUNG PROTESTERS ARE JUSTIFIED

🔒 | LETTER

# Concerns of young protesters are justified

GREGOR HAGEDORN, PETER KALMUS, MICHAEL MANN, SARA VICCA, JOKE VAN DEN BERGE, JEAN-PASCAL VAN YPERSELE, DOMINIQUE BOURG, JAN ROTMANS,

ROOPE KAARONEN, STEFAN RAHMSTORF, HELGA KROMP-KOLB, GOTTFRIED KIRCHENGAST, RETO KNUTTI, SONIA I. SENEVIRATNE, PHILIPPE THALMANN, RAVEN CRETNEY,

ALISON GREEN, KEVIN ANDERSON, MARTIN HEDBERG, DOUGLAS NILSSON, AMITA KUTTNER, AND KATHARINE HAYHOE

fewer

[Authors Info & Affiliations](#)

SCIENCE • 12 Apr 2019 • Vol 364, Issue 6436 • pp. 139-140 • DOI: 10.1126/science.aax3807

ENVIRONMENT OCTOBER 13, 2019 / 4:12 AM / UPDATED 2 YEARS AGO

## Scientists endorse mass civil disobedience to force climate action

By Matthew Green

5 MIN READ



LONDON (Reuters) - Almost 400 scientists have endorsed a civil disobedience campaign aimed at forcing governments to take rapid action to tackle climate change, warning that failure could inflict “incalculable human suffering.”

[Source](#)





“Einstein said to think and not act is a crime. If we understand the situation, we must try to make it clear. I decided six or seven years ago that I did not want my grandchildren to look back in the future and say ‘Opa understood what was happening, but he didn’t make it clear’.”



“There is a very widespread feeling that the individual is impotent against governments, and that, however bad their policies may be, there is nothing effective that private people can do about it. This is a complete mistake. If all those who disapprove of government policy were to join in massive demonstrations of civil disobedience, they could render governmental folly impossible and compel the so-called statesmen to acquiesce in measures that would make human survival possible.”

# Civil disobedience by scientists helps press for urgent climate action

Time is short to secure a liveable and sustainable future; yet, inaction from governments, industry and civil society is setting the course for 3.2 °C of warming, with all the cascading and catastrophic consequences that this implies. In this context, when does civil disobedience by scientists become justified?

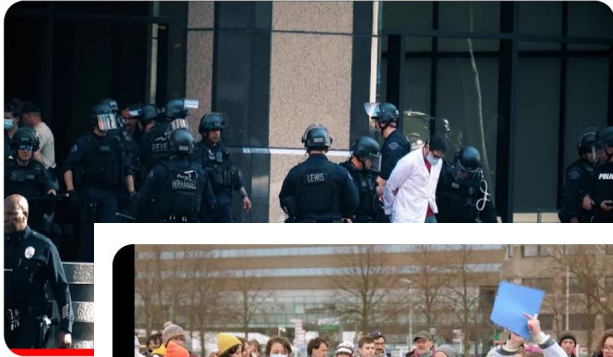
Stuart Capstick, Aaron Thierry, Emily Cox, Oscar Berglund, Steve Westlake and Julia K. Steinberger



# Over 1000 academics in 27 countries took to the streets during 4 - 9 April



- Blocking government ministries / corporations, paper pastings
- Academic strikes, occupations, teach-ins, street theatre
- Mass arrests in multiple countries
- Global press coverage



## Scientist Rebellion at Chase Bank Los Angeles

8.6K views • 9 months ago



Climate Ad Project

When *\*scientists\** around the world are putting their bodies on the line to warn



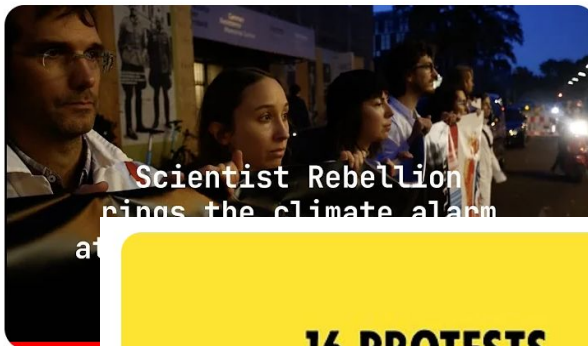
## Scientist Rebellion takes action in the Netherlands

4.5K views • 9 months ago



Scientist Rebellion

To secure a liveable future, we need emergency action! 🚨 The scientific community has been



## Scientist Rebellion rings the alarm at the World Health Summit

747 views • 3 months ago



Scientist Rebellion

60 scientists from Scientist Rebellion disrupt opening of World Health Summit in Berlin, Germany,

## Scientists and activists block private airports in eleven countries

406 views • 2 months ago



Scientist Rebellion

Scientists and climate campaigners from Scientist Rebellion and Extinction Rebellion barricaded mu

**16 PROTESTS  
AGAINST PRIVATE AVIATION  
IN 11 COUNTRIES**

2:13







# Thank you!