

Communicating with the Public About Climate Change and Health

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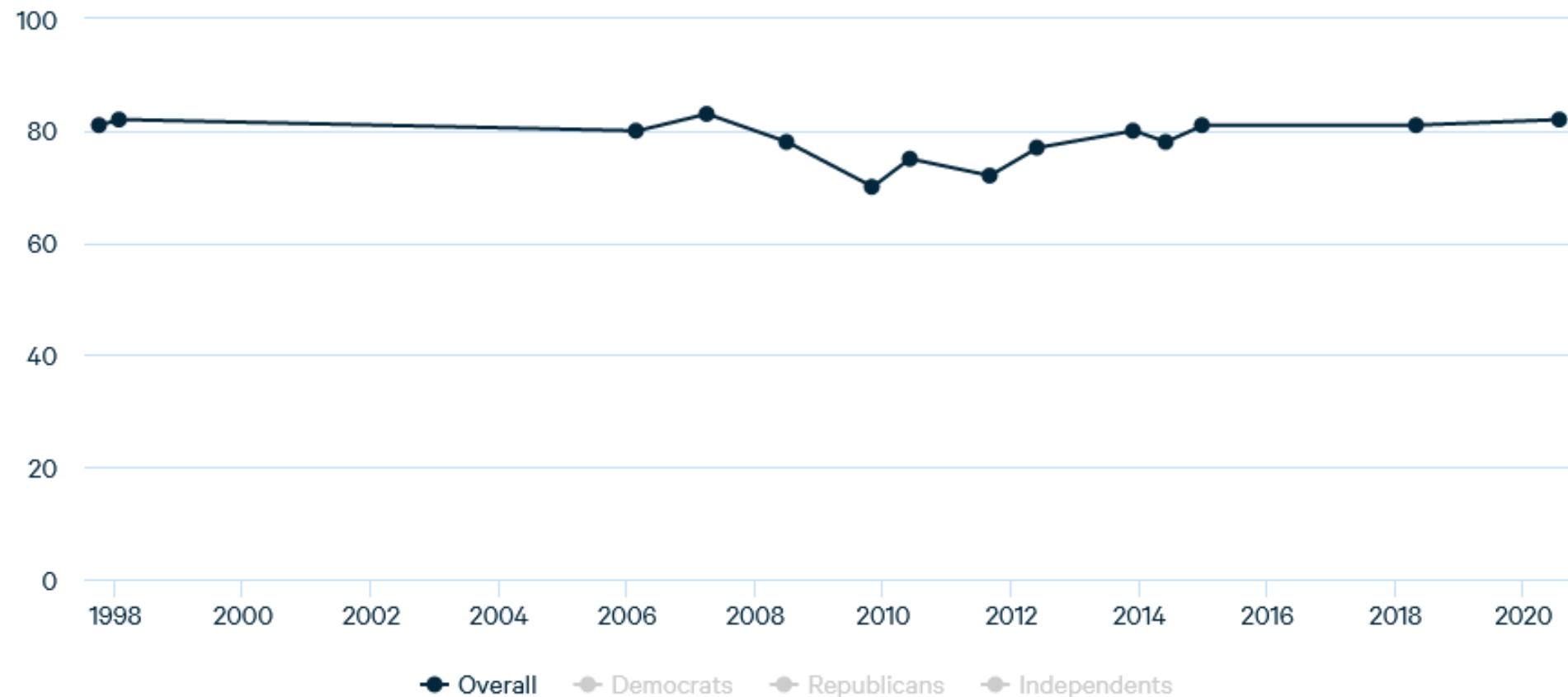
Outline

- Dissect the psychology of a doubter
- Protect your own sanity
- Communicate concerns and solutions
- Exercise

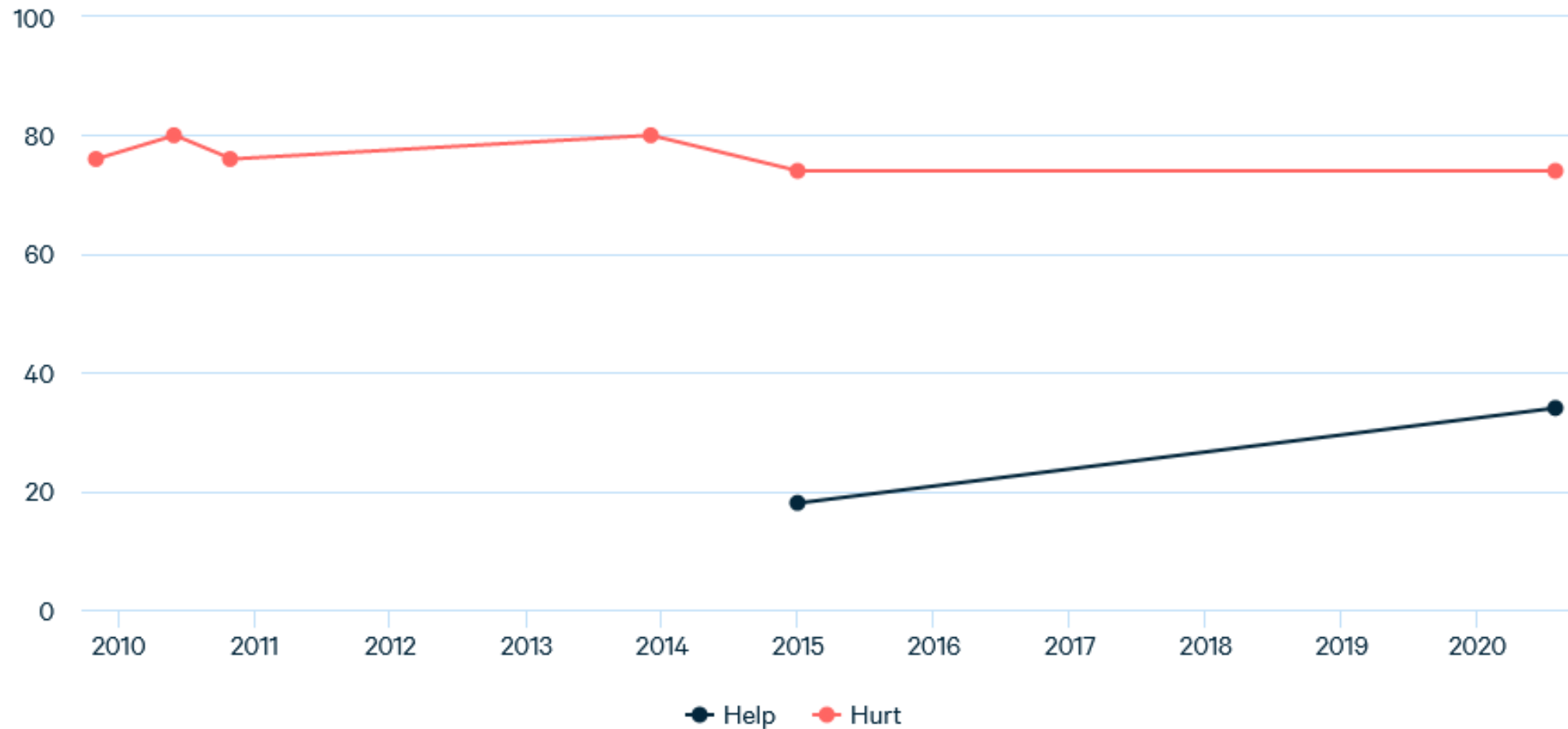
Outline

- Dissecting the psychology of a doubter

Percentage of Americans who believe human action has least partly caused global warming

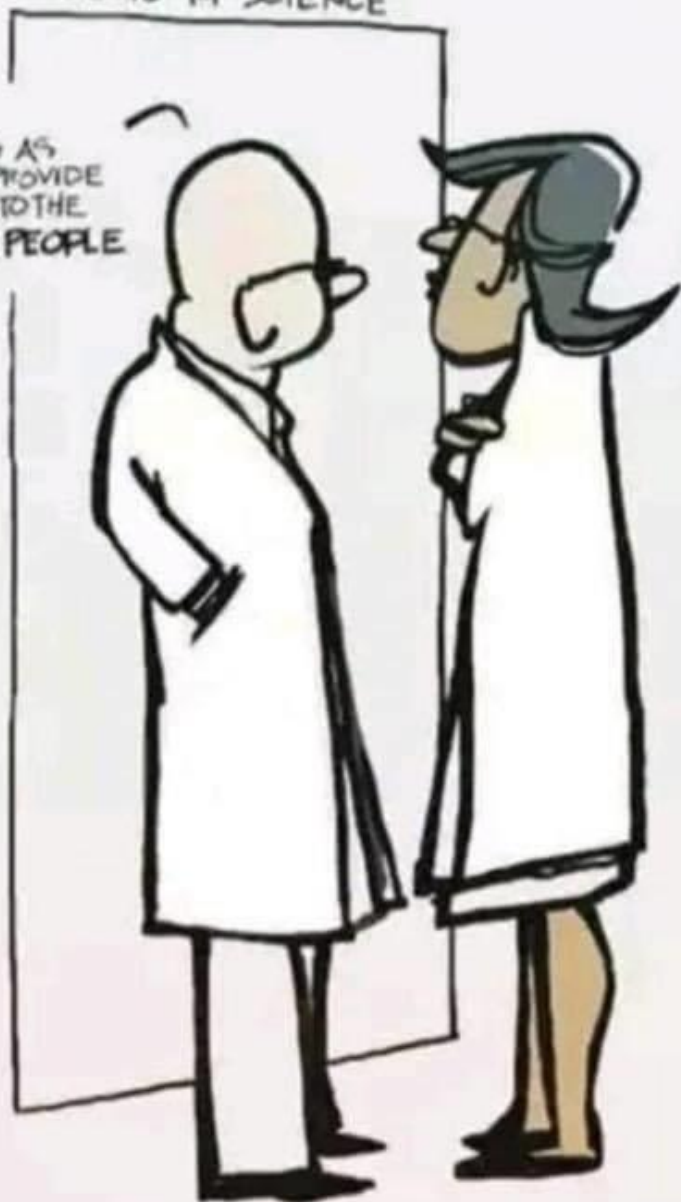


Percentage of Americans who believe global warming will hurt or help future generations



COVID-19 SCIENCE

AS LONG AS
WE JUST PROVIDE
THE FACTS TO THE
AMERICAN PEOPLE



CLIMATE SCIENCE



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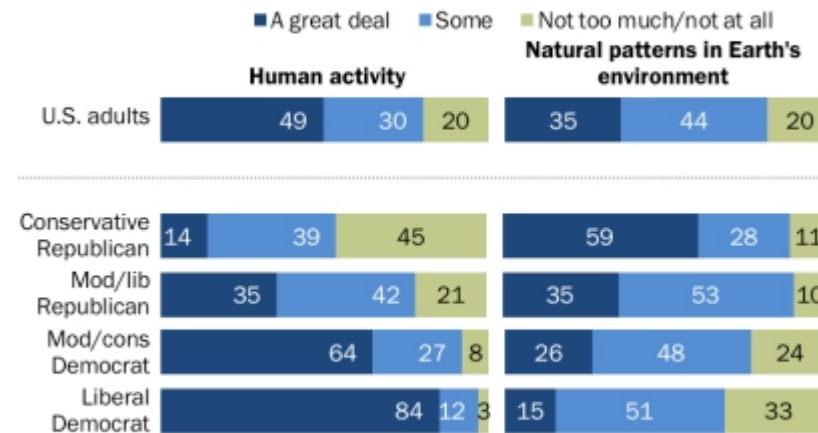
Why don't you believe in climate change?

- Political party
 - *Strongest predictor*
 - Conservatism has been linked through neuroscience to correlate with increased need to “to reduce uncertainty, ambiguity, threat, and disgust”
 - Accept (or reject) views of people who you believe (or disbelieve)
- Demographics
 - Inclined toward hierarchy
 - Against changes to the status quo
 - “Smart idiot” effect: Conservatives with higher education and general scientific knowledge are often *more wrong* about climate change
 - Sex and income have a smaller effect
- Sunken Cost
 - Conflicting aspiration, goals
 - Ex: People whose livelihood depends on the oil industry
 - Don't rock the boat to our comfortable lifestyle

Political affiliation as a predictor

More than eight-in-ten liberal Democrats say human activity contributes a great deal to climate change

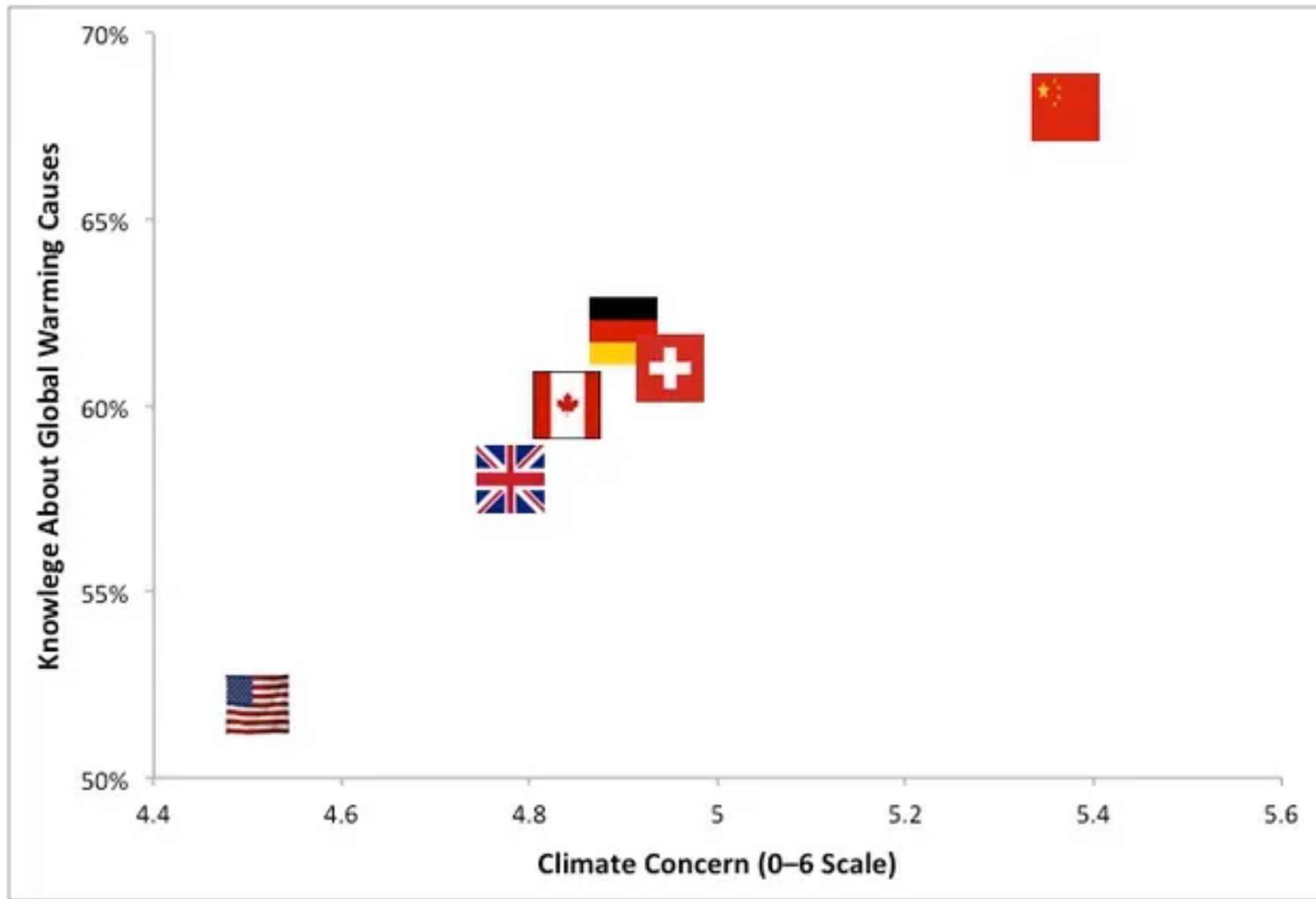
% of U.S. adults who say each of the following contributes to global climate change ...



Note: Republicans and Democrats include independents and others who "lean" toward the parties. Respondents who gave other responses or who did not give an answer not shown. Source: Survey conducted Oct. 1-13, 2019.

"U.S. Public Views on Climate and Energy"

PEW RESEARCH CENTER



▲ Concern about climate change (0-6 point scale) vs. average correct score on questions relevant to its causes in six countries. Illustration: Dana Nuccitelli, data from Shi et al. (2016).

Why don't you believe in climate change?

- Finish pool of worry
 - Climate change low on the list of daily concerns
- Stone-age mind
 - Not good at thinking about the future and caring about what's happening outside of their bubble
 - Respond better to PAIN (**p**ersonal, **a**brupt, **i**mmoral/indecent, that impacts **n**ow).
 - Climate change impact is slow, distant, in the future
 - In an air-conditioned room, heat is an abstract

Importance of presidential issues

	Extremely/Very important
	%
The economy	92
Employment and jobs	89
Terrorism and national security	87
Education	86
Healthcare and the Affordable Care Act	83
The federal budget deficit	78
Foreign affairs	74
Taxes	71
Immigration	69
The treatment of minority groups in this country	66
The distribution of income and wealth in the United States	65
The size and efficiency of the federal government	64
Gun policy	63
Trade with other nations	61
Government regulation of Wall Street and banks	59
Social issues such as gay marriage and abortion	48
Climate change	47

GALLUP, MAY 18-22, 2016

Psychology behind climate denial

- Motivated interference
 - We hold a specific bias to ignore evidence
 - Ex: Livelihood depends on the oil/coal industry”
 - Ex: Resent government takes our money and spend on carbon mitigation efforts
- Confirmation bias
 - The tendency for us to seek out information that affirms our beliefs and disregard information that goes against them
 - Stubborn
 - It's *efficient* and *easy* to be due to confirmation bias
- Denial
 - Primitive defense mechanism
 - Refusing uncomfortable truths protects us
- Enormity
 - Problem too large to believe
 - Human race faces extinction

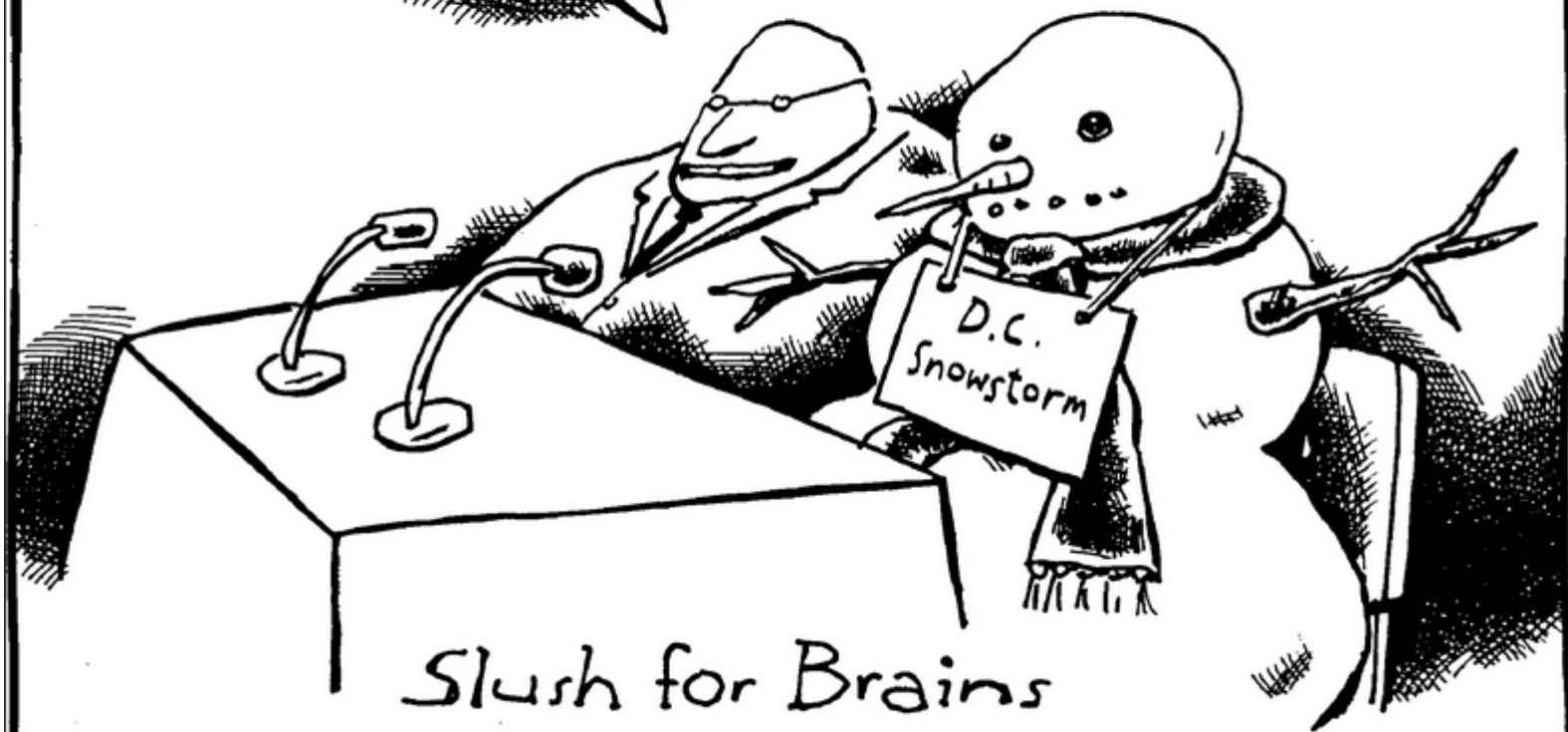
Immaturity of the Society

- We as scientists make mistakes.
- Science will self-correct overtime.
- General level of science knowledge is low.
- Anti-elitism
 - What does the expert know?
 - Enable by social media: Everybody is an expert.
- Political polarization: across all kinds of topics
 - You're with me or against me.
 - Mask-wearing.
- Lack of nuance in our society.

Rationalization

- Why blame me? Climate change is natural. By sun, volcano.
- Life will find a way.
- It's not that bad, takes another 15 years right?
- Hotter? We just had a snowstorm.
- Models are unreliable; not all scientists agree.
- A hoax?
- Limiting carbon emission halts progress, loses job, hurts economy.
- What can I do?
- Later...

I HAVE A NEW
EXPERT WITNESS
TO DISPROVE ALL THE
CLIMATE CHANGE SCIENCE!



Slush for Brains

TUES

UNIVERSAL UENIC
© 2010 THE WASHINGTON POST

WHERE'D
HE GO?



We believe what we want to believe

Outline

- Dissecting the psychology of a doubter
- **Protect your own sanity**

Pick your fight wisely

- Roll with it when strong doubts are expressed,
- Resist the impulse to convince
- Confirm respect for their views. “I hear you.”
- Conclude with your commitment to their health and mutual interest
- Stick with simple messages that educate and empower
- Need *government action*

Past the time for convincing...Change policy

- “Climate change is a problem less of individual belief than of collective action. The most efficient route...lies not in convincing deniers to believe in climate change but in galvanizing those who already do.”
- What should you do when your uncle calls climate change a liberal hoax over the Thanksgiving dinner table?

Estimate how many minutes you would likely invest in this “discussion.” Then — don’t...use the time to call your legislator or write a letter to the editor.

Better yet, mobilize a friend who already believes climate change is a problem. Set up an in-person meeting with their representative, join a protest or a local environmental nonprofit.

Outline

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- Protecting your own sanity
- **Communicating concerns and solutions**

Numbers numb, stories sell

“Scientists need to tell their stories — stories about why they became scientists and what science has done and is doing for humanity. Remember, science is an abstract, intellectual process for most people. It is very hard for people to gain an emotional connection to science. That’s what narrative is for.”

How to convince Uncle Ed?

- Be calm, patient, respectful
- Listen
 - Goodall: While you're talking, your opposite is thinking counter argument
 - Grow trust
 - Plant seed of doubt
 - Understand whom you're talking to.
 - Moral Foundation Theory
 - Liberals and conservatives prioritize different ethics, values
 - Liberal: compassion, fairness and liberty
 - Polar bear, deforestation
 - Conservative: purity, loyalty and obedience to authority
 - Environmental stewardship and respect for God's creation
 - Protecting the environment means obeying authority
 - Values come from the ingroup

Facts overload: Pick your facts

- 2020 has been disastrous.
- Hurricanes in the Atlantic are so numerous that there are not enough letters in the Latin alphabet to name them all. Fires in California torched more than 4 million acres, smashing the state's record for land burned in a single season. In the first nine months of this year, at least 188 people have been killed in a record-tying 16 weather disasters that cost \$1 billion or more. The nation now spends almost 10 times as much responding to and recovering from natural events as it did in the 1980s. And that's just the United States. Don't forget the bush fires in Australia, floods in Central Africa and the powerful Cyclone Amphan, which killed dozens of people in India and Bangladesh.
- 2020 has also been hot.
- During one of the Northern Hemisphere's warmest winters on record, the Great Lakes never froze, Russian officials in Moscow had to import fake snow for the holidays, and the fire season in parched California began months ahead of schedule. Temperatures soared in the Siberian Arctic, melting permafrost and fueling devastating, carbon-spewing fires. In Baghdad, where the mercury hit an unprecedented 125 degrees Fahrenheit in July, vegetation withered and metal door handles burned to the touch. Heat waves have smashed records from Phoenix to Hong Kong. Earth overall is on track to have its second-hottest year on record.

Pick your facts

- Projections less trusted
 - By 2050, sea level will rise by 30 centimeters
 - Livestock account for 36% of drought-related losses (crops account for 49%)
 - An estimated additional 175 million people could have zinc deficiencies and an additional 122 million people could be protein deficient...
- Distance may make climate change victim less relatable
 - California wildfire
 - Australia bushfire

A kangaroo rushes past a burning house in Lake Conjola, Australia, on Dec. 31, 2019.



Share facts of public values, local interests

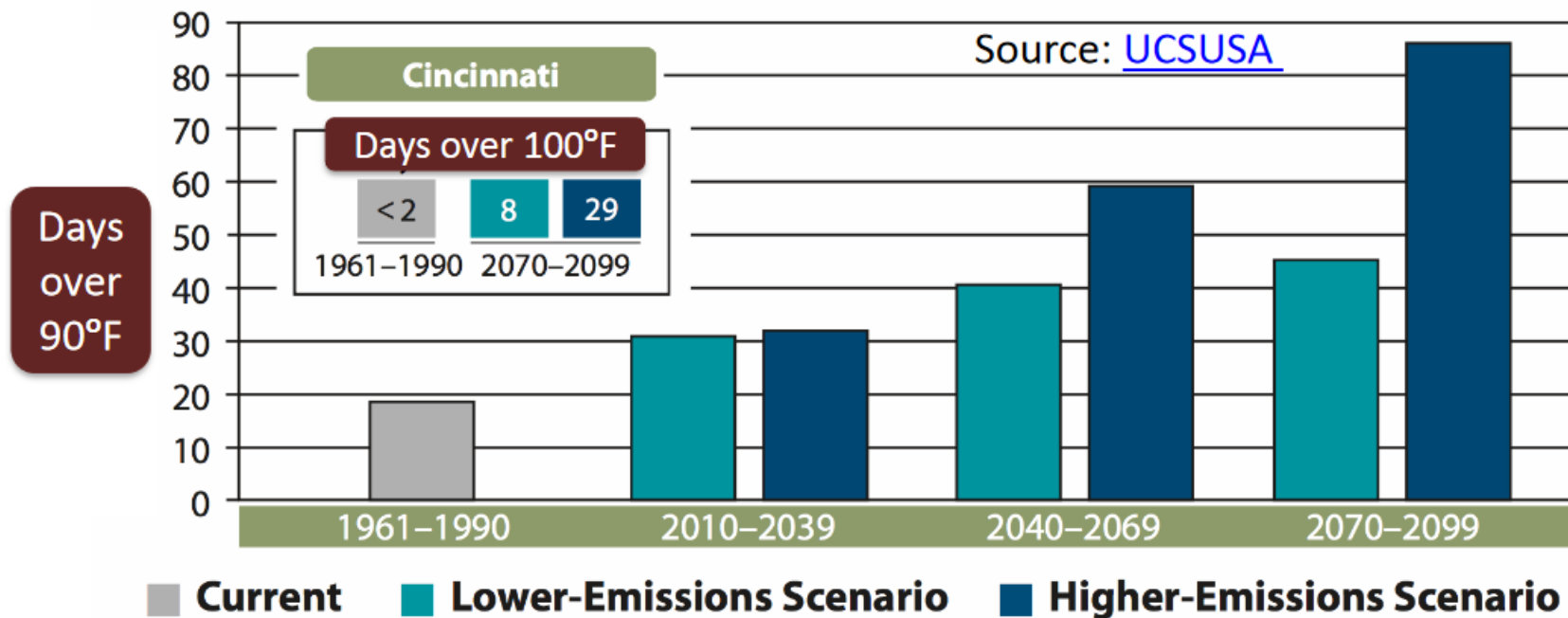
- Pick facts from the past, local data
- In Ohio: Warmer
 - Longer growing season
 - Inc CO2 may help growth in certain crops
 - Increased ground-level ozone can damage crop
 - Increase in vector-borne and tropical diseases
- More precipitation
 - More rain in spring, fall (less time to plant and harvest), winter
 - More drought in summer (stunt plant growth)
 - More 24-hr or multi-day rain: flash flood
 - Warmer lake, severe storm runoff increase algae bloom

Extreme Heat in Ohio



OBSERVATIONS

Summer daytime high temperatures in Cincinnati rarely reach 100°F in today's climate.



PROJECTIONS

The number of days with dangerously high temperatures (above 100°F) is projected to increase significantly in the future.

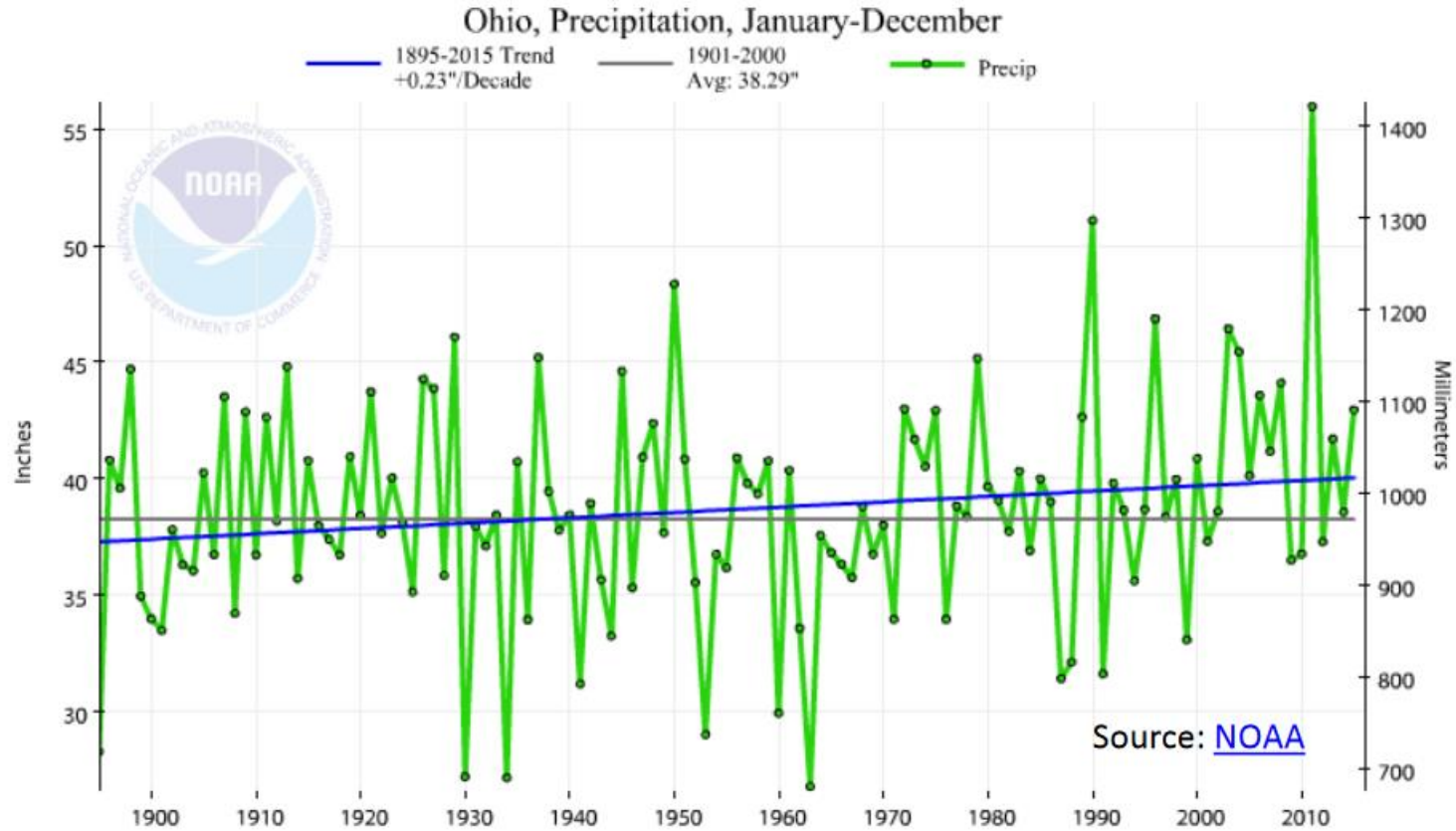


Rain and Snow in Ohio



OBSERVATIONS

Annual total precipitation (rain + snow) has increased over the last few decades.



In 15 out of the last 20 years, annual precipitation in OH exceeded the 20th-century average.





Flooded Canal Road in Valley View, September 17, 2020, Cleveland.com

Columbia Road Beach in Rocky River



Bradstreet's Landing in Rocky River

Toxic Algae Bloom Leaves 500,000 Without Drinking Water in Ohio

 By Circle of Blue | Aug. 03, 2014 01:15PM EST

CLIMATE

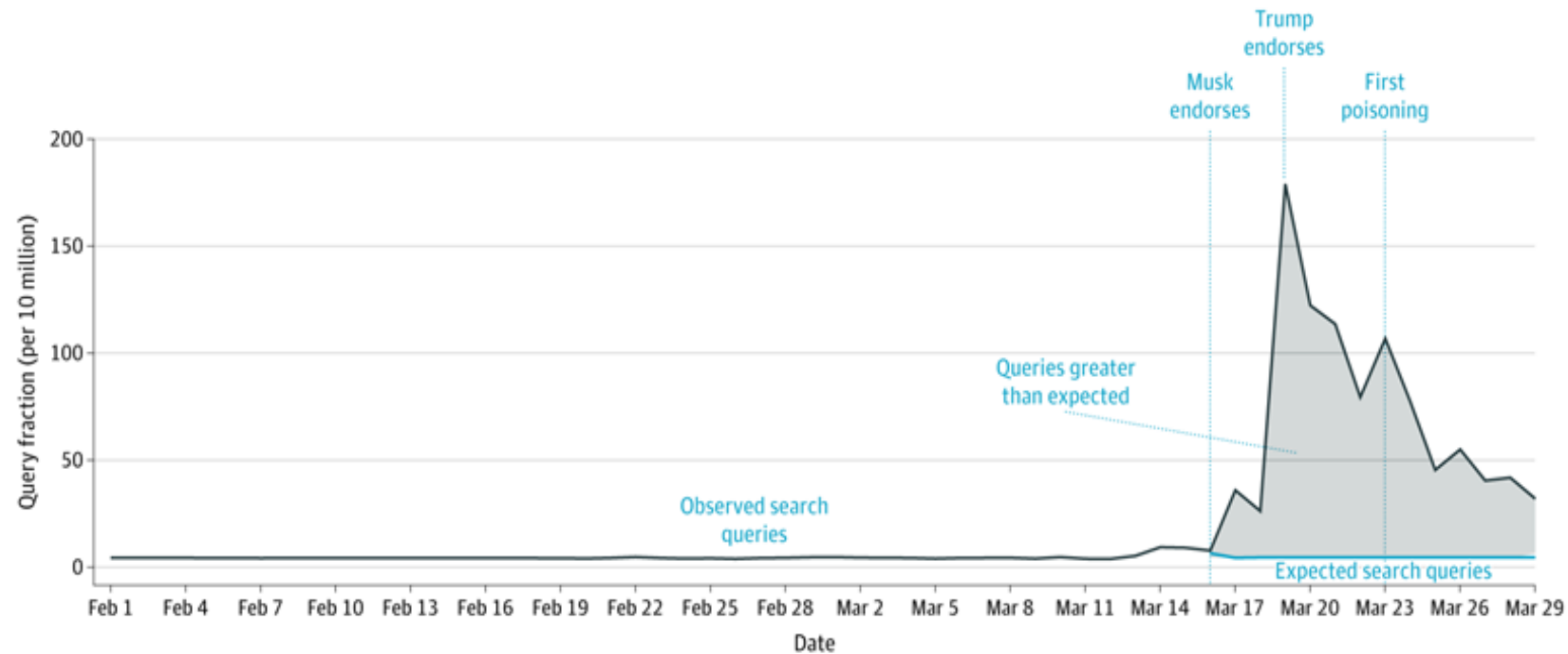




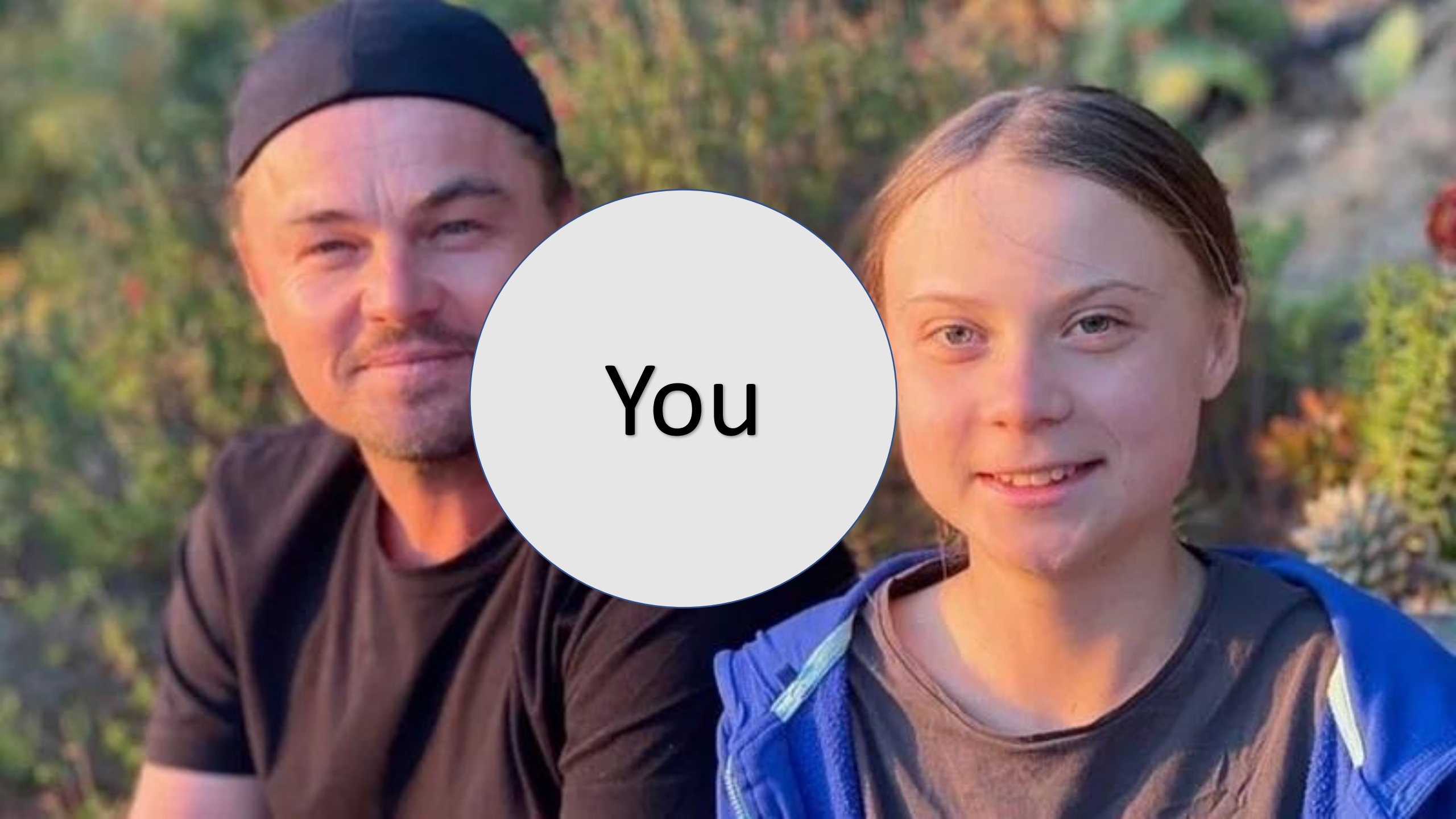
Solutions are sexy, saving, simple, and healthy

- Take the bus/train, bike, walk to work one day a week (exercise)
- Reduce red meat intake (healthier)
- Eat peanuts instead of almonds (cheaper, similar protein/fiber content)
- Buy phosphate-free detergent
- Switching to LED (save \$1000 over 10 yrs in an average household)
- Solar panel (free-market business)
- Don't idle your cars (good for lungs, esp. children)

Celebrity endorsement: Internet search for purchasing hydroxychloroquine



The biggest celebrity is...



You

Welcome to Team ME: Do as I do

- Speak up
 - Tell your family and friends what's the single biggest way you can make an impact on global climate change?
 - Focus on what they're already doing right
- Drive electrical car
- Run or bike to library, post office
- Power my home with green energy
- Weatherize
 - Heating and air-conditioning account for almost half of home energy use
 - New windows
- Invest in energy-efficient appliances
- Reduce water waste
- Own two 60-gallon rain barrels
- Eat less red meat. Try not to waste food
- Switch to LED light bulbs

Health-related scientists are frontline soldiers to communicate climate change in health

- Climate change is the greatest threat to public health in 21st century
- Trust in doctors have gone down
- Health is a shared concern for all Americans
- Help patients make the link among emissions, climate instability, and their own health
- 80-90% physician believe anthropogenic influence on climate change
- Barriers: *Lack of knowledge*, limited time, low reimbursement, fear of igniting political resentment
- Example: Parents concerned about vaccine safety credit a warm rapport with a pediatrician as the most important factor in deciding to immunize their children

When Science wins, everybody wins

Outline

- Dissecting the psychology of a doubter
- Protecting your own sanity
- Communicating concerns and solution
- **Exercise**

Clinical setting

Table. Clinical Scenarios for Climate Messaging

Who Is Vulnerable to Common Climate Health Risks	Climate Messaging Script Example
Heat illness Socially isolated, older-age individuals, athletes, outdoor workers, people with chronic disease (e.g., obesity, cardiovascular, chronic pulmonary, asthma, cancer), pregnant women, children, urban racial minorities, patients with mental health conditions.	"We are seeing more hot days every year in our area because of climate change and the heat can be tough for people with breathing problems or who are older. Let's discuss ways to make sure you are prepared and options for getting a break from the heat if needed."
Aeroallergen-related conditions Adults and children with seasonal allergies, allergic rhinitis, allergic conjunctivitis, asthma, or chronic pulmonary disease.	"There is more pollen in the air because of climate change and this is an important consideration if pollen makes your lung condition worse."
Air pollution/ozone-related disease Adults with cardiovascular disease and/or chronic pulmonary disease, children with asthma.	"Climate change and air pollution are caused by the same thing—burning fossil fuels. Together they make air quality worse, and that can make heart and lung disease worse. Checking air quality and avoiding busy roadways when you go out for exercise can help protect you."
Extreme events Wildfires: Healthy people, older-age individuals, pregnant women, children, and people with cardiovascular or respiratory disease.	"Wildfires are becoming more common because of climate change. The smoke and particles can travel many miles and can be dangerous for everyone, but especially people with heart or lung disease. It is important to check air quality information when there are wildfires. Here are some ways to do that (www.airnow.com) and tips to reduce exposure."

Child-parent intergenerational learning



Walt Kelly

Pogo

April 22, 1971

Ink and blue pencil on paper

Pogo Collection

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