

HEALTH IMPACTS OF A CHANGING CLIMATE

Ethan Sims, MD

Medical Director for Sustainability, St.
Luke's Health

Director, Idaho Clinicians for Climate
and Health





**WHY AM I
HERE?**

**Just a F&#Sing
ER DOCTOR?**





**WHY AM I
HERE?**

**“Psychiatry
Adjacent”**

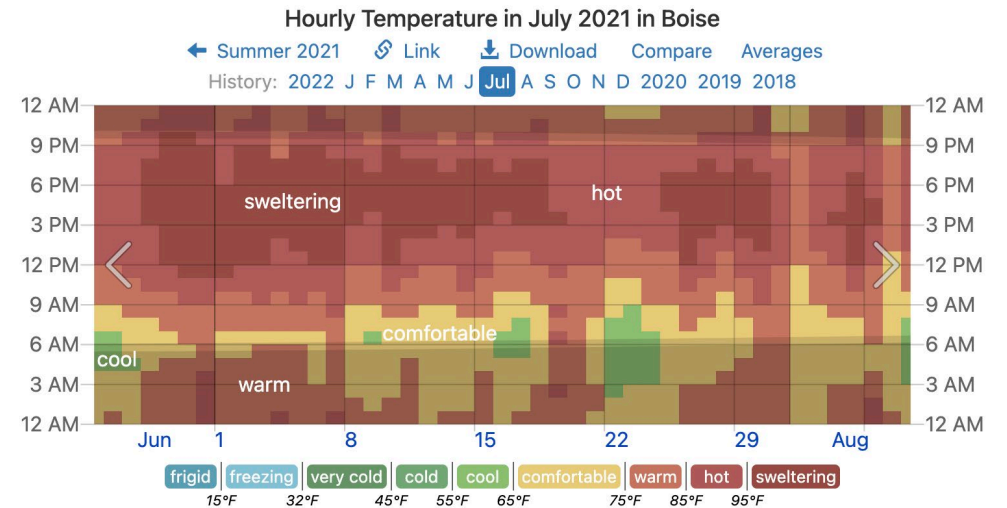
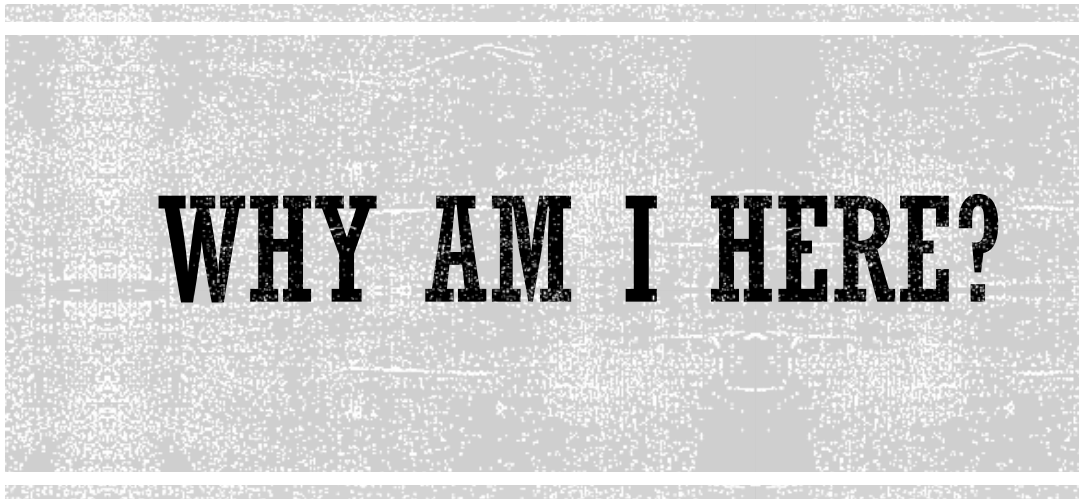




**WHY AM I
HERE?**

**HERE FOR AN
INTERVENTION?**





The hourly reported temperature, color coded into bands. The shaded overlays indicate night and civil twilight.



GOALS OF THIS TALK

- Establish that the climate is changing
- Discuss the climate impacts on health
 - Heat
 - Smoke
- Take a closer look at mental health conditions impacted by climate change
- Talk about the ways healthcare is contributing to climate change
- Describe interventions in healthcare and home to reduce the drivers of climate change
- Not have a panic attack on stage in front of a bunch of psychiatrists



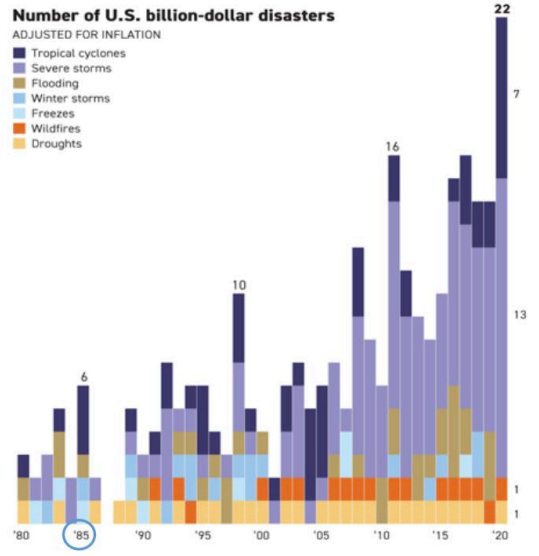
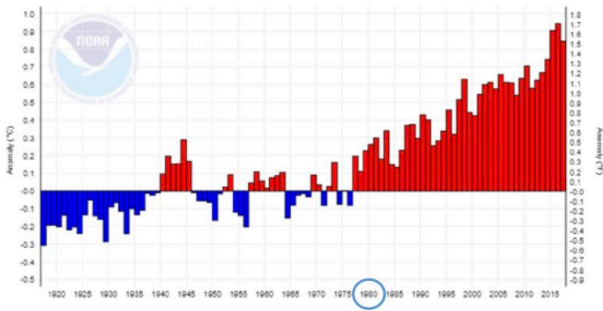
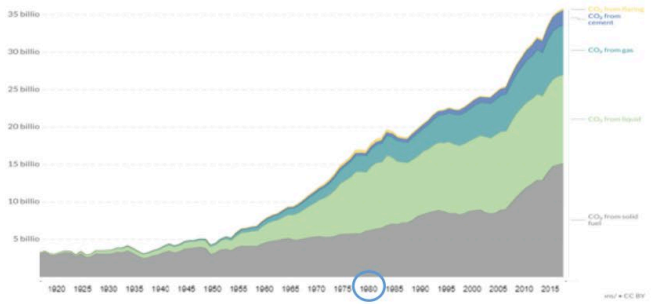
WHO SAID IT?

“If we’ve learned any lessons during the past few decades, perhaps the most important is that preservation of our environment is not a partisan challenge; it’s common sense. Our physical health, our social happiness, and our economic well-being will be sustained only by all of us working in partnership as thoughtful, effective stewards of our natural resources.”



THE WORLD HAS ALREADY CHANGED

Pollution > Temperature > Disaster

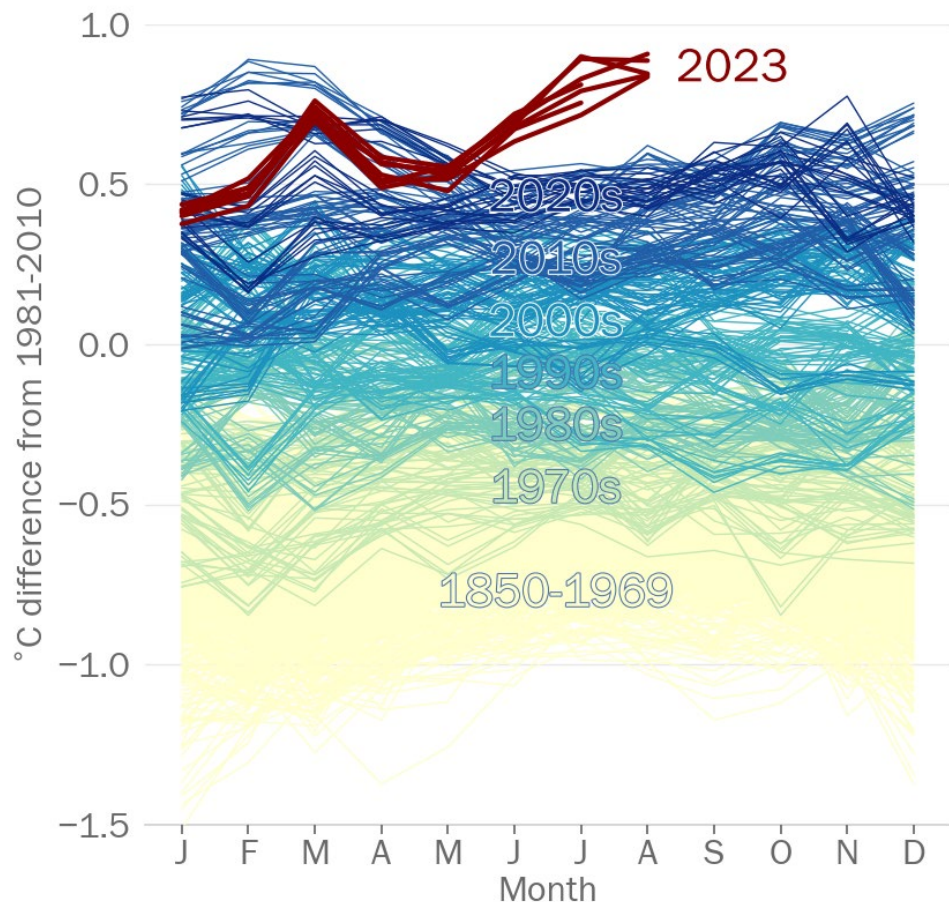


- As atmospheric CO₂ levels rise...
- Global temperatures rise...
- Number and cost of global disasters follows...



HOT HOT HOT!

Monthly Global Temperature Anomalies 1850-2023



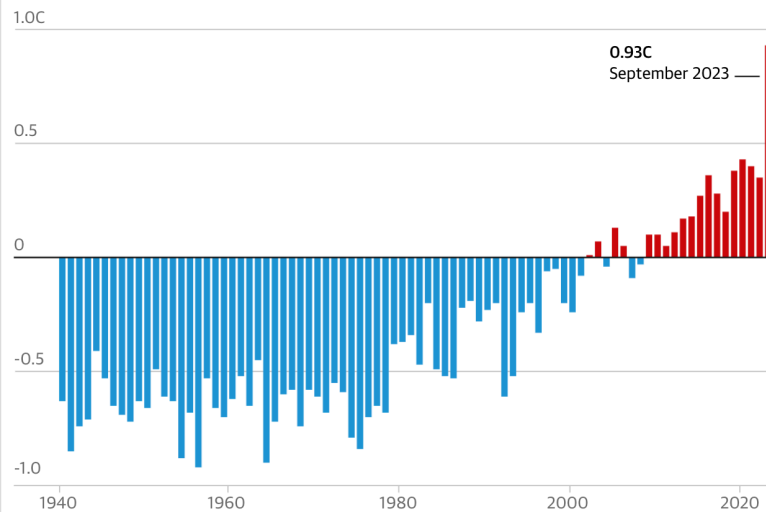
RECORD OCEAN HEAT

Daily global sea surface temperature (°F)



September 2023 was the warmest on record

Global average surface temperature anomalies relative to 1991-2020, each September

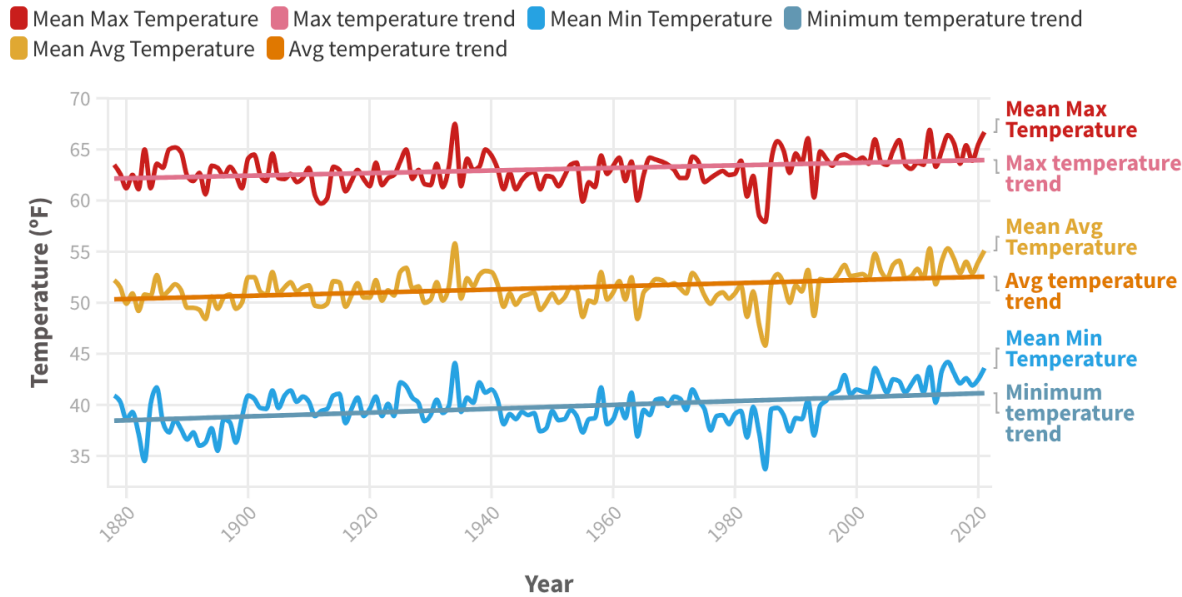


IT'S GETTING HOT IN IDAHO

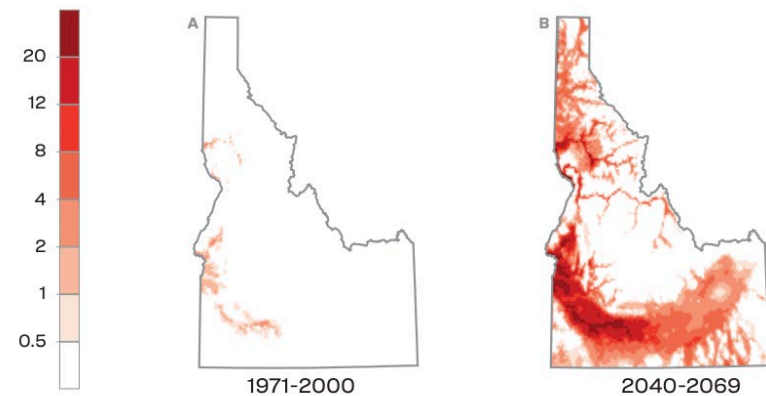
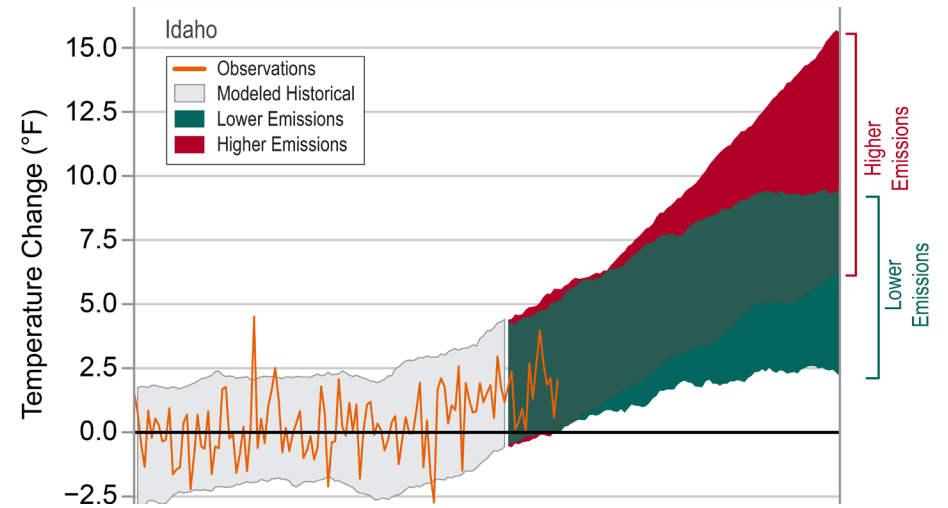
Temperature change in Boise

National Weather Service data shows how average temperatures, including minimum, maximum and mean temperatures, have trended warmer in Boise since record-keeping began in the late 1800s.

Click on the colored squares to isolate different data sets.



Source: National Weather Service



Maps of (A) late-20th century 100°F+ heat index days and (B) mid-



IT'S GETTING SMOKY TOO...

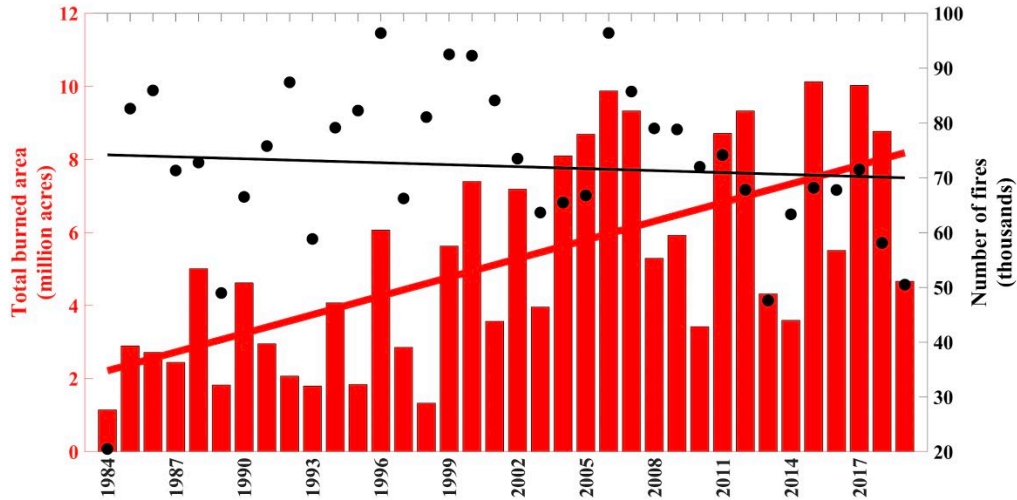


Figure 11. Annual burned area across the U.S. (red bins) and total number of reported wildfires (black dots) across the U.S. Trends are shown with solid lines (data from National Interagency Fire Center, 2021).

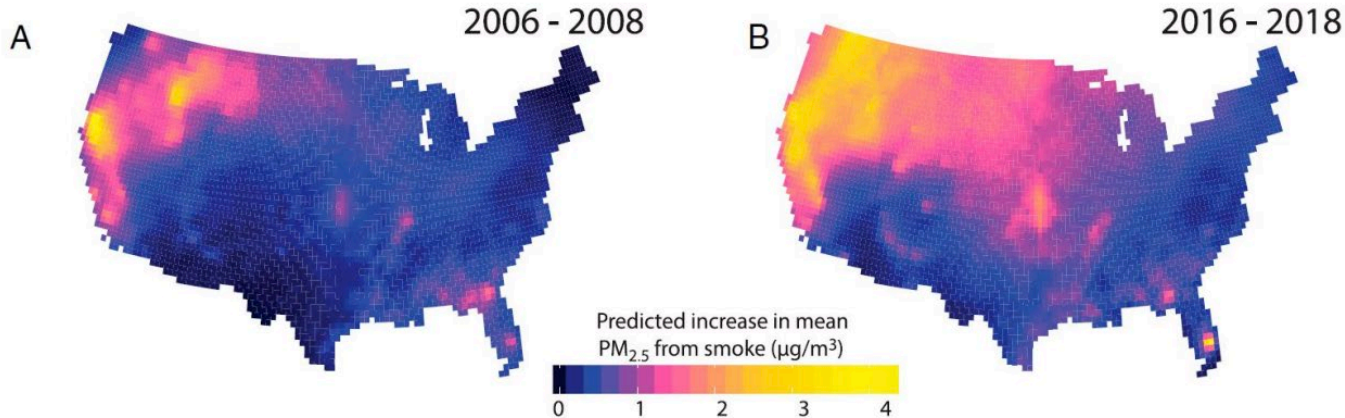
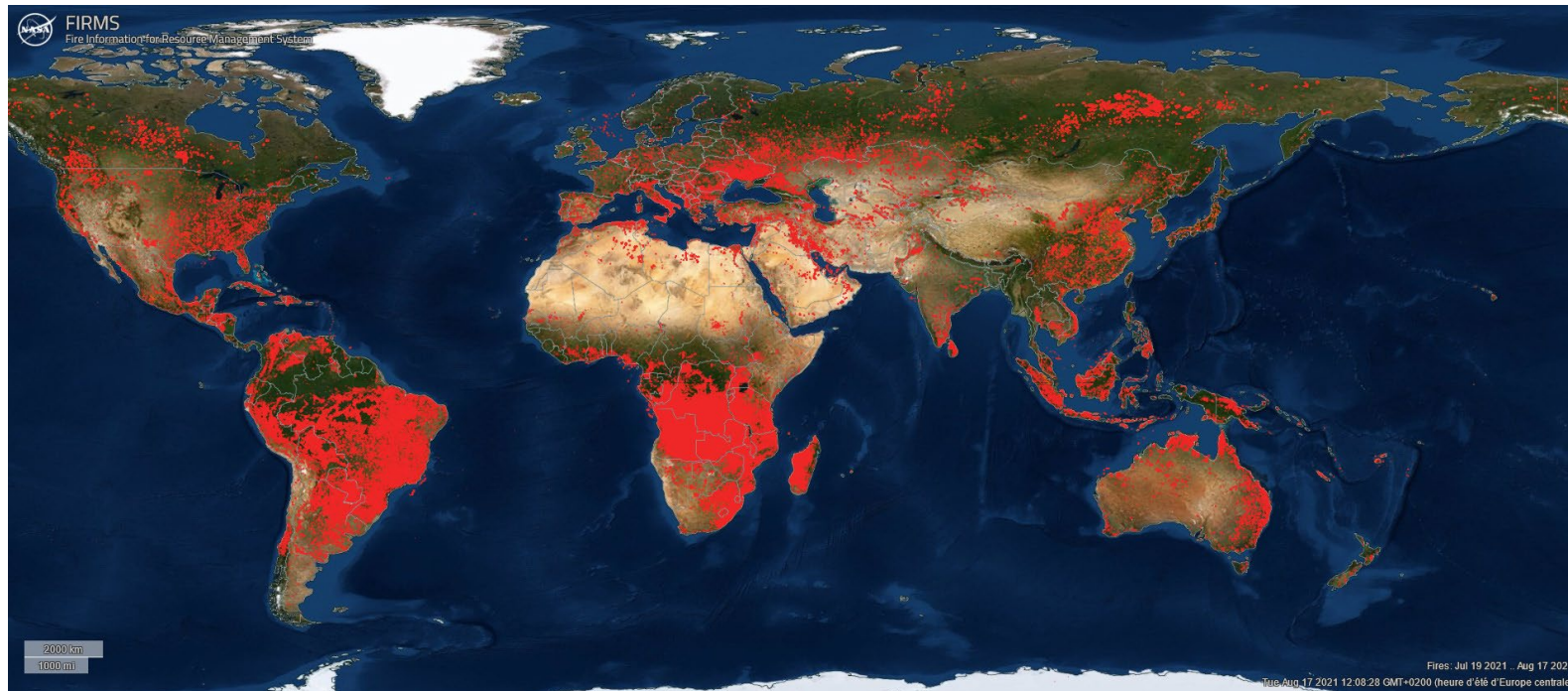


Figure 5. Predicted increase in PM_{2.5} attributable to wildfires (A) 2006-2008 and (B) 2016-2018, derived from a statistical model informed by satellite imagery and ground observations (source: Burke et al., 2021).



GLOBAL WILDFIRES



NASA Fire Information for Resource Management System map (19 July to 17 August 2021)



IT'S RAINING, IT'S POURING...

- Karachi, Pakistan, August 2022
 - >1500 deaths
 - >1 million homes destroyed
 - 33 million people impacted
 - 1/3 of Pakistan affected
- NYC Floods 9/23
 - 1 month's worth of rain in 3 hours
 - 8" at JFK airport
 - ~\$35 million in damages



DROUGHT AND ITS IMPACTS ON HEALTH

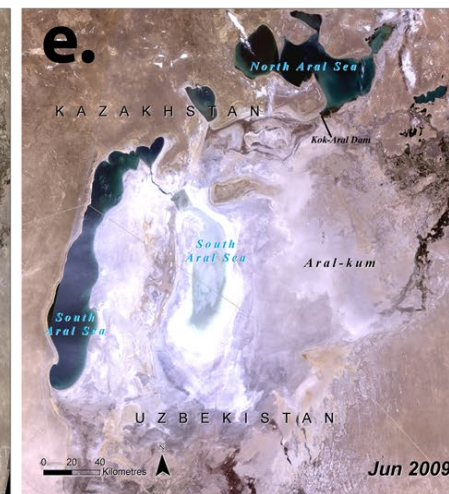
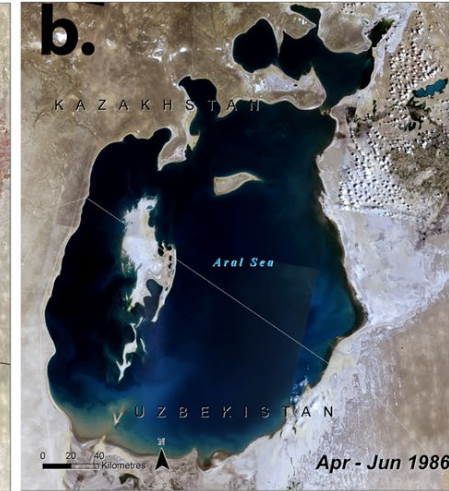
Lack of access to drinking and irrigation water → Food and water insecurity

Diminished water quality

Loss of water flow leads to lack of ability to generate hydroelectric power

Stagnant water leads to increased mosquito habitats and spread of disease

Desertification of lake beds leads to worsening air quality

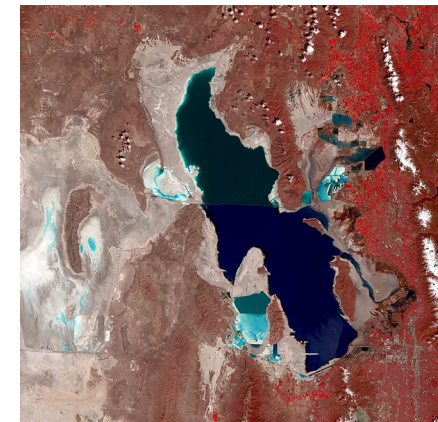
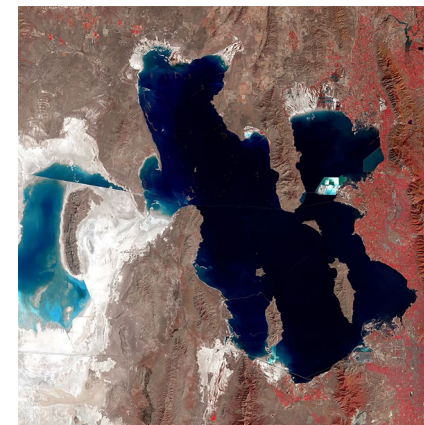


- The Aral Sea, Uzbekistan
- First time in 600 years the eastern basin ran dry



As the Great Salt Lake Dries Up, Utah Faces an 'Environmental Nuclear Bomb'

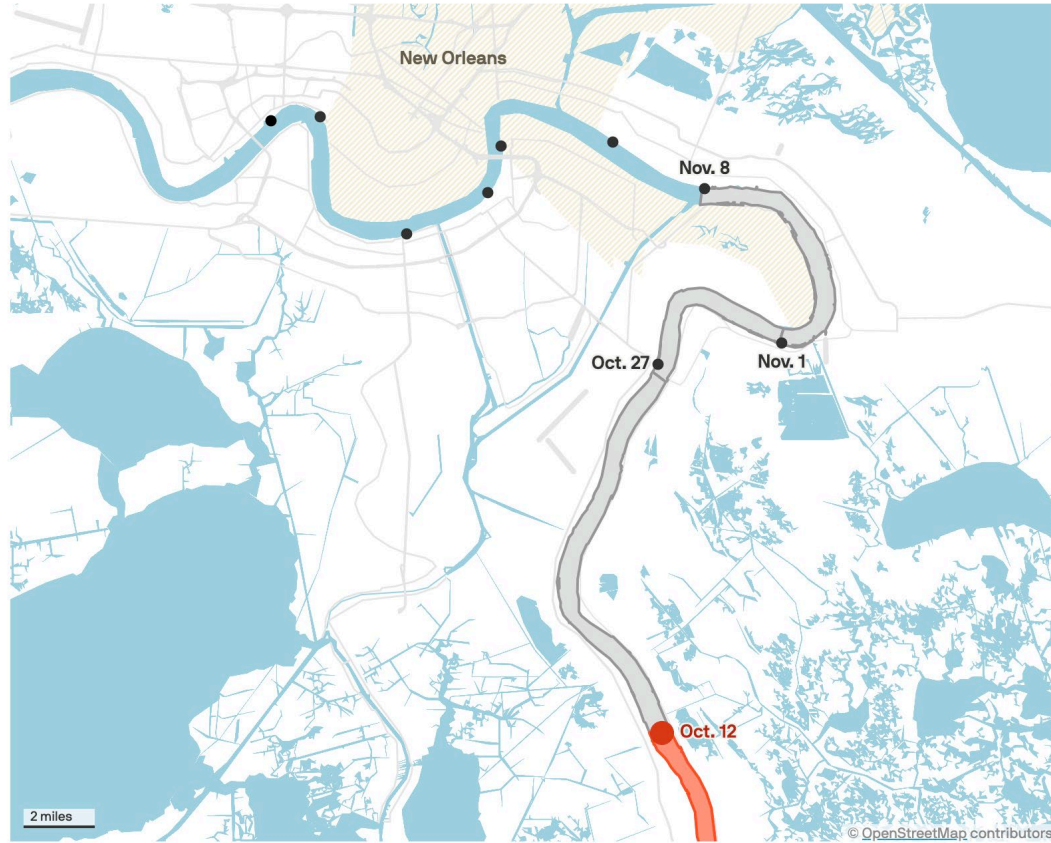
Climate change and rapid population growth are shrinking the lake, creating a bowl of toxic dust that could poison the air around Salt Lake City.



Estimated timeline for saltwater intrusion into the New Orleans metro area

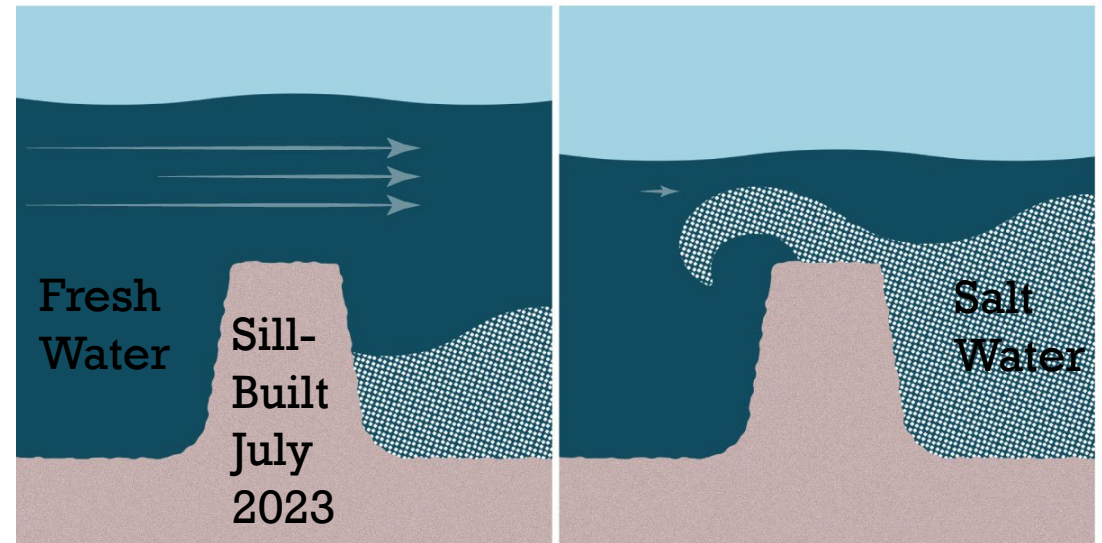
As of Oct. 12, 2023

Observed Predicted Water treatment plants

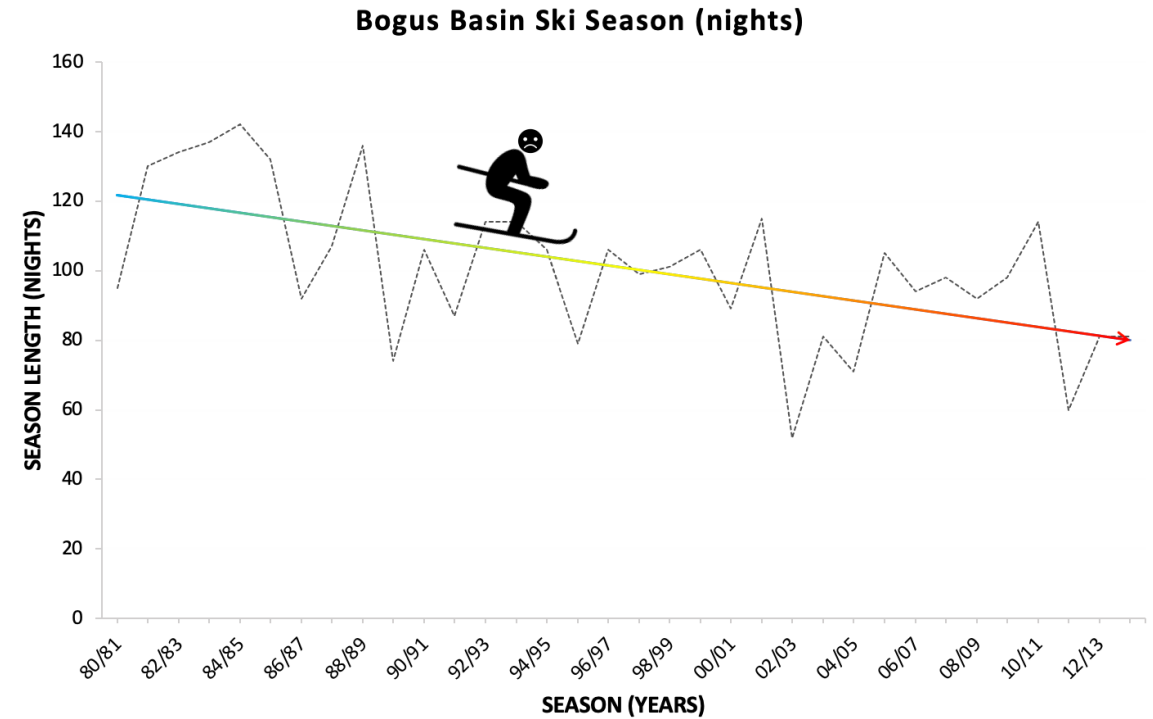


Data: [GOHSEP](#); Map: Axios Visuals

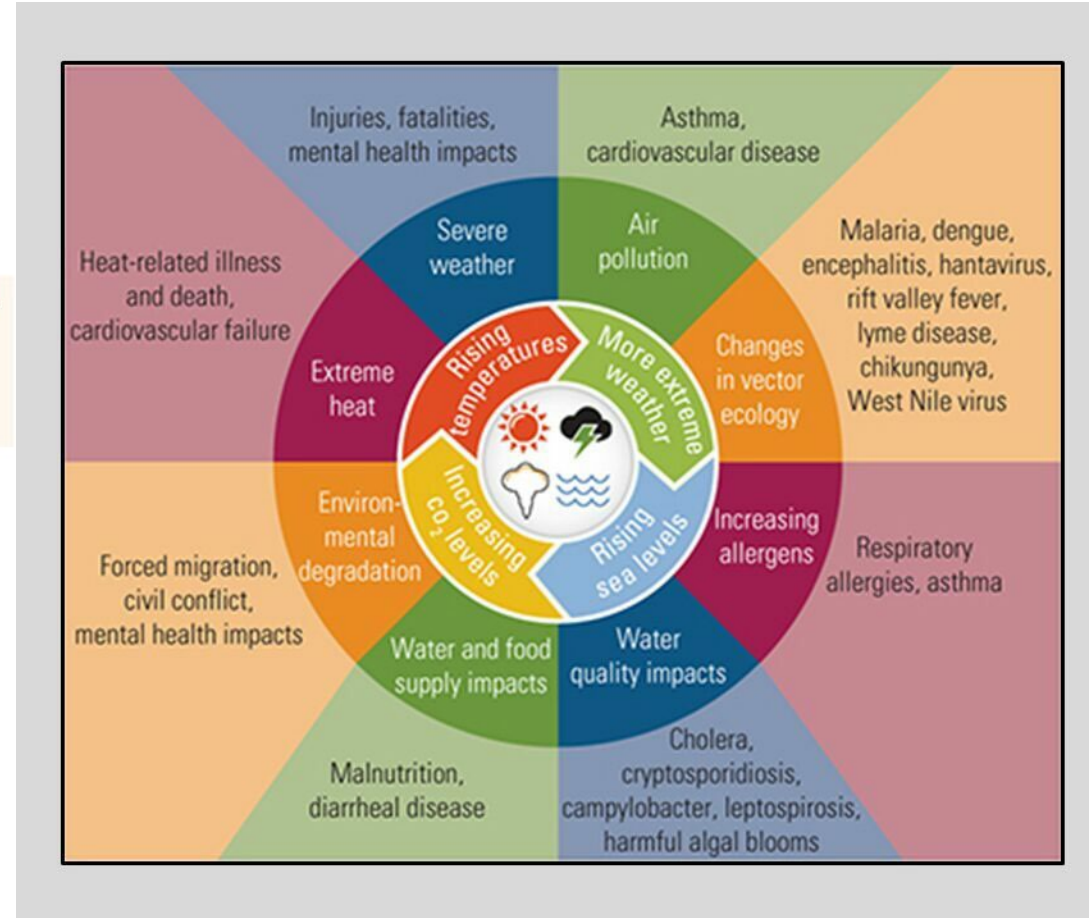
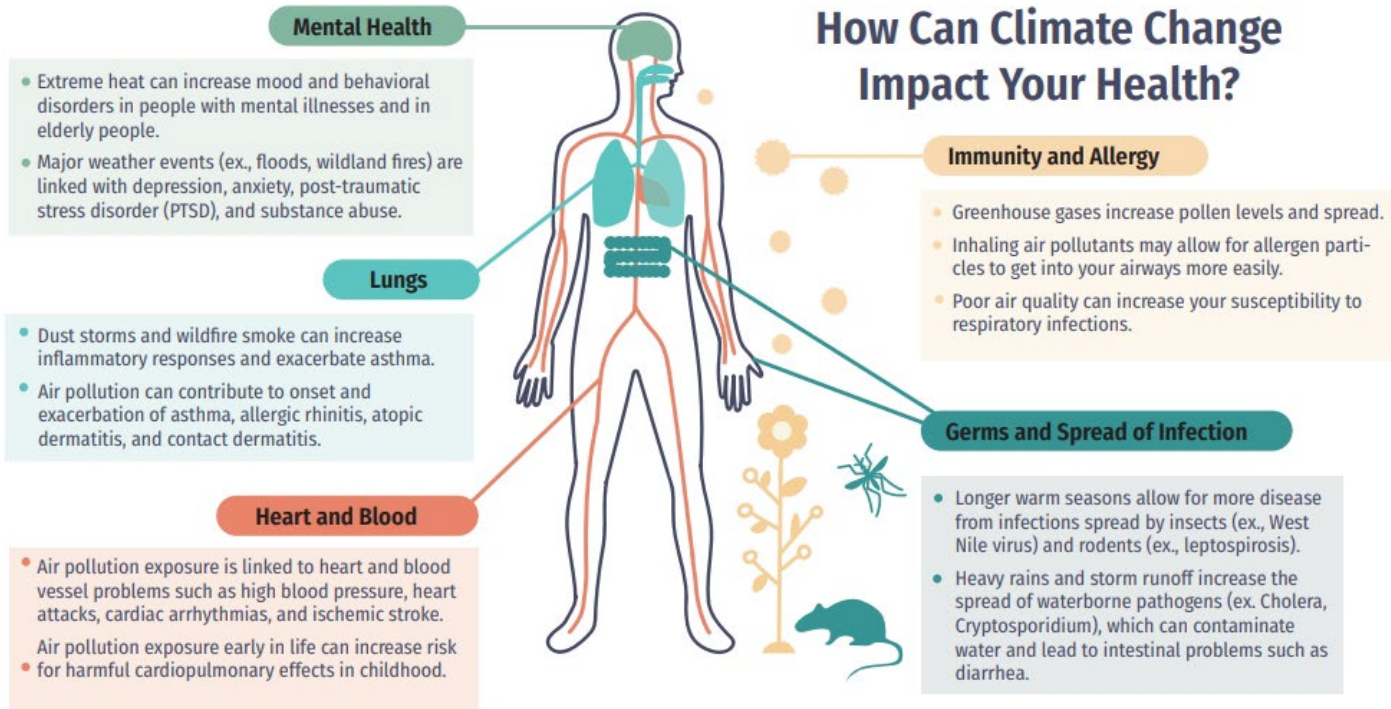
A Cautionary Tale- New Orleans 2023



THE THINGS WE LOVE IN IDAHO ARE BEING IMPACTED BY CLIMATE CHANGE



CLIMATE CHANGE IS A HEALTH CRISIS



CLIMATE CHANGE IS IMPACTING HEALTH IN IDAHO

The McClure Center Report

Human Health

Key Messages:

- Poor air quality due to wildfire smoke and high temperatures are the most widespread direct and indirect impacts of climate change on Idahoans' health. Many indirect impacts exist that affect wellbeing, productivity, life expectancy and economic health.
- Other climate-related health impacts include vector-borne disease, decreased water quality and quantity, harmful algal blooms, food safety and food insecurity, mental health and others.

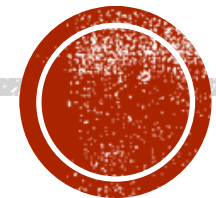


Key Findings

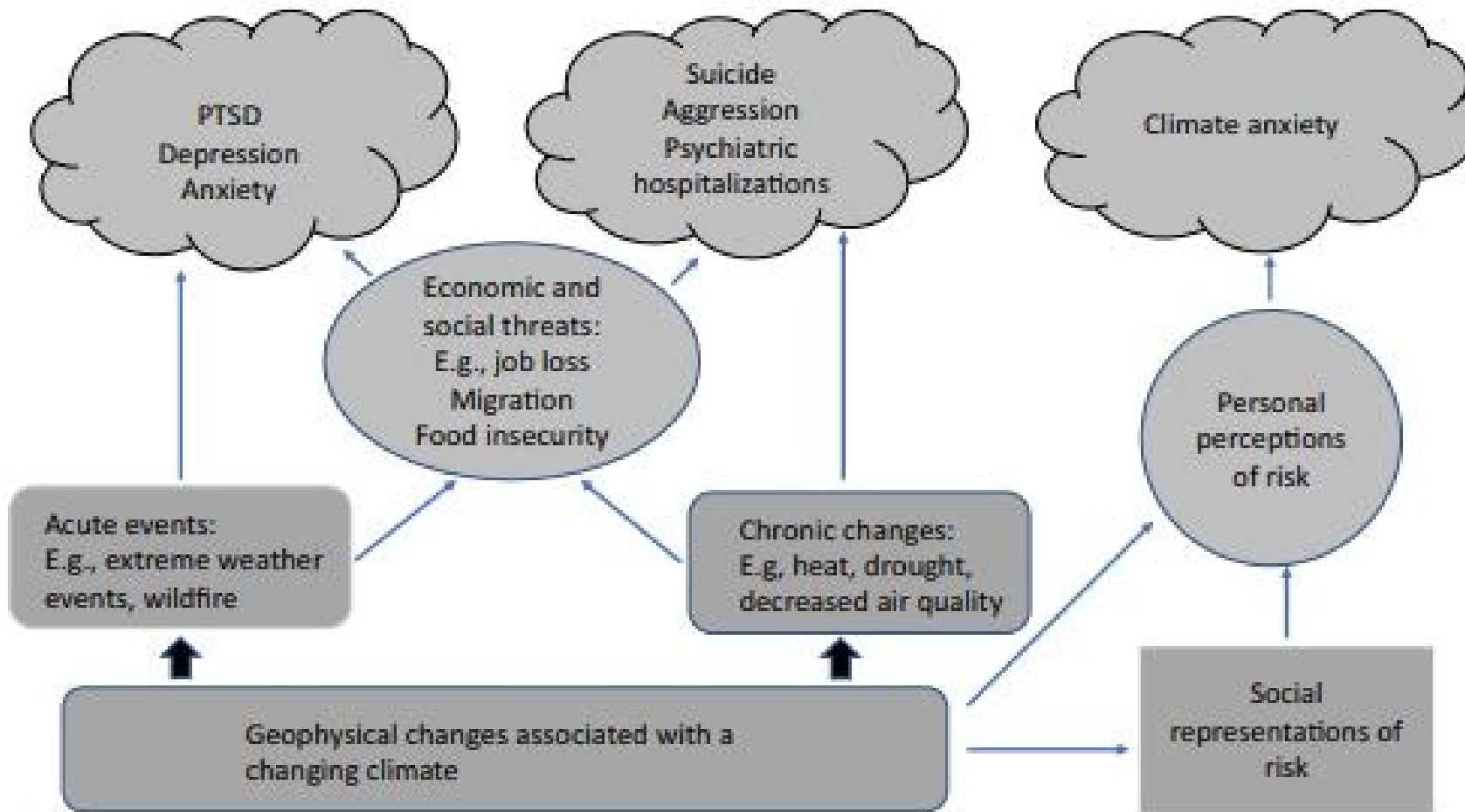
Idaho's climate is changing.

- Idaho is projected to experience increasing temperatures, changes in precipitation and decreasing snowpack.
- Precipitation patterns will vary across the state. There likely will be increasing precipitation in the winter and early spring, mainly in the form of rain, as well as decreasing summer precipitation.
- An increase in rain-on-snow events is likely. Rain on top of snow leads to increases in floods and land/mudslides.
- Idaho will experience increases in extreme weather events, including drought, floods and wildfires.

Idaho Climate-Economy Impacts Assessment



CLIMATE CHANGE & MENTAL HEALTH



Climate Change:



Acute extreme events & chronic changes can act alone and in concert, leading to a wide spectrum of adverse mental health outcomes

HEALTH EFFECTS OF EXTREME HEAT

Heat related illnesses include

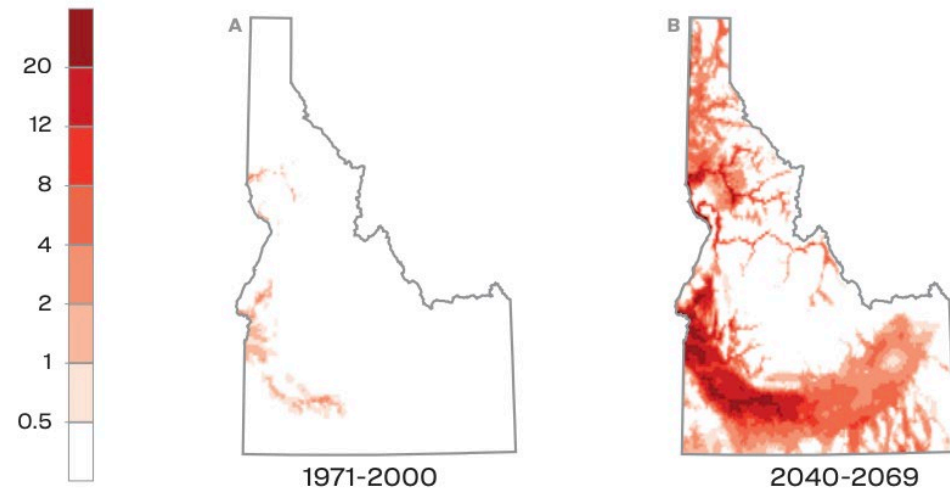
- Heat stroke, heat exhaustion
- Syncope, cramps, fatigue, rash
- Can occur at temps below 100f.
 - *Relative change in temperature more important than the number*

Cardiovascular disease, mental health crises, dehydration and kidney disease

- BMJ Study showing with days with >95% temps:
 - All ED visits increased by 8%
 - Heat related illness by 66%
 - Mental health visits by 8%, kidney disease dx by 30%

More deaths related to heat than all other extreme weather events combined!

100°F+ HEAT INDEX DAYS IN IDAHO



Maps of (A) late-20th century 100°F+ heat index days and (B) mid-21st century 100°F+ heat index days (RCP8.5).



HEALTH CONSEQUENCES OF EXTREME HEAT

All cause mortality

- “Death Gap” in England, between July 10-25, 2022, record temps up to 104.5!
- More than 2000 excess deaths from 5 year expected average, 10.4% more than expected

Pregnancy:

- Pre-term deliveries, even in wealthier communities

Cardiovascular disease


- Higher rates of MI and stroke

Pulmonary disease

- High temperatures increase ground level ozone/smog



Heat and Mental Health



Suicide
Depression
Poor cognition
Impaired memory
Substance misuse
Aggression
Irritability
Sleep problems
Poor judgement



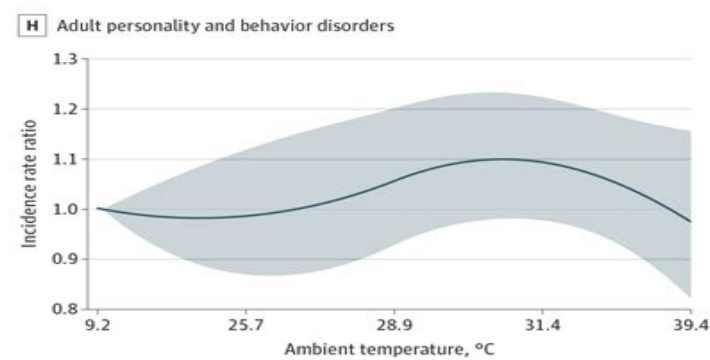
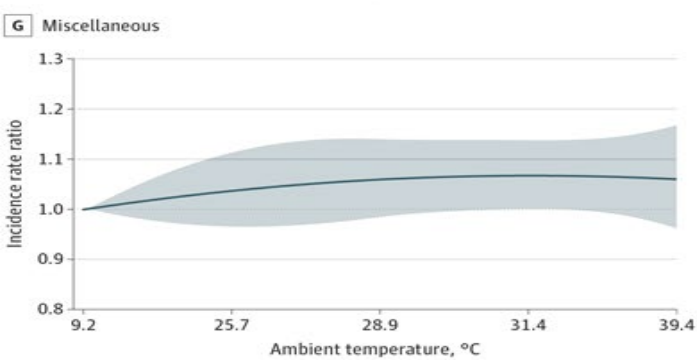
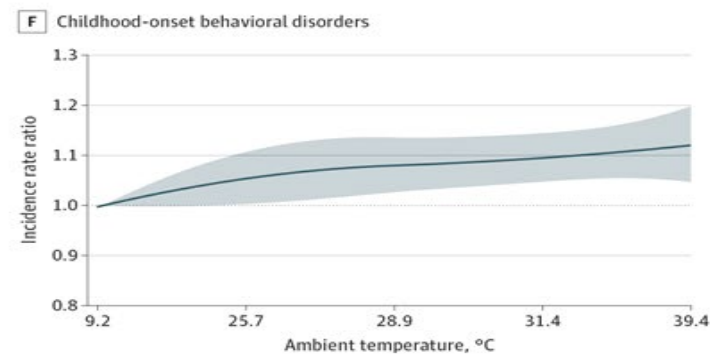
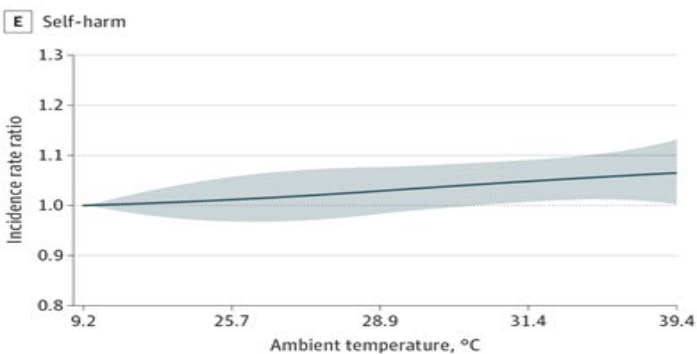
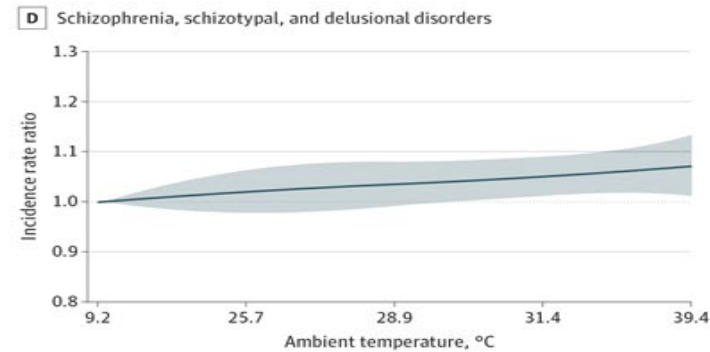
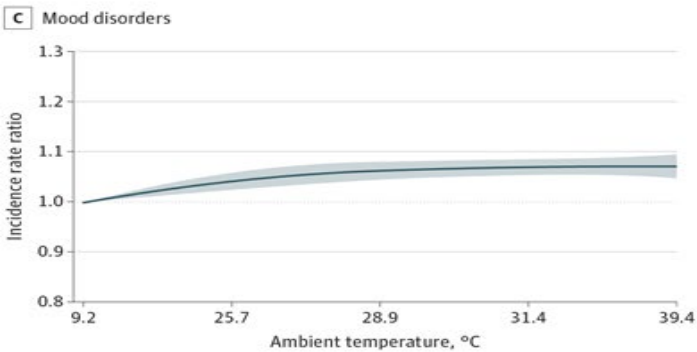
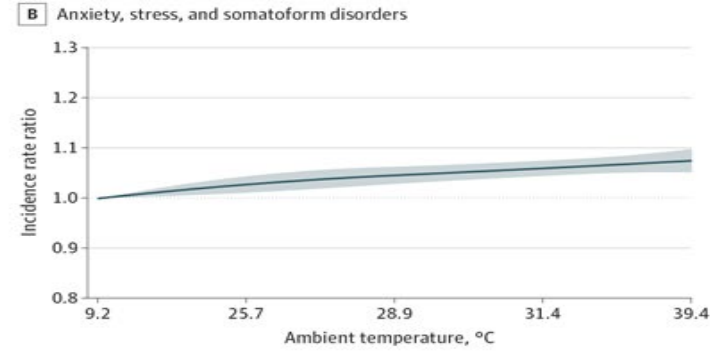
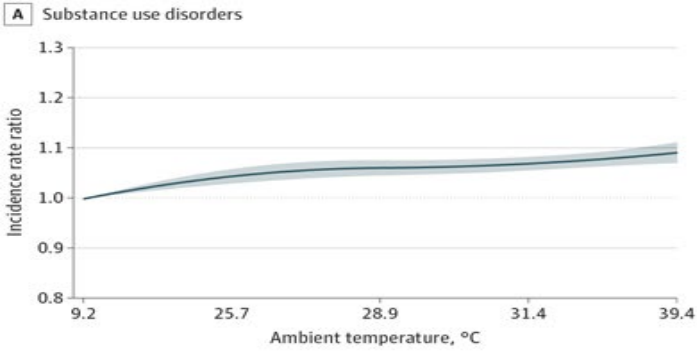
Jax Therapy Network
Serving Greater Northeast Florida

MENTAL HEALTH EFFECTS OF EXTREME HEAT

- Suicide
 - higher rates of attempts and completion
- Violent crime
- Depression
- Anxiety



MENTAL HEALTH IMPACTS OF EXTREME HEAT



- Nori-Sarma, et al, *JAMA Psychiatry*. 2022;79(4):341-349
 - 2.2 million adult ER visits across the US 2010-2019
 - 8% increase in ER visits for mental health concerns on hottest days vs. cool days
 - Including self harm, substance use, anxiety, mood disorders, schizophrenia
 - Only trend that didn't track was personality disorders!



VIOLENT CRIME AND HEAT

- Heilman, et al, J. Public Econ 2021
 - Increase in violent crime with increasing temperatures
 - Temps>75=1.72% higher
 - Temps>90=1.90% higher
- Xu, et al, Sustain Cities Soc, 2021; 69: 102828
 - Retrospective study of 7 US cities between 2007-2017
 - Every 5°C rise in daily mean temperature->4.5% increase in sex offences in the following 0-8 days
- Kubo, et al, Soc Forces, 2004; 82: 1333-72
 - A nationwide analysis in Japan between 2012 and 2015 found that ambulance transports due to assault increased linearly with the rise in daily temperatures.
- Two main theories
 - Temperature-aggression theory
 - Its hot, you're uncomfortable, you commit crime
 - Routine activity theory
 - Changes in ambient temperature alter your patterns of behavior to induce a suitable environment for crime
 - Warmer weather->more contact->more conflict



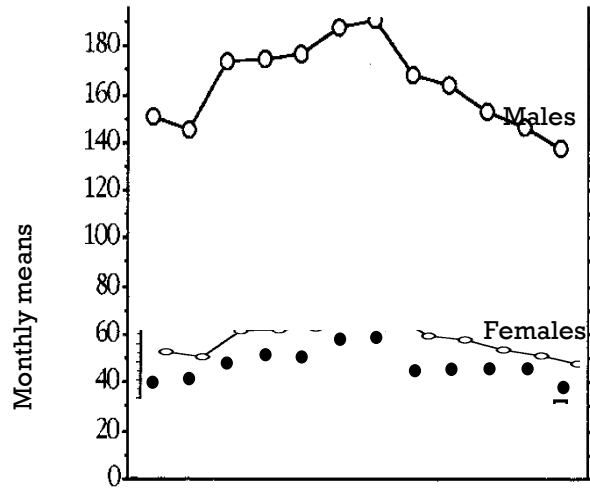
SUBSTANCE USE AND EXTREME HEAT

- ⌘ Meta-analysis in August 2021 found that for every 1 degree Celsius rise in temperature, mental health-related morbidity and mortality increased, with the **highest mortality attributed to substance-related mental disorders**
- ⌘ Recent 2022 study similarly found the **greatest increase in relative risk** for visits to the ED for mental health concerns was for those with substance use disorders
- ⌘ Failure to gain relief from heat may trigger risky behaviors such as alcohol or other substance use



Temperature is Correlated with Mental Health Symptom Severity

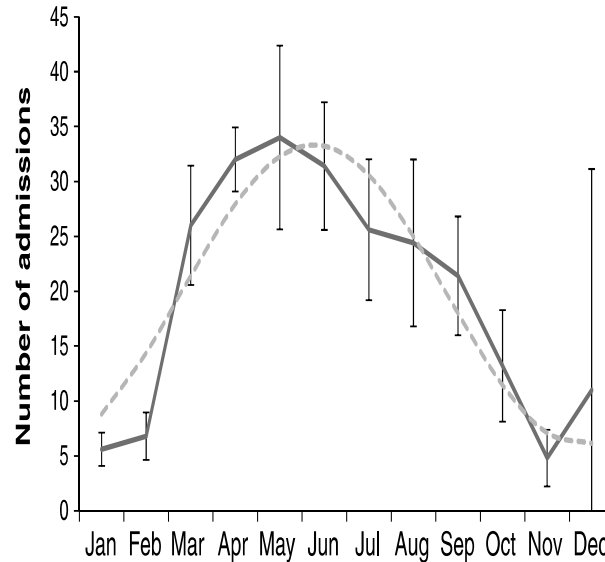
Violent Suicide



Fourth, it could be argued that the

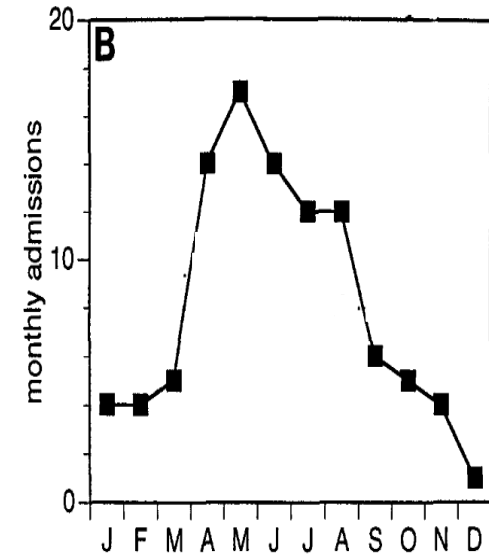
(Adapted from Preti & Miotto, 1998)

Mania



— Observed - - - Predicted
(Amr et al., 2012)

PTSD



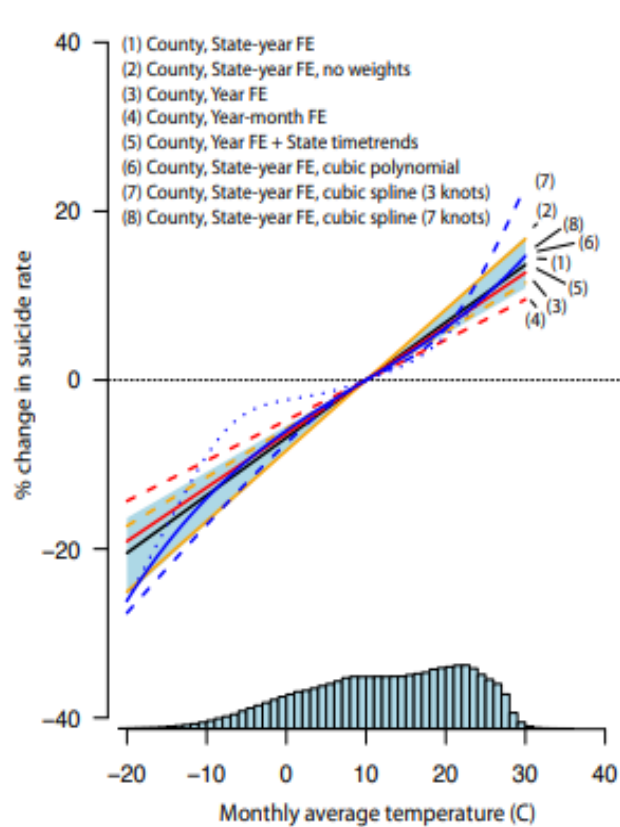
(Adapted from Solt et al., 1996)

- Completed violent suicides, mania, and PTSD admissions ↑ in spring & summer

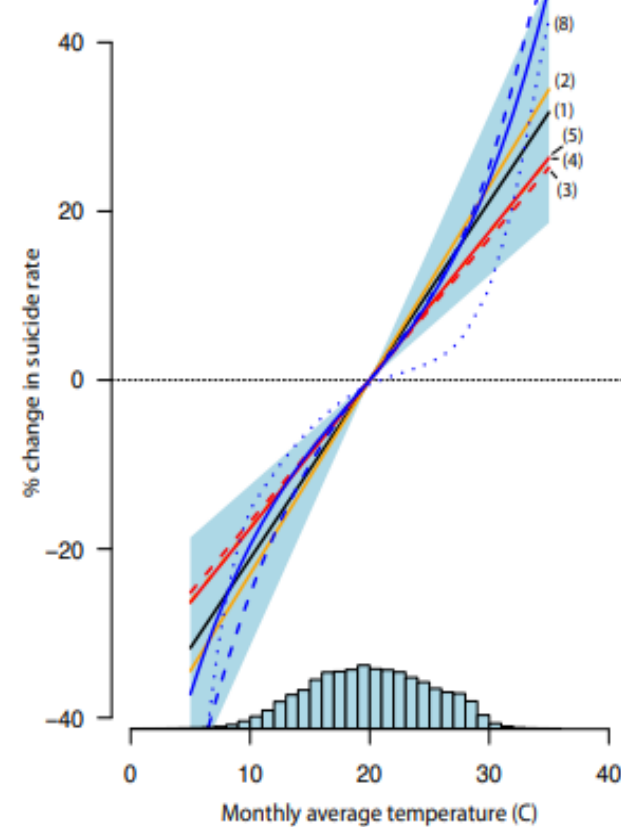


Effects of Temperature on Suicide Are Particularly Well Studied

a United States, 1968-2004



b Mexico, 1990-2010



- Direct, linear relationship
- With every $+1^{\circ}\text{C}$ average monthly temp, suicide rates increased
 - USA: Increased by **0.68%** (95% CI 0.53 - 0.83%)
 - Mexico: Increased by **2.1%** (95% CI 1.2% - 3.0%)
- Resulting in **9-40,000 more suicides** annually

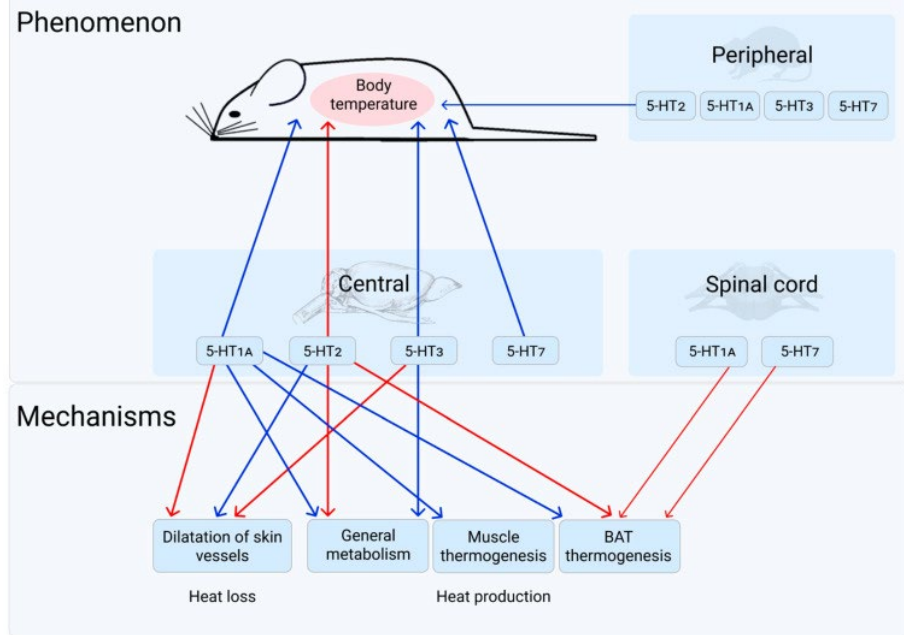
(Burke et al., 2018)



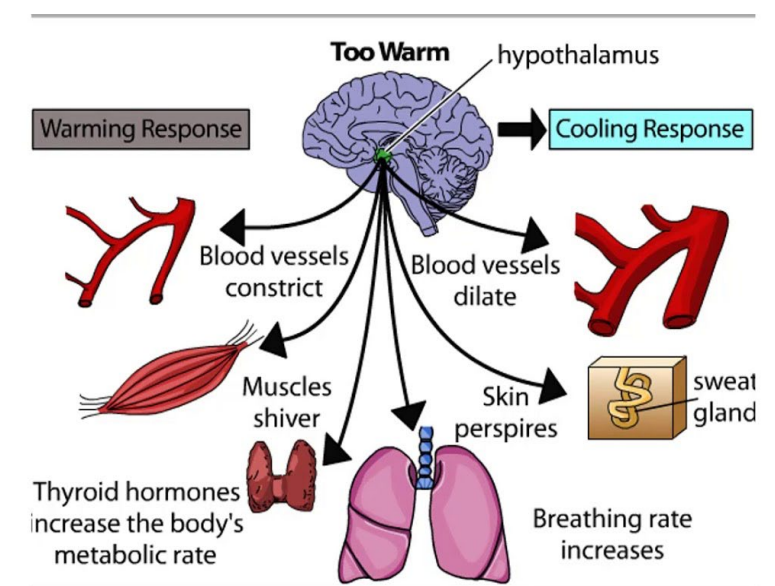


A PARTICULAR RELEVANCE IN CHILDREN

- Suicide is the 2nd to 3rd leading cause of death in young people (National Alliance on Mental Illness)
 - 20% of high school students report suicidal thoughts
 - HIGHER in Idaho
 - According to the 2019 Youth Risk Behavior Survey, the percentage of Idaho high school students who seriously considered attempting suicide during the previous 12 months increased significantly from 14.2% in 2009 to 21.6% in 2019.
 - 9% of high school students report having attempted suicide
 - HIGHER in Idaho
 - One in ten students (10%) attempted suicide one or more times during the previous 12 months.
- Heat is particularly associated with increased violent suicide attempts, which are more lethal



POTENTIAL REASONS FOR THIS ASSOCIATION



- Psychiatric patients have baseline difficulties with thermoregulation
- Many psychiatric medications alter thermoregulation
- Many neurotransmitters impact thermoregulation and are affected by ambient temperature

- **Serotonin**
 - Direct control of hypothalamus
- **NE/Epinephrine:**
 - Controls peripheral vasoconstriction
 - Stimulates brown fat to promote thermogenesis
- **Acetylcholine:**
 - Controls the release of sweat
- **GABA:**
 - Tonic vasodilation and cooling
- **Glutamate:**
 - Information about peripheral heat

(Machado-Moreira et al., 2012; Morrison et al., 2015, I.P. Voronova, 2021)

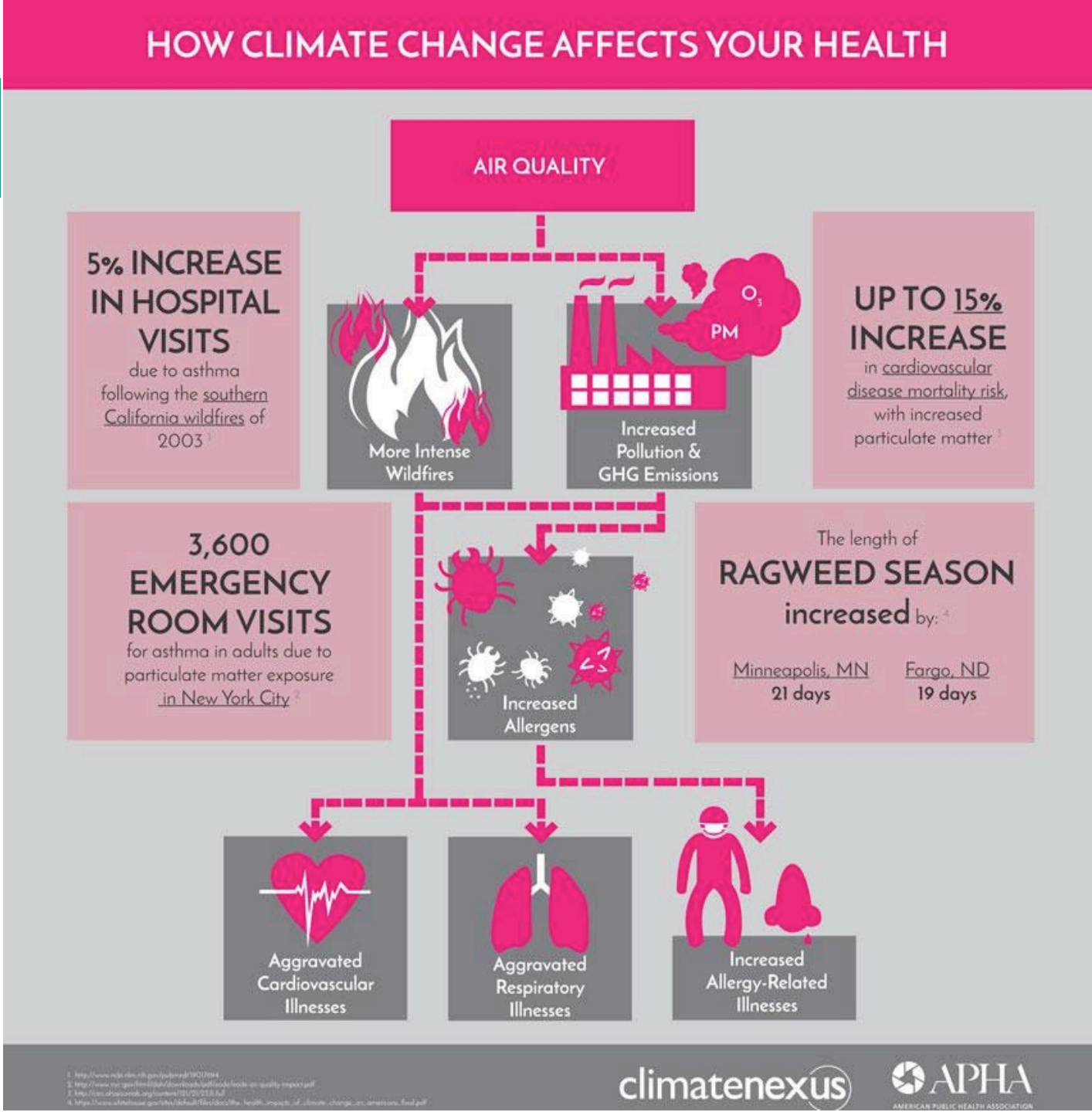
Health Effects of Air Pollution

7 million annual deaths worldwide

Heat increases wildfires, smog, and pollen

Humidity and flooding leads to indoor mold growth

Exacerbations in asthma and allergies





**WILDFIRE SMOKE
AND HUMAN
HEALTH- IN IDAHO**

7 to 15% increase in ER visits and hospital admissions for respiratory conditions per 50 micrograms/m³ of PM₁₀ in Pocatello based study in 2007

Higher PM-2.5 during summer predicts ~20% increase in flu cases in the coming winter

- Same is likely true for COVID

2.7% increase in ICU admissions in zip codes with 10 ug/m³ increase within 5 days

- Severe fire events add 100-150 ug/m³ pm-2.5 to the air

OTHER HEALTH IMPACTS OF SMOKE

Cardiovascular disease

- 10 ug/m³ PM-2.5 associated with 11% increased risk of acute stroke encounters
- 50 ug/m³ PM-10 associated with 33% increased risk of acute stroke encounters
 - Also a 27% increase in exacerbations of chronic cardiac disease (CHF, angina)

Dementia

- UCSF study: higher rates of amyloid plaques in those living in areas with worse air quality
- Swedish study: higher rates of Alzheimer's in those with woodturning stoves and living in areas with highest level of PM-2.5

Pregnancy

- Increased risk of pre-term birth
- Increased risk of small for gestational age babies

Loss of fitness

- Lack of ability to get outdoors
- Loss of lung function



MENTAL HEALTH IMPACTS OF SMOKE

- Lane, et al: Behav Sci (Basel). 2021 Sep; 11(9): 126
 - Elevated rates of PTSD, anxiety and depression up to 10 years after an event
- Grennan, et al, PLOS Clim 2(1): e0000125
 - Difficulty concentrating and unable to ignore distractions
 - Poor cognitive performance up to 12 months after event
- Wen, et al, Nature Sustainability | VOL 5 | November 2022 | 947–955
 - Air pollution and wildfire smoke exposures lead to lower test scores
 - Relative to a school year with no smoke, average cumulative smoke-attributable $PM_{2.5}$ exposure during the school year ($\sim 35 \mu g m^{-3}$) reduces test scores by $\sim 0.15\%$ of a standard deviation.
- Zu, et al, Int J Environ Res Public Health. 2020 Sep; 17(18): 6734
 - Higher rates of depression, lower rates of "happiness"



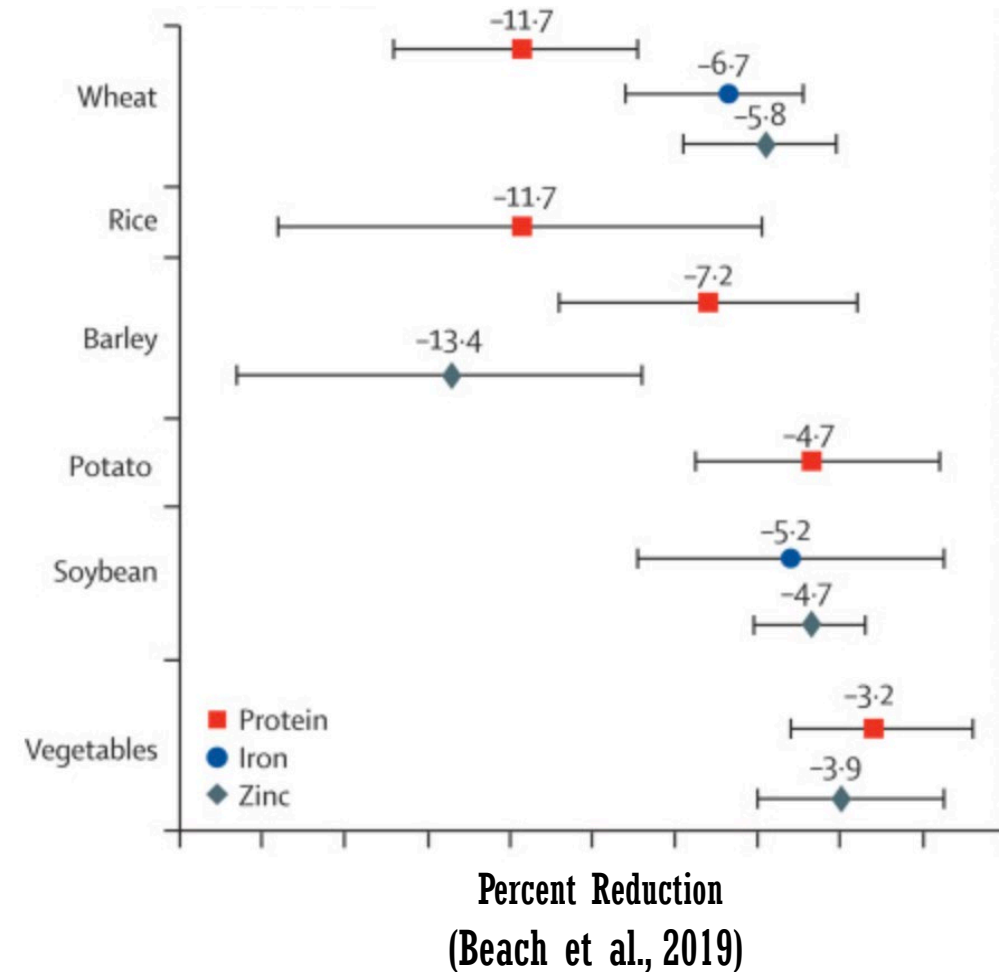
DEPRESSION AND AIR POLLUTION

- Qiu, et al, JAMA, February 2023
- Longitudinal study of Medicare enrollees >64 years old
- 8.9 million individuals from 2005-2016
 - 1.526 million “late-onset depression” diagnoses
 - Identified by ICD-9/10 codes from CMS database
- Exposure measured: residential PM2.5, NO2, and O3 by zip code using validated air-pollution prediction models
- Findings:
 - Each 5-unit increase in long term mean exposure was associated with increased risk of late-onset depression dx.
 - PM2.5: 0.91%
 - NO2: 0.61%
 - O3: 2.13%
 - Greatest association was found among socioeconomically disadvantaged groups



CLIMATE CHANGE WILL HAVE INDIRECT BIOLOGICAL EFFECTS ON MENTAL HEALTH

- Increased atmospheric CO₂ correlates with decreased concentrations of key macronutrients and micronutrients in important food crops
 - Proteins, zinc, and iron
- Experimental data suggest a 4-13% reduction in these 3 nutrients in the expected atmosphere of 2050



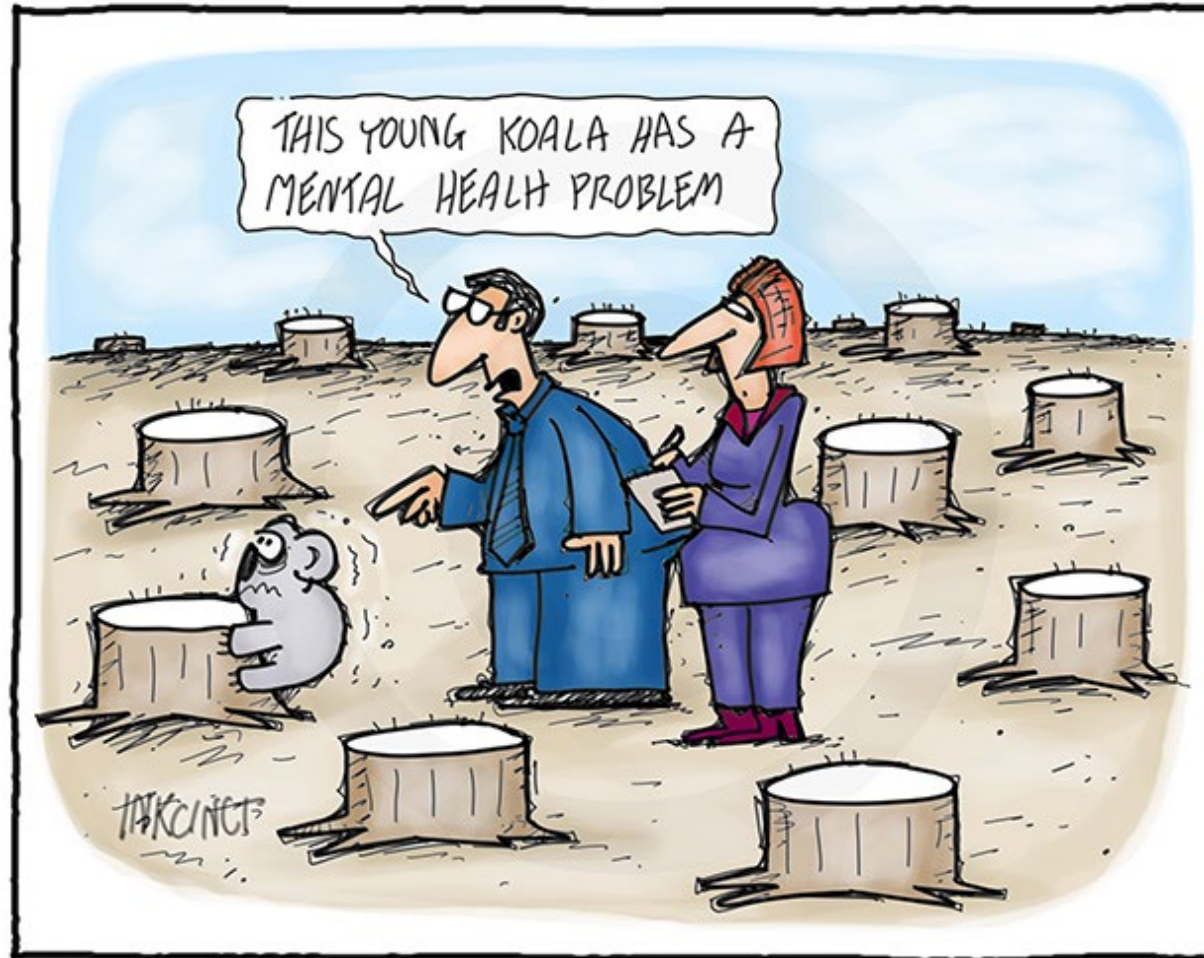
IRON DEFICIENCY IS ASSOCIATED WITH PSYCHIATRIC SEQUALAE

- Development of many CNS processes are highly dependent on iron-containing enzymes and proteins
- Iron deficiency is:
 - Associated with altered monoamine neurotransmitters and the abnormal myelination
 - Associated with childhood/adolescent-onset psychiatric disorders and cognitive developmental delay
 - Retrospective Case-Control study of children with iron deficiency in Taiwan (n=14,785)

	Odds Ratio	95% Confidence Interval
• Unipolar depression:	2.3	1.6 - 3.5
• Bipolar disorder:	5.8	2.2 - 15.1
• Autism spectrum:	3.1	1.8 - 5.3
• Developmental delay:	2.5	2.0 - 3.0

(Chen et al., 2013)

PSYCHOLOGICAL EFFECTS: CLIMATE EMOTIONS



2021 GLOBAL SURVEY OF CLIMATE ANXIETY IN YOUTH:

10,000 YOUTH IN 10 COUNTRIES FROM THE GLOBAL NORTH AND SOUTH

68% **anxious**

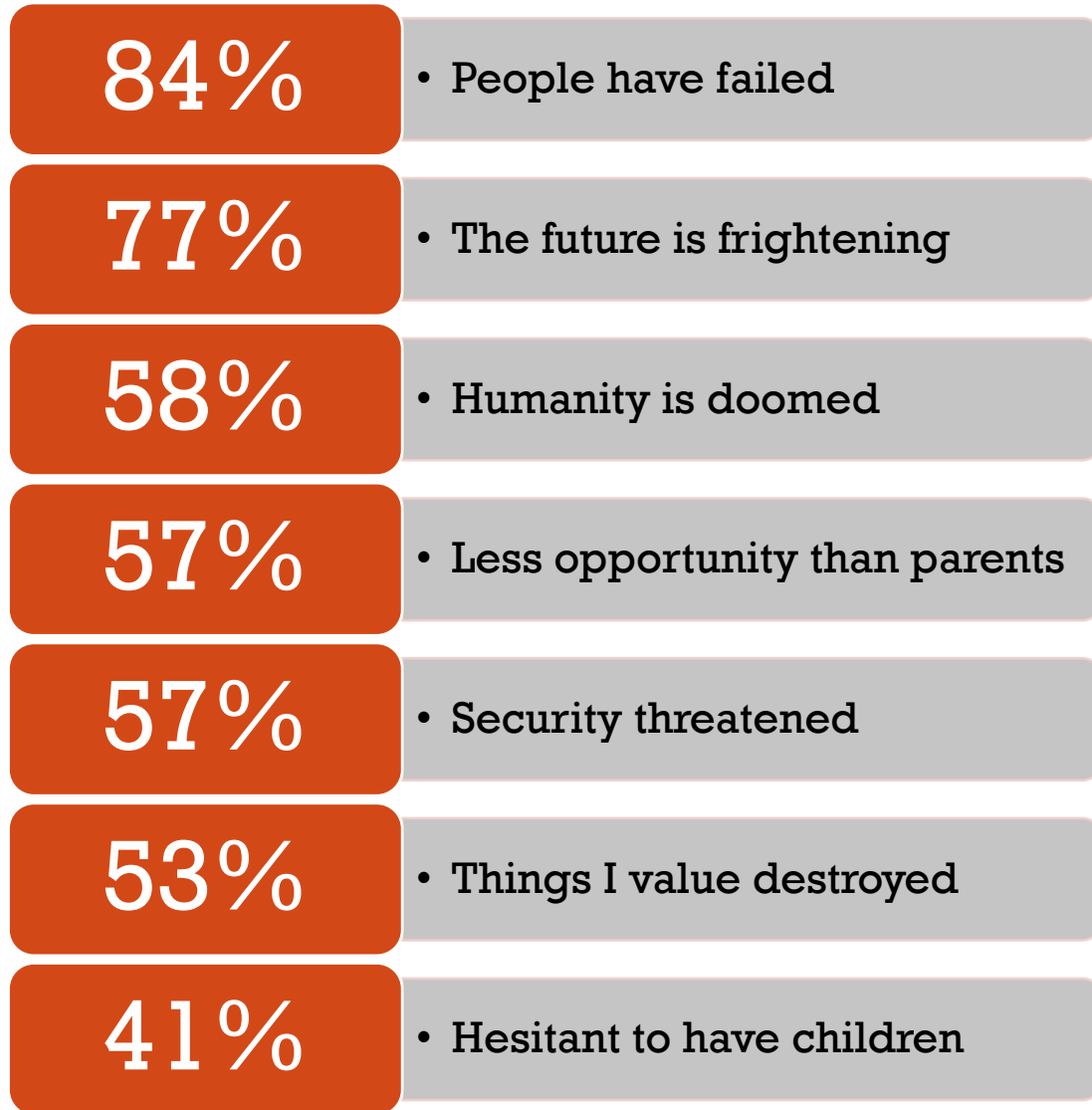
58% **angry**

57% **powerless**

51% **guilty**

Feelings of betrayal and abandonment by governments and adults linked with greater climate distress.

(Hickman et al, 2021)



“I think it’s different for young people. For us the destruction of the planet is personal.”

- 16-year-old study participant

DEFINITIONS: SOLASTALGIA & ECO-ANXIETY

Solastalgia: a sense of loss, especially relating to a place that is important to that person, secondary to irrevocable change in a person's lived landscape due to climate change

📖 Examples: destruction of one's environment by wildfires, coastal erosion, or rising sea levels

Ecoanxiety: "a chronic fear of environmental doom"; worry about the future for oneself, children, and later generations due to watching the slow and seemingly irrevocable impacts of climate change unfold

📖 Can be experienced as fear, anger, guilt, feeling of powerlessness, exhaustion

📖 "Pre-traumatic stress"

SOLASTALGIA

- “The homesickness you have when you are still at home”
 - Coined by Australian ecological philosopher Glenn Albrecht in 2007
 - Your home is changing in ways you find distressing and cannot control
 - Vs. “Nostalgia”: homesickness when away from a place or time
- “Landscapes are not neutral backdrops where human activities unfold, rather they are relational, dynamic...”
- “The distress caused by the unwelcome transformation of cherished landscapes resulting in cumulative mental, emotional and spiritual health impacts.”
- Scales (including Environmental Distress Scale) have been validated

Feelings of Solastalgia from Environmental Change

Sad when looking at degraded landscapes and mine voids

Farming lifestyle depending on good land and water is threatened by change

Worried that valued aspects of place—clean air and water, scenery—are being lost

Unique aspects of nature in this place are being lost

Miss peace and quiet once enjoyed in this place

Sad that familiar animals and plants are disappearing

Ashamed of the way this area looks now

Thought of my families being forced to leave this place upsets me

Sense of belonging undermined by change

Note: EDS: Environmental Distress Scale.

**The
Guardian**

**'Solastalgia': Arctic inhabitants
overwhelmed by new form of climate
grief**

Los Angeles Times

Column: There's actually a word for the climate change-
induced despair you've been feeling

The Atlantic

The Era of Climate Change Has
Created a New Emotion

What word might describe losing your home while staying in one
place?

SOLASTALGIA

“The distress caused by the transformation and degradation of one’s
home environment”



AVOIDANCE OF HAVING CHILDREN

- Twin rationales...
 - Why raise a child in this impending catastrophe?
 - Having kids is a huge carbon footprint
 - According to analysts at Morgan Stanley, having a child is 7x worse for the climate in CO2 emissions than the next 10 most discussed lifestyle changes an individual can make
 - Analysts at Morgan Stanley said in a note to investors last month that the “movement to not have children owing to fears over climate change is growing and impacting fertility rates quicker than any preceding trend in the field of fertility decline.”

I Got a Vasectomy Because of Climate Change

Getting one was, by far, the most powerful personal action I could take for our planet

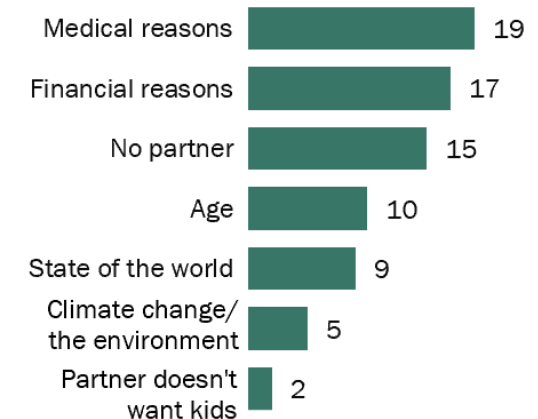
Outside

Majority of childless adults say the reason they probably won't have kids is that they just don't want to

Among **non-parents** ages 18 to 49 who say it is not too/not at all likely they will have children, % saying it is because ...



Among those who say 'some other reason,' % saying it is because of ... [OPEN END]



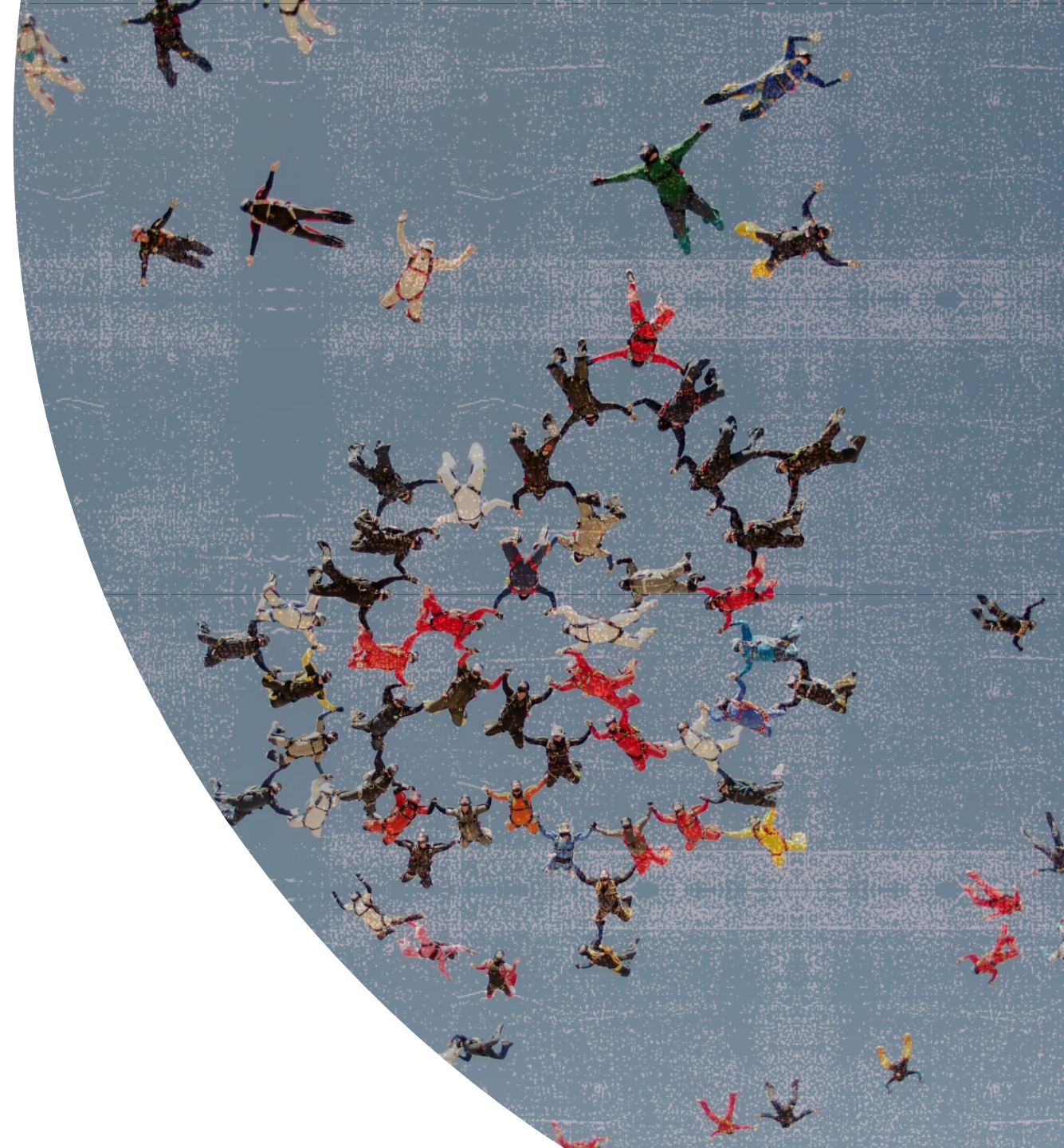
Note: Share of respondents who didn't offer an answer not shown.



WAYS TO SUPPORT YOUTH COPING: PARENTS AND CARE PROVIDERS

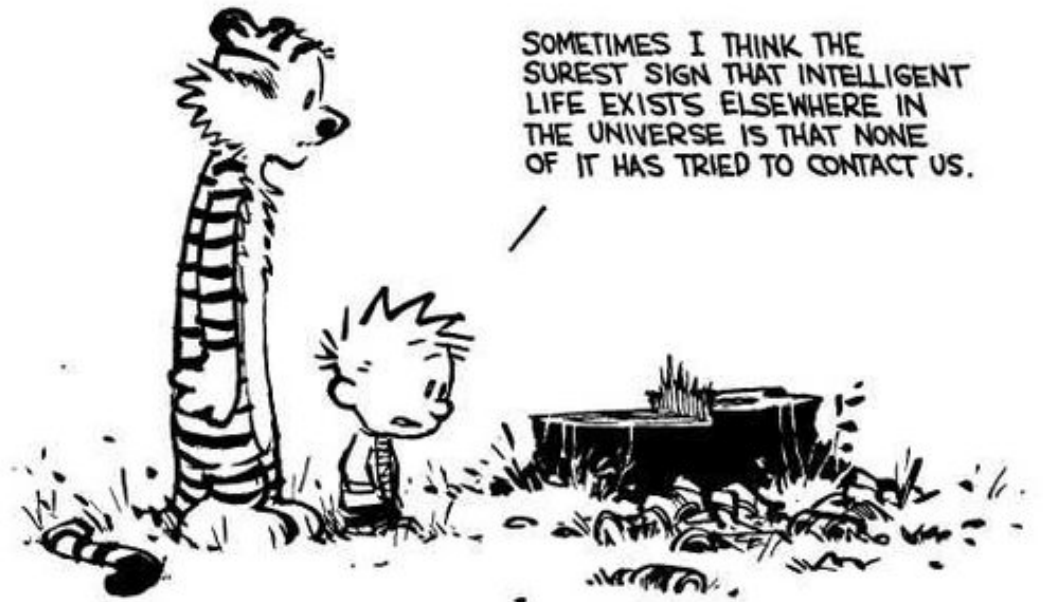
To start: talk to kids about
climate change

- Provide opportunities
- Be honest and age appropriate
- Be curious and provide information
- Provide support for thoughts and feelings without minimizing

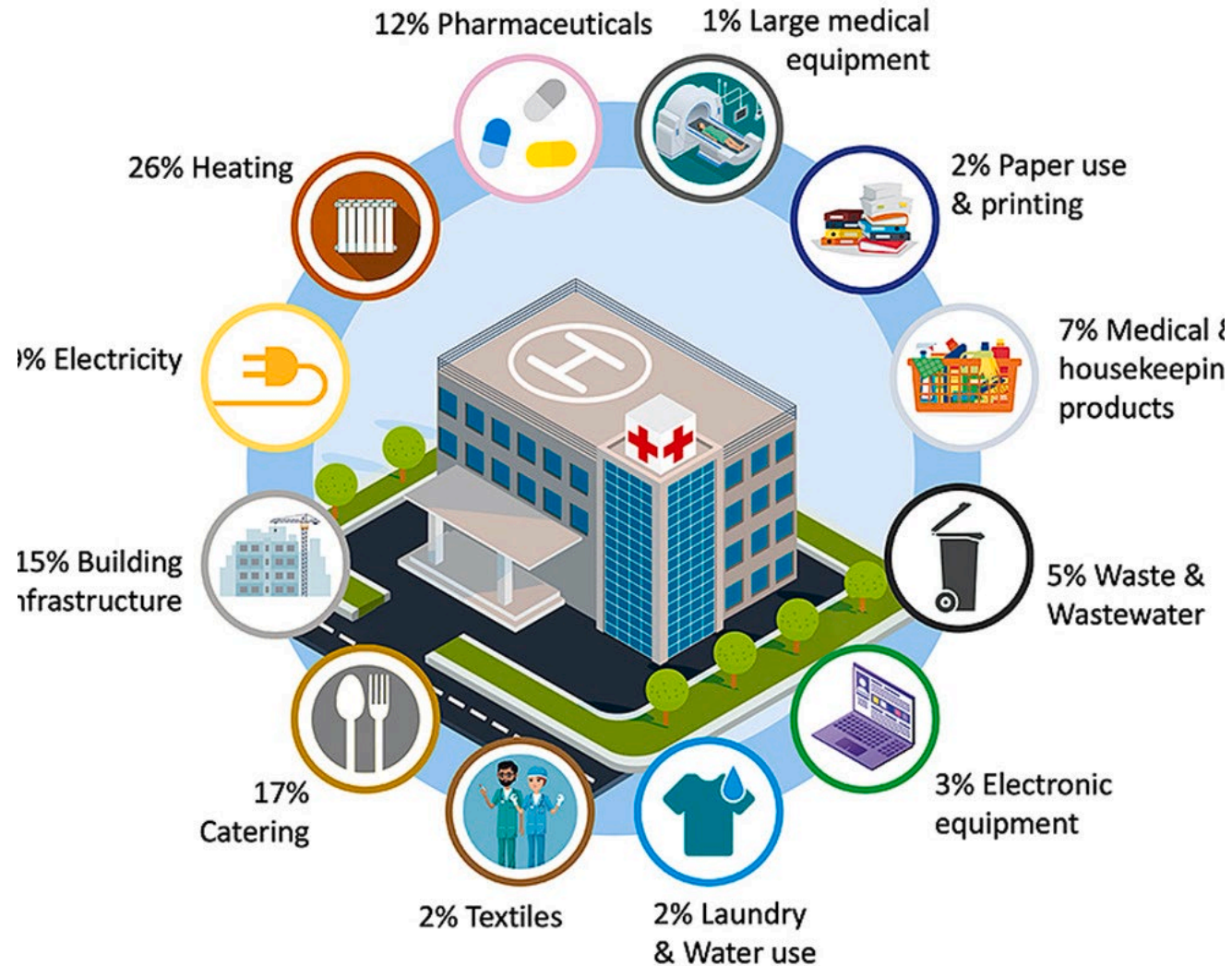




CHANGING DIRECTION!!!



HEALTHCARE IS A (BIG) PART OF THE PROBLEM...



Proportion of the global warming potential
of an average Swiss hospital

- ~8.5% of US carbon emissions come from healthcare
 - 5th largest emitter if healthcare was a country
 - US accounts for 27% of global emissions from healthcare



Scope 1

DIRECT



REPORTING COMPANY

Scope 3

INDIRECT



DOWNSTREAM ACTIVITIES



Scope 2

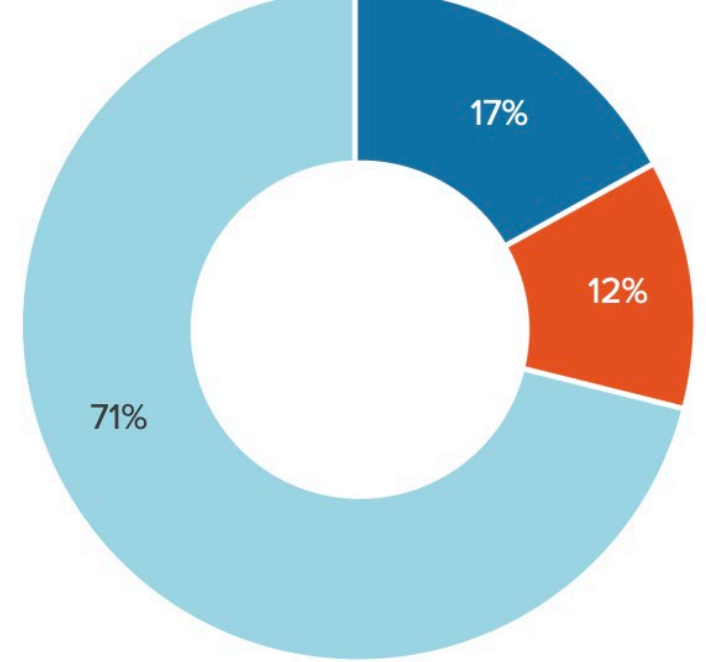
INDIRECT



UPSTREAM ACTIVITIES

Scope 3

INDIRECT



■ Scope 1 ■ Scope 2 ■ Scope 3

Figure 5: Global health care footprint split by GHGP Scopes

CARBON EMISSIONS FROM HEALTHCARE





SUSTAINABILITY INITIATIVES

- TRIPLE BOTTOM LINE
- Working to:
 - Reduce waste
 - Reduce costs
 - Reduce GHG emissions
 - MAINTAIN or IMPROVE standards of care
- While improving quality of care and patient health
 - Anesthesia projects:
 - Desflurane vs. Sevoflurane
 - Nitrous oxide, central vs. cannister
 - MDI vs. DPI project



Environmental Sustainability Strategy & Interaction Model

2023: Improve/optimize

- Optimize existing structure, escalation tools
- Set Goals and Metrics (annual reporting) with responsible department leaders
- Improve communication to be used with internal & external stakeholders
- Improve tools and dashboards to effectively communicate (system level)

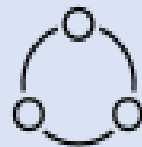
Energy Management & Green Building



Energy Efficiency
Renewable Energy
Sustainable Standards
Alt Transportation



Sustainable Purchasing



Medical Products
Non-medical Products
Food
Services



Environmental Compliance



Waste Management
Chemical Management
Facility



Climate & Health



Climate Impacts
Community Partnerships
Education



Green Teams: Engagement, Education & Innovation generator

Health-care emissions compared to car trips

■ Equivalent car journey (kilometres)

Anesthetic gas use (Desflurane, 1 hour)



Metered-dose inhaler (100 puffs)



Anesthetic gas use (Sevoflurane, 1 hour)



CBC NEWS

Source: Centre for Sustainable Health Systems

ANESTHESIA INITIATIVE- DESFLURANE

- Desflurane is a potent GHG, volatile inhaled anesthetic
 - The twenty-year global-warming potential, GWP (20), for desflurane is **3714**,
 - 1 ton of desflurane emitted is equivalent to 3714 tonnes of carbon dioxide in the atmosphere
 - Alternatives with significantly lower GWP exist!
 - Sevoflurane (GWP20 349), Isoflurane (GWP 20 1401)
- Why not switch?
 - Studies show clinical equivalency despite long held beliefs
- Thanks to AAB, we ARE!
- Pilot project at Boise campus, roll out system wide
- Happening across the globe...
 - Scotland first nation to remove from practice!

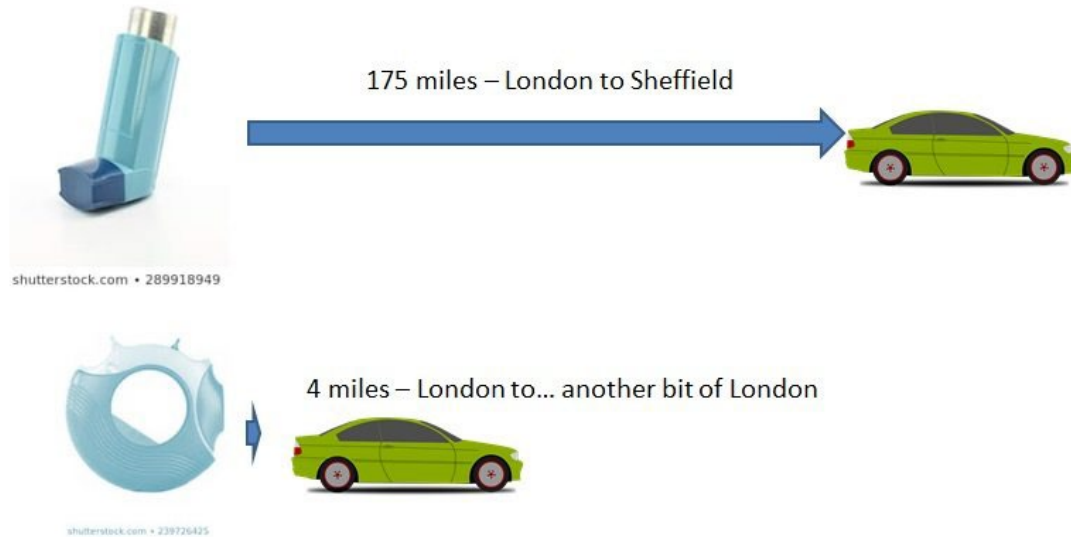


ANESTHESIA- NITROUS OXIDE

- Highly potent inhaled anesthetic
- GWP (100) of 265
- Depletes ozone
- Estimates of 4.85 million mt CO₂ annually in US associated w/ medical nitrous oxide
- Equivalent to more than 1 million cars on the road or 600,000 houses worth of emissions!
- Most of emissions in healthcare are not associated with clinical useage..
- Huge leaks in centrally supplied N₂O up to 99%
- We can nearly eliminate the leaks and the wasted emissions (and cost) by using portable tanks (E-cylinders)
- Saves money in new construction
- Potential environmental hazard to employees
- St. Luke's pilot project in Boise Hospital
- Removed central supply of nitrous from new building designs



ASTHMA INHALERS-INTRO

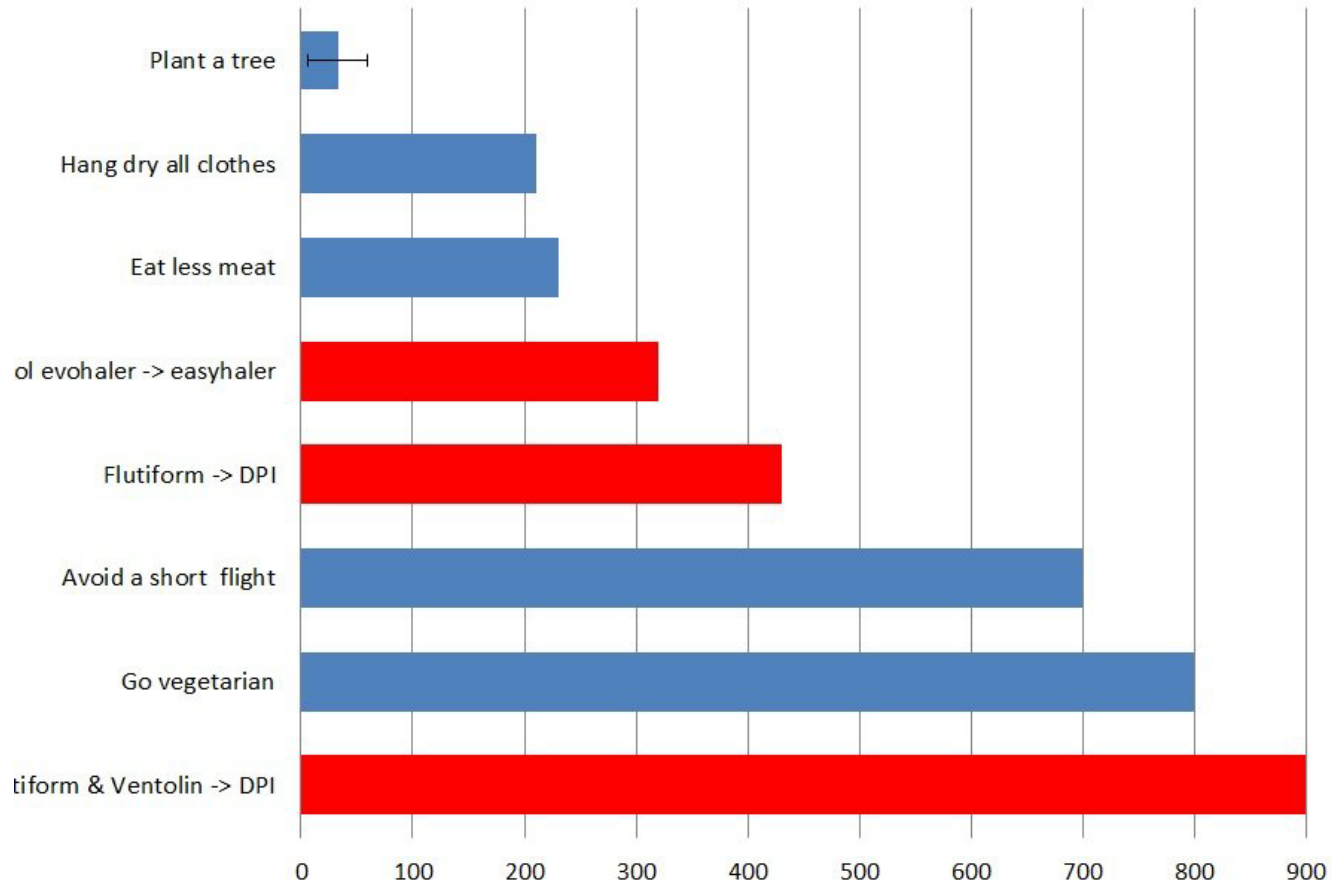


- Not all asthma meds are created equal!
- MDI= Metered Dose Inhaler
 - Hydrofluorcarbon propellant
 - 80% of inhalers in US
 - 144 million Rx'd annually
 - Equivalent to 550,000 cars on the road!



ASTHMA INHALERS- SOLUTIONS

Impact of recommended action to reduce carbon footprint



- Dry Powder Inhalers
 - Carbon emissions equivalent to just 4 miles of driving!
 - Equal or better asthma care with their use
 - Several countries use almost solely DPI meds for asthma/COPD
- What's the problem?
 - Not everyone can use them...
 - Very young, very old, very frail
 - Not everyone has access to them
 - Not everyone can afford them
 - Lack of prescriber and patient awareness



- Green Buildings
 - Green Roofs
 - Composting and recycling
 - Alternate energy sources-
 - Geothermal
 - Solar array
 - Reusable vs. disposable devices
 - Printers-double sided vs. E-AVS
 - Auto-shut offs for lights, computers
- Green campus
 - TV Canopy Network Collaboration
 - Electrifying our fleet
 - E-ambulances!
 - Alternatives to driving
 - Tele-medicine
 - Car pool, car share programs
 - Bus passes

SO MANY SOLUTIONS!



HEALTH AND HUMAN SERVICES PLEDGE

- 50% reduction in CO2 emissions by 2030, net zero emissions by 2050
 - More than 60 major healthcare organizations, The Joint Commission, industry leaders like Pfizer and Astra-Zeneca, the National Academy of Medicine and the American Association of Medical Colleges have signed on!
 - More than 650 private and public hospitals are included, none in Idaho aside from the VA
- Write to your healthcare provider and let them know you want them to commit!
 - Sustainability@slhs.org



ICCH

Idaho Clinicians for Climate and Health

Scan me!



NM HEALTH SCIENCES

Project
ECHO[®]

 **CleanMed**
SALT LAKE CITY



LEARN ABOUT IT!





TALK ABOUT IT!

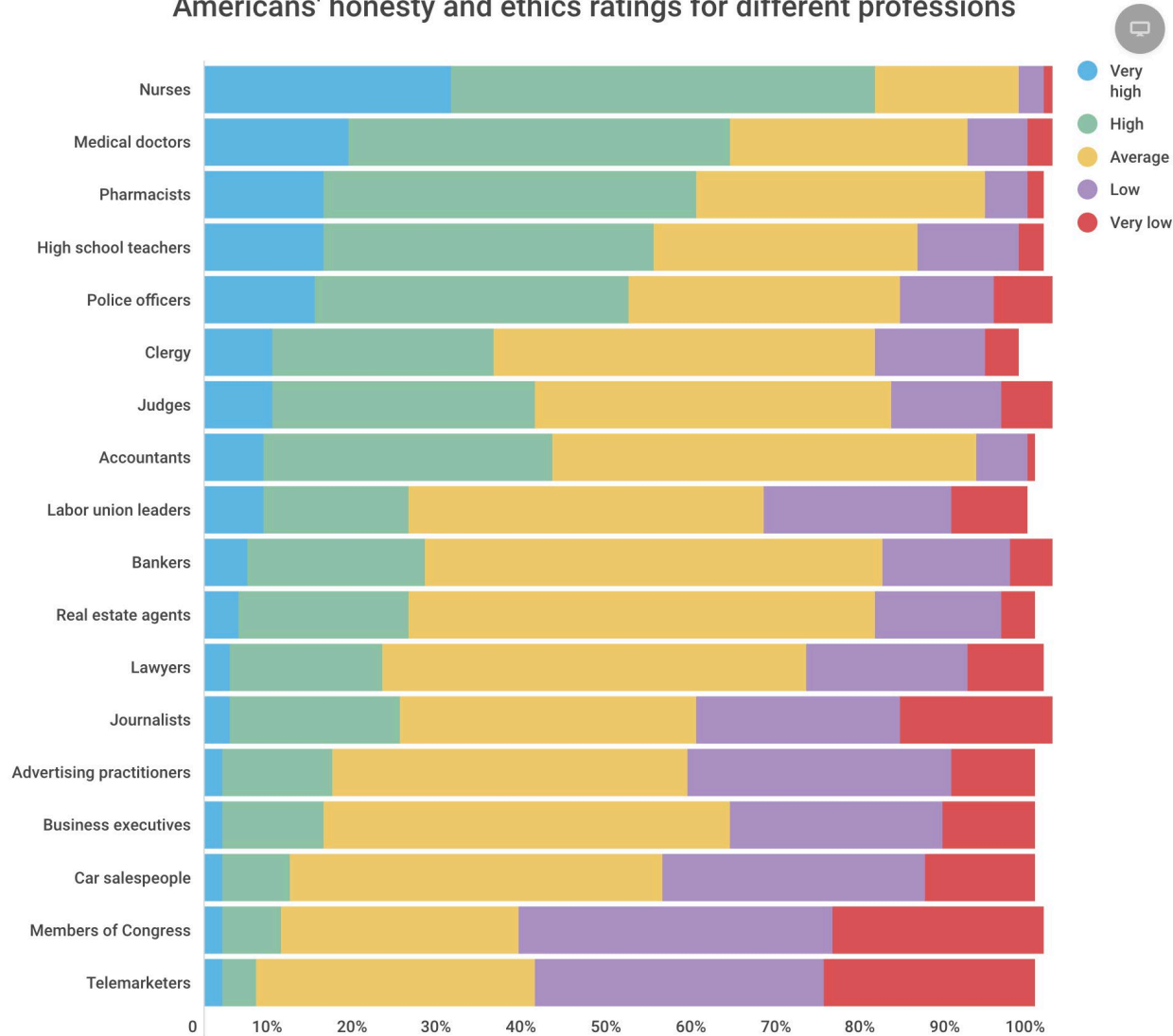
- Lewandowski, et al, 2021
- Developed standardized message about climate change effects on health during well child encounters
- Single site, single provider, 262 encounters
- "In the last two years, the American Academy of Pediatrics and 100 other health organizations declared climate change a health emergency. Air pollution alone caused over 64,000 premature deaths in the United States in 2016, and worsening air quality is only 1 out of 9 ways that climate change is harming people, disproportionately harming children. So just like I want your children to eat healthy foods and be in the right car seat for their health and safety, we now know that decreasing our energy use, increasing energy efficiency, and supporting clean energy initiatives are also important for improving our children's health. Any questions?"
- "None of the families expressed dissatisfaction with the counseling. The majority were appreciative, showed signs of knowledge gain (89% said it was effective), and demonstrated an increased likelihood to support clean energy (91%) or to decrease their carbon footprint (89%). Responses across liberal, moderate, and conservative political identities were generally similar."

Table 3. Likelihood of supporting clean energy initiatives.

	Very unlikely	Unlikely	Neither likely nor unlikely	Likely	Very likely
All participants (n=138)	0%	0%	9%	31%	60%
Liberal participants (n=72)	0%	0%	5%	17%	78%
Moderate participants (n=48)	0%	0%	13%	45%	42%
Conservative participants (n=14)	0%	0%	28.5%	43%	28.5%



Americans' honesty and ethics ratings for different professions



Source: Gallup

WHY ME?

- Because the medical community is respected as “trusted messengers”
- Because climate change is a health problem!
- Because we are obligated to protect our patients and communities from harm



WHAT GIVES ME HOPE?

75%
OF VOTERS

✓ WOULD BE MORE LIKELY TO SUPPORT AN ELECTED OFFICIAL WHO *FAVORS* POLICIES THAT ADDRESS CLIMATE CHANGE OR SAY THEIR VOTE WOULD NOT BE IMPACTED.

★ ★ **SUPPORT** ★ ★
- CONTACT US TO LEARN MORE -

Nearly **2/3** of Idaho voters think climate change will **harm** future generations.

2/3

62%

SAY CLIMATE CHANGE IS AN **IMPORTANT ISSUE**



Hope, health, and the climate crisis

- Hope is good for health, and hopelessness is toxic.
- The climate crisis can erode hope.
- Health professionals can and should help propel hope.



Tell the truth.



Acknowledge grief.



Articulate a vision of success.



Identify pathways toward that vision.



Empower people to take action.



Cultivate solidarity.



Make room for joy.

BE THE CHANGE!



Ivan Coyote
@ivancoyote

I have officially run out of enough serenity to accept the things I cannot change. There's simply just not enough [Bleep!] serenity to be had at this point. Maybe this is a supply chain thing too, I don't know.

5:21 PM · Jan 14, 2022 · Twitter for iPhone



IT TAKES A VILLAGE...

- Huge thanks to those who helped me put this together...
- Dr. Elizabeth Pinsky
- Dr. Marc Futernick
- References available...
- simse@slhs.org

