

## Survey

Thank you for your interest in participating in this climate change study. If you would like to continue, please review the following informed consent form. After reading this, you will be asked some questions about it. Please refer back to the informed consent form to ensure that you answer the questions accurately.

### **Informed Consent Form to Participate in the Undergraduate Students & Climate Change Study**

You are invited to participate in the Students & Climate Change study. Before proceeding with the study, we would like to inform you of the potential risks and benefits of participating. This form will give you an understanding of this.

#### **What is the purpose of this study?**

The purpose of this study is to explore the undergraduate student's relationship with and knowledge of climate change.

#### **What will my responsibilities be if I agree to participate?**

The following survey should take around 20 minutes to complete. You will be asked to read an article on climate change and to respond to questions following this.

#### **What are the potential risks and benefits of participating?**

You may feel uncomfortable when answering some questions as they are related to your personal feelings. However, you will have the opportunity to contribute to the research community at insert university name. If your university has agreed to it, you may also potentially receive course credit or bonuses for participating.

#### **What information will be kept private?**

All information that you provide will remain anonymous, meaning that your name will not be attached to recorded information.

#### **Can I decline to participate or withdraw early?**

You may exit the study at any time should you feel uncomfortable. You will not be penalized for this.

#### **Where can I find the study results?**

If you are interested in the study results, please contact this email: researcher's email and we will provide you with any relevant presentations, talks, or journal articles once they are available.

#### **Who can I contact if I have questions?**

If you have questions at any time before, during, or after the study please contact researcher's name at researcher's email address.

1. I have read and understand the above information. I agree to participate in this study.
  - a. Yes
  - b. No

**\*if answer B return to beginning of consent form**

Next, we would like to ask you a few questions about yourself.

1. What is your gender?
  - a. Female
  - b. Male
  - c. Non-binary
  - d. Other
2. What race do you identify as?
  - a. Indigenous
  - b. Asian
  - c. Black or African American
  - d. Hispanic
  - e. White/Caucasian
  - f. Multiple ethnicities. Please specify: \_\_\_\_\_
3. Have you ever been diagnosed with anxiety?
  - a. Yes
  - b. No
4. In the past three months, how often have you felt anxious?
  - a. Not at all
  - b. Occasionally
  - c. Often
  - d. Very often
5. Have you ever been diagnosed with depression?
  - a. Yes
  - b. No
6. In the past three months, how often have you felt sad, down, or depressed?
  - a. Not at all
  - b. Occasionally
  - c. Often
  - d. Very often

Please proceed to the next page to begin.

**\*at this point the survey will randomize participants to three different conditions.**

Condition 1: participants in the science-based article with a call to action read:

Please read the following article on climate change.

The US is warming faster than the global average and its people are suffering “far-reaching and worsening” consequences from the climate crisis, with worse to come, according to an authoritative report issued by the US government.

An array of “increasingly harmful impacts” is hitting every corner of the vast country, from extreme heat and sea level rise in Florida to depleted fish stocks and increased food insecurity in Alaska, [the new National Climate Assessment](#) has found.

While planet-heating US emissions have fallen since peaking in 2007, the reductions are still not enough to meet international targets to avert disastrous climate change, and without deeper cuts in carbon pollution “severe climate risks to the United States will continue to grow”, the report states.

“Even if greenhouse gas emissions fall substantially, the impacts of climate change will continue to intensify over the next decade,” the report finds, adding that choices made by the US and other countries will “determine the trajectory of climate change and associated impacts for many generations to come”.

The release of the fifth iteration of the Congressionally-mandated climate assessment, an exhaustive distillation of climate science compiled by more than 750 experts across the US federal government, follows a summer of vivid climate change-fueled events across the country that have included catastrophic, deadly [fires](#) in Hawaii, choking wildfire [smoke](#) along the US east coast and record-breaking [heat](#) in multiple states.

The report shows “more and more people are experiencing climate change right now, right outside their windows”, said Allison Crimmins, a climate scientist and director of the National Climate Assessment. Crimmins said that escalating dangers from wildfires, severe heat, flooding and other impacts mean that the US suffers a disaster costing at least \$1bn in damages every three weeks now, on average, compared to once every four months in the 1980s.

“We need to be moving much faster and we need to go much further,” she said. “We know that each degree, each tenth of a degree, of additional warming brings more severe climate impacts to the US and those impacts are felt more acutely by overburdened communities.”

Scientists who worked on the 32-chapter report, which touches on everything from climate change’s impact upon the oceans to agriculture to transportation to cultural practices, say that scientific confidence about the influence of global heating upon extreme weather and other phenomena has only strengthened since the last report in 2018.

“Climate change is here, it’s happening now, it’s unequivocal that humans are causing it,” said Adam Terando, a US Geological Survey scientist and report co-author.

“Those who operate in this sphere think this message gets tiresome, but it’s worth reminding people over and over that we are seeing the response of the physical system to what we are doing to it. Dependence upon fossil fuels has real consequences.”

Kristina Dahl, a climate scientist at the Union of Concerned Scientists, who was not involved in the publication, said the report is “the latest in a series of alarm bells and illustrates that the changes we’re living through are unprecedented in human history”.

She added: “The science is irrefutable: we must swiftly reduce heat-trapping emissions and enact transformational climate adaptation policies in every region of the country to limit the stampede of devastating events and the toll each one takes on our lives and the economy.”

The report’s findings include:

- The climate crisis is causing disruption to all regions of the US, from flooding via heavier rainfall in the north-east to prolonged drought in the south-west. A constant is heat – “across all regions of the US, people are experiencing warming temperatures and longer-lasting heatwaves” – with nighttime and winter temperatures rising faster than daytime and summer temperatures.
- People’s health is already being harmed by worsened air quality from smog, wildfire smoke, dust and increased pollen, as well as from extreme weather events and the spread of infectious diseases. Children born in 2020 will be exposed to far more climate-related hazards compared to people born in 1965.
- There are “profound changes” underway in the water cycle, raising the risk of flooding, drought and degraded water supplies for people in the US. Snow cover in mountains is decreasing, while the nation’s supply of groundwater is under threat from warming temperatures.
- Americans’ everyday and recreational activities are at risk, with a changing climate causing invasive species and harmful algal blooms that prevent access to beaches and fishing for certain species. Culturally important species for Indigenous people, some of them subsistence hunters, are shifting in response to temperature changes.
- Emissions in the US, the world’s largest historical carbon polluter, have dropped by around 12% since 2005, with the costs associated with wind and solar energy plummeting by 70% and 90%, respectively, over the past decade. The benefits of deep emissions cuts “far outweigh the costs” of shifting to clean energy, the report states.

While it is crucial that the findings of this report are taken into consideration by policymakers, the seriousness of these findings should be considered by every American. Everyone has the power to contribute to the goal of reducing carbon emissions, whether it be taking the bus, biking to work, eating less red meat, or shopping second-hand. As the country moves forward in the face of a warming climate, every small action adds up to have a large impact.

Milman O. The Science is Irrefutable: US Warming Faster than Global Average, says Report [Internet]. The Guardian. [As cited 2023 Dec 2]. Available from: <https://www.theguardian.com/environment/2023/nov/14/us-national-climate-assessment-global-warming-report>

Condition 2: participants in the science-based article with no call-to-action will read:

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Condition 3: Participants will not read an article.

\*at this point all participants will be directed to the next page

Please answer the following questions. They will ask you to rate how often the statements are true to you.

1 – Never, 2 -Rarely, 3 – Sometimes, 4 – Often, 5 – Almost Always

1. Thinking of climate change makes it difficult for me to concentrate.
2. Thinking about climate change makes it difficult for me to sleep.
3. I have nightmares about climate change.
4. I find myself crying because of climate change.
5. I think, “why can't I handle climate change better?”
6. I go away by myself and think about why I feel this way about climate change.
7. I write down my thoughts about climate change and analyze them.
8. I think, “why do I react to climate change this way?”
9. My concerns about climate change make it hard for me to have fun with my family or friends.
10. I have problems balancing my concerns about sustainability with the needs of my family.
11. My concerns about climate change interfere with my ability to get work or school assignments done.
12. My concerns about climate change undermine my ability to work to my potential.
13. My friends say I think about climate change too much.

1 – Not at all true, 2-Hardly true, 3-Moderately true, 4-Exactly true

1. I can always manage to solve difficult problems if I try hard enough.
2. If someone opposes me, I can find the means and ways to get what I want.
3. It is easy for me to stick to my aims and accomplish my goals.
4. I am confident that I could deal efficiently with unexpected events.
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.
6. I can solve most problems if I invest the necessary effort.
7. I can remain calm when facing difficulties because I can rely on my coping abilities.
8. When I am confronted with a problem, I can usually find several solutions.
9. If I am in trouble, I can usually think of a solution.
10. I can usually handle whatever comes my way.

Clayton S, Karazsia BT. Development and validation of a measure of climate change anxiety. *Journal of Environmental Psychology*. 2020 Jun;69:1-11. <https://doi.org/10.1016/j.jenvp.2020.101434>

Schwarzer R, Jerusalem M. General self-efficacy scale. *APA PsychTests*. 1995. <https://doi.org/10.1037/t00393-000>

Thank you for your time. Before you go, there is one last thing we'd like to ask you.

1. We are partnering with a name of university environmental impact club to provide an opportunity to sign up to pickup garbage at \*name of local park.\* If you would like to sign up for one of four volunteer timeslots, please leave your email: \_\_\_\_\_

2. Do we have your permission to send you a follow-up survey about this in two weeks?

- a. Yes. Please provide email address \_\_\_\_\_
- b. No

You have now completed the survey.