***Introduction and Statement of Purpose***

The purpose of my original work was to analyze the IPCC 2023 Report to explore the key findings and implications of climate change for global policy and societal action. I aimed to answer the problems of: What are the major scientific conclusions about climate change? How do the IPCC findings relate to ongoing disputes about climate mitigation, adaptation, and ethics? What actions and strategies could prevent the global challenges? Through this analysis, I aimed to deepen my understanding of climate change in relation to public policy, and propose recommendations for efective action. I aimed to present a comprehensive synthesis of the findings in order to translate the data into an accessible format for a broader audience.

***Review of Skills and Research***

In the analysis, I explored climate science and greenhouse gas dynamics, including the role of CO2, CH4, and other greenhouse gases; feedback loops and tipping points, how Artice ice is melting, the warming of the oceans, and permafrost thawing that reinforces climate cycles; climate justice and equity, investigating how climate impacts disproportionately affect developing countries and marginalized communities; and renewable energy technologies and policy instruments, reviewing the effectiveness of carbon pricing, subsidies, and international agreements.

The skills I developed and applied includes critical analysis of scientific findings/literature, data interpretation, and policy evaluation. I was able to communicate the technical concepts in a simplified manner and learned to condense the scientific data into a clear argument to analytically connect findings to broader social, economic, and ethical frameworks.

***Methodology***

* + **Participants:** No participants were involved due to the project being a secondary analysis of publicly-accessible data.
  + **Materials:** IPCC 2023 Synthesis Report, related policy documents (figures, longer report, and presentation) of the policy report, interview with Wayne Gearey, interview with Bruce McCarl
  + **Description of Process and Procedures:**
* **Data Collection**: I obtained the full IPCC 2023 Report and identified key sections, including summaries for policymakers, detailed scientific findings, and scenario modeling data.
* **Thematic Coding**: I categorized content into major themes: drivers of climate change, impacts, mitigation strategies, adaptation, and climate justice.
* **Critical Analysis**: I examined how the report’s conclusions were supported by empirical data, comparing projections with observed outcomes.
* **Comparative Review**: I contrasted the IPCC’s recommendations with current global policies to highlight gaps and implementation challenges.

***Utilization of Higher-Level Thinking Skills***

I identified gaps in climate science knowledge and policy actions, proposing solutions based on IPCC findings. After, I broke down complex climate systems to easy-to-understand components, examining the cause and effect relationships, like the relationship between emissions and temperature rising. Later, I assessed the applicability of te actions and any ethical dilemmas related to climate justice. Through there, I was able to combine my research into a short presentation to focus on the scientific, economic, and societal implications of cliamte change. I was able to develop arguments and consequences of policymaking and subsequent decisions.

***Results/Conclusions***

My analysis of the IPCC 2023 Report revealed that human activities are (without a doubt) affecting climate change, with the last decade being the warmest it has ever been. Vulnerable populations also face the most risks, despite contributing to the least amount of greenhouse gas emissions. Exceeding the 1.5°C of warming is likely to occur (which the IPCC labeles as irreversible territory) unless an immediate, large-sclae emission reduction occurs. Current policies are also insufficient to meet climate goals, despite of the vast opportunities provided. Throughout my research, I found that, although technological solutions are documented well, political inability and economic interests are barriers to implementing significant change. My research highlights the importance of government reform and public engagement in finding solutions to climate change.

***Application/Meaning***

Policymakers can use my analysis to investigate scientific recommendations and/or legislative action to take to emphasize equity-based solutions. The public can use my simplifies analysis to educate themselves and advocate to promote a more-involved society. Researchers can also find insight into how climate science, specifically sustainable development, can connect to other areas of studies. This project has emphasized the important role of communication in climate action. Translating science into knowledge can inspire change and make it even more accessible for individuals to understand what is happening in the world around them. This experience has deepended my understanding of how economic, social, and environmental systems are interconnected and how they shape global sustainability.