

HOW HAS HUMAN INVOLVEMENT IMPACTED GLOBAL TEMPERATURE IN THE LAST DECADE

BACKGROUND INFORMATION

- GLOBAL WARMING is the long-term heating of earth's surface observed since the pre-industrial period due to human activities. Which increases heat trapping greenhouse gas levels in earth's atmosphere.
- HUMAN INVOLVEMENT is a devastating cause of global warming including deforestation, manufacturing an industry emissions, generating electricity and heat, burning fossil fuels, and transportation.
- GREENHOUSE GASES have an influence on the earth's energy balance the most common gases include: carbon dioxide, methane, and nitrous oxide which these gases has significantly increased since the beginning of the last century, due to human involvement and there for contribute to global warming.

HYPOTHESIS

Human involvement will have significantly impacted earth's atmosphere, causing an increase in the global temperature.

AIM

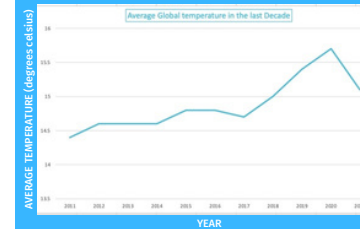
Our aim is to analyse the global temperature in the last decade, due to the consequences of human involvement.

TABLE

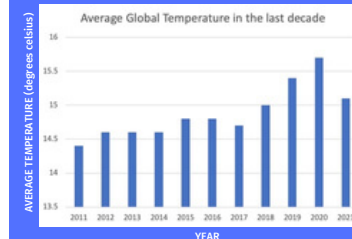
Year:	Average Global Temperature (degrees Celsius):
2011	14.4
2012	14.6
2013	14.6
2014	14.6
2015	14.8
2016	14.8
2017	14.7
2018	15.0
2019	15.4
2020	15.7
2021	15.1



GRAPH 1- LINE GRAPH



GRAPH 2- BAR GRAPH



REFERENCE LIST:

- <https://habitat.org.au/shelter-and-climate-change>
- <https://www.ncei.noaa.gov/access/monitoring/monthly-report/global>
- <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>
- <https://www.noaa.gov/news/2020-was-earth-s-2nd-hottest-year-just-behind-2016>
- <http://www.bom.gov.au/climate/current/annual/aus/2019/>
- <https://www.ncei.noaa.gov/access/monitoring/monthly-report/global>
- <https://mashable.com/article/earth-top-3-warmest-year-2017-global-warming>
- [https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/201613#:~:text=The%20average%20global%20temperature%20across,C%20\(0.07%C2%B0F\)](https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/201613#:~:text=The%20average%20global%20temperature%20across,C%20(0.07%C2%B0F))
- [https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/201513#:~:text=With%20the%20contribution%20of%20such,C%20\(1.62%C2%B0F\)](https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/201513#:~:text=With%20the%20contribution%20of%20such,C%20(1.62%C2%B0F))
- [https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/201413#:~:text=The%20year%202014%20was%20the%20\(0.07%C2%B0F\)](https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/201413#:~:text=The%20year%202014%20was%20the%20(0.07%C2%B0F))
- <http://www.bom.gov.au/climate/current/season/aus/archive/201302.summary.shtml>
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- https://data.one.org/afthttps://www.myclimate.org/infomation/faq/faq-detail/what-are-greenhouse-gases#:~:text=Climate_Change_and_Tra nsport
- <https://support.microsoft.com/en-us/office/video-create-a-chart-4d956e5-42d2-44cf-aede-9ebf01d40998>
- <https://www.storyfellingwithdata.com/blog/2021/1/28/histograms-and-bar-charts#:~:text=Histograms%20visualize%20quantitative%20data%20or,an%20axis%20would%20be%20foolish>

ANALYSIS

Our results have shown that the average global temperature has gradually increased over the last decade (2011 to 2021), due to the human involvement, which increases the carbon emissions in the atmosphere. This is shown visually in the bar graph and line graph. There is a prevalent outlier in 2021, where the global temperature dropped to 15.1 degree Celsius from 15.7. When it had been a steady increase in the previous 9 years. This outlier is due to global pandemic, Covid-19 that surfaced in 2020 and grew evidently throughout 2020 and 2021. Due to lockdowns, and social distancing, more people stayed at home/worked from home. This means that less people were driving, or burning fuels, using factory emissions, and therefore fewer fossil fuels were released into the atmosphere. This means the increase of global temperature slowed down slightly in 2021.

11 years were recorded, there was an estimated mean of 14.9, the median was located at 14.8, there was a spread from 14.4-25.7 with a range of 1.3. The First Quartile (Q1) is 14.6 and The Third Quartile (Q3) is 15.1 and the Inter-Quartile Range is 0.5. The data in the graphs are negatively skewed, and the mode is 14.6. The average temperature of Earth is expected to be 13.9 degrees celsius and the average of our data was 14.9. This shows that the temperature of earth is increasing over time as human involvement becomes more prominent.

Over the last century, human activity in the environment has led to an increased amount of atmospheric carbon dioxide. The CO2 soaks up the infrared emitted from Earth, causes vibration to occur and re emits it in all directions. About half of it, is emitted into the space and the other half returns to Earth as heat, contributing to the greenhouse effect. The ozone layer, which protects Earth and life on Earth by absorbing harmful ultraviolet radiation from the sun. The increasing amount of carbon emissions in the atmosphere causes depletion of the ozone layer, due to the gases attacking and destroying ozone molecules. Due to this, the ozone layer becomes thinner and thinner, allowing more harmful radiation to enter Earth, and increasing the global temperature.

CONCLUSION

In conclusion, the average global temperature in the last decade (2011 to 2021), increased from 14.4 degrees Celsius to 15.1 degrees Celsius. This further reiterates the global phenomenon, that human involvement is a prominent cause of global warming. Human actions such as deforestation, transportation, burning fossil fuels, creating heat and electricity and manufacturing, all contribute to the increasing amount of greenhouse gases exposed to the environment. We completely met our aim, which was to analyse the global temperature in the last decade, due to human involvement. Our hypothesis was adequately met, we hypothesised that human involvement would have a large impact on Earth's atmosphere, which will increase the temperature of Earth, which is clear in the rising temperature of Earth.