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Computer Science Project #2

Topic: Flooding Caused By Climate Change

Description Of Cause:

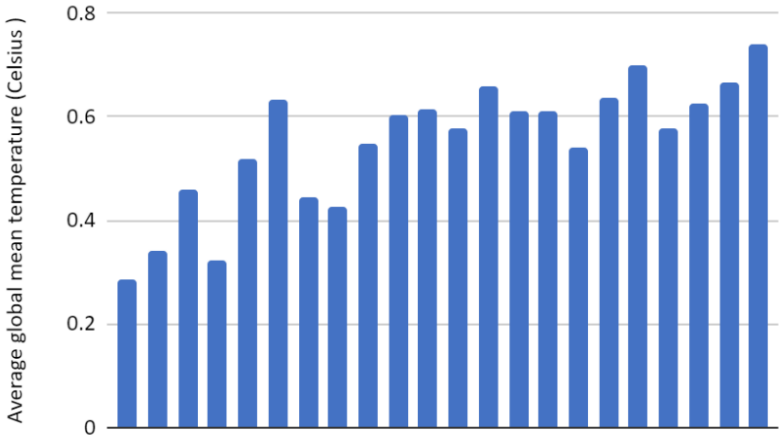
My cause is the increase in flooding due to Climate Change. Flooding is normally a nature and unavoidable disaster but, in this case, it is a byproduct of the human caused global warming and climate change. Floods are a threat to animal and human habitats and lives. There are many people who would disagree with this cause; they are called climate change deniers, they fail to accept or come to terms that human actions are causing the earth to warm up at an unnatural and unsustainable rate.

The dimensions I chose to present the validity of my cause was the rate at which the sea is rising, the increasing rate of participation, the declining mass of glaciers and the increase in temperature. All of the data is graphed in the time span from 1993 to 2014 as these were the dates where there was data provided for all of the dimensions. The information gathered for the glaciers was from the WGMS (World Glacier Monitoring Service) – a network of, at present, about 125 glaciers in 25 countries/regions, representing tier 2 and 3 sites. The rate of the rise in temperature was gathered from the Global Historical Climatology Network-Monthly (GHCN-M) data set. It shows the annual mean temperature anomalies in degrees Celsius; positive **anomaly** indicates that the observed **temperature** was warmer than the reference value. I found my dataset for sea rise from the US Environmental Protection Agency. It shows average absolute sea level change, which refers to the height of the ocean surface.

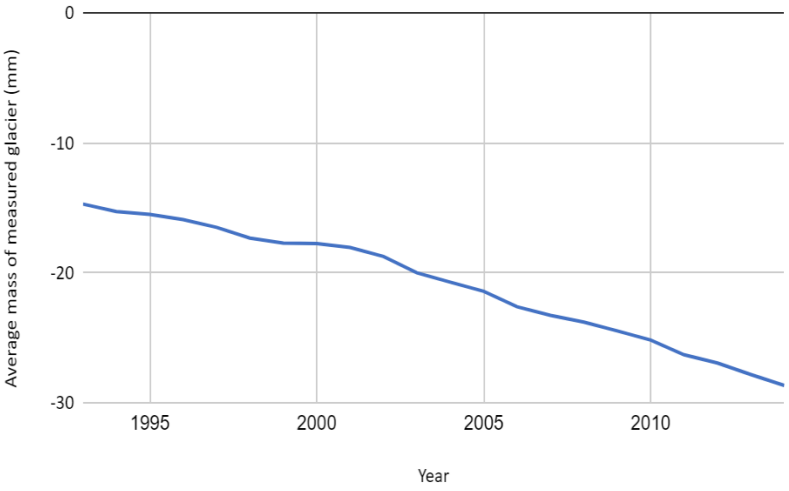
Findings:

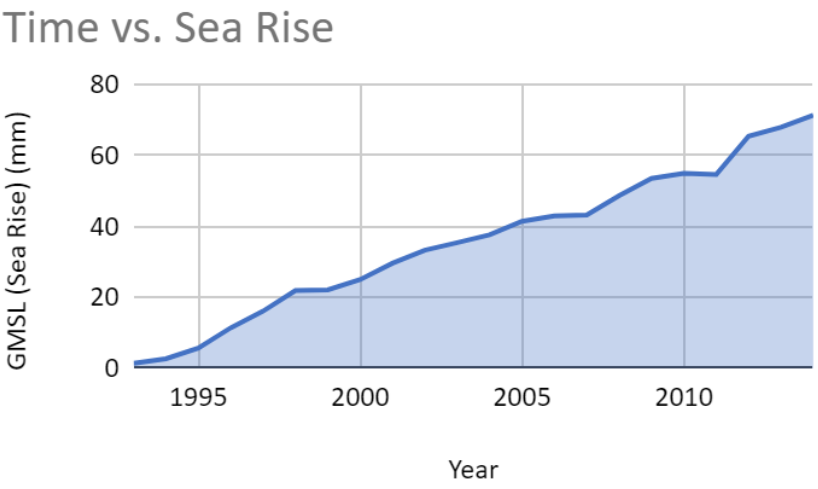
Between 1993 and 2014, temperature is rising, the cumulative glacier mass is decreasing, the sea level is rising, and precipitation is increasing. Although this conclusion does not guarantee the link between climate change and the increased rise in flooding, all the elements that contribute to flooding are melting glaciers, increased sea levels, increased precipitation, and the increase in temperature.

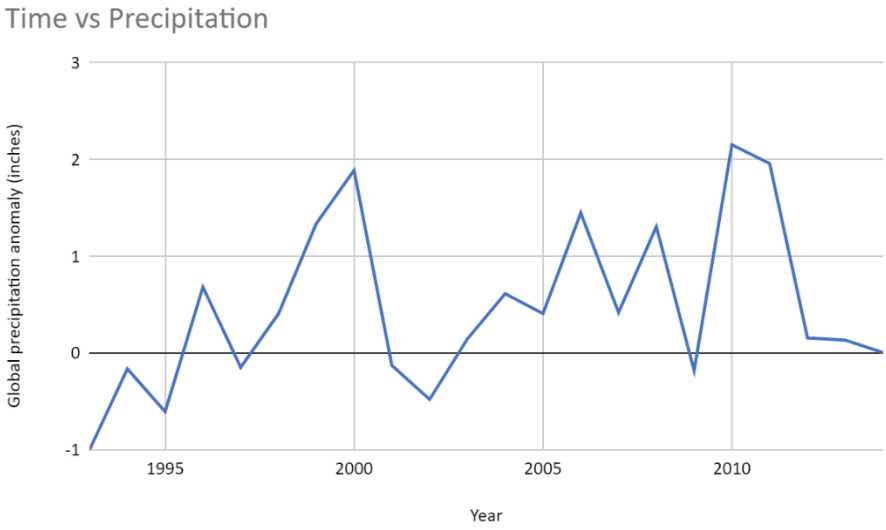
Time vs Temprature



Time vs Glaciers







Citations

NOAA National Climatic Data Center (NCDC), global component of Climate at a Glance (GCAG).

WGMS (World Glacier Monitoring Service). 2015 update to data originally published in: WGMS. 2013. Glacier mass balance bulletin no. 12 (2010–2011). Zemp, M., S.U. Nussbaumer, K. Naegeli, I. Gärtner-Roer, F. Paul, M. Hoelzle, and W. Haeberli (eds.). ICSU (WDS)/IUGG (IACS)/UNEP/UNESCO/WMO. Zurich, Switzerland: World Glacier Monitoring Service. http://wgms.ch/downloads/wgms_2013_gmbb12.pdf.