

A LOOK AT CLIMATE CHANGE

IN THE ARCTIC

"Small acts, when multiplied by millions of people,
can transform the world"

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INTRODUCTION

Hello!

My name is Asi Mikluszka, and I am very excited to be a part of this showcase! For this project, I will focus on the changing climate in the Arctic. Throughout the last three weeks, I have been working with my mentor, Ryan Harp, on the project. The purpose of the proposed project was to create an output that captured the variation in the climate and temperature and demonstrate the impacts of a changing climate. This project focuses on the communication of science, which includes a charcoal sketch on a poster, a variety of data sets and graphs, and a description.

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SKETCH

This section will consist of a sketch and meanings behind it

02

RISING SEA LEVELS

This section will explain the sea levels and loss of sea ice

03

DATASETS AND STATISTICS

This section will go through datasets and graphs

04

COASTAL EROSION

This section will introduce coastal erosion and its effects

05

IMPACTS AND WAYS TO HELP

This section will explain the main impacts on climate change

ARCTIC REGION

WHERE IS THE ARCTIC?

The Arctic is a polar region situated in the Northern part of the Earth, comprised of seas, parts of Alaska, Finland, Greenland, Canada, Sweden, Iceland, Russia, Norway, and the Arctic Ocean.

ARCTIC

01

CHARCOAL SKETCH

SKETCH

MEANINGS AND INTERPRETATIONS





02

RISE SEA LEVELS

SEA LEVELS

PHYSICAL EFFECTS

• RISING SEA LEVELS AND LOSS OF SEA ICE

- There are many effects in the Arctic, those of which are rising based on biological and physical components. Many physical effects include sea-level rise and the melting of sea ice.





10%



29%



71%

GLOBAL

10% of the global population lives within 10 meters of the sea

ABOVE

29% of the Earth is above sea level

BELOW

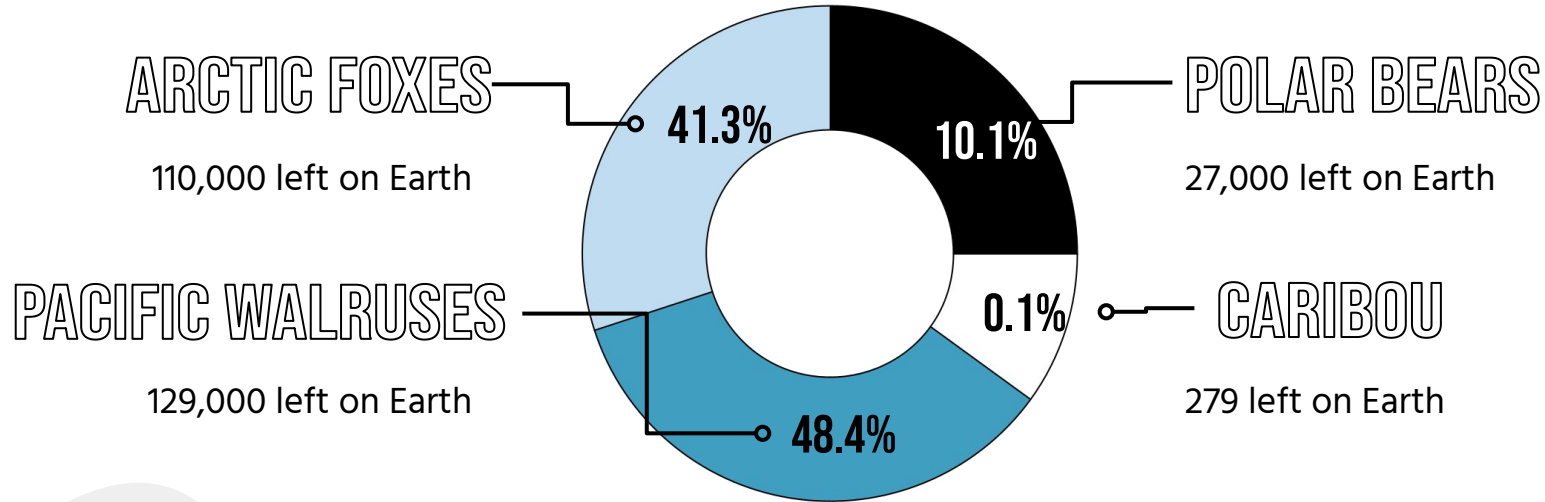
71% of the Earth is below sea level

03

DATASETS AND STATISTICS

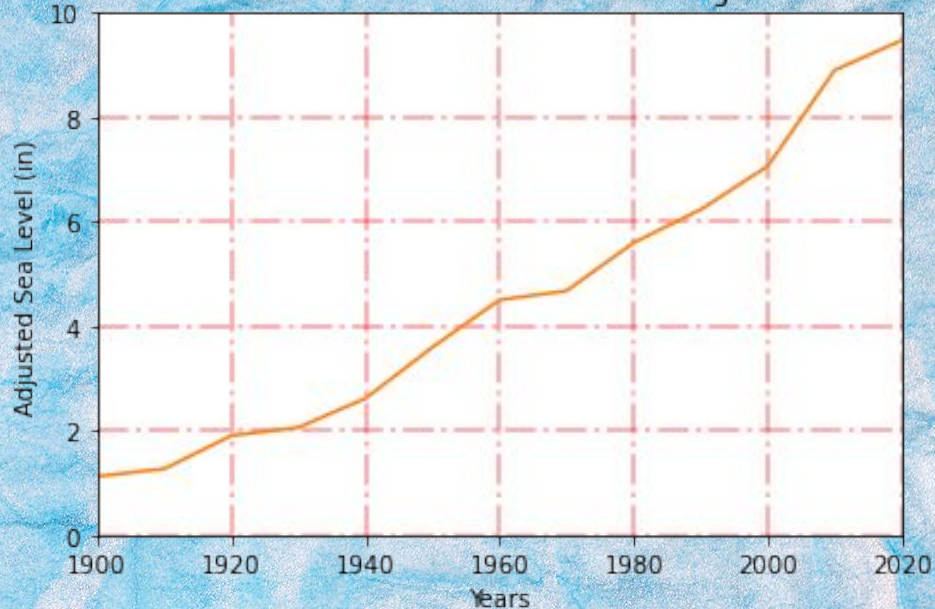
GRAPHS

POPULATION BY PERCENTAGE



GLOBAL ABSOLUTE SEA LEVEL

Global Absolute Sea Level Change



1950

1.13 inches

1990

2.62 inches

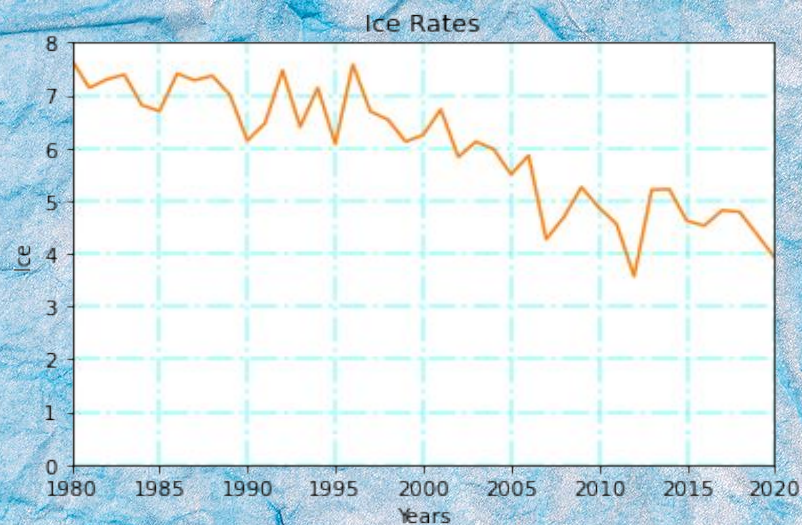
2020

9.47 inches

CLIMATE CHANGE

ICE EXTENT

1979 TO 2020



1980

7.67 million square
kilometers of sea ice extent

2000

6.25 million square
kilometers of sea ice extent

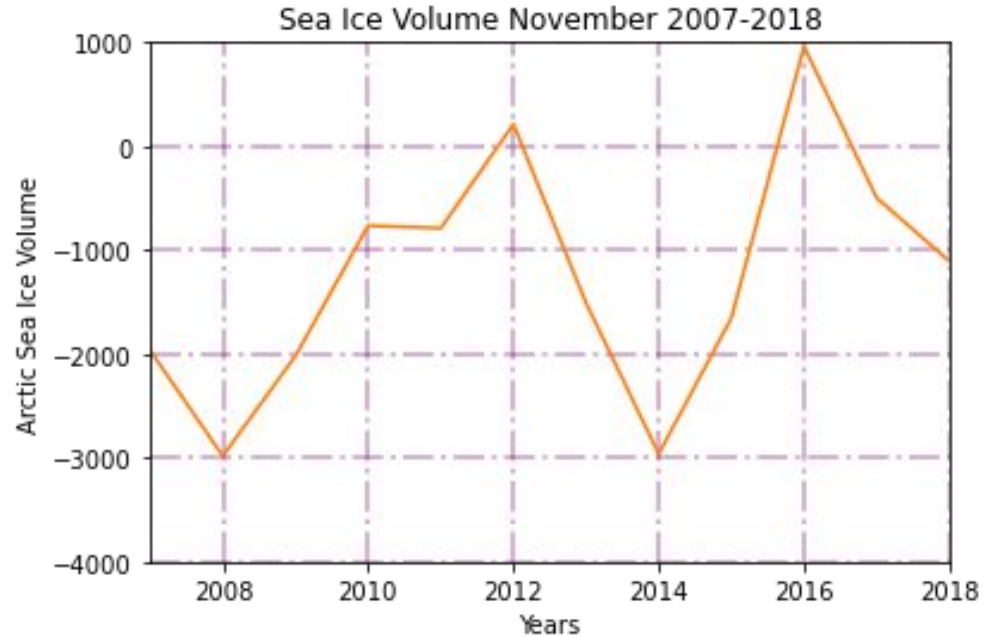
2020

3.92 million square
kilometers of sea ice extent

SEA ICE VOLUME

NOVEMBER 2007-2020

Significant drops can be seen in 2008, at -2982km, and 2014, at -2962km, rising in 2012, at 212km and 2016, at 961km.



The background features a crumpled blue paper texture. On the left, there are abstract shapes in light blue and white, including a large circle and several smaller dots. A thin black horizontal line is positioned near the top left. On the right, a thin black vertical line runs down the page. The word 'LAND' is written vertically on the left side. The main title '04 COASTAL EROSION' is centered in the upper half of the image.

04

COASTAL EROSION

LAND

COASTAL EROSION

LAND DISPLACEMENT



EFFECTS

Coastal erosion in some Alaskan communities took 80 meters of land in one year.

RATES

Rates of Arctic coastal erosion are determined and observed through measurements over decades and are associated with large-scale alterations in wind and storm patterns and ice coverage during the winter.



05

IMPACTS AND WAYS TO HELP

HUMANITY



IMPACTS

01

DEFORESTATION

Deforestation refers to the clearing of an area of trees, cut down for uses such as urbanization, mining, agricultural reasons, or other human activities

02

GREENHOUSE GASES

Greenhouse Gas Emissions, natural processes in which the Earth's surface is warmed, absorb energy and create far-ranging effects on people's health and the environment

03

EXTREME WEATHER

Rising temperatures are connected with changes in weather patterns, specifically extreme weather such as hurricanes, floods, droughts, wildfires, heatwaves, and large storms.

04

DISEASES

Health effects on humans will increase with the growing cardiovascular and respiratory diseases, premature deaths, and plagues worsening due to climate change.

HOW CAN YOU HELP?



- Avoid burning coal, oil and gas
- Avoid fertilisers containing nitrogen
- Limit the use of trains, planes, and automobiles often



- Power your home with renewable energy
- Speak up and tell others
- Invest in energy-efficient appliances.
- Drive a fuel-efficient vehicle
- Pull the plugs

DOS AND DON'TS



**“CLIMATE CHANGE IS THE
GREATEST THREAT OF OUR TIME”**

-Gina Mccarthy

THANKS!

Questions?



THANK YOU ALL!



GEOPATHS
@ Northwestern University



Northwestern

THANKS! THANKS!

THANKS! THANKS!