Inspiring Greatness

ISD

INDEPENDENCE SCHOOL DISTRICT

High School Science Virtual Learning

Environmental Science

Sea Levels Rising

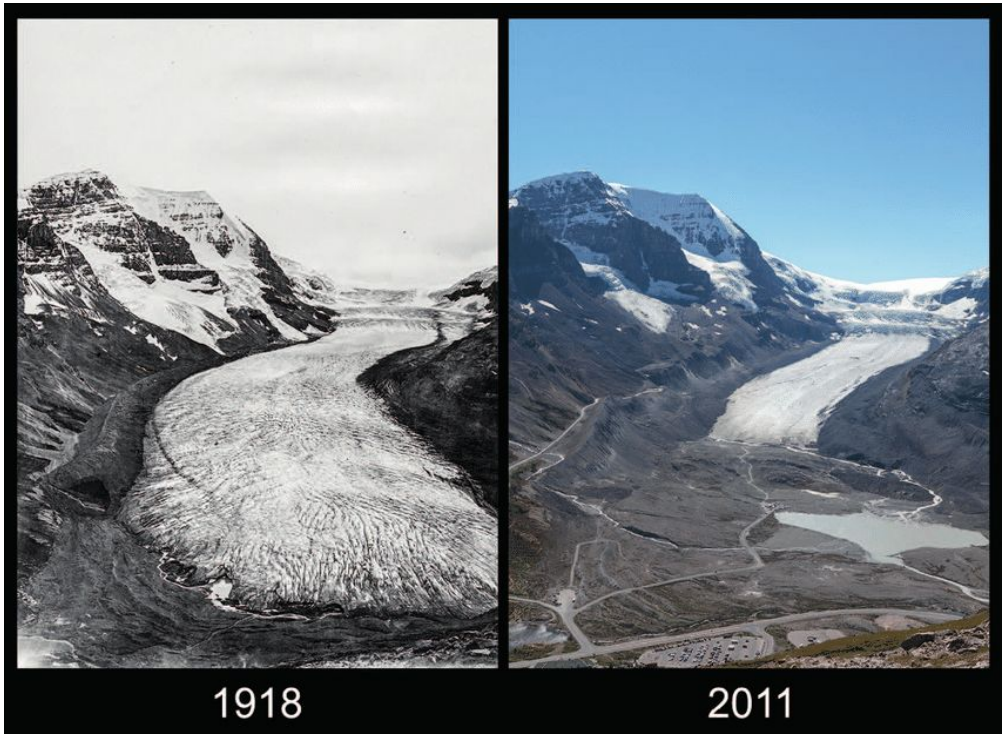
May 5, 2020

High School Environmental Science
Lesson: May 5, 2020

Objective/Learning Target:
Students will identify the effects of climate change on global Sea levels.

1. What happened to this glacier between 1918 and 2011?

2. What would be a consequence of increasing land ice melting?



1. As the temperatures increases the glacier melted..

2. Rising sea levels and disruption to biomes.

Lesson Activity:

Directions: You will be watching a short Bill Nye video and reading one article over the large causes and effects of glacial melting and sea levels rising. You will want to take notes as you explore to organize your thoughts. Here is an example of how:

History	Why?	Modern Level	Impacts	Cases	Future

Link(s): Bill Nye- what if all the ice melted? Sea Level rising- article

Practice

You will use the notes and Bill Nye video from the activity on slide 5 to answer the following questions.

Practice Questions

1. How much does frozen water account for all of the freshwater?
2. What is seismic blasting and why is it used?
3. Why is land-based ice melting worse for the earth than ice in the ocean?
4. If all of the land-based ice melted, how much would the sea level rise?
5. If the sea level rises 10 meters how much of the world's population will be displaced? Same for 25 meters?

Answer Key

Once you have completed the practice questions check with the work.

1. 70% of freshwater is frozen.
2. Seismic blasting is when air explosions are shot into the water in an effort to map the ocean floor and find oil.
3. Ice already in the ocean will be balanced out due to displacement, while the land-based ice will expand as it is warmed and raise the sea levels.
4. The sea levels will raise 70 meters.
5. 10% of world population; 20% of world population.

More Practice

You will use the notes and sea level article from the activity on slide 5 to answer the following questions.

More Practice Questions

1. What are the two key reasons why sea levels rise?
2. How much lower were sea levels during the last glacial age?
3. When was the beginning of the sea levels rising more rapidly?
4. How do ice sheets and glaciers melt?
5. How will hurricanes be affected by sea level?

Answer Key

Once you have completed the practice questions check with the work.

1. Warmer temperatures cause ice on land to mel, letting the water flow into the ocean. Second, warm water expands and takes up more space than colder water.
2. Sea levels were more than 400 feet lower than today.
3. Around 1850 due to a rise in atmospheric carbon dioxide.
4. From above due to warming air, from the sides as they break off into the sea, and from below due to warming ocean water where the ice extends over the sea.
5. Hurricanes are estimated to grow between 2-11 percent stronger on average over the next century.

Additional Practice

If you would like to explore what more can affect humans and biomes with the rising sea levels you can check out these resources:

United States and Sea Level Rising

Infographic on sea levels

What cities will disappear with rising sea levels

Global Sea Level