



SCIENCE CAREER  
ADVENTURES



**Levi the Climatologist:  
Rising Global Temperatures**

# Who is Levi?

Hello, my name is Levi. I am a climatologist. A climatologist is a scientist that studies climate in different locations in the world. The climate refers to weather over a long period of time in a particular place. Climate is based on many factors, including temperature, amount of rain or snow, and amount of wind.



**A climatologist can work anywhere in the world!**



## Did You Know?

**Climatologists make an average of \$92,000 a year!**



# What I Am Working On

Right now, I am collaborating with a group of scientists to study climate change. Climate change is a global problem. The planet is getting warmer, causing climates in different areas around the world to change.

One place where the climate is drastically changing is the Arctic. The ice caps and glaciers are melting.



This is a huge problem because animals are losing their homes.



## Did You Know?

The Arctic refers to the area around the North Pole. Many people confuse it with Antarctica, which is around the South Pole.



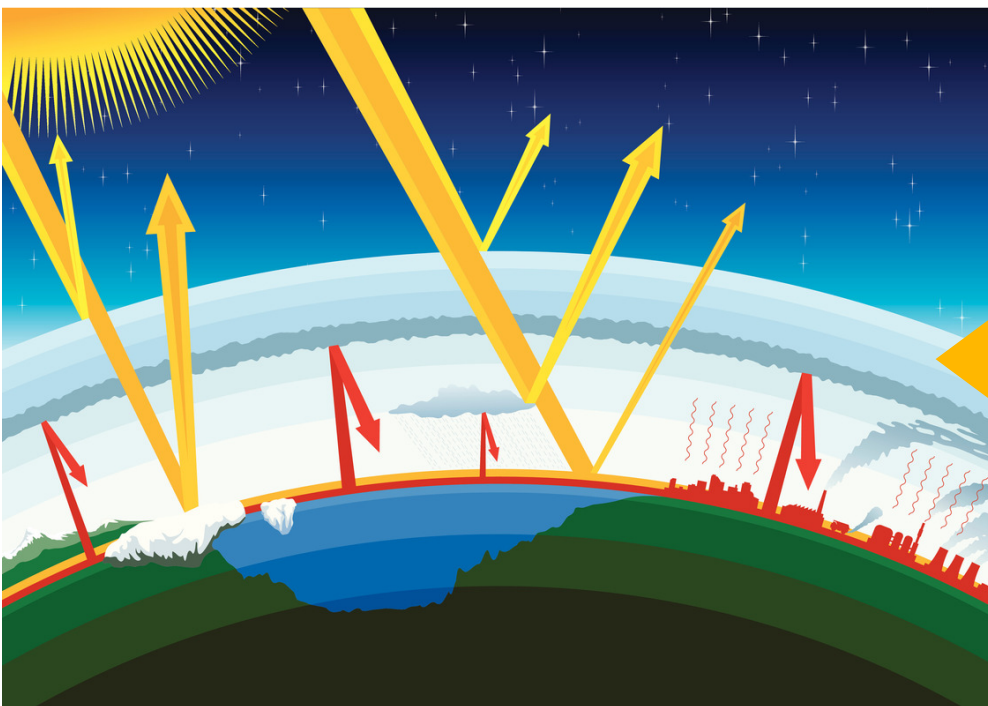
# What Causes Climate Change?

To develop a plan to help the Arctic animals, it is important to first understand climate change and its causes.

I explain to the group of scientists that one cause of climate change is the increase of carbon dioxide in the atmosphere. Carbon dioxide is the gas that you breathe out when you exhale. It is also the gas that is emitted by factories and cars.



Carbon dioxide is a greenhouse gas. That means it traps heat from Earth's surface and holds the heat in the atmosphere. Scientists have learned that, throughout Earth's history, temperature and carbon dioxide levels in the air are closely tied. An increase in the human population has resulted in a huge spike in the levels of carbon dioxide in the atmosphere.



The sun heats up the Earth. The atmosphere around Earth has too many greenhouse gasses, so a lot of heat gets trapped. Over time, this heats up Earth's climate. Since the temperature is heating up, the water in the Arctic regions is absorbing heat. If the air and water aren't cold enough to keep the ice completely frozen, it will melt.

# Studying Animals

It is tricky to study animals. They are easily scared and will run away if they hear or see humans. Territorial animals, like polar bears, can also become angry and attack people if they get scared.

As a result, we decide to send a drone into the Arctic to take video footage and photographs of the animals who live there. A drone is an autonomous vehicle that flies in the air. The drone is extremely quiet and won't spook the animals.



**Here's what we saw in the video footage and photos!**

A very thin mother polar bear searching for food.



Caribou grazing and swatting at insects with their tails.



# Analyzing Our Observations

After we looked at video footage and photos of the animals, it was time for the team to discuss what we saw. First, we talk about the mother polar bear. Normally, polar bears are plump from feeding on seals or fish out on the ice caps. However, the ice is melting, which has taken away some of the bear's food sources.



**Next, we talk about the caribou that were swatting insects with their tails. Our team hypothesizes that the bugs they were swatting were mosquitos.**

Warmer temperatures have caused mosquito populations to explode in the Arctic during the summer. The caribou are spending a lot more energy swatting away the mosquitoes. As a result, the caribou have less energy to find food and prepare for the next long winter. It is particularly dangerous for female caribou to waste energy swatting at mosquitos because they need to save energy for giving birth and raising their young.



Our next steps are to collaborate with other scientists who are passionate about saving Arctic animals and researching the effects of climate change. We are going to FaceTime a few scientists this month to get their opinions on how to help the caribou and polar bears in the Arctic.