



Lesson 124

The Effects of Climate Change

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According to the United Nations, “Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, but since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels (like coal, oil, and gas) which produces heat-trapping gases.” In this lesson, we will look at the ways in which climate change is affecting various parts of the world, and see how a climate crisis is not something that will happen in the future, but something that is already taking place.

Fires and Extreme Heat

Fires and smoke in Canada

This year has brought an unprecedented fire season to Canada. Although this happens about every century or two, this time it is much, much worse, and that is thanks to climate change. The heat and drought have made the forest (which makes up almost half of the country) vulnerable to fires. Canada also experienced a dry Winter and Spring, and on top of that it got hot rather early which caused the snow to melt quickly. So, this year’s fire season began early - in April - and it is not over yet. An area bigger than the country of England has already burned. There are over 1,000 fires burning now, and more than two-thirds are not under control because Canada doesn’t have enough firefighters to deal with all the fires. Many of them are in remote regions, so the fire fighters’ jobs are to protect human lives first, and then property second. Still tens of thousands of people have been evacuated, over 200 buildings have been lost, and several provinces have issued states of emergency. But these fires aren’t only devastating Canada, since June the record for the amount of smoke produced in the country has been exceeded. In June and July, smoke from these fires blanketed the sky in the United States making the air quality in both Canada and the United States unhealthy; some of that smoke even made it across the Atlantic Ocean to Europe. These fires are still going on today, and they are only this bad because of climate change.

Maul and Chile fires

The effects of climate change can be seen in the wildfires that are ravaging Hawaii and Chile. On January 30th, wildfires broke out in Chile, burning over 1 million acres. For the past decade, Chile has been in a drought, which made way for very dry conditions - perfect for a fire. However, 17 people were arrested for possibly starting the fires by burning wool and wielding. The fires got so bad that in multiple regions, a state of emergency was declared and over 20 people were killed. Only a few months later, in the beginning of August, fires broke out mainly on the island of Maui. Downed power lines are thought to have played a major factor in the start of the fires. The dry conditions and the wind were what caused the fire to spread so rapidly and far. Many people had to evacuate their homes, over 100 people were killed, with several others still missing, and thousands of buildings destroyed. On August 8th, an emergency declaration was signed, activating the National Guard and opening the emergency fund reserves, among other things. The following day, Hawaii was declared to be in a state of emergency. And on August 10th, a federal major disaster declaration was issued by President Biden. Damage is estimated to be around \$6 billion. Both of these fires have been exacerbated by the heat caused by climate change.

Heatwaves

Heatwaves are amongst the most dangerous natural hazards humanity faces. Each year thousands of people die from heat related health issues, and in mid-2023 - the world faced a record breaking heatwave. In July [2023] many portions of Southern Europe, China, the United States and Mexico faced extremely hot weather. In Europe, a region in Spain broke its highest temperature record, and other parts of Spain recorded their highest daily minimum temperatures. In China, temperatures in some areas reached 126 degrees Fahrenheit or 52.2 degrees Celsius. In the United States, because the heat kept persisting the National Weather Service said they were “running out of ways to say that it’s gonna be hot out there today.” Other places in Europe such as Italy, Greece and Cyprus all reported deaths (and hospitalization) due to the high temperatures. Mexico’s death toll currently surpasses 200. These deadly heatwaves in North America, Europe, and China have become more frequent over years because of global warming. The average global temperature has already risen 1.2 degrees Celsius (from pre-industrial levels) thanks to the burning of fossil fuels. Scientists believe that heatwaves will happen about once every five years in China, which without human induced climate change, would have been once every 250 years. As for Southern Europe and the United States, these heatwaves would have been almost impossible without climate change. In July, the director of the World Health Organization tweeted, “In many parts of the world, today is predicted to be the hottest day on record ... The #ClimateCrisis is not a warning. It’s happening. I urge world leaders to ACT now.”

High Winds and Water

Monsoons in India

The word monsoon comes from an Arabic word that means “season”. There are both dry and wet monsoons and they are dictated by temperature and wind. A wet monsoon takes place in the Summer when the ocean is cooler than the land. Warm water from the ocean evaporates and is blown to land (the air moves from cool to warm). Once on land the water condenses and falls as rain as the air becomes warm and rises, then the air circles back to the ocean, cools down, and the cycle repeats. When the ocean becomes warmer than the land and the wind reverse – this leads to the dry monsoon. This can happen in several different places, usually in tropical and subtropical climates, but Asia is the most famous. One of those places is India, which has a monsoon season from June to September. Except this year was different, India got more than average rain in July, but less than average in August and scientists think September will be dryer than normal as well. Without all of the rain India usually gets, they will have trouble with agriculture this year: food has already gotten more expensive. All this is happening because of the El Nino climate pattern. During an El Nino the ocean gets warmer and the wind pattern changes, in some places this brings more moisture and floods but it makes other places dryer. This is what is happening in India - the El Nino is making it dryer. Over the last decades El Nino (and La Nina) have become more extreme and frequent, and some scientists are starting to believe that this is due to climate change.

Hurricane in California and Baja California

Hurricane Hilary was an example of the extreme effects of climate change. Hilary was a category 4 hurricane (out of 5) that brought heavy rain and wind up to 145 mph to California, Baja California, among other places. It reached category four on August 17th and 18th. Hilary was the first hurricane to reach California in 26 years. Because of it, the National Hurricane Center issued a tropical storm warning for Southern California due to possible deadly flooding. This is the first time the warning was issued for Southern California. Two people were killed in Mexico due to the storm. Climate change doesn't just make the climate hotter, it also makes it more extreme. Many things like this tropical storm are happening for the first time because climate change is making the weather more extreme.

Floods in South Sudan

As we've learned, climate change doesn't have to be all about heat and drought, other natural disasters happen because of it as well. South Sudan is unfortunately a very good example of this. For the past few years the country has constantly been saturated by flooding. Hundreds of thousands of people have been displaced and thousands of acres of crops have been destroyed. The United Nations says that over 75% of the population needs food assistance because of the flooding. Even in the dry seasons, few crops or cattle remain from the floods, which increases the risk of violence such as cattle raids. The United Nations and governments are working to address the crisis in any way they can, but many of these efforts fall short of satisfactory.

Animals in Danger

Penguins in Antarctica

The warming of the ocean is causing the sea ice around Antarctica to melt. Since 2014, the extent of ice has been below average (the average being that from between 1981 to 2010). This year, in July, which is the middle of the winter for the Southern Hemisphere, the ice was 2 million square kilometers less than the average, and 1.5 million square kilometers (579,000 square miles) less than the previous low record - which was last year. Global warming is causing the ice to melt and break up earlier than it used to, but there is also a consequence. When the white ice is gone only the deep blue ocean underneath remains, and that absorbs the sunlight instead of reflecting it - making Earth hotter. One of the species that is affected by these changes is Emperor Penguins. They lay their eggs on the sea ice starting May/June and the chicks don't become independent until around December/January. May is the time that the sea ice starts to build up and it starts to decrease after December (the least amount of sea ice being around March) - normally. But last year some areas had no sea ice in November. This was devastating to the penguins, their chicks drowned or floated away and starved, of the five colonies that were being monitored, four were a total failure which means it's highly likely no chicks survived. Some scientists say that Emperor penguins will go extinct because of the loss of sea ice, and sadly they are not the only species that is being lost to climate change.

Climate change and the Court

Held vs. State of Montana

Held v. State of Montana is a Montana court case about the “right to a ‘clean and healthful environment in Montana for present and future generations,’” Wikipedia. The case was filed by Our Children’s Trust which was representing 16 children, from the ages of 2 to 18. “On June 12, 2023, the case became the first climate-related constitutional lawsuit to go to trial in the United States,” Wikipedia. The argument was that the burning of fossil fuels makes the climate worse which then makes their lives worse which is against the Montana Constitution. On the defense’s side, it was argued that the state was technically following state regulations. On August 14th, the case was decided in the children’s favor, stating that the fossil fuel industry violated that children’s rights.

In summary:

Fires and Extreme Heat

Thanks to Climate change making many parts of the world hotter and dryer, Canada is facing an unprecedented Wildfire season, the Hawaiian island of Maui had the deadliest US Wildfire in over a century, and many parts of Europe and Asia like (Spain, Greece, and China) are experiencing record heatwaves.



High Winds and Water

Climate change is also affecting weather phenomenon that deal with water.

We saw how the El Nino we are currently experiencing has been strengthened by global warming. It is causing India's monsoon season to be too dry.

The West coast of Central and North America was hit by a hurricane/ tropical storm for the first time in decades.

A big part of South Sudan is under water - leading to problems with their food supply.

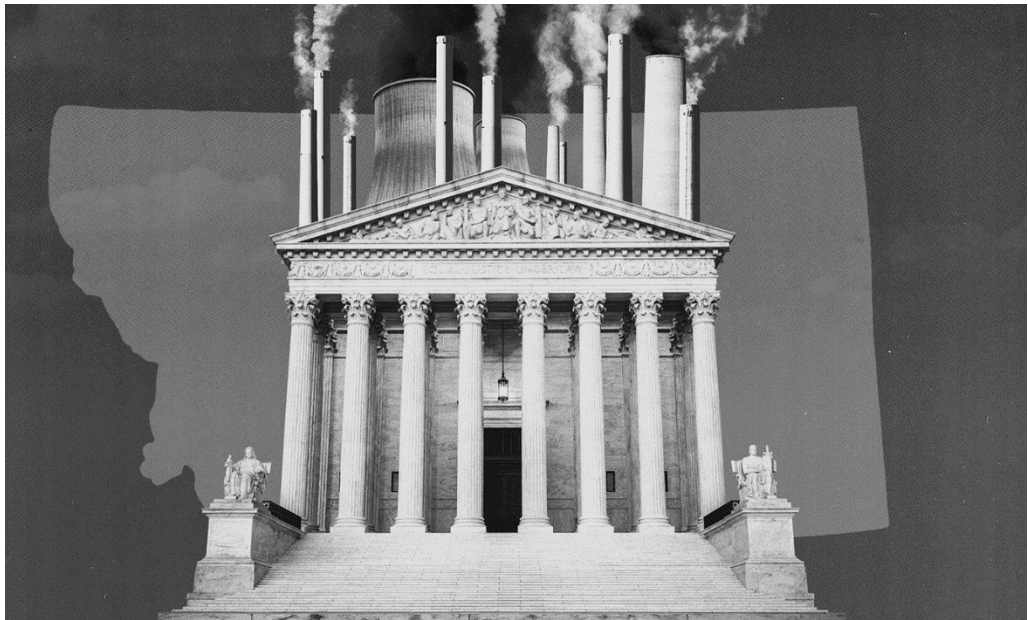
Animals in Danger

Climate change is affecting animals as well as humans. We say that because the ice in Antarctica is breaking up and melting due to global warming earlier in the year - which causes penguin chicks to die.



Climate change and the Court

In August, some youth in the state of Montana sued the state saying that their right to a clean environment has been violated because of human caused climate change.



Official Youth Prophecy Group website:

youthprophecygroup.org

If you have any questions or comments on any of the material contact us at:

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Find all the YPG lesson videos at:

https://www.youtube.com/channel/UCeltzVajTXgSQRL-o2XOq_g

Link to YPG Zoom meetings which are at 10:00am Pacific Time on the 1st Sunday of the month:

<https://us02web.zoom.us/j/87170293849>