



# adventures

There's lots more *Audubon Adventures* online, with fun, interactive features! [AudubonAdventures.org](http://AudubonAdventures.org)

## Let's Change Climate Change

**Earth's climate is changing,  
and people are taking action.**

Planet Earth is getting warmer faster than ever before because of a buildup of greenhouse gases in the layer of air that surrounds the planet. Greenhouse gases have always been there. They are produced by Earth's natural systems and they help make the planet a place where plants, birds and other animals, and people can live. But lately the greenhouse gas levels are increasing too fast, causing the Earth to grow warmer and warmer. That's causing problems for all living things. For birds, climate change can affect migration and the places birds need to survive.

What can we do? Plenty! Turn the page to find out more about the causes and effects of climate change, an explanation of greenhouse gases, inspiring stories of kids who are working to deal with the problem, and what we all can do to help.





# Scientists Study Birds to Learn About Climate Change

## WORDS FOR THE WISE



**Fossil fuels** are energy sources that come from coal, oil, and natural gas. They are called “fossil” fuels because they formed over millions of years from the decaying bodies of ancient living things. When we burn fossil fuels for energy, we add more and more carbon dioxide to the atmosphere. This buildup acts like a blanket that traps heat around the world, and that is changing the climate.



**Renewable energy sources** like wind, the sun’s rays, and heat from deep within the earth do not contribute to climate change because they do not add a lot of greenhouse gases to the atmosphere. “Renewable” means we will never run out of them.



↑ Heat waves, heavy rains, and wildfires could make it difficult for birds like the Baltimore Oriole to nest and raise their young.

## What are they learning?

Can you think of a type of animal that lives in every kind of habitat or environment—rain forests and deserts, seacoasts and lakeshores, the Arctic and Antarctica, cities and suburbs, vast grasslands and steep mountainsides? If you thought of birds, you’re right! That’s why it makes sense for scientists to study birds in order to learn about how climate change affects Planet Earth.

Scientists now know that climate change affects the conditions in the places birds find food, rest, nest and raise their young, and protect themselves. Here are some examples:

- **As the climate warms**, plants bloom or produce fruit earlier in the year, but migrating birds still arrive at their usual time. The result is that birds don’t have the food they need.
- **Storms are stronger** and there are more of them. Wildfires and droughts happen more often and last longer. These events harm birds, other animals, and their habitats...and people, too.
- **The rise in sea levels** caused by climate change can wipe out or flood nesting areas or destroy the nests of many kinds of birds.

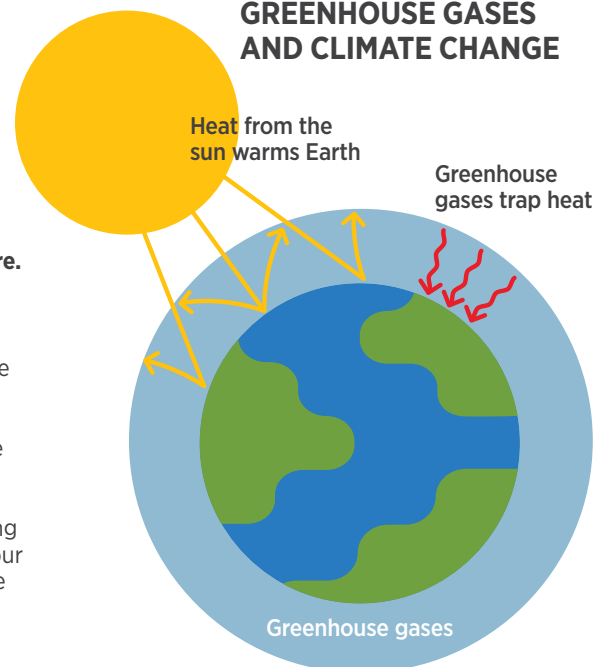
# What’s Causing Climate Change?

## Why is it happening?

**Earth is surrounded by a layer of gases called the atmosphere.** Some of the gases are called “greenhouse gases.” They are called that because people build greenhouses to keep plants warm and growing even when it’s cold outside. Like a greenhouse, these gases in the atmosphere trap heat from the sun and make Earth a comfortable place to live.

The problem is that for more than 150 years people have been using more and more energy from sources that release way more greenhouse gases than ever before into the atmosphere. Carbon dioxide and methane are greenhouse gases that are contributing the most to climate change. Using fossil fuels—oil, coal, and natural gas—for energy to power our cars, airplanes, and other machines produces carbon dioxide and methane. Too many greenhouse gases act like a heavy blanket, causing Earth’s climate to get too warm.

## GREENHOUSE GASES AND CLIMATE CHANGE



# Kids Are Telling Leaders It's Time to Take Action

in the field



GRETA THUNBERG



JEROME FOSTER II

**Young people are doing their part.**

**Now that people know that climate change is happening they can start solving the problem today.** Young people are doing their part.

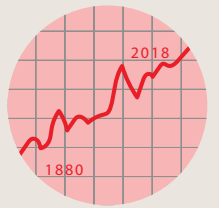
Greta Thunberg is a teenager from Sweden who is raising awareness about climate change in order to get more people to start helping. She started small—in her own school—and is now getting attention around the world, including the United Nations. Greta's message is clear: The time to act is now.

Greta is not alone. Millions of children and teens are learning all they can about climate change and figuring out ways to help prevent the worst consequences of the climate crisis. Young people like Jerome Foster II and Jamie Margolin in the U.S. and others around the world are joining the fight against climate change in their daily lives. They are also speaking up, saying to adults in their families, schools, communities, and countries that it's important to take action. They are challenging everyone to use the power they have to deal with the problems climate change is causing now and could cause in the future.

## WORDS FOR THE WISE



**Weather** is temporary. Snowstorms and blizzards, rainy days, hot days, cold days, hurricanes, and tornadoes are all examples of weather. Weather is what is happening where you are on a particular day or for a short period of time.



**Climate** describes the general weather in an area over many years. When we say the climate is changing, we mean the weather conditions have been changing over a long time. While some places may experience colder temperatures and more extreme snowfalls, the overall temperature on Earth is getting warmer.

## People Power!

**Human beings are very smart. When they see a problem, they are really good at figuring out how to solve it, even big ones like climate change.** Everyone in every community can take action that will help protect our planet—its people, animals, plants, and habitats—from the harmful effects of climate change. Here are just a few:

- **Join other young people and add your voice to the push for clean, renewable energy.** Share what you know about climate change with your parents, teachers, and the public officials who represent you.
- **Walk, bike, and share a ride.** Reducing the use of gasoline-powered vehicles reduces greenhouse gases going into the atmosphere.
- **Reduce plastics in the environment.** Plastics are made from fossil fuels and other chemicals. They last for hundreds of years in our environment and are also harmful to animals of all kinds.
- **Recycle.** Recycling saves energy.
- **Save water.** In many areas, climate change can cause droughts. That means there may not be enough water from rainfall for people, wildlife, and plants, or to prevent or fight wildfires.
- **Create habitats for birds and other wildlife where they can rest, raise their young, and be safe from weather and predators.** Native plants are best—the ones that grow naturally in a place and provide food and shelter for birds and other animals that live there.
- **Support the use of “renewable” energy sources in homes, cars and other vehicles, and businesses of all kinds.** Solar, wind, and geothermal energy do not produce or produce far less greenhouse gases.





get involved

# What's Your Climate-Action Score?



Saving energy is the best way people everywhere can help slow down climate change. Here are some simple suggestions that reduce the amount of greenhouse gases going into the atmosphere. **Check off the ones you will try at home** ☐, **at school** ☐, or **both**.

## TAKE A CLOSER LOOK

Check out these **Audubon Adventures** resources to find out more about birds, native plants, climate change, and earth-friendly actions for everyone.



Get to Know Birds  
[audbn.co/aagtkb](http://audbn.co/aagtkb)



Plants Are for the Birds!  
[audbn.co/aapfb](http://audbn.co/aapfb)

Take Action for Planet Earth  
[audbn.co/aatape](http://audbn.co/aatape)

## Foot and Pedal Power!

Walking and biking instead of going in a car don't require any fuel except human-power. What a fun and healthy way to save energy!



## Unplug!

As long as they're plugged in, many appliances—cell phone chargers, computers, monitors, printers, microwave ovens, and DVD players—are using energy. Unplug power-hungry appliances when people aren't using them.



## Replace and Avoid!

Replace plastic bottles and shopping bags with reusable ones. Avoiding single-use products, especially plastics, is a great way to reduce the amount of greenhouse gases in the atmosphere.



## Plant a Tree!

As trees grow, they "inhale" the greenhouse gas carbon dioxide, so planting trees is great for the environment. Maybe you can join a group in your community that plants trees in a park or other natural space.



## Your Climate-Action Score!

Add up all your energy savings by counting all the boxes you checked.

Add a point for each one that you will share with your family, your teachers and school administrators, or your local public officials.

+

Add the numbers together to get your **Climate-Action Score**.

=

**Congratulations!** A score of 5 or more is great!

**Audubon Adventures is published by National Audubon Society**  
225 Varick Street, 7<sup>th</sup> floor,  
New York, NY 10014  
Audubon Adventures is a registered trademark of National Audubon Society. All rights reserved © 2019  
**Subscriptions and customer service:**  
Please call (800) 340-6546. Learn more at [audubonadventures.org](http://audubonadventures.org)  
**Project Team:** Elaine O'Sullivan, Managing Editor; Lorin Driggs, Susan Tweit, writers; Lorin Driggs, principal editor; Ken Elkins,

Mary Helen Gillen, Yvette Haughney, Geoff LeBaron, Emily Macklin, Barbara Mechler, Angel Poe, Mark Scallion, Katie Weeks, Cathy Wise, scientific and educational reviewers  
**Audubon Art Department:** Kristina Deckert, Art Director; Sabine Meyer, Photography Director; Melanie Ryan, Senior Designer; Alex Tomlinson, Graphic Designer; Mike Fernandez, Video Producer; Camilla Cerea, Contributing Photographer/Photo Editor; Lia Bocchiaro, Photo Editor; Luke Franke, Network Photographer/Photo Editor; Alan Gottlieb, Digital Asset Manager.

**Credits:** Cover: Mike Fernandez/Audubon. P2, clockwise from top left: Getty Images/iStock; Chouinard-Duhamel/iStock; illustration: Alex Tomlinson; Cindy Shebley/iStock. P3, from top left: dpa picture alliance/Alamy; Graeme Sloan/Sipa USA via AP Images; Eyedias/iStock; illustrations: Alex Tomlinson (4). P4, clock-wise from top; illustration: Alex Tomlinson; Chepko/iStock; Britta Kokemor/iStock; LeManna/iStock; McIninch/iStock; covers: iStock (2); Sean Graesser; Sandy Ashley/Audubon Photography Awards.

**We're correlated!** For correlations to Common Core Standards for English Language Arts and Next Generation Science Standards, go to: [audubonadventures.org/Teach\\_Standards.htm](http://audubonadventures.org/Teach_Standards.htm)  
**Follow us on Facebook:**  
[facebook.com/NationalAudubonSociety](https://facebook.com/NationalAudubonSociety)