

Climate Change101

Natasha Wasim, MPH

Agenda

- Greenhouse Gases
- Connection to Climate Change
- Environmental Impact
- What YOU can do!



Definitions: IPCC

- **CLIMATE:** The average pattern of weather conditions over a long period of time. Climate isn't weather—weather changes daily.
- **GLOBAL WARMING:** The increase in Earth's average temperature over a long period of time
- **CARBON DIOXIDE:** A gas released by the burning of coal, natural gas, oil, and wood that traps heat in the atmosphere
- **CARBON FOOTPRINT:** The amount of carbon dioxide one human releases into the environment in a year
- **FOSSIL FUELS:** Coal, oil, and natural gas, which come from the breakdown of ancient plants and animals over millions of years



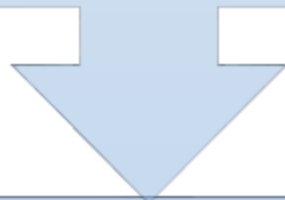
The Greenhouse Effect



Atmosphere

The Greenhouse Gases

Scientists connect the global warming trend to the human expansion of the "greenhouse effect."



Gases that contribute to the greenhouse effect:

Carbon Dioxide

Methane

Nitrous Oxide

Fluorinated
Gases

What is Climate Change?

According to the EPA:

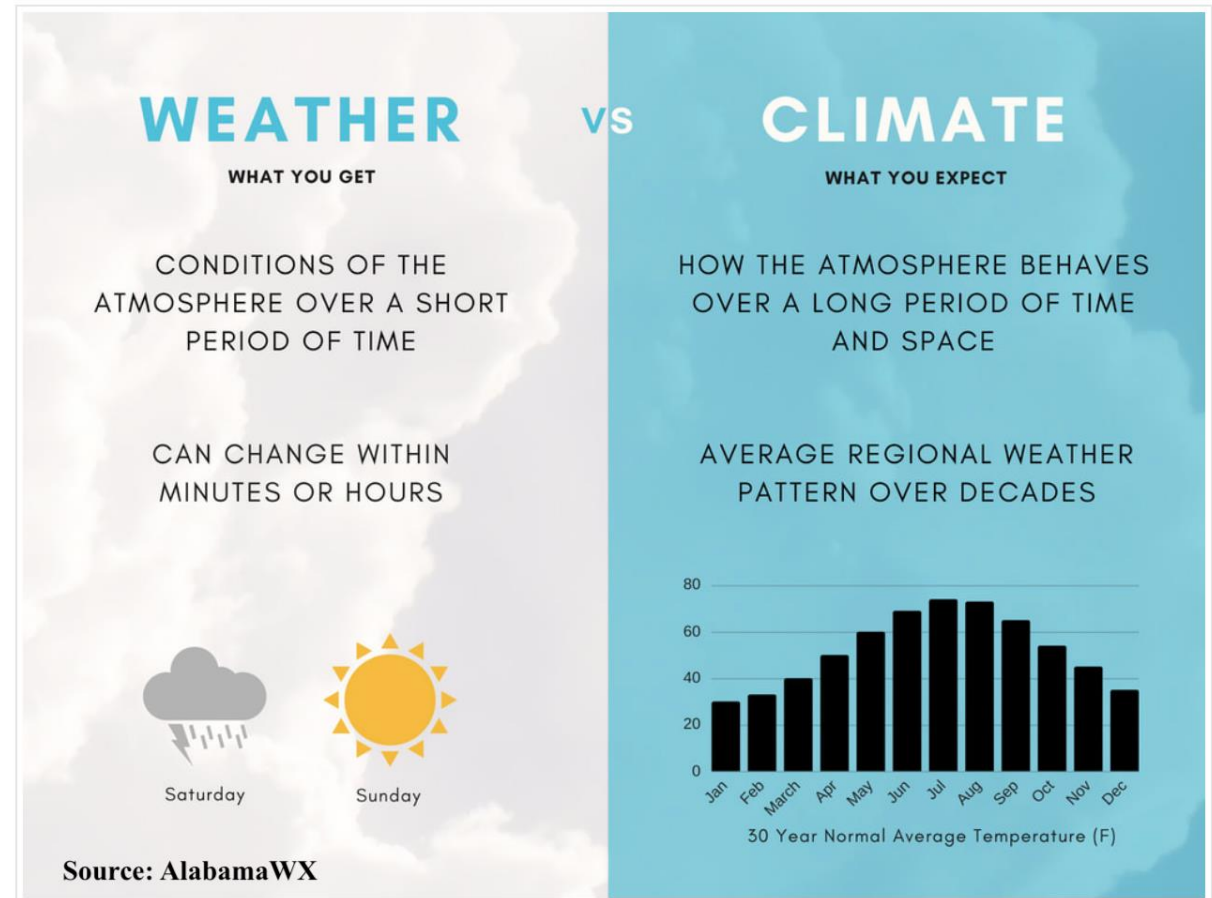
Climate change means a significant change in the measures of climate, such as temperature, rainfall, or wind, lasting for an extended period – decades or longer.



Weather vs Climate

Weather changes day to day—sometimes it rains, other days it's hot.

Climate is the pattern of the weather conditions over a long period of time for a large area. And climate can be affected by Earth's atmosphere.



What Causes Climate Change?

While some greenhouse gases occur naturally in nature, human activity is responsible for speeding up the production of these gases:

- The burning of fossil fuels
- The cutting down of rainforests
- Destroying of native vegetation
- The increase of farming- cows!
- The increase of industrial processes- trucks, factories, refineries!
- The increased amount of waste going to landfills



The Evidence

Records and data show a dramatic changes in the Earth's mass and natural ecosystems just within the last 30 years

- The effects of a changing climate can also be seen in:
 - Global Temperature Rise
 - Warming Oceans
 - Sea Level Rise
 - Ocean Acidification
 - Extreme Weather Events like droughts, floods, & extreme heat
 - Animal Territory Changes
 - Vegetation and temporal impacts



Summary: The Science



The Earth's average temperature is **about 60 degrees Fahrenheit**



There are natural fluctuations in the climate but scientists say temperatures are now rising faster than at many other times



Carbon pollution from fossil fuels is warming our planet and throwing natural systems out of balance

Climate Change Myths...

1. I have never been affected by Climate Change
2. Climate Change will happen in 50 years
3. Climate Change does not occur in the United States



What Can YOU Do?

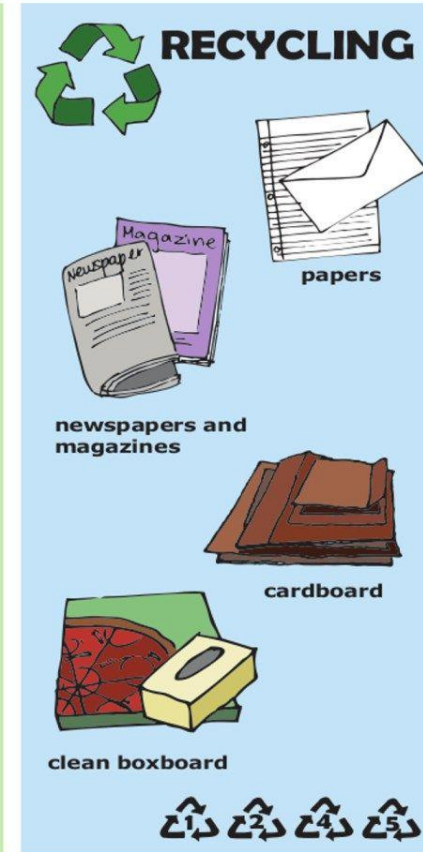
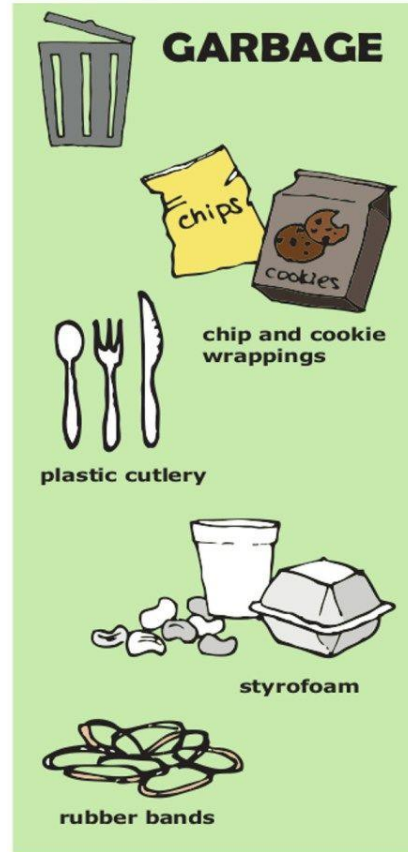
1. RECYCLE!
2. COMPOST

greenUFV
Centre for Sustainability

WHAT GOES WHERE?

by Centre for Sustainability and Students for Sustainability

SFS
Students For Sustainability



Recycling and Climate Change

Reducing waste, recycling and composting are great ways to decrease climate change pollution such as carbon dioxide and methane. They achieve these benefits in two ways:

- by helping save energy in the processing of materials for industrial and consumer use, and
- by reducing the flow of materials -- especially food and other organic wastes -- into landfills where anaerobic decomposition produces methane.



Recycling and Climate Change

How much do we save by recycling?

CANS AND METAL



Recycling cans and metal saves about **95%** of the energy needed to make them new.

PAPER



Recycling paper requires **40%** less energy and **30%** less water compared to new paper.



Seventeen trees are saved for every ton of recycled paper.

PLASTIC



Recycling plastic saves about **70%** of the energy.

GLASS



Recycling glass saves about **30%** of the energy.

Source: <http://www.campaignforrecycling.org/faq/ghg>

Composting and Climate Change

- Composting and Absorbing Greenhouse Gases (GHGs)
 - Not only does compost reduce GHGs, but it also removes additional emissions from the atmosphere.
 - By promoting healthier and more vital plant growth, compost is a key mechanism for plants to take in carbon dioxide and convert it into leafy growth.
 - Compost plays a vital role in helping to prevent erosion during extreme storm events and in retaining water when there are droughts



BENEFITS OF COMPOSTING

RETAINS MORE WATER



Compost helps strengthen soil's ability to retain water. This causes plants to not need to be watered as frequently.

REDUCES LANDFILL WASTE



Composting helps divert materials from going to the landfills, minimizing the amount of greenhouse gas emissions released into the atmosphere and lengthening the capacity of landfills.

REDUCES SOIL EROSION



Erosion occurs when top soil is blown or washed away causing infertile topsoil. Compost can restore topsoil and build stable soil structure.

REDUCES NEED FOR SYNTHETIC FERTILIZERS



Compost sufficiently supplies soil with nutrients like phosphorus and nitrogen. This reduces the need for additional fertilizer because compost naturally provides the necessary nutrients for the soil.

HELPS CARBON SEQUESTRATION



Carbon is stored in the top 3 feet of soil and is released into the atmosphere when soil structure is poor. Applied compost helps improve soil structure to combat against this.



Food:Land:Opportunity
Localizing the Chicago Foodshed

Individual Action

HOW CAN EACH OF US TAKE ACTION?

SIMPLE CHOICES IN OUR DAILY LIVES CAN MAKE A DIFFERENCE.

GREEN UP YOUR TRAVEL



Public transit, carpooling, biking, or walking reduces emissions and roadway congestion.

PLANT & PROTECT TREES



Healthy forests, parks, and natural areas help keep our air and water clean and reduce carbon pollution.

CUT FOOD WASTE & SAVE



Look for smart ways to shop, store, and cook food to reduce food waste.

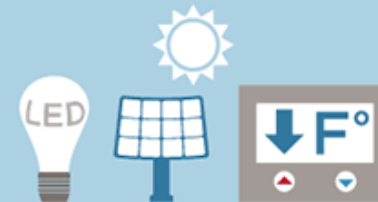
BUY WISELY & RECYCLE MORE

Recycle everything possible and buy products that are long-lasting, energy efficient, reusable, and have less packaging to prevent waste in the first place.



REDUCE ENERGY USE

Using LED lightbulbs and other energy saving steps reduces utility bills and environmental impact.



SPEAK UP!

Help shape community action on climate change. Provide your input on climate actions.



Questions?

Contact Information:

