

# climate change



CLENT AFRICA



# UNDERSTANDING WEATHER CHANGES



# OBJECTIVES

1

Explain the concepts of weather and climate.

2

Effects of Weather changes and its impact on farmers, animals...

3

Clean Air vs  
Polluted Air

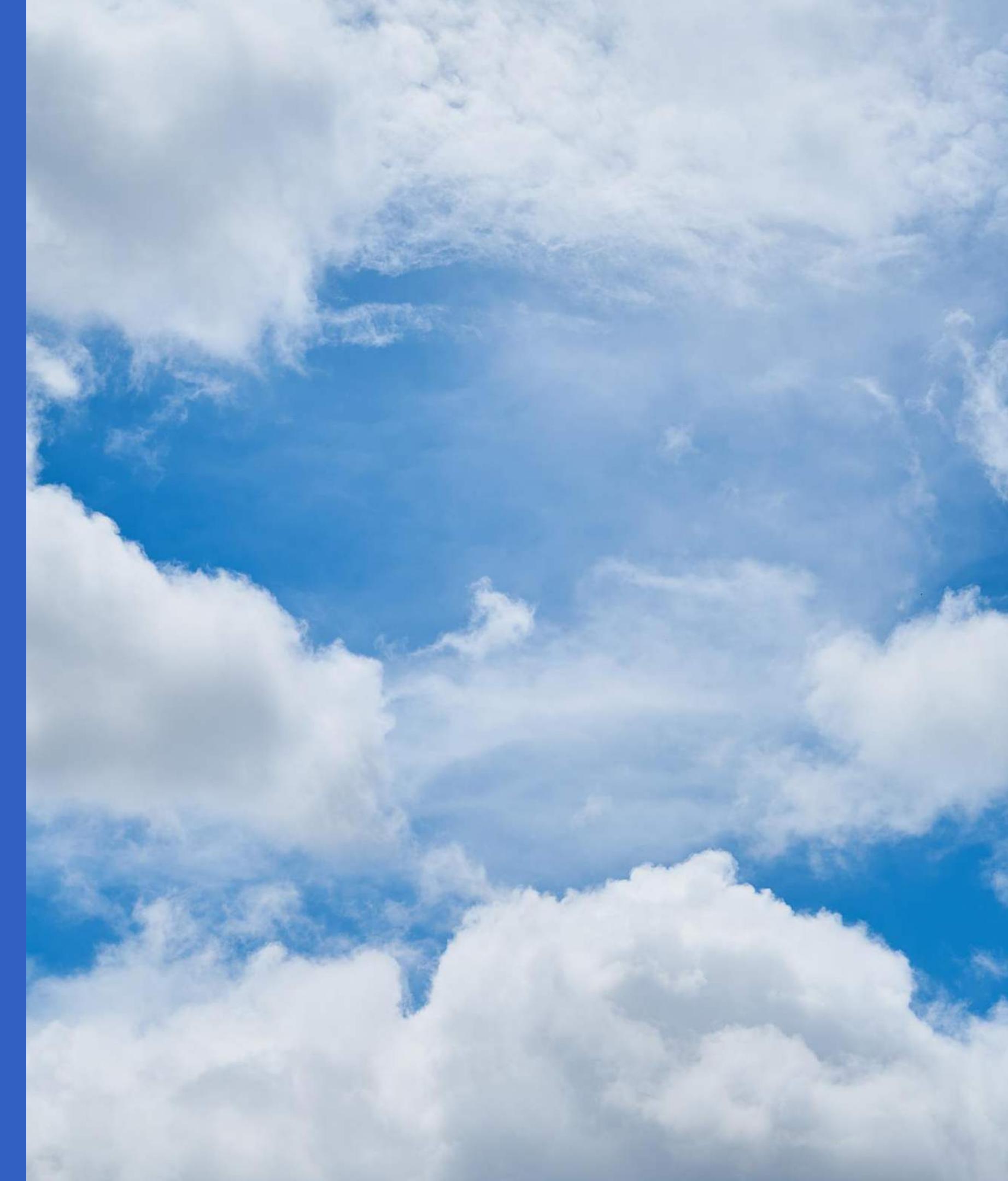
Let's explore how weather affects our daily lives and helps us decide what to wear and how to plan our activities. Let's also learn about climate, which tells us about the weather patterns in a specific area over a long period of time.



# WEATHER

Weather is the state of the atmosphere or the conditions in the air around us. It includes things like temperature, precipitation, wind, and cloud cover.

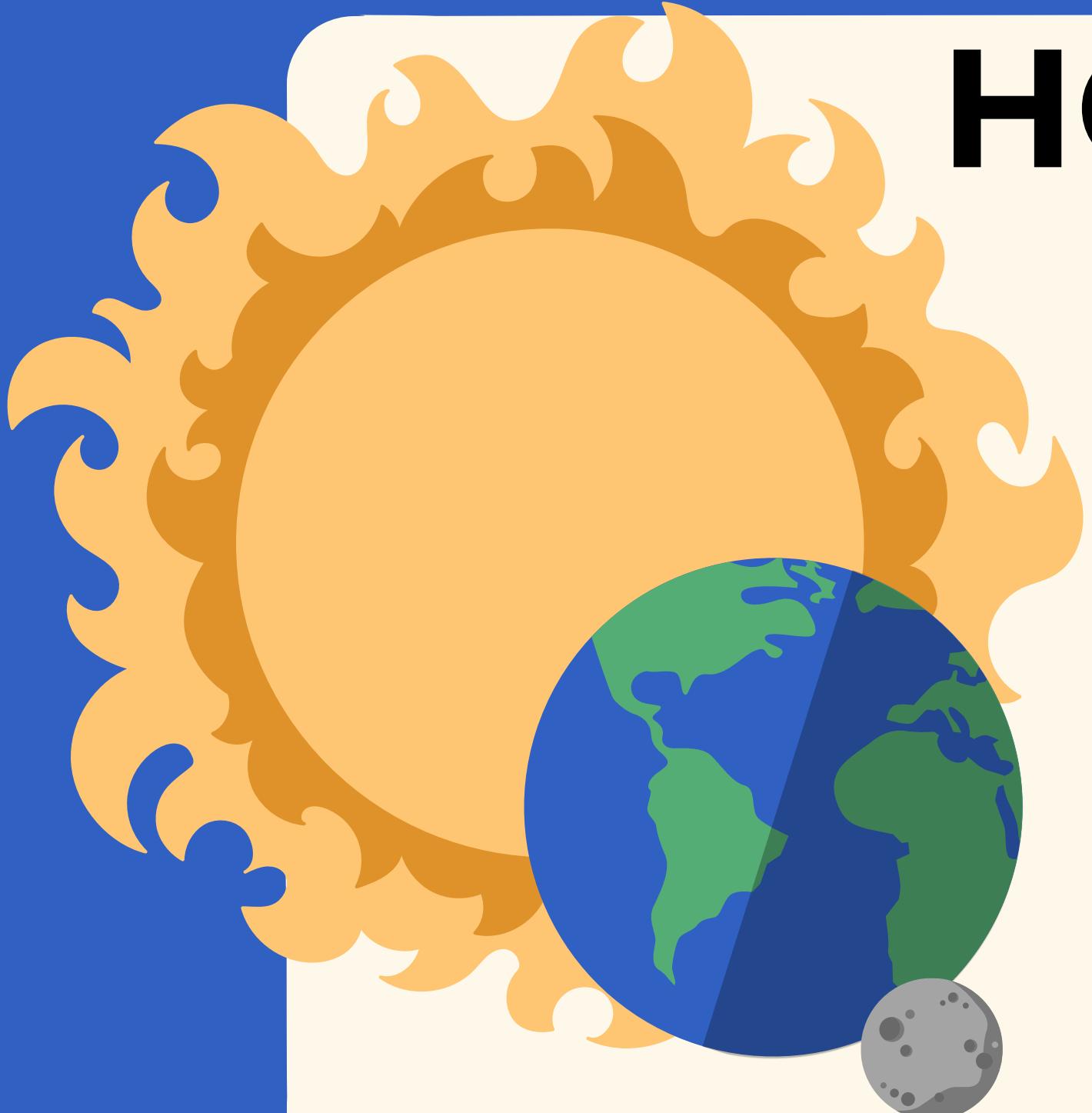
Weather changes from day to day and can be different in various parts of the world.



# CLIMATE

Climate refers to the average weather conditions in a particular place over a long period of time, usually 30 years or more. It includes information about temperature, precipitation, wind patterns, and other factors. Climate helps us understand the typical weather patterns of a region or country.





# **HOW DOES IT FEEL?**

**Imagine if it were supposed to be a cool and rainy season, but it stays hot all the time. That's what climate change does. It's like summer extending into every season, making even the cooler times of the year feel much warmer than they used to.**

# How Climate Change Affects Rainfall

Normally, we have specific times of the year when it rains a lot and other times when it's dry. For example, in the rainy season, we expect regular showers which help our crops grow and keep our water sources full.



# Climate change is making rain patterns change:

- Unpredictable Rain: Rainfall can come at unexpected times or not at all.
- Droughts: Some areas might not get rain when they usually do, causing dry periods.
- Heavy Rains: Sometimes, we might get too much rain all at once, leading to floods.



# Animals in Danger

- Animals need water and food for survival
- Climate change makes it harder for them to find what they need
  - Some animals are disappearing due to climate change



# How Climate Change Affects Animals

- Rising temperatures alter habitats and ecosystems
- Changes in precipitation patterns lead to droughts and floods
- Increased frequency of extreme weather events disrupts food chains



# Consequences for Animals

- Habitat loss and fragmentation
- Food scarcity and malnutrition
- Increased risk of extinction



# What Can We Do?

- Reduce greenhouse gas emissions to mitigate climate change
- Conserve water and food resources
- Support conservation efforts and protect natural habitats
- Educate ourselves and others about the impact of climate change on animals



# How Farmers Are Affected

Farmers rely on understanding weather patterns and climate to make decisions about planting, irrigating, and harvesting crops. It helps them manage their farms effectively and ensure food production.



# How Farmers Are Affected

Farmers grow food for us to eat, but climate change makes it harder for plants to grow, so there might be less food



# How Climate Change Impacts Animals

- Less Water: Many places are getting drier, so animals can't find enough water.
- Food Shortages: Plants and prey may not grow as well, making it hard for animals to find food.
- Habitat Loss: Changing weather can destroy the places where animals live





# How Climate Change Affects Weather

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Storms and Floods

# What Are Storms and Floods?

Storms and floods are powerful weather events:

- Storms: Strong winds, heavy rain, and lightning.
- Floods: When too much water covers the land, making it hard to live or work



# How Climate Change Causes More Storms

- Increasing Heat: Warmer temperatures make storms stronger.
- More Moisture: Warmer air holds more water, leading to heavier rain.
- Changing Weather Patterns: Unusual weather can lead to more frequent and intense storms.



# Destructive Consequences

- Destruction of homes and shelters
  - Loss of crops and livestocks
  - Displacement of people and animals
    - Increased risk of injury
    - Economic losses and food insecurity
  - Emotional trauma and stress



# Melting Ice : The Hidden Consequences of Climate Change



# The Importance of Ice

- Ice helps regulate Earth's temperature
- Keeps the planet cool and habitable



# Ice Under Threat

- Climate change is causing ice to melt at an alarming rate
- Polar ice caps and glaciers are shrinking



# Consequences of Melting Ice

- Rising global temperatures
- Sea levels increase, leading to coastal flooding
- Disruption to ecosystems and wildlife habitats at a alarming rate
- Polar ice caps and glaciers are shrinking



# Why Should We Care?

- Melting ice affects us all, regardless of distance
- Has devastating consequences for polar communities and wildlife
- Exacerbates climate change impacts worldwide



# What Can We Do?

- Reduce greenhouse gas emissions to slow climate change
- Support conservation efforts and protect natural habitats
- Stay informed and raise awareness about melting ice impacts



# CLEAN AIR v/s POLLUTED AIR



# CLEAN AIR

Clean air is air that is free from pollutants and contaminants that can harm human health and the environment.

It is air that meets certain standards and guidelines for quality, and is characterized by:



-Low levels of particulate matter (PM), such as dust, soot, and other tiny particles

- Low levels of gases, such as ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), and carbon monoxide

(CO)

- Low levels of volatile organic compounds (VOCs), such as chemicals and pesticides

- Adequate oxygen levels

- Low levels of bacteria, viruses, and other microorganisms



# Clean air is essential for:

- Human health: to breathe and maintain healthy lungs and respiratory system
- Environmental health: to support plant growth, ecosystems, and wildlife
- Quality of life: to enjoy outdoor activities, recreation, and overall well-being



# Examples of Clean Air

1. Fresh mountain  
air with no factories  
nearby.



# Examples of Clean Air

2. Air in a dense forest full of trees.



# Examples of Clean Air

3. Seaside air with  
the scent of the  
ocean.



# Examples of Clean Air

4. Rural area air  
with no cars or  
industries.



# Examples of Clean Air

5. Countryside air  
in places with lots  
of grass and plants.



# Examples of Clean Air

6.Air in a national park or nature reserve.



# Examples of Clean Air

7. Air in small villages with little traffic.



# Examples of Clean Air

8.Air after a fresh  
rain in a clean  
environment.



# Examples of Clean Air

9. Air in a desert  
with no nearby  
cities.



# Examples of Clean Air

10. Air in open savannas with minimal human activity.



# POLLUTED AIR

Polluted air is a significant environmental and health issue.

It typically contains harmful substances like particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), and volatile organic compounds (VOCs).



# Examples of Polluted Air

1. Air near busy  
roads with lots  
of cars.



# Examples of Polluted Air

2.Air in cities with  
many factories.



# Examples of Polluted Air

3. Air in industrial zones with chemical plants.



# Examples of Polluted Air

4. Air around  
construction sites  
with lots of dust.



# Examples of Polluted Air

5.Air in urban areas  
with heavy traffic  
congestion.



# Examples of Polluted Air

6.Air in areas  
burning trash or  
fields.



# Examples of Polluted Air

7. Air near mines or  
quarries.



# Examples of Polluted Air

8.Air in regions  
with forest fires.



# Examples of Polluted Air

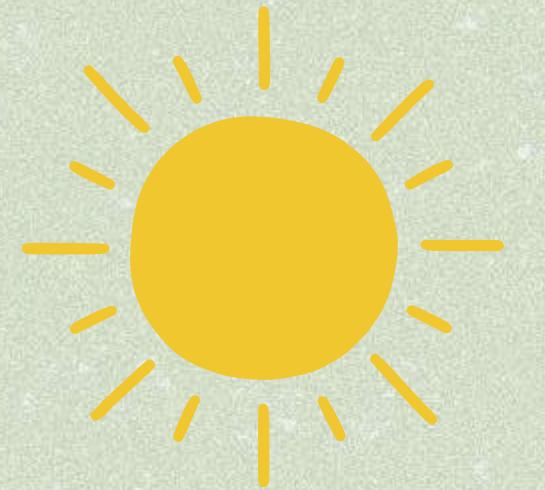
9. Air near ports  
with many ships.



# Examples of Polluted Air

10. Air in crowded neighborhoods with lots of cooking smoke.





# What can we do?

Plant more trees

Use water carefully to help our environment.

Reduce energy use to cut down on heat-trapping gases



**THANK  
YOU**



**CLENT AFRICA**