

**Ecosystem** - a natural system made up of plants, animals and the environment. Examples include a pond, a hedgerow or a tropical rainforest.

**Biome** – A global ecosystem such as a rainforest

**Flora** – Are plants (producers) within an ecosystem

**Fauna** – Are animals (consumers) within an ecosystem

**Habitat** – Homes within an ecosystem where different flora and fauna live

**Biodiversity** – The variety of life in an ecosystem

**Climate** – The average weather conditions over a year

**Adaptation** – How a living organism is suited to its environment

**Deforestation** – Cutting down forests for a variety of reasons

**Logging** – Cutting down forests for wood products

**Conservation** – Protecting habitats such as rainforests

**Sustainable** – Good for people and the environment

**Ecotourism** – Conserving forests as a resource to attract tourists to visit

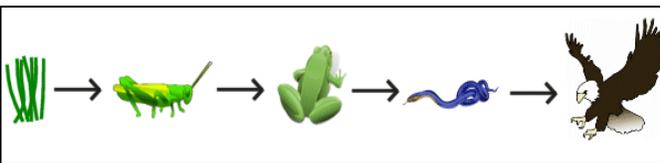
**Producers**  
convert sunlight into sugars in order to grow.  
Example – Trees in a rainforest

**Consumers**  
either eat producers or other consumers  
Example – Monkeys in a rainforest

**Decomposers**  
breakdown dead organic matter and return nutrients to the soil.  
Example – Fungi on forest floor



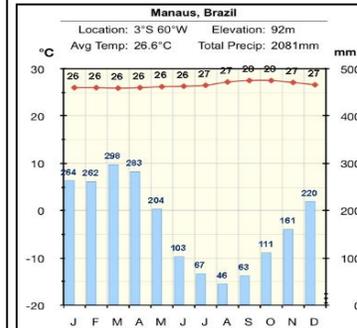
A **Food chain** shows how the **sun** is the source of **energy** for living things. By eating producers or other consumers the energy is passed through the **ecosystem**



Living things also need **nutrients** to grow and be healthy. The **nutrient cycle** shows how nutrients are re-cycled in an ecosystem. Living things die and are **decomposed**. Their nutrients are released into the soil. These nutrients are then **re-absorbed** by plants through their **roots**, and passed on to other consumers if the plant is eaten.



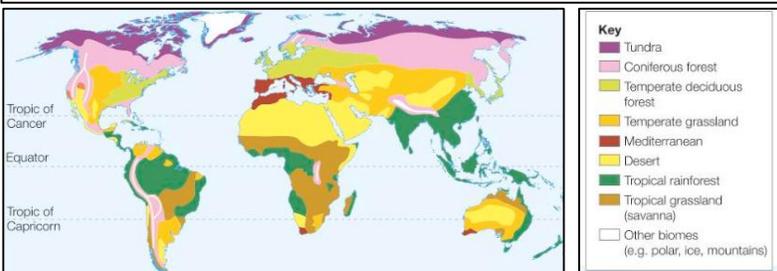
Rainforests have a **hot, wet climate**. Every morning the hot overhead sun **evaporates** large amounts of water from trees and rivers. **Water vapour** rises, cools and **condenses** to form **clouds**, which produce torrential **rainfall** most afternoons. This is called **convection rainfall**



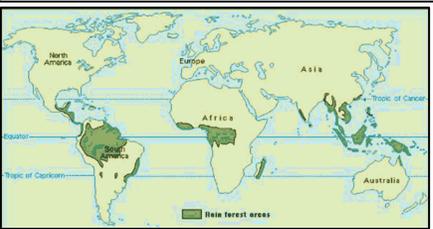
Vegetation has **adapted** to the hot, wet and humid climate with its **all year round growing season**.

- **Emergent trees** grow extremely tall to reach the Sun and photosynthesise.
- **Buttress roots** prevent huge trees from falling over
- **Lianas** are vines that grow up tree trunks to reach the sunlight
- **Large fan shaped leaves** allow plants on the dark forest floor to photosynthesise
- **Drip tip leaves** help plants avoid rotting by getting rid of rainwater from the leaf surface.

Manaus in the Brazilian Amazon receives over 2 metres of rainfall per year and the average daytime temperature never falls below 27°C



Different biomes are located in **bands** across the land masses of the world. This is because plants and animals are specially **adapted** to the different **climatic conditions**.



Rainforests are located in a band around the **equator** between the Tropics of Cancer and Capricorn. They are mostly in **South America, Africa and Asia**.

Rainforests are a **valuable global resource**. They;

- contain over 50% of the world's species
- control climate change by absorbing carbon dioxide released into the atmosphere by humans
- provide ingredients for 25% of the world's medicines
- 2/3rds of cancer fighting drugs have a rainforest ingredient
- provide a home for thousands of ancient indigenous tribes
- are full of useful resources like dyes, resins, rubber, fruits, nuts and fibres
- Are a valuable environmental tourism attraction

Rainforests are being destroyed at an alarming rate. If this continues they will not exist in 100 years. This is happening because countries with rainforest are often poor and need to use them for jobs, wealth and economic development. However 50% of global deforestation is done illegally.

- Reasons for destruction include
- Logging** for wood
  - Clearance for **farming** e.g. Palm oil, Soy and cattle ranches
  - Mining** for resources like tin and gold
  - Space** for new settlements
  - Flooding** to make hydroelectricity

Rainforests can be **conserved** and **protected** from destruction in a number of different ways

- Selective logging** – Only cutting down mature trees and replanting new trees to replace them
- Ecotourism** – Developing environmental tourism in rainforests. This creates jobs but protects the forests from destruction
- Nature reserves** – Protecting areas of rainforest, protecting the habitats of species and preventing their extinction
- Debt for nature** – Rich countries giving money to poorer countries if they agree to stop deforestation