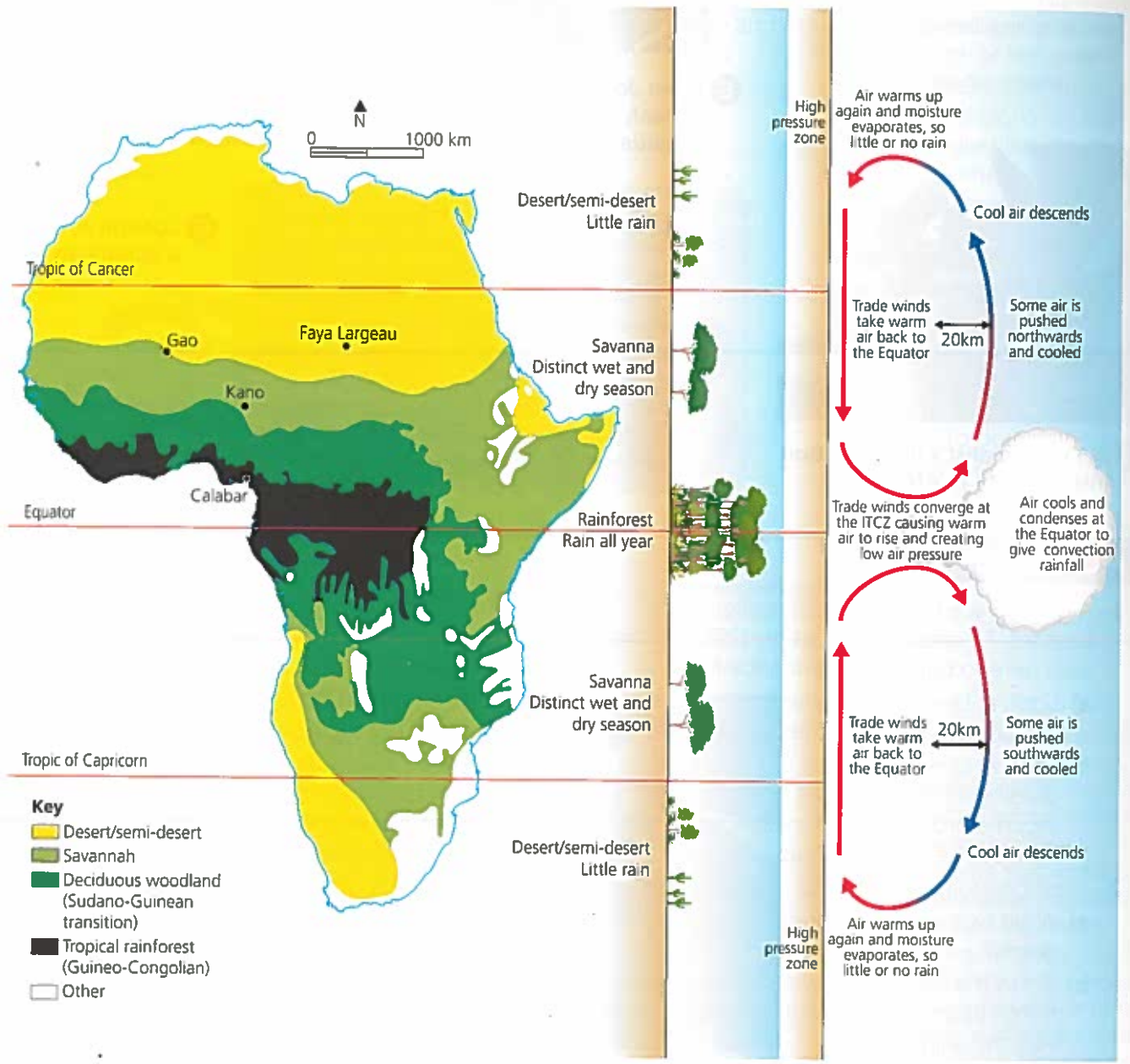
12.5 What is the pattern of climate and biomes in Africa?

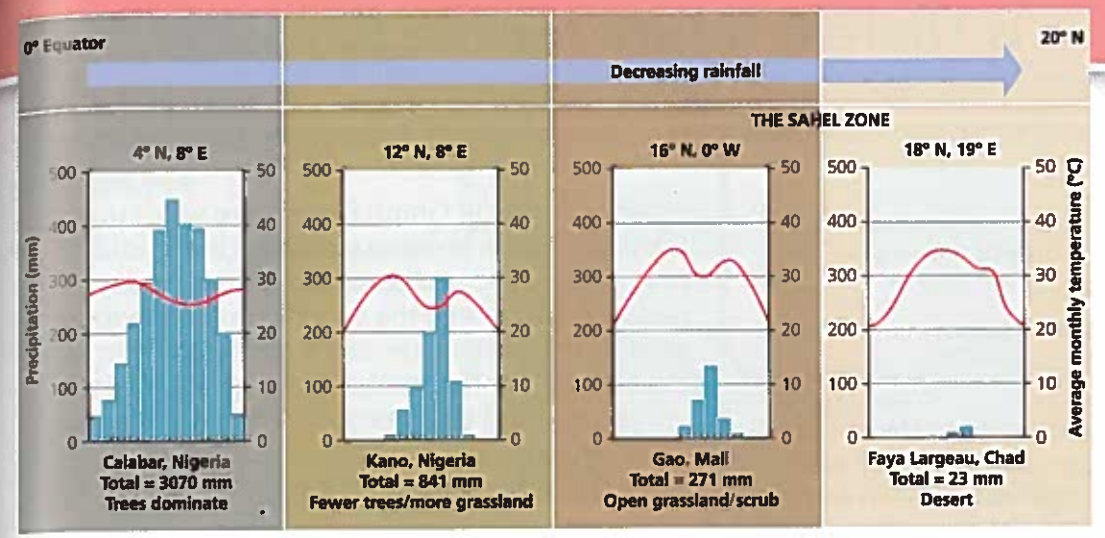
Learning objective

- To understand the pattern of climate zones and biomes across Africa.

The climate zones and biomes of Africa have evolved as a repeated pattern north and south of the Equator. This pattern has developed due to the interactions of the atmosphere, hydrosphere and biosphere. In this lesson you will investigate these interactions and explore each biome to identify characteristic features.

A The climate and biomes of Africa

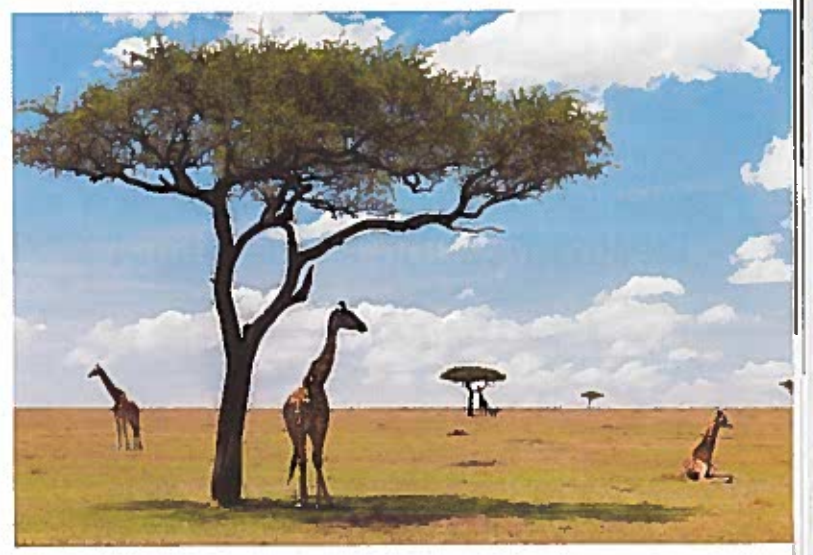




C Climate graphs for different African countries

Savanna biome

These are found to the north and south of tropical rainforests. Savanna regions have two distinct wet and dry seasons. Savanna includes grasses with scattered acacia trees. Plants and animals have to adapt to the long, dry periods. This biome is teeming with wildlife. Animals may **migrate** great distances in search of food and water. The climate graph for Kano (C) shows how the temperature and rainfall patterns relate to each other – the hottest temperatures come just before heavy rainfall, and the coolest time of the year comes just after the rains. Further away from the Equator and its heavy rainfall, the grassland becomes drier and drier, and gradually the climate and biomes change (see climate graphs in C).



B The savanna biome

Activities

1 Look carefully at A and climate graphs C.
- **a)** Name the four main climate zones and biomes.
- **b)** On an outline map of Africa, draw and shade these biomes. Include a key.
- **c)** Write a sentence under each of the following headings to explain why the rainforest climate occurs at the Equator: **i)** air pressure **ii)** wind patterns **iii)** rainfall patterns.
- **d)** Now repeat c) for savanna, then semi-desert and finally desert.

2 Look carefully at Photo B and Graphs C.
- **a)** Describe the savanna landscape using the geographical enquiry questions.
- **b)** In the savanna, which three months have the most rain?
- **c)** Which four months have the least rain?
- **d)** Calculate the temperature range.
- **e)** Write three sentences to describe the savanna climate.

3 Explain what happens to climate and biomes in Africa, north and south of the Equator.

Stretch and challenge

Visit the degree confluence website (http://confluence.org/) or use GoogleEarth.
- a) Using the coordinates provided in C, find locations in each climate/biome zone. Download a photo for each zone into presentation software and annotate each photo to show what you have learnt this lesson.
- b) Playback your presentation to the class next lesson.