2: Overview of climate zones and biomes

Video summary	Before watching	While watching
Join presenter, Chioma, as she explains the variety of weather and climate experienced in different parts of Africa. The video explores the factors that determine the weather and climate across a range of locations in Africa, including distance from the equator, convection cells and altitude. The video returns to Cape Town to investigate how Table Mountain impacts the local weather and climate.	Explain that Africa is a vast continent of 54 very different countries each their own physical and human features. Locate Africa on a map and identify the equator and the Tropics of Cancer and Capricorn. Ask students how Africa's vast size and location may affect the weather, climate and biomes - for example, which biome is found on the equator? **Introduce key terms such as:** **Glacier:** a slow-moving river of ice. **Insolation**: the amount of solar radiation reaching a given area. **Convection cell**: an area in which warm and cold air circulate within the troposphere. There are three convection cells either side of the equator. **Altitude**: the height above sea level. **Climate change**: The long-term shift in temperature and weather patterns.	You may wish to stop at relevant points during this short film to pose questions and check understanding, or wait until the end. Useful questions might include: • How hot does the Sahara Desert get? • Why might there be glaciers in locations such as Tanzania and Kenya? • Why is the Congo rainforest so wet? • What type of biome can we see in the areas bisected by the Tropics of Cancer and Capricorn? • Why are the deserts much drier than the tropical rainforests? • What impact does the Earth's tilt have on the seasons? • What impact does Table Mountain have on Cape Town?

After watching

Discuss the variety of factors that affect the weather and climate across Africa. Students could create a table of them to help them to explain how those factors affect the weather and climate in Africa.

Using climate graphs of Cape Town and London compare the weather and climate of the two cities. What similarities and differences can students see between the two locations? Look back at the factors that affect climate to decide on which factors are likely to cause those similarities and differences.

Students could create a biome map and add in the three convection cells either side of the equator to help them to understand the impacts of these cells on the weather, climate and biome distribution.

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Curriculum notes	Where next?	Links
This clip will be relevant for teaching Geography at KS3 in England and Northern Ireland, 3rd/4th Level in Scotland and Progression Step 4 in Wales. In the English National Curriculum this video can be used to help teach the following: • *Using maps of the world to focus on Africa, focusing on the environmental regions, hot deserts, key physical features, countries and major cities.* • *Physical geography relating to weather and climate.* • *How physical and human processes interact to influence and change environments and the climate.*	Climate change is having a huge impact on Africa with some countries experiencing widespread droughts, whereas others are receiving greatly increased rainfall leading to flooding. One impact of climate change is increased tropical storms. The southeast of Africa experiences tropical cyclones - for example Chido in December 2024 and Idai in March 2019. Research the causes and effects of tropical cyclones on Africa. Why are they increasing due to climate change?	Global atmospheric circulation: https://www.bbc.co.uk/bitesize/guides/zpykxsg/revision/1 Weather: https://www.bbc.co.uk/bitesize/topics/zx38q6f/articles/zqnb3j6 Climate: https://www.bbc.co.uk/bitesize/topics/zx38q6f/articles/zqqvf82 Climate change: https://www.bbc.co.uk/bitesize/topics/zx38q6f/articles/z773ydm