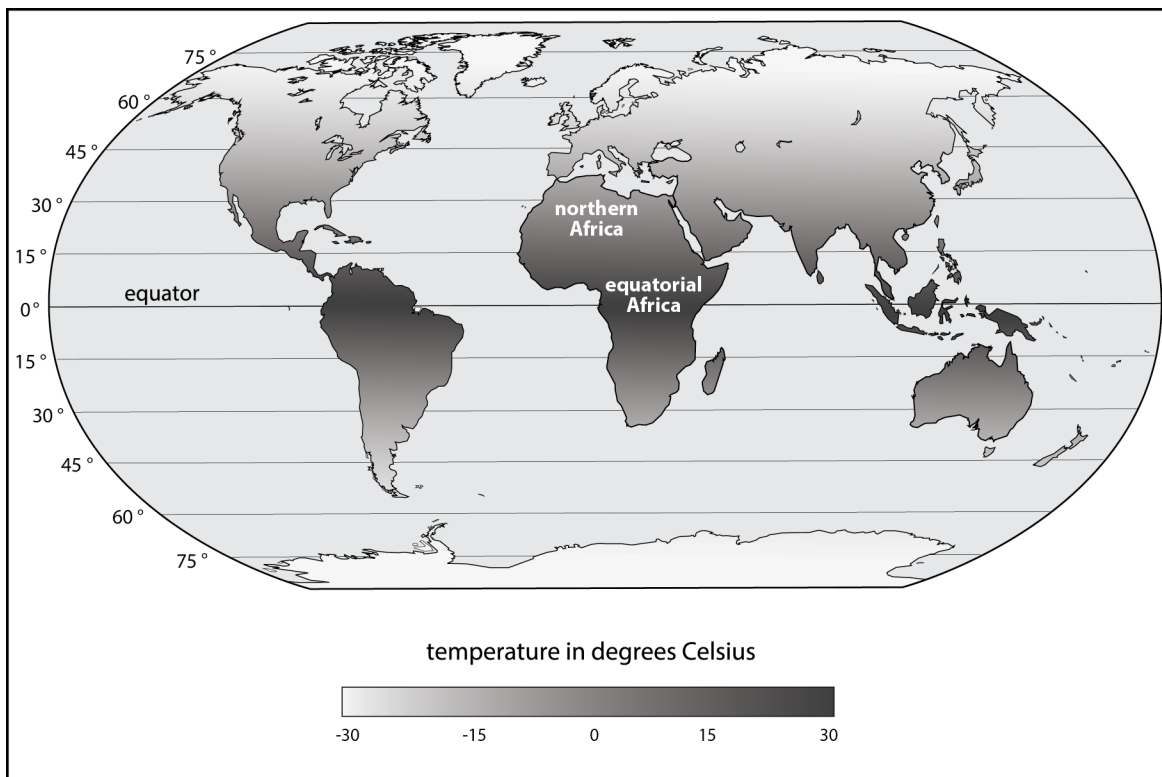


Learning Sequence 3 Assessment: Worldwide Weather

Northern Africa is very dry and receives very little rainfall throughout the year. However, equatorial Africa has many storms, meaning a lot of rainfall. Examine the map below.

MAP 1. AVERAGE ANNUAL TEMPERATURE AROUND THE GLOBE.

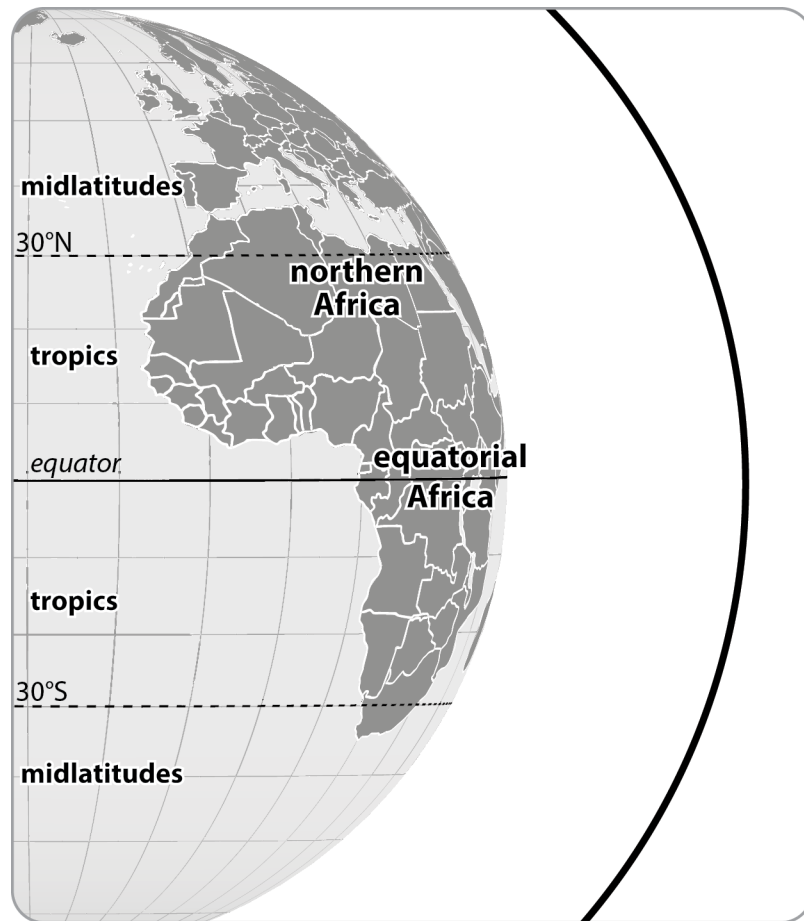


1. Answer the questions to explain what causes the different temperature patterns in the map above.
 - a. Compare the average annual temperature in equatorial Africa to the average annual temperature in northern Africa.

 - b. Explain why the average annual temperatures are different in these two regions.

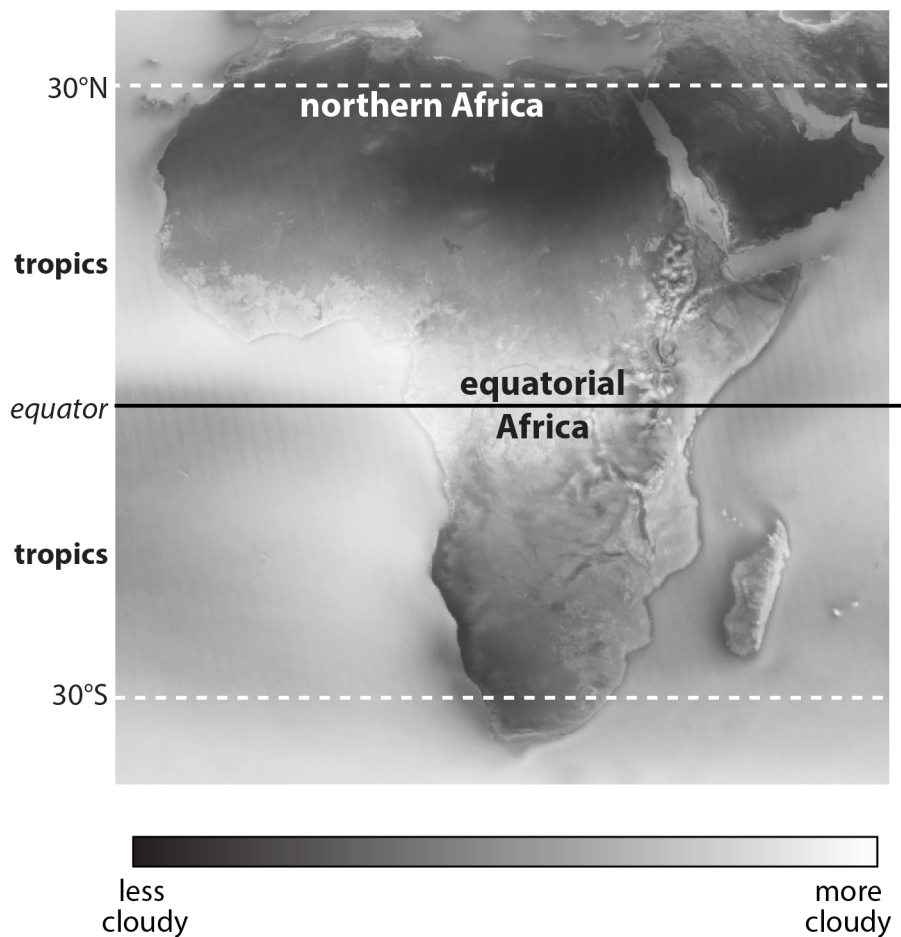
2. Draw on the cross-section below to show what is happening in the atmosphere above Africa. Focus on the tropics, which are between 30°N and 30°S latitude.
 - a. Use arrows to show how air moves from the equator to the midlatitudes (from 0° to 30°N and also from 0° to 30°S).
 - b. Draw clouds where you would expect to find the most cloud cover in the atmosphere above Africa.
 - c. Add **H** for areas of high pressure and **L** for areas of low pressure.

AIR MOVEMENT IN THE ATMOSPHERE ABOVE AFRICA.



3. Explain how different average annual temperatures in the tropics and midlatitudes help cause the different patterns in air circulation in the two regions you drew in the cross-section above.

MAP 2. PERCENT OF AVERAGE ANNUAL CLOUD COVER OVER AFRICA FROM 2002 TO 2015.

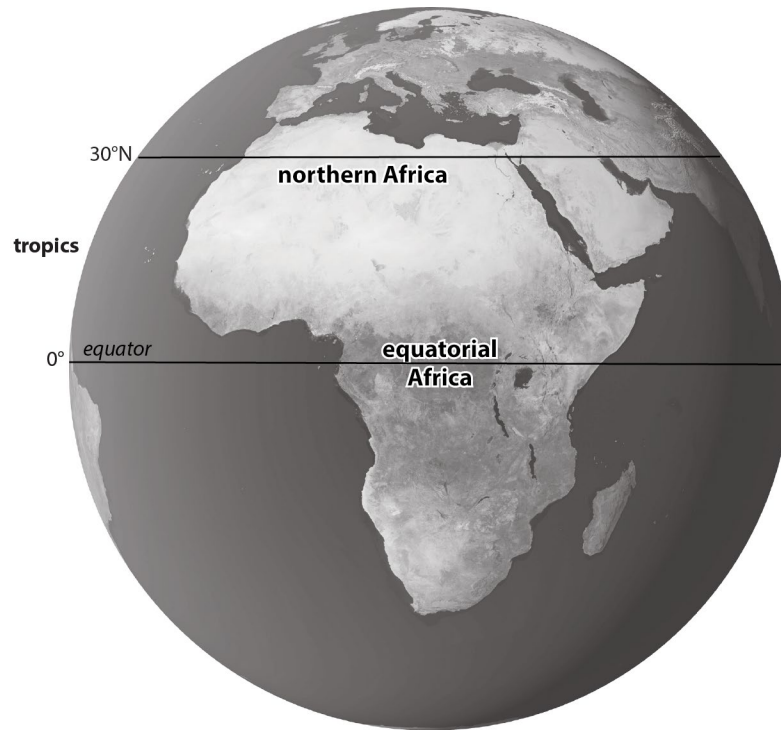


4. Examine map 2 above, which shows cloud cover.

Use what you know about how clouds form and the patterns in air circulation in the tropics to explain why there are fewer clouds in northern Africa.

5. Storms in tropical Africa generally do not move directly north from the equator toward northern Africa. Draw on the image below to explain the movement of storms in this part of the world.
- At 30°N, winds spread out across Earth's surface. Draw the direction that winds would travel north and south of 30°N if the Earth was not spinning.
 - Use a different color to draw how winds actually curve north and south of 30°N due to the Coriolis effect.

DIRECTION OF WIND IN NORTHERN AND EQUATORIAL AFRICA



- Use what you know about the direction of winds to explain why storms in tropical Africa do not move directly north from the equator toward northern Africa.