

Higher 2 (9173)	Tropical Environments	TMJC
Tutorial 1	Skills + Tropical Climates Content	2025

Theme 1: Tropical Environments

Water Balance in the USA

- 2** The drainage basin water balance is of growing importance for many countries. The USA is facing a serious water shortage, especially in its major cities. Resource 4 shows average annual precipitation levels in the USA, 2000 to 2010. Resource 5 shows water withdrawals per day in the USA in 2010. Resource 6 shows the trends in population and freshwater withdrawals from drainage basins in the USA, 1950 to 2005, and Resource 7 shows average flow of the Colorado River, USA, at its mouth, 1905 to 2005.
- (a) With reference to Resource 4, describe the pattern of average annual precipitation. [4]
- (b) Using Resources 4 and 5, identify two states in USA most likely to suffer from water shortages. Support your answer with data from the two resources. [4]
- (c) With reference to Resource 6, compare the trends in groundwater and surface water withdrawals. [5]
- (d) With reference to Resource 6, describe the relationship between population growth and freshwater withdrawals. [5]

Australia Question

- (a) With reference to Resource 4, describe the pattern of average annual rainfall of Australia, and the pattern of rainfall in the three selected cities. [4]
- (b) With reference to Resources 4 and 5, and your own knowledge, account for the pattern of rainfall in the tropical parts of Australia shown in Resource 4. [7]
- (c) With reference to Resources 4 and 5, and your own knowledge account for the differences in temperature characteristics between Alice Spring and Darwin [5]

Climatic Characteristics of West Africa

- 2** Resource 4 shows the spatial variation of the average annual rainfall in West Africa. Resource 5 shows the average monthly precipitation for three locations in West Africa, Tombouctou (in Mali), Ouagadougou (in Burkina Faso) and Ibadan (in Nigeria). Resource 6 shows the location of the Sahara Desert in Africa. Resource 7 shows the location of the ITCZ and surface winds patterns in the months of January and July.
- (a) With reference to Resource 4, describe the spatial variations in the average annual rainfall in West Africa. [5]
 - (b) With reference to Resource 5, compare the precipitation patterns in Tombouctou and Ouagadougou. [5]
 - (c) Explain why there is a change in the position of the low pressure zone in Africa as shown in Resource 7. [2]

Essay

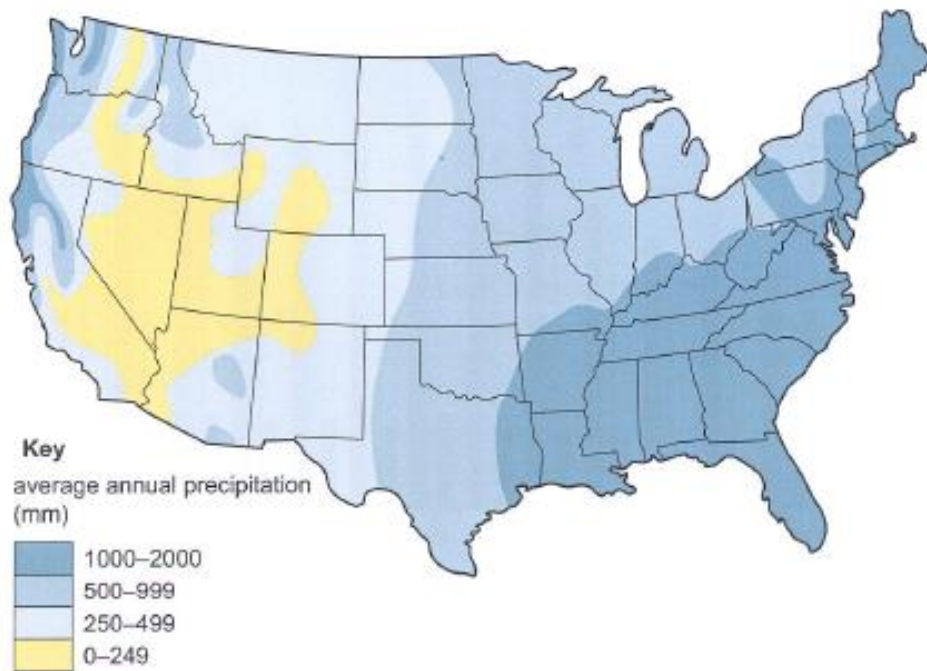
1. "Tropical Climates are more similar than different"

Evaluate this statement.

[20]

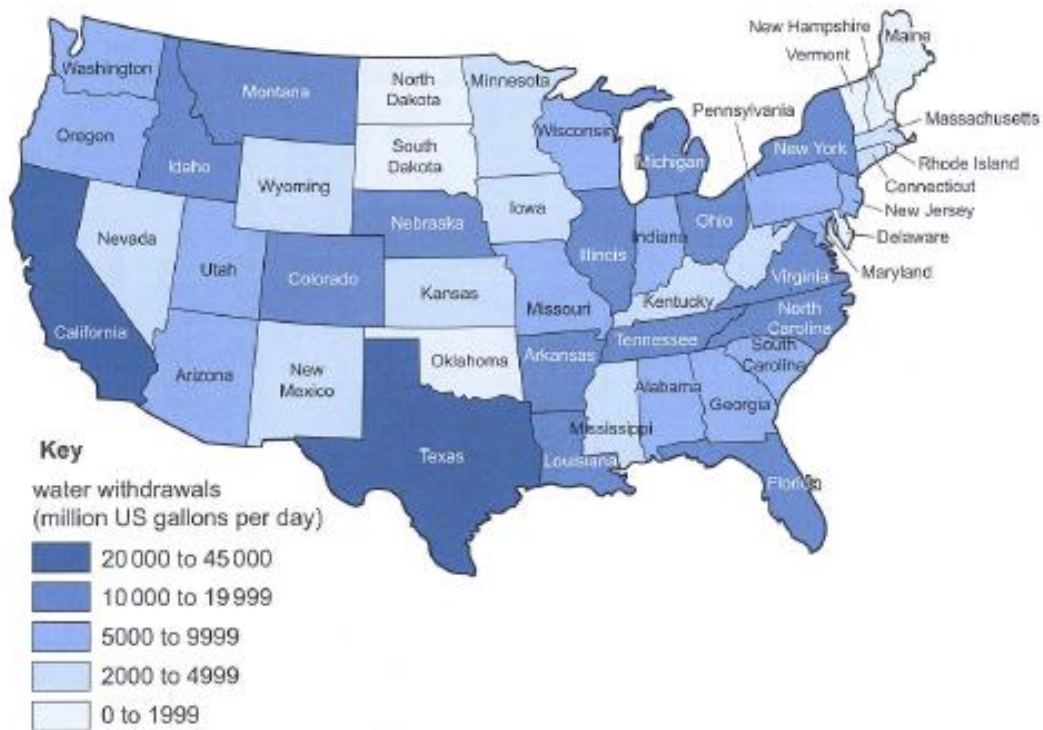
Resource 4 for Question 2

Average annual precipitation levels in the USA, 2000–2010



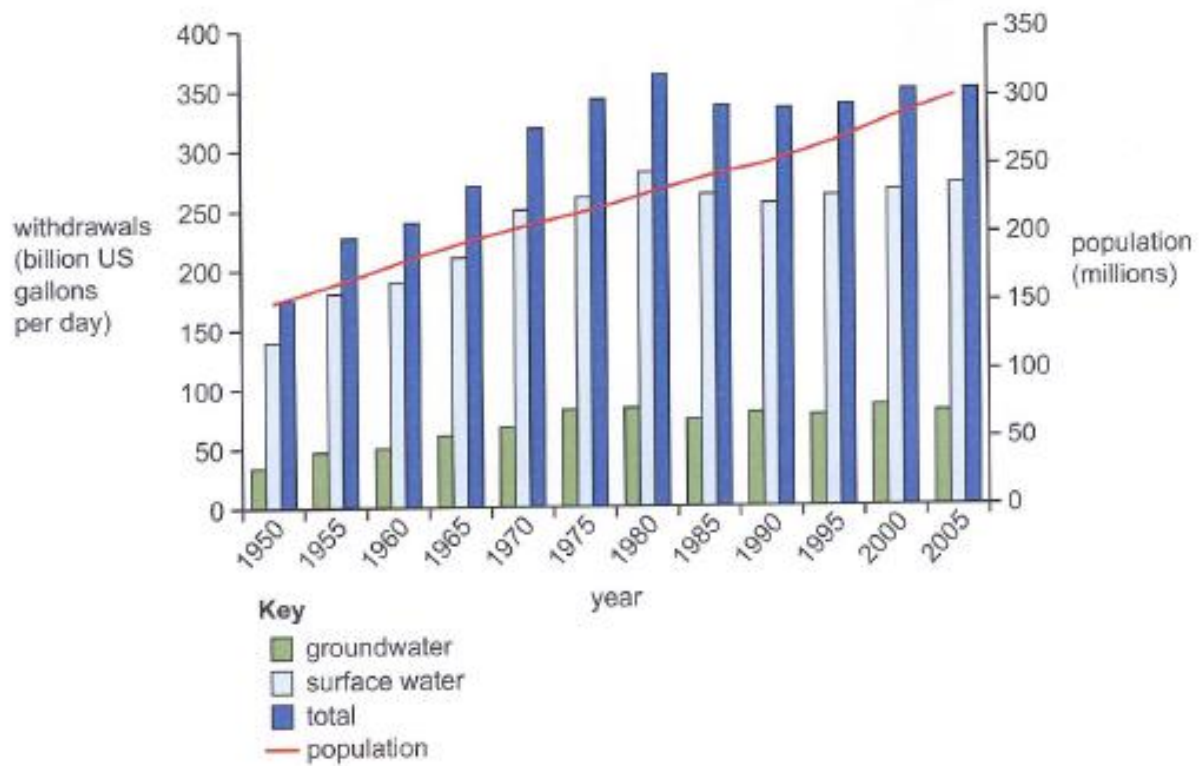
Resource 5 for Question 2

Water withdrawals per day in the USA in 2010



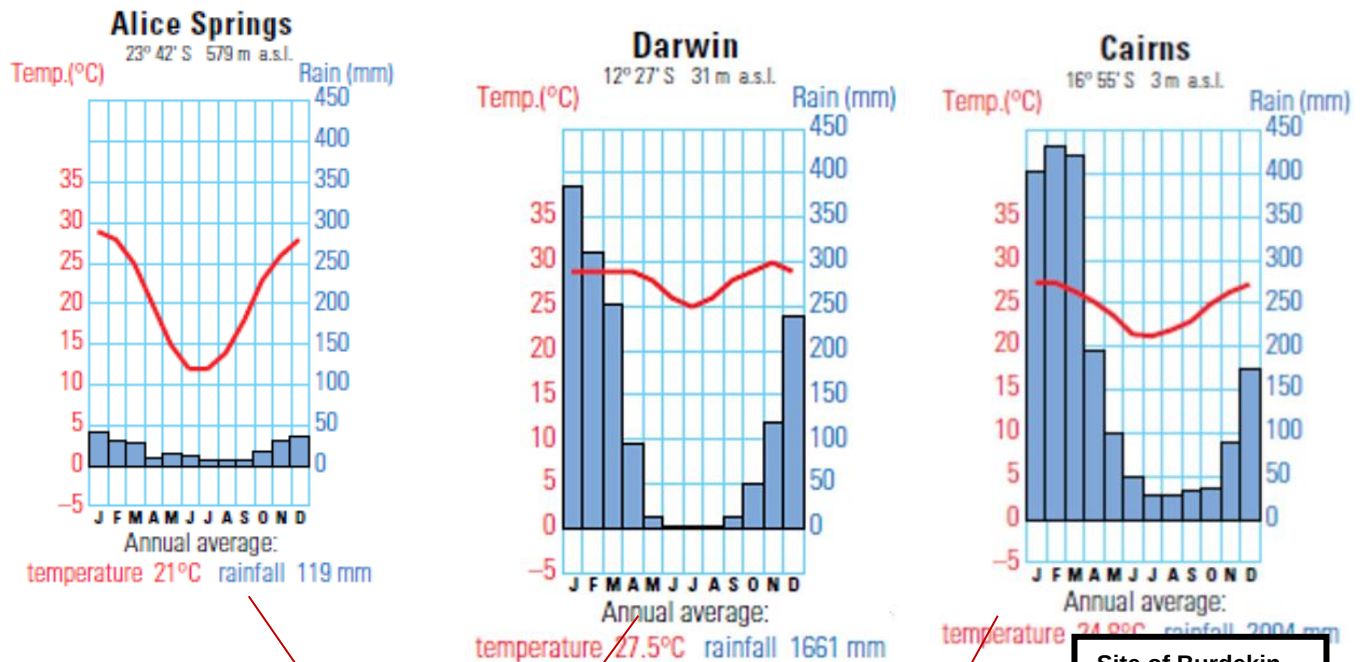
Resource 6 for Question 2

Trends in population and freshwater withdrawals from drainage basins in the USA, 1950 to 2005



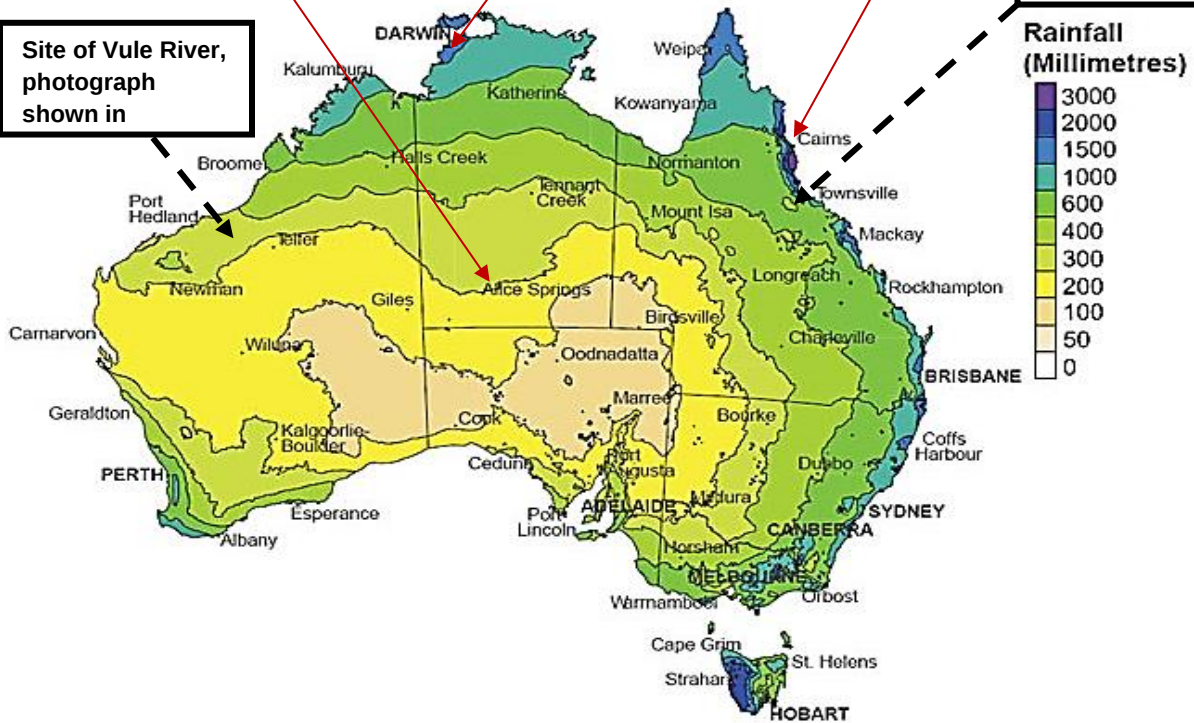
Resource 4 for Question 2

Rainfall distribution of Australia, and climographs of three cities in tropical Australia



Site of Vule River,
photograph
shown in

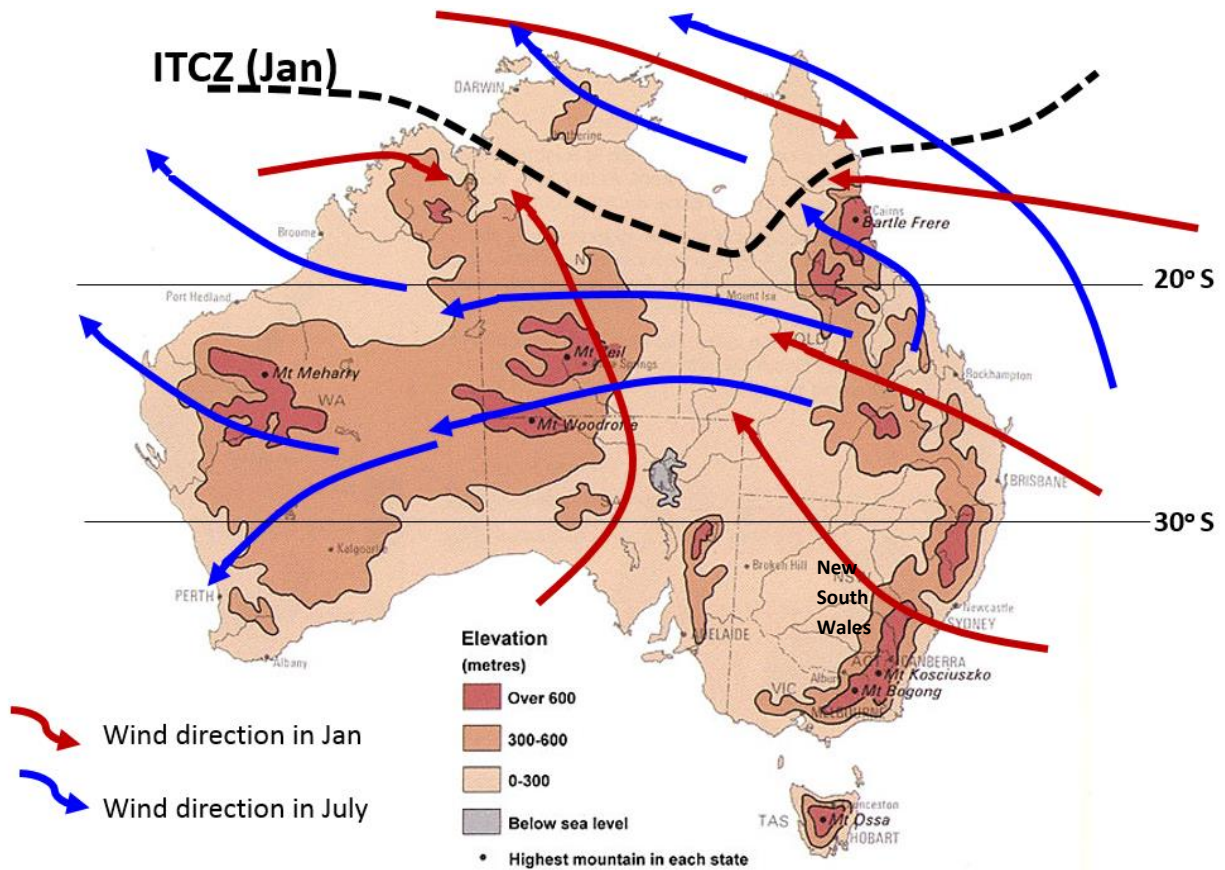
Site of Burdekin
River, photograph
shown in



[Turn Over

Resource 5 for Question 2

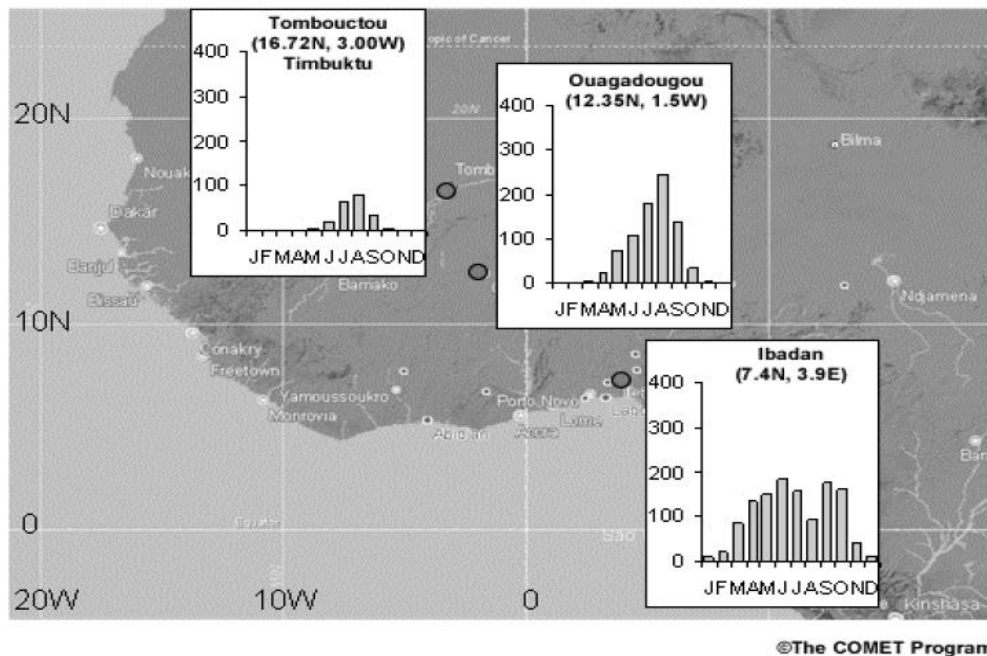
Relief of Australia and wind directions



Resource 4 for Question 2
Average annual rainfall in West Africa



Resource 5 for Question 2
Average monthly precipitation (mm) for Tombouctou, Ouagadougou and Ibadan



Resource 7 for Question 2

Location of the ITCZ and surface winds patterns in January and July

