

**St Andrew's Secondary School
Geography Unit**

Topic: Variable Weather and Changing Climate Part 1

Name: _____ () Class: _____ Date: _____

1. Fig. 1 below shows the relationship between carbon emission and global temperature.

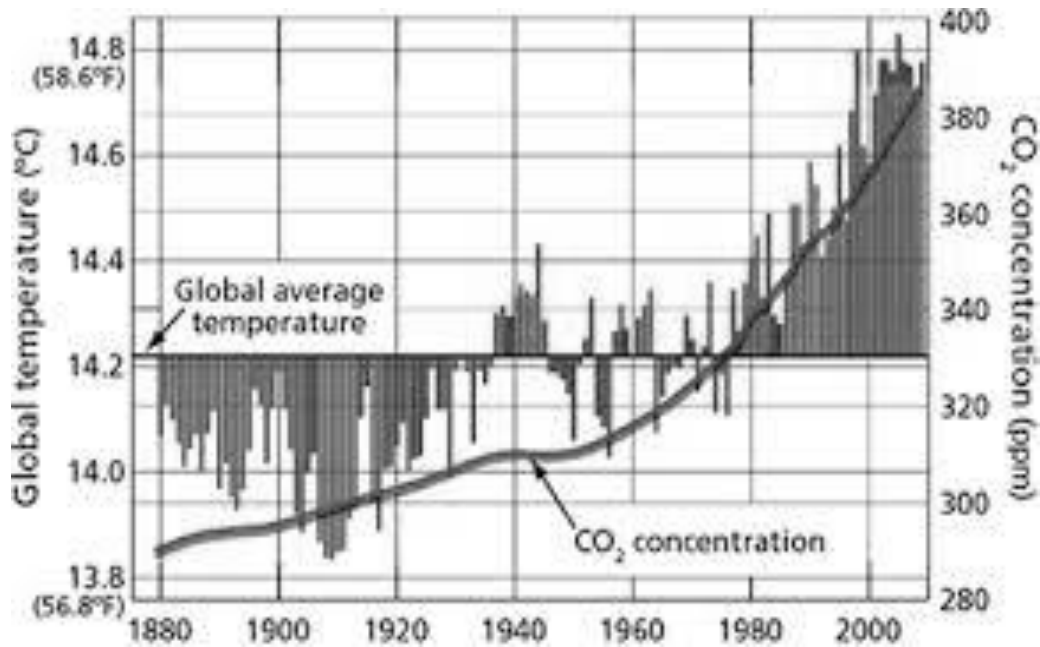


Fig. 1

- (i) **Describe** the relationship between carbon emission and global temperature since 1880.

[4]

(ii) **Account** for the relationship between carbon emission and global temperature since 1880.

[4]

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2. Study Figs. 2A and 2B, which shows the climographs of Moscow, Russia and Singapore

Moscow: 55°N 37°E
Mean annual temperature = 5.0°C
Total annual precipitation = 688mm



Fig. 2A

Singapore: 1.3°N 103°E
Mean annual temperature = 26.9°C
Total annual precipitation = 2275mm

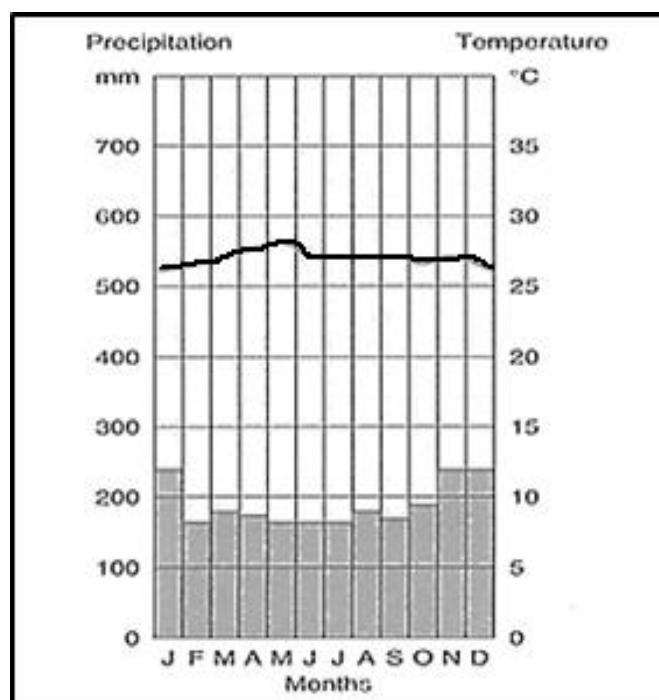


Fig. 2B

(i) With reference to Fig. 2A and Fig. 2B, **compare** the rainfall and temperature of Moscow and Singapore.

[5]

(ii) **Explain** why Moscow has a lower mean annual temperature than Singapore. [4]

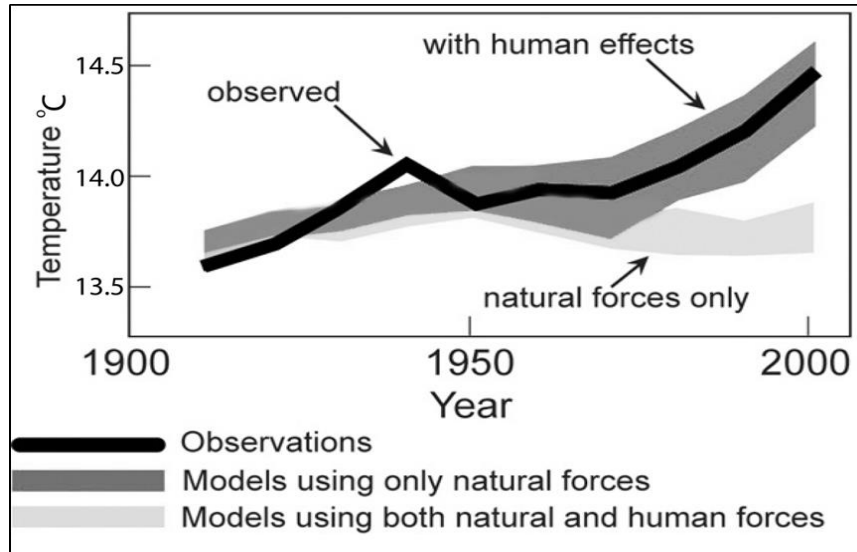
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3. Study Fig. 3, which shows information regarding global temperature changes.

Information on average global temperatures



(Source: <http://www.epa.gov/climatechange/images/science/models-observed-human-natural-large.jpg>)

Fig. 3

Describe the trend of average global temperatures from 1900 to 2000 and **account** for its trend. [4]

4. Fig. 4 shows the climate data of Singapore.

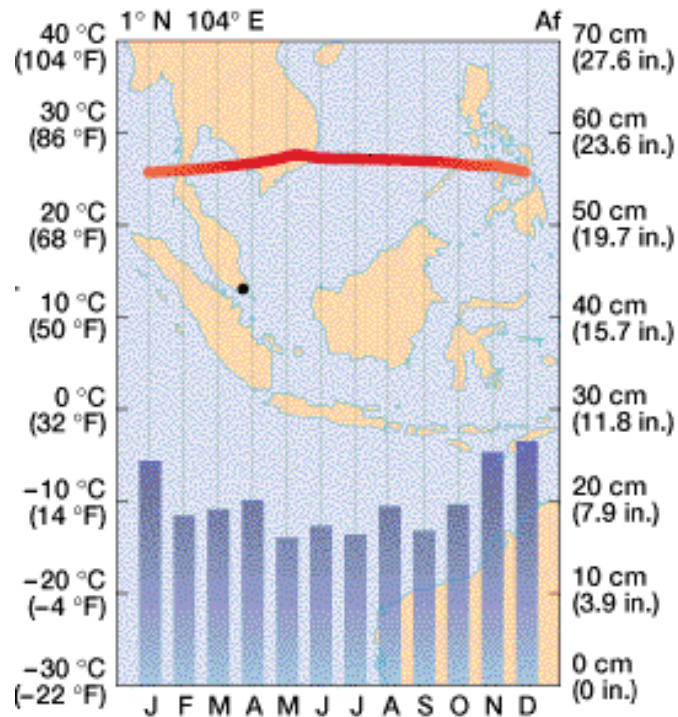


Fig. 4

With reference to Fig. 4, **identify** and **describe** the type of climate found in Singapore.

[5]

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5. Fig. 5 shows the global land temperature readings and named volcanic eruptions from 1750 to 2000.

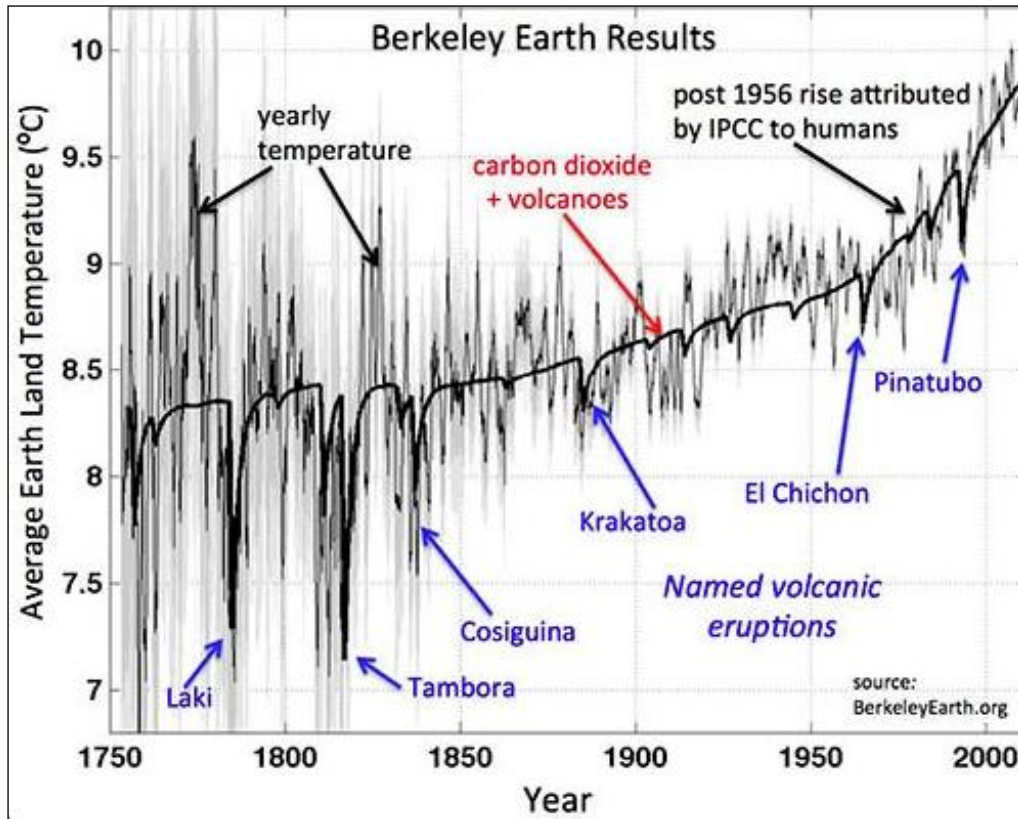


Fig. 5

- a. **Describe** the trend of the average surface temperature as shown.

[4]

6a. Study Figs. 6A and 6B, which show the climographs of Locations Y and Z.

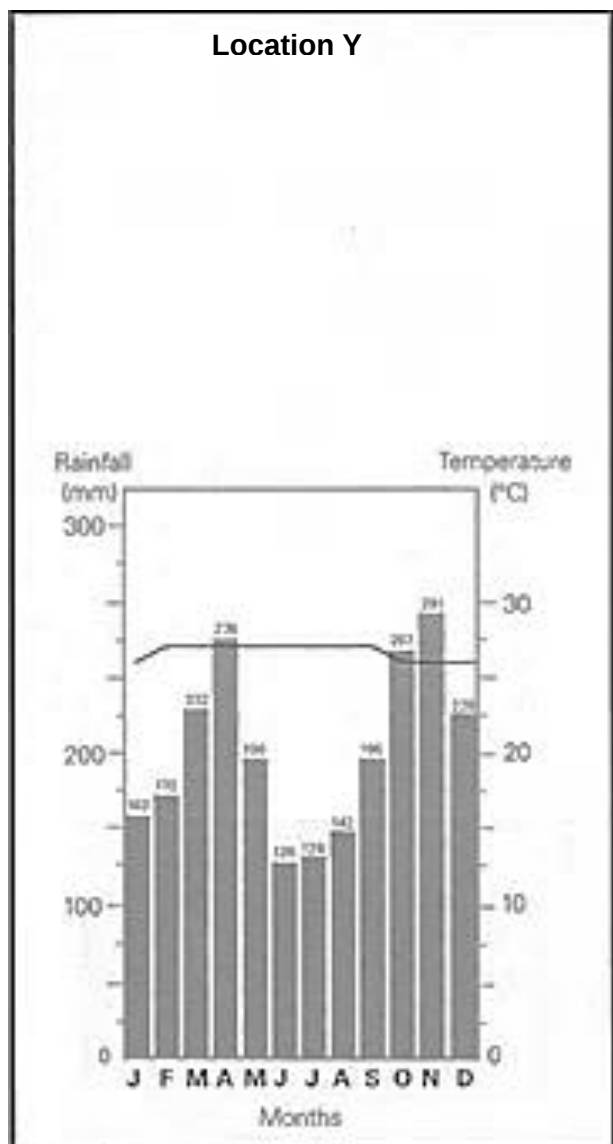


Fig. 6A

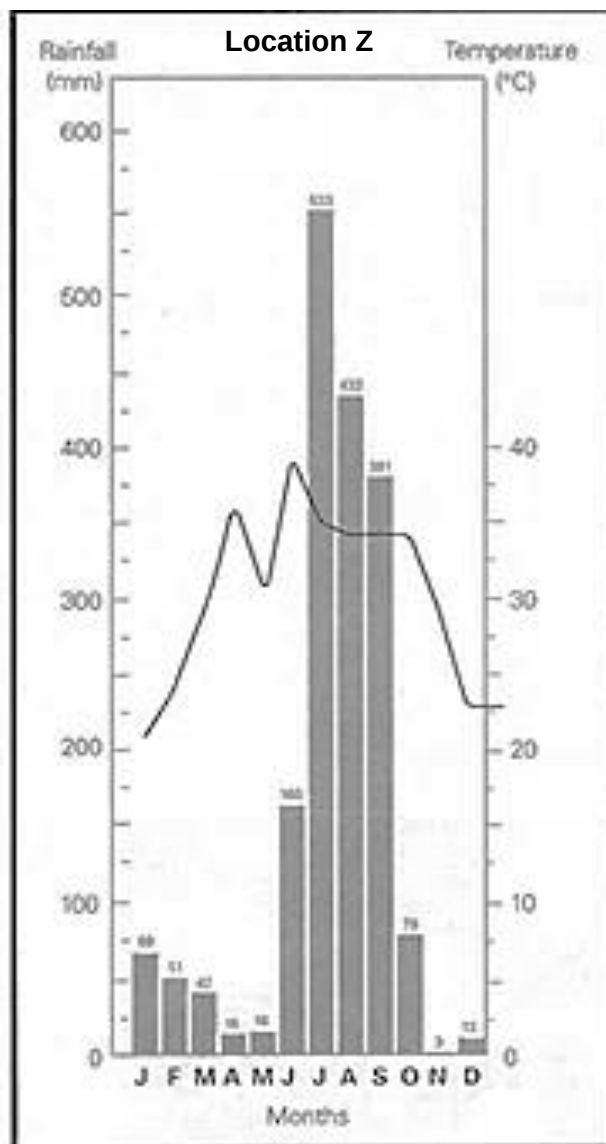


Fig 6B

- (i) **Calculate** the annual temperature range of the two places shown in Figs. 6A and 6B. [2]

- (ii) **Compare** and account for the climatic features of Locations Y and Z. [6]

7. Fig. 7 shows the climograph of Singapore.

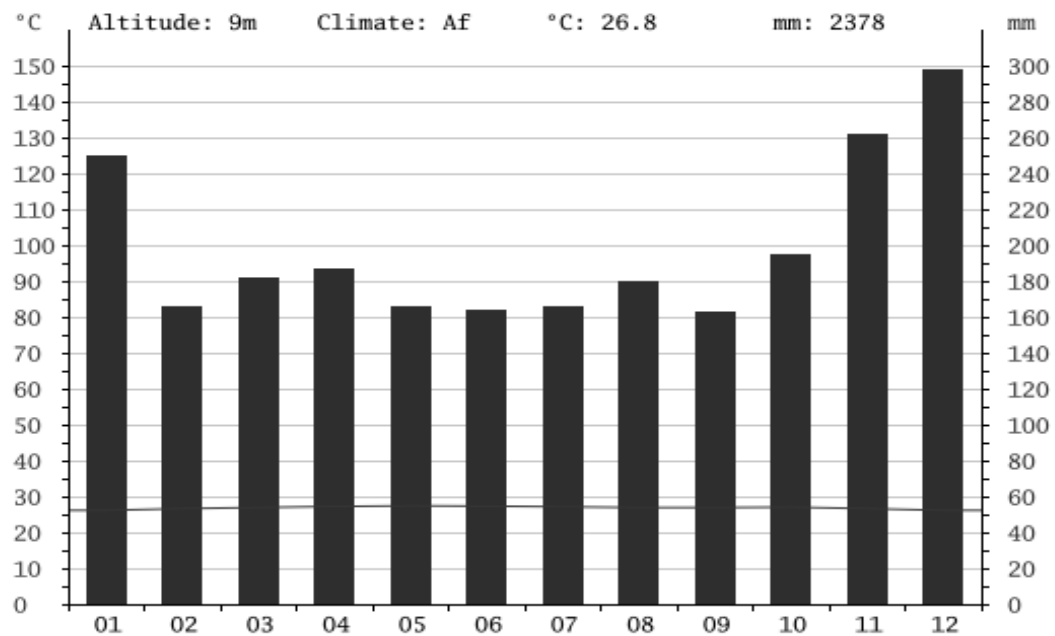


Fig. 7

i. Describe the climatic conditions of Singapore.

[4]

ii. Explain the rainfall pattern experienced by Singapore between November to January

[4]

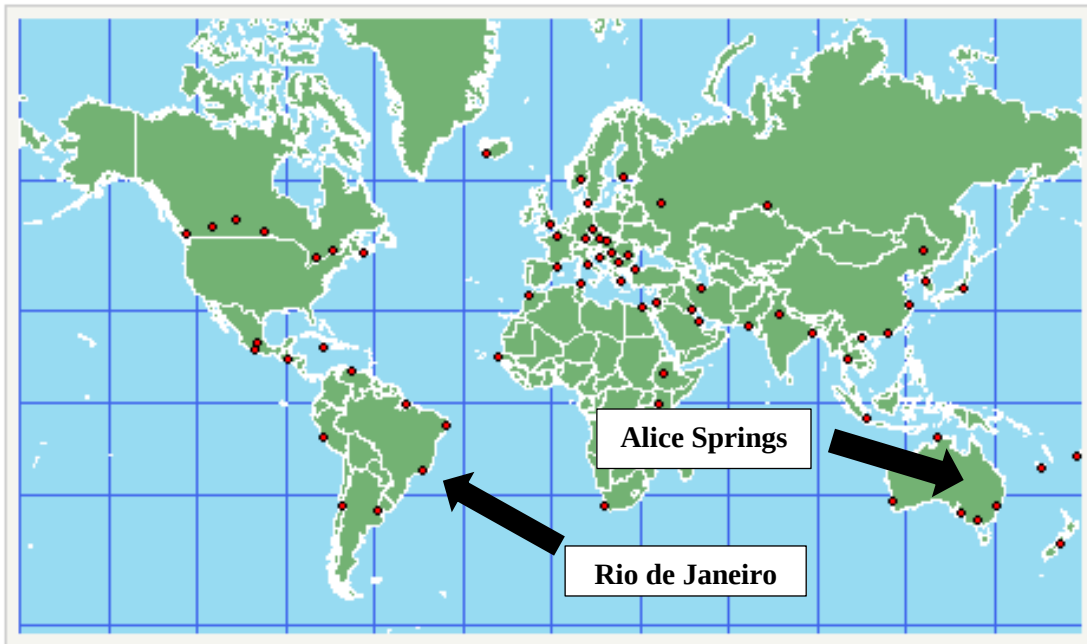
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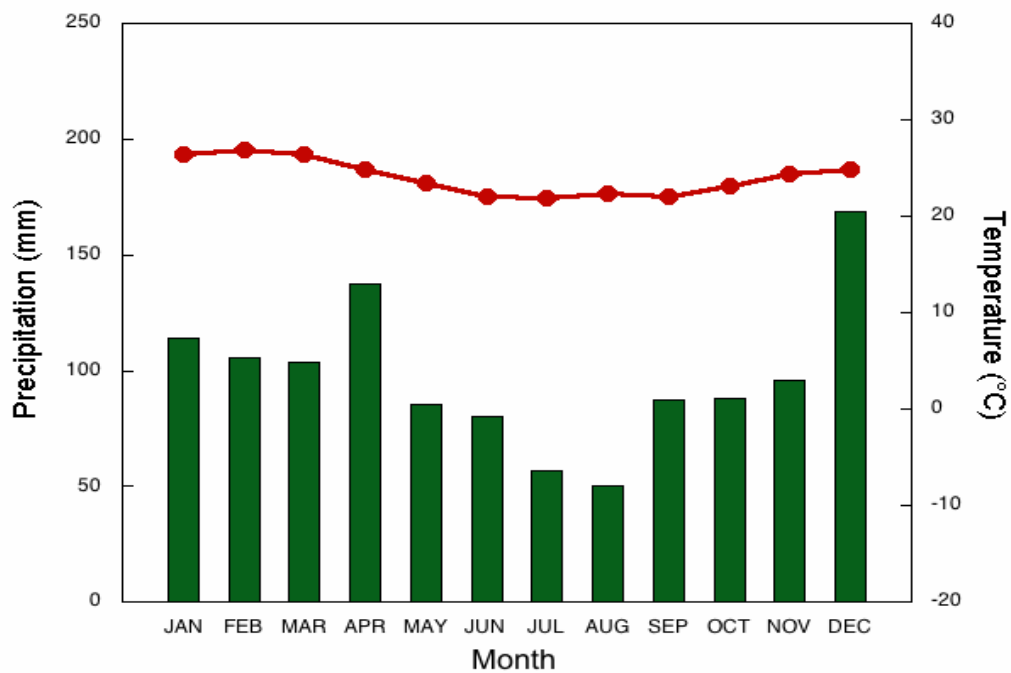
- 8a Study Fig. 8 which shows the world location of Rio de Janeiro in Brazil and Alice Springs in Australia and their respective climate graphs.

Location of Rio de Janeiro and Alice Springs



Climate graph of Rio de Janeiro

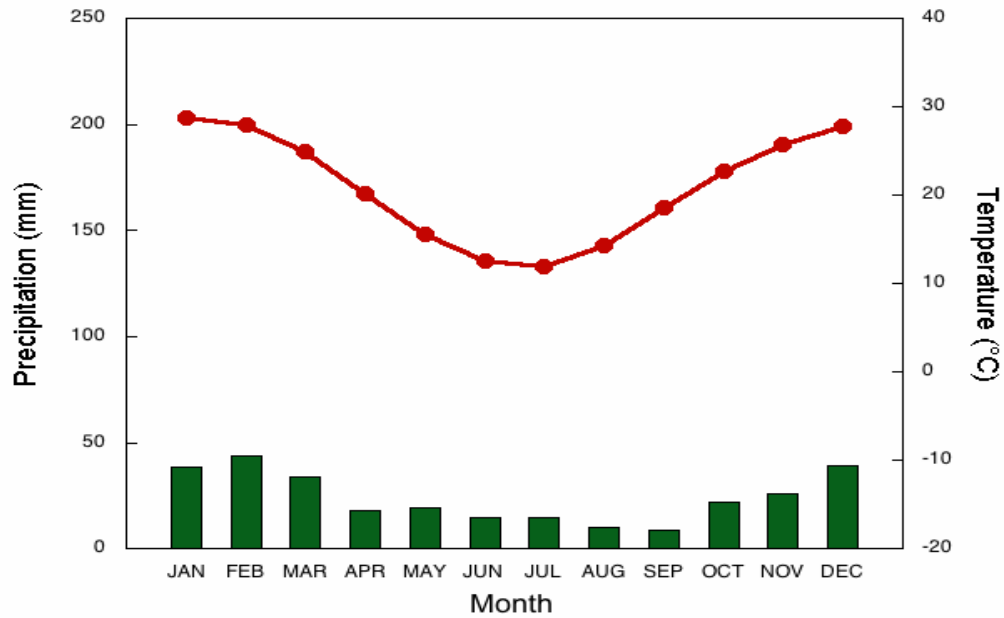
Elevation: 61.3m Latitude: 22° Longitude: 43°
Monthly Temperature and Precipitation



Climate graph of Alice Springs

Elevation: 6.1m Latitude: 23° Longitude: 133°

Monthly Temperature and Precipitation



Source: <http://drought.unl.edu/DroughtBasics/WhatIsClimatology/ClimographsforSelectedInternationalCities.aspx>

Fig. 8

- (i) Using Fig. 8 and your own studies, compare the temperature and rainfall patterns between Rio de Janeiro and Alice Springs. [4]

- (ii) Account for, with the help of Fig. 8, the temperature patterns between the two locations. [4]
