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Advancing geography  
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# The Tropical Rainforest Ecosystem



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## Objectives

To be able to interpret and analyse data from a variety of different sources

To recognise how different parts of the tropical rainforest ecosystem are linked together

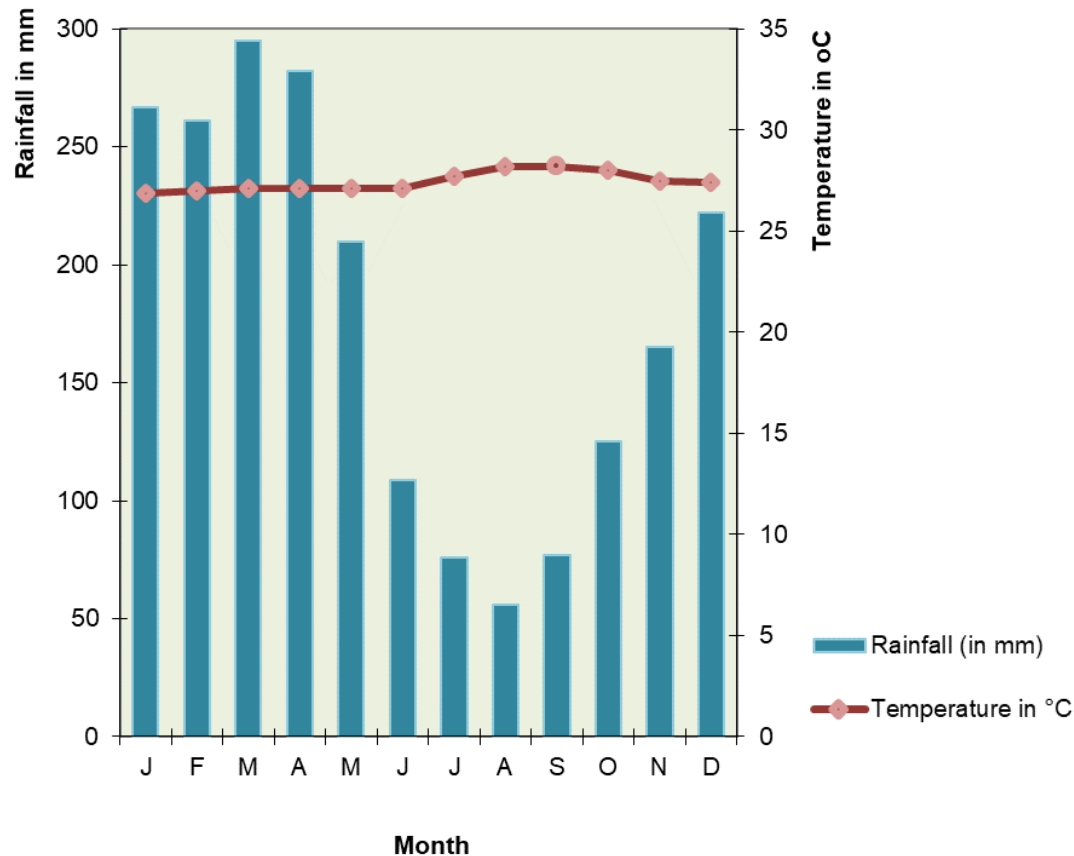
To understand the structure of a climate graph and its key elements

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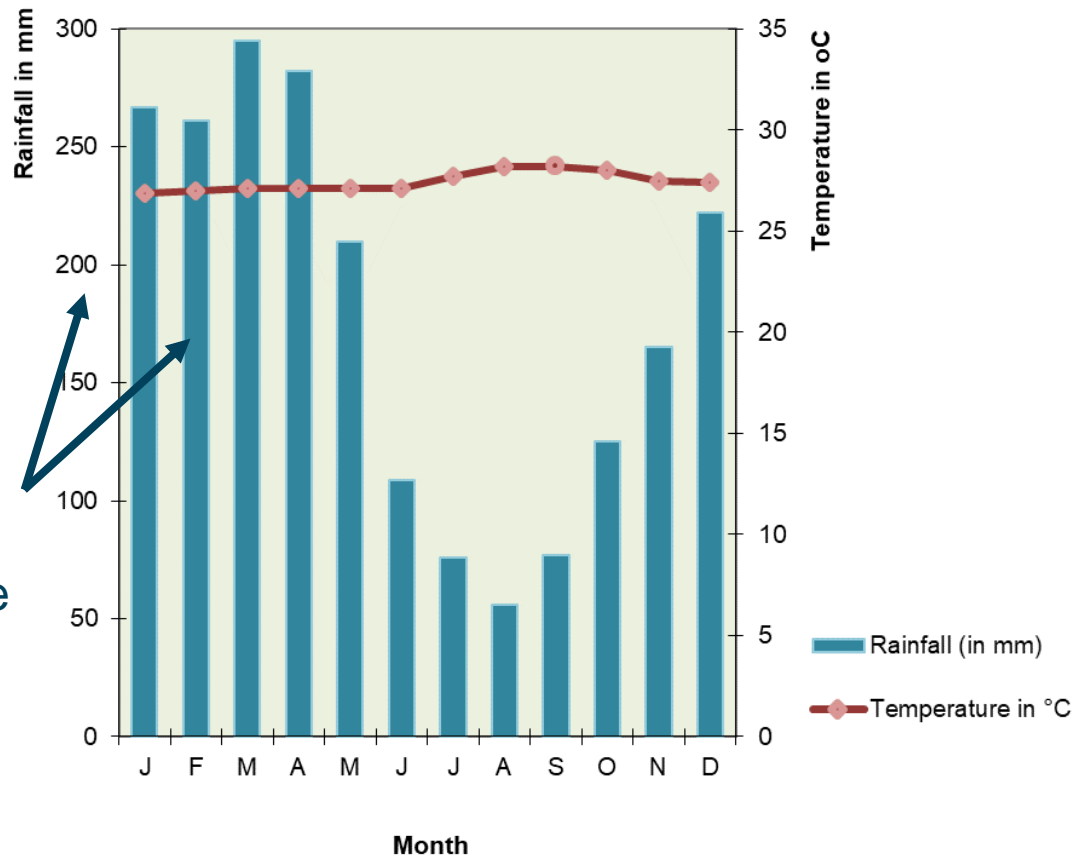
What is a  
climate  
graph?



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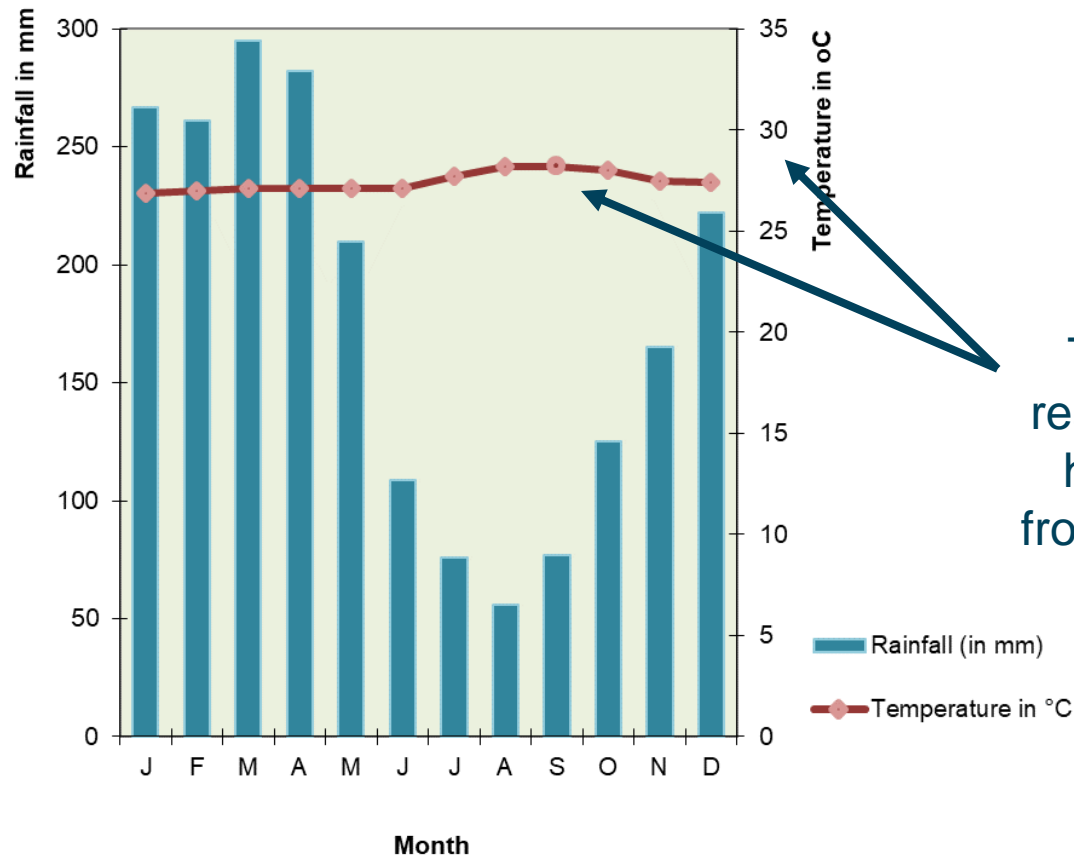


Rainfall is read from the left hand scale and from the bars on the graph

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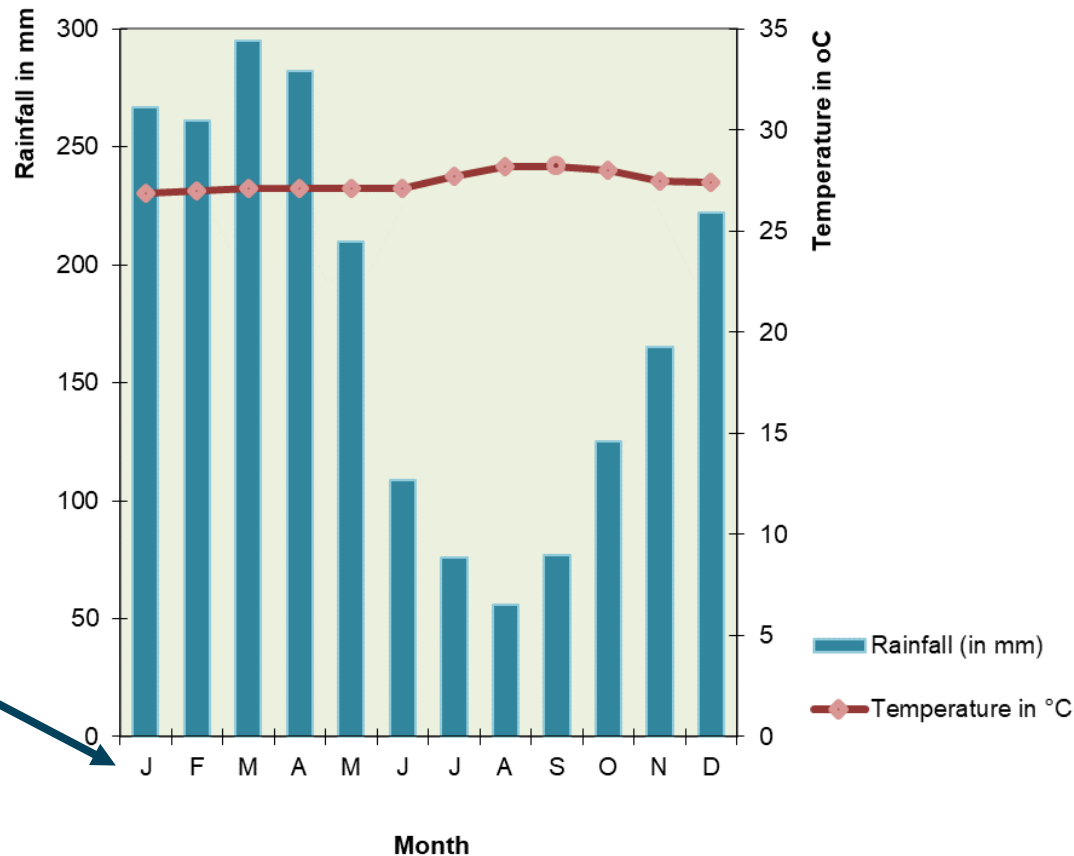


Temperature is read from the right hand scale and from the line on the graph

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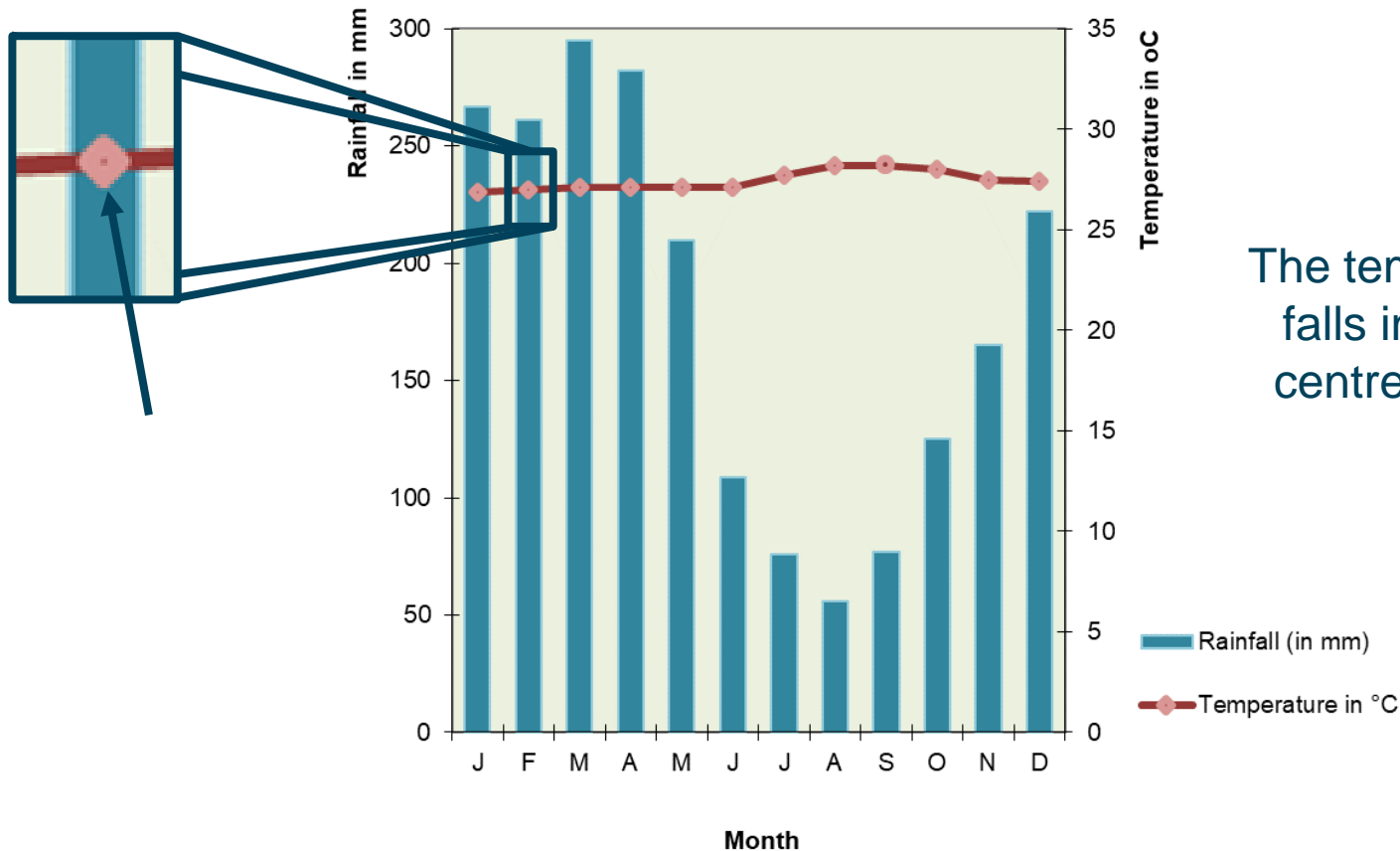


The x axis shows the months of the year, usually just by their initial

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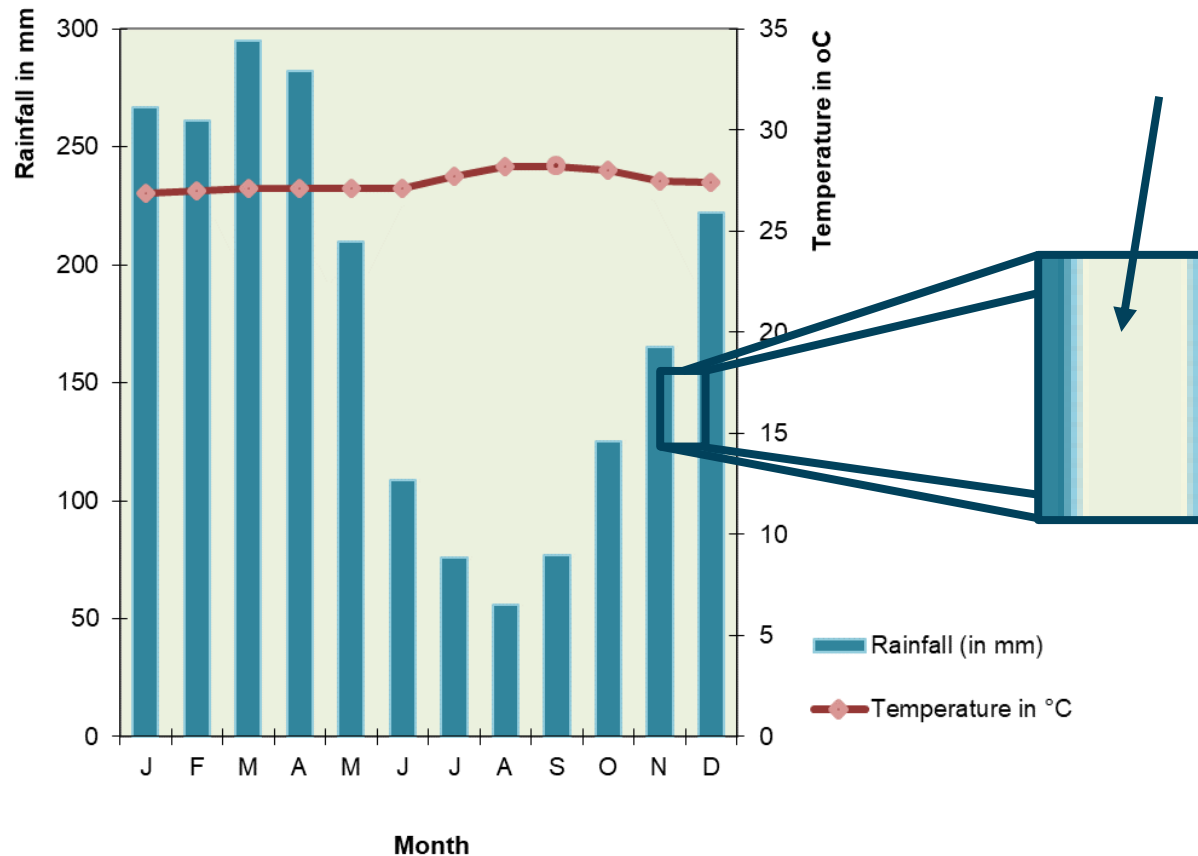
The temperature point falls in line with the centre of the rainfall bar

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As the rainfall is discrete data, each bar should appear separate from the next



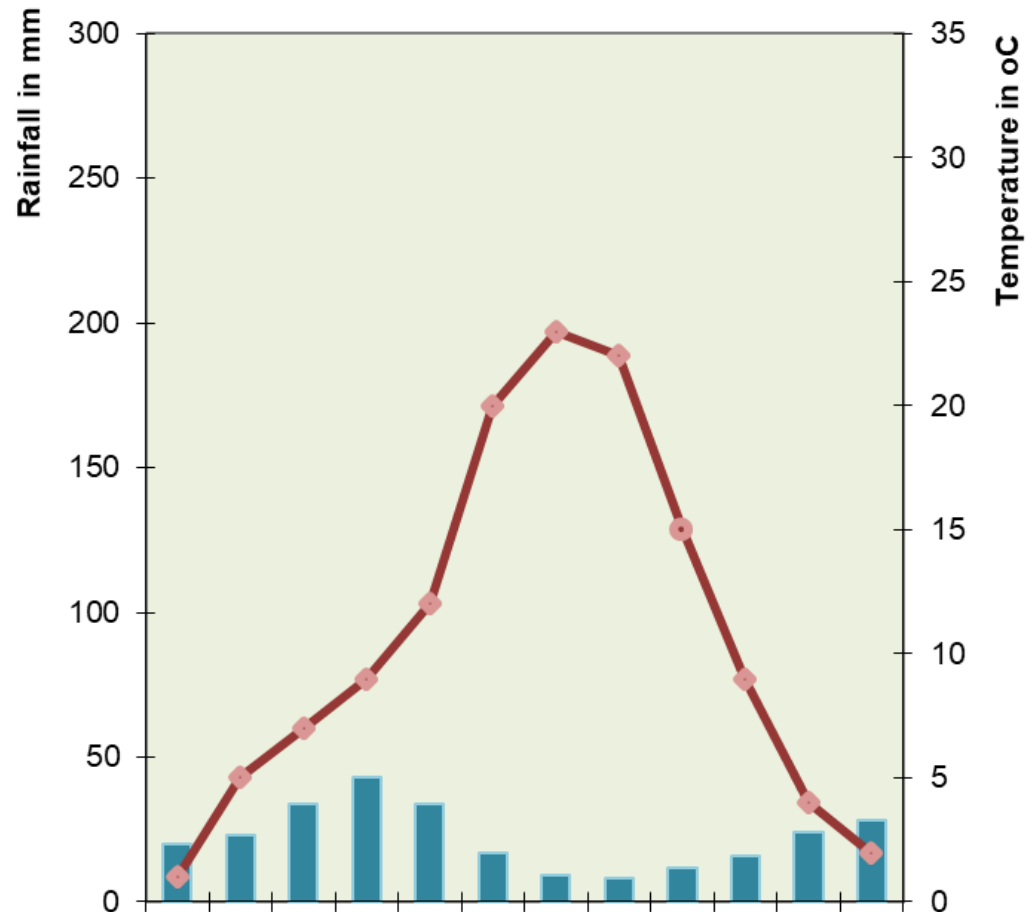


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## Spot the mistake



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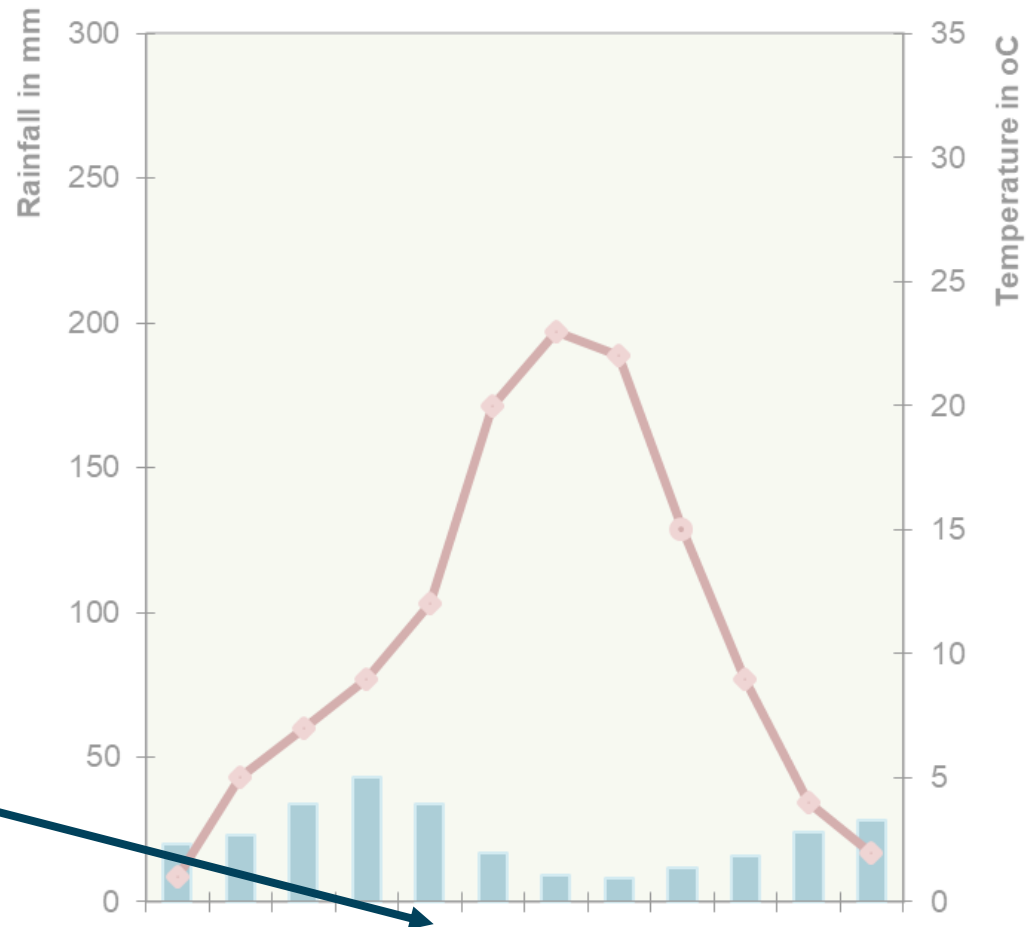
# The Tropical Rainforest Ecosystem

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There is no label to the x axis.

Although we know it represents months of the year, we should not assume the first month is January.

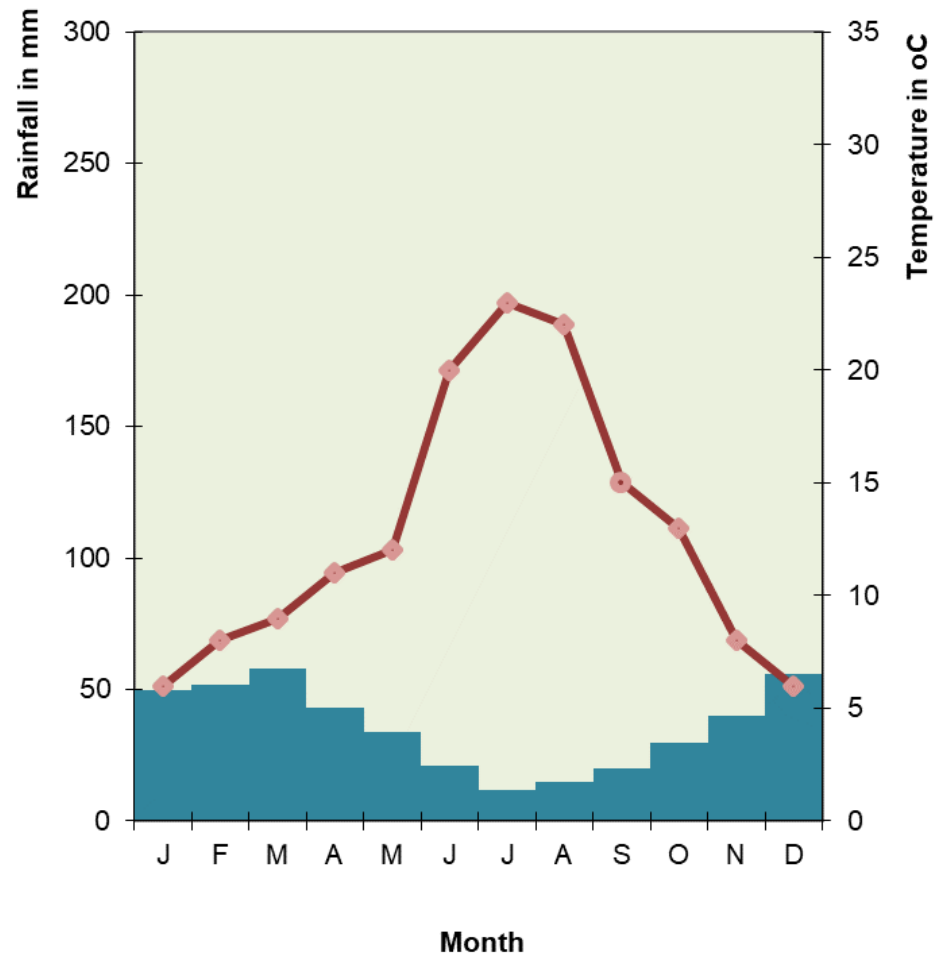


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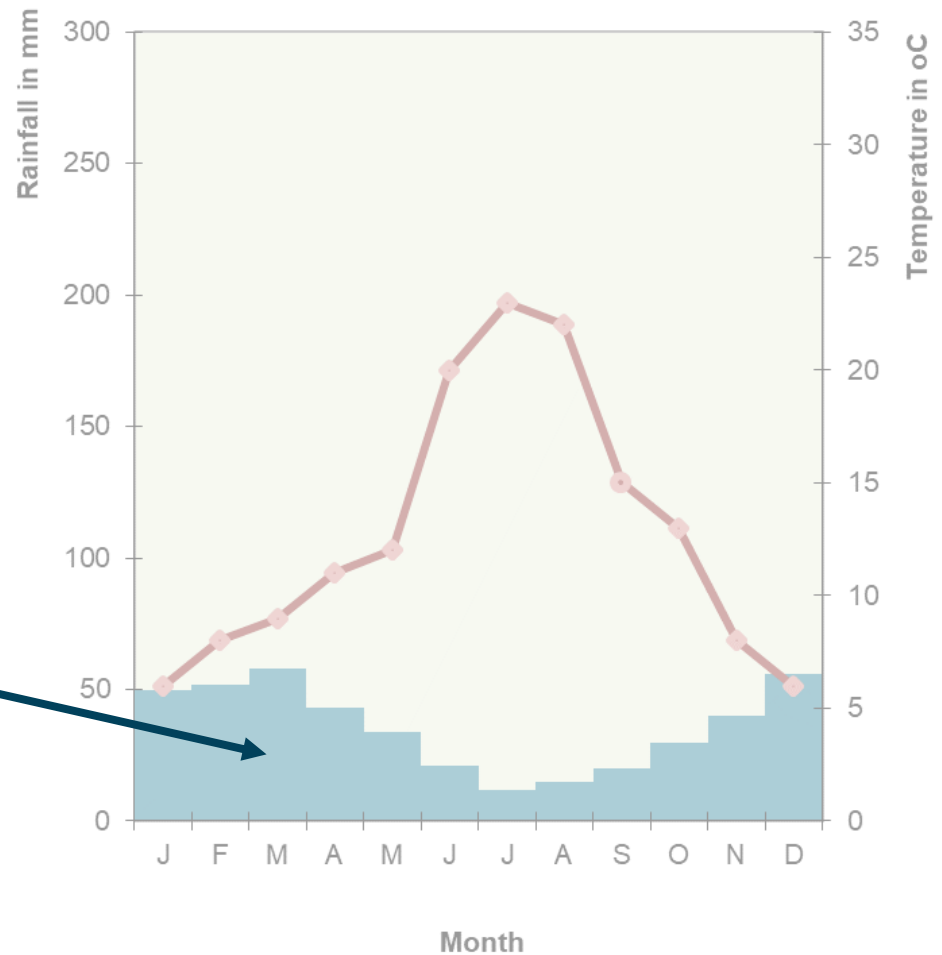
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Though the bars are just about seen as separate, they should be more distinct from each other

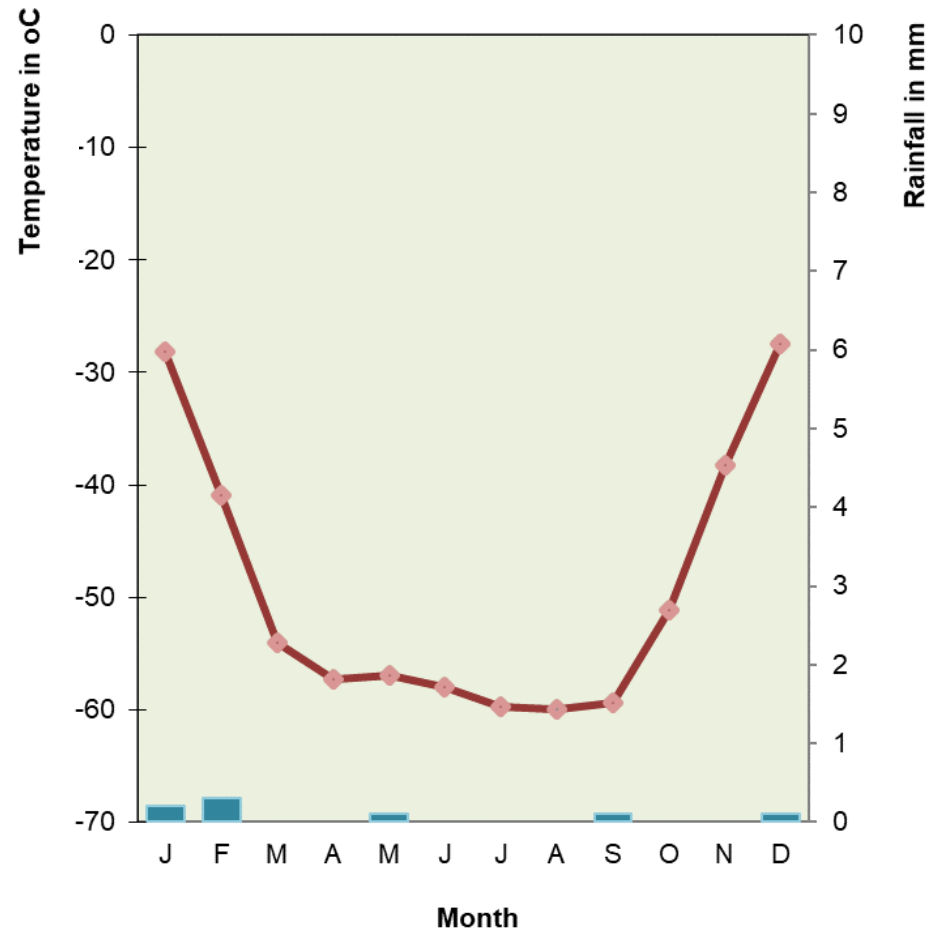


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## Spot the mistake

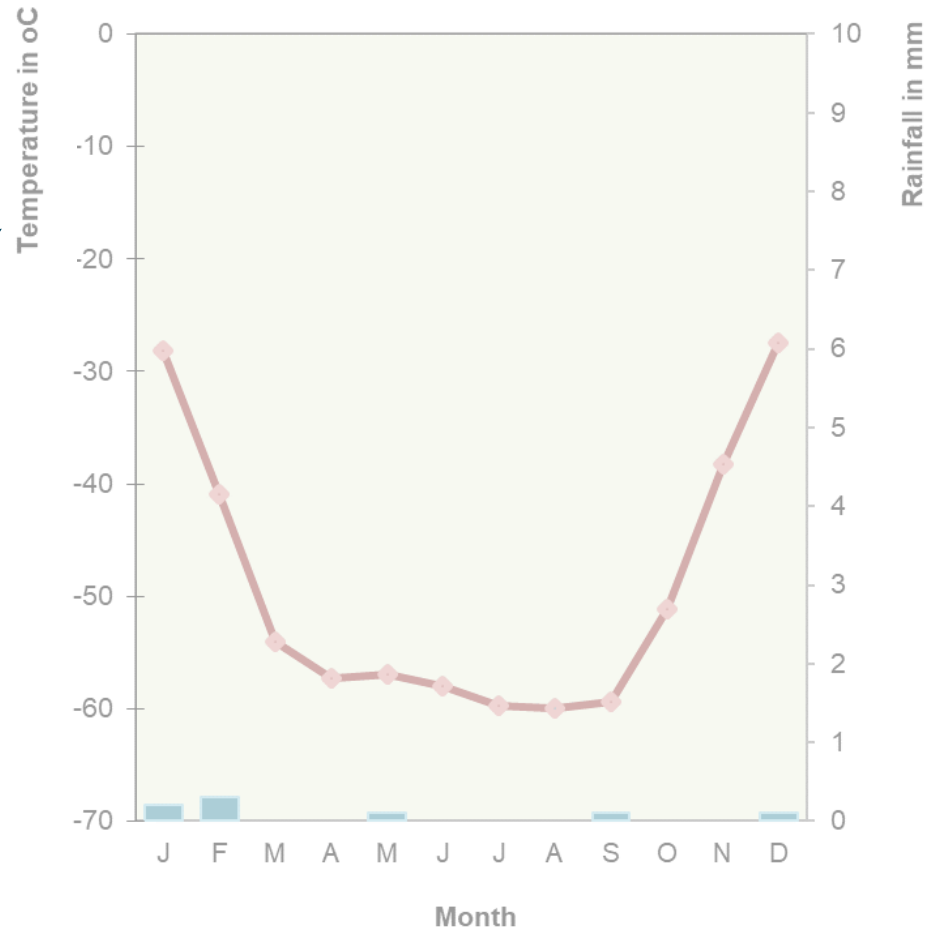


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The two axes are the wrong way round – temperature should be on the right and rainfall on the left





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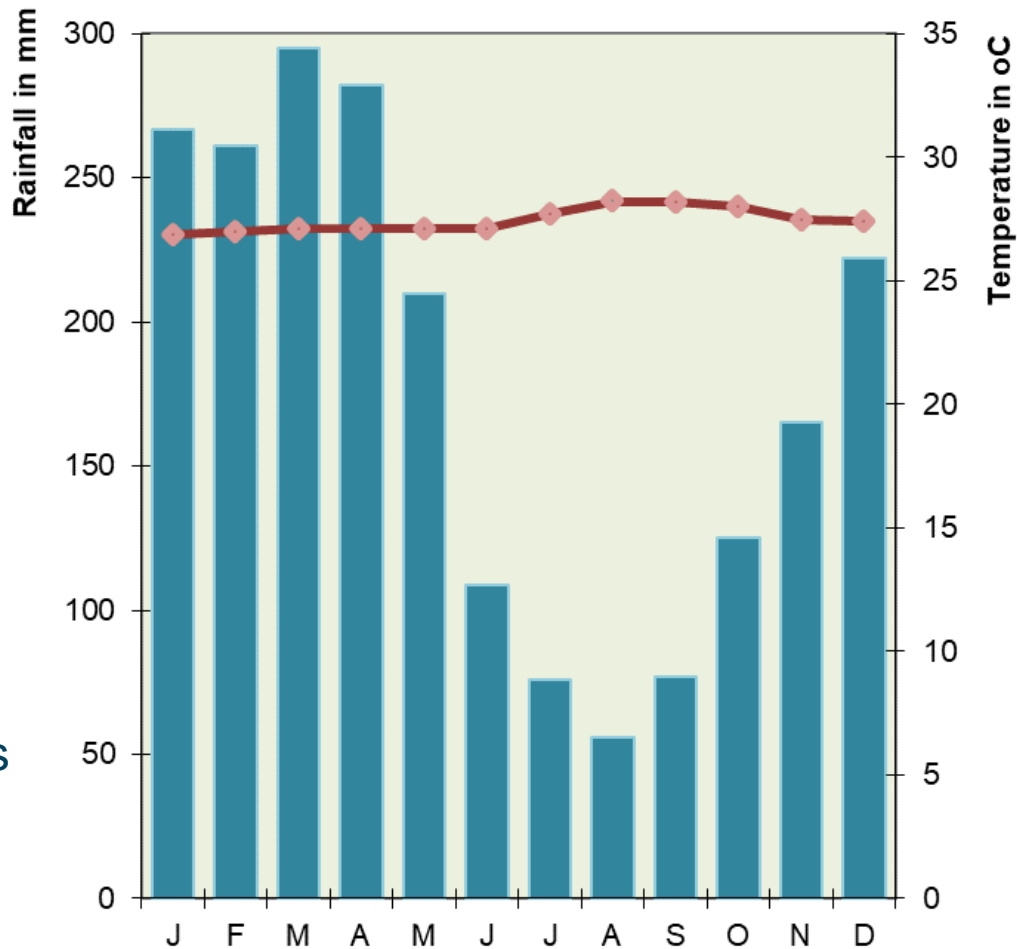
## The Tropical Rainforest Data Supermarket



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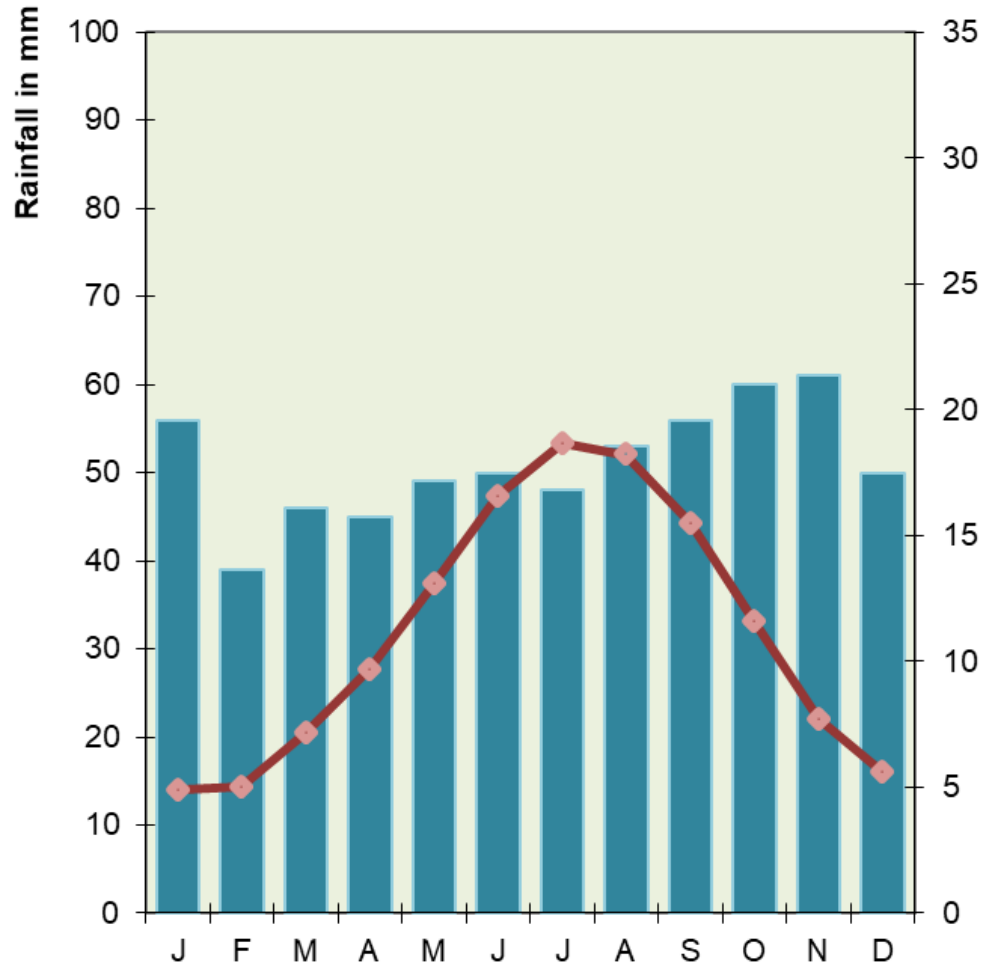
Manaus  
(Brazil)



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London  
(UK)

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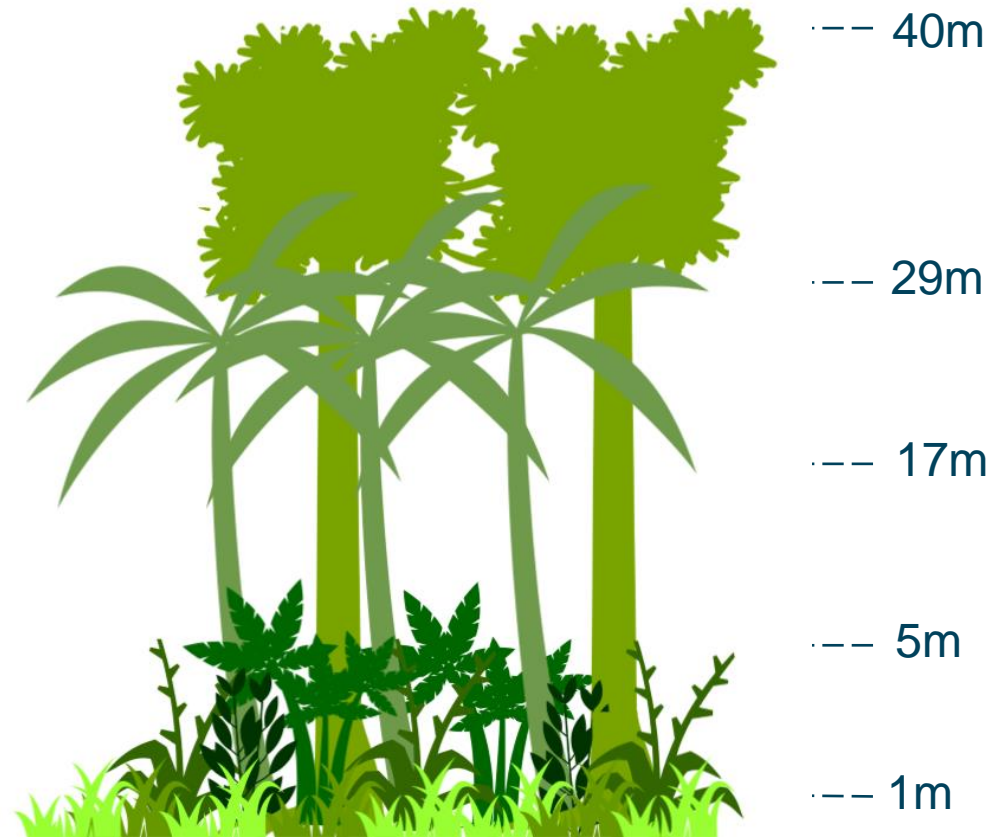
Emergent layer -----

Canopy layer -----

Understorey -----

Scrub -----

Forest Floor -----



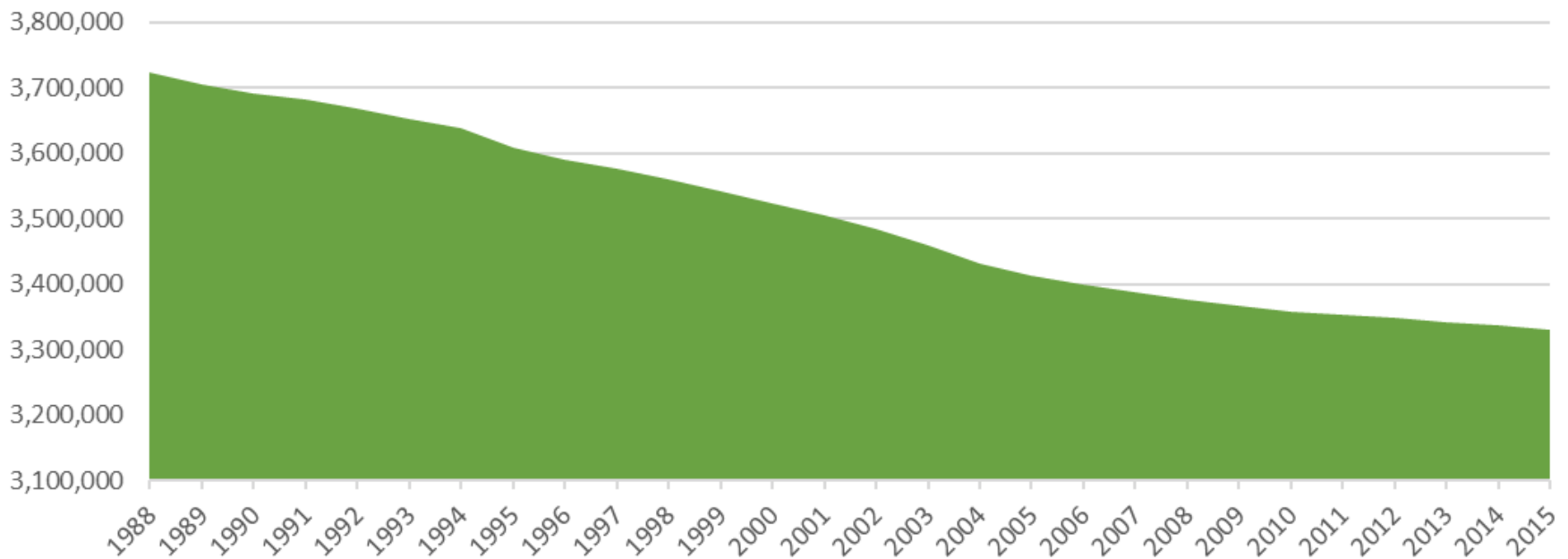
**Structure of a tropical rainforest**

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Size of Brazilian Amazon Rainforest (km<sup>2</sup>)



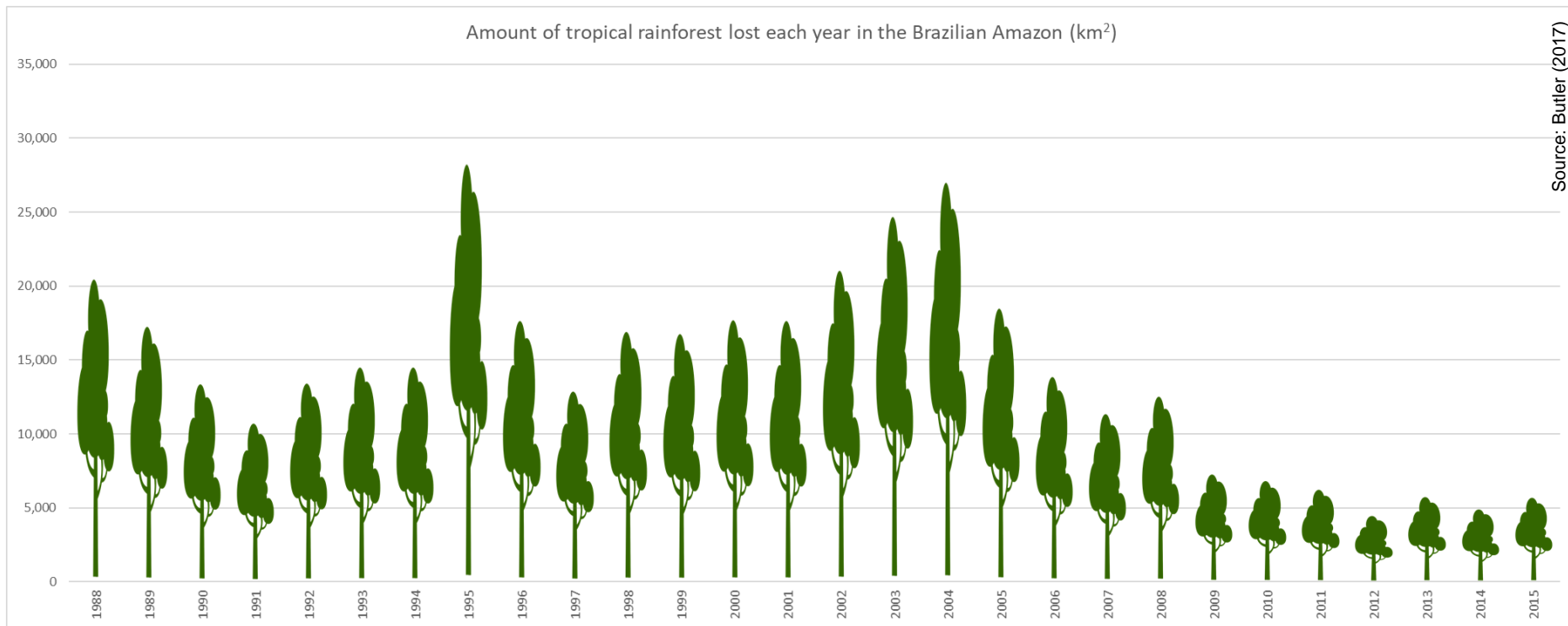
Source: Butler (2017)

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Amount of tropical rainforest lost each year in the Brazilian Amazon (km<sup>2</sup>)



Source: Butler (2017)



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Size of Brazil = 8.52 million km<sup>2</sup>

Size of Brazilian Amazon in 1970 = 4.1 million km<sup>2</sup>

Source: Butler (2017)

# The Tropical Rainforest Ecosystem

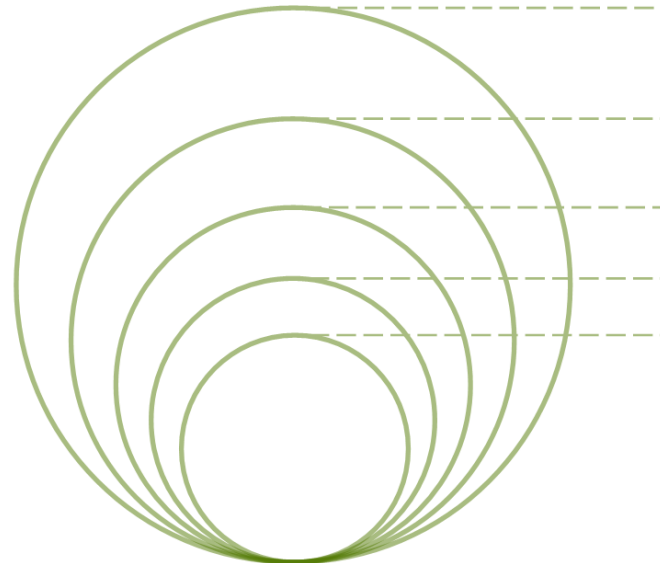
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## Estimated number of Species



Brazilian Rainforest



Key:

3 million

300,000

30,000

3,000

300

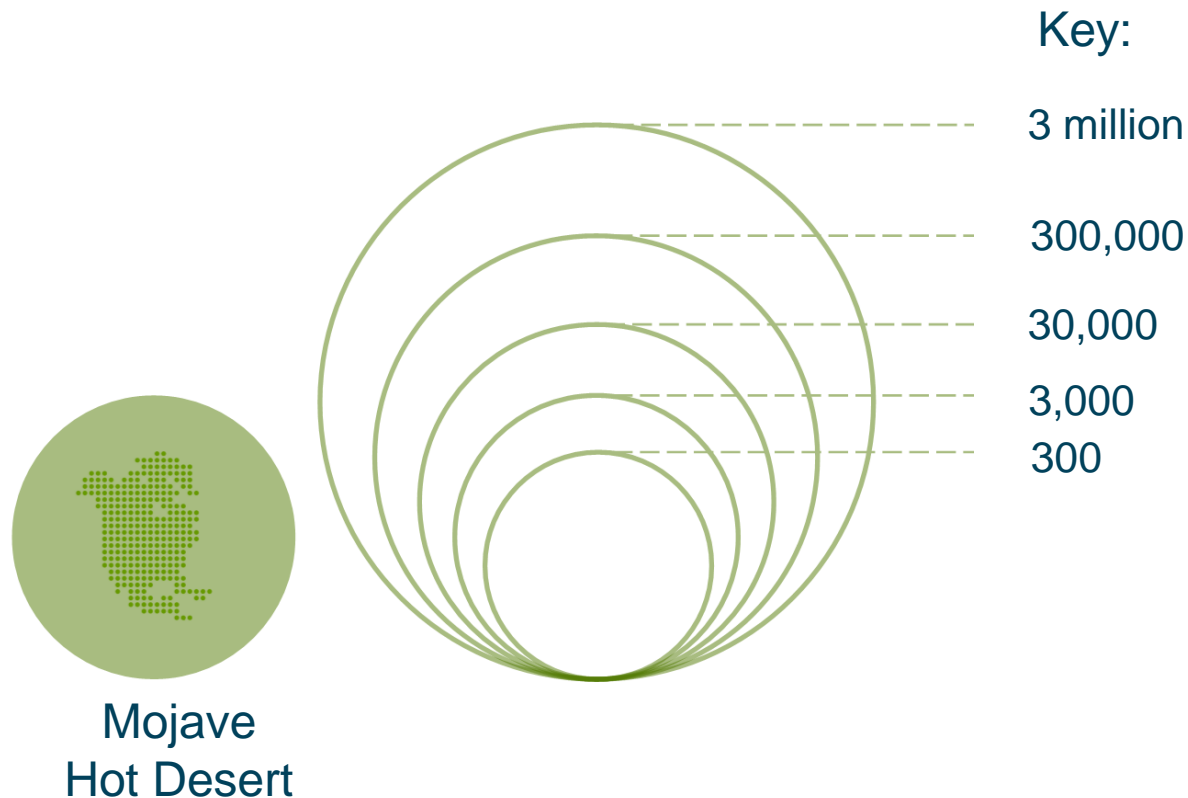
Source: Butler (2017)

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## Estimated number of Species

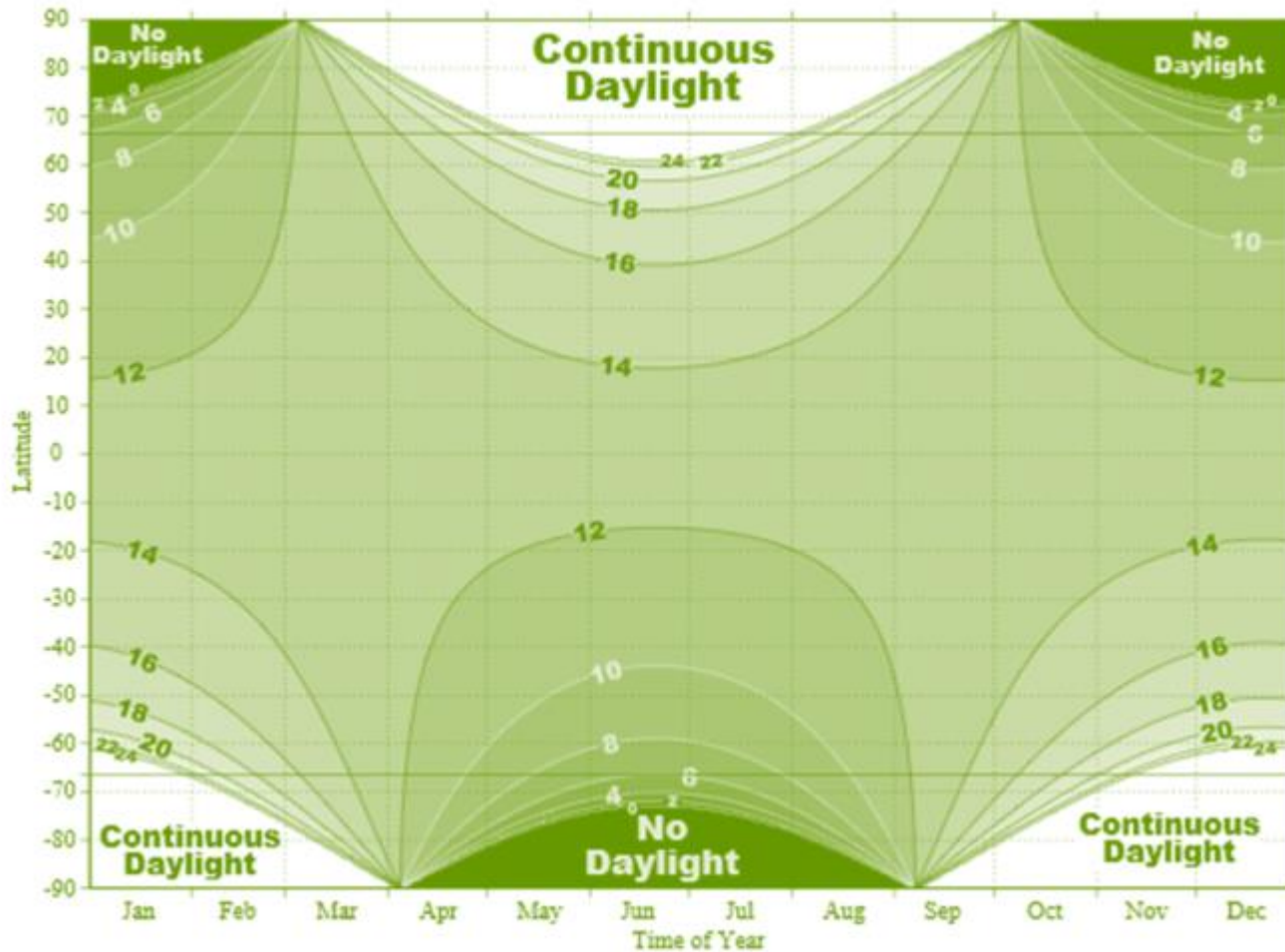


Source: WWF (2017)

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Source: Thesevenseas CC-BY-SA

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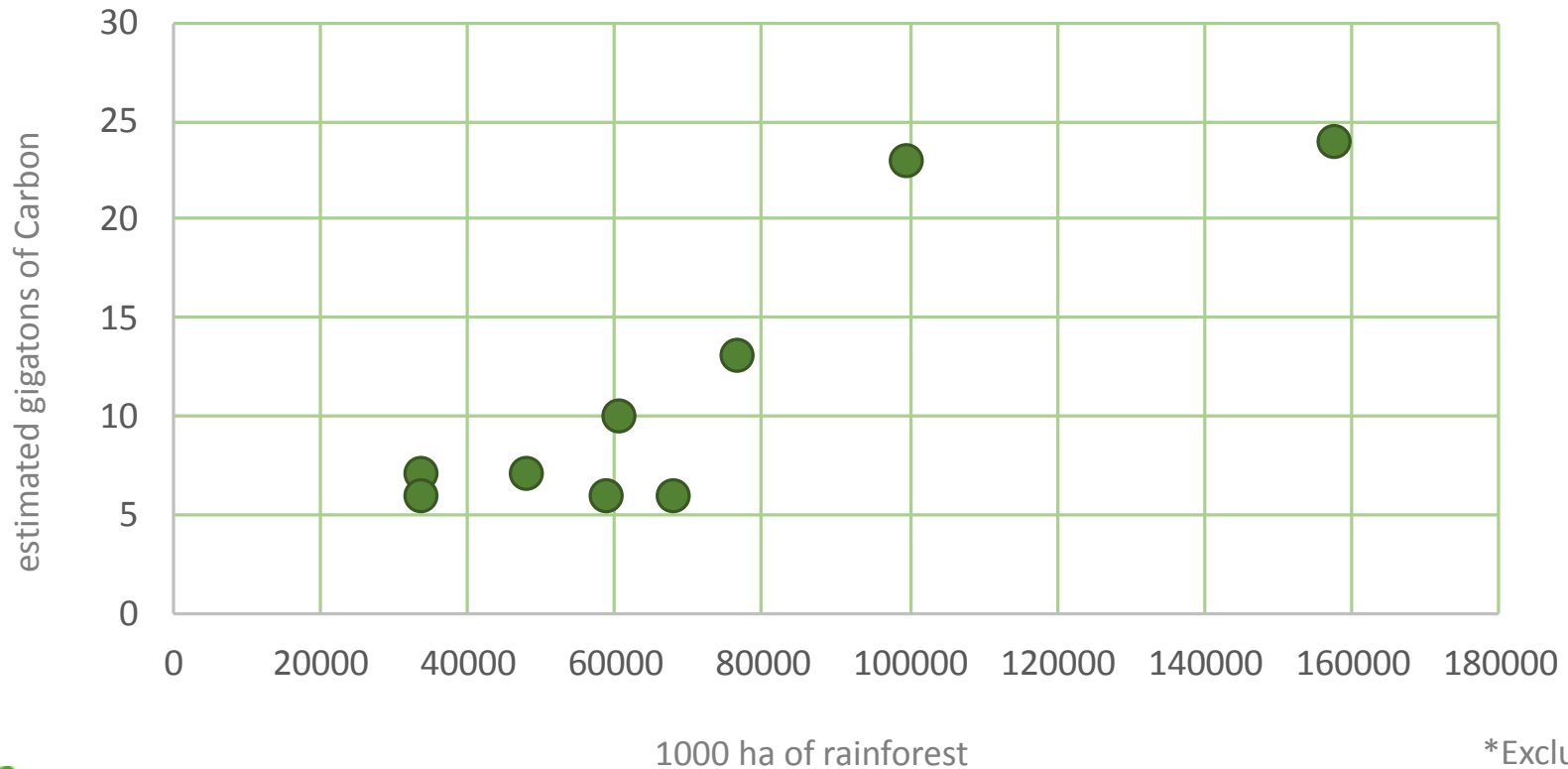


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Top ten\* countries by rainforest cover and their  
estimated carbon storage



\*Excluding Brazil

Source: Saatchi et al (2011), UN FAO (2015)

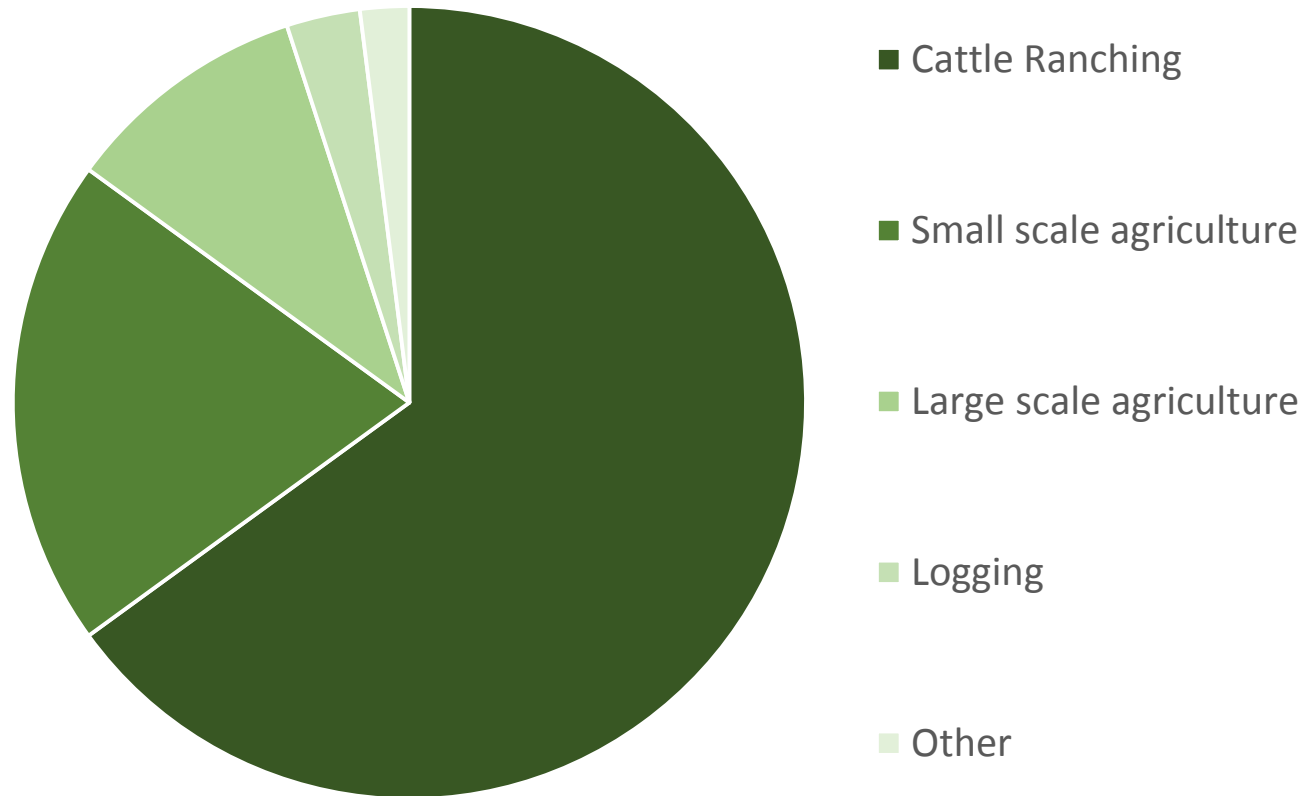
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## Causes of Deforestation



Source: Gibbs (2009)



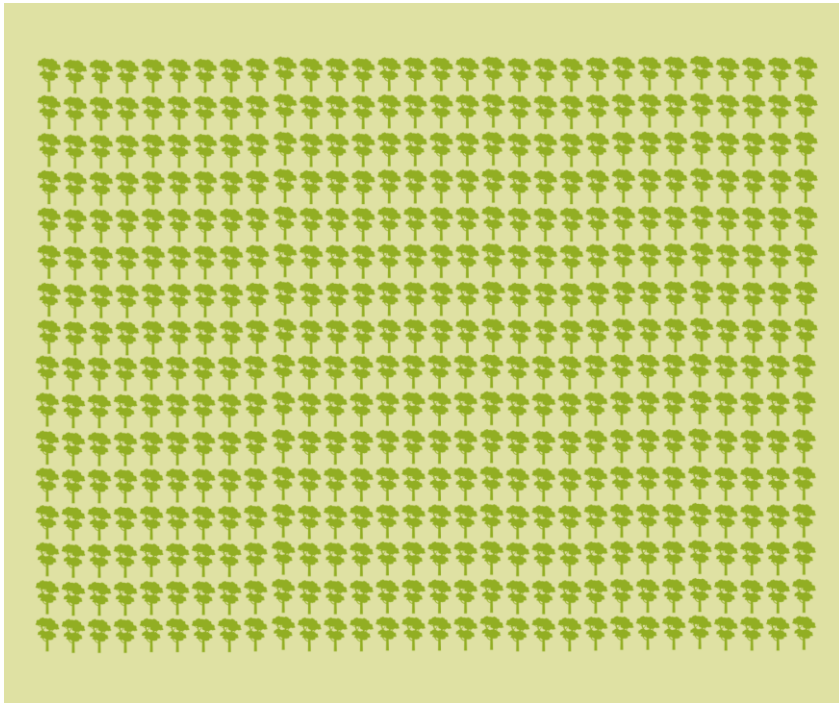
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480 per hectare



**Average number of  
tree species**

**Tropical Rainforest**

Source: Butler (2017)



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6 per hectare



**Average number of  
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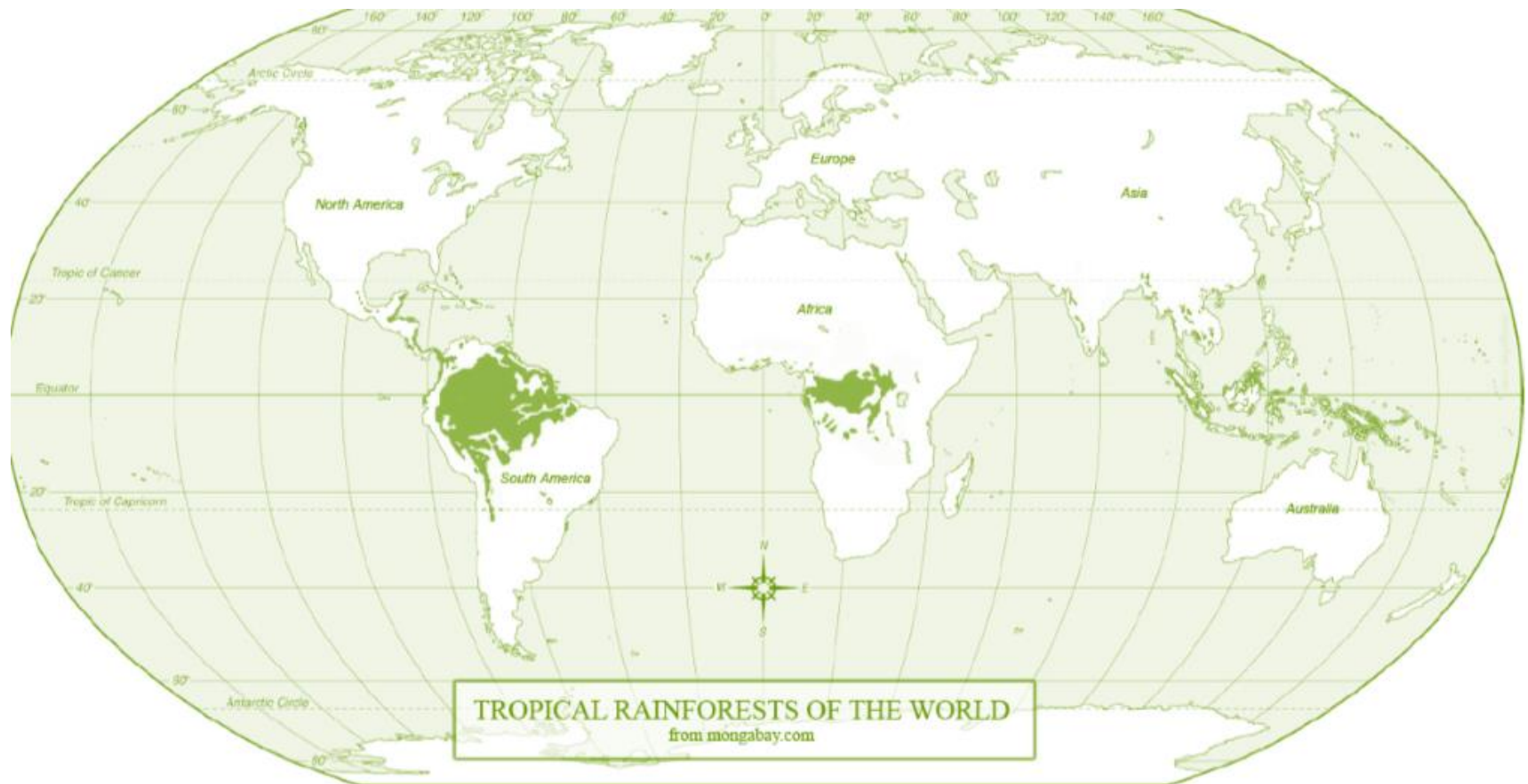
**Temperate Forest**

Source: Butler (2017)

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**48%**

of Brazil is covered in  
rainforest

within this there are  
estimated to be

**3 million**

species





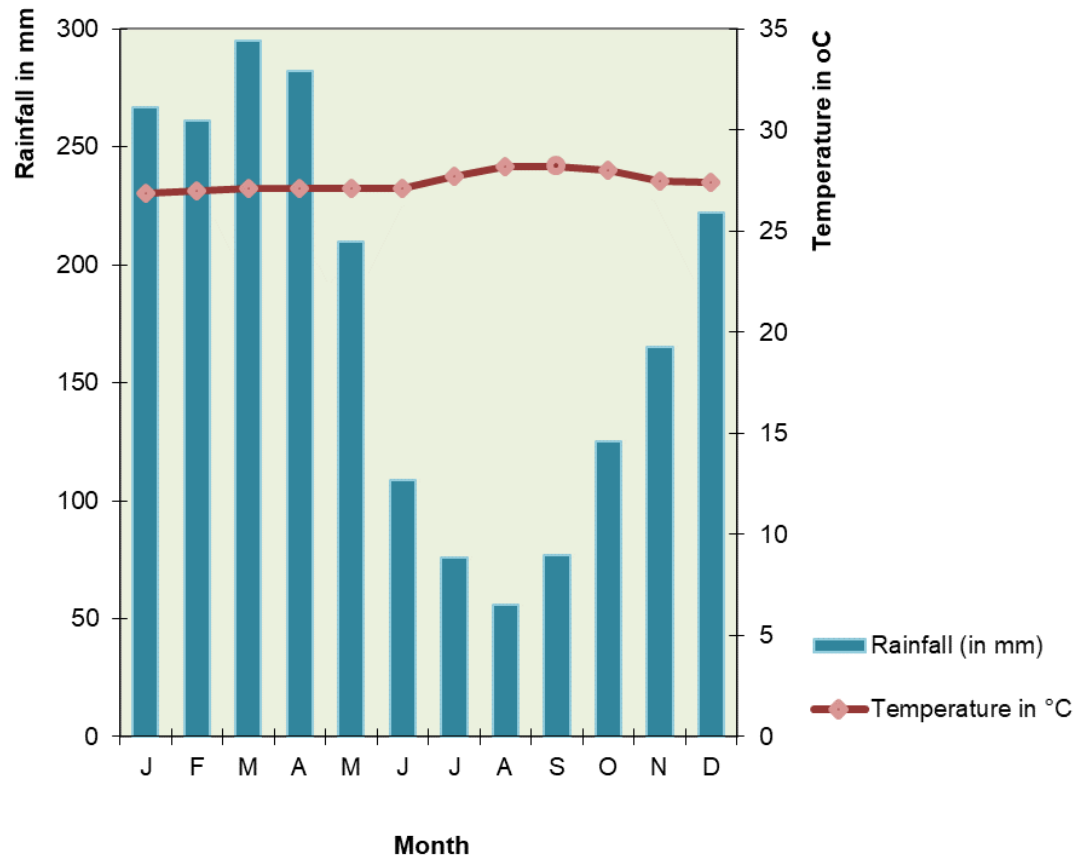
# What is a climate graph?

# The Tropical Rainforest Ecosystem

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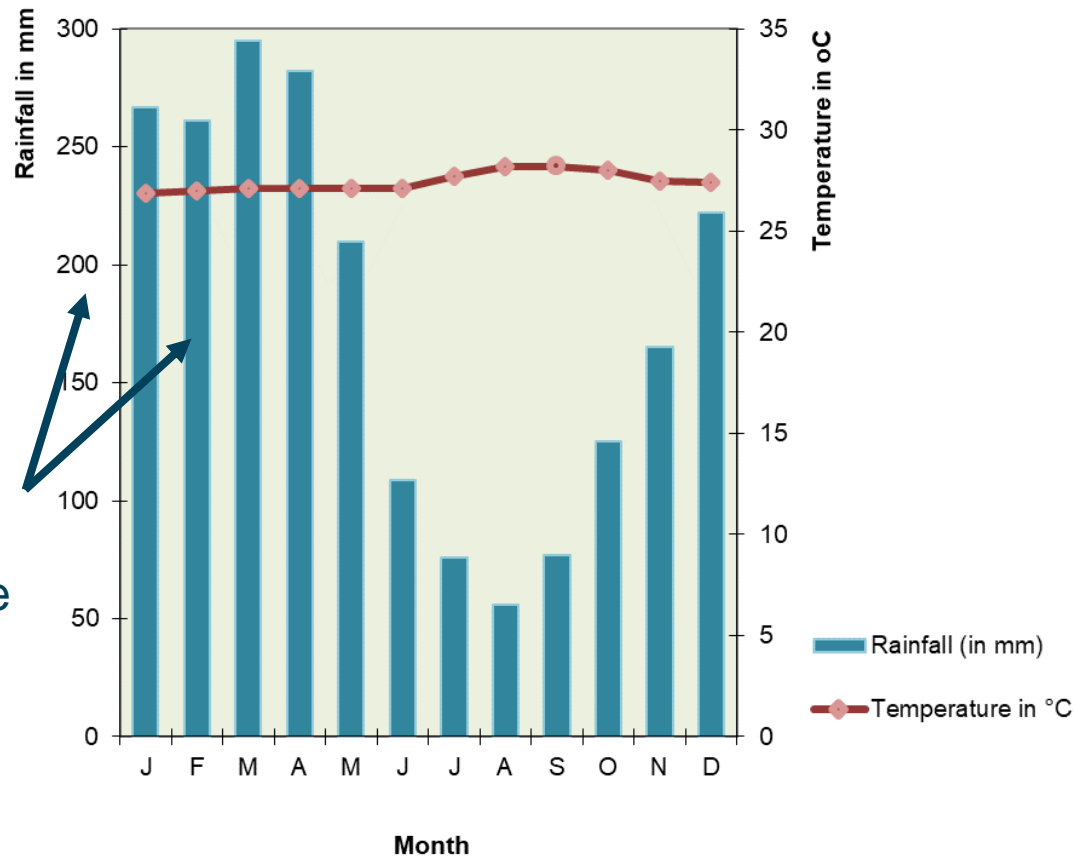
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# The Tropical Rainforest Ecosystem

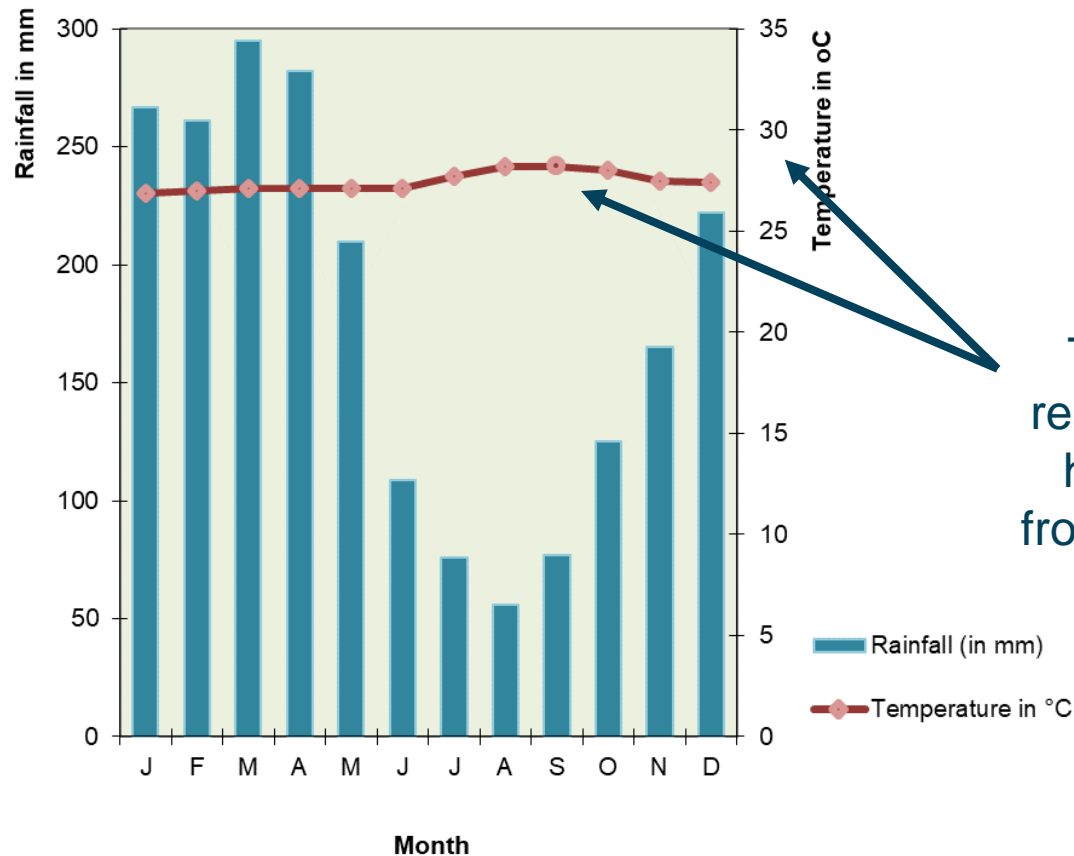


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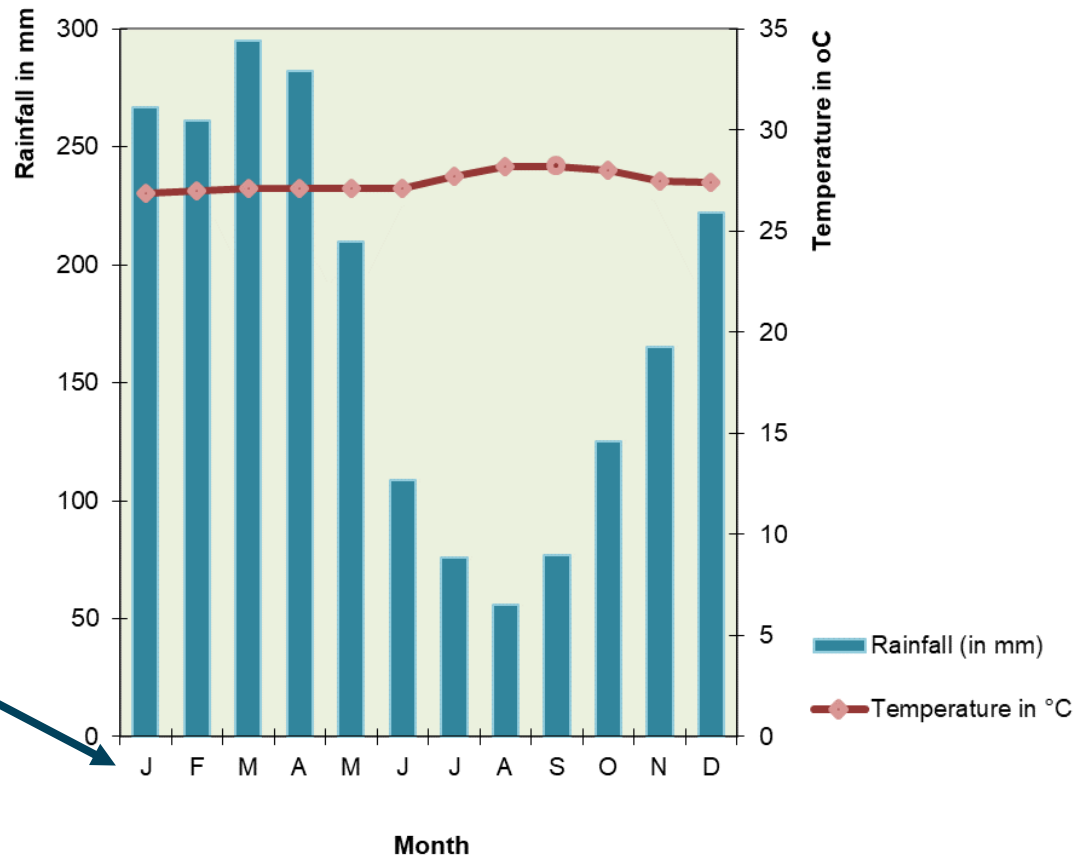


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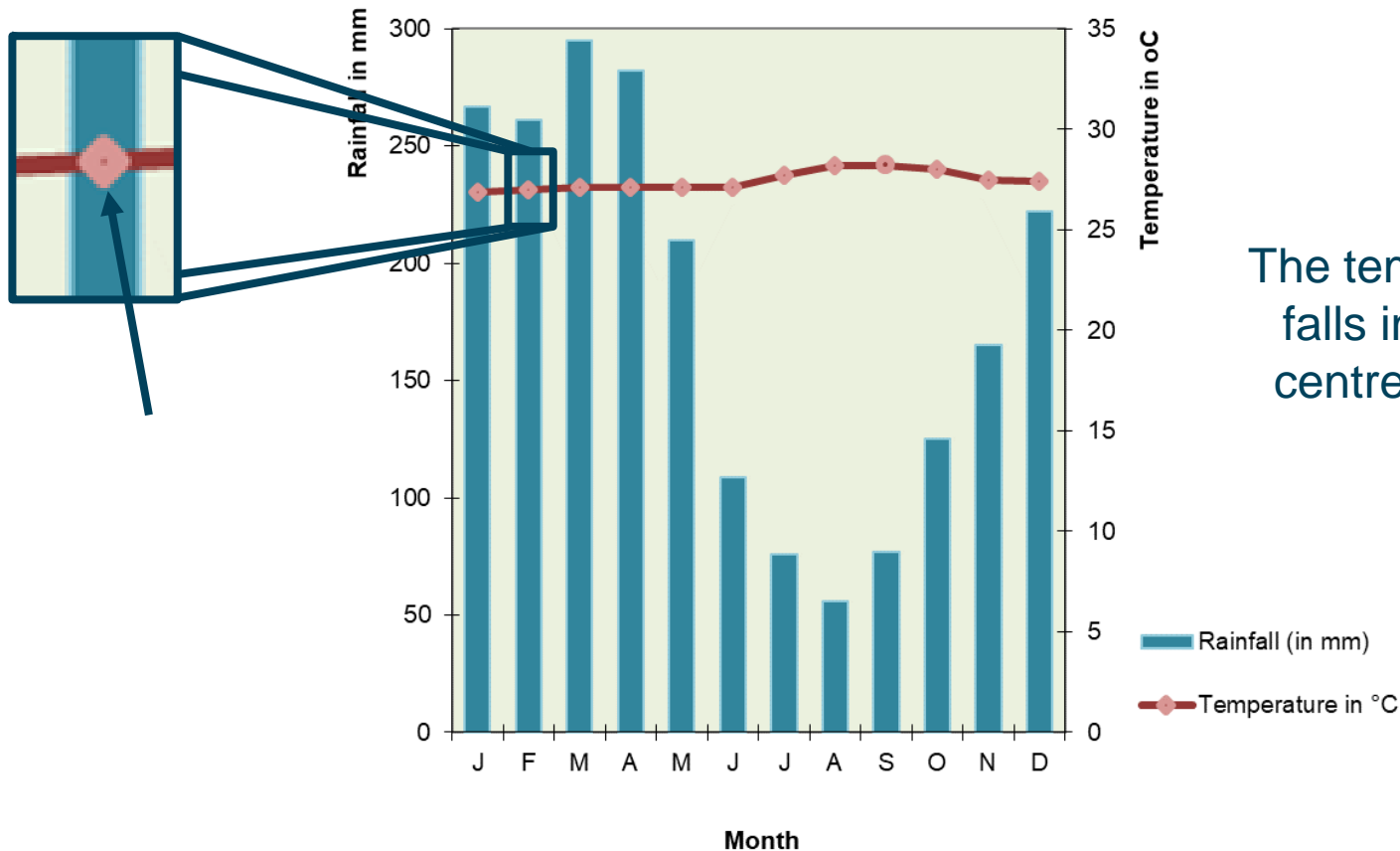


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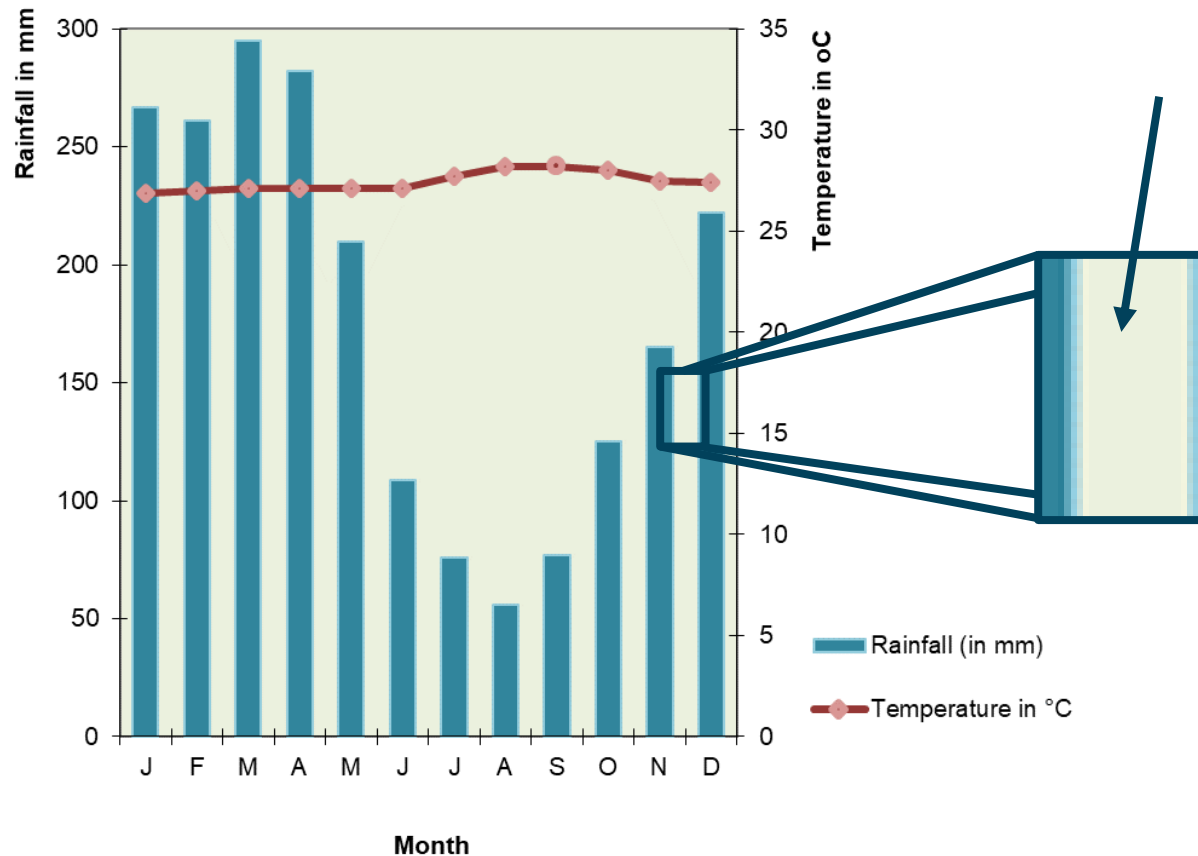
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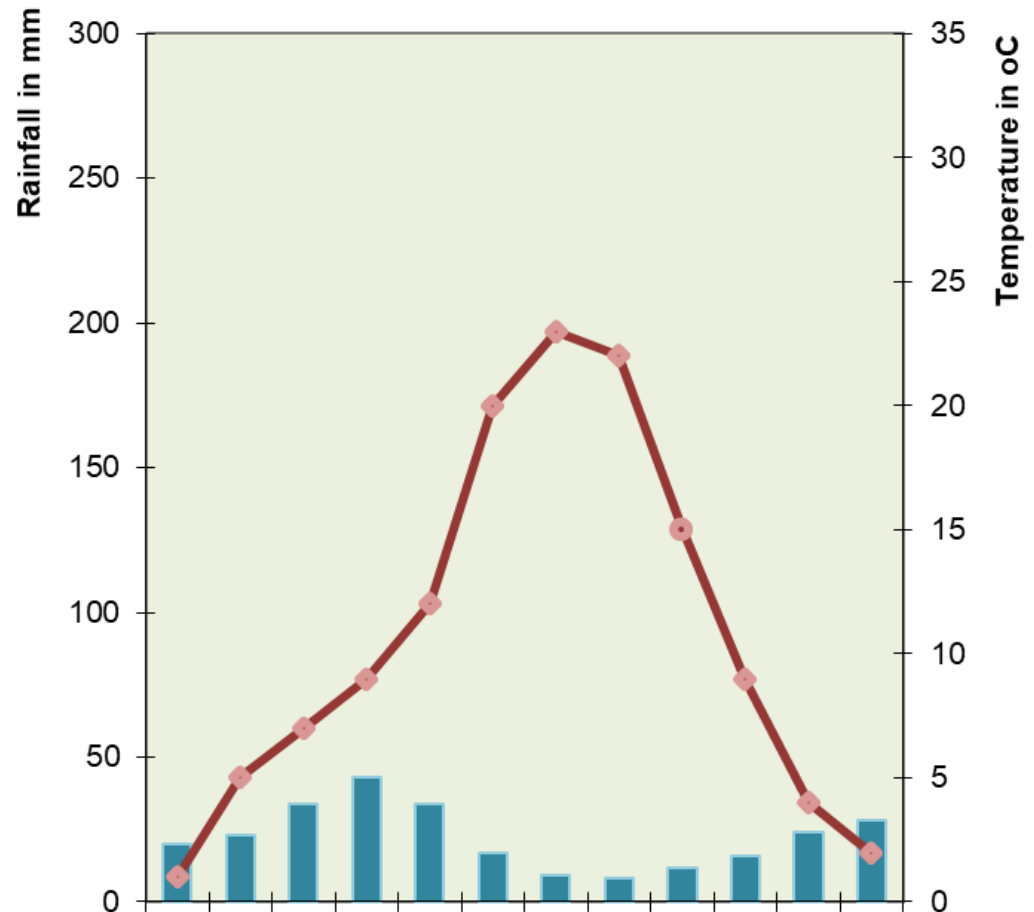
# Climate Graph – spot the mistake

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## Spot the mistake



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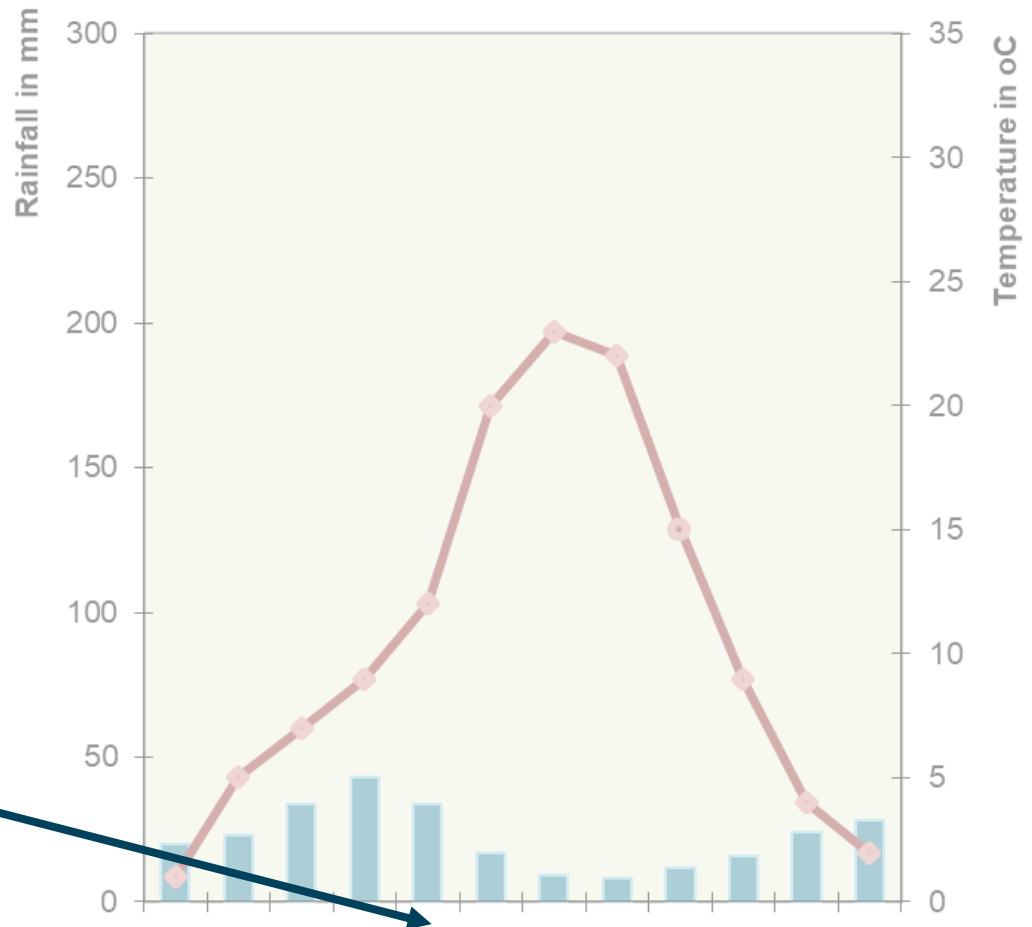
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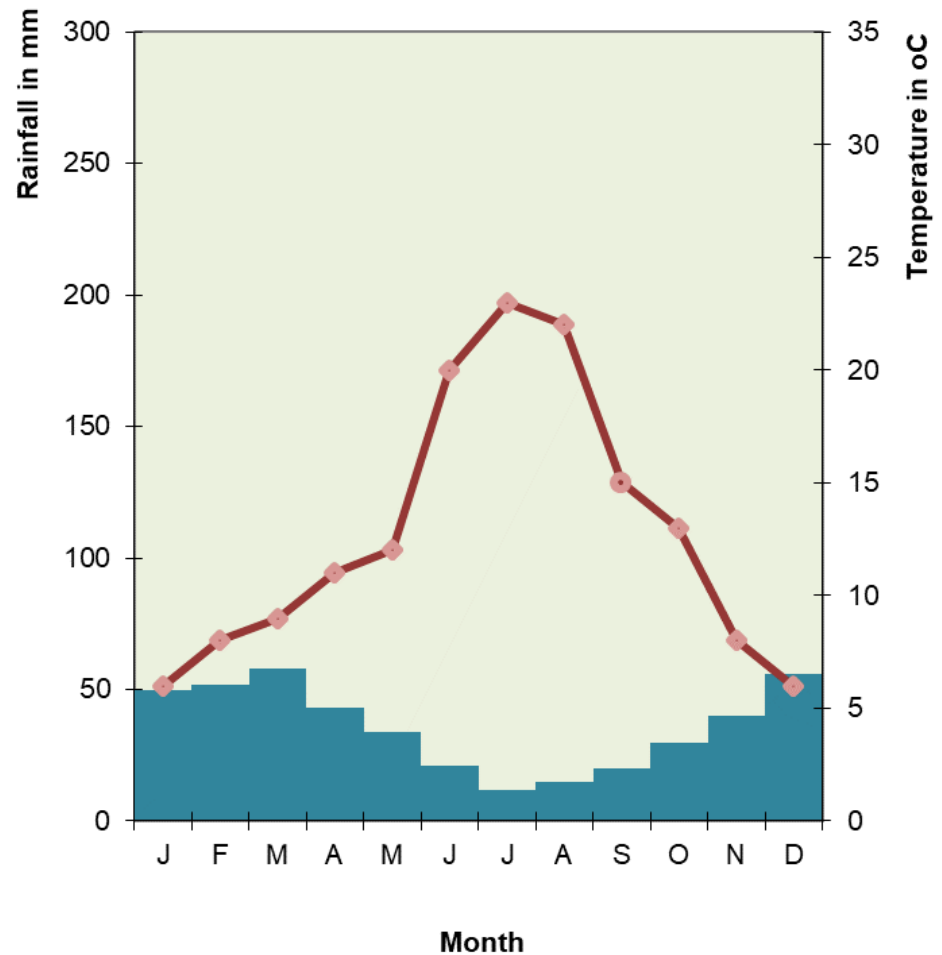


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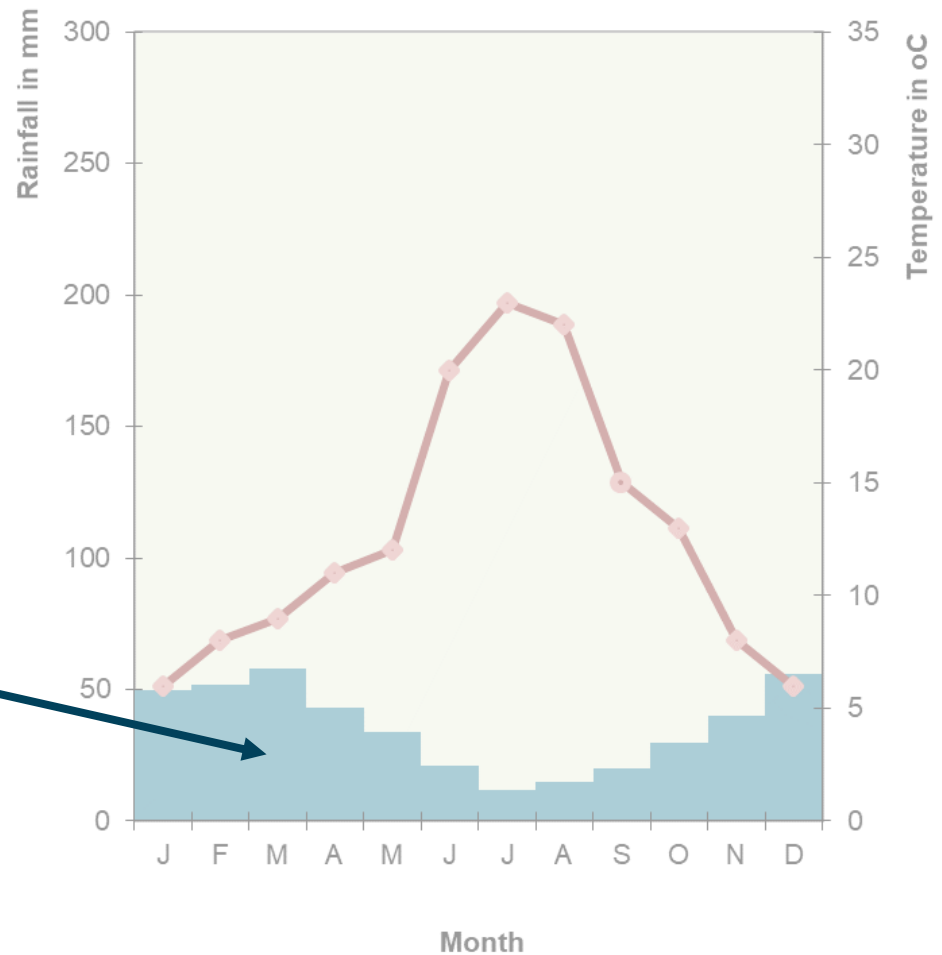
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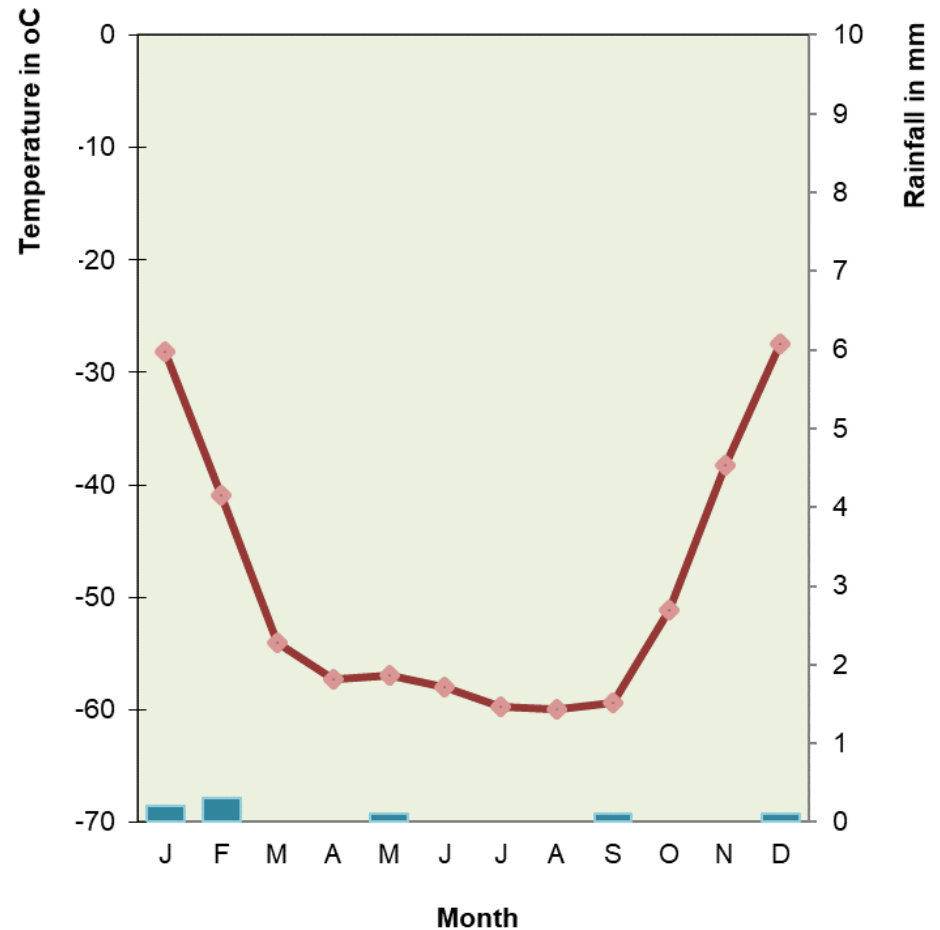


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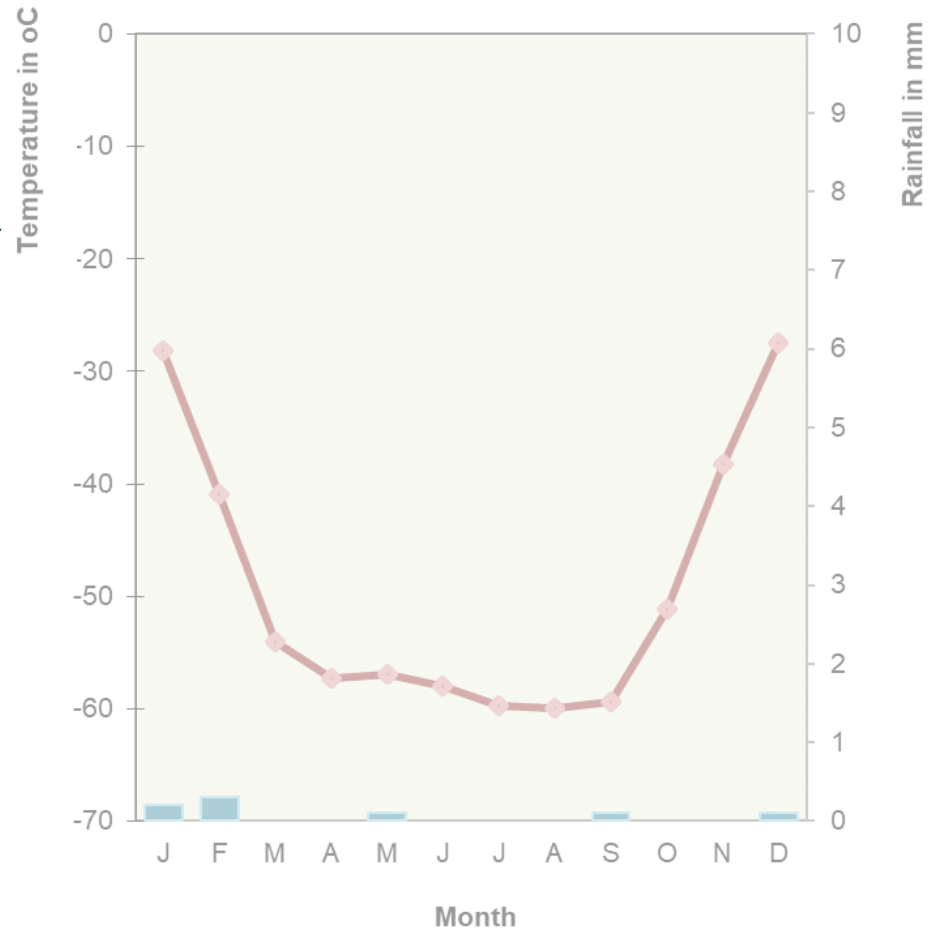


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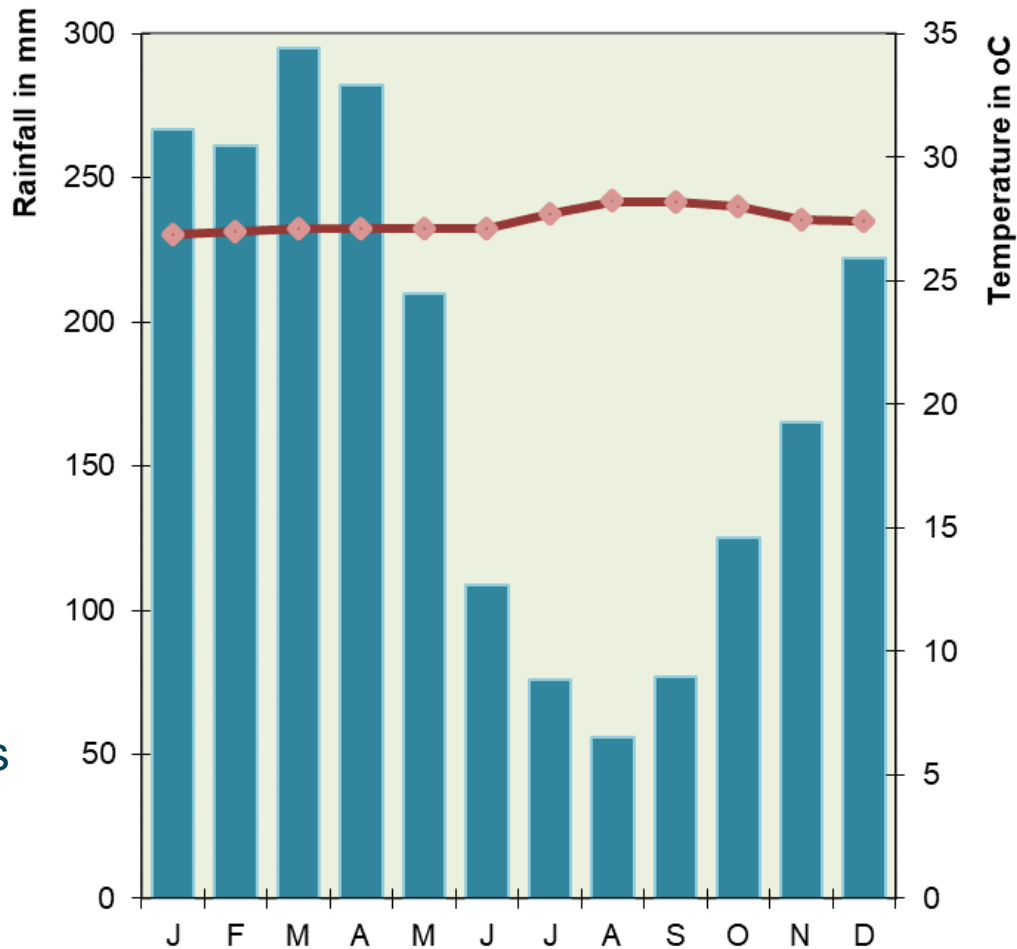


**Tropical  
Rainforest  
Data  
Supermarket**

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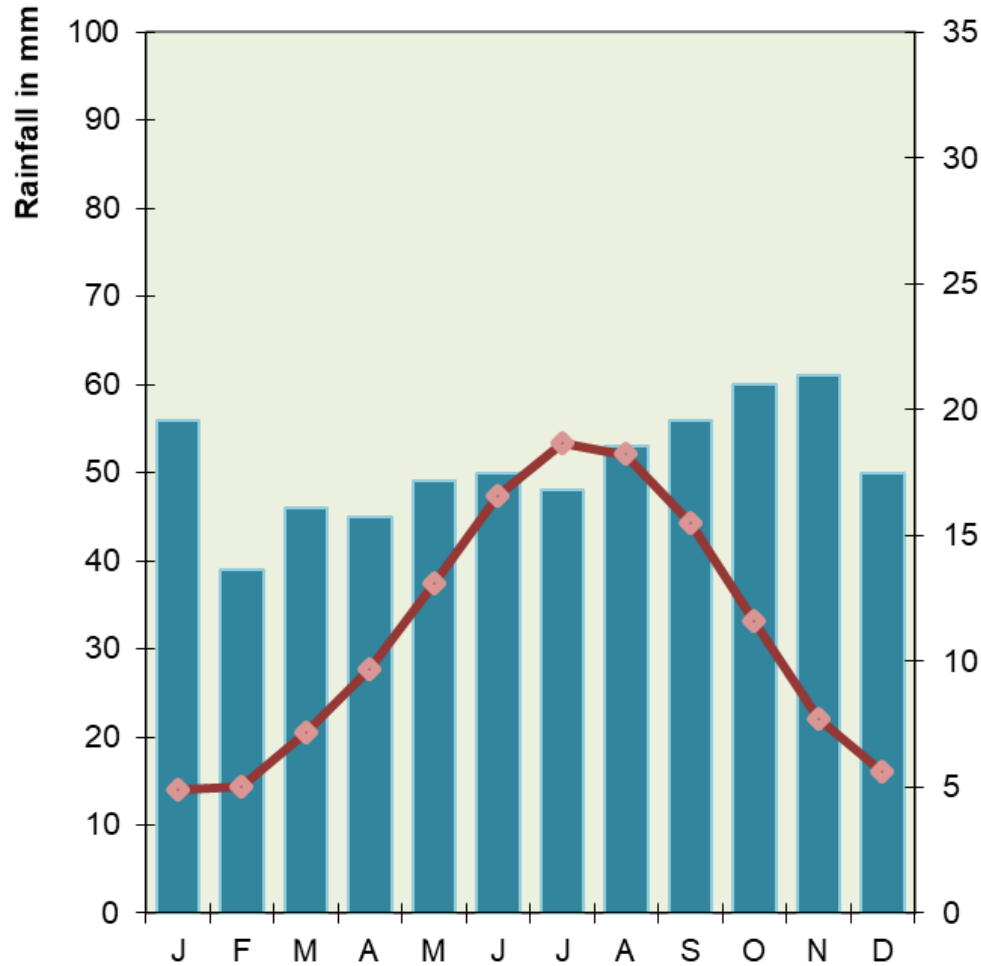
Manaus  
(Brazil)

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London  
(UK)



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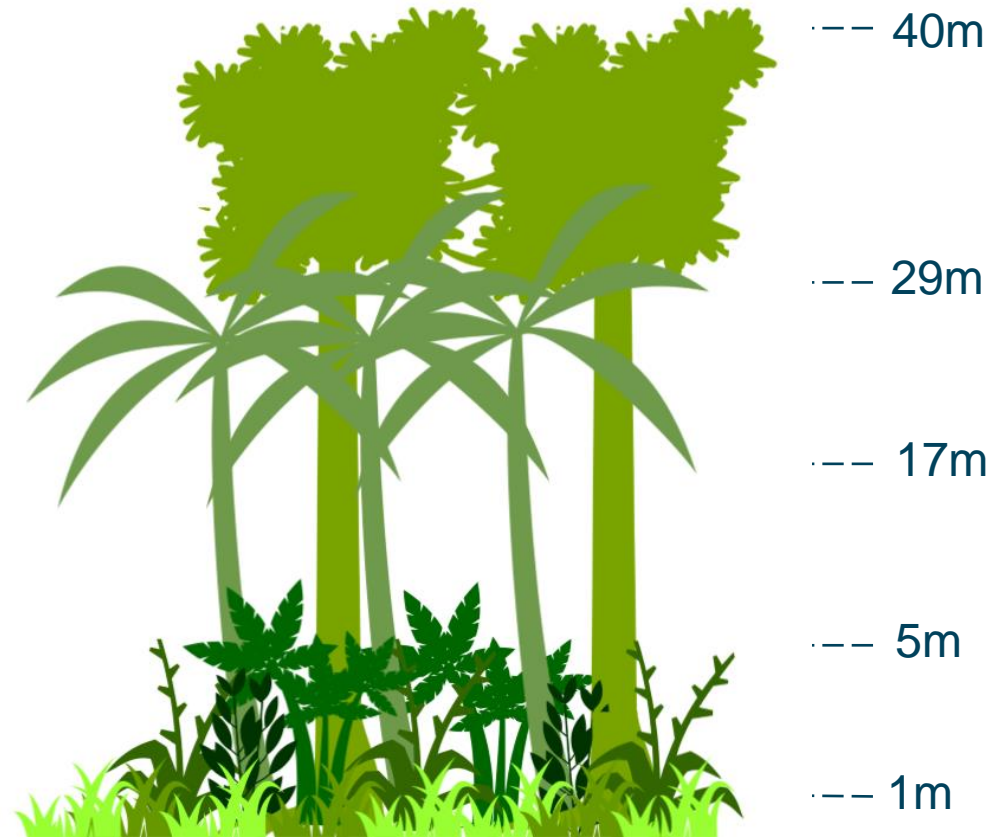
Emergent layer -----

Canopy layer -----

Understorey -----

Scrub -----

Forest Floor -----



**Structure of a tropical rainforest**

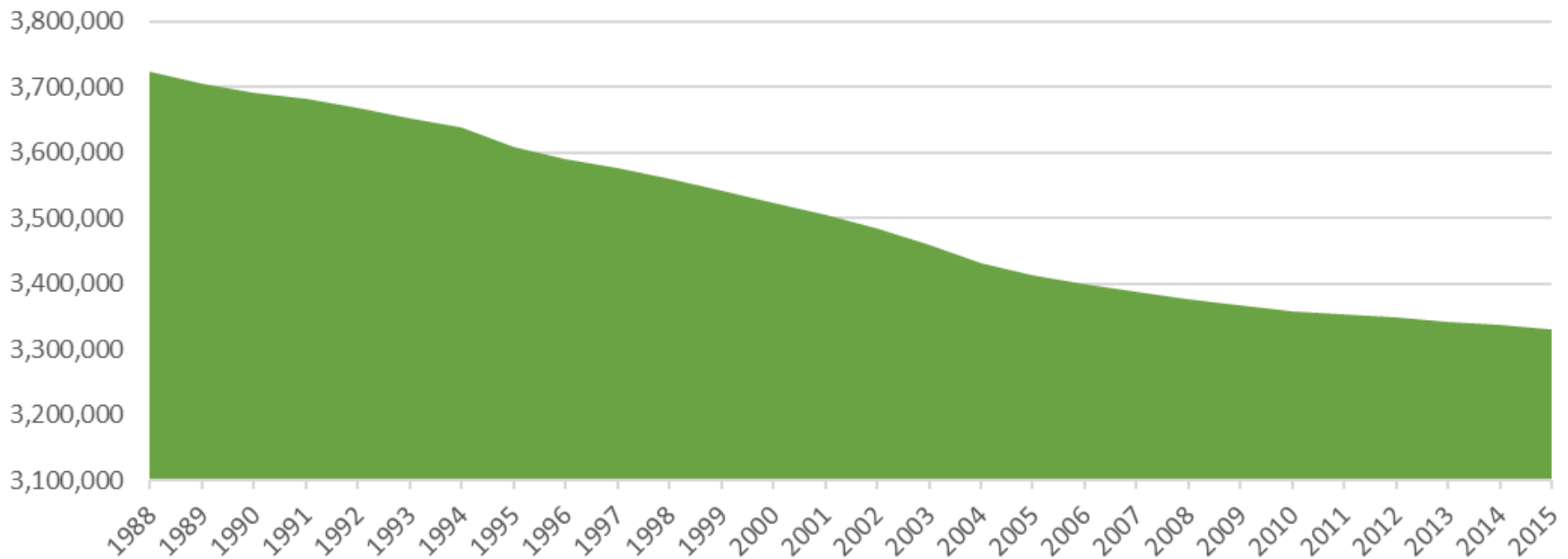


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Size of Brazilian Amazon Rainforest (km<sup>2</sup>)



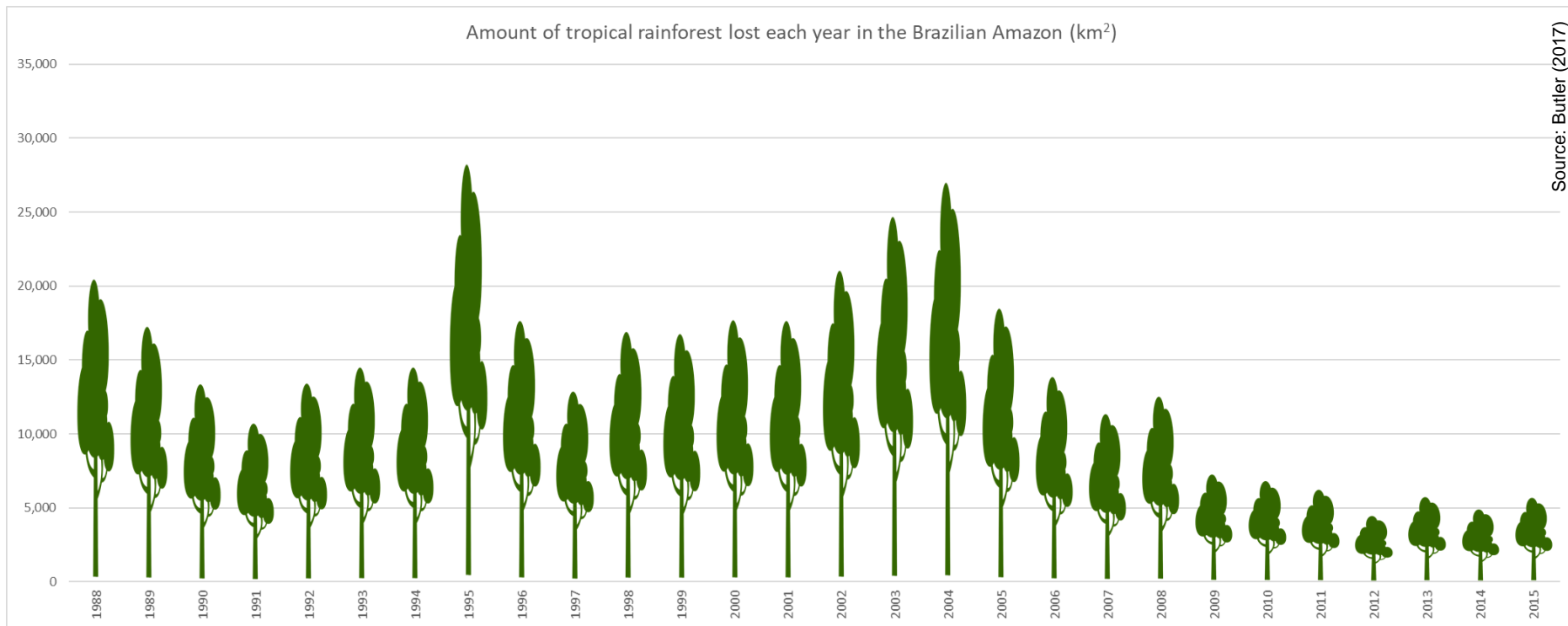
Source: Butler (2017)

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Amount of tropical rainforest lost each year in the Brazilian Amazon (km<sup>2</sup>)



Source: Butler (2017)



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Source: Butler (2017)

# The Tropical Rainforest Ecosystem

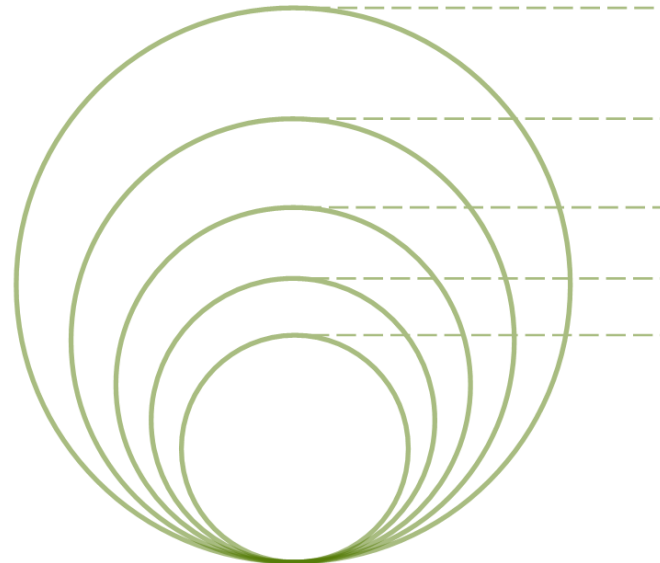
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## Estimated number of Species



Brazilian  
Rainforest



Key:

3 million

300,000

30,000

3,000

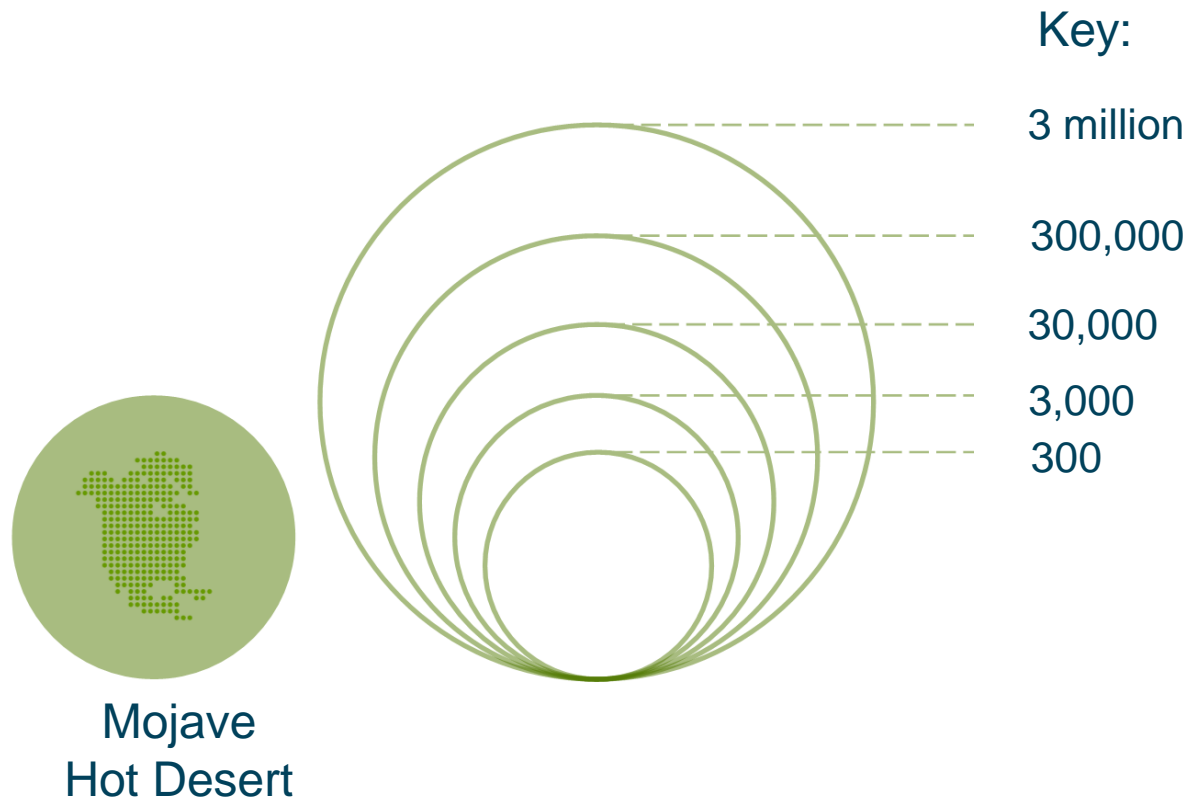
300

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## Estimated number of Species

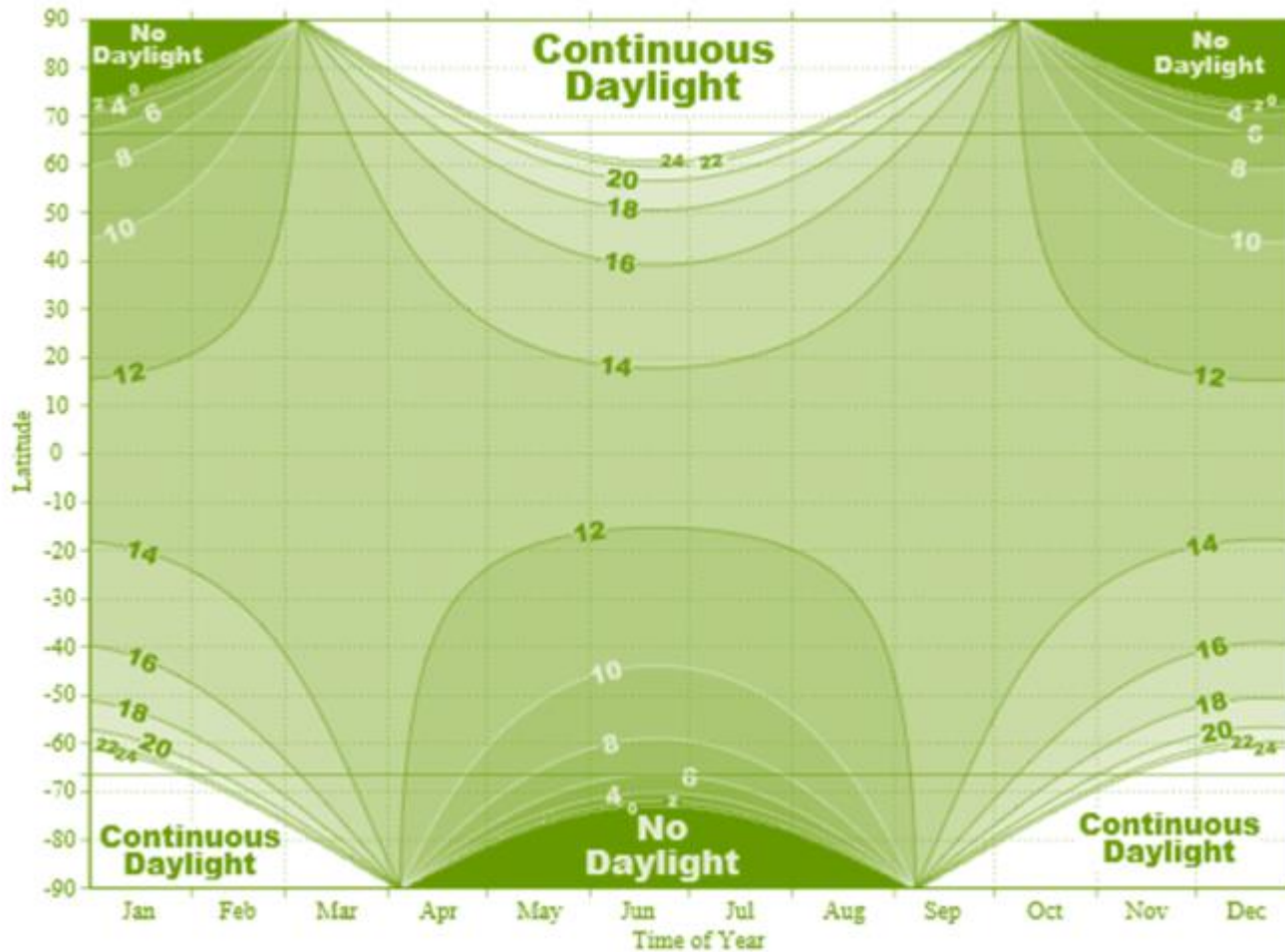


Source: WWF (2017)

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Source: Theseuseas CC-BY-SA

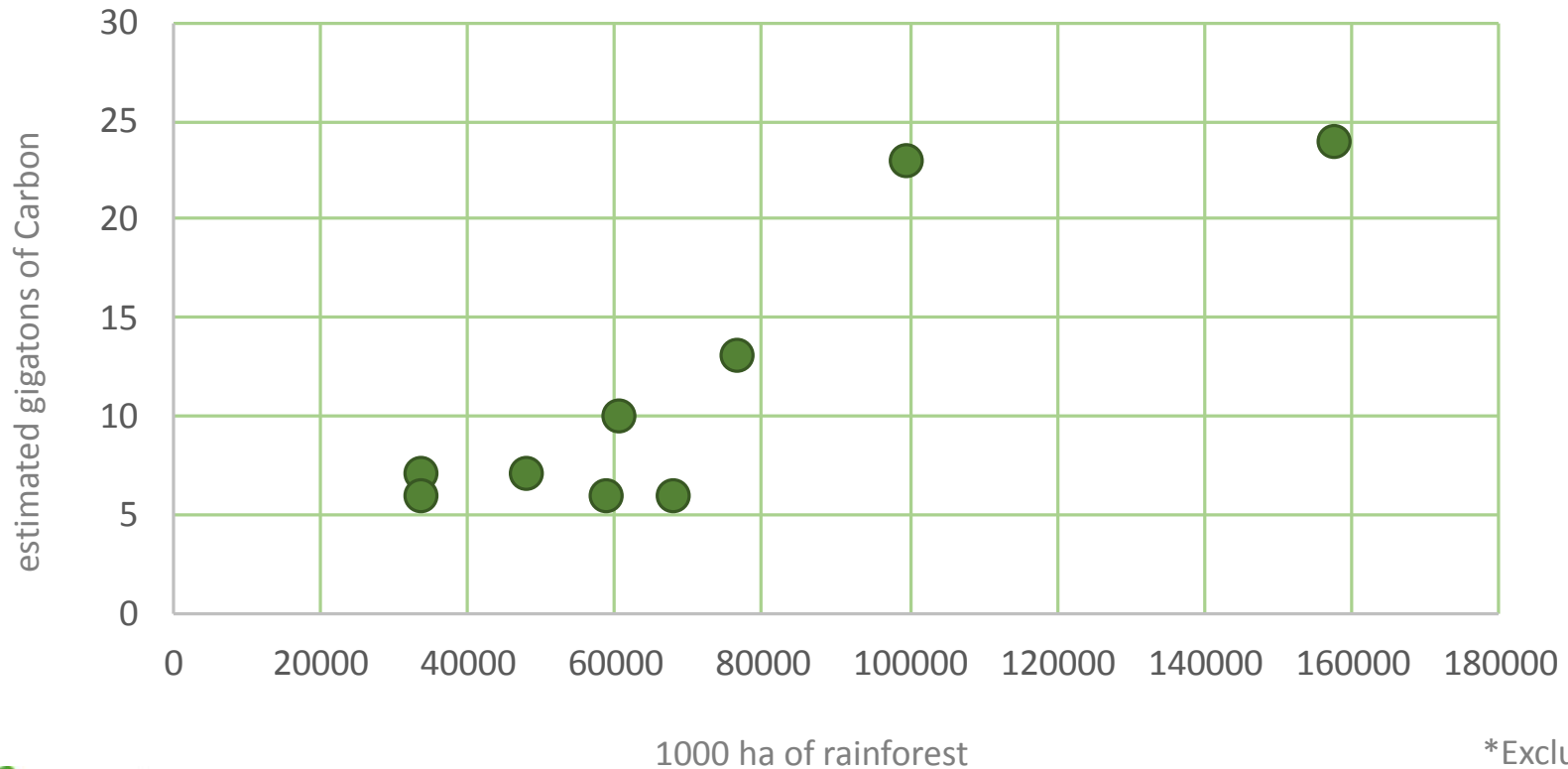
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Top ten\* countries by rainforest cover and their  
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\*Excluding Brazil

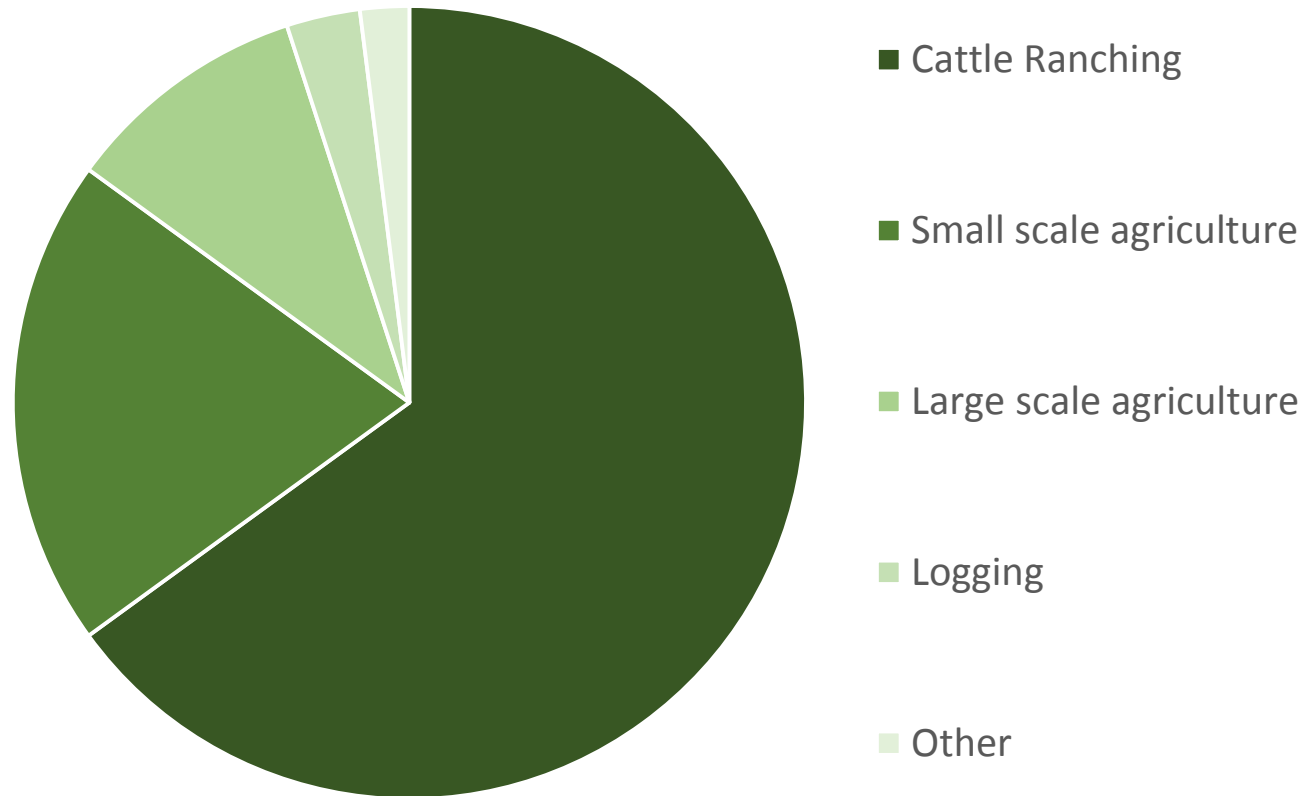
Source: Saatchi et al (2011), UN FAO (2015)

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## Causes of Deforestation



Source: Gibbs (2009)





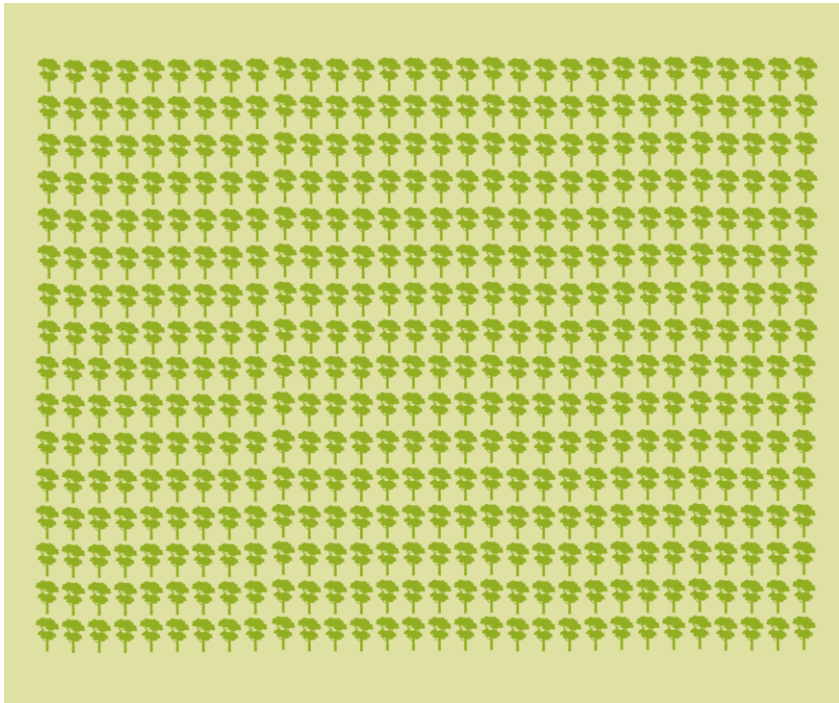
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480 per hectare



**Average number of  
tree species**

**Tropical Rainforest**

Source: Butler (2017)



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6 per hectare



**Average number of  
tree species**

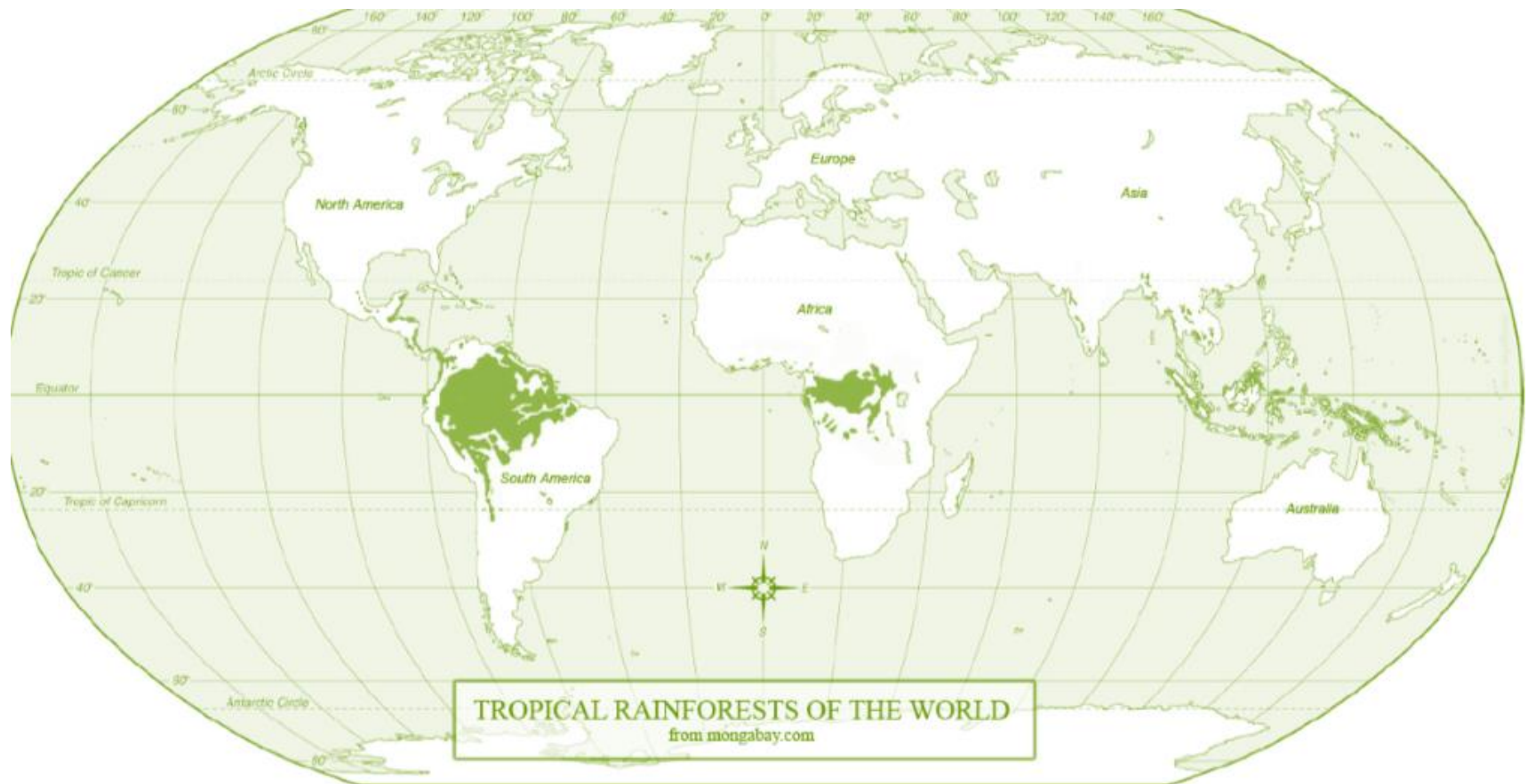
**Temperate Forest**

Source: Butler (2017)

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# Tropical Rainforest Data Infographic



# The Tropical Rainforest Ecosystem

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**48%**

of Brazil is covered in  
rainforest

within this there are  
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**3 million**

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