WORLD CLIMATES

differentiated passages

LEXILE

480L

Name: _____ Date: _____

Equatorial Climate

The equator is a line around the earth. It is imaginary. It is the same distance from the North and South Poles. This line cuts the earth into two parts. Costa Rica in Central America is near the equator. Kenya in Africa is also there. The weather is tropical. These areas have strong sunlight all year. They do not have all four seasons. Some places have one hot season. Others have two seasons, a dry one and a wet one.



Beach in Limon, Costa Rica

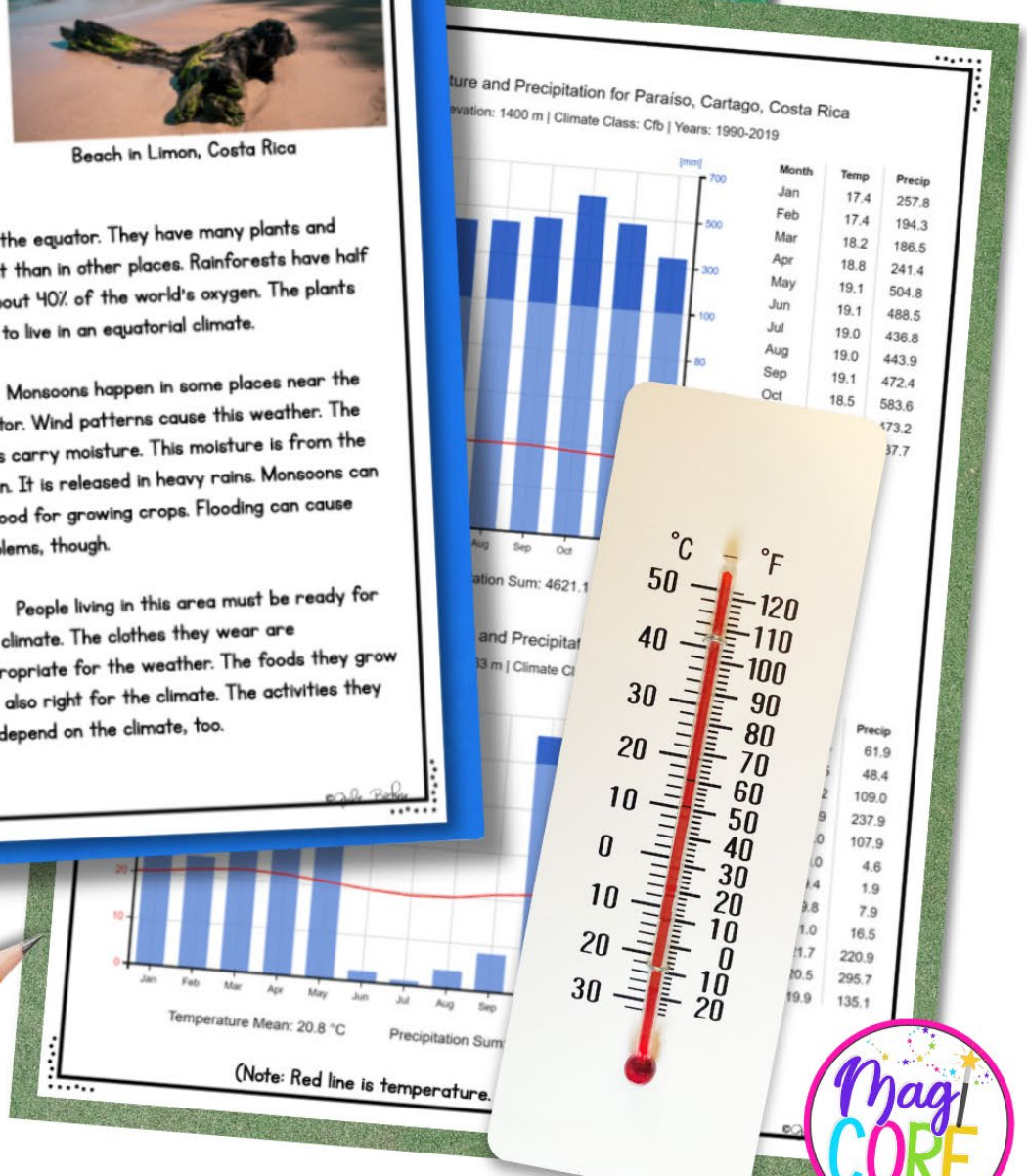
Rainforests are found in regions close to the equator. They have many plants and animals. More kinds of plants are in a rainforest than in other places. Rainforests have half of the world's animal species. They also give about 40% of the world's oxygen. The plants and animals that live in the rainforest are able to live in an equatorial climate.



Palm tree during monsoon

Monsoons happen in some places near the equator. Wind patterns cause this weather. The winds carry moisture. This moisture is from the ocean. It is released in heavy rains. Monsoons can be good for growing crops. Flooding can cause problems, though.

People living in this area must be ready for the climate. The clothes they wear are appropriate for the weather. The foods they grow are also right for the climate. The activities they do depend on the climate, too.



3rd Grade NGSS 3-ESS2-2

ABOUT LEXILE LEVELS

MagiCore is a certified Lexile® Partner. These texts are officially measured and approved by Lexile and MetaMetrics® to ensure appropriate rigor and differentiation for students.

The Lexile Framework® for Reading measures are scientific, quantitative text levels. When the Lexile of a text is measured, specific, measurable attributes of the text are considered, including, but not limited to, word frequency, sentence length, and text cohesion. These are difficult attributes for humans to evaluate, so a computer measures them.

Common Core State Standards uses Lexile level bands as one measure of text complexity. Text complexity ranges ensure students are college and career ready by the end of 12th grade. Lexile measures help educators scaffold and differentiate instruction as well as monitor reading growth.

Grade Band	Lexile® Bands Aligned to Common Core Expectations
K-1	N/A
2-3	420L-820L
4-5	740L-1010L
6-8	1185L-1385L

Keep in mind when using any leveled text that many students will need scaffolding and support to reach text at the high end of their grade band. According to Appendix A of the Common Core Standards, "It is important to recognize that scaffolding often is entirely appropriate. The expectation that scaffolding will occur with particularly challenging texts is built into the Standards' grade-by-grade text complexity expectations, for example. The general movement, however, should be toward decreasing scaffolding and increasing independence both within and across the text complexity bands defined in the Standards."

World Climates

3rd grade

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9. Essay Template

Each passage set includes two differentiated passages on a third-grade level (one at the beginning of the band, one towards the end) and a question set geared towards comprehension and science mastery. The first question is differentiated to include a fill-in-the-blank diagram (lower complexity) or an open-ended diagram (higher complexity).

How to Use This Resource

This resource was created with the NGSS Science Standards in mind. It includes seven differentiated passages aligned to the following standard:

3-ESS2-2: World Climates

Obtain and combine information to describe climates in different regions of the world. (Patterns)

Clarification Statement: None

Assessment Boundary: None

Here are some suggestions for using these passages:

- Use as independent work after you have taught an overview of this standard. Assign the different levels based on the passage students can read and comprehend independently.
- Use as a reading center to reinforce key comprehension and science concepts at the same time!
- Use as a homework or review packet.
- Use as an intervention for students who need to revisit science concepts.

Climate Patterns

Use this chart to take notes on each climate type. You will use these notes to write an essay at the end of this resource.

Climate	Average Temperature	Average Precipitation	Description of Climate
Equatorial Climate			
Polar Climate			
Marine West Coast Climate			
Mid-Continental Climate			
Highland Climate			
Temperate Climate			

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480L

Name: _____ Date: _____

Equatorial Climate

The **equator** is a line around the earth. It is imaginary. It is the same distance from the North and South Poles. This line cuts the earth into two parts. Costa Rica in Central America is near the equator. Kenya in Africa is also there. The **weather** is **tropical**. These areas have strong sunlight all year. They do not have all four **seasons**. Some places have one hot season. Others have two seasons, a dry one and a wet one.



Beach in Limon, Costa Rica

Rainforests are found in **regions** close to the equator. They have many plants and animals. More kinds of plants are in a rainforest than in other places. Rainforests have half of the world's animal species. They also give about 40% of the world's oxygen. The plants and animals that live in the rainforest are able to live in an **equatorial climate**.



Palm tree during monsoon

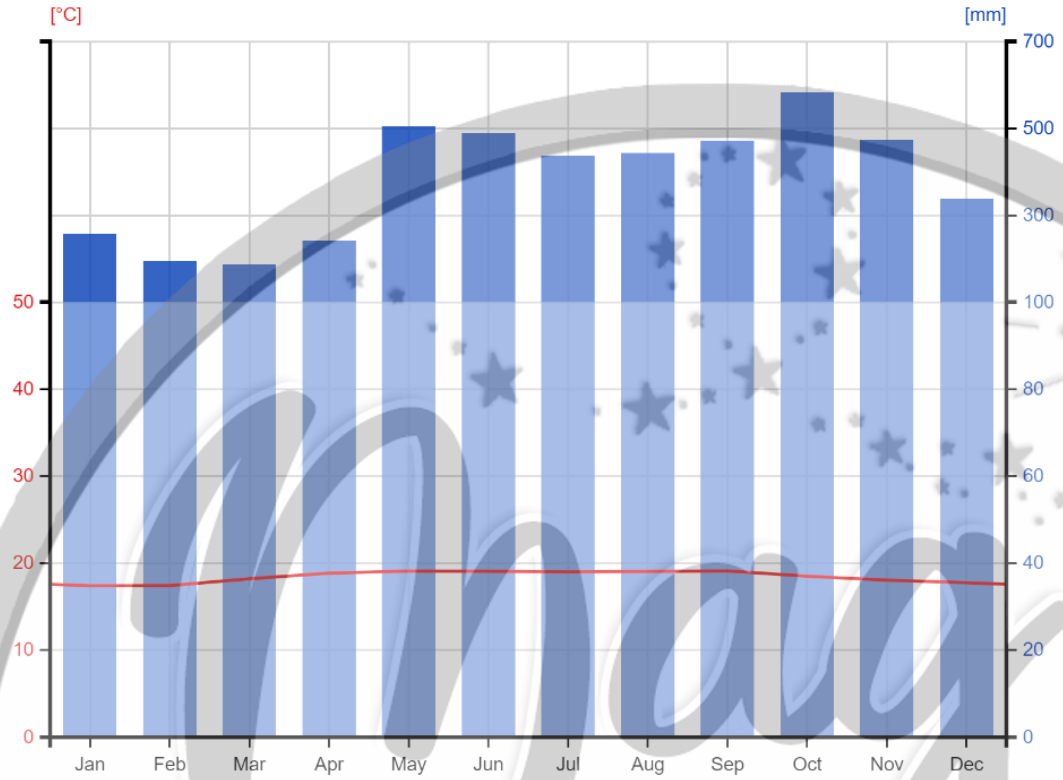
Monsoons happen in some places near the equator. Wind **patterns** cause this weather. The winds carry moisture. This moisture is from the ocean. It is released in heavy rains. Monsoons can be good for growing crops. Flooding can cause problems, though.

People living in this area must be ready for the climate. The clothes they wear are appropriate for the weather. The foods they grow are also right for the climate. The activities they do depend on the climate, too.

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Average Monthly Temperature and Precipitation for Paraíso, Cartago, Costa Rica

9.749N, 83.753W | Elevation: 1400 m | Climate Class: Cfb | Years: 1990-2019

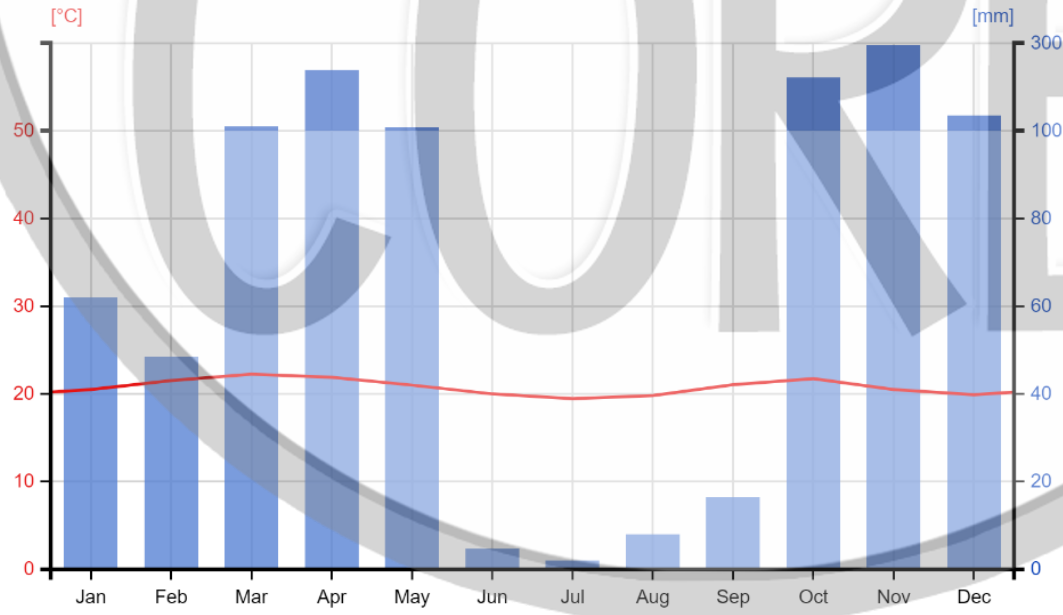


Month	Temp	Precip
Jan	17.4	257.8
Feb	17.4	194.3
Mar	18.2	186.5
Apr	18.8	241.4
May	19.1	504.8
Jun	19.1	488.5
Jul	19.0	436.8
Aug	19.0	443.9
Sep	19.1	472.4
Oct	18.5	583.6
Nov	18.0	473.2
Dec	17.7	337.7

Temperature Mean: 18.4 °C Precipitation Sum: 4621.1 mm

Average Monthly Temperature and Precipitation for Ruiri, Meru, Kenya

0.024N, 37.906E | Elevation: 863 m | Climate Class: A | Years: 1990-2019



Month	Temp	Precip
Jan	20.5	61.9
Feb	21.5	48.4
Mar	22.2	109.0
Apr	21.9	237.9
May	21.0	107.9
Jun	20.0	4.6
Jul	19.4	1.9
Aug	19.8	7.9
Sep	21.0	16.5
Oct	21.7	220.9
Nov	20.5	295.7
Dec	19.9	135.1

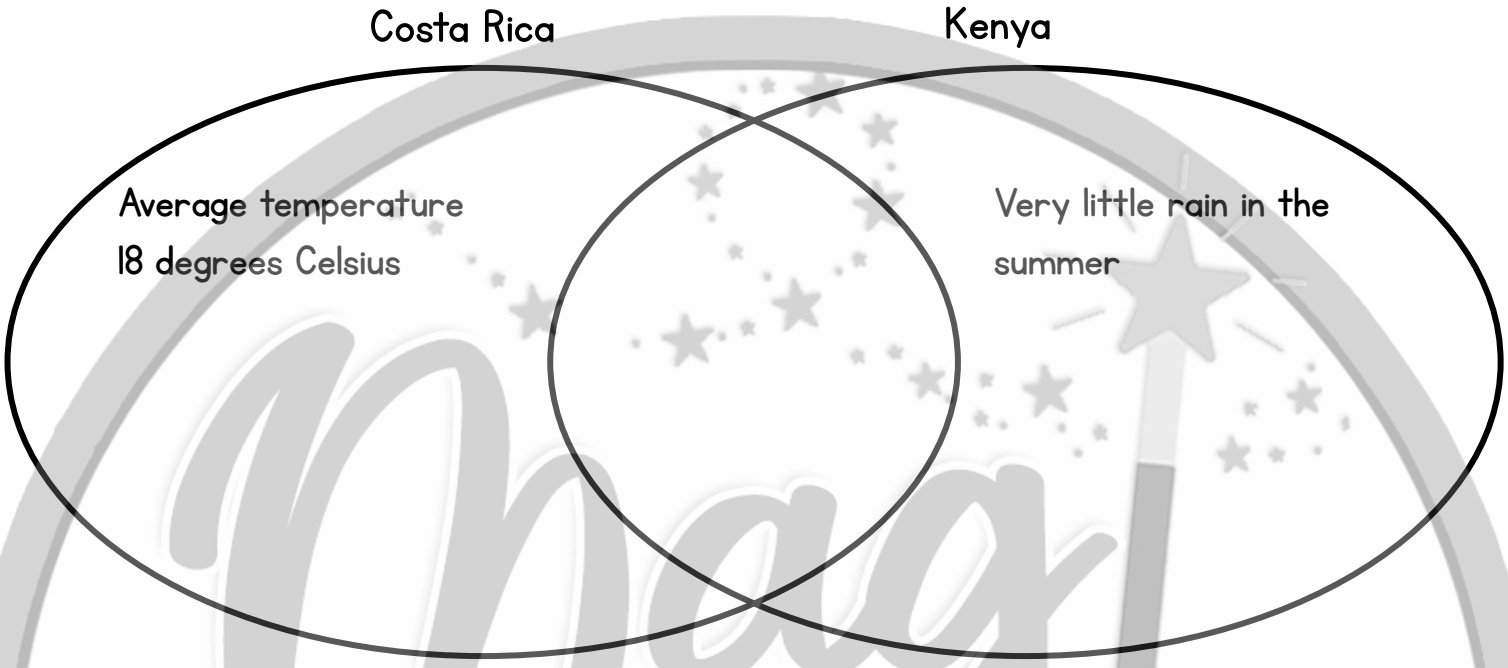
Temperature Mean: 20.8 °C Precipitation Sum: 1247.7 mm

(Note: Red line is temperature. Blue bar is precipitation.)

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Equatorial Climate Questions

1. Use the Venn Diagram to compare the climates in the 2 regions presented in the graph.



2. Describe the location of equatorial climates.

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3. Based on the information in the text, how would you prepare to visit this type of climate? What would you need to bring with you?

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470L

Name: _____ Date: _____

Mid-Continental Climate

Mid-continental climates are found **inland**. They are not near oceans. Quebec City in Canada is part of this zone. All four **seasons** happen here.



Quebec City in winter

The animals that live in this climate zone **adapt** to the weather. Antelope are found here. They grow long fur in the winter. They shed these coats in the summer. Small mammals include squirrels and raccoons. They eat nuts and insects. Reptiles and frogs live here, too. Many birds **migrate** to another climate in winter.



Oak trees with leaves in summer

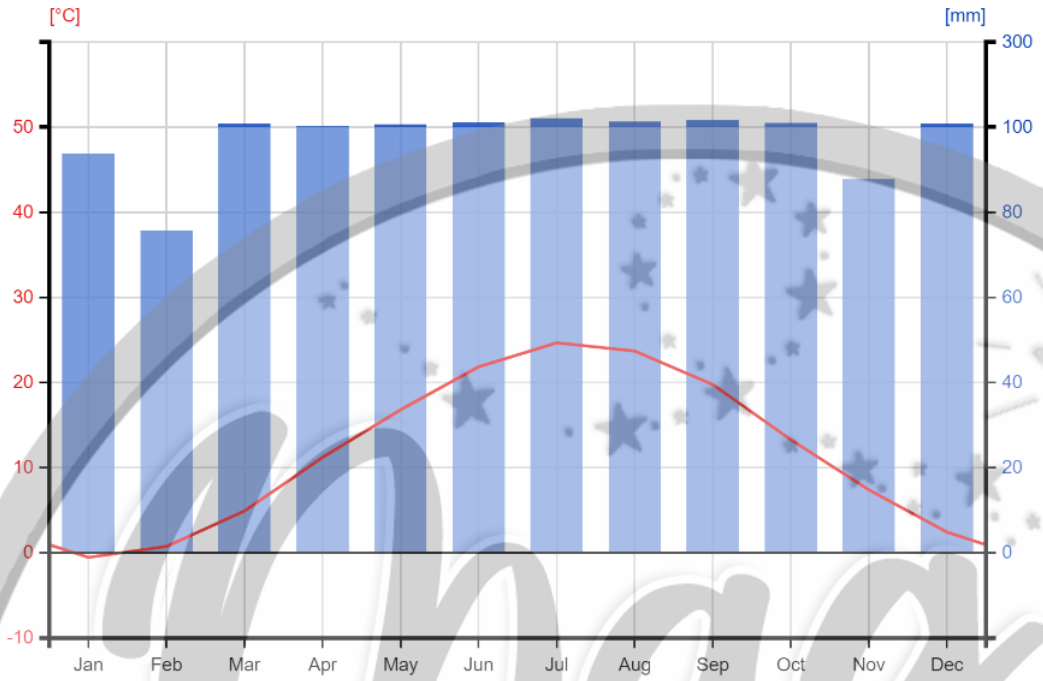
Plants in the mid-continental climate zone can handle the seasons. Oak trees are in this **region**. They can live through different temperatures. Most shrubs and grasses do well here, as well.

People live in mid-continental climates. T-shirts are worn in the summer. Jackets are needed in the winter. Houses have heat in the colder months. They often have air conditioning for the warmer months. Tornadoes and blizzards can happen in this climate area. People usually enjoy the different seasons, though.

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Average Monthly Temperature and Precipitation for New York City, New York, United States

40.7N, 74.006W | Climate Class: Cfa | Years: 1990-2019

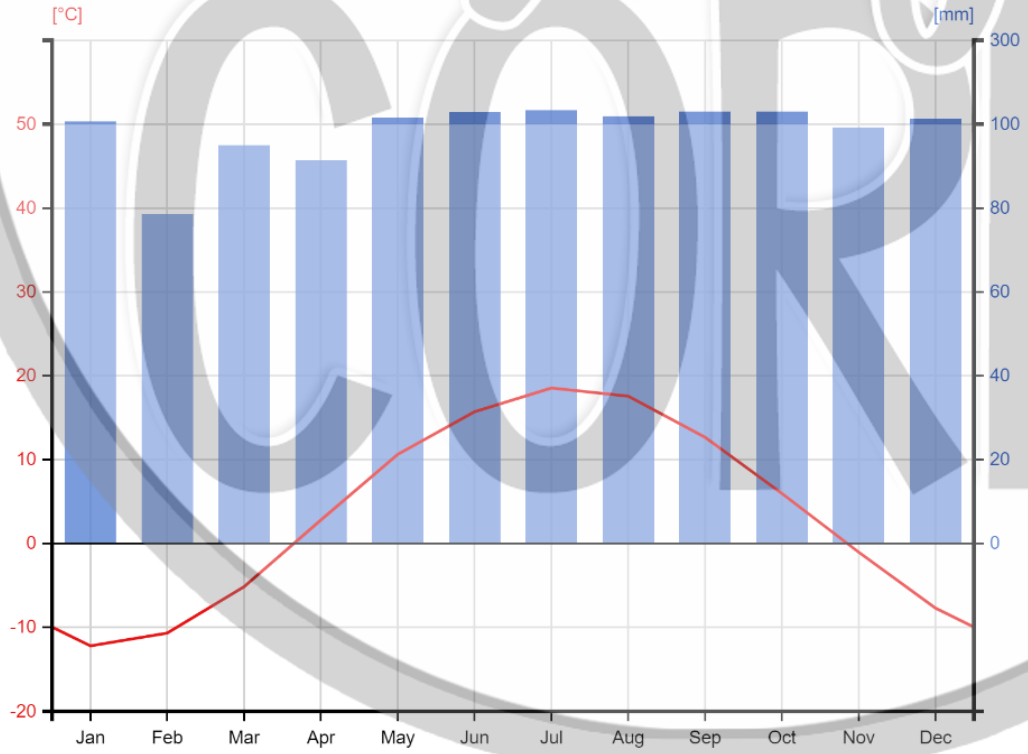


Month	Temp	Precip
Jan	-0.5	93.7
Feb	0.7	75.7
Mar	4.9	108.7
Apr	11.2	101.7
May	16.8	106.7
Jun	21.8	111.9
Jul	24.6	120.9
Aug	23.7	113.2
Sep	19.8	115.4
Oct	13.3	109.6
Nov	7.4	87.7
Dec	2.4	107.3

Temperature Mean: 12.2 °C Precipitation Sum: 1252.6 mm

Average Monthly Temperature and Precipitation for Québec, Quebec, Canada

46.814N, 71.208W | Elevation: 52 m | Climate Class: Dfb | Years: 1990-2019



Month	Temp	Precip
Jan	-12.2	105.8
Feb	-10.7	78.7
Mar	-5.2	95.0
Apr	2.8	91.3
May	10.6	115.3
Jun	15.7	128.5
Jul	18.5	133.6
Aug	17.6	118.3
Sep	12.7	130.4
Oct	6.0	130.0
Nov	-1.0	99.3
Dec	-7.7	112.8

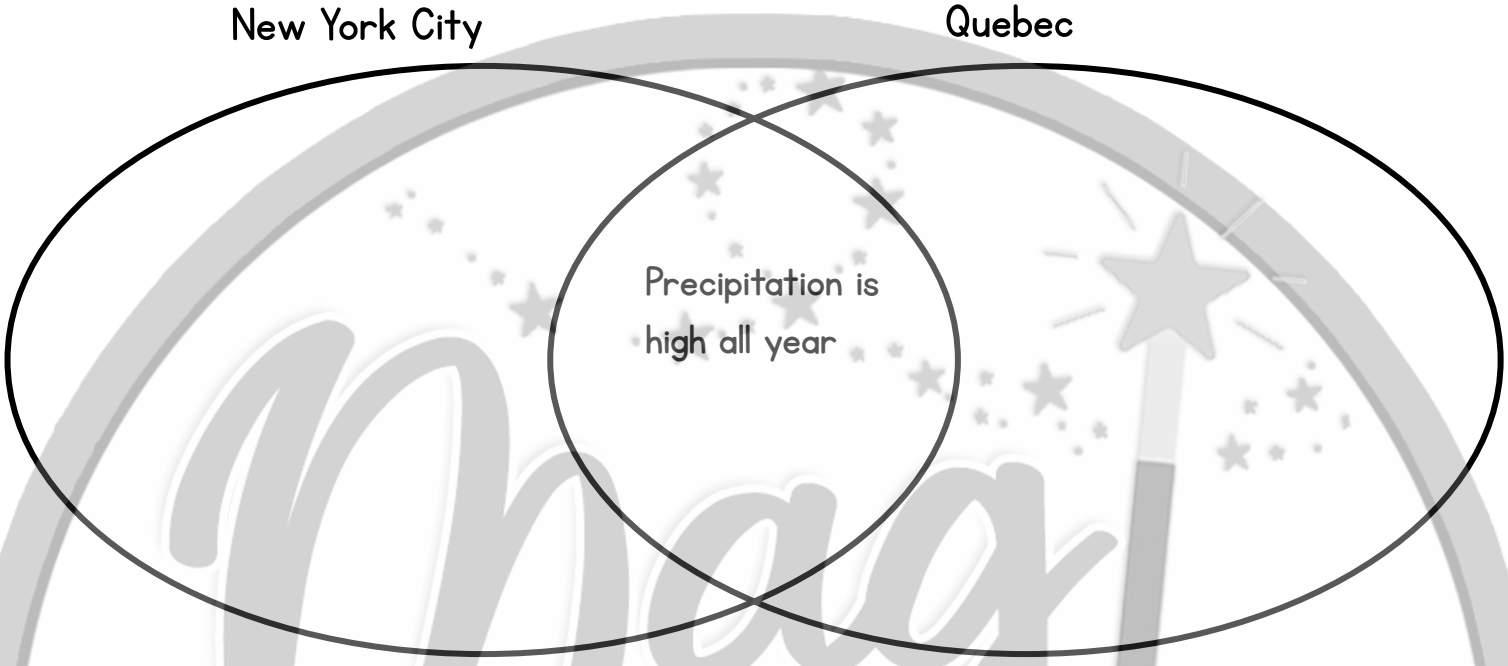
Temperature Mean: 3.9 °C Precipitation Sum: 1339 mm

(Note: Red line is temperature. Blue bar is precipitation.)

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Mid-Continental Climate Questions

1. Use the Venn Diagram to compare the climates in the 2 regions presented in the graph.



2. Describe the location of mid-continental climates.

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3. Based on the information in the text, how would you prepare to visit this type of climate? What would you need to bring with you?

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490L

Name: _____ Date: _____

Temperate Climate



The temperate climate zone is between the equatorial and polar regions. Different kinds of weather happen here. All four seasons are found in this zone. Most continents have land in the temperate climate zone. Antarctica does not.

Temperate forest in the fall

Temperate climates have many animals. Owls and rabbits live here. Birds like seagulls make this their home, too. Moose and bears can be found in forests. Turtles and many insects live in this zone, as well. Its climate is good for plant growth, too. Trees fill the forests. Wildflowers are also common.

Most of the world's people live in this climate zone. Cities have been built here. City life affects climate. Cities are warmer than the areas around them.

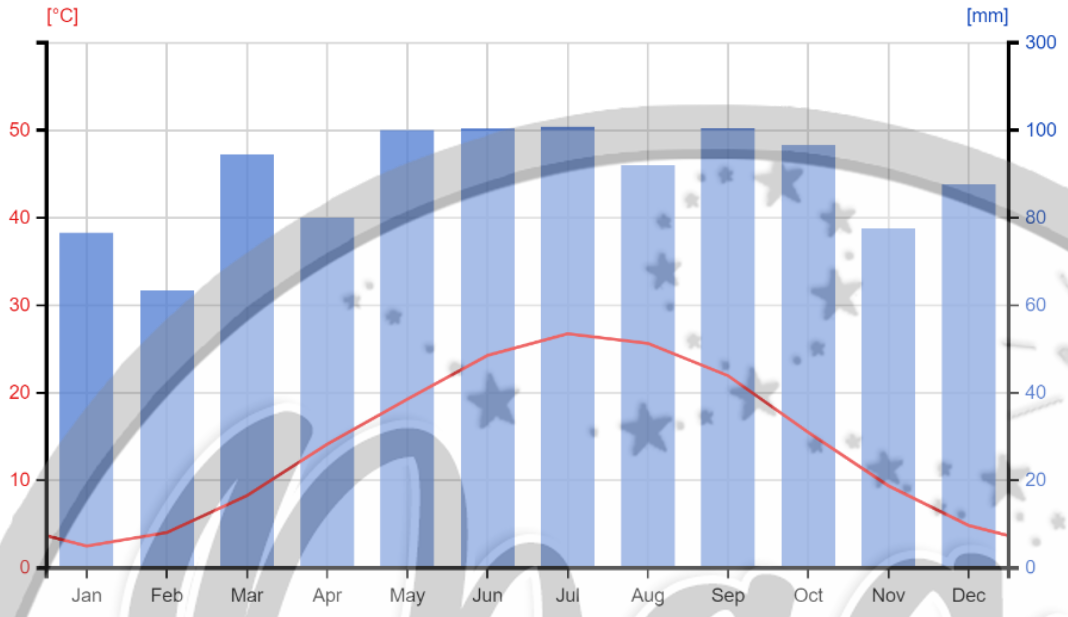


Washington, D.C.

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Average Monthly Temperature and Precipitation for Washington, Washington, D.C., United States

38.907N, 77.037W | Elevation: 29 m | Climate Class: Cfa | Years: 1990-2019

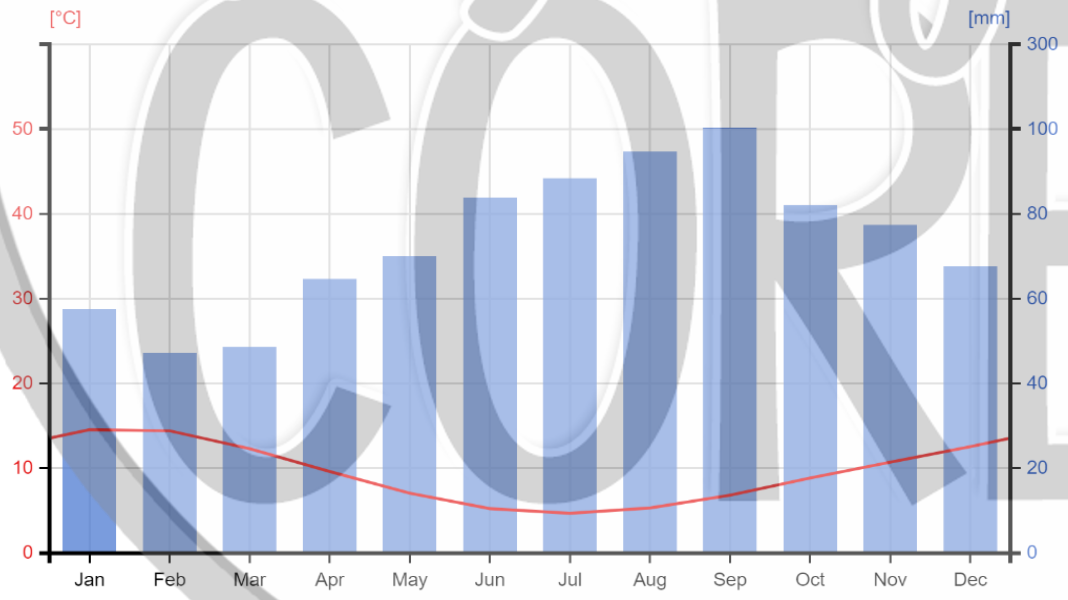


Month	Temp	Precip
Jan	2.5	76.5
Feb	4.0	63.4
Mar	8.2	94.5
Apr	14.1	80.1
May	19.3	100.9
Jun	24.3	103.8
Jul	26.7	107.4
Aug	25.6	92.0
Sep	21.9	105.3
Oct	15.5	96.6
Nov	9.4	77.6
Dec	4.8	87.7

Temperature Mean: 14.7 °C Precipitation Sum: 1085.6 mm

Average Monthly Temperature and Precipitation for Miena, Tasmania, Australia

42.041S, 146.809E | Elevation: 905 m | Climate Class: Cfb | Years: 1990-2019



Month	Temp	Precip
Jan	14.5	57.6
Feb	14.4	47.2
Mar	12.3	48.5
Apr	9.6	64.6
May	7.0	70.0
Jun	5.2	83.7
Jul	4.7	88.3
Aug	5.3	94.7
Sep	6.8	103.2
Oct	8.8	82.1
Nov	10.7	77.4
Dec	12.5	67.6

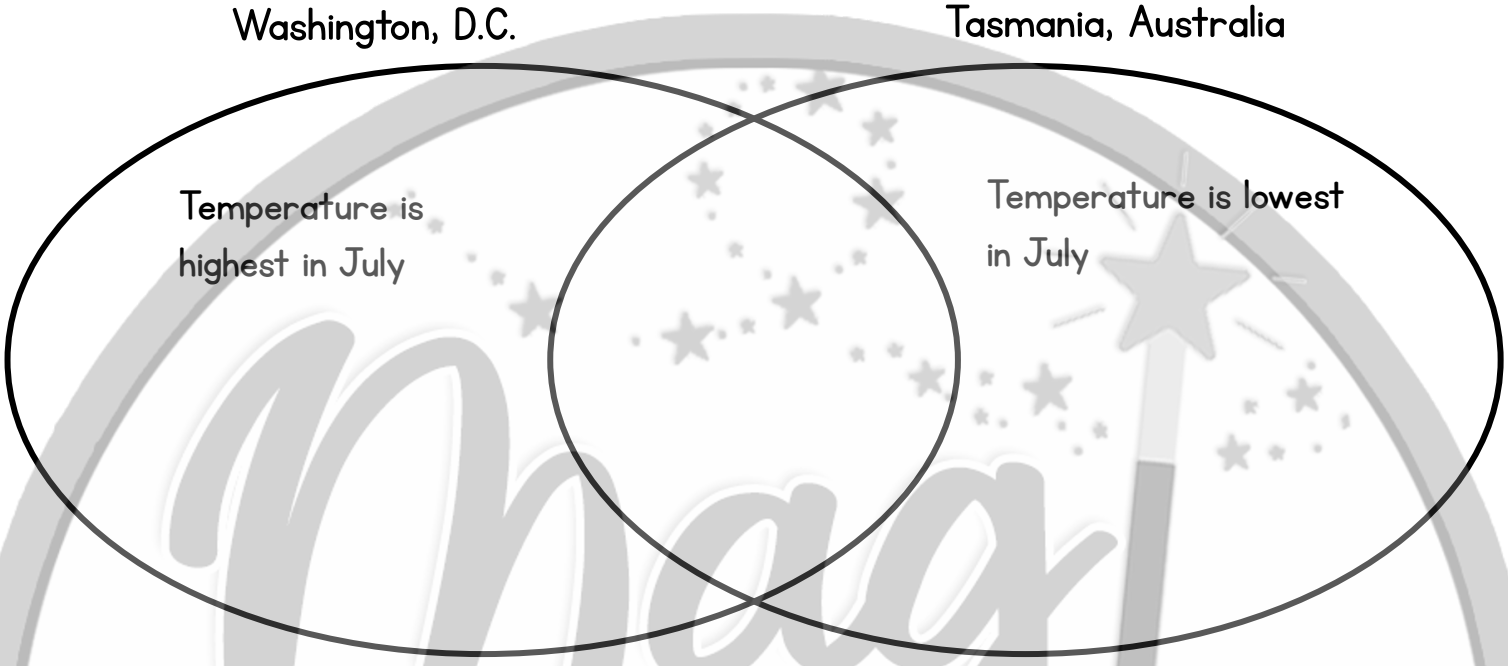
Temperature Mean: 9.3 °C Precipitation Sum: 884.9 mm

(Note: Red line is temperature. Blue bar is precipitation.)

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Temperate Climate Questions

1. Use the Venn Diagram to compare the climates in the 2 regions presented in the graph.



2. Describe the location of temperate climates.

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3. Based on the information in the text, how would you prepare to visit this type of climate? What would you need to bring with you?

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