Biology
Climatograms

Name: _____

Identifying Biomes from Climatograms

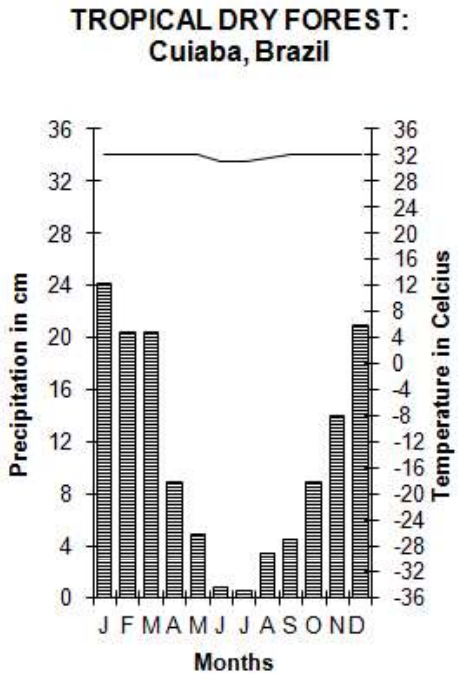
Welcome to your climatogram lab. In this lab you will investigate the relationship between the amount of rainfall and the variance of temperature and the effect on the distribution of biomes globally.

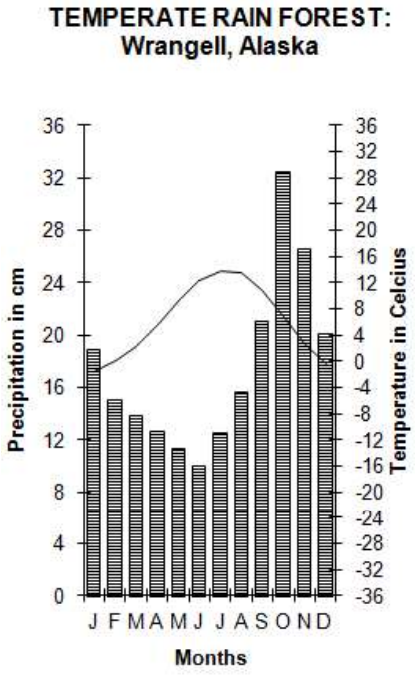
Purpose: This exercise provides practice in associating climate (as expressed in monthly averages of precipitation and temperature) with biomes. You will also make predictions about the distribution of a biome via altitude and latitude.

Large ecosystems or biomes can be described in terms of their climate, or long-term weather patterns. The climate of a biome is the result of the interaction of several abiotic factors. These factors include temperature, precipitation, and radiant energy from the sun, evaporation, wind and humidity. These abiotic factors serve to limit the diversity of plants and animals found within an ecosystem. **The two most important of these limiting abiotic factors are temperature and precipitation**.

A climatogram is a graph with a double-Y axis that plots the average monthly temperature & precipitation in a biome. The precipitation is shown with a bar graph and is labeled on the left y-axis. The temperature is shown with a line graph, which is labeled on the right y-axis. The months of the year are the x- axis.

Climatograms of a large ecosystem (or biome) show variation in only two factors- temperature and precipitation. Although there are other factors that affect the climate, a climatogram does give a rough idea of the climate in a particular biome. Below are climatograms for 9 of the 10 biomes of Earth





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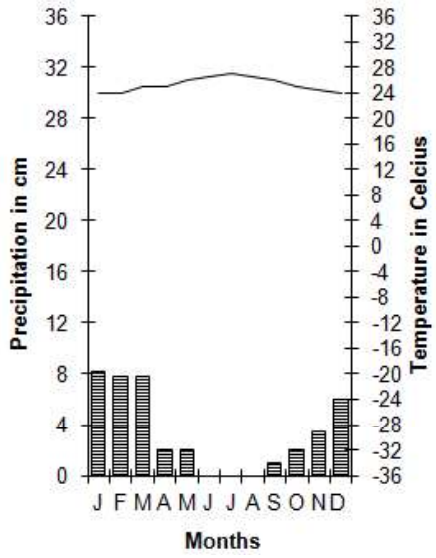
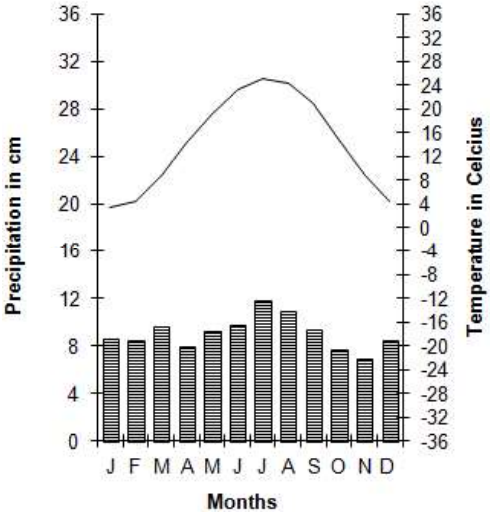
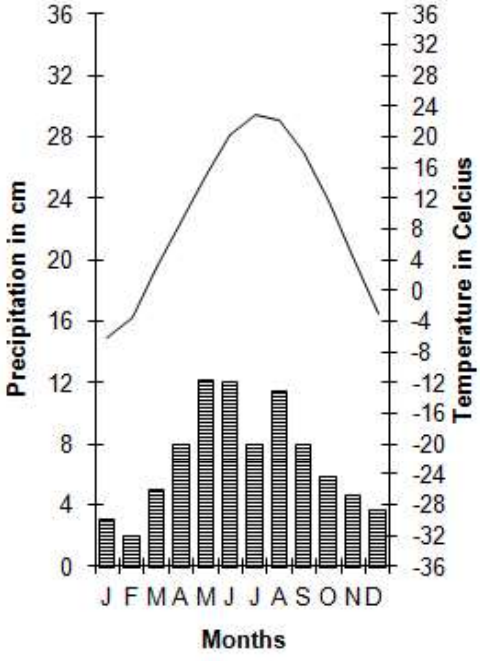
CHAPARRAL:
Santa Monica, California



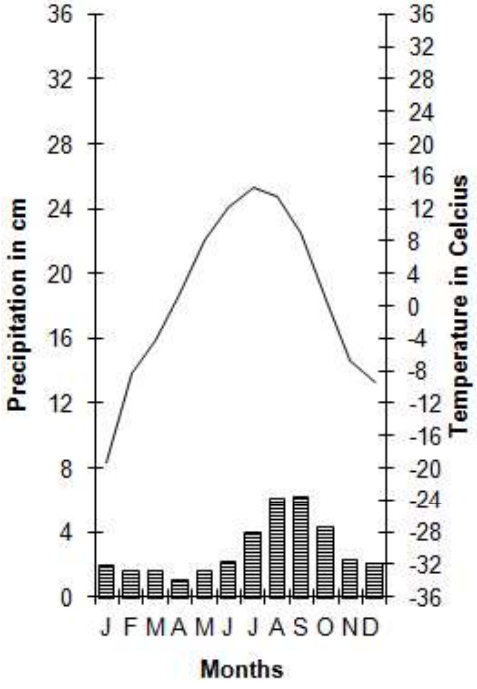
TEMPERATE DECIDUOUS FOREST:
Nashville, Tennessee



TEMPERATE GRASSLANDS:
Lawrence, Kansas



TAIGA:
Anchorage, Alaska



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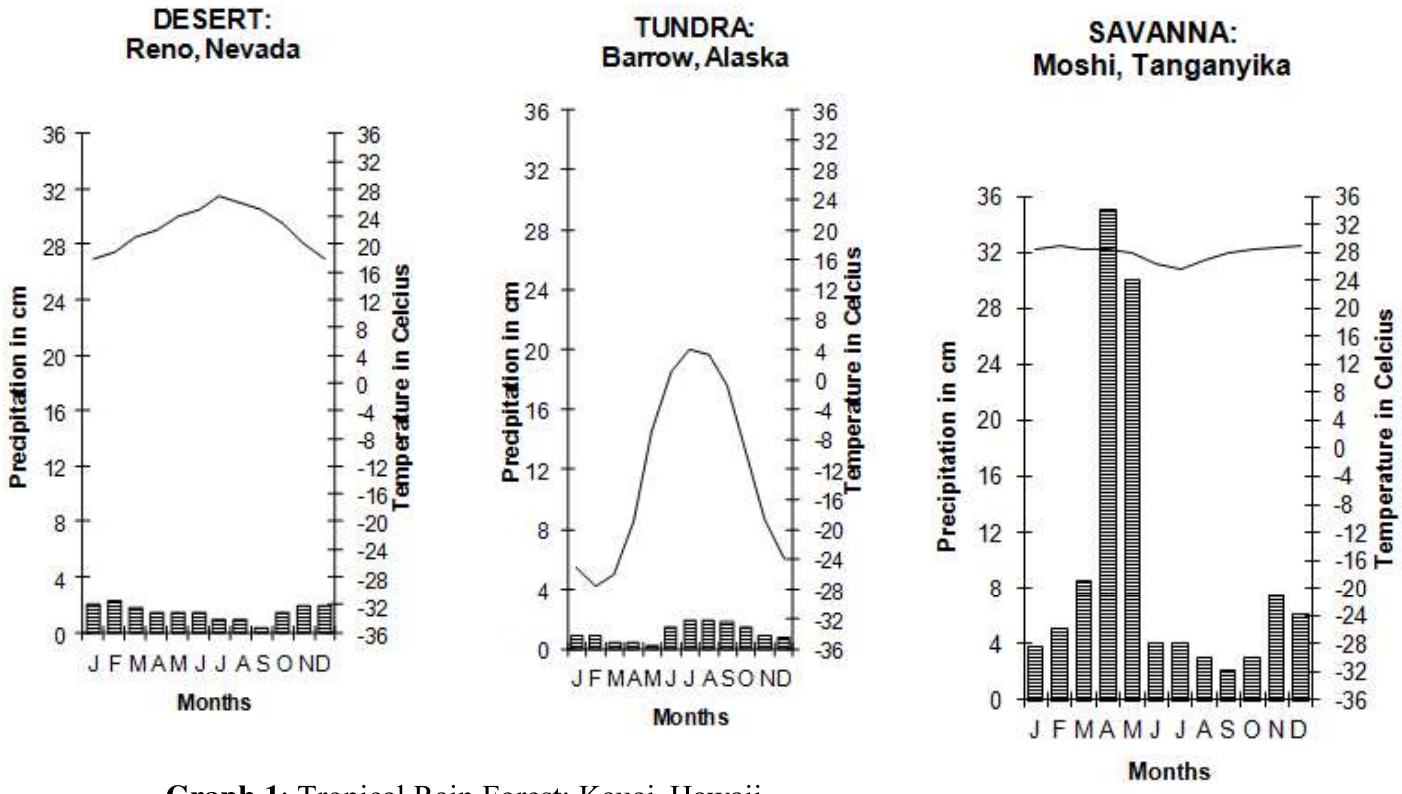

Graph 1: Tropical Rain Forest: Kauai, Hawaii

	J	F	M	A	M	J	J	A	S	O	N	D
P:	50	45	48	94	72	54	59	55	54	51	64	67
T:	20.0	20.1	20.6	21.3	22.1	23.0	23.2	23.6	23.7	23.3	22.2	20.9

Graph 2: Unknown A

	J	F	M	A	M	J	J	A	S	O	N	D
P:	8.1	7.6	8.9	8.4	9.2	9.9	11.2	10.2	7.9	7.9	6.4	7.9
T:	1.1	1.7	6.1	12.2	17.8	22.2	25	23.3	20	13.9	7.8	2.2

Graph 3: Unknown B

	J	F	M	A	M	J	J	A	S	O	N	D
P:	25.8	24.9	31	16.5	25.4	18.8	16.8	11.7	22.1	18.3	21.3	29.2
T:	25.6	25.6	24.4	25	24.4	23.3	23.3	24.4	24.4	25	25.6	25.6

Graph 4: Unknown C

	J	F	M	A	M	J	J	A	S	O	N	D
P:	1	1.3	1	0.3	0	0	0.3	1.3	0.5	0.5	0.8	1
T:	12.8	15	18.3	21.1	25	29.4	32.8	32.2	28.9	22.2	16.1	13.3

Graph 5: Unknown D

	J	F	M	A	M	J	J	A	S	O	N	D
P:	1	1.3	1.8	1.5	1.5	1.3	2.3	2.8	2.8	2.8	2.8	1.3
T:	-22.2	-22.8	-21.1	-14.4	-0.39	1.7	5	5	1.1	-3.9	-10	-17.2