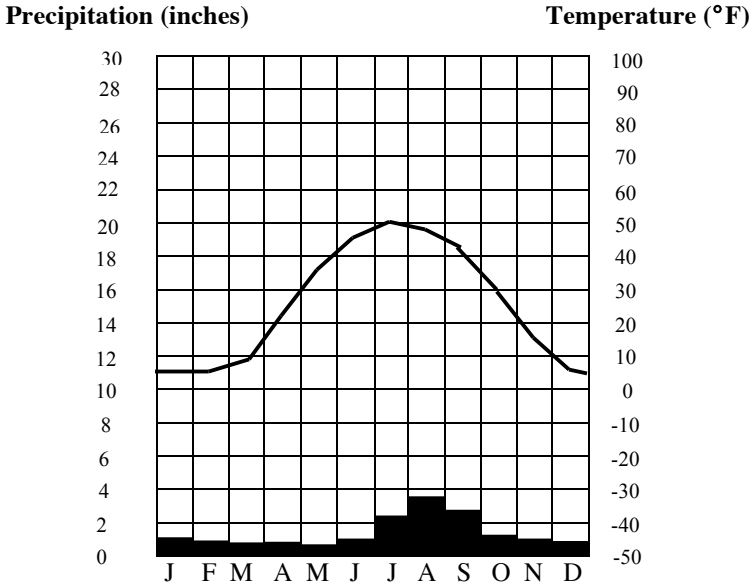
APES

Climate and Climatograms

OBJECTIVE: To construct a climatogram for the three data sets and determine which of three cities each climatogram represents. Also, to correlate climate data with locations without plotting a climatogram.

INFORMATION: A climatogram (or climograph or climate graph) is a simple graphic representation of monthly temperature and precipitation for a specific weather station and can be used to classify the general climate of the weather station location. The customary climatogram has 12 columns, one for each month, and two vertical axes – one for temperature (line graph) and the other for precipitation (bar graph).

The sample for Nome, Alaska has been completed as an example:



Nome	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	5	5	9	21	36	46	50	48	43	30	16	7
Precipitation (inches)	1.0	.94	.86	.78	.70	.94	2.26	3.8	2.7	1.6	1.1	0.9

To correlate a climatogram with a particular location, remember what you know about latitudinal and continental/marine climate differences.

- Locations in the northern hemisphere have warmer temperatures during the six months from April through September (our summer); those in the southern hemisphere have colder temperatures (their winter) during those same months.

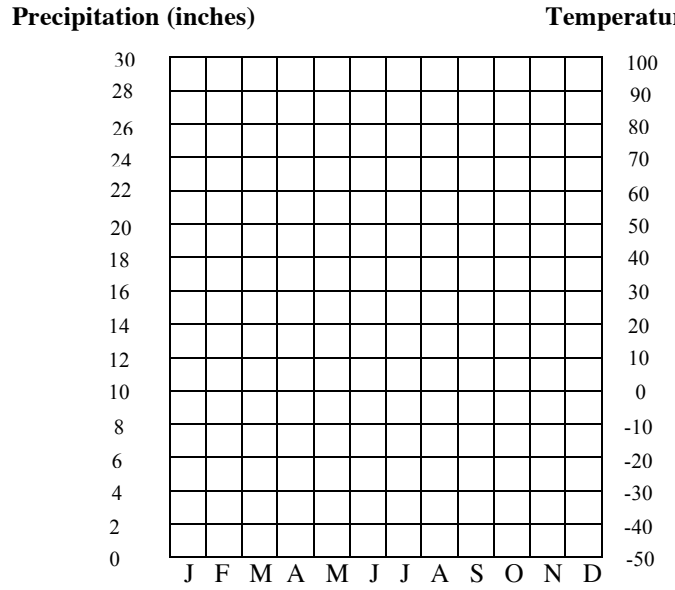
- General temperature patterns reflect latitudinal control (a progressive decrease in temperature poleward from the equator).

- Generally, continental locations have greater annual temperature ranges than coastal locations at the same latitude.

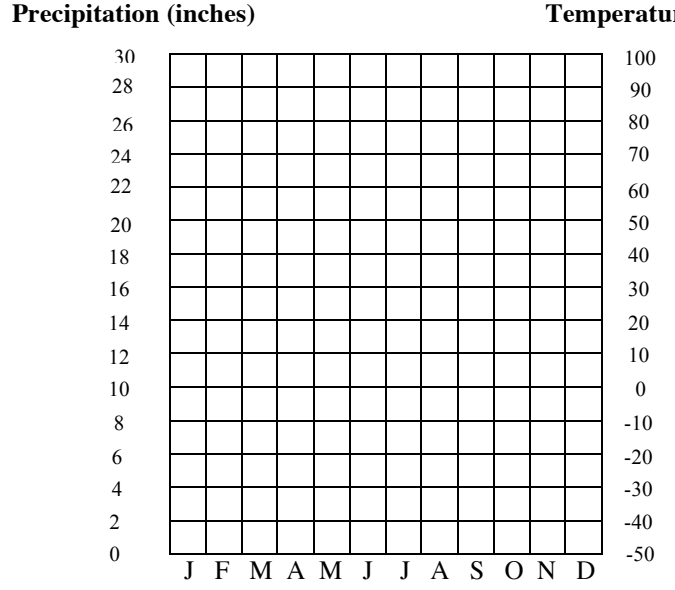
Plot the following three climatograms and identify the city that corresponds to each one.

_____ Buenos Aires, Argentina
_____ Miami, Florida
_____ Moline, Illinois

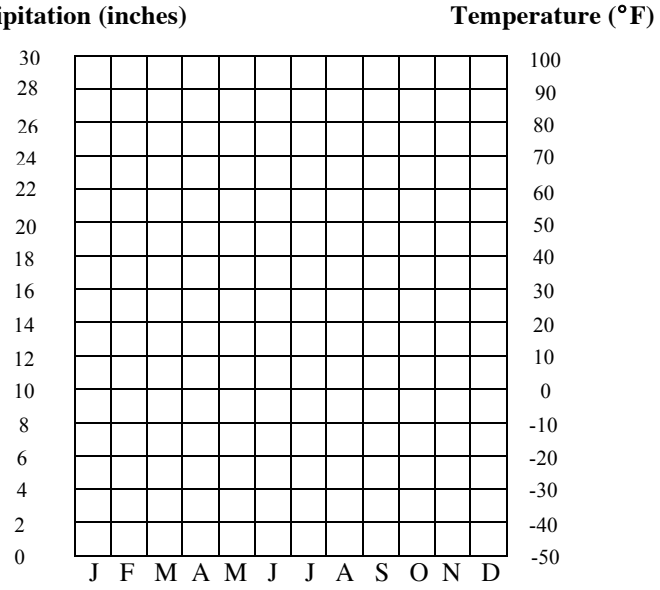
A. Climatogram 1
B. Climatogram 2
C. Climatogram 3



Data 1	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	67	68	72	75	79	81	83	83	82	78	73	69
Precipitation (inches)	2.1	2.1	1.9	3.1	6.5	9.2	6.0	7.0	8.1	7.1	2.7	1.9



Data 2	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	20	25	36	50	61	71	75	73	65	54	39	26
Precipitation (inches)	1.6	1.3	2.8	4.0	4.2	4.3	4.9	3.8	3.7	2.7	2.0	1.9



Data 3	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	74	74	68	63	57	52	51	53	57	62	68	72
Precipitation (inches)	3.4	3.4	4.6	3.6	3.1	2.2	2.2	2.7	3.5	3.5	3.3	3.7

Determine which set of data below goes with each station. Make the determination based on what you know about latitudinal and continental/marine climate differences. Climatograms are plotted for you.

Yakutsk, Russia = Data Set _____
Manaus, Brazil = Data Set _____
Santiago, Chile = Data Set _____
San Diego, CA = Data Set _____
Goodland, KS = Data Set _____
Mpls/St Paul, MN = Data Set _____

Data 1	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	29	33	40	50	59	70	77	74	66	54	41	30
Precipitation (inches)	0.3	0.6	1.0	1.8	2.5	2.8	2.7	2.5	1.6	1.0	0.6	0.6

Data 2	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	-49	-34	-10	17	40	58	64	57	42	17	-20	-43
Precipitation (inches)	0.2	0.2	0.1	0.1	0.4	1.1	1.8	1.6	1.0	0.4	0.3	0.2

Data 3	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	57	58	59	61	63	66	70	72	71	68	62	57
Precipitation (inches)	2.1	1.4	1.6	0.8	0.2	0.1	0.04	0.1	0.2	0.3	1.1	1.4

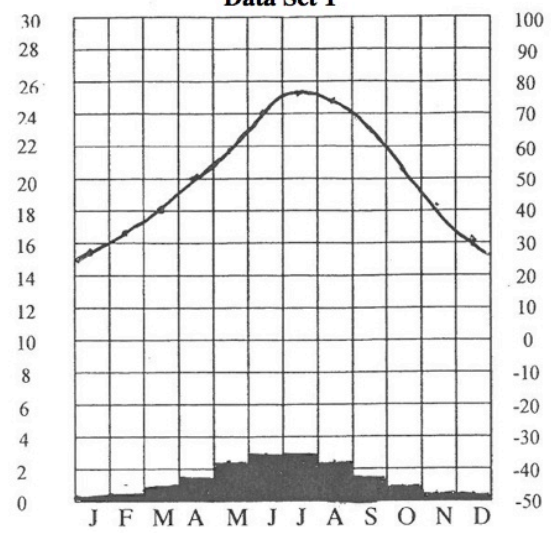
Data 4	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	69	67	62	57	51	46	46	49	52	57	62	67
Precipitation (inches)	0	0.1	0.2	0.6	2.4	3.3	2.8	2.1	1.3	0.5	0.2	0.2

Data 5	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	11	18	29	46	59	68	73	71	61	50	33	19
Precipitation (inches)	0.8	0.9	1.7	2.1	3.2	4.1	3.5	3.6	2.5	1.9	1.3	0.9

Data 6	J	F	M	A	M	J	J	A	S	O	N	D
Temperature (°F)	79	79	79	79	79	81	81	82	82	82	81	81
Precipitation (inches)	10.8	10.8	11.7	11.1	7.5	3.9	2.4	1.6	2.4	4.4	6.4	8.6

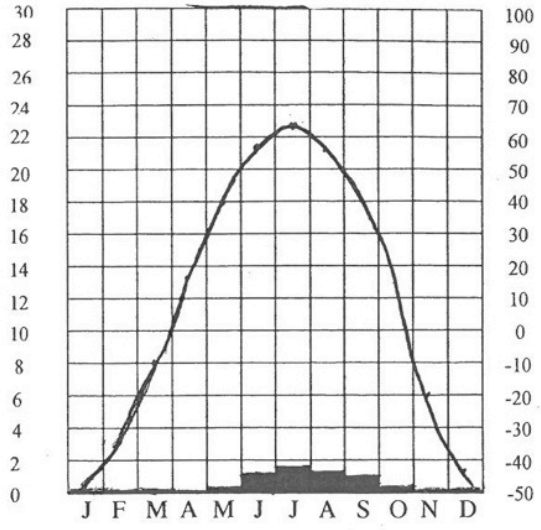
Precipitation (inches) Temperature (°F)

Data Set 1



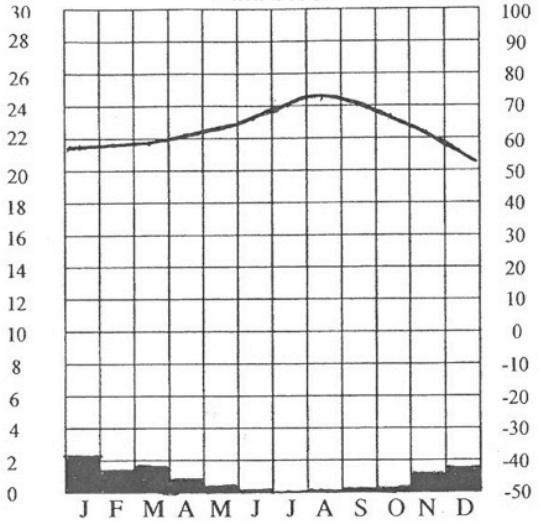
Precipitation (inches) Temperature (°F)

Data Set 2



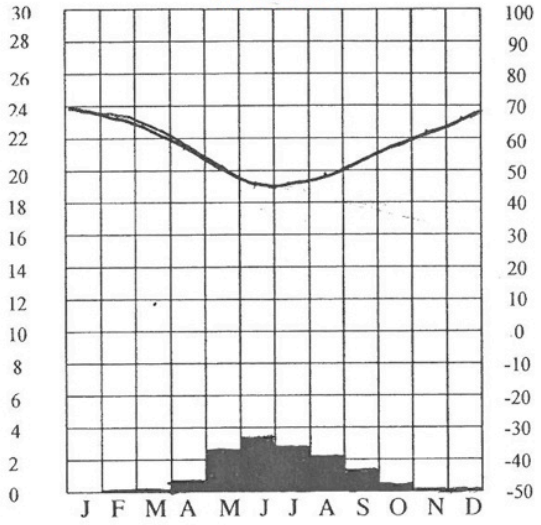
Precipitation (inches) Temperature (°F)

Data Set 3



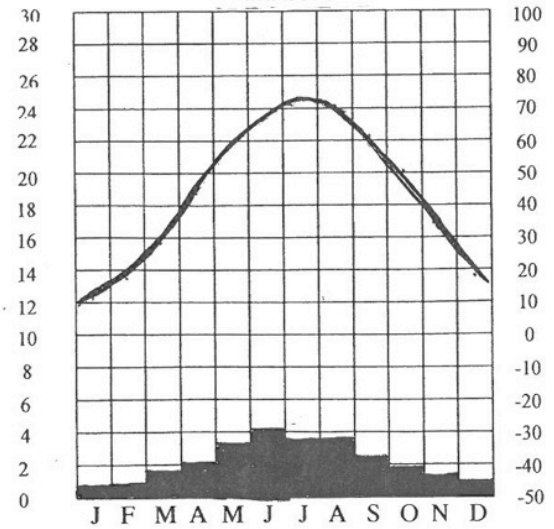
Precipitation (inches) Temperature (°F)

Data Set 4



Precipitation (inches) Temperature (°F)

Data Set 5



Precipitation (inches) Temperature (°F)

Data Set 6