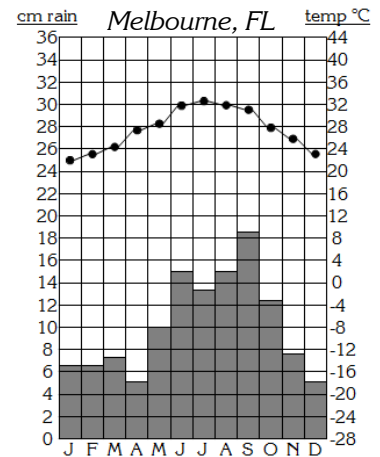


Showing Climate with Climatograms

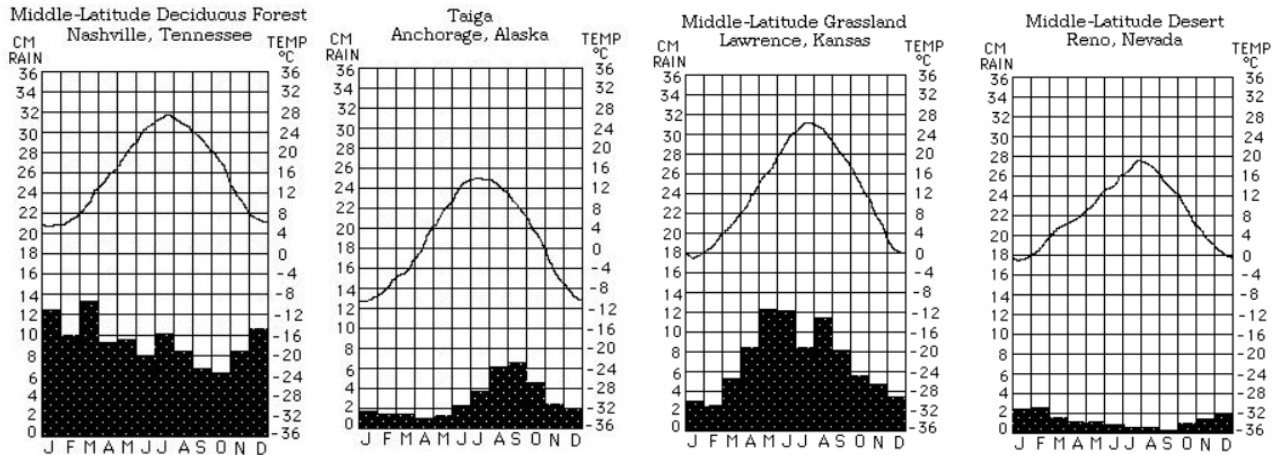
The two main features of an area's climate are the temperature and the amount of precipitation.

Data about an area's weather are averaged over a long period of time (usually 30 years) to make sure any year-to-year variations are smoothed out. For example, last year in March Columbus had temperatures reaching 85°F, but this year it snowed most of the month. The temperature and precipitation data are shown on a combined graph called a **climatogram**. The precipitation numbers are done with a bar graph and the temperature numbers are done with a line graph. Check both sides of the climatogram to see the scales for both sets of data!



Examples

Here are a few climatograms to refer to. All of these climates are from the United States:



If you've learned about **biomes** before, you may recognize some of the terms here like "grassland" and "taiga". These represent large areas of the Earth that have similar climates.

All types of precipitation are converted into an equivalent amount of rain. For example, 5 inches of snow would melt down to about 0.5 inches of liquid water.

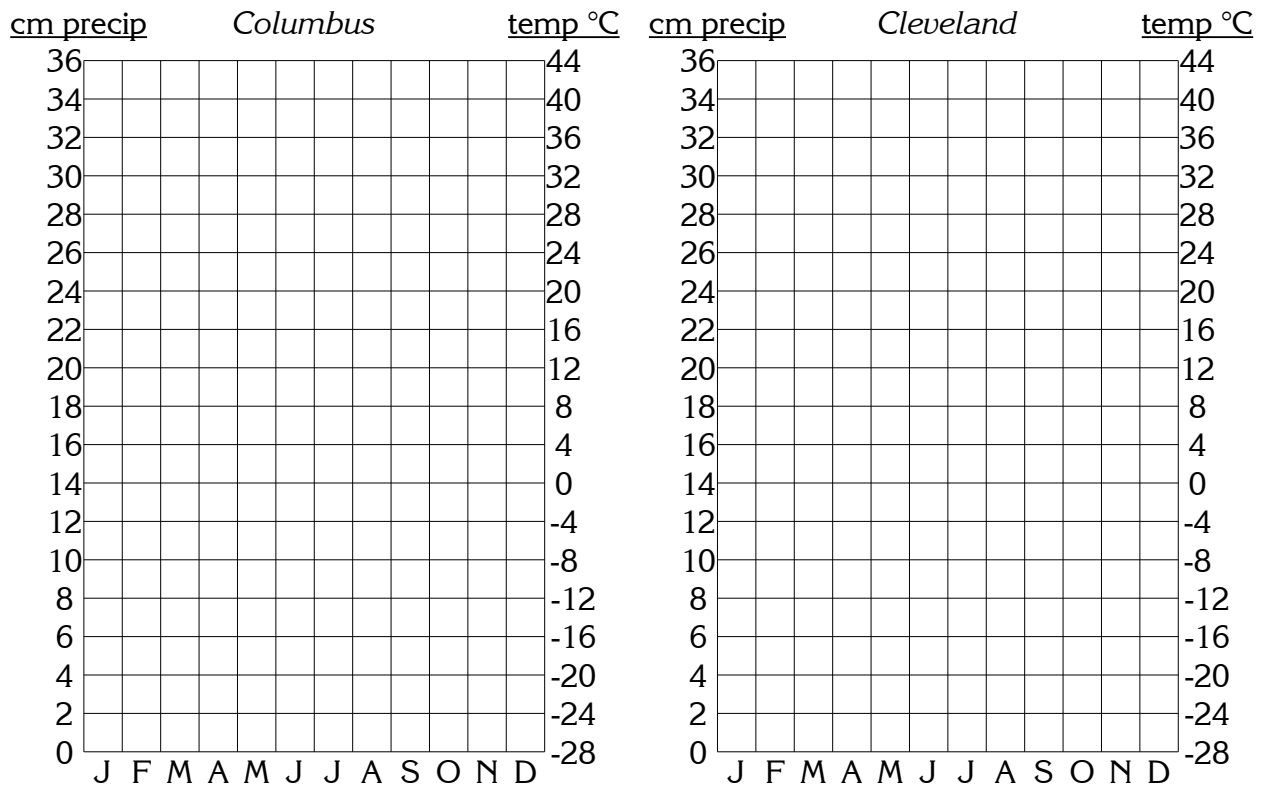
Reading a climatogram

- 1) Look at the climatogram for Melbourne, FL at the top of the page. In what month is Melbourne the hottest?
- 2) In what month is Melbourne the coldest?
- 3) How many degrees apart are the high and low temperatures for Melbourne?
- 4) During what season does Melbourne get the most precipitation?

Ohio climates

Below are data tables showing climate data for Columbus and Cleveland. Graph this climate data on the blank climatograms at the bottom of the page.

Columbus			Cleveland		
Month	Precip (cm)	Temp (°C)	Month	Precip (cm)	Temp (°C)
Jan	6.9	2.5	Jan	7.2	1.3
Feb	5.7	4.8	Feb	5.9	3.1
Mar	7.7	10.6	Mar	7.4	8.1
Apr	8.6	17.5	Apr	8.9	15.1
May	10.6	22.7	May	9.8	20.8
Jun	10.2	27.6	Jun	8.7	25.9
Jul	12.2	29.4	Jul	10.1	28.1
Aug	8.4	28.7	Aug	8.9	27.1
Sep	7.2	25	Sep	9.7	23.3
Oct	6.6	18.4	Oct	7.8	16.8
Nov	8.1	11.4	Nov	9.2	10.4
Dec	7.5	4.5	Dec	7.9	3.5



Questions about Ohio climates

- 5) During the winter months, does one city get significantly more precipitation than the other?

- 6) During the summer months, does one city get significantly more precipitation than the other?

- 7) What geographic factor do you think is responsible for the differences in precipitation between the two cities?

- 8) Do the temperature graphs for the two cities show similar or different trends? Explain.

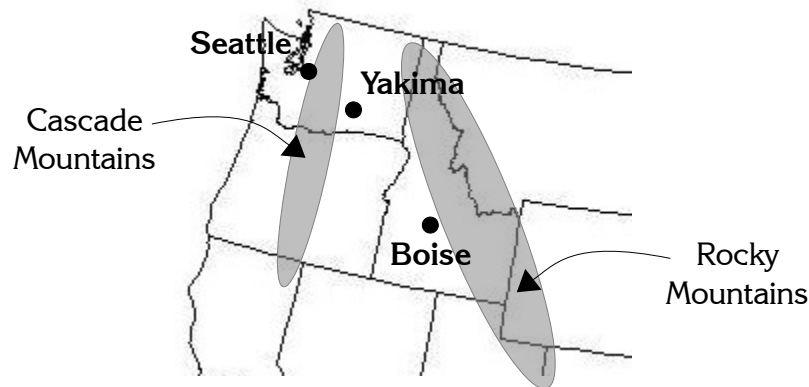
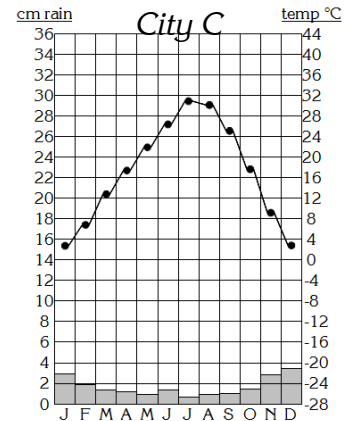
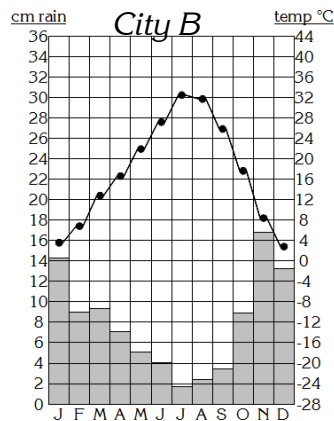
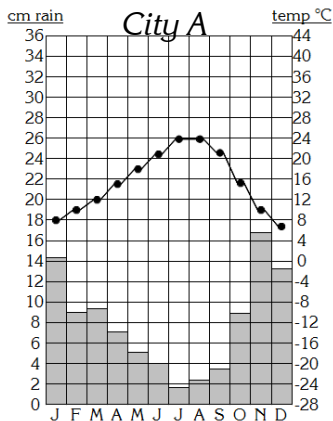
- 9) Which city is warmer? Which city is located at a lower latitude (ie., closer to the equator)?

- 10) Cincinnati is further south than Columbus. Would you expect to see warmer or cooler temperatures there? Explain why.

- 11) Compare your climatograms for Columbus to the example climates on the front page. Which of those climates is the best match for our city? Explain your reasoning.

Other climate data

Below are climatograms for cities in the northwest US, and a map showing their locations.



Seattle is located in a bay on the coast, surrounded by water. Just to the east of Seattle is the Cascade mountain range. Yakima is inland, on the far side of the Cascades. And Boise is even further inland, just before the Rocky Mountains.

To identify which climatogram goes with which city, you'll need to apply two pieces of knowledge:

- cities near water have less variation in temperature because of the temperature moderation
- cities on the rainward side of mountains get a lot of rain, but cities on the leeward side are in a "rain shadow"

12) Which city is represented by the climatogram for City A? Explain your reasoning.

13) Which city is represented by the climatogram for City B? Explain your reasoning.

14) Which city is represented by the climatogram for City C? Explain your reasoning.