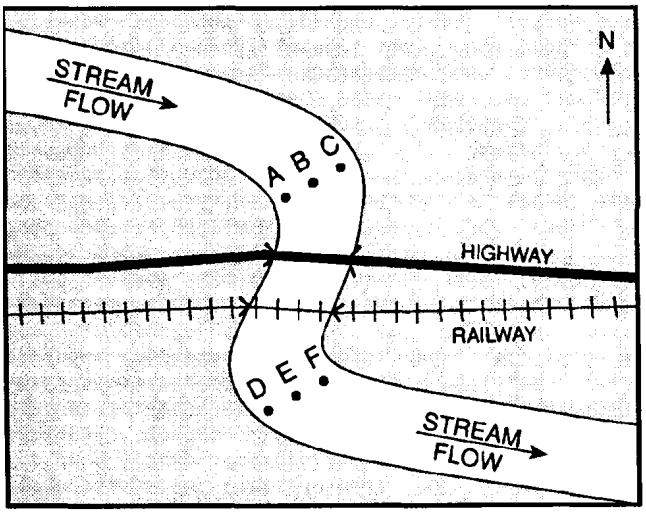
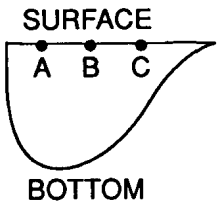
Base your answers to questions **40** through **44** on the map below, which represents a meandering stream with a constant gradient. The arrows show the direction of stream flow. Points *A* through *F* are locations in the stream.

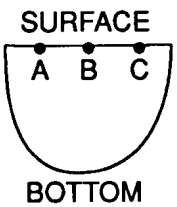


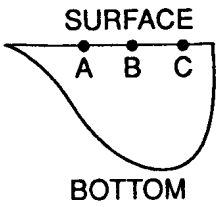
40. At which point would the most material be deposited by the stream?

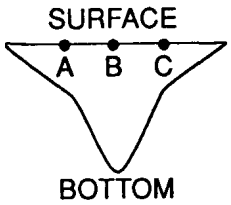
A) *F* B) *B* C) *C* D) *D*

41. Which diagram best represents the cross section of the stream through points *A*, *B*, and *C*?

A)


B)


C)


D)


42. At which point would the stream most likely be flowing fastest?

A) *A* B) *B* **C) *C*** D) *F*

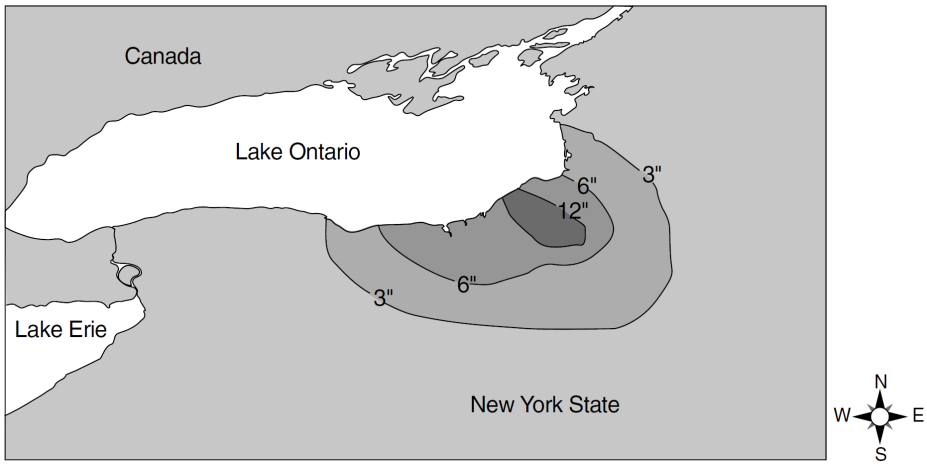
43. With which landscape feature would this meandering stream most likely be associated?

A) a canyon **B) a gently sloping plain**
C) a large area of rapids D) a mountainous area

44. Which sediment would usually be deposited by the stream first?

A) clay B) silt C) sand **D) pebbles**

45. The isolines on the map below show snowfall totals from a lake-effect storm that affected a portion of New York State.

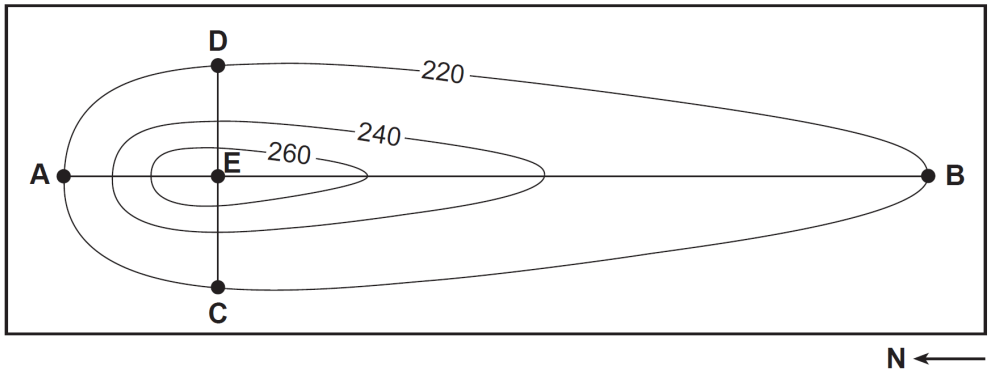


The surface winds that produced this storm came from which direction?

A) northwest B) northeast C) southeast D) southwest

46. Base your answer to the following question on the contour map below, which shows a hill formed by glacial deposition near Rochester, New York. Letters *A* through *E* are reference points. Elevations are in feet.

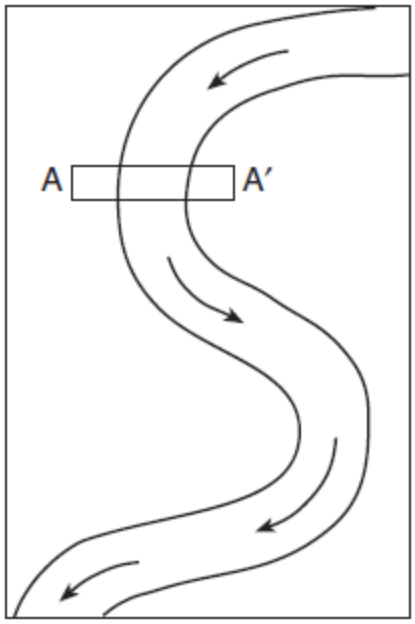
Contour Map



Which description best compares the gradients of this hill?

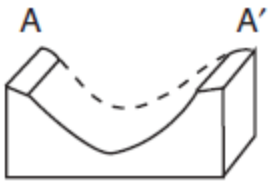
A) *AE* and *EB* have the same gradient.
B) *AE* has a steeper gradient than *EB*.
C) *CE* has a steeper gradient than *ED*.
D) *CE* and *AE* have the same gradient.

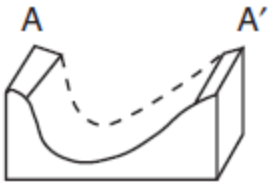
47. The map below shows a meandering river. *A–A′* is the location of a cross section. The arrows show the direction of the river flow.

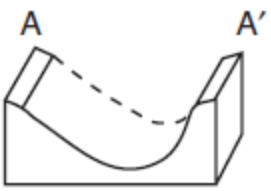


Which cross section best represents the shape of the river bottom at *A–A′*?

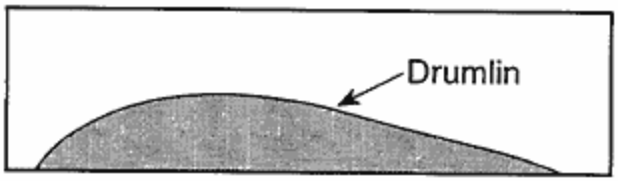
A)


B)


C)


D)


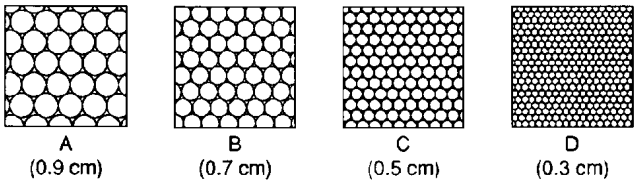
48. The diagram below represents a side view of a hill (drumlin) that was deposited by a glacier on the Atlantic coast.



This hill is most likely composed of

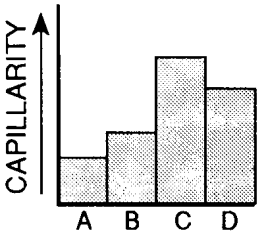
A) cemented sediments
B) unsorted sediments
C) vertically layered sediments
D) horizontally layered sediments

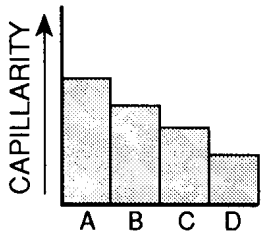
49. Base your answer to the following question on the diagrams below, which represent cross sections of four samples of loosely packed, uniformly sorted soil particles. The diameter of the particles is given below each diagram. All soil samples consist of solid spherical particles.

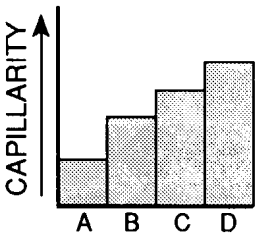


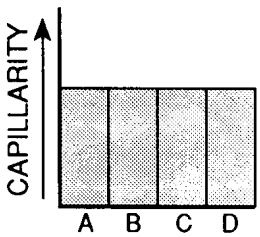
(not drawn to scale)

Which graph best represents the capillarity of these soil samples?

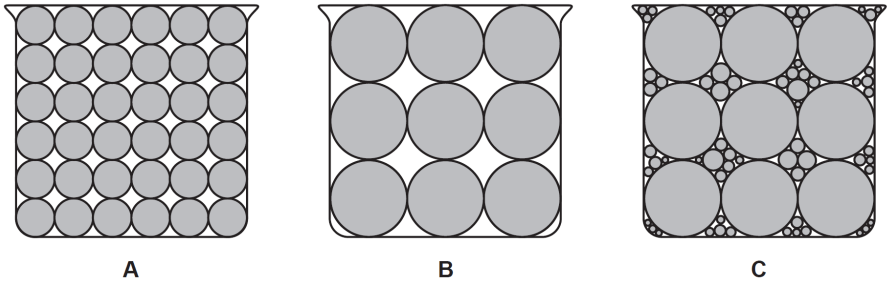
A)


B)


C)


D)


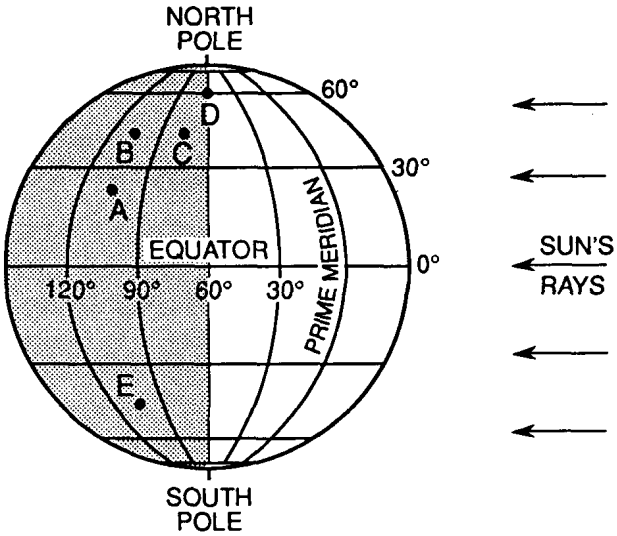
50. The diagram below represents cross sections of equal-size beakers *A*, *B*, and *C* filled with beads.



Which statement best compares the porosity in the three beakers?

A) Beaker *A* and beaker *B* have the same porosity, and beaker *C* has the least porosity.
B) Beaker *A* and beaker *B* have the same porosity, and beaker *C* has the greatest porosity.
C) Beaker *B* has the greatest porosity, beaker *A* has less porosity, and beaker *C* has the least porosity.
D) Beaker *C* has the greatest porosity, beaker *B* has less porosity, and beaker *A* has the least porosity.

Base your answers to questions **51** and **52** on the diagram of the Earth below. Some of the latitude and longitude lines have been labeled. Points *A* through *E* represent locations on the Earth's surface.



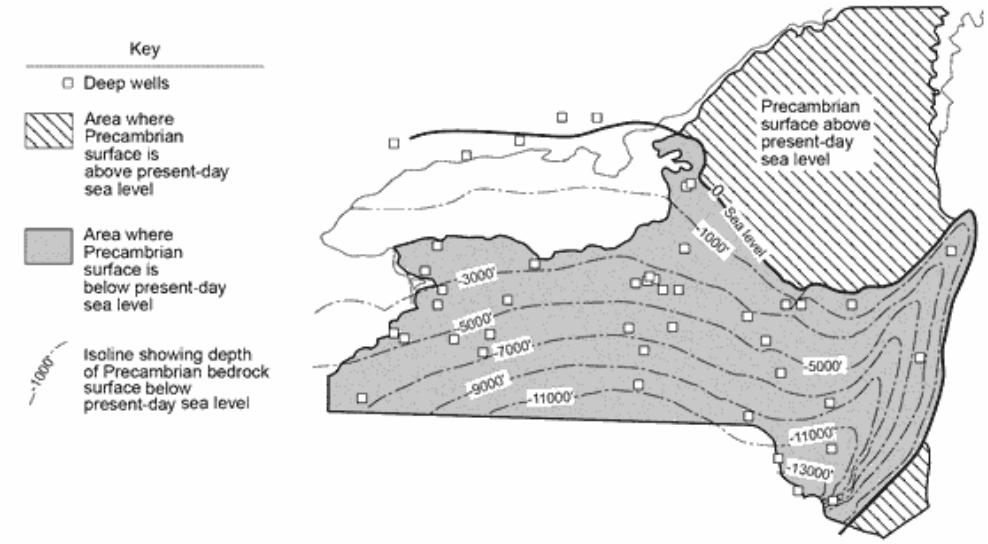
51. What do locations *A*, *B*, and *E* have in common?

A) They are in the same season.
B) They have the same local time.
C) They have the same prevailing wind direction.
D) They are at the same latitude.

52. What are the approximate latitude and longitude of location *A*?

A) 105° N, 25° W
B) 25° N, 105° W
C) 25° N, 105° E
D) 105° S, 25° E

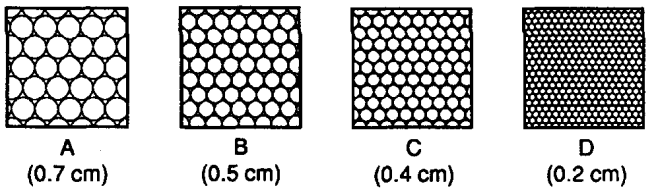
53. Base your answer to the following question on the map below, which shows most of New York State. Isolines indicate the depth of the Precambrian bedrock surface below present-day sea level. Depths are in feet.



According to the map, in which two present-day New York State landscape regions is the most Precambian bedrock likely to be exposed on the land surface?

A) Erie-Ontario Lowlands and Tug Hill Plateau
B) Allegheny Plateau and Catskills
C) Adirondack Mountains and Hudson Highlands
D) Hudson-Mohawk Lowlands and Champlain Lowlands

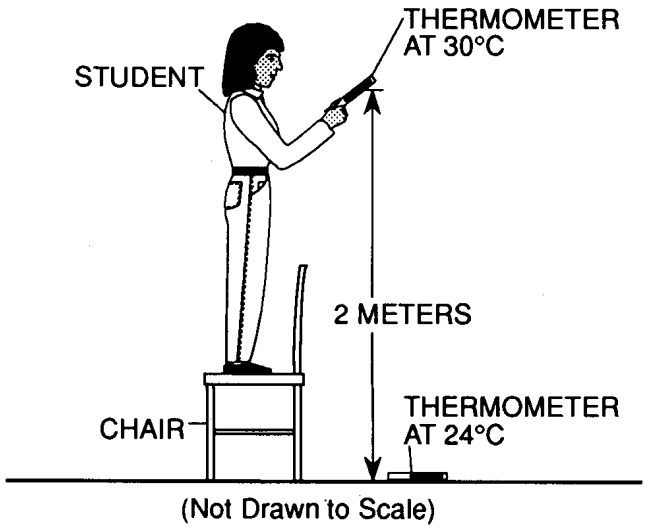
54. Base your answer to the following question on the diagrams below, which represent cross sections of four samples of loosely packed, uniformly sorted soil particles. The diameter of the particles is given below each diagram. All soil samples consist of solid spherical particles.



Sample *D* will have the greatest capillarity because it

A) has the smallest surface area
B) has the smallest particles
C) is the most loosely packed
D) is weathering the most rapidly

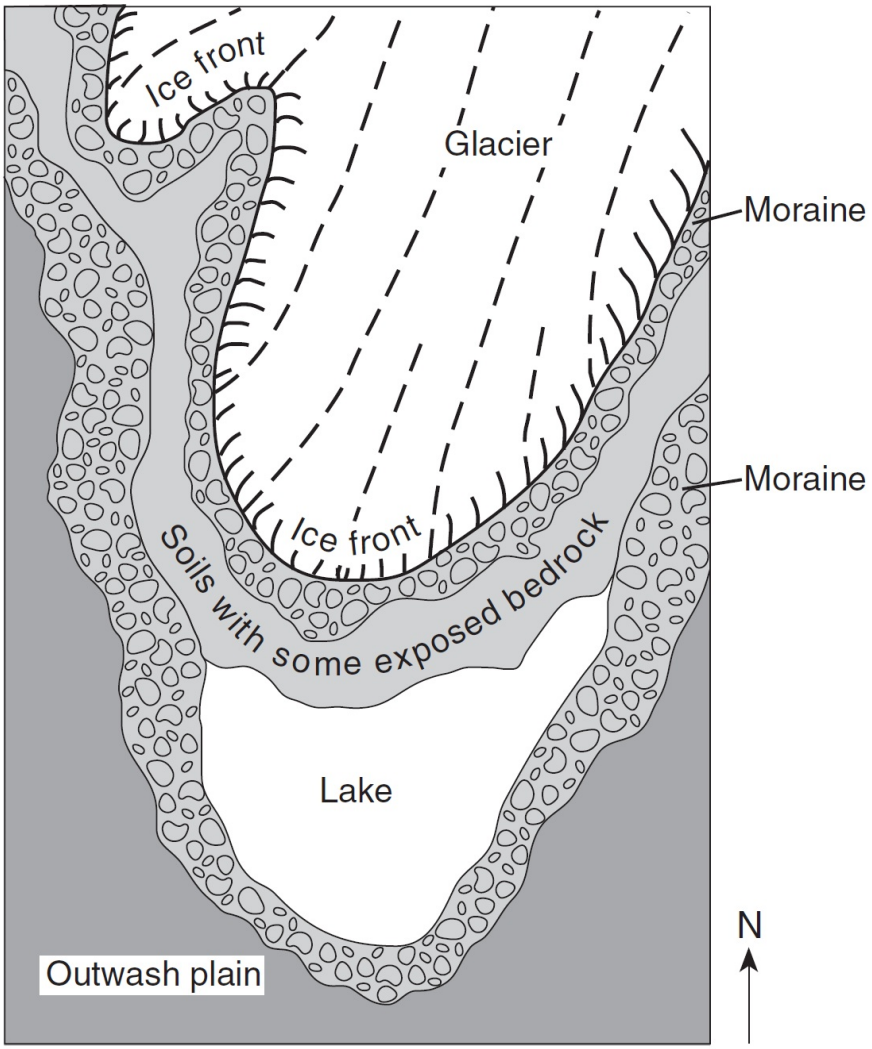
55. Base your answer to the following question on In the diagram below, the thermometer held 2 meters above the floor shows a temperature of 30ºC. The thermometer on the floor shows a temperature of 24ºC.



What is the temperature gradient between the two thermometers?

A) 6º C/m
B) 2º C/m
C) 3º C/m
D) 4º C/m

56. Base your answer to the following question on the map below and on your knowledge of Earth science. The map shows a retreating valley glacier and the features that have formed because of the advance and retreat of the glacier.

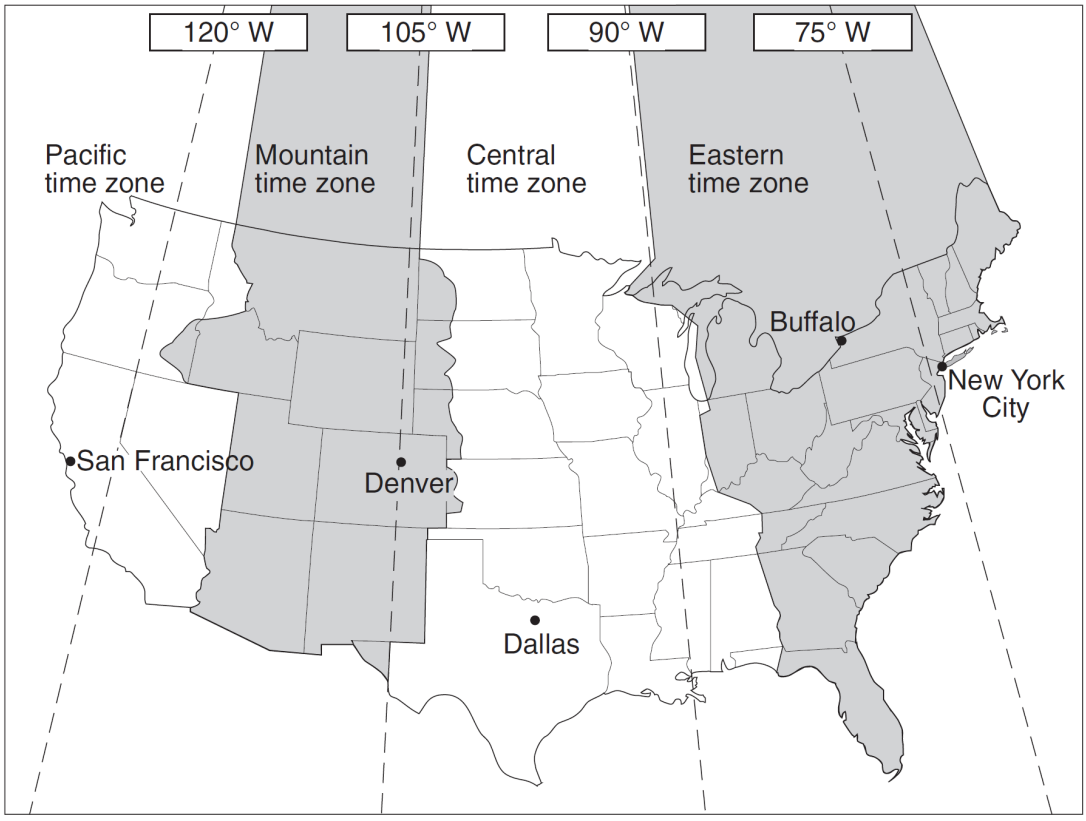


Describe *one* piece of evidence likely to be found on the exposed bedrock surfaces that could indicate the direction this glacier moved.

57. Base your answer to the following question on passage and time zones map shown below.

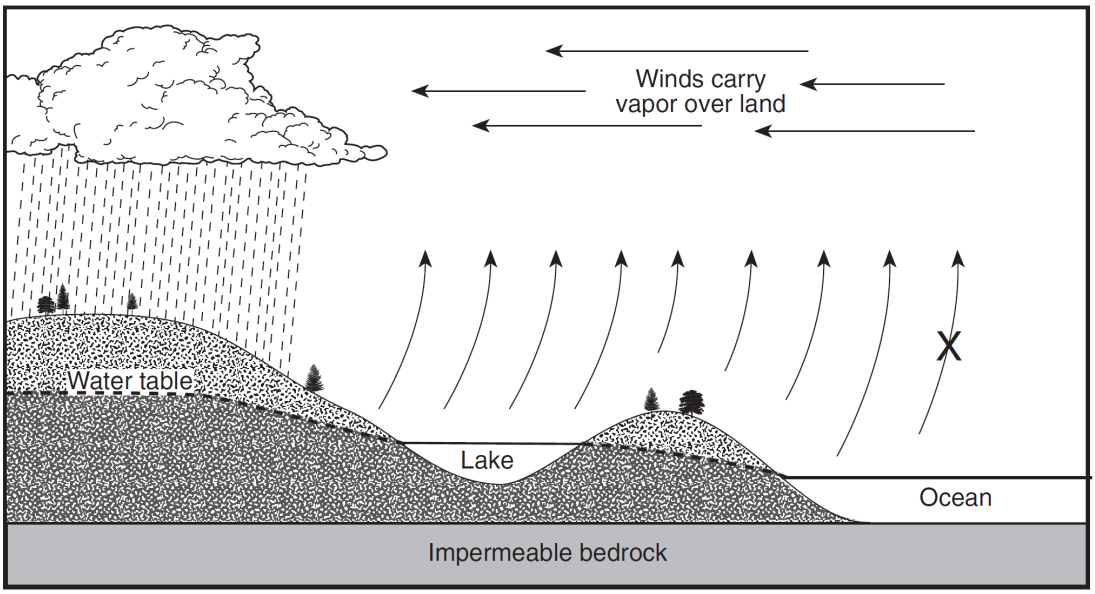
Time Zones

In 1883, Earth was divided into 24 time zones. The United States (excluding Alaska and Hawaii) has four time zones, which are indicated by different shadings on the map.Each zone is roughly centered on lines of longitude that are 15° apart. These lines are shown as dashed lines on the map. Most locations within a time zone have the same time.This time is called standard time. As you move to the west, the time in each zone is one hour earlier than the previous time zone



When it is 1 a.m. in New York City, what time is it in Denver?

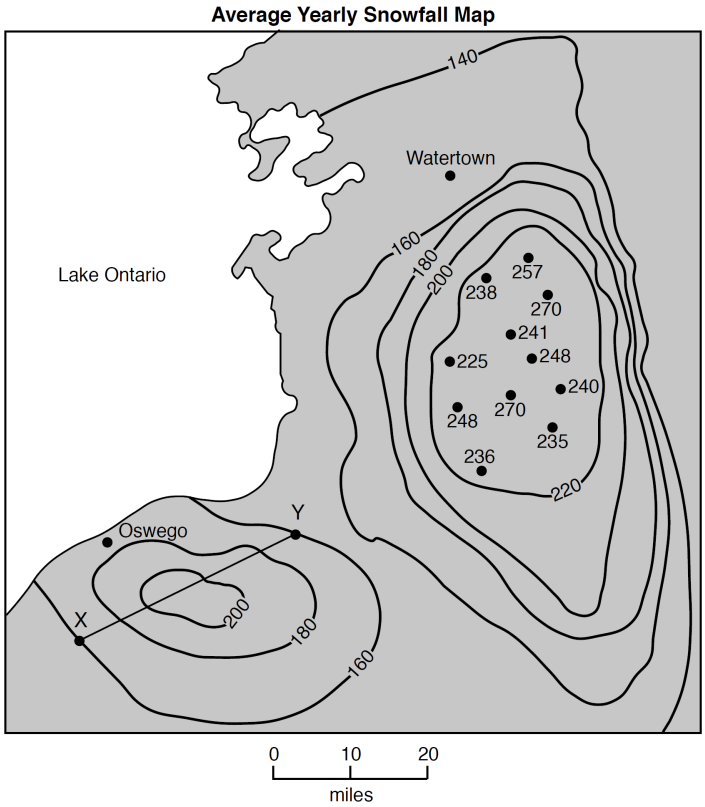
Base your answers to questions **58** and **59** on cross section below, which shows the general pattern of water movement in the water cycle. Letter **X** represents a water-cycle process.



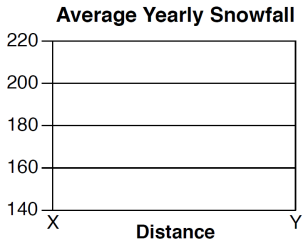
58. Describe *one* surface condition that would allow runoff to occur.

59. What process of the water cycle is represented by **X**?

Base your answers to questions **60** and **61** on the snowfall map below and on your knowledge of Earth science. The snowfall map shows some average yearly snowfall values, measured in inches, recorded for a portion of New York State. Some average yearly snowfall isolines have been drawn. Line *XY* is a reference line on the map. The cities of Watertown and Oswego are shown on the map.



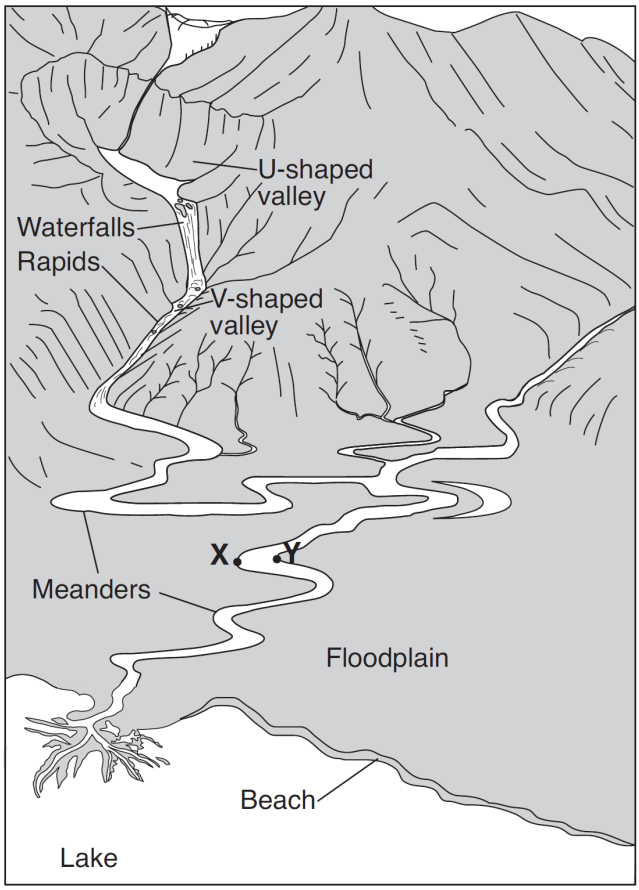
60. On the grid below, construct a profile of the average annual snowfall along line *XY* by plotting the value of each isoline that crosses line *XY*. Connect *all six* plots with a line to complete the profile.



61. On the map, draw the 240-inch average yearly snowfall isoline.

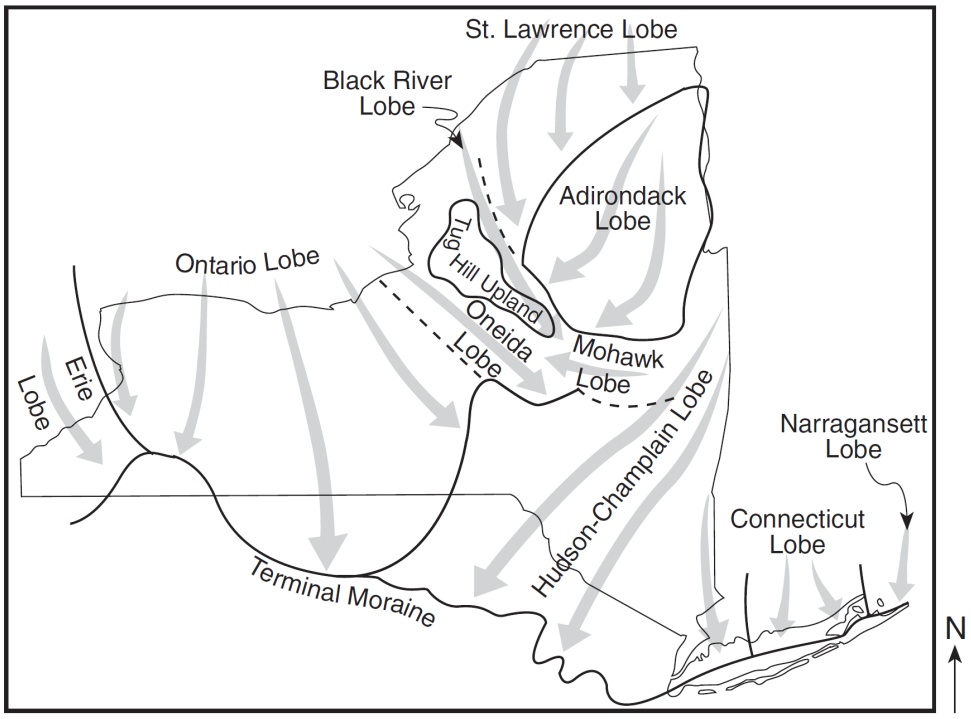
62. Part of which generalized New York State landscape region is drained by the Susquehanna River and its tributaries?

63. Base your answer to the following question on the diagram below, which shows several different landscape features. Points *X* and *Y* indicate locations on the streambank.



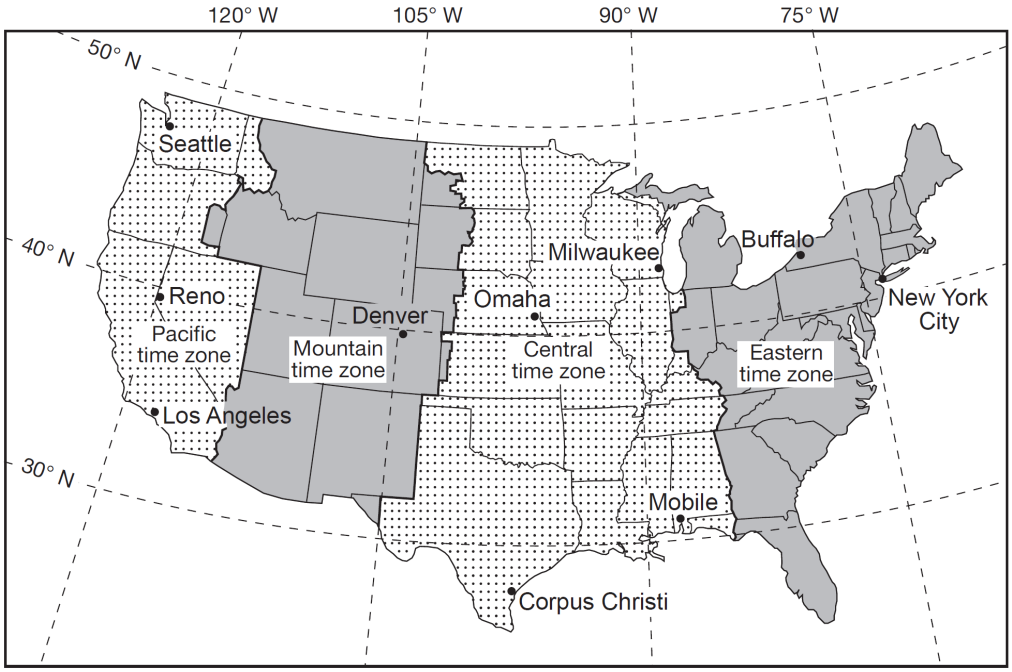
Explain why the upper valley in the mountains is U-shaped and the lower valley is V-shaped.

64. Base your answer to the following question on the map below, which shows the different lobes (sections) of the Laurentide Ice Sheet, the last continental ice sheet that covered most of New York State. The arrows show the direction that the ice lobes flowed. The terminal moraine shows the maximum advance of this ice sheet.



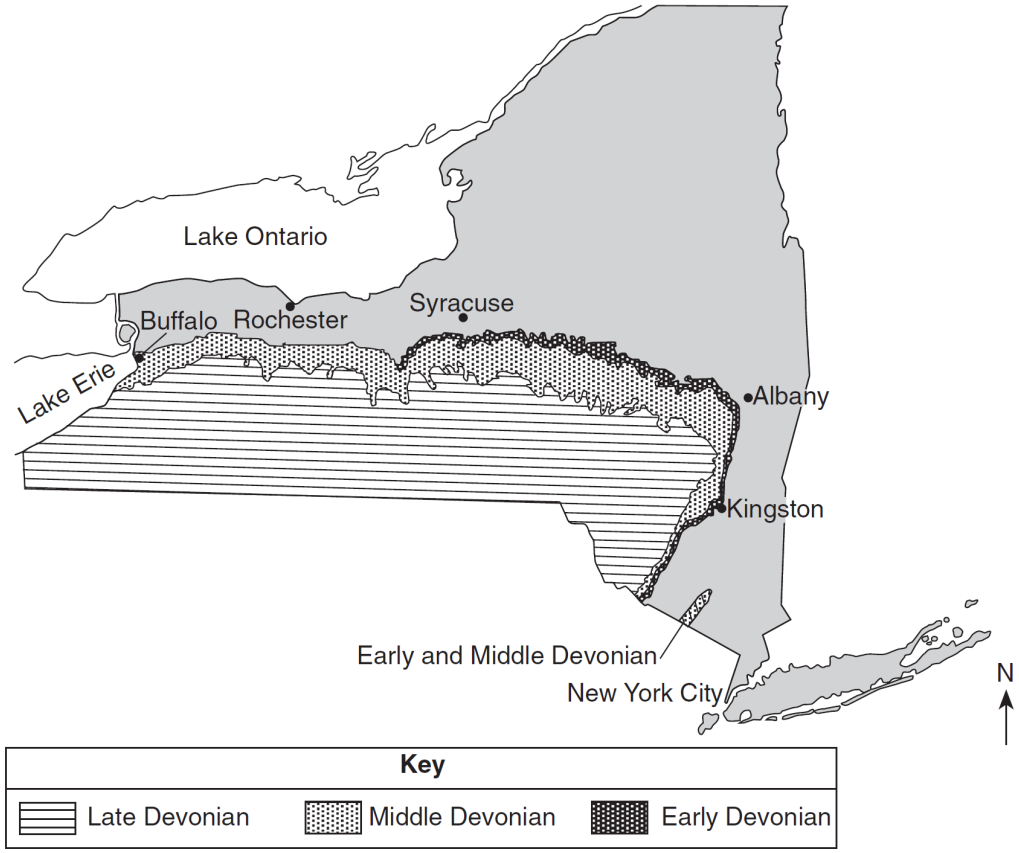
Describe the arrangement of rock material in the sediments that were directly deposited by the glacier.

65. Base your answer to the following question on the map below and on your knowledge of Earth science. The map shows the four time zones and some latitude and longitude lines across the continental United States. Some cities are labeled on the map.



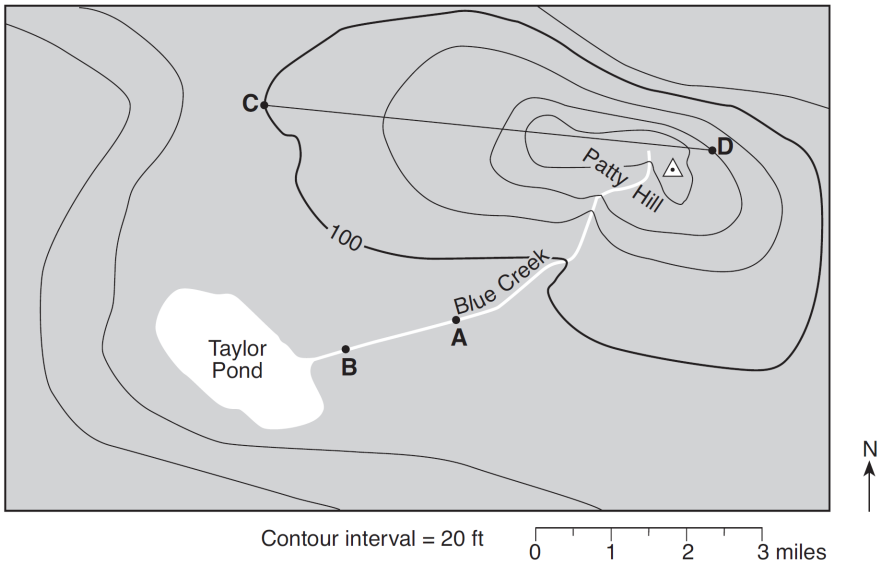
Identify the city labeled on the map where sunrise occurs first each day.

66. Base your answer to the following question on the partial geologic map below and on your knowledge of Earth Science. The map shows the geographical distribution of most of the Devonian-age surface bedrock in New York State.



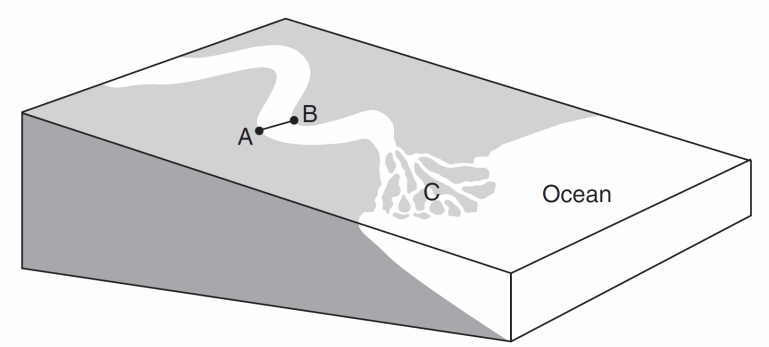
State the name of the New York State landscape region that includes most of the Devonian-age surface bedrock shown on the map.

67. Base your answer to the following question on the topographic map shown below. Letters *A*, *B*, *C*, and *D* represent locations on Earth's surface. The triangular symbol marks the highest elevation on Patty Hill. Elevations are shown in feet.

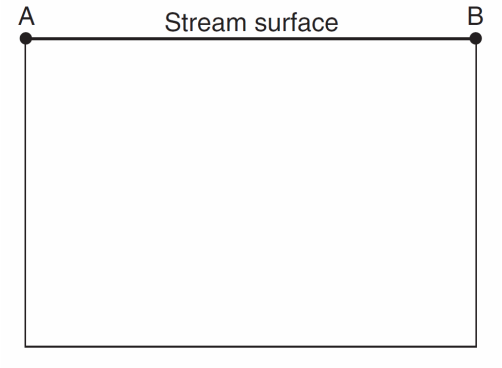


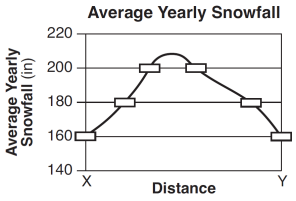
Explain how the shape of the contour lines crossing Blue Creek shows the direction that the creek is flowing.

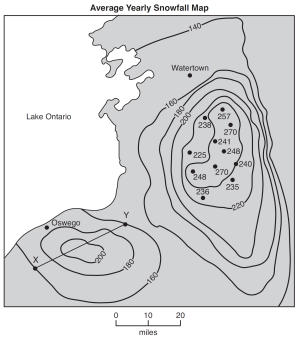
68. Base your answer to the following question on the block diagram below and on your knowledge of Earth science. The diagram represents a meandering stream flowing into the ocean. Points *A* and *B* represent locations along the streambanks. Letter *C* indicates a triangular-shaped depositional feature where the stream enters the ocean.



The top of the box below represents the stream surface between points *A* and *B*. In the box, draw a line from point *A* to point *B* to represent a cross-sectional view of the shape of the bottom of the stream channel.



40. **A**
41. **C**
42. **C**
43. **B**
44. **D**
45. **A**
46. **B**
47. **C**
48. **B**
49. **C**
50. **A**
51. **B**
52. **B**
53. **C**
54. **B**
55. **C**
56. –scratch- es/striations on the bedrock surface –grooves in bedrock –a boulder transported from a more northerly outcrop on the bedrock –an erratic –drumlin
57. 11 p.m.
58. *Examples*: — The soil is saturated. — Rate of rainfall exceeds the rate of infiltration. — The ground is frozen. — The land has a steep slope.
59. evaporation.
60. 

61. 

62. *Examples: –* Allegheny Plateau – Appalachian Plateau (uplands) – Catskills
63. U-shaped: — It was eroded by glaciers. — A glacier formed the valley. — formed by glacial ice
V-shaped: — Running water cut the V-shaped valley. — A stream formed the valley.
64. Responses include, but are not limited to: Glacial sediment is unsorted; piles of mixed sediment sizes.
65. New York City *or* New York *or* NYC
66. –Allegheny Plateau –Appalachian Plateau –Appalachian Uplands
67. — Contour lines that cross the stream bend in the opposite direction of stream flow. — Contour lines form V-shapes that indicate the uphill or upstream direction. — Contour lines bend upstream.
68.