

**HUNTER COLLEGE OF THE CITY UNIVERSITY OF NEW YORK  
DEPARTMENT OF GEOGRAPHY  
GEOG 101 EXTRA CREDIT EXERCISE 2**

**CLIMATES**

**Consult your atlas, textbook and handouts for the answers to this extra credit assignment.  
Place all answers on the blue sheet using a No. 2 pencil.**

1. Which continent has the greatest number (count colors on map) of major climatic regions?
  - a) North America (includes Greenland and Central America)
  - b) South America
  - c) Asia (includes the islands of the East Indies)
  - d) Africa (includes Madagascar)
  - e) Antarctica
2. Which continent has the fewest major climatic regions?
  - a) Europe   b) South America   c) Australia   d) Africa   e) Antarctica

***In general, the world's climate regions are aligned latitudinally (east-west direction).***

3. This arrangement is a reaction to the amount of \_\_\_\_\_ at different latitudes.
  - a) solar energy received
  - b) precipitation received
  - c) evaporation from the oceans
  - d) speed of the rotation of the earth

***Exceptions to this general alignment are found around the world. Match the region with the strongest influence that causes the exception. Use the following key to indicate your answer:***

- |   |         |
|---|---------|
| a) orientation of a topographic barrier |         |
| b) nearby warm ocean current            |         |
| c) nearby cold ocean current            |         |
| d) longitude                            |         |
| 4. west coast of Norway                 | a-b-c-d |
| 5. eastern Australia                    | a-b-c-d |
| 6. southwest Africa                     | a-b-c-d |

***From latitudes 10°S to 25°S, the Atlantic Ocean coasts of South America and Africa, although both tropical, have opposite precipitation characteristics.***

7. What causes the South American coast to be hot and wet while the African coast is hot and dry?
  - a) temperature of the ocean currents
  - b) predominant direction of wind flow
  - c) combination of "a" and "b"
  - d) mountain ranges
  - e) combination of "a" and "d"

***The coastal cities of Reykjavik, Iceland and Bergen Norway are located between 60° and 65° north latitude, yet both have moderate climates.***

8. Why are they so warm at such high latitudes?

- a) Cloudless skies give maximum solar energy.
- b) At this latitude, there are equal hours of day and night throughout the year.
- c) The temperature of the North Atlantic Drift moderates the temperature.
- d) Mountain ranges protect the cities from cold Arctic air masses.

***London, Paris and Rome (located between 45° N -55° N) are warmer than other cities of Eurasia at similar latitudes because of the influence of warm, moist air masses.***

9. Why are not cities located further east in this range of latitude NOT affected by these air masses?

- a) Very high north-south mountains block the winds from flowing across Eurasia.
- b) Because of the great distances involved, the air masses lose their characteristics as they move eastward across Europe.
- c) The amount of solar energy received varies with longitude.
- d) The continental influence of the landmasses warms the air in winter and cools it in summer.

***Focus your attention on South America.***

10. Which pattern does the climate regions of Peru exhibit?

- a) No pattern. The climate is generally uniform throughout the country.
- b) The climates run in a general east-west direction parallel to lines of latitude.
- c) The climates run in a general north-south direction parallel to the coastline.
- d) The general pattern of the climate regions is one of small circular units.

11. Which is climate region is NOT found in Peru?

- a) desert      b) highland      c) tropical rainforest      d) humid continental

12. Comparing the general pattern Peru's climates with terrain, proximity to the ocean, and the latitudinal location of its climates, which is NOT a determining factor for their existence?

- a) landforms      b) ocean currents      c) longitude      d) elevation

***Focus your attention on Patagonia, a region of Argentina in South America. Consult the climate and landform maps and the global wind system diagram.***

13. The climate of Patagonia is classified as being mostly

- a) tropical rainforest      b) desert      c) humid subtropical      d) steppe

14. The predominant winds found in this region are the

- a) westerlies      b) polar easterlies      c) southerlies      d) southeast trades

15. Patagonia's precipitation and environment characteristics are a result of its location

- a) on the leeward side of the Andes Mts.
- b) on the windward side of the Andes Mts.
- c) near the Atlantic Ocean.
- d) at very high elevations.

***To the north, in contrast to Patagonia, the Pampas of Argentina exhibit humid subtropical climatic characteristics.***

16. It is warmer as one goes from south to north in Argentina because
- a) the elevation is lower in the north.
  - b) north is in the direction of the equator.
  - c) a warm water current flows into the Rio de la Plata.
  - d) there is an urban heat island affect radiating from Buenos Aires.

***Locate the following deserts by continent. Use the following key to indicate your answer:***

a) Africa      b) Asia      c) North America      d) Australia      e) South America

- 17. Gobi:                      a-b-c-d-e
- 18. Great Victoria:      a-b-c-d-e
- 19. Mojave:                a-b-c-d-e
- 20. Ar Rub al Khali:      a-b-c-d-e
- 21. Kalahari:              a-b-c-d-e
- 22. Takla Makan:        a-b-c-d-e
- 23. Sahara:                a-b-c-d-e

***Focus your attention on the tropics.***

24. As a whole the temperature characteristics of the tropical climates can best be generalized as
- a) being always mild.
  - b) being always hot.
  - c) having a hot summer with a mild winter.
  - d) having a cool winter with a mild summer.
25. The amount of annual precipitation associated with the tropical rainforest zone is
- a) Less than 20 inches      b) between 20 and 60 inches      c) 60 or more inches.

***Focus your attention on the temperate climates.***

26. The humid subtropical climates of southeastern United States, southeastern China and southern South America are a result of several unifying characteristics that have joined to create subtropical conditions. Those conditions are
- a) on shore winds blowing over warm ocean current.
  - b) on shore winds blowing over cold ocean current.
  - c) mountains funneling moist westerly winds into each region.
  - d) cold offshore current and winds blowing from land to ocean.
27. **True - False:** The temperate humid continental climates (D group) are found in both the northern and southern hemispheres.
28. The controlling factor for the existence of continental climates is
- a) climatologic data.
  - b) large landmasses.
  - c) mountains to cool the prevailing winds.
  - d) vast expanses of oceans.

29. **True -False:** The humid continental climates extend further south along the eastern side of North America, Europe, and Asia than on their western sides.

30. All of the following statements support your answer to the previous question **except**:

- a) On the east side of the continents, the prevailing winds blow from water to land, thereby cooling the landmasses.
- b) On the west side of the continents, the prevailing winds blow over warm currents, thereby moderating the climates at higher latitudes.
- c) On the east side of the continents, any warm ocean current is not as influential as its counterpart on the west side is because the prevailing winds blow the moderating influences away from the land.
- d) Winds coming from the west that had been moderated by the warm ocean currents lose their moderating characteristics while traveling over the continental land masses.

***Consult the climate, population density and agricultural regions maps.***

- 31. **True - False:** Siberia, in northern Russia, is an unpopulated, economic barren land.
- 32. **True - False:** The chief land use of the tropical savanna Brazilian Highlands is cropland.
- 33. **True - False:** Extensive areas of the tropical Congo Basin are uninhabited.
- 34. **True - False:** In the United States, the Great Basin is a wetter area than the Great Plains.
- 35. **True - False:** The lowest population densities of China are found in its temperate eastern region.
- 36. **True - False:** All of the Scandinavian Peninsula, poleward of the Arctic Circle, has a tundra climatic environment.

***Locate the following places and determine their climate. Consult the index of your atlas to find each location's coordinates and then transfer these coordinates to the world climate map. Use the following key to indicate your answer:***

- |                         |                       |
|-------------------------|-----------------------|
| 1 = Tropical rainforest | 7 = Humid Subtropical |
| 2 = Tropical savanna    | 8 = Humid Continental |
| 3 = Desert (arid)       | 9 = Subarctic         |
| 4 = Steppe (semi-arid)  | 10 = Tundra           |
| 5 = Mediterranean       | 11 = Icecap           |
| 6 = Marine West Coast   | 12 = Highland         |

- 37. 75°N, 40°W, Greenland: a) 1 b) 3 c) 7 d) 8 e) 11
- 38. Algiers, Algeria: a) 2 b) 12 c) 5 d) 6 e) 10
- 39. Alice Springs, Australia: a) 1 b) 3 c) 5 d) 7 e) 9
- 40. Bangul, Central African Rep.: a) 1 b) 10 c) 8 d) 6 e) 7
- 41. Belize City, Belize: a) 2 b) 4 c) 7 d) 1 e) 9
- 42. Denver, CO, USA: a) 11 b) 4 c) 7 d) 8 e) 1

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 3 = Desert (arid)  
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 5 = Mediterranean  
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7 = Humid Subtropical  
 8 = Humid Continental  
 9 = Subarctic  
 10 = Tundra  
 11 = Icecap  
 12 = Highland

43. Gabonne, Botswana: a) 2 b) 4 c) 1 d) 3 e) 8
44. Kamchatka Pen., Russia: a) 3 b) 6 c) 7 d) 9 e) 10
45. Los Angeles, CA, USA: a) 6 b) 3 c) 5 d) 8 e) 1
46. Manila, Philippines: a) 1 b) 4 c) 8 d) 2 e) 12
47. Port Moresby, PapuaNewGuinea: a) 1 b) 9 c) 2 d) 11 e) 3
48. Quebec City, Canada: a) 3 b) 5 c) 7 d) 8 e) 9
49. Riyadh, Saudi Arabia: a) 1 b) 3 c) 5 d) 9 e) 10
50. Seattle, WA, USA: a) 10 b) 6 c) 5 d) 4 e) 11
51. Shanghai, China: a) 1 b) 5 c) 7 d) 8 e) 12

***Consult the climate map of North America and climographs for its cities on page 7 of this climate exercise. Note that North America has all varieties of climate, from tropical to ice cap and from rainy to desert.***

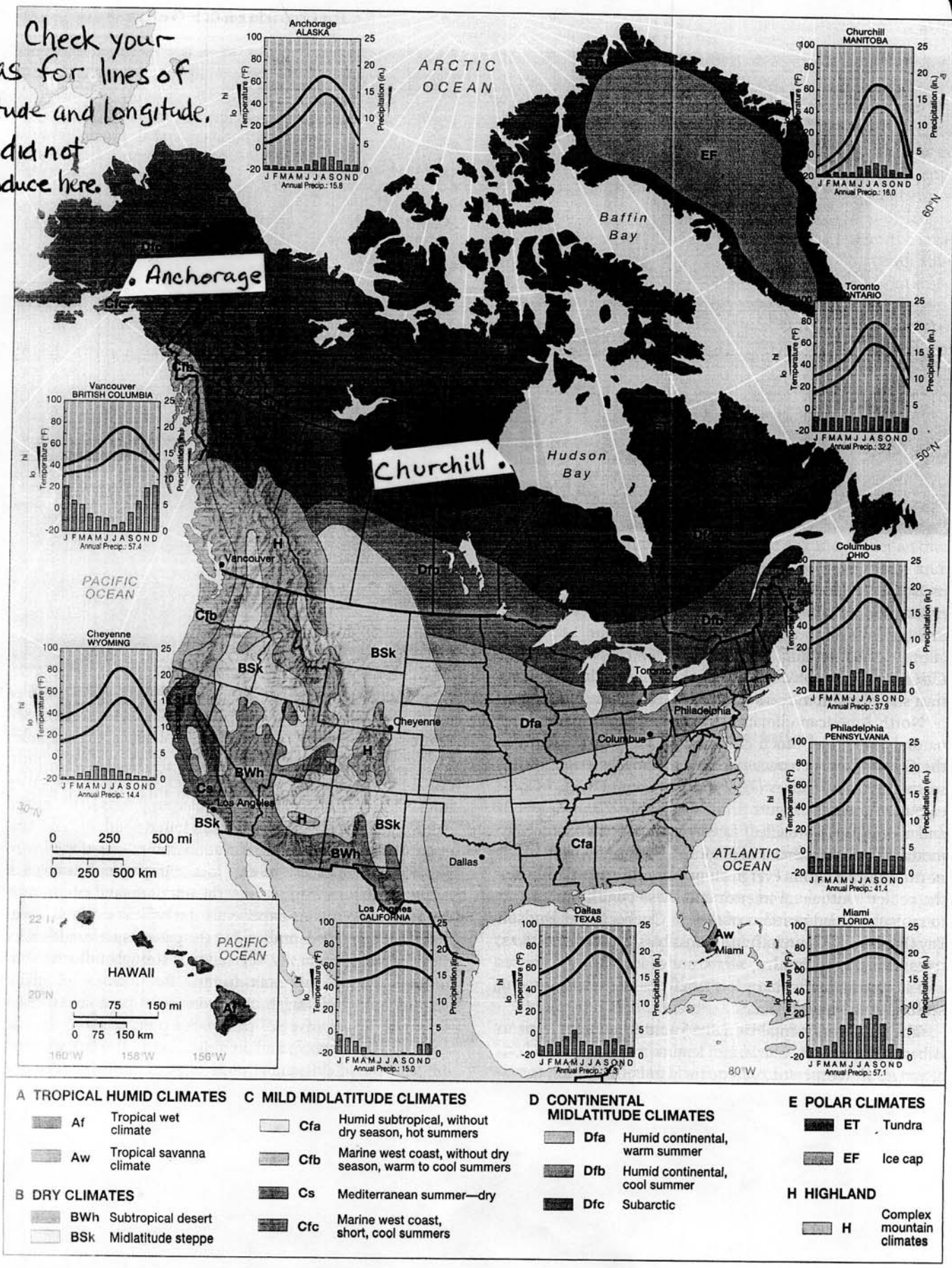
52. Of all the stations shown, which one is hottest in summer?  
 a) Miami b) Dallas c) Churchill d) Los Angeles
53. Miami and Vancouver both receive over 57 inches of precipitation annually. Which one has a driest winter?  
 a) Miami b) Vancouver
54. Of the following stations, which one has the most uniform monthly temperatures?  
 a) Miami b) Churchill c) Anchorage d) Los Angeles
55. Of the following stations, which one has the most even distribution of precipitation throughout the year?  
 a) Toronto b) Columbus c) Philadelphia d) Anchorage
56. Churchill and Anchorage both receive about 16 inches of precipitation annually. Which statement best describes the distribution of precipitation at these stations?  
 a) Both have a summer maximum.  
 b) Anchorage has a summer maximum while Churchill has a winter maximum.  
 c) Churchill has a summer maximum while Anchorage has a winter maximum.  
 d) Both have a winter maximum.

***Focus your attention on the temperature lines of the climographs for Anchorage and Churchill. Both are located one degree of latitude from the 60°N parallel.***

57. Which one has a colder winter? a) Anchorage b) Churchill
58. What is the average minimum temperature for Churchill in January?  
a) -20°F      b) -10°F      c) +5°F      d) +20°F
59. What is it for Anchorage in January?  
a) -20°F      b) -10°F      c) +5°F      d) +20°F
60. All of the following statements are true about this difference in temperature except:  
a) Churchill's interior location gives it colder winters.  
b) Since Hudson Bay is frozen most of the year, it has a minimal moderating effect.  
c) Anchorage's climate is moderated by the Alaska Current.  
d) Churchill is located on the windward side of mountains.

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Check your atlas for lines of latitude and longitude. They did not reproduce here.



**Figure 3.7 Climate map of North America** North American climates include everything from tropical savanna (Aw) to tundra (ET) environments. Most of the region's best farmland and densest settlements lie in the mild (C) or continental (D) midlatitude climate zones.