

Earth System Science 5: Homework #6 answer sheet (due 5/29/2008)

Name \_\_\_\_\_ Student ID: \_\_\_\_\_

**Turn in only this answer sheet.  
Keep the homework problem sheets.**

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2)		14)	
3)		15)	
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Name \_\_\_\_\_ Student ID \_\_\_\_\_

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

- 1) Monsoons are most dramatic on this continent:  
A) Europe.                      B) Asia.  
C) North America.          D) South America.
- 2) Ocean currents:  
A) move at a 45 degree angle to the right of surface air flow.  
B) are driven primarily by differences in ocean temperature over large distances.  
C) have a much stronger vertical component than horizontal component.  
D) maintain the same direction at increasing depth.
- 3) The four scales of the atmosphere from largest to smallest are:  
A) micro, meso, synoptic, planetary.  
B) planetary, synoptic, meso, and micro.  
C) meso, planetary, micro, bass.  
D) planetary, soprano, micro, and meso.
- 4) The northeast trade winds:  
A) span the horse latitudes.  
B) are the product of a strong Coriolis force.  
C) are the result of air flowing from the subtropical high to the ITCZ.  
D) have been the dread of sailors for centuries.
- 5) Winds in the upper atmosphere are:  
A) westerly only in the southern hemisphere.  
B) faster in summer than in winter in both the northern and southern hemisphere.  
C) westerly only in the northern hemisphere.  
D) westerly in both the northern and southern hemisphere.

- 6) The two major jet streams that impact weather in the northern hemisphere are the:  
A) polar jet stream and the low-level jet stream.  
B) polar jet stream and the sub-tropical jet stream.  
C) the sub-tropical jet stream and the low-level jet stream.  
D) None of the above. Jet streams are not significant to northern hemisphere weather.
- 7) The subtropical high:  
A) has strong winds.  
B) often causes dry, desert-like conditions.  
C) is neither a part of, nor a consequence of, the Hadley cell.  
D) has strong pressure gradients.
- 8) This is NOT a part of the Hadley cell:  
A) ITCZ.  
B) trade winds.  
C) mid-latitude westerlies.  
D) subtropical highs.
- 9) The Santa Ana winds:  
A) receive much of their heat from the hot deserts over which they travel.  
B) are named after a former leader of Mexico.  
C) are most common in summer.  
D) result from high pressure over the Rocky Mountains.
- 10) El Niño seems to entail all of the following, except:  
A) lower evaporation rates in the eastern Pacific.  
B) a significant change in the Walker circulation.  
C) weaker trade winds.  
D) the occurrence of the Southern Oscillation.

- 11) This is most prominent in summer:
- A) Hawaiian high.            B) Aleutian low.
  - C) Siberian high.            D) Icelandic low.
- 12) The polar front:
- A) is a region of small changes in the slope of pressure surfaces.
  - B) is a boundary between two regions of cold air.
  - C) is not associated with the polar jet stream.
  - D) is a region marked by a sharp change in horizontal temperature.
- 13) The ITCZ:
- A) is an area of high pressure.
  - B) receives a lot of rain.
  - C) forms the boundary between the Ferrel and polar cells.
  - D) is where trade winds originate.
- 14) The **three-cell model** for general circulation:
- A) includes a segment called the Hadley Cell.
  - B) accounts for the positioning of the Polar and Sub-tropical jet streams.
  - C) takes in to account the spin of the earth.
  - D) is a better representation of the atmosphere than the single-cell model.
  - E) all of the above
- 15) The Hadley cell:
- A) does not account for the formation of trade winds.
  - B) creates a high-pressure area at the equator.
  - C) originates with strong solar heating at the equator.
  - D) does not explain upper air movement in the troposphere.
- 16) Which of the following is NOT a warm current?
- A) Canary Current
  - B) Gulf Stream
  - C) North Equatorial Current
  - D) North Atlantic Drift
- 17) Cyclones and anticyclones are classified as this scale of phenomena:
- A) global scale.            B) microscale.
  - C) mesoscale.            D) synoptic scale.
- 18) Semi-permanent pressure cells:
- A) maintain the same intensity year-round.
  - B) have no impact on major weather patterns.
  - C) stay in one place.
  - D) can change substantially from summer to winter.