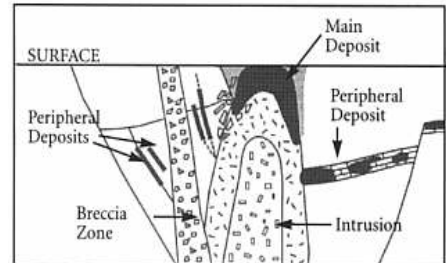


**National Finals
Colorado Springs
Colorado
19 May 2001**



**From A Distance
C Division**



School Name:	
Team #:	
Participants: Name:	
Name:	
Score:	
Event Place:	

Examine the South Florida Satellite Image Map

Note the Florida Everglades in the large green area along southern part of the state.

1. Name three predominant land covers in the Everglades marsh according to the indicator key? **(3 pts)**

2. What is the approximate area of the Everglades? Circle your answer. **(3 pts)**

100 square miles 1000 square miles 3500 square miles 10000 square miles

3. The plants and wildlife in the Florida Everglades are endangered by several human activities. What activity threatens the Everglades along its eastern boundary? **(3 pts)**

4. What human activity threatens the Everglades along its northern boundary (note large red area)? **(3 pts)**

5. What is the specific crop grown in the large red area that endangers the Everglades? **(2 pts)**

6. What is the name of the large water body to the north of the Everglades? **(2 pts)**

Examine the Central United States Earthquakes 1974 - 1991 satellite image map.

Note the significant number of earthquakes recorded in the central area of the map. This area in southeastern Missouri is the New Madrid Fault area.

1. Name two major cities that were rattled by earthquakes with Richter Scale magnitudes of 3-4 and epicenters within 20 miles of their city centers. **(4 pts)**

2. Approximately what percentage of earthquakes in this region occurred along the New Madrid Fault? Circle your answer. **(2 pts)**

20%

50%

80%

99%

3. Name two additional cities that felt earthquakes of magnitude 2-3 during the same time period? **(4 pts)**

4. Floodplains, such as along the Mississippi River, typically contain rich soil. Based on this statement, and your analysis of the rectangular areas along the river, what land use activity is dominant in this area? **(2 pts)**

Examine the San Francisco Bay Area Earthquakes 1972 - 1989 satellite image and the San Francisco 1:100,000-Scale Series Topographic maps.

1. The San Francisco Bay area is bounded by two major earthquake fault systems, the San Andreas to the west and the Hayward to the east. Along which fault system did the epicenter of a magnitude 7.1 earthquake occur between the years 1972-1989? **(2 pts)**

2. Which fault was more active in the years 1972 to 1989? **(2 pts)**

3. What is the name of the bridge that connects the peninsula of San Francisco and Marin County to the north. **(2 pts)**

4. How far in kilometers was the closest earthquake epicenter to the southern end of this bridge? Include the units in your answer. **(3 pts)**

5. Current earthquake theory suggests that quakes along more active sections of a fault zone will generally be of smaller magnitudes. Based on this theory, what two of the following cities are more likely to experience a larger magnitude earthquake in the future? Circle your answers. **(2pts)**

San Bruno Oakland Union City San Mateo San Leandro

6. Locate the "San Andreas Rift Zone" along the southern portion of the San Francisco 1:100,000-Scale Topographic map. What large features are located directly over the rift zone in this area? **(2 pts)**

7. Based on your answer above, what is a potential hazard to the local population should a

major earthquake occur in this area? **(2 pts)**

8. The San Francisco Bay Area map is an infrared satellite image. Red areas on infrared images consist of healthy vegetation. What is the most likely type of vegetation in the mountainous area on the western side of San Francisco Bay? **(2 pts)**
-

9. What is the most likely type of vegetation in the San Joaquin Valley along the eastern edge of the map? **(2 pts)**
-

10. Based on your observations of the San Francisco and the Central Region earthquake maps, in which area would a larger number of the US population be affected by a major earthquake? Circle your answer. **(2 pts)**

Central Region USA

San Francisco Bay Area

Examine the photo map of the Amundsen-Scott South Pole Station, Antarctica

1. What is the approximate diameter in feet of the central silver dome structure of the Amundsen-Scott South Pole Station? **(4 pts)**
-

2. What is the predominant direction of the wind at the station? Circle your answer. **(4 pts)**

Top to Bottom

Bottom to Top

Left to Right

Right to Left

3. Explain why you chose your answer to question #2. **(5 pts)**
-

4. What activity was occurring in the building directly adjacent to the right side of the Geographic South Pole in 1983? **(3 pts)**
-

5. The South Pole station is build upon a massive moving ice sheet known as the Polar Plateau. The ice moves at an approximate rate of nine meters (twenty-seven feet) annually. The ice is moving such that eventually the station dome structure will slide directly over the South Pole.

Based on these statements, what direction is the ice sheet moving? Circle your answer. **(4 pts)**

Lower-Left To upper Right	Upper Right to Lower Left	Lower Right to Upper Left	Upper Left To Lower Right
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6. Approximately how many feet away from the center of the dome was the Geographic South Pole on January 1, 1985? **(5 pts)**

7. Approximately how many feet away from the center of the dome was the Geographic South Pole on January 1, 2001? (Show your work in the space provided.) **(10 pts)**

8. In what year will the center of the dome be directly over the Geographic South Pole? (Circle Your Answer) **(4 pts)**

2020 2030 2040 2050

9. The sun rises at the South Pole on September 21 - 22 annually and sets on March 21 - 22. During the six months that the sun is above the horizon it traverses in a counter-clockwise direction around the Pole with one revolution equaling one day (24 hours). The top of the Amundsen-Scott South Pole Antarctica photomap points towards the Prime Meridian through Greenwich, England. At approximately what hour of the day in Greenwich, England was the photograph taken? Circle your answer. **(4 pts)**

1PM 11PM 11AM 1AM

10. Explain why you chose your answer to question #9. **(8 pts)**

Answer Key to “From a Distance”

1. Tree Island, Spikerush, Metaleuca, Periphyton, Sawgrass, Cattail
 2. 3500 square miles
 3. Urban development
 4. Agriculture – Farming
 5. Sugarcane production
 6. Lake Okeechobee
-
1. St. Louis and Memphis
 2. 80%
 3. Evansville and Little Rock
 4. Agriculture – Farming
-
1. San Andreas
 2. Hayward
 3. Golden Gate Bridge
 4. 3- 5 kilometers
 5. San Bruno/San Mateo
 6. Reservoirs/Lakes
 7. Floods
 8. Forests, timber, trees, etc.
 9. Farmland crops
 10. San Francisco Bay Area
-
1. 125 – 175 feet
 2. Left to right
 3. Ice drifts along the right side of the dome and structures
 4. Ice core drilling
 5. Upper right to lower left
 6. 1,100 – 1,400 feet
 7. 650 – 1000 feet [Solution: 1240 feet total distance; $2001 - 1985 = 16$ years; $16 \text{ years} \times 27 \text{ feet/year} = 432$ feet traveled; $1240 \text{ feet} - 432 \text{ feet} = 808$ feet.]
 8. 2030 [Solution: $1240 \text{ feet} / 27 \text{ (feet/year)} = 45.9$ years. $1985 + 45 = 2030$]
 9. 11 AM
 10. The shadows from the buildings and antennas point slightly to the bottom left corner of the map. Therefore, the sun wasn't quite at high noon in Greenwich when the shadows would point straight towards the bottom of the map.

To obtain maps and photos for this exam plus other instructional aides for the “From a Distance” event, please visit the following site: <http://www.otherworlds-edu.com>