AICE Environmental Management Guided Reading: Soils

Complete the following questions using your textbook and internet resources. This assignment is worth 30 points and is due **Monday, November 30.** Anywhere you are told to “describe” in your answer, please write in complete sentences.

**Natural & Man Made processes that contribute to different types and causes of mass movement on slopes:**

1. What is rock weathering? How does it lead to the accumulation of debris on slopes?
2. Causes of mass movements: for each type of flow or slide listed below, describe what is happening, where it is likely to occur and what usually causes it.
   1. Rock falls
   2. Landslides
   3. Earth slumps
   4. Soil creep
   5. Solifluction
   6. Mudflows
3. What sorts of human activities lead to mass movements: give specific examples and results/
4. Describe one case study of a mass movement in the news in the last five years. Some possibilities include: Hong Kong, Rio de Janero, Sarno (south Italy), and the Himalayan foothills.

**Management of Sudden Mass Movements:**

1. Discuss the following slope management policies. For each, include the process and why it works to reduce or prevent mass movements.
   1. Slope angle reduction
   2. Afforestation
   3. Drainage
   4. Surface Protection

**Major Causes and Prevention of Soil Deterioration and Erosion:**

1. Discuss the following Characteristics of soils. For each, include what it tells about the soil, how it is measured, and what results are most desirable in fertile soil.
   1. Texture
   2. Biotic components
   3. Percolation rate
   4. Moisture Content
   5. Porosity
   6. Percent organic matter
   7. Fertility
2. Describe soil erosion and deterioration. What actually happens to the soil in each case?
3. Each of the following factors may lead to soil erosion and deterioration. For each, discuss how it leads to erosion / deterioration, and what techniques may be used to prevent soil degradation of this type.
   1. Agriculture
   2. Deforestation
   3. Grazing
   4. Salinization
   5. Compaction
4. What was the “Dust Bowl” in the United States? Describe the events leading up to the dustbowl (climatic, and human caused), the effects it had on the American people, and what was done to remediate the situation.
5. **Describe** a case study of soil erosion / degradation (also sometimes called desertification) in a LEDC. This should completely cover everything that led to the soil issue and how it impacted people in the area.