

2019

AP Environmental Science

Free-Response Questions

2019 AP ENVIRONMENTAL SCIENCE FREE-RESPONSE QUESTIONS

ENVIRONMENTAL SCIENCE

SECTION II

Time -15 minutes

1 Question

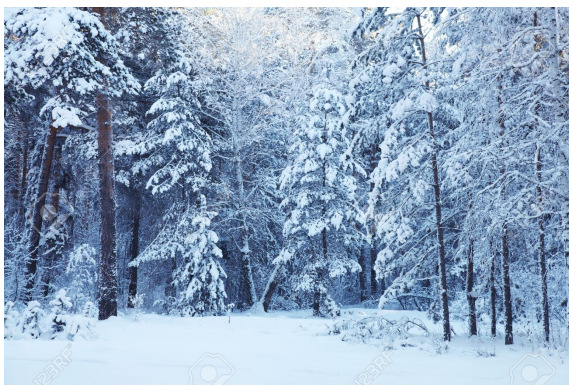
Directions: Answer the question, which is weighted by accuracy of response within the allotted 15 minutes. Write your answers on the pages following the questions in this book. Where calculations are required, clearly show how you arrived at your answer. Where explanation or discussion is required, support your answers with relevant information and/or specific examples.

1. Over half of the tropical forests worldwide have been destroyed since the 1960's, and every second, more than one hectare of tropical forests are destroyed or drastically degraded. These forests absorb heat-trapping greenhouse gases that human activities emit, providing an important ecosystem service to help mitigate climate change. Additionally, over 80% of the world's terrestrial biodiversity can be found in forests- from pine trees in the boreal North to the rainforests in the tropics.



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- (a) Shrinking forests can cause wide-reaching problems.
- (i) **Describe** deforestation & list TWO human causes of deforestation
- (b) Forests are important carbon reservoirs.
- (i) **Explain** how atmospheric carbon is incorporated into forests
 - (ii) **Identify** TWO consequences of deforestation specific to the carbon cycle
- (c) Tropical rainforests are areas of extremely high biodiversity.
- (i) **Describe** how high NPP correlates with high biodiversity
 - (ii) **Identify** TWO ways deforestation contributes to biodiversity loss
- (d) Taiga and temperate seasonal forests differ in location, annual precipitation, and average temperatures. But more importantly, the dominant plants of each biome have developed unique adaptations.
- (i) **Identify** ONE adaptation of plants found within the Taiga
 - (ii) **Identify** ONE adaptation of plants found within the temperate seasonal forests
 - (iii) **Describe** ONE benefit of each adaptation



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