



2024 United States Geography Championships – Free-Response Examination

General instructions - Respond to each of examination questions in the space provided on the answer document. Only answers written in the appropriate space on the answer document will be marked. Where appropriate, you should write sentences or phrases instead of single words. If a question or section asks for a specific number of reasons or answers, give only the number of answers specified. Please write clearly and legibly.

Section 1 - [20 points]

Use the image in section 1 to complete the following.

1. Given the information in the map, rank these countries from greatest oil palm production to least production in 2021 – Thailand, Madagascar, China, Indonesia, Brazil [3 points]
2. Given the information in the table below, construct a graph that shows oil palm cultivation in hectares (ha) over the time period specified. Make sure to label the X and Y axes of your graph clearly, to clearly label the countries, and to choose a graph type that best represents the data. [10 points]

Year	Colombia	Mexico	Dem. Rep. Congo	Thailand	Papua New Guinea
1990	89,671 ha	1,745 ha	232,120 ha	96,000 ha	45,500 ha
2000	134,772 ha	9,000 ha	200,000 ha	230,053 ha	72,000 ha
2010	203,415 ha	31,804 ha	178,229 ha	541,569 ha	135,000 ha
2020	478,045 ha	114,938 ha	325,074 ha	939,324 ha	220,624 ha

3. Given the information in the map, briefly describe the type of climate in which oil palms grow best. [2 points]
4. What is generally the effect of oil palm cultivation on forest coverage in areas where oil palm cultivation is the highest? Be as specific as possible in the space provided. [2 points]
5. Oil palms were grown 8.6% of the land used for vegetable oil production and produced 36% of the world's vegetable oil. Soybeans used 39% of the land and produced 25.5% of the oil. Given this information, what conclusions can be drawn about the environmental impact of oil palm cultivation relative to soybeans? What other information might be necessary to come to a reasonable conclusion? Be as specific as possible in the space provided. [3 points]

Section 2 - [15 points]

1. In the space provided, discuss the impact of transportation developments on the settlement of the trans-Mississippi West in the United States in the period from 1850 to 1900. In your answer make reference to specific modes of transportation and how they facilitated the settlement of this region in the time period specified. [5 points]
2. In the space provided, identify TWO geographical or climatological impediments to westward migration in the US during the period from 1850 to 1900, and for each of these barriers, discuss methods settlers in the region overcame them with technology or innovation. [5 points]
3. In the space provided, discuss how the influx of settlers into the trans-Mississippi West in the period from 1850 to 1900 impacted Native Americans in the region. In your answer be sure to reference geographic factors like land use and habitat destruction. [5 points]

Section 3 - [15 points]

Use the image in section 3 to complete the following.

1. How many named storms were there during the 2023 Atlantic hurricane season? How many of these storms made landfall on the continental US at hurricane strength or higher? [2 points]
2. Identify by name the major hurricanes of the 2023 season. [3 points]
3. In the space provided, describe in as much detail as possible the path of Hurricane Idalia, including its area of origin, any landfalls it recorded with the specific dates, countries, or US states impacted, and other relevant information. [4 points]
4. Based on the information in the map, was Hurricane Lee or Hurricane Margot a more destructive storm? Explain your answer in as much detail as possible in the space provided. [3 points]
5. In as much detail as possible in the space provided, discuss the effect of climate change on hurricanes in the Atlantic. [3 points]

Section 4 - [15 points]

Use the images in section 4 to complete the following.

1. Given the information from the images, measure the distance in km between point A and its nearest lake shoreline at point B in 1985 and in 2022. How far has the shoreline moved total during that time period? On average, how far has the lake retreated per year during that time period? [7 points]
2. In the space provided, briefly discuss TWO demographic changes that have resulted in the shrinkage of the Great Salt Lake during the time period shown. [4 points]
3. In the space provided, briefly discuss TWO climatological changes that have resulted in the shrinkage of the Great Salt Lake during the time period shown. [4 points]

Section 5 - [15 points]

Use the image in section 5 to complete the following.

1. Rank these countries or areas from MOST forest loss to LEAST forest loss over the period covered in the graph – Cuba, Honduras, Puerto Rico, Jamaica, Haiti [5 points]
2. Briefly explain at least TWO policies that governments like those in Costa Rica have adopted in order to protect forests and to curb deforestation. [4 points]
3. What social, political, or economic factors might account for a country like Mexico losing so much forest cover during the period covered by the data? Be as specific as possible in the space provided and include at least TWO reasons in your response. [4 points]
4. Briefly explain TWO environmental impacts of the loss of forest cover in a country like Mexico, Nicaragua, or Guatemala. [2 points]

Section 6 - [10 points]

Use the image in section 6 to complete the following.

1. Identify by letter the following features seen on the image – natural levee, backswamp, Yazoo stream [3 points]
2. In the space provided, draw a diagram illustrating the formation of an oxbow lake of the type seen in the image. Your diagram should illustrate at least three steps (but may include more), and each step should be labeled using appropriate vocabulary. [7 points]

Section 7 - [10 points]

Use the image in section 7 to complete the following.

1. Identify the type of rock structures found in this photograph. [2 points]
2. In the space provided, describe in as much detail as possible how rock structures like this would form. [5 points]
3. Define the term cenote and briefly describe how a cenote forms. [3 points]