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Level 1 Geography, 2016

91007 Demonstrate geographic understanding of environments that have been shaped by extreme natural event(s)

9.30 a.m. Wednesday 16 November 2016
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate geographic understanding of environments that have been shaped by extreme natural event(s).	Demonstrate in-depth geographic understanding of environments that have been shaped by extreme natural event(s).	Demonstrate comprehensive geographic understanding of environments that have been shaped by extreme natural event(s).

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–12 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

**Low
Achievement**

TOTAL

9

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INSTRUCTIONS

In the box below, name ONE type of **extreme natural event**, and an **environment case study (studies)** in which it has occurred, that you will use to answer ALL of the questions in this booklet.

Extreme natural event: Earthquake

Environment case study (studies): Haiti 2010 Earthquake

QUESTION ONE: Natural Processes

Read the geographic concept below and refer to it when answering this question.

Geographic Concept

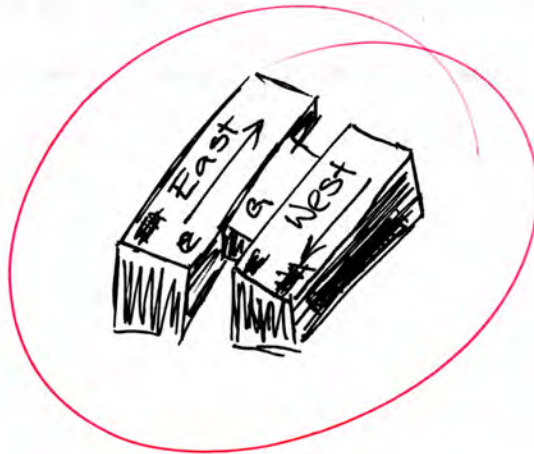
Processes are a sequence of actions, natural and / or cultural, that shape and change environments, places, and societies. Processes vary in time and space, and in magnitude (size) and frequency.

Fully explain the natural processes that operated to produce your chosen extreme natural event named above.

In your answer, include the geographic concept of processes, with integrated detailed supporting evidence from your case study (studies), and relevant supporting diagrams and/or maps.

PLANNING (OPTIONAL)

Diagrams and/or maps

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There are nine major tectonic plates on the surface of the earth's mantle, which are controlled by convection currents inside the mantle that rotate either clockwise or anti-clockwise, which dictates the path the plates above take. Earthquakes are caused by the sudden movement of these plates, or the build up of stress caused by their constant movement. The Gonâve micro-plate, on which Haiti is situated, is a tectonic plate in between the transform plate boundary of the North American and Caribbean plates. As the North American plate travels West and the Caribbean travels East, stress builds up in the Gonâve plate, and is released on a ~~blind~~ blind thrust faultline called the Leogane Faultline. The previously unrecognised faultline is 16 km long, located in the South East Peninsula of Haiti, near the city of Leogane. The focus is 13 km deep below the epicentre, 25 km West South West of the capital, Port-au-Prince.

Seismic waves are released following an earthquake, first Primary, or P, waves, then Secondary, or S, waves and finally L waves. These waves are the stress energy being released from the earth, the p waves travelling the fastest and the L waves the slowest - but the most deadly. Without these processes, an earthquake would be unable to occur.

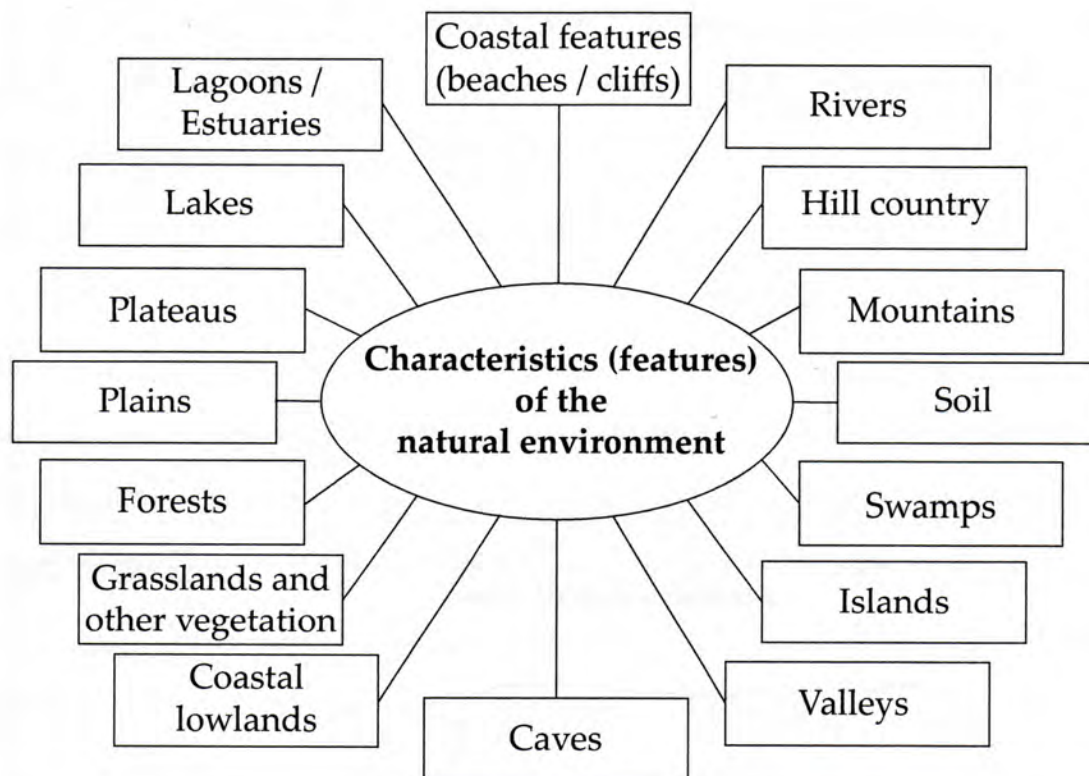
QUESTION TWO: Effects of Extreme Natural Events on Natural Environments

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Read the geographic concept below and refer to it, as well as the diagram, when answering this question.

Geographic Concept

Change involves any alteration to the natural environment. Change can be spatial and / or temporal. Change is a normal process in the natural environment. It occurs at varying rates, at different times, and in different places.



- (a) Identify TWO characteristics from the diagram above that were affected by your extreme natural event.

Characteristic (1): Soil

Characteristic (2): Grasslands and other vegetation

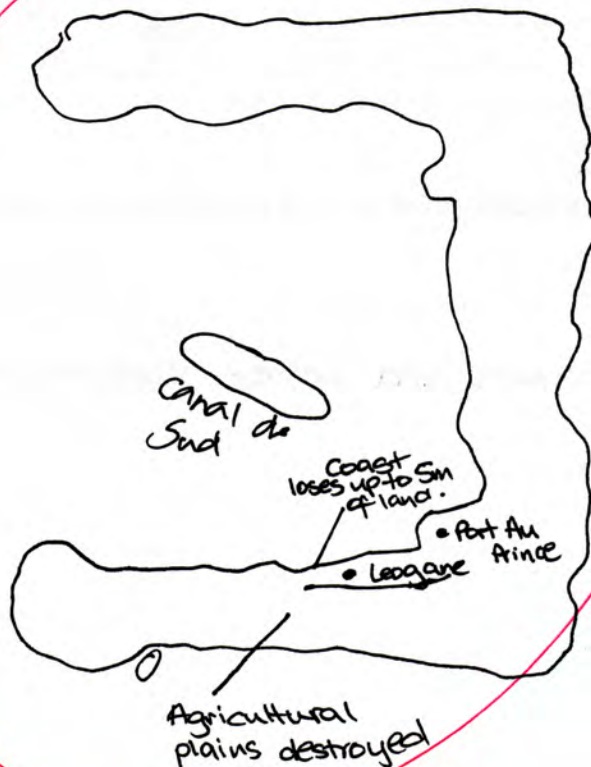
- (b) Fully explain the effects of your extreme natural event on these two characteristics in your environment case study (studies).

In your answer, include the geographic concept of change, with integrated detailed supporting evidence from your environment case study (studies), and relevant supporting diagrams and/or maps.

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PLANNING (OPTIONAL)

Diagrams and/or maps



The majority of Haiti's soil is a rich sediment known as alluvial soil, that is important to farming and agriculture (the backbone of Haiti's economy). It is also prone to erosion and liquefaction, so that low lying coastal areas and hillsides weakened by deforestation were deeply affected by the earthquake of January 12th 2010. The sea receded, before the liquefaction began, and then it moved into the land as far as 5 metres. Many mudslides and landslips occurred in land, blocking off roads and trapping people in their homes.

The agricultural plains of the South East, where most of Haiti's food products ~~that~~^{were} grown, ~~was~~ were completely upturned by the earth's movements and the following after shocks that, following the 7.0 magnitude earthquake, reached up to 5.0 magnitude. This ~~event~~ utterly changed the ~~of~~ topography of the landscape, stretching from Port au Prince to the tip of the peninsula, and rendering the agricultural industry helpless.

QUESTION THREE: The Human Response to an Extreme Natural Event

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Read the geographic concept below and refer to it when answering this question.

Geographic Concept

Perspectives are the way people view and interpret environments. Perspectives and values may be influenced by culture, environment, social systems, technology, economics, and politics. They may influence how people interact with environments, and the decisions and responses that they make.

People respond to the **impact or effects** of an extreme natural event in many different ways.

Circle below TWO time periods, and fully explain how a group of people responded to your extreme natural event during these time periods.

Note: You should use a different group of people for each time period.

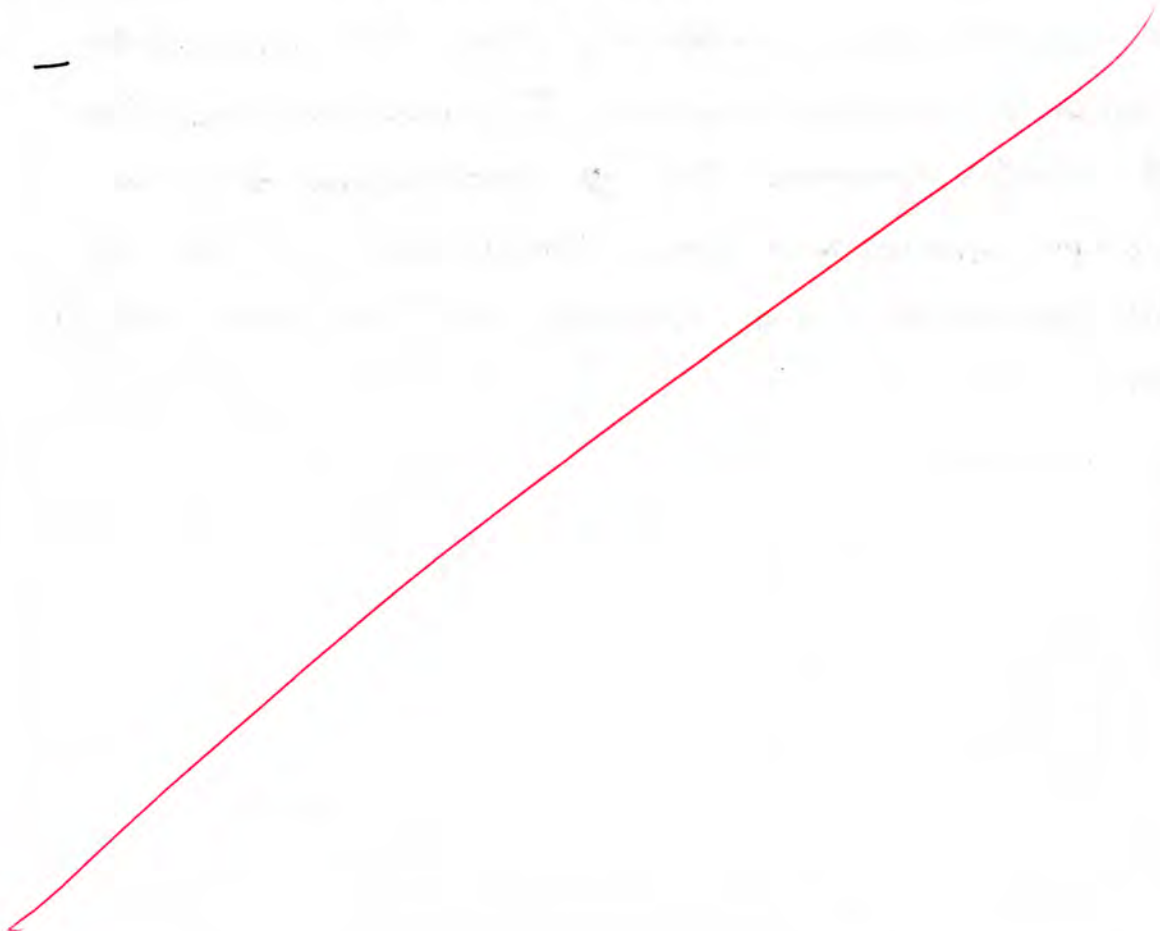
Before the extreme
natural event

Immediately after the
extreme natural event

Days, weeks, or months after
the extreme natural event

In your answer, include the geographic concept of perspectives, with integrated detailed supporting evidence from your environment case study (studies).

PLANNING (OPTIONAL)



Time period (1): Before the Extreme Natural Event

Group of people: Haitians (Government & Civillians)

How this group of people responded to your extreme natural event during this time period:

Haiti, which was before ^{and after} the event ~~and still is~~ the most impoverished nation in the Western Hemisphere, did not make any effort to monitor ~~geolog~~ the earth's movements or the state of the numerous faultlines running through the nation or on and around the Goncive microplate. There was no universal education system in which earthquake safety could be taught and many did not know what to do in the event of an extreme natural event. No buildings, old or new, were built to stand ^{with} ~~at~~ an earthquake of any magnitude and there were few building codes to regulate the structural safety of any residential or industrial buildings. The government had not devised an emergency response plan of any kind and relied on foreign aid prior to the earthquake for ^{the} financial support of many of it's civillians. To say Haiti was unprepared for a natural disaster of any magnitude would be an understatement.

Question Three continues on the next page

Time period (2): Days, Weeks & Months After

Group of people: Haitians & the International Community

How this group of people responded to your extreme natural event during this time period:

Immediately following the disaster the United Nations released \$10 billion USD from their emergency response fund, and United Nations peace keepers, along with hundreds of United States and Brazil's soldiers, were deployed on a peace keeping mission. Rescue operations were initially carried out to save those trapped in the rubble, ~~but~~ ^{as} the days turned into weeks the recovery missions failed ~~with~~ the hope that those trapped were alive dwindled, and bodies were piled in the streets. Medical aid was sent from many countries, the Red Cross and Doctors Without Borders taking a lead role in treating the 300,000 injured, but cholera soon broke out in the medical camps and 5,000 at least died in the aftermath. Overwhelmed, few attempts were made to rebuild the homes of the 1.5 million displaced by the quake, and shanty towns were soon erected in the rubble.

A3

Extra space if required.
Write the part number(s) if applicable.

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QUESTION
NUMBER

Extra space if required.
Write the part number(s) if applicable.

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QUESTION
NUMBER

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Low Achievement exemplar for Geography 91007 2016			Total score	9
Q	Grade score	Annotation		
1	A3	The candidate describes the natural processes that operate to produce the extreme natural event, although little supporting evidence is included. Demonstrates very little understanding of the concept of processes.		
2	A3	The candidate does not demonstrate understanding of the natural environment as different from the cultural environment. However, the response does mention an effect on a characteristic of the natural environment and there is a case study context, although very little supporting evidence is included.		
3	A3	The candidate does not show a distinction between two different groups or two different time periods. However, the response does describe how one group has responded within the case study environment, although little supporting evidence is included.		