

# Year 9

## 3.1.1 Section A: The challenge of natural hazards

### 3.1.1.1 Natural hazards

Key idea	Specification content
Natural hazards pose major risks to people and property.	Definition of a natural hazard. Types of natural hazard. Factors affecting hazard risk.

### 3.1.1.2 Tectonic hazards

Key idea	Specification content
Earthquakes and volcanic eruptions are the result of physical processes.	Plate tectonics theory. Global distribution of earthquakes and volcanic eruptions and their relationship to plate margins. Physical processes taking place at different types of plate margin (constructive, destructive and conservative) that lead to earthquakes and volcanic activity.
The effects of, and responses to, a tectonic hazard vary between areas of contrasting levels of wealth.	Primary and secondary effects of a tectonic hazard. Immediate and long-term responses to a tectonic hazard. Use <b>named examples</b> to show how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth.

Key idea	Specification content
<p>Management can reduce the effects of a tectonic hazard.</p>	<p>Reasons why people continue to live in areas at risk from a tectonic hazard.</p> <p>How monitoring, prediction, protection and planning can reduce the risks from a tectonic hazard.</p>

### 3.1.1.3 Weather hazards

Key idea	Specification content
<p>Global atmospheric circulation helps to determine patterns of weather and climate.</p>	<p>General atmospheric circulation model: pressure belts and surface winds.</p>
<p>Tropical storms (hurricanes, cyclones, typhoons) develop as a result of particular physical conditions.</p>	<p>Global distribution of tropical storms (hurricanes, cyclones, typhoons).</p> <p>An understanding of the relationship between tropical storms and general atmospheric circulation.</p> <p>Causes of tropical storms and the sequence of their formation and development.</p> <p>The structure and features of a tropical storm.</p> <p>How climate change might affect the distribution, frequency and intensity of tropical storms.</p>
<p>Tropical storms have significant effects on people and the environment.</p>	<p>Primary and secondary effects of tropical storms.</p> <p>Immediate and long-term responses to tropical storms.</p>

Key idea	Specification content
	<p>Use a <b>named example</b> of a tropical storm to show its effects and responses.</p> <p>How monitoring, prediction, protection and planning can reduce the effects of tropical storms.</p>
The UK is affected by a number of weather hazards.	An overview of types of weather hazard experienced in the UK.
Extreme weather events in the UK have impacts on human activity.	<p>An <b>example</b> of a recent extreme weather event in the UK to illustrate:</p> <p>causes</p> <p>social, economic and environmental impacts</p> <p>how management strategies can reduce risk.</p> <p>Evidence that weather is becoming more extreme in the UK.</p>

### 3.1.1.4 Climate change

Key idea	Specification content
Climate change is the result of natural and human factors, and has a range of effects.	<p>Evidence for climate change from the beginning of the Quaternary period to the present day.</p> <p>Possible causes of climate change:</p> <p>natural factors – orbital changes, volcanic activity and solar output</p> <p>human factors – use of fossil fuels, agriculture and deforestation.</p> <p>Overview of the effects of climate change on people and the environment.</p>

Key idea	Specification content
Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change).	Managing climate change:  mitigation – alternative energy production, carbon capture, planting trees, international agreements  adaptation – change in agricultural systems, managing water supply, reducing risk from rising sea levels.

## 3.1.2 Section B: The living world

In this section, students are required to study [Ecosystems](#), [Tropical rainforests](#) and **one** from [Hot deserts](#) or [Cold environments](#) .

### 3.1.2.1 Ecosystems

Key idea	Specification content
Ecosystems exist at a range of scales and involve the interaction between biotic and abiotic components.	An <b>example</b> of a small scale UK ecosystem to illustrate the concept of interrelationships within a natural system, an understanding of producers, consumers, decomposers, food chain, food web and nutrient cycling.  The balance between components. The impact on the ecosystem of changing one component.  An overview of the distribution and characteristics of large scale natural global ecosystems.

### 3.1.2.2 Tropical rainforests

Key idea	Specification content
Tropical rainforest ecosystems have a range of distinctive characteristics.	<p>The physical characteristics of a tropical rainforest.</p> <p>The interdependence of climate, water, soils, plants, animals and people.</p> <p>How plants and animals adapt to the physical conditions.</p> <p>Issues related to biodiversity.</p>
Deforestation has economic and environmental impacts.	<p>Changing rates of deforestation.</p> <p>A <b>case study</b> of a tropical rainforest to illustrate:</p> <p>causes of deforestation – subsistence and commercial farming, logging, road building, mineral extraction, energy development, settlement, population growth</p> <p>impacts of deforestation – economic development, soil erosion, contribution to climate change.</p>
Tropical rainforests need to be managed to be sustainable.	<p>Value of tropical rainforests to people and the environment.</p> <p>Strategies used to manage the rainforest sustainably – selective logging and replanting, conservation and education, ecotourism and international agreements about the use of tropical hardwoods, debt reduction.</p>

### 3.1.2.3 Hot deserts

Key idea	Specification content
<p>Hot desert ecosystems have a range of distinctive characteristics.</p>	<p>The physical characteristics of a hot desert.</p> <p>The interdependence of climate, water, soils, plants, animals and people.</p> <p>How plants and animals adapt to the physical conditions.</p> <p>Issues related to biodiversity.</p>
<p>Development of hot desert environments creates opportunities and challenges.</p>	<p>A <b>case study</b> of a hot desert to illustrate:</p> <p>development opportunities in hot desert environments: mineral extraction, energy, farming, tourism</p> <p>challenges of developing hot desert environments: extreme temperatures, water supply, inaccessibility.</p>
<p>Areas on the fringe of hot deserts are at risk of desertification.</p>	<p>Causes of desertification – climate change, population growth, removal of fuel wood, overgrazing, over-cultivation and soil erosion.</p> <p>Strategies used to reduce the risk of desertification – water and soil management, tree planting and use of appropriate technology</p>