



NATURAL DISASTERS: EARTHQUAKES



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Introduction

Natural disasters: earthquakes is a curriculum-led geography teaching package designed for use with students aged 11 to 19.

Resources have been differentiated for KS3, GCSE and A level and will help students:

- > learn about the physical geography, hazards and risks which can cause a natural disaster such as an earthquake
- > explain and analyse the varied impacts an earthquake may have on individuals and communities, with a particular focus on their humanitarian impacts
- > gain insight into the role of the Red Cross in disaster preparedness, response and recovery
- > explore the concept of resilience and what might make a community more able to cope in a crisis.

Natural disasters: earthquakes was commissioned by the British Red Cross, authored by award-winning Geography teacher Alan Parkinson and developed with the support of the Geographical Association.

The Nepal earthquake of 2015 is used as a case study throughout to support geographical and humanitarian learning.

Case study introduction: Nepal earthquake

On **Saturday 25 April 2015**, the streets of the Nepalese capital: Kathmandu were busy with residents and tourists meeting friends, selling their produce in the markets or preparing for lunch.

Traffic flowed along the streets into and out of the city, bustling with motorised and horse-drawn vehicles and bicycles.

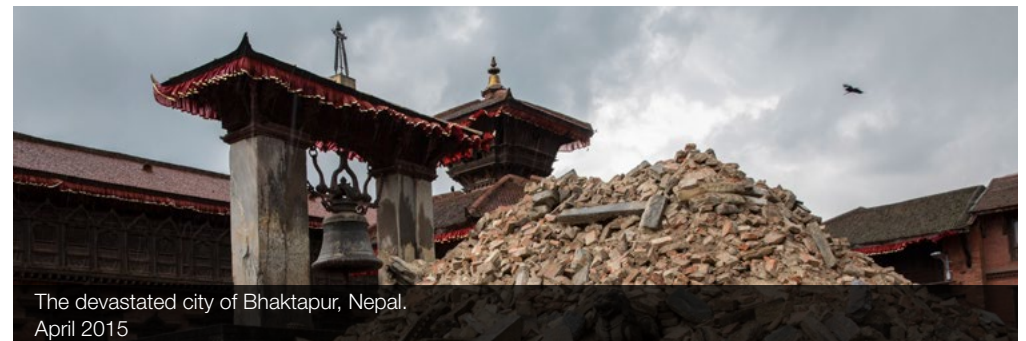
In the villages further up and down the valley, farmers tended their crops, and the sun shone on stupas and temples.

A crowd of people started to climb the stairs up the famous Dharhara tower, a World Heritage site.

At **11:56 am** everything changed. The earth started to shake as a magnitude **7.8** earthquake struck the Kathmandu Valley. It was the biggest earthquake in Nepal for over 80 years, since a large earthquake in 1934.

The **epicentre** of the quake was Barpak village, around 75 km north-west of Kathmandu in the Gorkha region.

The seismic focus lay at a depth of 10 km, close to the surface. The million-strong population of Kathmandu had their lives thrown into chaos, along with the residents of the many villages within a 100km radius of the quake.



The devastated city of Bhaktapur, Nepal.
April 2015

Contents

The resource is divided into four sessions, which you can tackle as a whole or by taking elements from one or two and combining them.

The resource is designed to be worked through in order, as it builds a narrative which is one way of investigating events of this nature.

Session 1: Natural disasters

This session sets the scene by introducing the topic of natural disasters alongside general ideas of risk and hazard.

This first session provides a useful set of activities for those wanting to explore the nature of risk associated with any type of natural disaster.

Session 2: Earthquakes

After a general introduction to natural disasters, session 2 moves on to look more specifically at earthquakes, with a focus on tectonic hazards.

The Nepal earthquake of April 2015 is used in examples and activities throughout to contextualize the learning for students.

Session 3: The impact of a natural disaster

Session 3 focuses on the immediate aftermath of an earthquake and the work of local and international Red Cross teams to support people affected by natural disasters.

It features eye-witness accounts from the Nepal earthquake and utilises a range of engaging multimedia resources.

Session 4: Recovery and resilience

After a natural disaster the Red Cross supports affected individuals as they start to recover and rebuild their lives.

By reflecting upon and applying learning from past experiences, communities can increase their resilience and ability to cope with disasters.

This final session focusses on themes of recovery and resilience and concludes by bringing the learning back to a local context for students.



A collapsed house in Mashiki town, Kumamoto prefecture, Japan.
April 2016

Curriculum-led contextual learning

A curriculum mapping document is provided to support educators with aligning resource content to the UK curricula in England, Scotland, Wales and Northern Ireland.

Case studies, maps, graphs and eyewitness accounts from the Nepal earthquake bring the geography curricular to life.

Common themes and pathways through the resources are provided. These ensure the resource can be adapted for use when teaching about more recent earthquakes or a whole range of other natural disasters.

A humanitarian perspective

After a natural disaster, the humanitarian response is varied in scale and timing, and includes a number of aspects, which this resource explores in detail.

Drawing on Red Cross knowledge, experience and perspectives, activities support learners to consider the humanitarian impact of an earthquake on individuals and communities.

Supporting resources include eyewitness accounts from people who were in Nepal during the 2015 earthquake and those who helped in the immediate aftermath. These resources help learners appreciate the impact of the event and the scale of the humanitarian response.

Author's acknowledgements

My main thanks go to Rachel Hay for sharing her experiences on the day of the Nepal earthquake and the days that followed. She was very generous in her help, with ideas of activities and links that I followed up further. This resource has been shaped by her experiences.

Thanks to colleagues, particularly Claire Kyndt for some of the ideas that fed into the resource.

Thanks to Tony Cassidy for inspiration for the emotion line resource idea that was adapted for one of the sessions.

Thanks also Ben Hennig for use of his cartography, particularly the earthquake risk map.

Thanks to Helen Davis and Lucy Tutton from the British Red Cross for support and feedback on drafts.

Finally my thanks to Geographical Association colleagues for involving me in the project and for their support in reviewing draft chapters.



Kathmandu, Nepal
April 2015

Curriculum Mapping

This section explores links between the activities in the resource, and relevant curriculum documents.

Natural disasters are featured in a range of locations and at different scales. This document suggests some opportunities to use the activities in this resource to align with these documents.

KS3

The new National Curriculum from 2013 is now familiar to schools. As many schools are released from the requirement to follow the National Curriculum, there may also be more freedom to teach the topics covered in this resource.

Links with natural hazards and other important themes are **emboldened**.

England

Purpose of Study

Teaching should equip pupils with knowledge about diverse places, people, resources and **natural and human environments**, together with a deep understanding of the Earth's **key physical and human processes**.

Aims

Interpret **a range of sources** of geographical information, including maps, diagrams, globes, aerial photographs and Geographical Information Systems (GIS)

Human and Physical Geography

Understand, through the use of detailed place-based exemplars at a variety of scales, the key processes in physical geography relating to: geological timescales and **plate tectonics; rocks, weathering and soils; weather and climate**, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts

Understand how **human and physical processes** interact to influence, and change landscapes, environments and the climate

Source: DfE, September 2013

[https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239087/SECONDARY_national_curriculum - Geography.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239087/SECONDARY_national_curriculum_-_Geography.pdf)

Wales

Skills

Pupils should be given opportunities to:

1. **describe and explain physical and human features**, e.g. the features of a river
2. **explain the causes and effects of physical and human processes** and how the processes interrelate, e.g. **causes and consequences of tectonic activity**
3. explain **how and why places and environments change** and identify trends and future implications

Pupils should be given opportunities to study:

the hazardous world: global distribution, causes, and impacts of extreme tectonic and other hazardous events – threatened environments

Welsh Government, 2008

<http://learning.gov.wales/docs/learningwales/publications/130424-geography-in-the-national-curriculum-en.pdf>

Consultation is ongoing for a new curriculum in Wales.

Scotland

Curriculum for Excellence

There was no specific reference to earthquakes or other natural hazards in the document, but the following sections could be used as opportunities to explore the use of the resource.

Social Studies Experiences and Outcomes: People, Place and Environment

(please note that this relates to second and fourth year students)

I can describe the physical processes of a natural disaster and discuss its impact on people and the landscape. SOC 2-07b	I can explain how the interaction of physical systems shaped and continue to shape the Earth's surface by assessing their impact on contrasting landscape types. SOC 4-07a
I can use specialised maps and geographical information systems to identify patterns of human activity and physical processes. SOC 4-14a	

Source: Social Studies Experiences and Outcomes:

<http://www.educationscotland.gov.uk/learningandteaching/curriculumareas/socialstudies/eandos/index.asp>

Northern Ireland

Geography comes into an area of learning called Environment and Society, and has thematic units.

Developing pupils' Knowledge, Understanding and Skills	Developing pupils as Individuals	Developing pupils as Contributors to Society	Developing pupils as Contributors to the Economy and Environment
<p>Young people should have opportunities, through the contexts opposite, to:</p> <ul style="list-style-type: none"> > develop geographical skills to interpret spatial patterns including atlas and map-work skills; > develop enquiry and fieldwork skills: questioning, planning, collecting, recording, presenting, analysing, interpreting information and drawing conclusions relating to a range of primary and secondary sources in order to develop an understanding of: > physical processes of landscape development > the interrelationships between physical and human environments. 	<p>Investigate the physical and human factors that result in people having to make life-changing decisions.</p>	<p>Investigate the causes and consequences of an environmental event making the news and evaluate how it is reported in the media. Create a video/news-bulletin to inform about an earthquake, volcano etc.</p>	<p>Investigate how physical processes operate to create distinct and diverse environments.</p>

Source: CCEA

http://ccea.org.uk/curriculum/key_stage_3/areas_learning/environment_and_society

http://ccea.org.uk/sites/default/files/docs/curriculum/area_of_learning/environement_society/ks3_geography.pdf

GCSE

Specifications are changing from September 2016.

At the time of writing, these are the curriculum references in the available documents.

Specification	Reference	Content
AQA	3.1.1.1	Natural Hazards Definition of a natural hazard. Types of natural hazard. Factors affecting hazard risk.
	3.1.1.2	Tectonic Hazards 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. Primary and secondary effects of a tectonic hazard. Immediate and long-term responses to a tectonic hazard. Use named examples to show how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth. Use named examples to show how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth. Reasons why people continue to live in areas at risk from a tectonic hazard. How monitoring, prediction, protection and planning can reduce the risks from a tectonic hazard
	3.1.1.3	Weather Hazards Primary and secondary effects of tropical storms. Immediate and long-term responses to tropical storms. Use a named example of a tropical storm to show its effects and responses. How monitoring, prediction, protection and planning can reduce the effects of tropical storms. An overview of types of weather hazard experienced in the UK. An example of a recent extreme weather event in the UK to illustrate: > causes > social, economic and environmental impacts > how management strategies can reduce risk. Evidence that weather is becoming more extreme in the UK.
Edexcel	Spec A Topic 2 2.5	Weather Hazards and Climate Change Tropical cyclones are extreme weather events that develop under specific conditions and in certain locations. Reasons why tropical cyclones are natural weather hazards (high winds, intense rainfall, storm surges, coastal flooding and landslides). Different responses to tropical cyclones of individuals, organisations and governments in a named developed and a named emerging or developing country.

	2.6	There are various impacts of and responses to natural hazards caused by tropical cyclones depending on a country's level of development.
	2.8	Drought Reasons why droughts are hazardous. How the impacts of drought on people and ecosystems can vary for a named developed and emerging or developing country. Different responses to drought from individuals, organisations and governments in a named developed and an emerging or developing country.
	Spec B Topic 1	Hazardous Earth Enquiry question: How are extreme weather events increasingly hazardous for people?
	1.5	Tropical cyclones present major natural hazards to people and places. Physical hazards of tropical cyclones (high winds, intense rainfall, storm surges, coastal flooding, landslides) and their impact on people and environments. Why some countries are more vulnerable (physically, socially and economically) than others to the impacts of tropical cyclones.
	1.6	The impacts of tropical cyclones are linked to a country's ability to prepare and respond to them. How countries can prepare for, and respond to, tropical cyclones: weather forecasting, satellite technology, warning and evacuation strategies, storm-surge defences. b. The effectiveness of these methods of preparation and response in one developed country and in one developing or emerging country
		Enquiry question: Why do the causes and impacts of tectonic activity and management of tectonic hazards vary with location?
	1.8	There are different plate boundaries, each with characteristic volcanic and earthquake hazards. Distribution and characteristics of the three plate boundary types (conservative, convergent and divergent) and hotspots. Causes of contrasting volcanic (volcano type, magma type/lava flows and explosivity) and earthquake hazards, including tsunamis (shallow/deep, magnitude).
	1.9	Tectonic hazards affect people, and are managed, differently at contrasting locations Primary and secondary impacts of earthquakes or volcanoes on property and people in a developed and emerging or developing country. Management of volcanic or earthquake hazards, in a developed and emerging or developing country including short-term relief (shelter and supplies) and long-term planning (trained and funded emergency services), preparation (warning and evacuation; building design) and prediction.
	Integrated Skills	Use and interpretation of world map showing distribution of plate boundaries and plates Use of Richter Scale to compare magnitude of earthquake events Use of social media sources, satellite images and socio-economic data to assess impact.

Eduqas A	Theme 3	Tectonic Landscapes and Hazards
	Key Idea 3.2: Vulnerability and hazard reduction	Impacts of earthquakes, tsunami and volcanic activity on health, infrastructure, and economy. Physical and human factors that increase vulnerability to tectonic hazards: Physical factors to include the magnitude of volcanic eruptions and earthquakes. The characteristics and scale of pyroclastic flows, lava flows, lahars and ash clouds. Social and economic factors that can increase vulnerability of communities in tectonic zones in countries at different levels of economic development. Coverage must include one located example of a volcanic hazard and one located earthquake event. How monitoring, hazard mapping, new building technology and improved emergency planning may be used to reduce the risks associated with earthquakes, tsunamis and volcanic eruptions.
	Key Idea 4.2: Managing coastal hazards	The reasons for increased vulnerability of some coastal communities in the future and why some coastlines are at greater risk than others. The specific challenges faced by Small Island States as sea levels rise. How and why sea level rise may lead to environmental refugees in the future. How governments in countries at different levels of economic development are facing this issue.
	Key Idea 5.2: Weather patterns and process	An overview of global circulation of the atmosphere. How global circulation creates areas of low and high pressure. How these different pressure systems each lead to weather hazards. Detailed study of a least one located low pressure hazard to include its causes and consequences for people, environment and economy and responses to this hazard (for example, early warning systems/emergency aid). Detailed study of a least one located high pressure hazard to include its causes and consequences for people, environment and economy and responses to this hazard (for example, improved water security).
Eduqas B	Theme 2 How are weather hazards distributed at a global scale and how does this pattern change over time?	Typical weather patterns and extreme weather hazards associated with high and low pressure systems. Coverage should include the use of weather charts. Temporal and spatial changes in extreme weather to include seasonal and longer term changes in the tropics which result in drought.
		Describe and interpret geo-spatial data presented in a GIS framework.
OCR A	1.3 UK Environmental Challenges	Extreme flood hazard events are becoming more commonplace in the UK Case study of one UK flood event caused by extreme weather conditions including: causes of the flood event, including the extreme weather conditions which led to the event effects of the flood event on people and the environment the management of the flood event at a variety of scales.

	2.3 Environmental Threats to the Planet	<p>Extreme weather conditions cause different natural weather hazards.</p> <ul style="list-style-type: none"> > Outline the causes of the extreme weather conditions that are associated with the hazards of tropical storms and drought. > The distribution and frequency of tropical storms and drought, and whether these have changed over time. <p>Drought can be devastating for people and the environment.</p> <p>Case study of one drought event caused by El Niño/La Niña: how the extreme weather conditions of El Niño/La Niña develop and can lead to drought effects of the drought event on people and the environment ways in which people have adapted to drought in the case study area.</p>
OCR B	Topic 1 – Global Hazards 1.1. How can weather be hazardous?	<p>The distribution and frequency of tropical storms and drought, and whether these have changed over time.</p> <ul style="list-style-type: none"> > Outline the causes of the extreme weather conditions associated with tropical storms. > Outline the causes of the extreme weather conditions of El Niño/La Niña leading to drought. <p>When does extreme weather become a hazard?</p> <p>Case studies of two contrasting natural weather hazard events arising from extreme weather conditions. The case studies must include a natural weather hazard from each bullet point below: flash flooding or tropical storms heat wave or drought. There must be one UK based and one non-UK based natural weather hazard event.</p> <ul style="list-style-type: none"> > For each chosen hazard event, study the place specific causes (including the extreme weather conditions which led to the event), consequences of and responses to the hazard.
	1.2. How do plate tectonics shape our world?	<p>What processes occur at plate boundaries?</p> <p>The structure of the Earth and how it is linked to the processes of plate tectonics including convection currents.</p> <ul style="list-style-type: none"> > The processes that take place at constructive, destructive, conservative and collision plate boundaries as well as hotspots. > How the movement of tectonic plates causes earthquakes, including shallow and deep focus, and volcanoes, including shield and composite. <p>How can tectonic movement be hazardous?</p> <p>A case study of a tectonic event that has been hazardous for people, including specific causes, consequences of and responses to the event.</p> <p>How does technology have the potential to save lives in hazard zones?</p> <p>How technological developments can have a positive impact on mitigation (such as building design, prediction, early warning systems) in areas prone to a tectonic hazard of your choice.</p>

'A' level

Specifications are changing from September 2016.

At the time of writing, these are the curriculum references in the available documents.

Specification	Reference	Content
AQA	Section 3.1.5 Hazards	
	3.1.5.1 The concept of hazard in geographical contexts	Nature, forms and potential impacts of natural hazards (geophysical, atmospheric and hydrological). Hazard perception and its economic and cultural determinants. Characteristic human responses – fatalism, prediction, adjustment/adaptation, mitigation, management, risk sharing – and their relationship to hazard incidence, intensity, magnitude, distribution and level of development. The Park model of human response to hazards. The Hazard Management Cycle.
	3.1.5.4 Seismic Hazards	The nature of seismicity and its relation to plate tectonics: forms of seismic hazard: earthquakes, shockwaves, tsunamis, liquefaction, landslides. Spatial distribution, randomness, magnitude, frequency, regularity, predictability of hazard events. Impacts: primary/secondary; environmental, social, economic, political. Short and long-term responses; risk management designed to reduce the impacts of the hazard through preparedness, mitigation, prevention and adaptation. Impacts and human responses as evidenced by a recent seismic event.
	3.1.5.5 Storm Hazards	The nature of tropical storms and their underlying causes. Forms of storm hazard: high winds, storm surges, coastal flooding, river flooding and landslides. Spatial distribution, magnitude, frequency, regularity, predictability of hazard events. Impacts: primary/secondary, environmental, social, economic, political. Short and long-term responses: risk management designed to reduce the impacts of the hazard through preparedness, mitigation, prevention and adaptation. Impacts and human responses as evidenced by two recent tropical storms in contrasting areas of the world.
Edexcel	Topic 1: Tectonic Processes and Hazards Enquiry question 1: Why are some locations more at risk from tectonic hazards?	The global distribution of tectonic hazards can be explained by plate boundary and other tectonic processes. a. The global distribution and causes of earthquakes, volcanic eruptions and tsunamis. b. The distribution of plate boundaries resulting from divergent, convergent and conservative plate movements (oceanic, continental and combined situations). c. The causes of intra-plate earthquakes, and volcanoes associated with hot spots from mantle plumes.

	<p>Enquiry question 2: Why do some tectonic hazards develop into disasters?</p>	<p>Disaster occurrence can be explained by the relationship between hazards, vulnerability, resilience and disaster. Tectonic hazard profiles are important to an understanding of contrasting hazard impacts, vulnerability and resilience. <i>Profiles of earthquake, volcano and tsunami events showing the severity of social and economic impact in developed, emerging and developing countries.</i> Development and governance are important in understanding disaster impact and vulnerability and resilience. Inequality of access to education, housing, healthcare and income opportunities can influence vulnerability and resilience. Governance (Local and national government) and geographical factors (population density, isolation and accessibility, degree of urbanisation) influence vulnerability and a community's resilience. Contrasting hazard events in developed, emerging and developing countries to show the interaction of physical factors and the significance of context in influencing the scale of disaster.</p>
	<p>Enquiry question 3: How successful is the management of tectonic hazards and disasters?</p>	<p>Understanding the complex trends and patterns for tectonic disasters helps explain differential impacts. <i>The concept of a multiple-hazard zone and how linked hydrometeorological hazards sometimes contribute to a tectonic disaster.</i> Theoretical frameworks can be used to understand the predication, impact and management of tectonic hazards. Prediction and forecasting (Role of scientists) accuracy depend on the type and location of the tectonic hazard. The importance of different stages in the hazard management cycle (response, recovery, mitigation, preparedness). (Role of emergency planners) <i>Use of Park's Model to compare the response curve of hazard events, comparing areas at different stages of development.</i> Tectonic hazard impacts can be managed by a variety of mitigation and adaptation strategies, which vary in their effectiveness. <i>Strategies to modify loss include emergency, short and longer term aid and insurance (Role of NGOs and insurers) and the actions of affected communities themselves.</i></p>
Eduqas	SECTION B – Tectonic Hazards	<p>1.3.4 Volcanoes and their impacts > Environmental, demographic, economic and social impacts of volcanic hazards on people and the built environment including primary and secondary effects > Local scale, regional scale and global scale impacts of volcanic activity > Use examples of at least two contrasting contexts to demonstrate the varied degree of risk and impacts of volcanic activity 1.3.5 Earthquakes, processes and hazards > Earthquake characteristics to include P and S waves, focus, depth and epicentre > Earthquake processes and the production of associated hazards including ground shaking, liquefaction, landslides and tsunami</p>
		<p>1.3.6 Earthquakes and tsunamis and their impacts > Environmental, demographic, economic and social impacts of earthquake and tsunami activity on people and the built environment including primary and secondary effects > Local scale, regional scale and global scale impacts of earthquake and tsunami activity > Use examples of at least two contrasting contexts to demonstrate the varied degree of risk and impacts of earthquake activity > Use examples of at least two contrasting contexts to demonstrate the varied degree of risk and impacts of tsunami activity 1.3.7 Human factors affecting risk and vulnerability > Economic factors including level of development and level of technology > Social factors including the population density, population profile (age, gender) and levels of education • Political factors including the quality of governance > Geographical factors including rural / urban location, time of day and degree of isolation</p>

		1.3.8 Responses to volcanic hazards > Monitoring, predicting and warnings of volcanic eruptions, and > Mitigating volcanic hazards and modifying the event, vulnerability, and loss > Short-term and long-term responses to the effects of volcanic hazards (the hazard management cycle) 1.3.9 Responses to earthquakes and tsunamis > Monitoring, predicting and warnings of volcanic eruptions, earthquakes and tsunami > Mitigating earthquake and tsunami hazards and modifying the event, vulnerability, and loss > Short-term and long-term responses to the effects of earthquake and tsunami hazards (the hazard management cycle)
OCR	Topic 3.2 – Disease Dilemmas	Natural hazards can influence the outbreak and spread of disease Case study of one country which has experienced a natural hazard, such as an earthquake, drought or monsoon rains, and the implications this has on a named disease, such as cholera or typhoid; geographical area covered by the hazard and its influence on the risk and outbreak of disease; environmental factors affecting the spread of disease such as climate, sanitation, water supply and food; human factors affecting the spread of the disease such as population density, access to clean water, immunisation programmes; impacts of the disease on resident populations; strategies used to minimise the impacts of the disease at national and international scales.
	Topic 3.3 Exploring Oceans	Oceans present hazardous obstacles to human activities.
	Topic 3.5: Hazardous Earth What are the main hazards generated by volcanic activity?	There is a variety of volcanic activity and resultant landforms and landscapes. Volcanic eruptions generate distinctive hazards.
	What are the main hazards generated by seismic activity?	Earthquake characteristics to investigate their causes and features including: shallow-focus earthquakes; deep-focus earthquakes; the different measures of assessing earthquake magnitude (Richter, moment magnitude scale, modified Mercalli intensity scale); the effects earthquakes have on landforms and landscapes including the development of escarpments and rift valleys. Earthquakes generate distinctive hazards. Hazards generated by earthquakes, including: ground shaking and ground displacement; liquefaction; landslides and avalanches; tsunamis associated with sea-bed uplift and underwater landslides; flooding.
	What are the implications of living in tectonically active locations?	There are a range of impacts people experience as a result of volcanic eruptions. Case studies of two countries at contrasting levels of economic development to illustrate: reasons why people choose to live in tectonically active locations; the impacts people experience as a result of volcanic eruptions; economic, environmental and political impacts on the country. There are a range of impacts people experience as a result of earthquake activity Case studies of two countries at contrasting levels of economic development to illustrate: reasons why people choose to live in tectonically active locations; the impacts people experience as a result of earthquake activity; economic, environmental and political impacts on the country.

	There are various strategies to manage hazards from earthquakes.	Case studies of two countries at contrasting levels of economic development to illustrate strategies used to cope with hazards from earthquakes including: attempts to mitigate against the event such as land-use zoning; attempts to mitigate against vulnerability such as building design; attempts to mitigate against losses such as insurance.
OCR	The exposure of people to risks and their ability to cope with tectonic hazards changes over time.	How and why have the risks from tectonic hazards changed over time including: changes in the frequency and impacts of tectonic hazards over time; the degree of risk posed by a hazard and the probability of the hazard event occurring (the disaster risk equation); possible future strategies to cope with risks from tectonic hazards. The relationship between disaster and response including the Park model.

The **specification documents** can be downloaded in full from the following locations:

AQA: <http://www.aqa.org.uk/>

Edexcel: <http://qualifications.pearson.com/>

Eduqas: <http://www.eduqas.co.uk/>

OCR: <http://www.ocr.org.uk/>

A note on case studies

The **case study** is a unit of study in many exam specifications. Some specification documents distinguish between the case study and the located example.

The location that is being mentioned is a starting point, but will need to have some level of detail, explanation, a suitable map or diagram, some context within the unit that is being studied, and ideally a reference to something that happened at that location which makes it worthy of further study or focus.

We have a strong focus on the Nepal earthquake in this unit and also refer to the work of the Red Cross.