

Option D: Geophysical hazards

1. Geophysical systems		Check
How geological processes give rise to geophysical events of differing type and magnitude	Mechanisms of plate movement including internal heating, convection currents, plumes, subduction and rifting at plate margins	
	Characteristics of volcanoes (shield, composite and cinder) formed by varying types of volcanic eruption; and associated secondary hazards (pyroclastic flows, lahars, landslides)	
	Characteristics of earthquakes (depth of focus, epicentre and wave types) caused by varying types of plate margin movement and human triggers (dam building, resource extraction); and associated secondary hazards (tsunami, landslides, liquefaction, transverse faults)	
	Classification of mass movement types according to cause (physical and human), liquidity, speed of onset, duration, extent and frequency	
2. Geophysical hazard risks		Check
How geophysical systems generate hazard risks for different places	The distribution of geophysical hazards (earthquakes, volcanoes, mass movements)	
	The relevance of hazard magnitude and frequency/recurrence for risk management	
	Geophysical hazard risk as a product of economic factors (levels of development and technology), social factors (education, gender), demographic factors (population density and structure) and political factors (governance)	
	Geographic factors affecting geophysical hazard event impacts, including rural/urban location, time of day and degree of isolation	
3. Hazard risk and vulnerability		Check
The varying power of geophysical	Volcanic Hazards x2 - geophysical hazard event profiles, including any secondary hazards - varied impacts of these hazards on different aspects of human well-being - why levels of vulnerability varied both between and within communities, including spatial variations in hazard perception, personal knowledge and preparedness	

hazards to affect people in different local contexts	Earthquake Hazards x2 - geophysical hazard event profiles, including any secondary hazards - varied impacts of these hazards on different aspects of human well-being - why levels of vulnerability varied both between and within communities, including spatial variations in hazard perception, personal knowledge and preparedness	
	Mass Movement Hazard x2 - geophysical hazard event profiles, including any secondary hazards - varied impacts of these hazards on different aspects of human well-being - why levels of vulnerability varied both between and within communities, including spatial variations in hazard perception, personal knowledge and preparedness	

4. Future resilience and adaptation		Check
Future possibilities for managing	Global geophysical hazard and disaster trends and future projections, including event frequency and population growth estimates	
	Geophysical hazard adaptation through increased government planning (land use zoning) and personal resilience (increased preparedness, use of insurance and adoption of new technology)	
	Pre-event management strategies for mass movement (to include slope stabilization), earthquakes and tsunamis (to include building design, tsunami defences), volcanoes (to include GPS crater monitoring and lava diversions)	
	Post-event management strategies (rescue, rehabilitation, reconstruction), to include the enhanced use of communications technologies to map hazards/disasters, locate survivors and promote continuing human development	

Case Studies and Examples
two earthquake hazard events of similar magnitudes but with contrasting human impacts Case Study 1: Case Study 2:
two volcanic hazard events in contrasting plate boundary locations Case Study 1: Case Study 2:
two mass movement hazard events with contrasting physical characteristics Case Study 1: Case Study 2:

Revision Priorities