Storms: forms & causes *3.1.5.5* ANSWERS

Q1	*True or False?*	
A	Tropical storms occur when ocean temperatures are over 27 degrees Celsius.	**True**
B	Tropical storm can begin over both the land and the ocean.	**False**
C	Tropical storms tend to occur most in the winter months between November and February.	**False**
D	Predictions of tropical storm direction is possible using scientific technology, such as satellite monitoring.	**True**
E	Tropical storms originate between the tropics of Cancer and Capricorn.	**True**

Q2	**Match the correct term to the correct definition**	
A	The collapse of a mass of earth from a mountain or cliff face.	**Landslide**
B	The strength of an event.	**Magnitude**
C	The rising of the sea as a result of strong winds & low pressure in a storm.	**Storm surge**
D	The number of times that an event occurs.	**Frequency**
E	How processes and landforms are spread across the earth's surface.	**Spatial distribution**
Select from: **Storm surge** **Landslide** **Spatial distribution** **Magnitude** **Frequency**		

Q3	**One sentence is incorrect in each of the explanations below. Identify the wrong one.**
A	~~Tropical storms become hurricanes when wind speeds exceed 60mph.~~ Hurricanes are categorised from 1 – 5, with 1 being the weakest and 5 being a hurricane with wind speeds of over 149 mph. In different parts of Asia 'hurricanes' are termed 'typhoons' and 'cyclones'.
	Tropical storms become hurricanes when wind speeds exceed 74mph.
B	Tropical storms begin over the ocean and high levels of evaporation cause cumulonimbus clouds to form. The storm begins to rotate because of the Coriolis force. ~~The storm intensifies as it hits land.~~
	The storm is at its strongest when it is over the ocean as increased evaporation allows the storm to harness more energy as water vapour condenses and for the wind speed to increase. As the hurricane reaches land, it moves away from its source of energy and the hurricane weakens, slows down and eventually disappears. The length of time needed for this to happen can vary according to land use and the original strength of the hurricane.
C	The distribution of hurricanes is within a narrow band across the earth and many places are at risk from storm events. These include Taiwan, USA and the Philippines. ~~The UK experiences at least 10 of these storm events every year.~~
	The UK, being outside the tropics, isn't affected by hurricanes. On occasion, the UK can experience storm activity that crosses the Atlantic and is the result of a previous hurricane.
D	South east Asia receives the highest frequency of storm events each year due to the intense heating of the oceans for several months during the summer period. As evaporation increases and leads to rising moist air, Coriolis force causes the air to spin. ~~In the centre of the hurricane is the eye, where wind speed is at its highest.~~
	The winds are at their fastest around the edge of the hurricane, whereas the eye in the centre is a calm still air, with only very light winds.
E	~~A storm surge occurs as a hurricane approaches land and can become as high as 2 metres.~~ As the distance between the waves and the ocean bed is restricted the storm surge rises up and then crashes onto land. This can be the most devastating aspect of a hurricane; even more deadly than the winds themselves.
	Storm surges have been measured as high as 7 m. and this is even higher when it is coupled with a high tidal range.

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Q4	***Decide which heading the various factors would match with, with regards to the strength of a tropical storm and its associated features***

Causal factors	***Factors which reduce tropical storm and associated features***
Sea temperature of 27C+ Secluded (can funnel a storm surge so it increases in height) Long summer period Global warming Light westerly winds at the start Large tidal range Ocean surface winds	On the equator (limited spinning effect from the Coriolis force) High cliffs along the coast (restrict impact of storm surge and coastal flooding) – could causes landslides though; although not as damaging.

Sea temperature of 27C+	Secluded bay	Long summer period
Global warming	Light westerly winds at the start	Large tidal range
On the equator	High cliffs along the coast	Ocean surface winds

Q5	***Think about the primary and secondary hazards created by a tropical storm***
A	**Primary hazards:** • High winds • High levels of precipitation – several inches over a few hours (this varies between different hurricanes) • Lightning • Storm surge
B	**Secondary hazards:** • Landslides • Coastal flooding on low coastal plains • River flooding as a result of precipitation levels • Disease outbreak • Water shortage • Shortage of medication