



The Impact of Climate Change on Flooding in Coastal Communities in Aberdeen and Aberdeenshire

QUIZ

15 Minutes

Section 1 - Climate Change Background

1. What is the definition of climate change?
 - a) The change in weather seasonally over the course of a year
 - b) When a countries mean annual temperature, changes for a short period of time. Changes are caused by a natural or human source
 - c) Changes identified in the mean and variability of properties in climate for an extended period of time (decades).
 - d) The differences in climate found in countries located around the world

2. What does IPCC stand for and what does it do?
 - a) Intergovernmental Panel on climate change; Leading body in assessment of climate change through reviewing of scientific work/data
 - b) Ireland's protection for climate change; Ireland's policies for tackling climate change. Specifically mean sea level rise and mean temperature rise.
 - c) International policy on cold climates; International agreements for managing colder climates. Tackling the difficulties cold climates pose to companies and government.
 - d) Ice, precipitation, clouds and climate; the main indicators of climate change agreed by climate change research and studies.

3. Out of the examples below choose the least relevant indicator for accessing climate change:
 - a) Sea level change
 - b) Extreme events (Storms, flooding, hurricanes etc)
 - c) Annual cloud cover
 - d) Precipitation levels

4. Rate of global warming has increased per decade by:
 - a) 0.001°C
 - b) 0.5°C
 - c) 0.02°C
 - d) 0.05°C
 - e) 0.2°C

5. Greenhouse gases are a probable contributor climate change. Global greenhouse gas emissions from human activities have increased from pre-industrial time by:
 - a) 20%
 - b) 30%
 - c) 50%
 - d) 70%

6. The greenhouse gas carbon dioxide CO₂ has increased in atmospheric levels over the last 100 years by:
 - a) 10%
 - b) 16%
 - c) 25%
 - d) 34%
 - e) 48%

7. Scotland's annual temperature in 2080 for the summer is predicted to rise by:
 - a) 1°C
 - b) 2°C
 - c) 2.5°C
 - d) 3°C
 - e) 3.5°C

8. Scotland's growing season (spring) for plants and animals in 2080 is expected to increase by:
 - a) 20-30 days
 - b) 20-40 days
 - c) 20-60 days
 - d) 20-80 days

9. Which two regions of the world below, recorded the most observed changes in physical and biological systems, caused by temperature change in 1970-2004
 - a) Europe
 - b) North America
 - c) Asia
 - d) Africa
 - e) South America

Section 2 – Coastal Climate Change

- 10.** How many marine and freshwater biological changes (e.g. changes in ecosystems and habitats) were observed for the period of 1970 -2004, caused by temperature changes?
- a) 65
 - b) 85
 - c) 120
 - d) 300
- 11.** Which paragraph below best outlines the general consequences of climate change for coastal regions of the UK? Consider the following future climate change factors and the impacts they will bring when answering the question: Sea level rise, sea temperature rise, storminess and severe weather
- a) Coastal areas will experience wetter winters, increasing the occurrence of flash floods, storm intensity and wave height. Sea level rise will cause accelerated erosion of soft shores and warm seas will change habitat ranges of marine species.
 - b) Coastal areas will experience dryer winters and wetter summers. Storm events will decrease and the risk of flooding. Sea level rise will cause accelerated erosion of soft shores and warmer seas will change habitat ranges of marine species.
 - c) Coastal areas will experience wetter winters, increasing the occurrence of flash floods, storm intensity and wave height. Sea level rise will cause accelerated deposition of materials on coastal regions and seas will become colder, increasing biodiversity.
- 12.** What is the predicted rate of increase in average sea level rise for global coastal regions by 2050? (predicted by IPCC): These are based on scientific studies done across the globe that IPCC have analyzed.
- a) ± 22 cm
 - b) ± 25 cm
 - c) ± 28 cm
 - d) ± 30 cm
- 13.** In 1998 coral reefs around Asia decreased by what percentage due to increases in sea temperature and acidification?
- a) 20%
 - b) 24%
 - c) 32%
 - d) 34%

Section 3 – UK Coastal Climate Change

14. Out of the areas listed below, which ones will be affected by climate change in the future?

- a) Lough Swilly-Donegal Ireland
- b) North East of England – Durham
- c) East of England – North Norfolk
- d) Aberdeen City coast

15. Temperature in the Irish coastal seas have risen since 1950 by:

- a) 0.55°C
- b) 0.60°C
- c) 0.75°C
- d) 0.85°C

16. Highlight the two threats below - due to climate change - which will affect biodiversity for the area of Cork harbour:

- a) Destruction of habitats through coastal erosion and flooding
- b) Flooding of residential areas around the harbor
- c) Sea temperature rise
- d) Increased wave heights and frequency

17. Sea level rise and storminess are aspects of climate change. A possible prevention measure is tidal defences. How many people are currently protected by tidal defences in the UK?

- a) 500 thousand
- b) 1 million
- c) 1.5 million
- d) 2 million

18. What percentage of the UK population currently lives near the coast?

- a) 37%
- b) 47%
- c) 57%
- d) 67%

Section 4 - Aberdeen and Climate Change

- 19.** As the climate gets warmer, snowfall will be replaced by rainfall. Aberdeen will see reduction in average snowfall in 2080, by what percentage?
- a) 20 – 30%
 - b) 40 – 50%
 - c) 50 – 60%
 - d) 70 – 80%
- 20.** In Aberdeen, the winter rainfall in 2080 is predicted to increase by:
- a) 5%
 - b) 25%
 - c) 50%
 - d) 75%
- 21.** Aberdeen mean annual temperature will rise by 2080:
- a) 0.5 – 1°C
 - b) 1 – 1.5°C
 - c) 2 – 2.5°C
 - d) 2 – 3.5°C
- 22.** Aberdeen could see increases of 'extremely' warm days in 2080 by:
- a) 10 days
 - b) 20 days
 - c) 30 days
 - d) 40 days
 - e) 50 days
- 23.** Storm events and extreme sea levels could increase in frequency by 2080:
- a) 10 days
 - b) 20 days
 - c) 30 days
 - d) 40 days