



Variant A

# Climate change: a creeping catastrophe

## An interview with Colin Summerhayes<sup>1</sup>

Dr Colin Summerhayes is the president of the Society for Underwater Technology and an emeritus associate of the Scott Polar Research Institute at the University of Cambridge, England. He is an oceanographer and geologist who has worked in academia, government and industry in several countries. Summerhayes holds a Bachelor of Science in Geology from University College London, a Doctorate of Philosophy in Applied Geochemistry from Imperial College, and a Master of Science and Doctorate of Science in Marine Geology from Victoria University in Wellington, New Zealand. Widely published, he has served on many national and international scientific management committees, and is a past member of the Steering Committee for the Global Climate Observing System.

**Q** *People often blame unseasonal weather on climate change. Could you please explain the difference between weather and climate?*

**A** ..... is what we see hour-to-hour and day-to-day, and ..... forecasts can tell us if it will rain, say, tomorrow afternoon, but because the weather is innately chaotic, forecasts for longer than 10 days are extremely poor. .... is different. It is an average of the weather, usually taken over periods of 10 to 30 years, and it can tell us things like what the average day – and night-time temperatures are likely to be for any month and the average precipitation for that month. That is because there are elements of the ..... that are not chaotic; indeed we all know that winter follows summer (which means we are making a climate forecast). But climate forecasts cannot tell us if it will rain tomorrow, only what the monthly probabilities of this are.

**Q** *What do you predict to be the main effects of climate change around the world?*

**A** There will be winners and losers from climate change. We project that by 2100, eastern China, ..... will receive more rainfall, while the Caribbean, Chile, western China, the ..... and Peru will become drier. Africa has a mixed forecast, with the north and south being dry, and places such as Kenya, very wet. From these projections, we can ..... where agriculture and water supplies will be stressed. In the moist tropics and high latitudes, there will be increased water availability but, in the mid-latitudes and semi-arid low latitudes, water availability will ..... and drought conditions will intensify, exposing hundreds of millions of people to increased water stress.

**Q** *How is climate change affecting water supplies?*

**A** Land glaciers in the Himalayas lock up water and release it nicely for countries such as ..... and Pakistan

in a regular manner throughout the year. The same applies to the Andes and the water ..... to countries such as Peru. If the land glaciers retreat by a significant amount, the whole release mechanism will probably be compromised. Also, depending on the extent to which ..... rise, global warming may also cause problems to water supplies and sewage disposal in coastal cities.

**Q** *What effect will climate change have on ocean ecologies?*

**A** Higher temperatures will increase coral ..... and this could affect the livelihoods of fishermen around reefs. Higher levels of ..... emissions will make the oceans more acidic, harming the plankton and endangering the whole food-chain for all creatures, including humans, relying on the oceans for food.

**Q** *So what can we do to limit the negative impacts of climate change?*

**A** To mitigate the effects on health, it will be important to plan for ..... rather than cure; to encourage improved development, good sanitation and supplies of clean water and to move to ..... economies.

sea levels	climate	decrease
the Mediterranean	prevention	India
supplied	climate system	weather
bleaching	Colombia and Ecuador	carbon dioxide
low-carbon	weather	forecast

**Answer in your own words:**

- What is the difference between weather and climate?
- Which causes of climate change do you know?
- What another negative impacts of climate change do you know?

**Variant B**

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decrease	weather	forecast
the Mediterranean	climate system	weather
	Colombia and Ecuador	

**Answer in your own words:**

- What is the difference between weather and climate?
- What other negative impacts of climate change do you know?