

Climate change and extinction?

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- 1 A major review into the impact of climate change on plants and animals has found that scientists have almost no idea how it drives species to extinction.
- 2 Though some organisms struggle to cope physiologically with rising temperatures – a simple and direct result of climate change – there was scarce evidence this was the main climate-related threat to many species whose numbers were already falling. More often, climate change took its toll on life through more complex and indirect routes, such as reducing the abundance of food, making diseases more rife, and disturbing natural encounters between species, the review concludes.
- 3 The report warns that scientists have "disturbingly limited knowledge" on the crucial issue, and that many species may become extinct long before their inability to cope physically with warmer conditions becomes a danger. "This is arguably the most important topic in biology and the simple question of what actually causes a population to go extinct through climate change is completely understudied," said John Wiens, an evolutionary ecologist at Stony Brook University in New York. Understanding the precise ways that climate change affected different species was now "an urgent priority" for future research, he added.
- 4 Wiens's group analysed 136 published studies that described local extinctions attributed to climate change. Only seven of the papers identified a primary mechanism for the species' disappearance. None showed a simple relationship between species loss and the organism's tolerance of higher temperatures. Despite a wealth of studies describing how species adapted to climate change, by moving to new habitats, for example, Wiens said the details of how climate forces populations into decline were still largely unknown.
- 5 Writing in the journal *Proceedings of the Royal Society B*, the researchers describe how frogs in Central and South America can suffer when climate change causes fungus to spread more easily; how plovers in Britain are affected when higher summer temperatures reduce populations of craneflies; and how grey jays in Canada were less likely to survive the winter and go on to breed the following year when warm autumn temperatures caused their food hoards to rot.
- 6 These subtle shifts in the way species behave may make even small climatic changes dangerous for vulnerable plants and animals, Wiens said. "If you want to preserve species, you need to know what causes them to decline. Do the plants they feed on disappear? Does a competitor move into their range, or a new predator? Or maybe it is just too hot for that species," he added.

adapted from *The Guardian Weekly*, 2012

Tekst 8 Climate change and extinction?

- 1p 31 How can paragraph 1 be characterised best?
- A as a concise statement on the effects of a changing climate on ecosystems
 - B as an illustration of the current state of affairs regarding research into global warming
 - C as a short summary of the findings of an extensive study into the effects of climate change
 - D as the introduction to a discussion about the effects of climate change for mankind
 - E as the presentation of an important breakthrough in scientific knowledge on extinction
- 2p 32 Geef van elk van de volgende beweringen aan of deze wel of niet overeenkomt met de inhoud van alinea 2 tot en met 4.
- 1 Scientists have failed to draw attention to the complexity of the relationship between rising temperatures and the extinction of species.
 - 2 Climate change will make it easier for diseases to spread.
 - 3 Rising temperatures may have benefits for certain ecosystems.
 - 4 Several varieties of plants and animals have not survived due to the warmer climate.
- Noteer het nummer van elke bewering, gevolgd door “wel” of “niet”.
- “the crucial issue” (paragraph 3)
- 1p 33 Which of the following quotations most accurately identifies this issue?
- A “some organisms struggle to cope physiologically with rising temperatures” (paragraph 2)
 - B “there was scarce evidence this was the main climate-related threat” (paragraph 2)
 - C “many species may become extinct long before their inability to cope physically with warmer conditions becomes a danger” (paragraph 3)
 - D “the details of how climate forces populations into decline” (paragraph 4)
- 1p 34 What is the function of paragraph 5?
- A to present indirect ways in which climate change endangers species
 - B to prove that global warming is at the root of changing animal behaviour
 - C to provide examples of animal extinction as published in an academic journal
 - D to research the interdependence of living organisms for survival

Bronvermelding

Een opsomming van de in dit examen gebruikte bronnen, zoals teksten en afbeeldingen, is te vinden in het bij dit examen behorende correctievoorschrift, dat na afloop van het examen wordt gepubliceerd.