



Background Paper

A CRUNCH ISSUE FOR PARIS COP21: THE IMPACT OF CLIMATE CHANGE ON SPECIES'

IMPACT OF CLIMATE CHANGE ON SPECIES

Longer-term changes in climate, and extreme weather events, have already begun to affect species across the globe. Climate change does not just impact species directly. It also exacerbates other major threats, such as habitat destruction, overexploitation, invasive species and disease. **Major impacts already observed include:**

Range Shifts: Climate is the most important predictor of butterfly species distribution. Butterflies have been documented shifting their ranges toward the poles and to higher altitudes.

Changing Food and Water Availability: African elephants need up to 300 litres of water a day just for drinking. As rainfall patterns change, humans and wildlife are competing for diminishing sources of water.

Increases in Pests and Disease: As winters get warmer and shorter, moose in the northern United States are declining due to tick infestations.

Changes in the Timing of Life Cycle Events: Responding to warmer spring temperatures, plants are flowering earlier than they used to, resulting in a mismatch between peak plant growth and the animals that depend on them.

Coral Bleaching: The oceans have absorbed most of the warming since the industrial revolution, causing corals to expel the algae (zooxanthellae) living in their tissues and turn white.

WWF is working to better understand how species are being impacted in a changing climate, and altering our conservation strategies to address this.

ASSESSING SPECIES VULNERABILITY

To date, most assessments of species vulnerability to climate change have focused on correlative models, which fail to account for species' ability to evolve, their plasticity, interactions with other species and human impacts on species.


WWF has adopted a new approach to understand traits that make a species resilient or vulnerable to changes in climate. We are developing more robust conservation action plans based on this. **Key vulnerabilities of species include:**

- Those which are highly sensitive to climatic change, for example species with a very narrow temperature tolerance or high freshwater requirements.
- Those which have very low capacity to adapt to change, for example range-restricted species or those with long generation times.
- Those which will be exposed to the greatest amount of climatic change, for example Arctic species.

WWF is also actively researching how rural communities are responding to changes in weather and climate, and how their responses are impacting biodiversity.

It will be difficult to maintain many ecological systems with 2-3°C of warming. It is therefore essential to limit the amount of climate change we must deal with, while realising that we are committed to some amount of change that we must adapt our strategies to.

Photos and graphics © WWF or used with permission.
Text available under a Creative Commons licence.

	<p>Why we are here To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.</p> <p>www.panda.org/climateandenergy</p>
---	--

© WWF Registered Trademark Owner © 1986, WWF-World Wide Fund for Nature (formerly World Wildlife Fund), Gland, Switzerland

ABOUT WWF

WWF's mission is to stop the degradation of the earth's natural environment and to build a future in which humans live in harmony with nature. The Global Climate and Energy Initiative is WWF's global programme addressing climate change through promoting renewable and sustainable energy, scaling up green finance, engaging the private sector and working nationally and internationally on implementing low carbon, climate resilient development.

panda.org/climateandenergy

