

Impacts of climate change

DW English explains some of the impacts of climate change on animals in this short video (2:12)

- <https://www.youtube.com/watch?v=9h7P8gWpolQ>

What sorts of impacts are we likely to see from a rise in global temperatures?

Biotic impacts. Global warming has an impact on some living things. For example, it has affected the body size of some cold-blooded animal species. Higher temperatures increase the metabolism of cold-blooded animals in general. This means that they need more food to survive, which can be harder to find. This in turn increases the chances that smaller individuals of a species will survive better at higher temperatures than the larger ones. This can lead to a smaller average size of the species over time. The fossil record confirms this. It shows that populations of cold-blooded animals of the same species included larger individuals in past cold periods, and smaller ones in past warm periods.

The Baltimore oriole.



Other biotic impacts include changes in seasonal behavior. For example, shrubs and trees flower earlier in spring. Birds migrate earlier than they used to. Scientists have also observed changes in where organisms can live. For example, birds such as the Baltimore oriole, usually found in Virginia, can now be seen in Connecticut and Massachusetts. Global warming will also likely cause some species to go extinct through changes in the physical environment.

Forest fires are increasing with global warming. So are insect infestations of trees, resulting from winters that are no longer cold enough to kill them. Both forest fires and dying trees are reinforcing feedbacks because they add more carbon to the atmosphere. This results in more warming, more fires and more insects.

Also, as soil warms, soil microbes become more active and decomposition speeds up. This emits more CO₂. As more vegetation dies from global warming, there is more dead plant matter to decompose. This is another reinforcing feedback.

Abiotic impacts. Abiotic effects of global warming include melting ice, which is causing rising sea levels. Patterns of rainfall and snowfall are changing. Other abiotic impacts include heat waves and other extremes in weather such as floods and storms. Carbon dioxide is increasing the acidity of the ocean, since carbon dioxide forms carbonic acid when dissolved in water.

Some biotic effects can also trigger abiotic effects. For example, if a drought causes plants in an area to die off, this can result in a change to the water cycle in that area. This in turn can lead to more droughts in the future.