

Abstract

Climate change is currently one of the biggest threats that animal species must face. Increasing temperatures cause declines in wildlife populations all around the world. Ectothermic animals might be amongst the most threatened organisms by climate change due to their ecology that makes them dependent on ambient temperature. As ectotherms, snakes will most likely need to adapt to new climatic conditions, or they become extinct. To escape raising temperatures and decreasing precipitation, snakes might shift their ranges and move into more suitable areas. However, snakes have a low dispersal ability, which might lead to range reduction and in some populations even extinction. Climatic changes might affect health and behaviour of snake species as well. Increased temperatures can alter incubation period and embryonic development. Alterations in embryonic development and reduction of incubation period can cause different kinds of malformations, especially in oviparous snakes. These malformations can negatively impact fitness, depending on their severity. Some snake species might also benefit from climate change. Elevated temperatures allow snakes to be more active and, in some cases, even shorten hibernation duration. Snakes are also able to better escape predators in high temperatures than in low temperatures. Even though climate change is mostly seen as a threat to wildlife, it may actually benefit snakes in certain ways.

Keywords: climate change, snakes, ecology, behavioural changes, distribution, health, temperature, precipitation