

The Wildlife and Climate Consensus - final statement

Wild animals can influence how ecosystems function and respond to climate change across land, freshwater, and marine systems, including both coastal and open-ocean processes. These influences involve many kinds of animals, from insects and other invertebrates to fish, birds, reptiles, and mammals, and they can vary in magnitude, and sometimes direction, depending on place, species, and ecosystem condition. While the strength of animal effects can vary by context, several points of scientific consensus have emerged.

First, animals actively shape climate-relevant ecological processes through their roles in food webs and ecosystem functioning. Through predation and herbivory, animals directly and indirectly regulate the abundance and interactions of other organisms, with consequences for vegetation structure, productivity, biomass accumulation, and disturbance pathways. Through movement, feeding, and excretion, animals transport and recycle key nutrients, including carbon, nitrogen, phosphorus, and iron, within and between ecosystems. In many cases, animals further affect these processes by physically modifying habitats, including soils, sediments, and other habitat structures.

Second, these ecological processes, which can support ecosystem regeneration and stability across large areas and long timescales, are often overlooked in climate planning. Seed dispersal (moving seeds and enabling regeneration of plant communities), pollination (helping plants reproduce), bioturbation (mixing soils and sediments and influencing oxygen and nutrient availability), and ecosystem engineering (creating or altering habitat structures that affect water, soils, sediments, and vegetation) can shape how ecosystems recover after disturbance and how they maintain function under stress. Because these processes influence vegetation, soils, sediments, and whole ecosystems, they can affect carbon storage and turnover, nutrient availability, and disturbance dynamics, including potential regime shifts. These processes also contribute to ecological characteristics that underpin resilience, such as spatial heterogeneity (variation across space), connectivity (movement of organisms and nutrients between areas), and functional diversity (a range of functional traits and ecological roles).

Third, given these contributions, it is scientifically incomplete, in many contexts, to assess nature-based climate mitigation and adaptation without considering the role of wild animals in ecosystem functioning. Incorporating animal-mediated processes into ecosystem assessments, models, and nature-based climate strategies can help reduce mischaracterisation of ecosystem function and responses to climate change and biodiversity loss, including the consequences of wildlife decline or recovery.

Therefore, we call on governments to explicitly account for wild animals and their functional roles into climate policies and frameworks, including natural climate solutions, while simultaneously decreasing greenhouse gas emissions. Doing so will strengthen holistic climate and biodiversity action.

