



Animals in a Changing Climate: Science, Ethics, and Policy
An Australian Perspective

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Extinction Events and Species Loss

Christmas Island Pipistrelle



- The use and abuse of chemicals and nuclear technologies
- The exploitation of the planet's life forms and genetic diversity, including the use of genetically modified crops
- The massive increase in human populations with an insatiable desire of humans to breed
- The massive impact of pollution, particularly of plastics in the ocean that impacts fish, birds and aquatic mammals and reptiles
- The impact of disease, such as on amphibians with the Chytrid fungus
- Clearing of vast swathes of natural ecosystems, mainly for urbanisation and agriculture, particularly animal agriculture

- Habitat alteration and loss, so much so that human environments are becoming the place where evolution must now take place
- The killing of an unprecedented number of animals, through animal agriculture and ecosystem destruction
- The interrelated problem of crime: drug trafficking, armaments, human trafficking, corporate greed and corruption including climate change denial, and environmental crime especially the illegal clearing of forest ecosystems and the trade in animal products such as elephant tusks, rhino horns, pangolin scales and tiger bone and penises

- The introduction of nonhuman animals and plants in areas where they are not endemic; species ranges are now irrevocably blurred
- And, most importantly, the impacts of severe weather events and of the more over-arching impacts by climate change

Climate Change

Direct impacts on humanity:

- access to water
- agricultural impacts and food production
- economic development and the perceived need to support growth
- social injustice and equality implications
- social dislocation and the flow-on effects of human migration
- human health and the direct impacts of severe meteorological events

Bramble Cay
Melomys



- Plant extinctions that have the potential to exponentially exacerbate species extinction cascades
- Ecosystem changes related to changes in water and ice availability, temperature fluctuations and light availability, and respondent changes in life cycle periodicity
- Desertification and increased heat regimes in the mid-latitudes

- Species range restrictions that can decrease species survival, such as the Polar Bear, all Penguins, or all montane species
- Increased risks and impacts posed to human and natural ecosystems from freak weather and natural events, such as mudslides and tornadoes, cyclones/hurricanes and storm surges
- Decreased environmental resilience in specific natural environments, such as coral reef bleaching and death in some areas, and coral reef expansion in other places

- Impacts upon pollinators and the massive implications to the production of food for all of Earth's residents
- Increased risk of disease vectors, such as the spread of ticks and lyme disease, increased incidence of mosquito-borne diseases, or of viruses released into the environment from ecosystem destruction or needless consumption of wildlife
- Uncontrollable wildfires across the planet in various environments



The Australian Black Summer Bushfires



- The fires burnt out nearly 19 million hectares (over 46 million acres); including 21% of all Australian broadleaved Eucalypt forests
- 34 people died directly, an additional 417 from smoke inhalation
- 3,500 human homes lost, and over 6,000 other buildings
- Over three billion vertebrates killed, mainly reptiles
- Many trillions of insects and other animals perished
- At least 50 native species now at risk of becoming threatened or extinct
- Fire damaged some priceless Aboriginal rock art





Kangaroo Island Dunnart













Northern Corroboree Frog

Stocky Galaxia















- Rethink emergency responses to wildfire events in relation to wildlife, especially threatened species
- Rapidly expand funding for wildlife rescue organisations and hospitals
- Greater funding for universities for animal law, animal studies and wildlife degrees to expand our knowledge base
- Better protect critical habitats and species threatened with extinction
- Fund specific translocation and species expansion projects
- Bring animal protection into the climate change debate













Enjoy the conference!