NUS National University of Singapore | Department of Biological Sciences, Faculty of Science

SEMINAR

Tues, 10 Sept 2024 | 12:30 pm | Seminar Room 1

Hosted by Dr Chua Siew Chin

Climate Change and Biodiversity Conservation

By **David Ackerly**

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University of California, Berkeley

About the Speaker

David Ackerly is a climate change biologist and professor in the departments of Integrative Biology and Environmental Science, Policy, and Management and Dean of the Rausser College of Natural Resources at UC Berkeley. Ackerly's research group studies the impacts of climate change and wildfire on biodiversity in California. Rausser College has an interdisciplinary focus on solutions to the challenges of climate change, with a focus on nature-based solutions, economics and policy, and climate equity and environmental justice. Ackerly is a recipient of the 2011 Distinguished Faculty Mentor Award, a Senior Fellow with the Berkeley Institute of Data Sciences, a Fellow of the California Academy of Sciences, and a Fellow of the Ecological Society of America.

The impacts of climate change are rapidly accelerating, with widespread impacts on biodiversity. Climate change poses a special challenge to biodiversity conservation, for two key reasons. First, unlike many threats, local management activities cannot directly remove the threat, as with habitat conversion, overharvesting, etc. And secondly, a key response of plants and animals facing climate change is to shift their geographic distribution. This potentially undermines the role of parks and protected areas, as they may no longer host the species they were set aside to protect. It is also important to note that impacts may be primarily felt during extreme events (fire, drought, etc.), which are being exacerbated by climate change even though we cannot attribute the strength of any one event to anthropogenic effects.

In the face of these challenges, some of the goals and methods of biodiversity conservation need to be reconsidered. In this talk, I will discuss the importance of range shifts, climate velocity, conservation of heterogeneous landscapes, corridors and connectivity, and other strategies. The role of carbon sequestration and storage in conservation finance will also be considered, and the challenges of preparing for and responding to extreme events. These topics lay out numerous research opportunities, which will differ in regions across the world, and alternative perspectives that resource managers need to consider as they implement biodiversity conservation strategies.