



UNSW
SYDNEY



Data Science for Ecology

The digital revolution creates opportunities to use big data and modern technologies to provide insight into important ecological questions. The Eco-Stats Research group is a world-leader at the interface between ecology and statistics, pioneering 21st century tools to study species distribution, ecological communities, and potential response to climate change.

Competitive advantage

World-leading expertise in:

- The analysis of point-event data in ecology, to develop modern methods of finding patterns in species distribution from digitised records of species sightings
- High-dimensional data analysis using count data, to study the main environmental drivers of change in ecological communities
- Engagement at the interface between Ecology and Statistics

Impact

- These methods and associated software have been used in several thousand studies world-wide to study species distributions, ecological communities, and their response to climate change and other environmental drivers. The centre's software has also been used beyond ecology to address problems in Psychology, Medicine, Soil Science and even the Mars Mission.

Successful outcomes

- Tools for environmental impact assessment
- Identifying indicator species that most strongly signal environmental disturbance
- Teasing apart the various causes of species co-occurrence
- Informing the planning of ecological monitoring studies

Capabilities and facilities

- Access to technical expertise in Data Science and Computational Statistics

More Information

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