

THE AUSTRALIAN ACOUSTIC OBSERVATORY:

A NETWORK TO MONITOR BIODIVERSITY

www.acousticobservatory.org

BACKGROUND

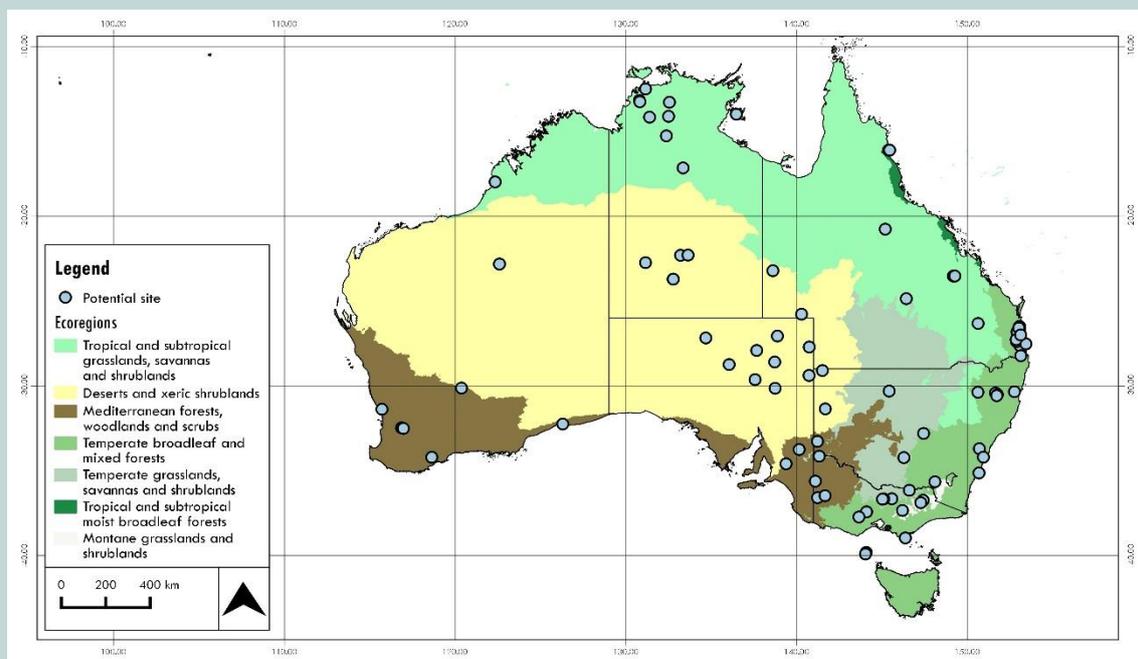
The Australian Acoustic Observatory (A2O) has been conceived as a continental-scale acoustic sensor network, recording for a five-year period across multiple Australian habitats.

The A2O will be composed of 400 continuously operating acoustic recorders collecting approximately 2PB of sound data over the duration of the project. The data will be stored on the cloud with the Queensland Cyber Infrastructure Foundation and made freely available to researchers, citizen scientists, and the general public. The A2O is a unique piece of scientific infrastructure that will transform environmental science and assessment in Australia, and foster cross-disciplinary research between ecologists, biologists and computer scientists.

The project is funded by an ARC Linkage Infrastructure, Equipment and Facilities (LIEF) grant of \$1.8 million. The A2O is led by Professor Paul Roe from the Queensland University of Technology (QUT) Ecoacoustics Research Group, in collaboration with Professor David Watson from Charles Sturt University (CSU), Professor Lin Schwarzkopf from James Cook University (JCU), Associate Professor Paul McDonald from the University of New England (UNE), and Associate Professor Richard Fuller from the University of Queensland (UQ). The A2O Chief Investigators have a deep understanding of Australia's fragile and mega-diverse environment, and the collection and interpretation of acoustic data, providing leading research expertise in this emerging field.

DESIGN: SITE LOCATIONS

The A2O will incorporate 100 sites across seven major ecoregions. Each site will be linked to four acoustic recorders, with two acoustic recorders established in relatively wet habitat (wetland, river, creek, drainage line, spring, depression etc.) and two in relatively dry habitat. The range of wet and dry locations will vary from site to site based on local conditions. This arrangement will provide a total of 400 acoustic recorders across the network.



HARDWARE

Acoustic recorders will be built to specification by Frontier Labs in Brisbane, Australia. Each acoustic recorder will store data on high-capacity SD cards, which will be manually collected and replaced at least once a year.

Acoustic recorders will be powered by solar panels linked to batteries and charge controllers, with all equipment easily mounted on a standard 1.8 m star picket. This design ensures each acoustic recorder and additional hardware is simple to install and has minimal space requirements.

FRONTIER LABS
ACOUSTIC RECORDERS

DATA MANUALLY
COLLECTED

EASY INSTALLATION

MINIMAL SPACE
REQUIREMENTS

Solar panel attached
directly to unit

Acoustic recorder, SD
cards, microphone,
battery and charge
controller in one
compact unit mounted
on adjustable bracket

Unit mounted on 1.8 m
star picket

expand the understanding of Australia's rich and diverse ecosystems.



INVOLVEMENT

The A2O provides an opportunity for land owners and managers to become involved in a nationally significant scientific project that will

MORE INFORMATION

Visit the A2O website: www.acousticobservatory.org

If you would like to become involved with the Australian Acoustic Observatory (A2O), please contact Professor Paul Roe at QUT at p.roe@qut.edu.au.

The other Chief Investigators may also be contacted at:

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