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Open Ecoacoustics: A Platform to Manage, Share and Analyse Ecoacoustic Data for Scalable Fauna Monitoring

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There is an urgent need for continental-scale monitoring of threatened species and ecosystems. Acoustic monitoring of the environment, ecoacoustics, provides a scalable way to achieve this. The Open Ecoacoustics platform supports ecoacoustics monitoring of the environment and is open to everyone to aggregate and share data, analyses and tools. The project goal is to enable open science and conservation through the development and promotion of open access ecoacoustics technologies, methodologies and standards.

There are a number of challenges in supporting large scale ecoacoustics, including how to aggregate, manage and share data; how to analyse and validate analyses; and how to interoperate with downstream services. The Open Ecoacoustics platform supports FAIR data by developing standardised metadata and third-party analyses by moving to flexible workflow technologies. It accelerates data analysis by publishing a shared repository of annotated datasets and recognisers. It also interfaces to other systems through services and shared tools, to provide end to end workflows using ecoacoustic data.

The Open Ecoacoustics platform underlies the Australian Acoustic Observatory (A2O) database (www.acousticobservatory.org/) and the Ecosounds database (www.ecosounds.org/), together comprising over one Petabyte of acoustic data. The A2O is a single project collecting data using a standard protocol from over 360 sensors around Australia. The Ecosounds database comprises over 50 ecoacoustic monitoring projects.

Primary authors: Dr TRUSKINGER, Anthony (QUT); Ms LANGE, Lola (QUT); Dr HOLOPAINEN, Nelli (QUT); ROE, Paul (JCU); Dr EICHINSKI, Philip (QUT); Dr CLEMENS, Robert (ARDC); Prof. FULLER, Susan (QUT)

Presenter: ROE, Paul (JCU)

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