An Implementation Approach for the Humboldt Extension to Darwin Core

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Abstract

The Humboldt extension to the Darwin Core Standard Event Core has been proposed in order to provide a standard framework to capture important information about the context in which biodiversity occurrence observations and samples are recorded. This information includes methods and effort, which are critical for determining species abundance and other measures of population dynamics, as well as completeness of survey coverage.

As this set of terms is being developed, we are using real-world use cases to ensure that these terms can address all known situations. We are also considering approaches to implementation of the new standard to maximise opportunities for uptake and adoption.

In this presentation I provide an example of how the Humboldt extension will be implemented in the Atlas of Living Australia's (ALA) BioCollect application. BioCollect is a cloud-based multi-project platform for all types of biodiversity and ecological field data collection and is particularly suited for capturing fully described complex protocol-based systematic surveys.

For example, BioCollect supports a wide array of customised survey event-based data schemas, which can be configured for different kinds of stratified (and other) sampling protocols. These schemas can record sampling effort at the event level and event effort can be aggregated across a dataset to provide a calculated measure of effort based on the whole dataset. Such data-driven approaches to providing useful dataset-level metadata can also be applied to measures of taxonomic completeness as well as spatial and temporal coverage. In addition, BioCollect automatically parses biodiversity occurrence records from event records for harvest by the ALA. In this process, the semantic relationship between the occurrence records and their respective event records is also preserved and linkages between them enable cross-navigation for improved contextual interpretation.

The BioCollect application demonstrates one approach to a practical implementation of the Humboldt extension.

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survey methods, protocols, survey effort, monitoring

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Conflicts of interest