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Controlled, distributed data management of an Antarctic time series

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The Rothera Time Series (RaTS) presents over ten years of oceanographic data collected off the Antarctic Peninsula comprising conductivity, temperature, depth cast data; current meter data; and bottle sample data. The data set has been extensively analysed and is well represented in the scientific literature. However, it has never been available to browse as a coherent entity. Work has been undertaken by both the data collecting organisation (the British Antarctic Survey, BAS) and the associated national data centre (the British Oceanographic Data Centre, BODC) to describe the parameters comprising the dataset in a consistent manner. To this end, each data point in the RaTS dataset has now been ascribed a parameter usage term, selected from the appropriate controlled vocabulary of the Natural Environment Research Council's Data Grid (NDG). By marking up the dataset in this way the semantic richness of the NDG vocabularies is fully accessible, and the dataset can be then explored using the Global Change Master Directory keyword set, the International Standards Organisation topic categories, SeaDataNet disciplines and agreed parameter groups, and the NDG parameter discovery vocabulary.

We present a single data discovery and exploration tool, a web portal which allows the user to drill down through the dataset using their chosen keyword set. The spatial coverage of the chosen data is displayed through a Google Earth web plugin. Finally, as the time series data are held at BODC and the discrete sample data held at BAS (which are separate physical locations), a mechanism has been established to provide metadata from one site to another. This takes the form of an Open Geospatial Consortium Web Map Service server at BODC feeding information into the portal hosted at BAS.