The TPAC digital library portal is an open source web application that publishes large collections of heterogeneous and geographically distributed scientific datasets. Users can perform searches based on criteria such as geospatial location, temporal range, and data type. Results can then be accessed through protocols such as OPeNDAP, GridFTP, and via OGC compliant web services. It is also possible to access the results with Matlab, and future releases will support WMS visualisation.

The application can harvest metadata from THREDDS, Hyrax, IPCC catalogs, and from other instances. Future releases will optimise storage by identifying commonalities and storing meta-data in hierarchies. This will allow multiple views of data files, such as time series and other aggregations.

Current development initiatives will allow interoperability with library service protocols, as well as other data archive organisations and scientific bodies, for data reference transparency. Data collection owners will be able to attach attribute information, access rights, and meta-data to conform with user community and service standards. The digital library portal will, for example, publish conformed metadata via OAI-PMH. Future releases will allow publishers to attach media rich information about the data collection, as well as additional information about how it was created, such as input data, source code, and workflow scripts. It will also be possible to include information about where the collection appears in publications and derived products, and how it can be accessed. In this way, the digital library portal can form part of a wider virtual laboratory including data documentation and reproducibility.