

OGC APIs

OGC Catalog Service for the Web (CSW)

Catalog Service for the Web' (CSW) is an OGC standard that supports the ability to publish and search collections of descriptive information (metadata) for data, services, and related information objects.

The Geonetwork CSW end point exposes the metadata records in a Geonetwork catalogue in XML format using the OGC CSW protocol. An example of CSW Get Capabilities request from the IMOS GeoNetwork catalogue is [here](#).

OGC Web Coverage Service (WCS)

The Open Geospatial Consortium (OGC) Web Coverage Service Interface Standard (WCS) defines Web-based retrieval of coverages – that is, digital geospatial information representing space/time-varying phenomena.

AODN offers WCS on a per file basis (for selected datasets) via [THREDDS](#).

OGC Web Feature Service (WFS)

AODN offers Open Geospatial Consortium (OGC) Web Feature Service (WFS) for selected non-gridded data. WFS is a standard protocol for accessing and manipulating geographic features stored in a Geographic Information System (GIS) database over the Internet. The WFS specification is available on the [OGC website](#).

WFS services for non-gridded data are provided by [Geoserver](#).

A list of geographic features served by the WFS server and the operations supported on them can be accessed using a [WFS GetCapabilities request](#).

Each geographic feature type can be described using a WFS DescribeFeatureType request. For example, the XBT Delayed Mode Profile feature type [description](#).

The geographic features themselves can be retrieved using a GetFeature request. For example, to [retrieve a list of XBT profiles](#) taken in a region south of Tasmania in October 2010.

And to [retrieve measurements](#) taken during a particular profile in a CSV file.

Filters

The AODN provides a web service that returns the filtering options available for each WFS and WMS. The filters returned by the service can be used to construct the CQL component of a GeoServer WMS/WFS query.

Requests for enabled filters are constructed in the following form:

?request=enabledFilters&service=layerFilters&version=1.0.0&workspace=<workspace>&layer=<layer>

The following example retrieves the available filters for the bio-optical database:

http://geoserver-123.aodn.org.au/geoserver/wfs?request=enabledFilters&service=layerFilters&version=1.0.0&workspace=imos&layer=srs_oc_bodbaw_trajectory_profile_map

Having retrieved the available filters you can issue a second request to discover the current filter values:

?request=uniqueValues&service=layerFilters&version=1.0.0&workspace=<workspace>

>&layer=<layer>&propertyName=<filter name>

The following example retrieves the values for the data_type filter in the bio-optical database:

http://geoserver-123.aodn.org.au/geoserver/wfs?request=uniqueValues&service=layerFilters&version=1.0.0&workspace=imos&layer=srs_oc_bodbaw_trajectory_profile_map&propertyName=data_type

OGC Web Map Service (WMS)

AODN offers Open Geospatial Consortium (OGC) Web Map Services (WMS) for both gridded and non-gridded data. WMS is a standard protocol for serving georeferenced map images over the Internet that are generated by a map server using data from a Geographic Information System (GIS) database. The WMS specification is available on the [OGC website](#).

[WMS services for non-gridded data are provided by Geoserver.](#)

[WMS services for gridded data are provided by Thredds.](#)

[View an example of a WMS](#) request for ship tracks in Bass Strait.

ncURLList Service

The ncURLList Service is a WFS service that returns a list of http URLs matching a query (e.g. bounding box, time extent ...).

The user will perform a **GetFeature** request for a given IMOS layer specifying the “outputFormat” parameter to be equal to “marvl+xml”

See an example of a Get Feature request for IMOS glider real-time data:

http://geoserver-123.aodn.org.au/geoserver/imos/ows?service=WFS&version=1.0.0&request=GetFeature&typeName=imos:anfog_rt_trajectory_map&maxFeatures=50&outputFormat=marvl+xml

In this example, the download URL of netCDF file per glider deployment is available in between the xml tag <imos:url>.