

ESIP Use Case: Best Practices compliant OpenSearch API

Title (Goal)	Support a ESIP Best Practices compliant OpenSearch API
Primary Actor	Developer
Scope	The primary federated data discovery interface in the Earth Sciences internationally is a two-step OpenSearch. It would be optimal if any instance of Fedora that held such data could support discovery and access accordingly, so that users of any of the existing and developing search engines that are OpenSearch based can automatically find and support queries for those data (as well as all the other data in other non-Fedora repositories that they support - e.g., NASA, NOAA, ESRI geonetwork, CEOS, GEOSS, etc.).
Level	
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Story:

The user story for this support follows: As a user of a particular Earth Science focused search interface or data access tool (e.g., GEOSS broker, CWIC interface, etc.), I want all relevant Earth Science data to show up no matter where it is located.

The standard for this in the Earth Sciences is the two step OpenSearch Request as defined by ESIP Best Practices (see specification list below). In short, a client begins by submitting a query (based off a Collection level OpenSearch Description Document (OSDD)) for Collections meeting a given set of criteria. After assessment by the user of the resulting Collections, additional queries for Data Items (based off an Item level OSDD for each Collection) that meet those or additional query criteria are submitted. The results returned may include 1 or more web services that provide additional access support for a Data Item (e.g., OGC W*S, OPeNDAP, etc.). It should be noted that Collection and Data Item are content model objects in the Data Conservancy Data Model.

A list of specifications and best practices for such an API follows:

<http://www.opensearch.org/Specifications/OpenSearch/1.1>

http://www.opensearch.org/Specifications/OpenSearch/Extensions/Geo/1.0/Draft_2

http://www.opensearch.org/Specifications/OpenSearch/Extensions/Time/1.0/Draft_1

<http://www.opensearch.org/Specifications/OpenSearch/Extensions/Parameter/1.0>

http://wiki.esipfed.org/images/9/97/Combined_Open_Search_Best_Practices_v0.4.pdf

http://www.opensearch.org/Specifications/OpenSearch/Extensions/Relevance/1.0/Draft_1

<http://www.opengeospatial.org/standards/opensearchgeo>

<http://ceos.org/wp-content/uploads/2014/12/CEOSOpenSearchBestPracticeDocument-PublicComment.pdf>

Fortunately there is a validator for this type of API available at <http://testbed.echo.nasa.gov/cwic-smart/validations>

It should be noted if all specifications are followed, and the OSDD's are publicly available, Collections and Data Items housed within any publicly accessible Fedora instance will be discoverable and accessible through any number of existing user interfaces, as well as whatever interfaces are developed in the future.