OGC® OPENSEARCH WITH GEOSPATIAL AND TEMPORAL EXTENSIONS

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NOTE: Information summarized here is from draft version of spec and will likely evolve as the specification progresses

- result of work undertaken within the GENESI-DR and the follow-up project GENESI-DEC
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INTRODUCTION

- Specification is intended to provide a very simple method
  - to make spatial queries to a repository of geospatial content that contains geographic and temporal properties,
  - to allow simple syndication between
  - to provide a basic “federated” query of related repositories in which a single client can query several server instances and present a collection of results as one set

OPENSEARCH

- basic concept of OpenSearch is to specify:
  - how to query a web resource,
  - metadata to support syndicating the results
- community effort built around Amazon's A9.com
- intended to allow syndication of search results that could then be aggregated by one large index
- OASIS Search Web Services group
  - publishing an Abstract Protocol Definition of the interface or “binding” (http://docs.oasis-open.org/search-ws/v1.0/opensearch-v1.0.html)
  - coincides with the community specification published at http://opensearch.org
- a set of geospatial and temporal extensions proposed through OpenSearch.org (2007)

OPENSEARCH DESCRIPTION DOCUMENT

- Contains parameterized URL templates that specifies how a search client formulates search requests (as http GET) for various response formats
- One URL template for ATOM v1.0 response format is mandatory but the server may support other formats
- client chooses URL offering the most useful format
- OpenSearch protocol allows one to return lists of search results in any format that a client can be persuaded to understand

OGC GEOSPATIAL AND TEMPORAL EXTENSIONS SPECIFICATION

- codifies geospatial and temporal extensions proposed through OpenSearch.org in a form compatible with the OGC standards
- USE operations of the OpenSearch specification in the OASIS SWS bindings
- specify a series of parameters that can be used to geographically constrain search results; provision is made to filter results by:
  - A **bounding box**
  - An **arbitrary polygon**, using Well Known Text to define the geometry
  - Within a certain **radius** from a given latitude-longitude point
  - Having a certain **containment relation** (within, overlaps, disjoint) with a geographic constraint
  - Matching a **geographic name** (not considered in our use cases, but forming part of the original specification)
  - Matching a given **unique identifier** in the context of the repository
  - A start and end of a **temporal extent**

ATOM RESPONSE FORMAT LINKS

- The *atom:link* element with the *atom:rel* attribute equal to “alternate” **should** be used to link the entry to additional representations of the metadata. The type of the metadata **should** be defined by the *atom:type* attribute.
- resource that is the source of the information provided in the containing element (e.g. original metadata) the value “via” **should** be used
- access to the file or service that contains the data **should** be defined using a *atom:link* element with the *atom:rel* attribute equal to “enclosure”
- reference to a resource representing the quicklook or browse image that represents the entry, the *atom:rel* attribute should be equal to “icon”
- Inconsistent provisions:
  - If the resource described in the response entry is itself a search service an atom:link with the relation “search” **should** be used
  - To support the execution of additional searches the *atom:feed* element **should** include *atom:link* elements with the attribute *atom:rel* equal to “search” [RFC 5988]. This element refers to the OpenSearch description document of the search engine that created the feed.