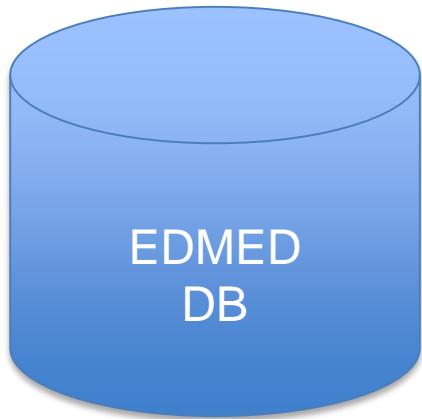


Progress in EDMED/EDIOS catalogues SPARQL endpoints

ALEXANDRA KOKKINAKI AND CHRIS WOOD
THE BRITISH OCEANOGRAPHIC DATA CENTRE

- Publish EDMED catalogue metadata as Linked Data via SPARQL endpoint following specification D8.3
- Publish EDIOS catalogue metadata as Linked Data via SPARQL endpoint following specification D8.3



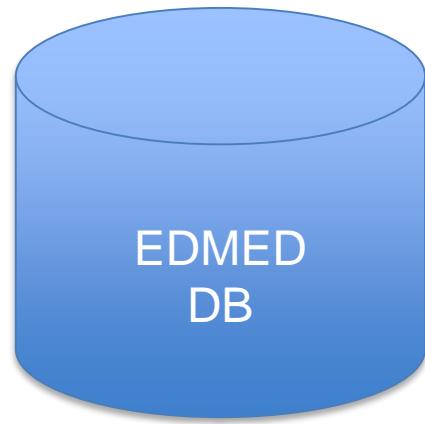
Data
Extraction

Triple
conversion

Modeling

Load the
Triple store





PL/SQL
procedures

Java /Jena RDF API

Java /Jena RDF API

Daily Cron job



RDF
Triple store

noc.ac.uk

GENERAL

Data set name Bristol Channel Suspended Sediments Data Bank (collected by the Institute of Oceanographic Sciences (IOS), Taunton) (1974-1978)

Data holding centre [British Oceanographic Data Centre](#)

Country United Kingdom 

Time period From 1974 to 1978

Ongoing No

Geographical area Bristol Channel

OBSERVATIONS

Parameters Concentration of suspended particulate material in the water column

Instruments Transmissometers

DESCRIPTION

Summary The data set comprises 2193 profiles of turbidity from an area of the Severn Estuary (UK) between the Shoots and Bridgwater Bay between 1974 and 1978. The data were collected as analogue records of continuous vertical profiles on a time series cross-section basis, where possible, over 13.5 hours from a drifting ship. All measurements were collected between 0 m and 39 m depth. The data coverage is derived from 172 stations along 17 survey lines, the density of coverage varying between 1 and 99 records per station. Each analogue record was digitised as approximately 200 pairs of XY coordinates. The X ordinates were then converted to depth (in metres) using a depth calibration and the Y ordinates to parts per million (PPM) of sediment using siltmeter calibration data. The Fluid Mud data bank was designed by the (former) Institute of Oceanographic Sciences (IOS) Taunton, UK, and the data were originally stored at IOS on a PDP 11 computer. They were then moved to an Oracle RDBMS at the British Oceanographic Data Centre (BODC) and stored as the Bristol Channel Suspended Sediments Data Bank.

Originators [Institute of Oceanographic Sciences Taunton](#)

AVAILABILITY

Organisation [British Oceanographic Data Centre](#)

Availability Licence

Contact Polly Hadžiabdić (Head of the BODC Requests Team)

Address British Oceanographic Data Centre

The EDMED Catalogue SPARQL endpoint

Follow



SPARQL query

```
Select * where
{<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>
?predicate ?object .
}
```

Output: If XML output, add XSLT style sheet (blank for none): Force the accept header to text/plain regardless.**British Oceanographic
Data Centre**

NATIONAL ENVIRONMENT RESEARCH COUNCIL

b	c
<http://purl.org/dc/terms/title>	"Bristol Channel Suspended Sediments Data Bank (collected by the Institute of Oceanographic Sciences (IOS), Taunton) (1974-1978)" @en
<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/dcat#Dataset>
<http://purl.org/dc/terms/language>	<http://id.loc.gov/vocabulary/iso639-1/en>
<http://purl.org/dc/terms/modified>	"2011-02-11" ^<http://www.w3.org/2001/XMLSchema#date>
<http://purl.org/dc/terms/issued>	"2011-02-10" ^<http://www.w3.org/2001/XMLSchema#date>
<http://www.w3.org/2004/02/skos/core#notation>	"179"
<http://purl.org/dc/terms/description>	The data set comprises 2193 profiles of turbidity from an area of the Severn Estuary (UK) between the Shoots and Bridgwater Bay between 1974 and 1978. The data were collected as analogue records of continuous vertical profiles on a time series cross-section basis, where possible, over 13.5 km² from a drifting ship. All measurements were collected between 0 m and 39 m depth. The data coverage is derived from 172 stations along 17 survey lines, the density of coverage varying between 1 and 99 records per station. Each analogue record was digitised as approximately 200 pairs of X-Y coordinates. The X ordinates were then converted to depth (in metres) using a depth calibration and the Y ordinates to parts per million (PPM) of total sediment using siltmeter calibration data. The Fluid Mud data bank was designed by the (former) Institute of Oceanographic Sciences (IOS) Taunton, UK, and the data were originally stored at IOS on a PDP 11 computer. They were then moved to an Oracle RDBMS at the British Oceanographic Data Centre (BODC) and stored as the Bristol Channel Suspended Sediments Data Bank." @en
<http://www.w3.org/ns/dcat#contactPoint>	<http://linked.seadatanet.org/edmo/43>
<http://www.w3.org/ns/dcat#contactPoint>	<http://linked.seadatanet.org/edmo/1773>
<http://www.w3.org/ns/dcat#theme>	<http://registry.it.csiro.au/def/isotc211/MD_TopicCategoryCode/oceans>
<http://www.w3.org/ns/dcat#theme>	<http://vocab.nerc.ac.uk/collection/L05/current/124>
<http://www.w3.org/ns/dcat#theme>	<http://vocab.nerc.ac.uk/collection/P02/current/TSED>
<http://www.w3.org/ns/dcat#theme>	<http://vocab.nerc.ac.uk/collection/C19/current/1_5>
<http://purl.org/dc/terms/license>	<http://vocab.nerc.ac.uk/collection/L08/current/LI>
<http://linked-def.seadatanet.org/collate-centre>	<http://linked.seadatanet.org/edmo/43>
<http://purl.org/dc/terms/temporal>	_b0
<http://purl.org/dc/terms/spatial>	_b1
<http://purl.org/dc/terms/spatial>	_b2
<http://www.w3.org/ns/prov#qualifiedAttribution>	_b3
<http://www.w3.org/ns/prov#qualifiedAttribution>	_b4
<http://www.w3.org/ns/prov#qualifiedAttribution>	_b5
<http://www.w3.org/ns/dcat#distribution>	_b6
<http://www.w3.org/ns/prov#wasUsedBy>	_b7

The EDMED Catalogue SPARQL endpoint

Follow



SPARQL query

```
Select * where
{<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>
?predicate ?object .

?object ?o_predicate ?o_object .

}
```

 Force the accept header to text/plain regardless.Get Results

**British Oceanographic
Data Centre**

NATIONAL ENVIRONMENT RESEARCH COUNCIL

← → ⌂ ⓘ linkeddev.bodc.ac.uk/sdn/edmed/sparql/sparql?query=select+*+where+%7B<http%3A%2F%2Fwww.bodc.ac.uk%2Fresources%2Finventories%2Fedmed%2Freport%2F179%2F>+%3Fb+%0D

SPARQLer Query Results

b	c	i	o
<http://purl.org/dc/terms/temporal>	_:b0	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://purl.org/dc/terms/PeriodOfTime>
<http://purl.org/dc/terms/temporal>	_:b0	<http://schema.org/endDate>	"1978" ^<http://www.w3.org/2001/XMLSchema#gYear>
<http://purl.org/dc/terms/temporal>	_:b0	<http://schema.org/startDate>	"1974" ^<http://www.w3.org/2001/XMLSchema#gYear>
<http://purl.org/dc/terms/spatial>	_:b1	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://purl.org/dc/terms/Location>
<http://purl.org/dc/terms/spatial>	_:b2	<http://www.w3.org/ns/locn#Geometry>	"POLYGON((-4 52, -2 52, -2 51, -4 51, -4 52))" ^<http://www.opengis.net/ont/geosparql#wktLiteral>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b3	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/prov#Attribution>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b3	<http://purl.org/dc/terms/type>	<http://inspire.ec.europa.eu/metadata-codelist/ResponsiblePartyRole/pointOfContact>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b3	<http://www.w3.org/ns/prov#agent>	_:b4 
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b5	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/prov#Attribution>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b5	<http://purl.org/dc/terms/type>	<http://inspire.ec.europa.eu/metadata-codelist/ResponsiblePartyRole/custodian>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b5	<http://www.w3.org/ns/prov#agent>	<http://linked.seadatanet.org/edmo/43>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b6	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/prov#Attribution>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b6	<http://purl.org/dc/terms/type>	<http://inspire.ec.europa.eu/metadata-codelist/ResponsiblePartyRole/originator>
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b6	<http://www.w3.org/ns/prov#agent>	<http://linked.seadatanet.org/edmo/43>
<http://www.w3.org/ns/dcat#distribution>	_:b7	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/dcat#Distribution>
<http://www.w3.org/ns/dcat#distribution>	_:b7	<http://www.w3.org/ns/dcat#mediaType>	<http://publications.europa.eu/resource/authority/file-type/NETCDF>
<http://www.w3.org/ns/dcat#distribution>	_:b7	<http://www.w3.org/ns/dcat#mediaType>	<http://publications.europa.eu/resource/authority/file-type/TXT>
<http://www.w3.org/ns/prov#wasUsedBy>	_:b8	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/prov#Activity>
<http://www.w3.org/ns/prov#wasUsedBy>	_:b8	<http://www.w3.org/ns/prov#generated>	:b9 

The EDMED Catalogue SPARQL endpoint

Follow



SPARQL query

```
Select * where
{<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>
?predicate ?object .

?object ?o_predicate ?o_object .

?o_object ?oo_predicate ?oo_object .

}
```

[Get Results](#)

**British Oceanographic
Data Centre**
NATIONAL ENVIRONMENT RESEARCH COUNCIL

← → ⌂ ⓘ linkeddev.bodc.ac.uk/sdn/edmed/sparql/sparql?query=select+*+where+%7B<http%3A%2F%2Fwww.bodc.ac.uk%2Fresources%2Finventories%2Fedmed%2Freport%2F179%2F>+%3Fb+%0D%0A

SPARQLer Query Results

b	c	l	o	k	p
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b0	<http://www.w3.org/ns/prov#agent>	_:b1	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://xmlns.com/foaf/0.1/Per
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b0	<http://www.w3.org/ns/prov#agent>	_:b1	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/prov#A
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b0	<http://www.w3.org/ns/prov#agent>	_:b1	<http://www.w3.org/ns/org#memberOf>	<http://linked.seadatanet.org/e
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b0	<http://www.w3.org/ns/prov#agent>	_:b1	<http://xmlns.com/foaf/0.1/name>	"Unknown"
<http://www.w3.org/ns/prov#qualifiedAttribution>	_:b0	<http://www.w3.org/ns/prov#agent>	_:b1	<http://xmlns.com/foaf/0.1/mbox>	<mailto:enquiries@bodc.ac.uk>
<http://www.w3.org/ns/prov#qualifiedAttribution>	:b0	<http://www.w3.org/ns/prov#agent>	:b1	<http://www.w3.org/ns/prov#actedOnBehalfOf>	<http://linked.seadatanet.org/e
<http://www.w3.org/ns/prov#wasUsedBy>	_:b2	<http://www.w3.org/ns/prov#generated>	_:b3	<http://purl.org/dc/terms/type>	<http://inspire.ec.europa.eu/me
<http://www.w3.org/ns/prov#wasUsedBy>	_:b2	<http://www.w3.org/ns/prov#generated>	_:b3	<http://www.w3.org/ns/prov#qualifiedAssociation>	_:b4

← → ⌂ ⓘ linkeddev.bodc.ac.uk/sdn/edmed/sparql/sparql?query=select+*+where+%7B<http%3A%2F%2Fwww.bodc.ac.uk%2Fresources%2Finventories%2Fedmed%2Freport%2F179%2F>+%3Fb+%0D

	p	y	u	i	zz	jj	oo
ociation>	_:b2	<http://www.w3.org/ns/prov#hadPlan>	_:b3	<http://www.w3.org/ns/prov#wasDerivedFrom>	_:b4	<http://purl.org/dc/terms/title>	"SeaDataNet - European Directory of Environmental Datasets" @en
ociation>	_:b2	<http://www.w3.org/ns/prov#hadPlan>	_:b3	<http://www.w3.org/ns/prov#wasDerivedFrom>	_:b4	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://www.w3.org/ns/prov#Entity>
ociation>	_:b2	<http://www.w3.org/ns/prov#hadPlan>	_:b3	<http://www.w3.org/ns/prov#wasDerivedFrom>	_:b4	<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>	<http://purl.org/dc/terms/Standard>
ociation>	_:b2	<http://www.w3.org/ns/prov#hadPlan>	_:b3	<http://www.w3.org/ns/prov#wasDerivedFrom>	_:b4	<http://purl.org/dc/terms/issued>	"2011-02-10" ^^<http://www.w3.org/2001/XMLSchema#date>

The EDMED Catalogue SPARQL endpoint

Follow



SPARQL query

```
select * where
{<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/> ?b
?c .
?c ?l ?o.
?o ?k ?p .
?p ?y ?u .
?u ?i ?zz .
?zz ?jj ?oo
}
```

Output: If XML output, add XSLT style sheet (blank for none): Force the accept header to text/plain regardless.**British Oceanographic
Data Centre**

NATURAL ENVIRONMENT RESEARCH COUNCIL

The EDMED Catalogue SPARQL endpoint

Follow



SPARQL query

```
select * where
{<https://www.bodc.ac.uk/resources/inventories/edmed/catalogue/179/>
?b ?c .
```

}

Output: If XML output, add XSLT style sheet (blank for none): Force the accept header to text/plain regardless.**British Oceanographic
Data Centre**

NATIONAL ENVIRONMENT RESEARCH COUNCIL

← → ⌂ ⓘ linkeddev.bodc.ac.uk/sdn/edmed/sparql/sparql?query=select+*+where+%7B<https%3A%2F%2Fwww.bodc.ac.uk%2Fresources%2Finventories%2Fedmed%2Fcatalogue%2F179%2F>+%3Fb+

SPARQLer Query Results

b	c
< http://www.w3.org/1999/02/22-rdf-syntax-ns#type >	< http://www.w3.org/ns/dcat#CatalogRecord >
< http://purl.org/dc/terms/language >	< http://id.loc.gov/vocabulary/iso639-1/en >
< http://xmlns.com/foaf/0.1/primaryTopic >	< http://www.bodc.ac.uk/resources/inventories/edmed/report/179/ >
< http://purl.org/dc/terms/modified >	"2011-02-11" ^< http://www.w3.org/2001/XMLSchema#date >
< http://purl.org/dc/terms/conformsTo >	_b0

<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://purl.org/dc/terms/description>	possible, over 13.5 hours from collected between 0 m and 3000 m from 172 stations along 17 survey lines between 1 and 99 records per station. The depth values were then converted to depth in metres by transforming the Y ordinates to parts per million relative to sea level calibration data. The Fluid Measurements were originally stored at IOS and were moved to an Oracle RDBMS (BODC) and stored as the British Oceanographic Data Bank." @en
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/dcat#contactPoint>	<http://linked.seadatanet.org/linked-def.seadatanet.org/collate-centre>
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/dcat#contactPoint>	<http://linked.seadatanet.org/linked-def.seadatanet.org/collate-centre>
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/dcat#theme>	<http://registry.it.csiro.au/def/seadatanet.org/linked-def.seadatanet.org/collate-centre>
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/dcat#theme>	<http://vocab.nerc.ac.uk/collection/ios_001/linked-def.seadatanet.org/collate-centre>
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/dcat#theme>	<http://vocab.nerc.ac.uk/collection/ios_001/linked-def.seadatanet.org/collate-centre>
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://purl.org/dc/terms/license>	<http://vocab.nerc.ac.uk/collection/ios_001/linked-def.seadatanet.org/collate-centre>
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://linked-def.seadatanet.org/collate-centre>	<http://linked.seadatanet.org/linked-def.seadatanet.org/collate-centre>
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://purl.org/dc/terms/temporal>	_b0
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://purl.org/dc/terms/spatial>	_b1
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://purl.org/dc/terms/spatial>	_b2
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/prov#qualifiedAttribution>	_b3
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/prov#qualifiedAttribution>	_b4
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/prov#qualifiedAttribution>	_b5
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/dcat#distribution>	_b6
<http://xmlns.com/foaf/0.1/primaryTopic>	<http://www.bodc.ac.uk/resources/inventories/edmed/report/179/>	<http://www.w3.org/ns/prov#wasUsedBy>	_b7
<http://purl.org/dc/terms/conformsTo>	_b8	<http://www.w3.org/2002/07/owl#versionInfo>	"2.0"
<http://purl.org/dc/terms/conformsTo>	_b8	<http://purl.org/dc/terms/title>	"SeaDataNet - European Directive @en"

Technologies used

- Java application
- Jena Jena RDF API
- PL/SQL functions
- Jena Fuseki
- Cron job overnight

<http://linked.bodc.ac.uk/sdn/edmed>

Issues

- Dates
 - Time period captured in different ways (hh:mm, hh:mm:ss, hh etc)
 - xsd:datetime allows only hh:mm:ss display
 - Suggestions?
- Contact
 - When referring to a name of a person
 - The person's name may not be included in the EDMO database
 - Even if it is included it may have been registered differently
 - So references like <http://edmo.org#name> may not be valid all the time

Contact

Polly Hadžiabdić (Head of the BODC Requests Team)



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ENVIRONMENT