

# JISC

## EnviLOD Workshop

### Information Discovery in Environmental Sciences – Some context

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The  
University  
Of  
Sheffield.



HR Wallingford  
*Working with water*

# Aims of the EnviLOD Project

Evaluate the potential of linked open data vocabularies to information discovery in environmental science

- Understand how environmental science vocabularies can be enriched and interlinked
- Develop intuitive semantic search methods
- Case study: the new British Library information discovery tool for environmental science, Envia.
- Engage with domain experts and other stakeholders.

6 month research project, limited content scope, subject restricted to flooding.

## Context : British Library Envia project

- Connect users to environmental information (reports, journal articles, data etc), wherever it is, or they are
- Flooding focus
- Beta version launching April 2013 (envia@bl.uk)
- Improve *discovery* and access of environmental information
  - Surface more *relevant* information
  - Less ‘filtering’ of results necessary

# Environmental information access— What's the problem?

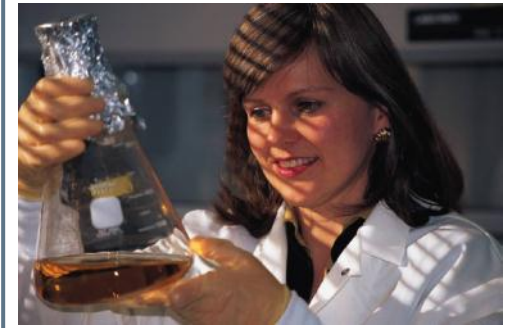
User	Payment	Time constraints	Lack of professional connections	Difficulty discovering information	Difficulty accessing information	Difficulty filtering information	Difficulty validating facts found on the internet
Academia	<b>2nd</b>	<b>1st</b>					
Private sector		<b>1st</b>		<b>2nd</b>	<b>1st</b>		
Government Agencies		<b>1st</b>			<b>2nd</b>		
Government Depts		<b>1st</b>				<b>2nd</b>	
Local Governments	<b>1st</b>					<b>2nd</b>	
NGOs	<b>1st</b>			<b>2nd</b>	<b>2nd</b>		



Delia works at an **environmental consultancy** that specialises in the engineering of flood defences

## The flooding sector is diverse—

*Researchers have differing information needs!*



Anna works in a laboratory at the **University** of East Anglia where she researches pollutants mobilised by floods



Maya works for an **NGO** that undertakes projects to help local communities with their resilience against flooding



Simon works in **local government** in a busy urban unitary authority where he is responsible for planning new developments



Bill works at the **Environment Agency**, a public body that implements policy that comes from Defra

*Common problems across the sectors...*

- Complex landscape of producers and users of information
- Siloes – you may know where to look, you may not
- When you have found something useful, can you access it?
- Information and data transience – will it be there tomorrow?
- Filtering information to get to what is relevant and trustworthy

## *Refining the Service Offering...*

- **Not another portal** – don't add to the information overload or create yet another information silo
- Help co-ordinate discovery and access to existing resources
- Make the service that fits with user preferences – pluggable, intuitive
- Ability to do targeted searches as well as browsing by category



Federate discovery

Pluggable

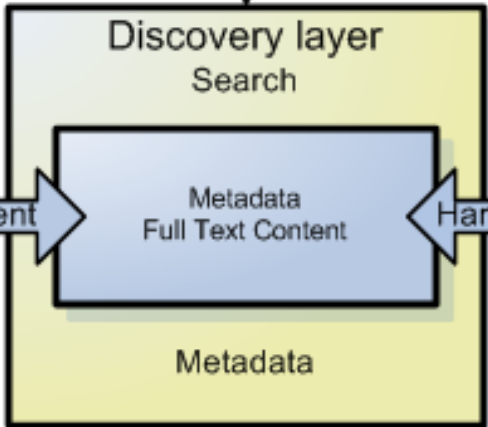


Government reports

Other full-text content

Dataset metadata

Build on BL processes



NERC Open Repository

Other open repositories

E.g. journal articles

PhD Theses

Full text resources downloadable from ENVIA

Full text/data resources readily accessible from external websites.

Access full-text content





Search bar containing: groundwater quality | All | Search | Advanced Search

### Environmental Information Discovery and Access



Whole Word Only  Case Sensitive

|groundwater quality"

All

Title

Add

Simple Search

Reset

Search

Refine this search

Subject

- Flood (8)
- Other social problems and services (8)
- Environment Agency (7)
- risk (7)
- Risk Management (6)
- surface water (3)
- Environment (2)
- Flood control--Government policy--England (2)
- Flood control--Government policy--Wales (2)
- flood Defences (2)

... View More

Type

Your search returned 9 results

Sort by

relevance

Order by

descending

Display

10

| 25 | 50

1

Groundwater quality review. Furness and West Cumbria : analysis of the Furness and West Cumbria groundwater chemistry

BRISTOL : ENVIRONMENT AGENCY



Preliminary flood risk assessment (PFRA). Final guidance

BRISTOL : ENVIRONMENT AGENCY



The future of flood risk management in Scotland : a consultation document : strategic environmental assessment environmental report draft



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Search bar with a dropdown menu set to 'All', a 'Search' button, and a link to 'Advanced Search'.

## Groundwater quality review. Furness and West Cumbria : analysis of the Furness and West Cumbria groundwater chemistry

DOWNLOAD DOCUMENT



LINK

<http://publications.environment-agency.gov.uk/pdf/GEHO1210BTHK-e-e.pdf>

CONTENT TYPE

Reports

PUBLISHER

Environment Agency

DATE

2011

SUBJECT

- England
- Groundwater
- Cumbria

[View Detailed Record](#)

# Sparse Metadata



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## Groundwater quality review. Furness and West Cumbria : analysis of the Furness and West Cumbria groundwater chemistry

### DOWNLOAD DOCUMENT



### LINK

<http://publications.environment-agency.gov.uk/pdf/GEHO1210BTHK-e-e.pdf>

### ABSTRACT

This report provides information about the baseline groundwater quality in the Water Framework Directive (WFD) groundwater monitoring units of Furness and West Cumbria. The data used in the report was taken from the Environment Agency's groundwater monitoring network, the purpose of this network is to comply with the agency statutory requirement to support other environmental protection duties and initiatives. Groundwater provides 13% of public water supplies in the North West Region. In addition, river and stream flows and wetland habitats are often heavily dependent on groundwater seepage and springs, especially during the drier months. The quantity and water quality of groundwater is therefore extremely important in maintaining these resources.

### CONTENT TYPE

Reports

### PUBLISHER

Environment Agency

### DATE

2011

### SUBJECT

- Cumbria
- Groundwater
- England

**Manually adding abstract..**

# Semantic Technologies

File Options Tools Help

Messages datastore AlephReports2 013738113.pdf.t...

Annotation Sets Annotations List Annotations Stack Co-reference Editor OAT RAT-C RAT-I Text

body which has a statutory duty to take an overview of the **flooding risk** on behalf of Londoners. The **GLA** will have a key role in coordinating the many organisations with an interest in this question – including the **Environment Agency**, **Thames Water**, the Boroughs and **Thames Gateway London Partnership**. It also has powers in relation to the emergency services (the **Fire Service** and **Police**) and in setting the **planning** framework for **London** in the Spatial Development Strategy. The GLA is thus **well** placed to set the strategic framework for **London's** response to **flood risk**. The purpose of this Assembly Committee is to investigate whether such a framework is being established and to make recommendations as to what it should contain.

1.3 **London's** wake-up call was the **flooding of Autumn 2000**, when the **United Kingdom** experienced its worst **weather** in over **270 years**. Across **England** and **Wales** about 10,000 properties were **flooded**, some on several occasions and for long periods of time. A further 37,000 properties were saved by sandbags alone and in total around 280,000 properties were protected by **flood defences**. The Association of British Insurers estimated that the **cost to insurers was £1.3 billion**.

1.4 Though not the worst affected part of the country, **London** too experienced severe **flooding** at this time. Whilst existing **defences** successfully prevented **flooding** for many **London** properties, the **defences** on the **River Roding** at Wanstead and Woodford in **Redbridge**, **North East London**, were overtopped as a result of which 230 properties were **flooded**. There was also **flooding** of 75 properties at **Edmonton** in **Enfield** and 15 at Teddington in **Richmond**.<sup>3</sup> Thus in total 320 properties were **flooded** in **London**. The **Environment Agency's** report on the **Autumn 2000 floods** also makes clear that there was **flooding** at a number of properties adjacent to **London**.

1.5 Recent **flooding** in **2002**, both in the north of **England** and in **London**, have demonstrated that this is a recurring problem and that public **policy** needs to be prepared and robust to deal with future emergencies. The **floods** crisis in continental **Europe**, which included devastation of property and fatalities, brought home to many quite how serious **flooding** can be

Address  
 Date  
 FirstPerson  
 Identifier  
 JobTitle  
 Location  
 Lookup  
 Measurement  
 Money  
 Number  
 OntoRes  
 Organization  
 Percent  
 Person  
 PublicationAuthor  
 PublicationDate  
 PublicationPages  
 Ratio  
 Reference  
 RemoveAuthorsFrom  
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Document Editor Initialisation Parameters



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Search input field with 'All' dropdown, 'Search' button, and 'Advanced Search' link.

## Groundwater quality review. Furness and West Cumbria : analysis of the Furness and West Cumbria groundwater chemistry

BRISTOL : ENVIRONMENT AGENCY

DOWNLOAD DOCUMENT



### LINK

<http://publications.environment-agency.gov.uk/pdf/GEHO1210BTHK-e-e.pdf>

### CONTENT TYPE

Monographic

### DATE

2011

### SUBJECT

- Groundwater--England--Cumbria
- Economic geology
- monitoring
- Environment
- groundwater
- pesticides
- statistics
- Environment Agency
- Groundwater Quality
- Aromatic compounds
- groundwater quality
- Land use

# Automatically generating keywords

[View Detailed Record](#)

# FRM Act annual report to Parliament ... : Flood Risk Management (Scotland) Act 2009

EDINBURGH : SCOTTISH GOVERNMENT

## DOWNLOAD DOCUMENT



## LINK



<http://www.scotland.gov.uk/Publications/Recent>

## CONTENT TYPE

continuing  
Electronic

## DATE

2010

## SUBJECT

- Flood damage prevention--Scotland--Periodicals
- Floods--Risk assessment--Scotland--Periodicals
- Flood control--Scotland--Planning--Periodicals
- Other social problems and services
- Flood
- Act
- Scotland
- risk
- plans
- Risk Management
- Scottish Government
- local authorities
- National Park
- flood protection

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# Why EnviLOD?

- Exploring the real potential of semantic search for information discovery in environmental science
- Developing *use cases* of linked open data vocabularies in this context
- Understanding present and future applicability to Envira