

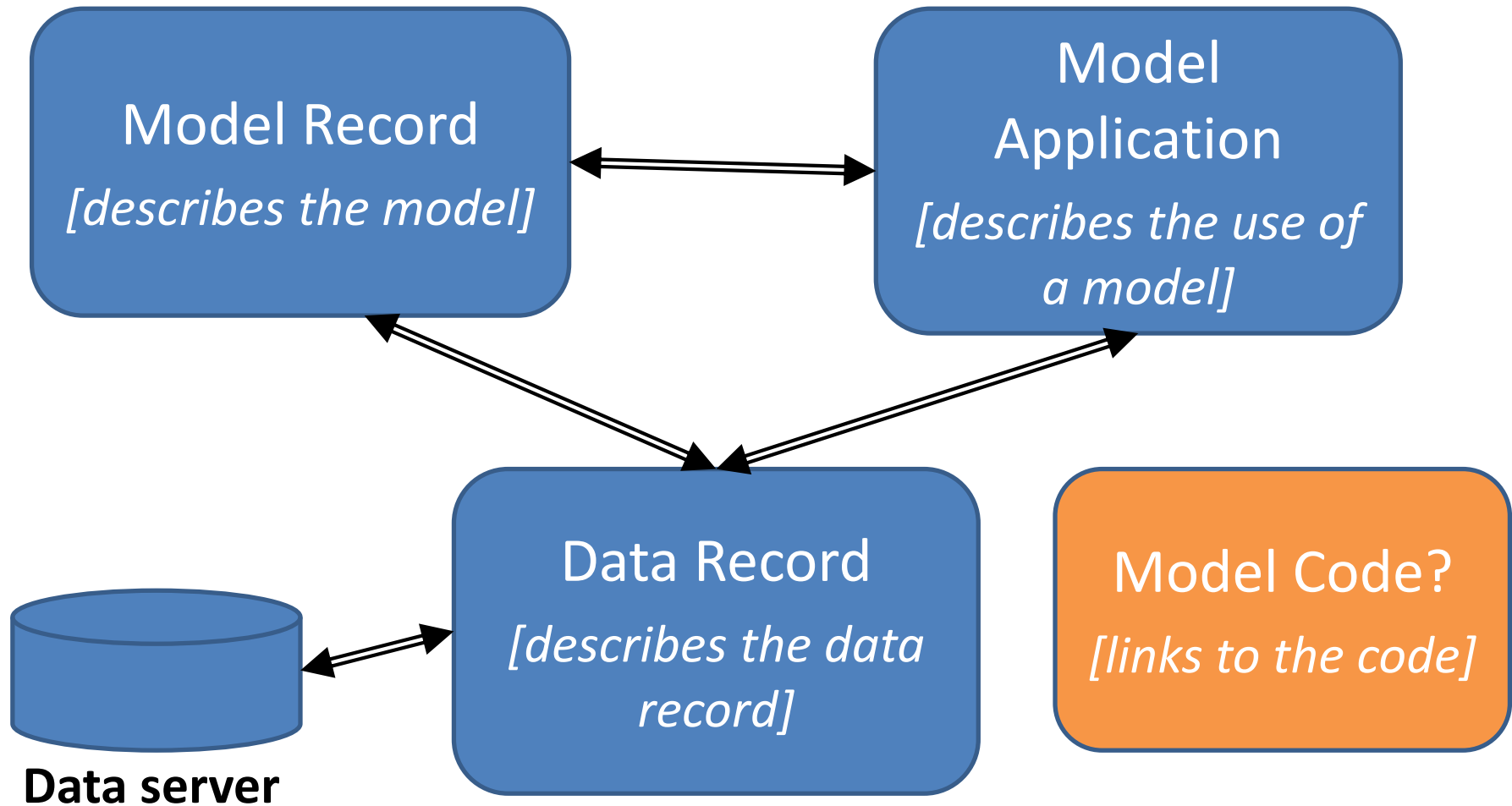
# INMS Database Platform for Models and Data

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# Data & Model Meta-data – Tasks 1.5.2 & 2.1.1

Metadata should describe key features of the model or data to enable users to discover relevant information, find contact details and publications and gain information and use model input and output data

# Database System – Data Types

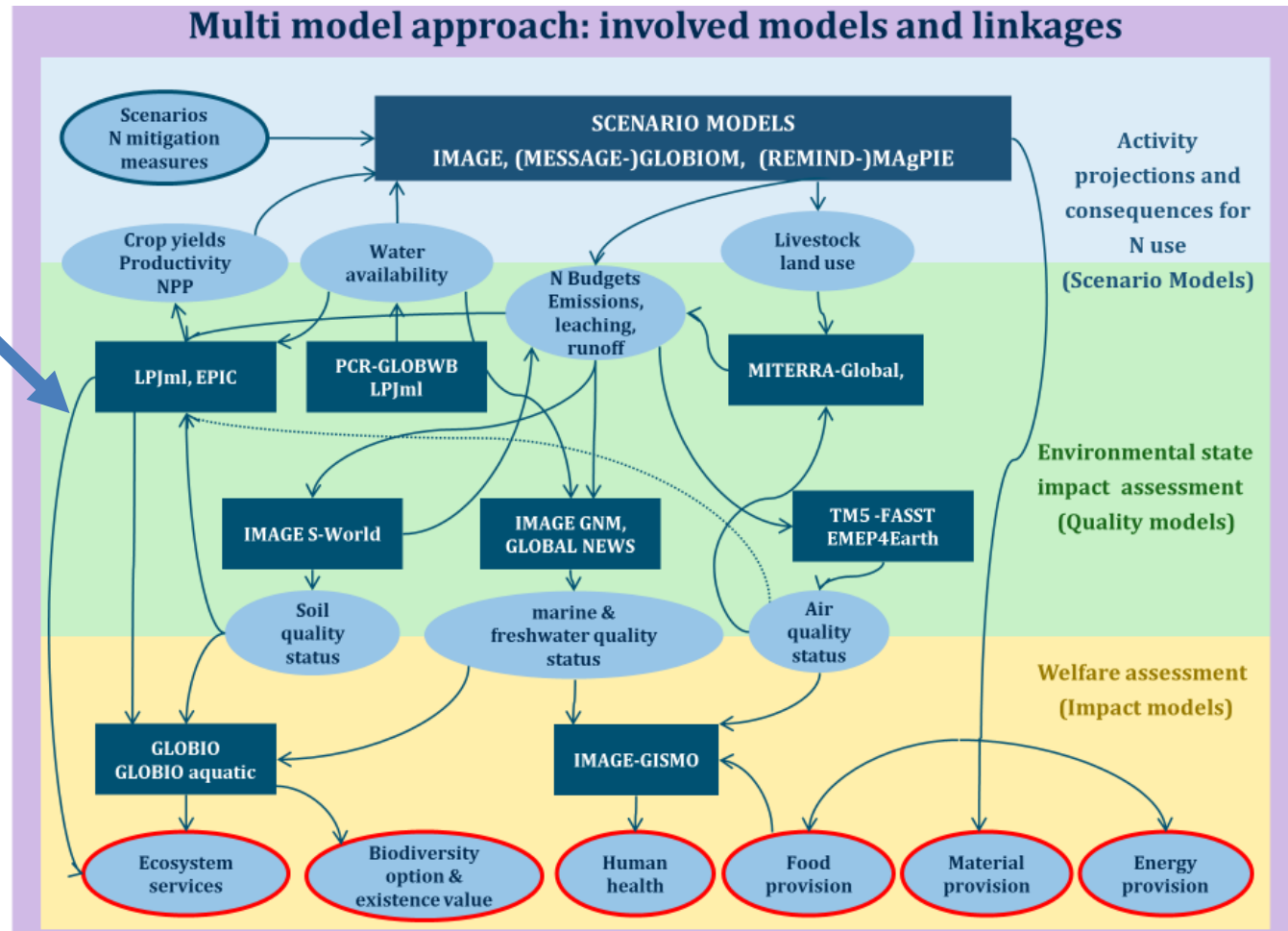


# Multi-model comparison and their linkage

Datasets  
x50

x5 scenarios

~250  
datasets



Activity 1.5/2.1: INMS-3, Edinburgh, 16th-19th April

# INMS Database Platform

<https://catalogue.ceh.ac.uk/inms/documents>

The screenshot shows a web browser displaying the INMS Database Platform. The browser's address bar shows the URL <https://catalogue.ceh.ac.uk/inms/documents>. The website header includes the CEH logo (Centre for Ecology & Hydrology, Natural Environment Research Council), a search bar, and the text "International Nitrogen Management System". A user profile for "Bealey, Bill" is visible in the top right corner.

The main content area is divided into a left sidebar with filters and a main results area. The filters include:

- Resource type
  - Dataset (1)
  - Model (16)
  - Model Application (1)
- Scale
  - Basin (1)
  - Global (5)
- Topic
  - Agricultural Practices (1)
  - Air Pollution (1)
  - Biodiversity (1)
  - Greenhouse Gases (2)
  - Soil (1)

The search bar contains the text "Search the catalogue". The results area displays three entries:

- LPJmL**: This model was designed to make large-scale representations and combines terrestrial vegetation dynamics and land-atmosphere carbon and water exchanges under climate change. It is the only DGVM that uses dynamic land use at global scale. Also simulates the production...
- Model DRAFT Global NEWS (Nutrient Export from WaterSheds)**: Main drivers are population, economic development (income), land use, livestock and crop production. Main inputs are land use, use of synthetic and organic fertilizers, atmospheric N deposition, biological N<sub>2</sub> fixation, total population, population with sewage connection,...
- Model DRAFT GLOBIOM**: GLOBIOM is a global economic bottom-up agricultural and forest sector model. The model is based on a detailed spatially explicit grid and estimates economic and environmental impacts, incl. nutrient balances, tightly linked with bio-physical process based models like...



Activity 1.5/2.1: INMS-3, Edinburgh, 16th-19th April

# Vocabularies

## Model Type

impact  
quality  
scenario

## Pollutant

Aerosols  
Ammonia  
Carbon  
Nitrogen  
Phosphorus

## Scale

Catchment  
Farm  
Field  
Global

## Demonstration Region

East Africa  
East Asia  
East Europe  
Latin America  
South Asia

## Keywords

Nutrients  
Fertilizer  
Manure  
Biological N fixation,  
Atmospheric deposition  
Runoff  
Leaching

## Models

IMAGE  
PCR-GLOBWB  
MAGPIE  
LPJml  
GAINS  
GLOBIOM  
EPIC  
CAPRI  
EDGAR  
TM5  
EMEP4Earth  
MITERRA Global  
GLOBAL NEWS  
WBM/VIC  
ERSEM/NEMO

Developed INMS vocabulary using the keywords  
using a URI:

<http://vocabs.ceh.ac.uk/inms/scale/catchment>



# Filtering Records

Click to narrow the results down to show only records tagged with that topic

The screenshot shows the CEH search interface. The top navigation bar includes the CEH logo, the text 'Centre for Ecology & Hydrology', and 'NATURAL ENVIRONMENT RESEARCH COUNCIL'. To the right are links for 'Search Data', 'Help', and 'Environmental Information Data Centre'. Below the navigation bar is a search bar with the placeholder text 'Search the catalogue' and a magnifying glass icon. A 'Filters' sidebar is on the left, listing various topics and resource types with their respective record counts. The main content area displays '577 records found' and lists three search results with their titles and brief descriptions.

**Centre for Ecology & Hydrology**  
NATURAL ENVIRONMENT RESEARCH COUNCIL

Search Data Help Environmental Information Data Centre

Filters

Search the catalogue

577 records found

**Topic**

- Agriculture (8)
- Animal behaviour (10)
- Biodiversity (48)
- Climate and climate change (31)
- Ecosystem services (3)
- Environmental risk (6)
- Environmental survey (65)
- Evolutionary ecology (5)
- Hydrology (19)
- Invasive species (1)
- Land cover (31)
- Land use (6)
- Mapping (19)
- Modelling (24)
- Phenology (3)
- Pollinators (5)

**Resource type**

- Aggregate (45)
- Application (4)
- Dataset (492)
- Non-geographic dataset (12)
- Series (2)

Map Search

**Risk of Phytophthora infection in heathland fragments across Scotland**

These spatial layers contain risk factors and overall risk scores, representing relative risk of Phytophthora infection (*Phytophthora ramorum* and *P. kernoviae*), for heathland fragments across Scotland. Risk factors include climate suitability, proximity to road and...

**Corine land cover changes between 2006 and 2012 for the UK, Jersey and Guernsey**

This dataset for the UK, Jersey and Guernsey contains the Corine Land Cover (CLC) changes between 2006 and 2012. This shapefile has been created by combining the land cover change layers from the individual CLC database files for the UK, Jersey and Guernsey. CLC is...

**Hydrological modelling and simulation data for the River Trent at Colwick under climate change**

This data contains the time series flow discharge results of hydrological simulation of the River Trent at Colwick using UKCP09 Weather Generator inputs for a variety of time slices and emissions scenarios. The Weather Generator (WG) inputs were run on a hydrological...

**Nutrient chemistry of Arctic Lakes in Greenland, Norway, Russia and Alaska**

This dataset contains nutrient chemistry data from 14 lakes in the Arctic region: 4 in Russia and Alaska and 3 in Greenland and Norway. Nutrient chemistry was measured on one occasion only at each lake, with date of collection ranging from 01/04/2011 to 14/03/2014....

# Collecting Data & Model Descriptions

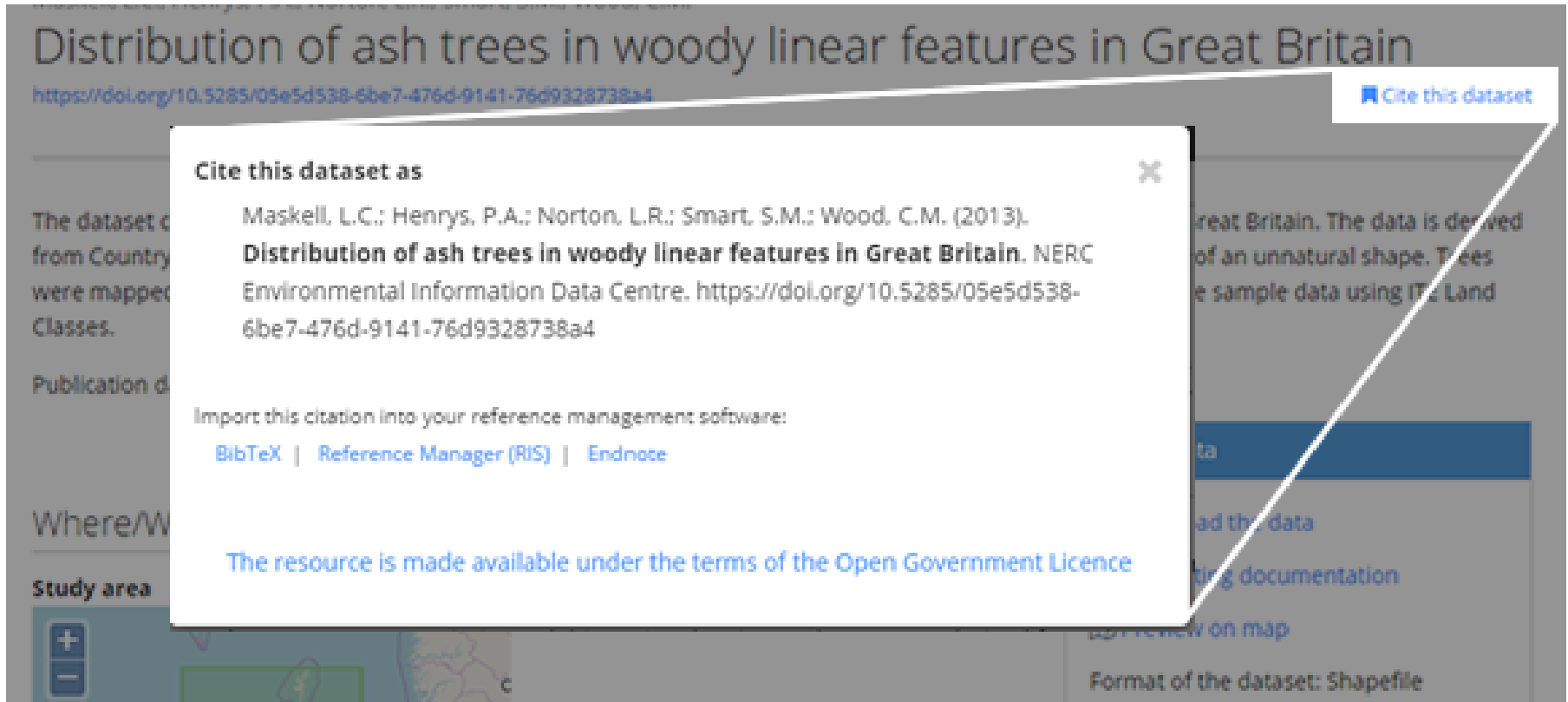
1. BASIC INFO+A6:D15	Field description	Response type	Mandatory/optional
Model Name	Name of the model	Text (up to 255 characters)	Mandatory
Primary purpose	Short phrase to describe primary aim of model	Text (up to 255 characters)	Mandatory
URL/website	Link to outward facing model website if one exists e.g. <a href="https://jules.jchmr.org/">https://jules.jchmr.org/</a>	Text (up to 255 characters)	Optional
Contact name	Senior responsible officer for the model (this should be the person who is the primary contact for the model)	Text (up to 255 characters)	Mandatory
Contact email	Email address of the Senior Responsible Officer e.g. <a href="mailto:someone@ceh.ac.uk">someone@ceh.ac.uk</a>	Text (up to 30 characters)	Mandatory
Organisations involved	Organisations involved in model development	Text (up to 255 characters)	Optional
Keywords	5-10 keywords for model discovery e.g. rainfall; species distribution; nitrogen deposition; global circulation model	Text (up to 255 characters)	Mandatory
License	License type (open or non-open) under which the model is distributed.	Lookup from (1) Open (2) Non-open	Mandatory
Link to version control repository	Location of code repository e.g. <a href="https://github.com/NERC-CEH/Spatial-Upscaling-model">https://github.com/NERC-CEH/Spatial-Upscaling-model</a> .	Text (up to 255 characters)	Mandatory



# Data Formats

- CSV
- ascii
- netcdf


# Dataset Citation



The screenshot shows a dataset page titled "Distribution of ash trees in woody linear features in Great Britain" with a DOI link: <https://doi.org/10.5285/05e5d538-6be7-476d-9141-76d9328738a4>. A "Cite this dataset" button is visible in the top right. A white popup box titled "Cite this dataset as" is centered on the screen, containing the following text: "Maskell, L.C.; Henrys, P.A.; Norton, L.R.; Smart, S.M.; Wood, C.M. (2013). **Distribution of ash trees in woody linear features in Great Britain**. NERC Environmental Information Data Centre. <https://doi.org/10.5285/05e5d538-6be7-476d-9141-76d9328738a4>". Below this, it says "Import this citation into your reference management software:" followed by links for "BibTeX", "Reference Manager (RIS)", and "Endnote". At the bottom of the popup, it states "The resource is made available under the terms of the Open Government Licence".

**But NOT a DOI !**

# Data Licence Text

 **Centre for Ecology & Hydrology**  
NATURAL ENVIRONMENT RESEARCH COUNCIL

Home Search Data

Bealey, Bill ▾

## Nitrous oxide emissions from Whim peatbog after thirteen years of experimental nitrogen deposition

**Click-through licence for access to data available from the Centre for Ecology & Hydrology**

*Before proceeding please read the terms of this agreement "(Licence Agreement)" carefully. You are licensed to use the data on the condition that you accept all the terms contained in this Licence Agreement. By continuing you are confirming your acceptance of the terms of this Licence Agreement. Such acceptance is either on your own behalf or on behalf of any corporate affiliation specified in your application. If you do not accept these terms, you should click on the Cancel button.*

### Open Government Licence CEH

# OGL

This resource is available under [the Open Government Licence \(OGL\)](#)

You must always use the following attribution statement to acknowledge the source of the information: "Contains data supplied by Natural Environment Research Council."

The following copyright statement is also required: "© NERC (Centre for Ecology & Hydrology)".

You will ensure that citation of any relevant key publications, Digital Object Identifiers and any other required acknowledgments identified in the metadata record for the Data are included in full in the reference list of any reports or publications that describe any research in which the Data have been used.

# Sample Licence Text

CLICK-THROUGH LICENCE FOR ACCESS TO DOWNLOAD DATA FROM THE INMS DATA PLATFORM

*BEFORE PROCEEDING PLEASE READ THE TERMS OF THIS AGREEMENT ('LICENCE AGREEMENT') CAREFULLY. YOU ARE LICENSED TO USE THE DATA ON THE CONDITION THAT YOU ACCEPT ALL THE TERMS CONTAINED IN THIS LICENCE AGREEMENT.*

The Data is held by the Centre for Ecology & Hydrology (CEH) on behalf of the International Nitrogen Management System (INMS) project implemented under the UN Environment Programme. Ownership of the Data and all rights subsisting in the Data, including copyright, database rights and rights to apply for patents or any other intellectual property rights, rest with the Data Originator and the INMS project.

## 1. PERMITTED USE

1.1 Where You are an individual Licensee You may use the Data for your own Personal Use within the INMS project.

1.2 You may disseminate publications and reports based upon the Data only within the INMS project, or until a period of 2 years after the project has ended.

## 2. RESTRICTIONS ON USE

2.1 You may not use the Data in connection with any tender where such use will provide the tenderer with a competitive advantage resulting in financial profit or gain.

ETC.....



# Database Links

Require log in permissions

[INMS Catalogue](#)

[INMS Vocabulary](#)



# System Technology

Catalogue metadata are stored in a json filestore on the server.

Catalogue has a Java backend and javascript frontend (probably using various frameworks, not sure which ones).

Any INMS data we host will be stored on a fileserver in CEH, files obtained from the catalogue using an order manager with a click-through data licence that has to be agreed to by a logged-in user.

