



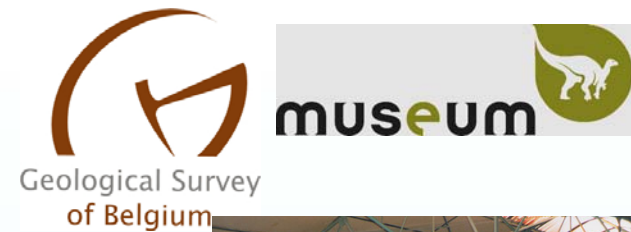
Generalised Natural Sciences Online Spatial Information System





What?

- A Web Portal and Geographical Web Services providing the data archives of the Belgian Federal Scientific institutes.
- Make this data and associated metadata available for scientists and the general public within Belgium and worldwide.



Royal Belgian Institute of Natural Sciences

- Geological Survey of Belgium

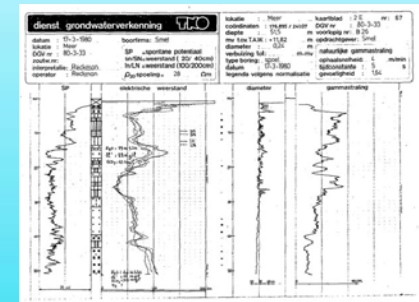
Data in GNOSIS

- Location of minerals
- Geophysical logs of boreholes
- Borehole cores
- Natural stone occurrences
- Geological publications



Department Zoology - data in GNOSIS

- Birds specimen
- Mammalia specimen
- Bird ringing data (more dan 75 years of history)





Royal Museum for Central Africa

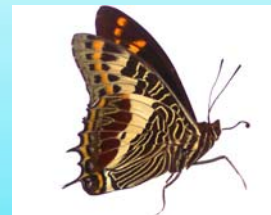
Department Geology - data in GNOSIS

- Collection of aerial photos - Collectie of Satellite images
- Geological terrain observations – Archives - Map library
- Minerals - Geological Map - ...



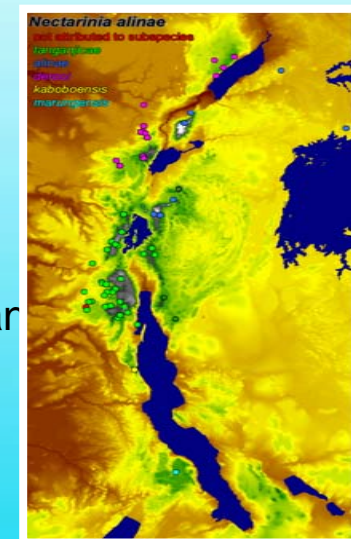
Department African Zoology - data in GNOSIS

- Albertine Rift Birds - Fishes R.D. Congo Rwanda Burundi
- Butterflies Central Africa - Mayotte birds - ...



Royal Meteorological Institute

- Climatological and meteorological observations in Congo, Rwanda and Burundi during the colonial period (1890s until 1959) (legacy Franz Bultot)
- Meteorological stations of Belgium





Challenges

- Multidisciplinary: geology, meteorology, zoology, oceanography
- Different departments on different locations
- Variety/diversity of Software and Systems
- Multi-linguality
- Need for an Open System allowing other partners to join
- Different types of users



Solutions

- Geographic location as common component
- Decentralized architecture
- Web Service Components (SOA)
- Interfaces based on Open Standards
- Central Catalog of services and data



GNOSIS CATALOG Functionality

The screenshot shows the GNOSIS Catalog Web Client interface. The browser address bar displays <http://www.gnosis.be/gnosis/>. The page title is "GNOSIS Catalog Web Client".

Geographical query: A red box highlights the "Select a geographic box / Find source" section, which includes a world map and a search form with fields for "West", "North", "East", and "South".

Search results: A red box highlights the "Retrieved Data & Services" section, which displays search results for "Boorgatmetingen - België" and "Kernen - België".

Query with keywords: A red box highlights the "Search Criteria" section, which includes a "Keyword" dropdown menu with options like "articles", "core sample", "drilling", "geological mapping", and "geological surveying".

Query on free text: A red box highlights the "Free text" input field in the "Search Criteria" section.

Navigation: A red box highlights the navigation menu at the top right, which includes links for "About", "Partners", "Help", "Demo", and "Docs".

Footer: The footer contains the text: "This website has been developed by the Royal Belgian Institute of Natural Sciences, the Royal Museum for Central Africa, the Royal Meteorological Institute and G.I.M. with the support of Belgian Federal Science Policy Office. Powered by IONIC RedSpider Technology. Contact us Optimised for 1024x768".



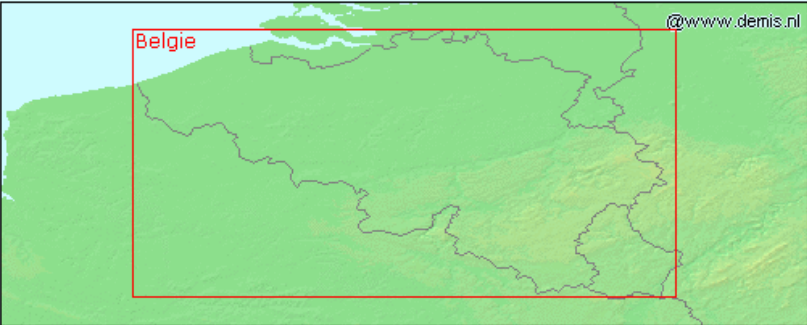
GNOSIS Metadata window

http://www.gnosis.be - GNOSIS Metadata - Mozilla Firefox

GNOSIS Catalog Web Client

GNOSIS Metadata
Download (xml)

Verzameling van boorgatmetingen uitgevoerd in Belgische boringen
Koninklijk Belgisch Instituut voor Natuurwetenschappen - Institut Royal des sciences naturelles de Belgique



West:

► Place name

Search Criteria

► Category: geoscienti

► Keyword: article
core samp
drilling
geological
geological

► Free text:

Identification

File identifier	boorgatmetingen.xml
Language of metadata	dut
Character set of metadata	utf8
Last update of metadata	2005-01-26
Metadata standaard	ISD 19115 Geographic Information - Metadata, GNOSIS Metadata Profile
Version	1.1

Responsible for metadata

Organisation	Koninklijk Belgisch Instituut voor Natuurwetenschappen - Institut Royal des sciences naturelles de Belgique
Role	custodian

Help Demo Docs
1 2 [Next]

zoveel mogelijk
jn al dan niet digitaal of

[w metadata](#)

eren van een boring,
worden de sedimenten

[w metadata](#)

mineralen in de collectie

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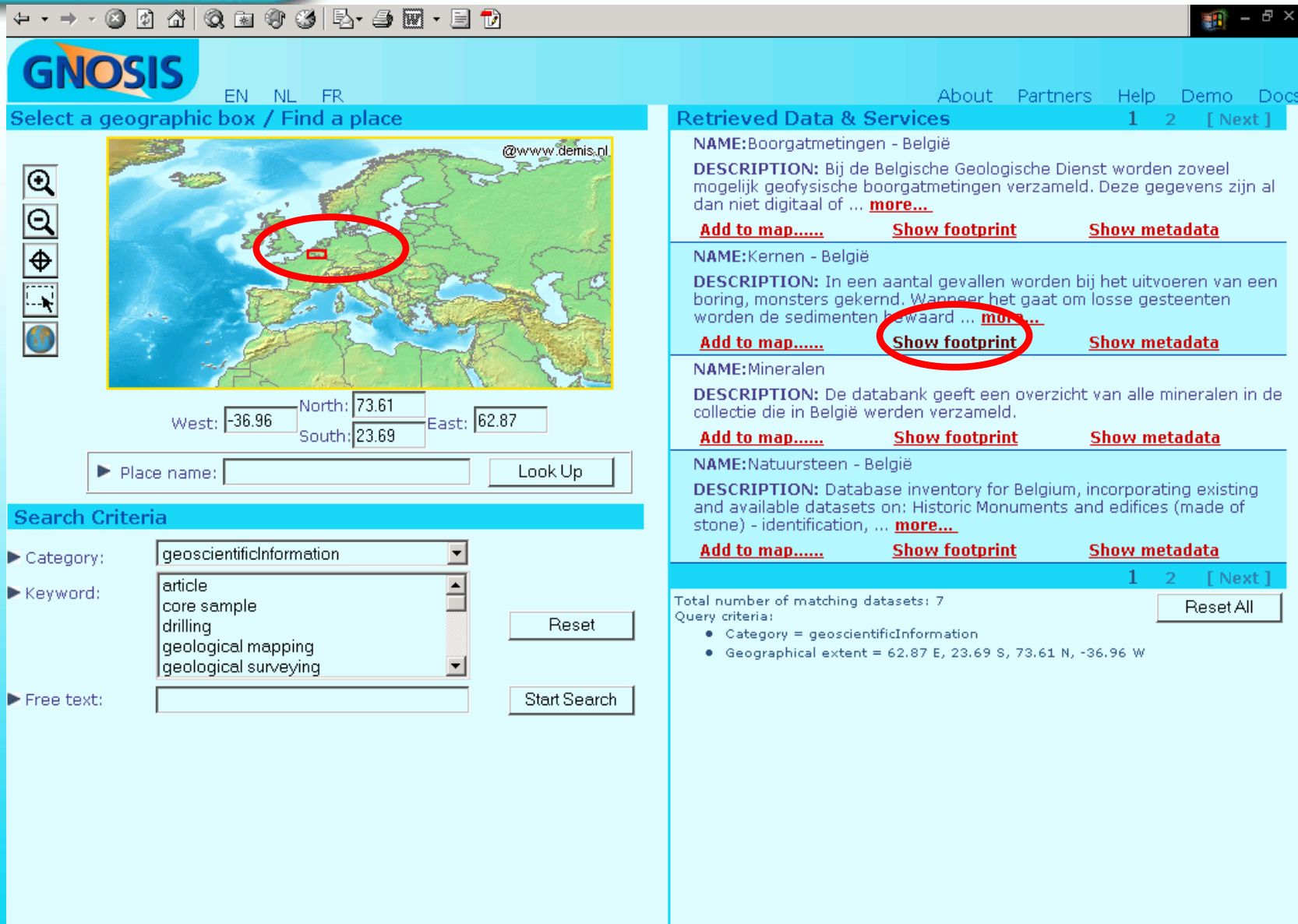
1 2 [Next]

Reset All

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Show footprint



The screenshot shows the GNOSIS web application interface. At the top left is the GNOSIS logo with language options (EN, NL, FR). Below it is a navigation bar with links for 'About', 'Partners', 'Help', 'Demo', and 'Docs'. The main content area is divided into several sections:

- Select a geographic box / Find a place:** Features a map of Europe with a red circle highlighting a region in Belgium. Below the map are input fields for West (-36.96), North (73.61), East (62.87), and South (23.69). A 'Place name' field and a 'Look Up' button are also present.
- Search Criteria:** A section with a 'Category' dropdown set to 'geoscientificInformation', a 'Keyword' list containing 'article', 'core sample', 'drilling', 'geological mapping', and 'geological surveying', and a 'Free text' field. 'Reset' and 'Start Search' buttons are located to the right.
- Retrieved Data & Services:** A list of search results. Each entry includes a name, a description, and three action links: 'Add to map.....', 'Show footprint', and 'Show metadata'. The 'Show footprint' link for the second entry, 'Kernen - België', is circled in red. The results are paginated with '1 2 [Next]'.
- Summary:** At the bottom of the results section, it states 'Total number of matching datasets: 7' and 'Query criteria: Category = geoscientificInformation, Geographical extent = 62.87 E, 23.69 S, 73.61 N, -36.96 W'. A 'Reset All' button is provided.



GNOSIS Map Window

http://www.gnosis.be/ionicweb/gnosis_files/kbin_geologie/images/099W151...

File Edit Go To Favorites Help

← Back → Search Favorites Media

Pages

Tech.1	Tech.2	GR(API)-1	200 Lithologie	Description	0	NS4(ohm.m)-1	2000	SPR(ohm)-1	100
0	0	D(mm)-1	500		0	N18(ohm.m)-1	20011000	SP(qs)-1	13000
0	0	GR(API)-2	200		0	NS4(ohm.m)-2	2000	SPR(ohm)-2	200
100	0	D(mm)-2	200		0	N15(ohm.m)-2	20033000	SP(qs)-2	34000

Sables et limons

Argiles, argiles sablonneuses

Travaux au 210 mm

Toupeuse au 210 mm

8,27 x 11,68 in

1 of 2

Done Unknown Zone

Help

Query Map Legends Coordinate system

Layername

Geophysical logs - Belgium

Borehole	Logged by	Date	Parameters
099W1514	EGS		CALIPER GAMMA LONG NORMAL RES (2) SN2

Institute of Natural Sciences

Amsterdam@www.demis.nl

Greater London

Bruxelles

Bonn

Paris

St. Helier

Luxembourg-Ville

contact us 14x76E

Internet

Y:100371m X:156384m (Belgique Lambert 1972 EPSG:31300)



GNOSIS Map Window


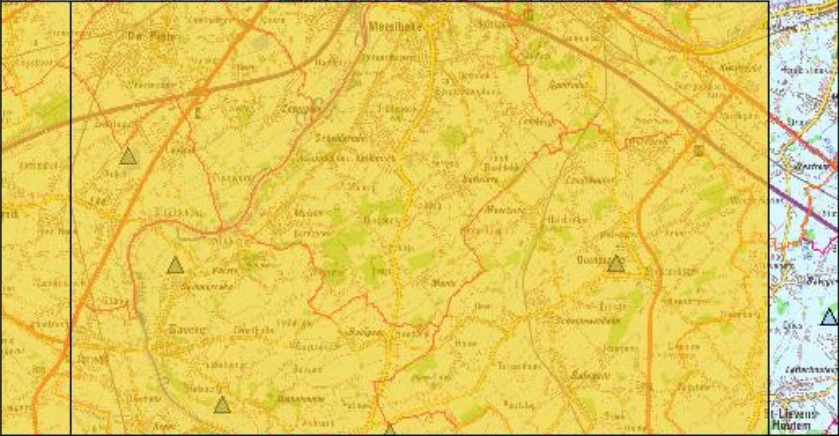

Web map light viewer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

GNOSIS Help

Map navigation icons: Home, Previous, Next, Stop, Refresh, Full Screen, Print, Close

©2005, NGIS



Search

Layername: Reference list - Belgium

Query

Topic: Select a topic

Stratigraphy: EOC

Author: Dusar, M.

Note:
The search query is restricted to the visible area that is display in the map overview.

Search GML Reset

Search

Categories

Keywords

Free text

contact us 4x76E



GNOSIS Map Window

Web map light viewer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

GNOSIS Help

Query | Map | Legends | Coordinate system

Coordinate Reference System

- Belgische Lambert 1972, EPSG31300
- WGS 84 (lat/lon), EPSG4326
- NTF (Paris) / France I, EPSG27581
- OSGB 1936 / British National Grid, EPSG27700
- Belgische Lambert 1972, EPSG31300

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2500 m

Greater London Amsterdam@www.demis.nl
Bruxelles Bonn
St. Helier Paris Luxembourg-Ville

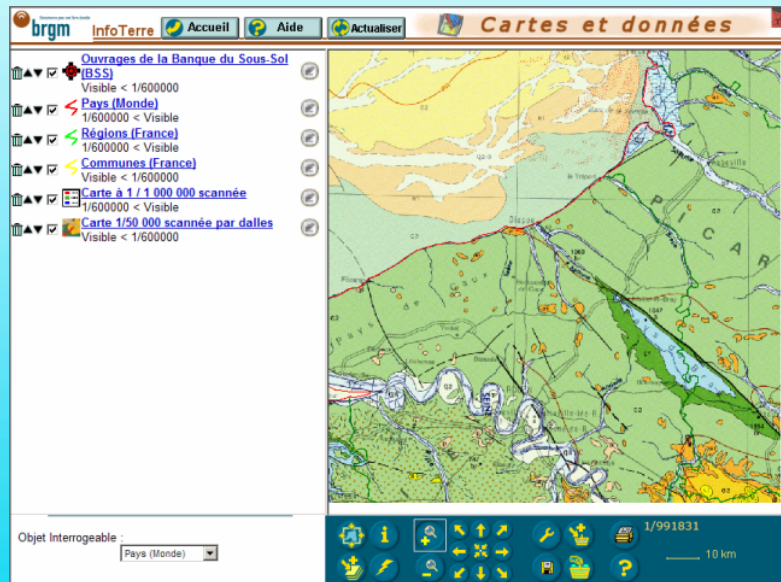
4x768



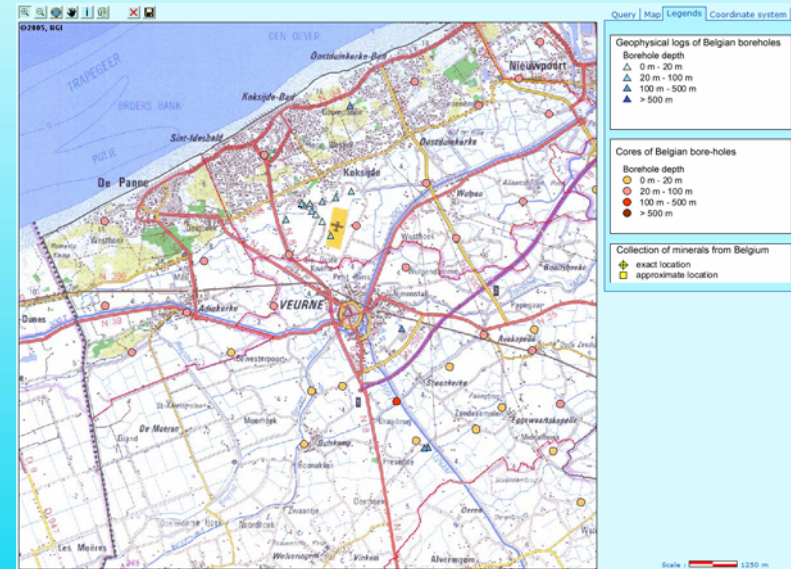
Use of GNOSIS in cross-border Geology project

Combining of geological datasets in a cross-border area: “Frans-Vlaanderen” (French Flanders)

BRGM - www.infoterre.fr



RBINS Geology - GNOSIS



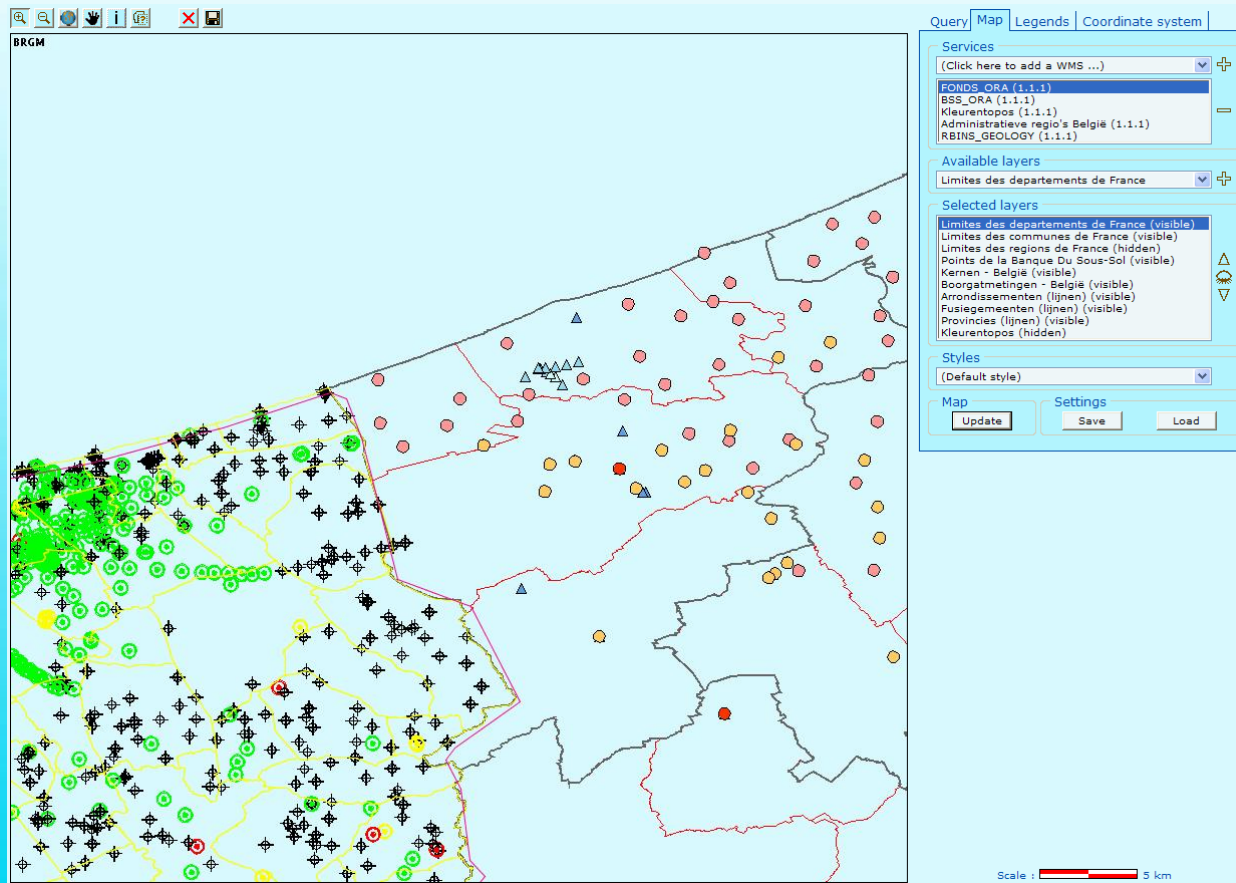
geophysical logs, mineralogy, cores



Use of GNOSIS in cross-border Geology project

BRGM & RBINS - combine geological data sets

- 1 common coordinate system => WGS84 (EPSG 4326)
- combination of WMS layers within a single map





Other datasets in GNOSIS

The screenshot displays the GNOSIS web map interface. The main map shows the Netherlands with yellow circles indicating bird counts at various locations. The search panel on the right shows the following filters:

- Layername: Waterbirds
- Query: Winter: jr1991_92, Name: Aalscholver
- Buttons: Search, GML, Reset

The table below shows the results of the search:

Location	Count	Winter	Name	Species	Code	
Spaarbekken NIEUWPOORT	720	jr1991_92	19	Aalscholver	Phalacrocorax carbo	00720
Sluizencomplex NIEUWPOORT	720	jr1991_92	11	Aalscholver	Phalacrocorax carbo	00720
Zandput NIEUWKAPELLE	720	jr1991_92	55	Aalscholver	Phalacrocorax carbo	00720
Blankaart WOUMEN	720	jr1991_92	27	Aalscholver	Phalacrocorax carbo	00720
Koolhofput NIEUWPOORT (Ramskapelle)	720	jr1991_92	1	Aalscholver	Phalacrocorax carbo	00720
Vijver ZILLEBEKE	720	jr1991_92	30	Aalscholver	Phalacrocorax carbo	00720



Conclusion :

- GNOSIS is a website in which you can find a databases on a geographical way on an easy way.
- GNOSIS is a place where several databases can be easily combined.
- There are already 24 databases available, there is still place for other databases to join.