

INTERNATIONAL TRAINING ON TOPONYMY

MODULES

DAY 5

19 - 23 JUNE 2023

BALI, INDONESIA



United Nations
Group of Experts on
Geographical Names



BADAN INFORMASI
GEOSPASIAL





UNGEEN

United Nations Group of Experts
on Geographical Names



International Training on Toponymy

Bali, 19 - 23 June
2023

Database management

*Module 6: Data Processing and Management
International Training on Toponymy
Bali – Indonesia*

Jasper Hogerwerf





Content

Preparing the names database – General issues

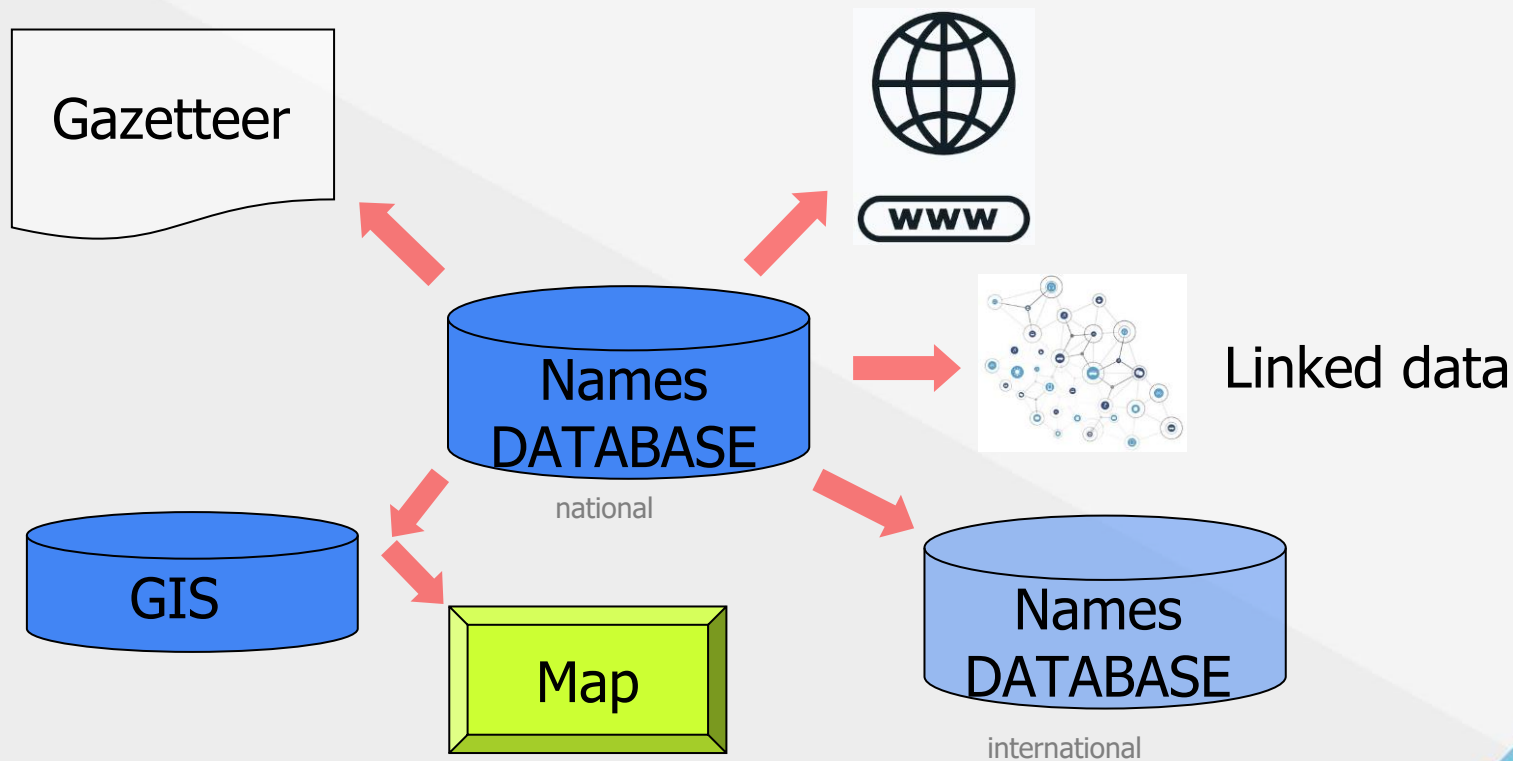
- What are the purposes of a database?
- Names database and Geographic Information System (GIS)
- Names databases and the Web
- Use cases for Web applications

Description of database characteristics – Database management

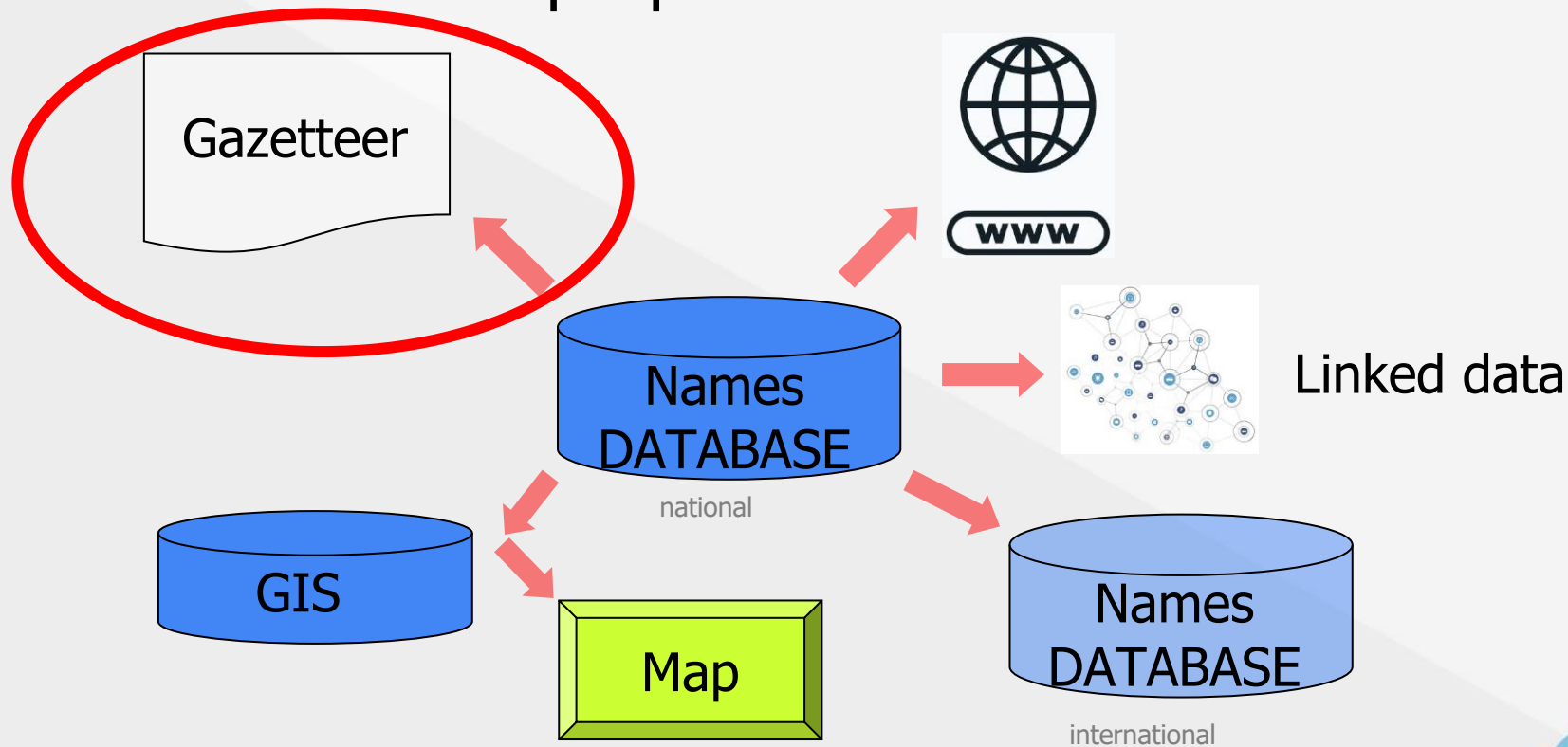
- Characteristics of databases
- Realization of databases: open source vs. proprietary
- Data model and database modelling



What are the purposes of a database?

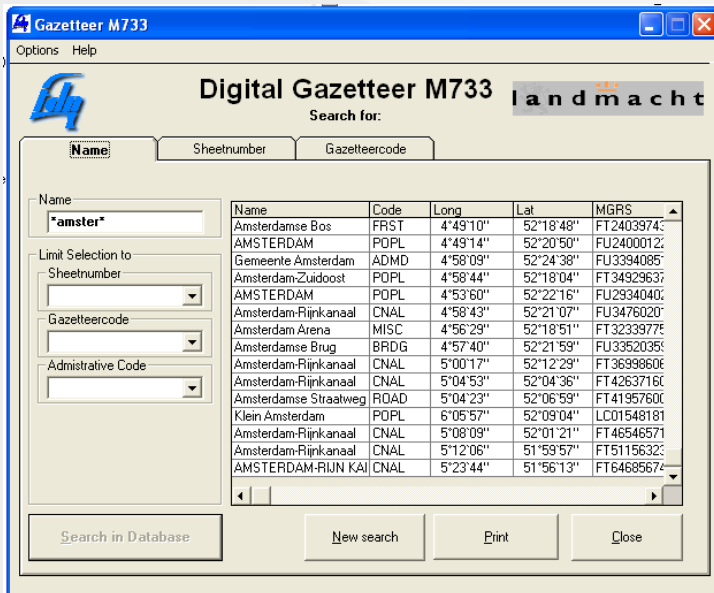


What are the purposes of a database?



What are the purposes of a database?

Gazetteers in the Netherlands



20 years ago: Digital military gazetteer
Topografische Dienst



Current: TOPnamen annotation gazetteer
Kadaster





What are the purposes of a database?

Gazetteer in New Zealand

The screenshot displays the Gazetteer web map application interface. At the top, a search bar contains the text 'motu'. Below the search bar are several filter dropdown menus: 'Status: Any', 'Feature class/type: Any', 'Land District: Any', 'Region: Any', and 'Territorial Authority: Any'. A 'Clear Search' button is located to the right of these filters. The main area is a map of New Zealand with a pink line highlighting the Motueka River. To the right of the map is a 'Matches Found 20' list. The list contains 20 entries, with 'Motueka River' highlighted in yellow. Below the list is a checkbox labeled 'Show all results on map'. At the bottom of the interface is a 'User Settings' section.

Search results for 'motu':

- Motuanauru Island
- Motuanauru Scenic Rese...
- Motuareronui / Adele Isl...
- Motueka
- Motueka Bay
- Motueka Forest
- Motueka River**
- Motueka River Left Branch
- Motueka River Right Bra...
- Motueka Sandspit
- Motu Island
- Motupiko
- Motupiko River
- Motupipi

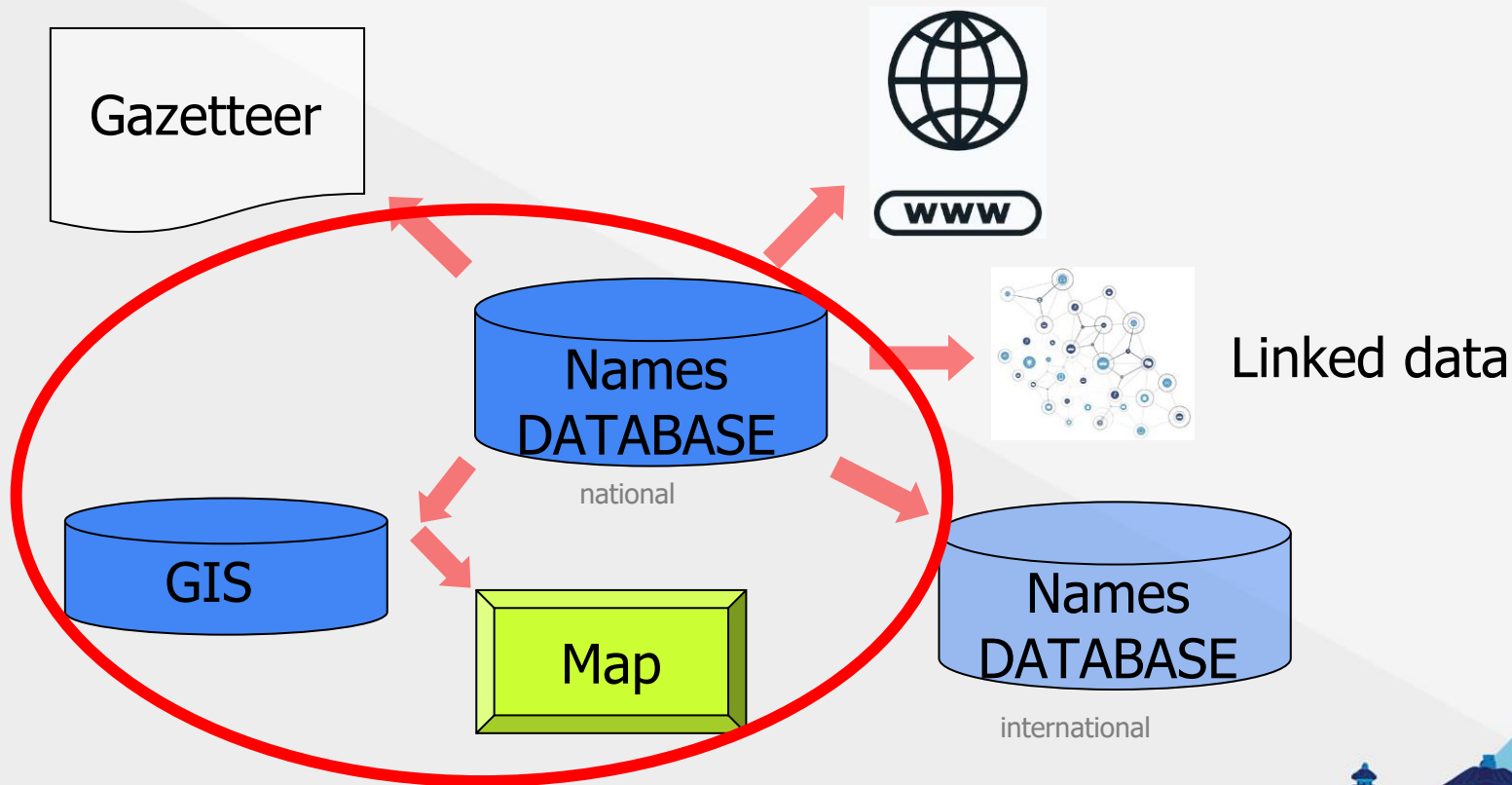
Gazetteer web map application

Toitū Te Whenua
Land Information New Zealand

<https://gazetteer.linz.govt.nz/>



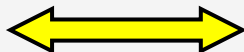
What are the purposes of a database?



Names database and Geographic Information System (GIS)



Reality



Model



- Where am I?
- Where do I find...?
- Where is the next...?
- How do I get to...?
- How far is it to...?
- Where does this way lead to?

Data models

↓ *consist of*

feature definitions + relations

↓ *including*

spatial reference to points,
locations, areas or regions as
specific feature

→ ***necessary information is called geo(graphic) information***

→ ***80% of all information is estimated to be spatially referenced***



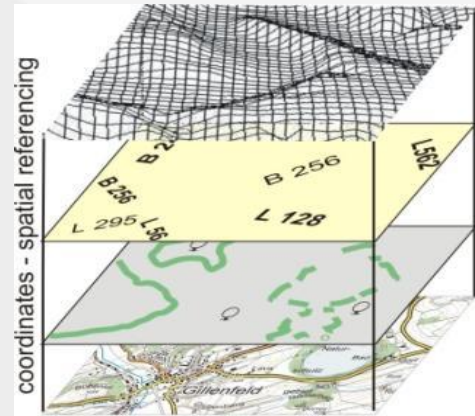
Names database and Geographic Information System (GIS)

Geographic Information System (GIS)

a GIS is an organized collection of computer hardware, software, (geographic) data and personnel.

→ designed to *capture, store, update, manipulate, analyse* and *display* all forms of geo referenced information.

(see www.GIS.com)





Names database and Geographic Information System (GIS)

Geo(graphic) information:

Information that is referenced to the earth's surface, whether by coordinates (direct referencing) or by identifiers such as addresses or postal codes or **geographical names** (indirect referencing).

Geo(graphic) data / spatial data:

Computer-readable geo information

Vector data model
(feature data)

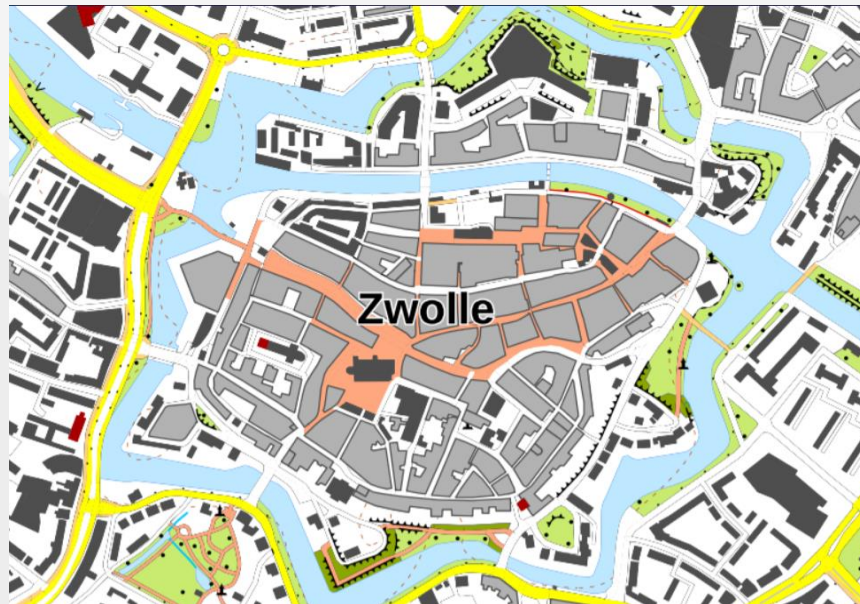
points, lines and
polygons (areas)

Raster data model
(coverage data)

gridded data (scanned maps,
satellite images, orthophotos)

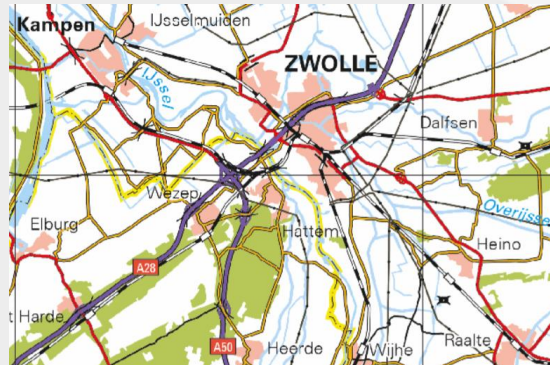
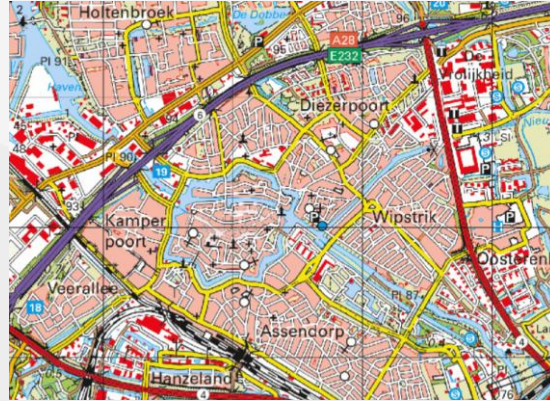
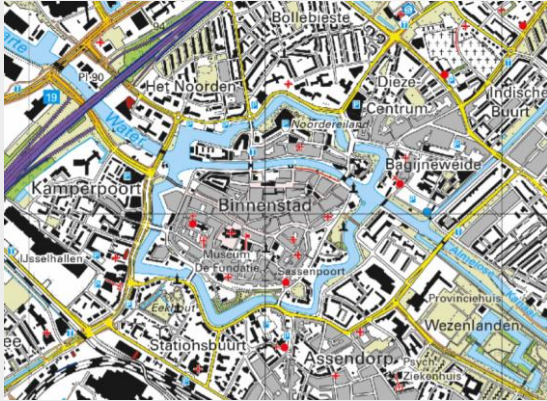


Names database and Geographic Information System (GIS)





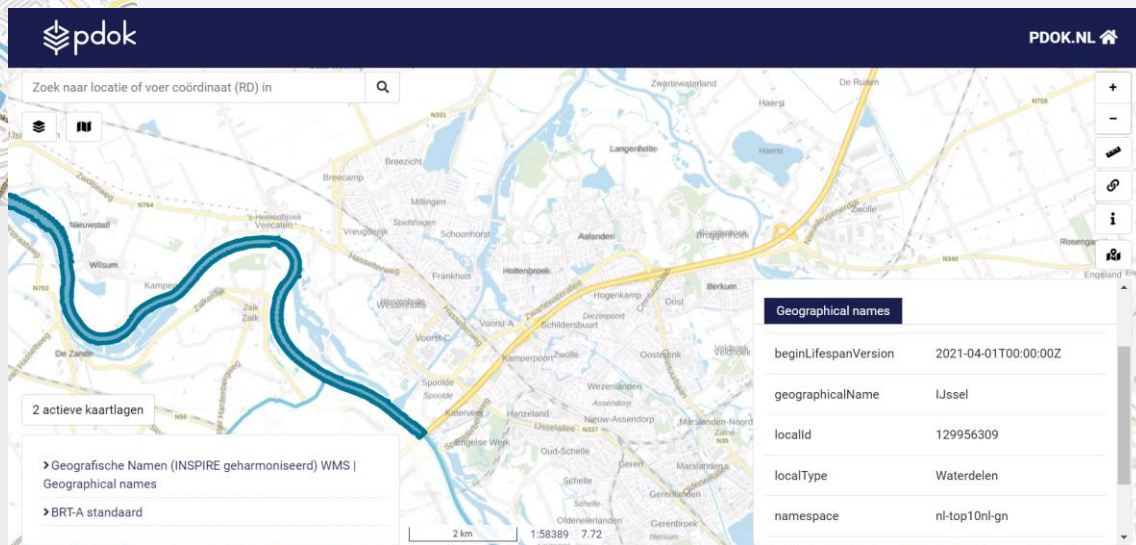
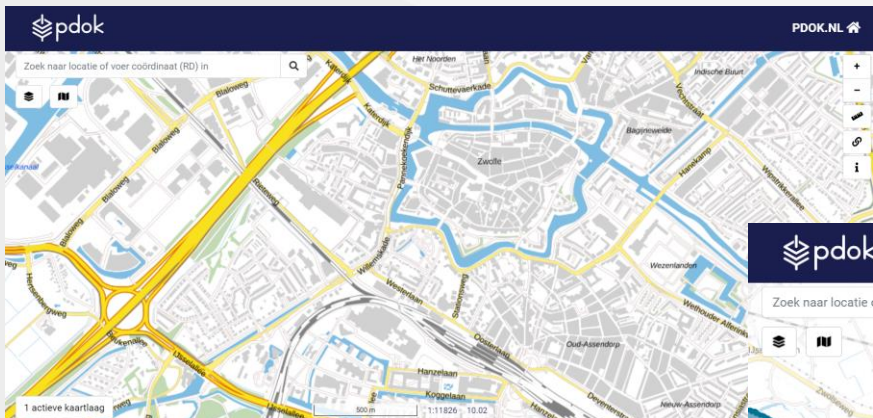
Names database and Geographic Information System (GIS)



Names database and Geographic Information System (GIS)

<https://app.pdok.nl/viewer/> (in Dutch only)

INSPIRE Geographical Names layer
with all names from BRT - TOP10NL



BRT Achtergrondkaart
(BRT Background Map)
as 'NL Maps' service integrated with:

- Google Maps
- Leaflet
- Mapbox
- OpenLayers



Names database and Geographic Information System (GIS)

SDFI kortviser
[Læs mere om Styrelsen](#) Spørgsmål kan rettes til Support Teamet: tlf. 7876 8792 eller via email til support@sdfi.dk

Systemet for Dataforsyning og Infrastruktur

Udskriv Søg Værktøjer Indstillinger Skråfortol

search

Ekstremregn og havstigning 0/74
 Ekstremregn flow
 Ekstremregn
 Havvand på land
 Danmarks Højdemodel 0/3
 UTM Net 0/4
 Adresser 0/3
 Danske Stednavne 1/1
 Stednavne
 Danske stednavne, som alle er registreret med en geografisk placering. Det kan være et punkt, en linje eller et område, der beskriver stednavnets geografiske udbredelse.
 Matrikelkort 0/1
 Administrative grænser 0/8
 Landtemaer 0/5
 Historiske baggrundskort 0/9
 GeoDanmark Baggrundskort 0/8
 Baggrundskort 1/9

500 m

© Styrelsen for Dataforsyning og Infrastruktur Målforskel 1:12768

Example of a separate names database / register:

Danske Stednavne

Styrelsen for Dataforsyning og Infrastruktur, Denmark

<https://sdfi.dk/data-om-danmark/vores-data/danske-stednavne>
 (in Danish)





What are the purposes of a database?

Eighth United Nations Conference on the Standardization of Geographical Names, 2002

Resolution VIII / 6

Integration of Geographical Names Data into National and Regional Spatial Data Infrastructures

The Conference,

....

Recommends,

that standardized geographical names data should be considered in the establishment of national and regional spatial data infrastructures and included in their constructions.





What are the purposes of a database?

A **spatial data infrastructure (SDI)** is a [data infrastructure](#) implementing a framework of [geospatial/geographic data](#), [metadata](#), users and tools that are interactively connected in order to use spatial data in an efficient and flexible way.

Another definition is:

[...] the technology, policies, standards, human resources, and related activities necessary to acquire, process, distribute, use, maintain, and preserve spatial data.

The White House - Office of Management and Budget (2002) Circular No. A-16 Revised, August 19, 2002




What are the purposes of a database?

pdok MENU


Datasets

Zoek naar datasets 119 datasets


- Categorie (40) ▾
- Data-aanbieder (17) ▾
- INSPIRE (2) ▾
- Basisregistratie (6) ▾




3D
3D Basisvoorziening




Natuur en milieu
Beschermde Gebieden - Nationale Parken (INSPIRE geharmoniseerd)




Bodem
CBS Bestand Bodemgebruik



Geluid
Geluidzones rondom vliegvelden



Landschap
Habitatrichtlijnen



Fundering
Indicatieve aandachtsgebieden funderingsproblematiek

NGR Nationaal Georegister

Home Zoeken Kaart Over NGR Voor ontwikkelaars Actueel Inloggen ▾ Contact Help

Nationaal georegister

Vind **8526** datasets, services en kaarten, ...

Welk onderwerp? Op welke locatie?

Bekijk één van de categorieën

- natuur en milieu (2374)
- transport (839)
- grenzen (535)
- hoogte (429)
- referentie materiaal aardbedekking (376)
- landbouw en veeteelt (176)
- militair (26)
- binnenwater (913)
- maatschappij (636)
- planning kadaster (512)
- (civiele) structuren (412)
- economie (300)
- nutsbedrijven communicatie (95)
- environment (6)
- locatie (898)
- biota (600)
- geo wetenschappelijke data (473)
- klimatologie, meteorologie atmosfeer (383)
- gezondheid (237)
- oceanen (76)

<https://www.pdok.nl/> (in Dutch)

<https://www.nationaalgeoregister.nl/> (in Dutch)



What are the purposes of a database?

data.europa.eu - The official portal for European data

Home Datasets Documentation Publications data.europa academy News & events Contact us

Home > Datasets

Datasets

Publisher [Ⓢ] Datasets

Select

Formats [Ⓢ]


Catalogues [Ⓢ]


Categories [Ⓢ]

Keywords [Ⓢ]

More filters

Datasets found (61 377) Sort by:

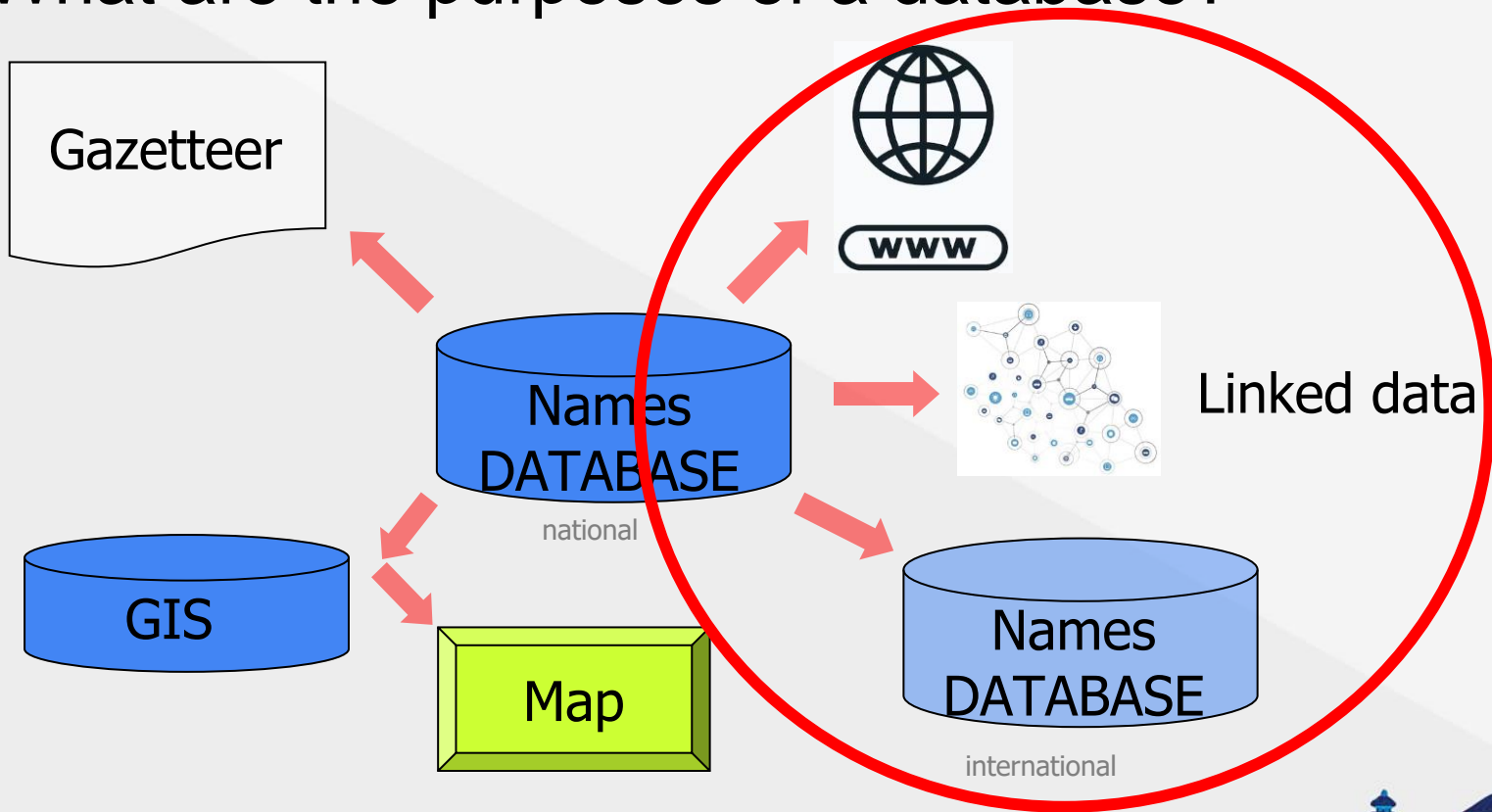
Inspire RP Geographical Names ALKIS
 Presentation Service (WMS) of the Geographical Names from ALKIS RP
  GovData

Geographical Names (Nat) — United Kingdom
 Geographical Names of the Dutch Continental Plate, the Wadden Sea, the IJsselmeer and Randmeren and the Zeeland and Zuidhollandic Waters maintained by the Hydrography Service.
  Dataportaal van de Nederlandse overheid

<https://data.europa.eu/en>



What are the purposes of a database?



Names databases and the Web

UNEGN World Geographical Names database search for geographical names of countries and capitals

Indonesia

Endonyms

Language	Short Name	Formal Name	Info
Indonesian	Indonesia	Republik Indonesia	

United Nations Languages

Language	Short Name	Formal Name	Info
Arabic	إندونيسيا	جمهورية إندونيسيا	
Chinese	印度尼西亚	印度尼西亚共和国	
English	Indonesia	the Republic of Indonesia	
French	Indonésie (f)	la République d'Indonésie	
Russian	Индонезия	Республика Индонезия	
Spanish	Indonesia	la República de Indonesia	

Cities

- Jakarta (Capital City) Lat: -6.17797994918

<https://uneggn-dashboard-hja6b0dafqh0c6dd.z01.azurefd.net/>

<http://unstats.un.org/unsd/geo/info/geonames/>



Names databases and the Web

UNGEGN World Geographical Names

Preferences Toponym Endonyms Interface Languages English

Jakarta

Indonesia

Endonyms

Language	Short Name	Formal Name	Info
Indonesian	Jakarta		

United Nations Languages

Language	Short Name	Formal Name	Info
Arabic	جاكرتا		
Chinese	雅加达		
English	Jakarta		
French	Jakarta		
Russian	Джакарта		
Spanish	Yakarta		

Search City, Country, Geography

- Capital city
- Cities over 100,000 inhabitants.
- No names available

Bandarlampung Cilegon Bogor Bekasi Bandung Tasikmalaya Banjir

mapbox





Names databases and the Web

UNEGN World Geographical Names

Preferences | Toponym: Spanish | Interface Languages: English

Search City, Country, Geography

- Capital city
- Cities over 100,000 inhabitants.
- No names available

mapbox



Names databases and the Web



<https://www.geonames.org/>

The GeoNames geographical database covers all countries and contains over eleven million placenames that are

[GeoNames Home](#) | [Postal Codes](#) | [Download](#) / [Webservice](#) | [About](#)

[login](#)

[\[advanced search\]](#)

9146 records found for "bali"

	Name	Country	Feature class	Latitude	Longitude
1	Bali Bali,Pulau Bali	Indonesia , Bali	island population 4,225,384	S 8° 20' 0"	E 115° 0' 0"
2	Denpasar DPS,Dehnpasar,Dempasar,Dempassar,Denpasar,Denpasar - Bali,Denpasar Bali,Denpasaras,Kota Denpasar,Kut...	Indonesia , Bali Kota Denpasar	seat of a first-order administrative division population 725,314	S 8° 39' 0"	E 115° 13' 0"
3	Bali Bali,Daerah Tingkat I Bali,Propinsi Bali,Provinsi Bali,Pulau Bali,ba li dao,bali seom,bari dao,Бали...	Indonesia , Bali	first-order administrative division population 4,362,700	S 8° 30' 0"	E 115° 0' 0"
4	Ngurah Rai International Airport Bali Airport,Bali International Airport,Bali flygplats,Bandar Udara Internasional Ngurah Rai,DPS,Den...	Indonesia , Bali Kota Denpasar	airport elevation 1m	S 8° 45' 0"	E 115° 10' 0"
5	Singaraja Boeleleng,Boeleleng,Singaradja,Singaradza,Singaraja,shigaraja,Сингараджа,シガラジャ	Indonesia , Bali Kabupaten Buleleng	seat of a third-order administrative division population 133,784	S 8° 6' 43"	E 115° 5' 17"
6	Banjara Bandjar,Banjar	Indonesia , Bali Kabupaten Buleleng	populated place population 89,040	S 8° 11' 24"	E 114° 58' 3"
7	Ubud Oeboed,Ubud,abwd,ubuda,ubudo,ywbwd,Убуд,اوبود,اوبود,اوبود,اوبود	Indonesia , Bali Kabupaten Gianyar	populated place population 74,800	S 8° 30' 35"	E 115° 15' 55"
8	Kuta Koeta,Kuta,ku ta,kuta,Кута,कूटा,クタ,庫塔	Indonesia , Bali Kabupaten Badung	populated place population 30,012	S 8° 43' 23"	E 115° 10' 20"
9	Klungkung Kloengkoeng	Indonesia , Bali Kabupaten Klungkung	populated place population 27,836	S 8° 32' 0"	E 115° 24' 0"
10	Negara	Indonesia , Bali Kabupaten Jembrana	populated place population 33,191	S 8° 21' 25"	E 114° 37' 1"
11	Danau Tamblingan Danau Tamblingan	Indonesia , Bali	lake	S 8° 15' 28"	E 115° 5' 43"
12	Kabupaten Buleleng Daerah Tingkat II Buleleng,Kabupaten Buleleng	Indonesia , Bali Kabupaten Buleleng	second-order administrative division population 624,125	S 8° 15' 0"	E 114° 57' 0"
13	Danau Batur Batoer Lake,Danau Batoer,Danau Batur,Lake Batur	Indonesia , Bali	lake	S 8° 15' 24"	E 115° 24' 31"

Browse the names

- [Countries](#)
- [Postal codes](#)
- [Country statistics](#)
- [Recent modifications](#)

Information

- [About GeoName](#)
- [Data Sources](#)
- [User manual](#)
- [Ambassadors ar](#)
- [Forum](#)
- [Blog](#)
- [Mailing list](#)
- [Commercial Sup Consulting](#)





Names databases and the Web

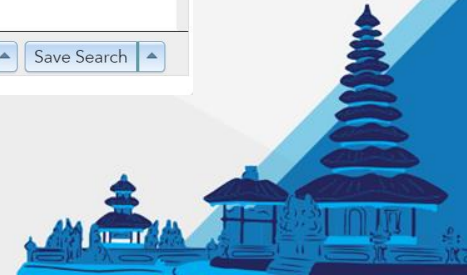
An official website of the United States government [Here's how you know](#) v

NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY
GNS Search & Download WebApp Version 2023-01-24

Geographic Names Search

Search Type	Count	Actions
<input checked="" type="checkbox"/> Names Search <input type="text" value="Name"/> <input type="button" value="+"/> Add One or More Names	0	<input type="button" value="Reset"/> <input type="button" value="Fuzzy Search"/>
<input type="checkbox"/> Country Filter <input type="text" value="Add a Country Name"/> <input type="button" value="v"/> <input type="checkbox"/> International Features Options <input type="button" value="i"/>	0	<input type="button" value="Reset"/> <input type="button" value="ZoomTo"/>
<input type="checkbox"/> Administrative Divisions	0	<input type="button" value="Reset"/> <input type="button" value="Select All"/>
<input type="checkbox"/> Name Type Filter	0	<input type="button" value="Reset"/> <input type="button" value="Select All"/>
<input type="checkbox"/> Feature Type Filter <input type="text" value="Designation Code"/> <input type="button" value="magnifying glass"/> <input type="text" value="Feature Description"/> <input type="button" value="magnifying glass"/>	0	<input type="button" value="Reset"/> <input type="button" value="Select All"/>
<input type="checkbox"/> Spatial Filter	0	<input type="button" value="Reset"/>
<input type="checkbox"/> Advanced Search Options	0	<input type="button" value="Reset"/>

<https://geonames.nga.mil/geonames/GeographicNamesSearch/>



Names databases and the Web

Toponamenzoeker (Topo Names Finder)

Toponamenzoeker

indonesische

← Terug 21

- NL.TOP10NL.130257613
GebouwRegistratie
- NL.TOP10NL.130257837
GebouwRegistratie
- NL.TOP10NL.130894974
GebouwRegistratie
- El Amien
GebouwRegistratie
- NL.TOP10NL.102763623
GebouwRegistratie
- Salvatorkerk
GebouwRegistratie

Lees meer over de Basisregistratie Topografie (BRT)

Leaflet | Kaartgegevens © Kadaster | Verbeter de kaart


<https://www.toponamenzoeker.nl>

Web application to search for geographical names in the Key Register Topography (BRT) of the Netherlands





Names databases and the Web

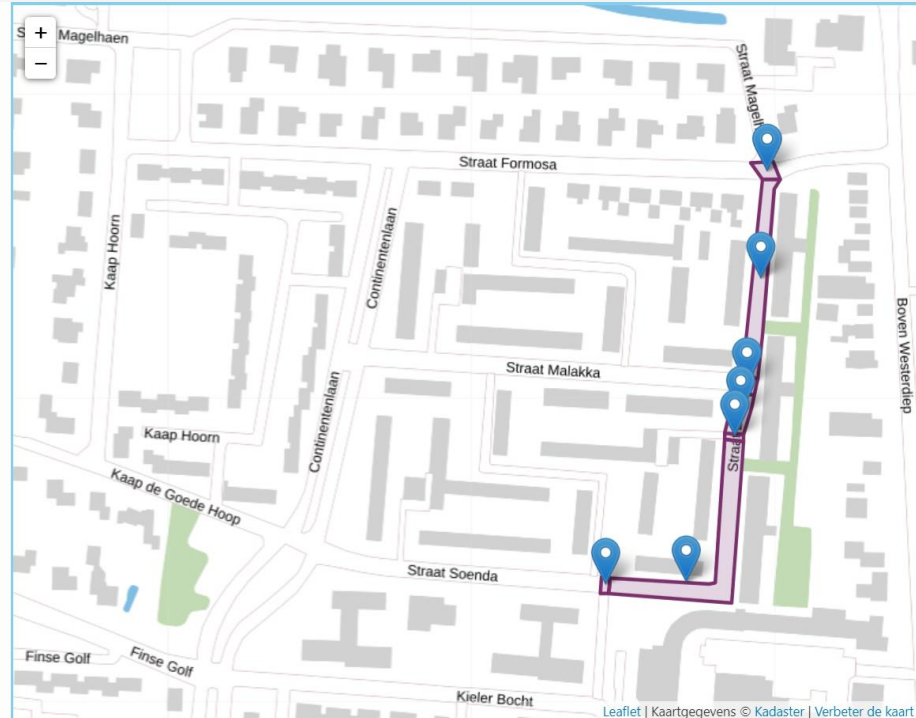
Toponamenzoeker 

bali

— Terug 9

- Straat Bali **WegdeelRegistratie**
- Straat Bali **WegdeelRegistratie**
- Straat Bali **WegdeelRegistratie**
- Straat Bali **WegdeelRegistratie**
- Straat Bali **WegdeelRegistratie**
- Straat Bali **WegdeelRegistratie**

[Lees meer over de Basisregistratie Topografie \(BRT\)](#)



Names databases and the Web



Developing towards linked open data:

1 star: Map with names online

2 stars: Names database available online in Esri format (e.g. File Geodatabase)

3 stars: Names database available online in open source format (e.g. Geopackage)

4 stars: Names, attributes and values available as URI (linkable web data)

5 stars: URIs of names database linked to other linked open data





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Use cases for Web applications using names data

Vivium International Property Listings

Real Estate Rentals List Your Property

Enter Listing ID or Location

Vivium → Real Estate → Western Europe → Villas

Location: Andorra · Austria · Belgium · Cyprus · Denmark · Finland · France · Germany · Greece · Greenland · Iceland · Ireland · Italy · Liechtenstein · Luxembourg · Malta · Monaco · Netherlands · Norway · Portugal · San Marino · Spain · Sweden · Switzerland · UK · Vatican City · All Locations for Villas · List Your Property !!

Also See: Single Family Homes · Mansions · Townhouses · Duplexes · Triplexes · Bungalows · Timeshares

Villas For Sale in Western Europe - Available Properties

Showing 1 - 10 of 253 listings (Page 1 of 26)

Villa For Sale in Lucca, Tuscany Italy - Pozzuolo 1,150,000 €

Private and secluded farmhouse in a beauty spot close to the charming walled city of Lucca. The one stone built house nestles in 3 hectares of land consisting of a chestnut (the house used to be a chestnut farm) and pine trees for ...

Holiday Villa For Sale in Tuscany, Italy

Casa Migliano - 500 Year Old House in Migliano set in a little hamlet on the Lucca valley and the sea, the fully restored and used as a sleepy hamlet 20 km from ...

Villa For Sale in Limassol, Cyprus

The Most Exclusive Property built utilizing the best construction delivery time attests to its villa has been delivered and partially furnished. The a ...

Village House For Sale in Olympia, Ile de Raches Olympias

Village House For Sale in village of Olympia with 50 needs further renovation sea view from the back a house that can easily ...

Location based information on **Pozzuolo, Toscana (IT)** possibly directly from the Italian data repository!

International purchase of properties with Internet property services <http://www.viviun.com/>

⇒ Geographical names databases or web services can provide additional location-based information





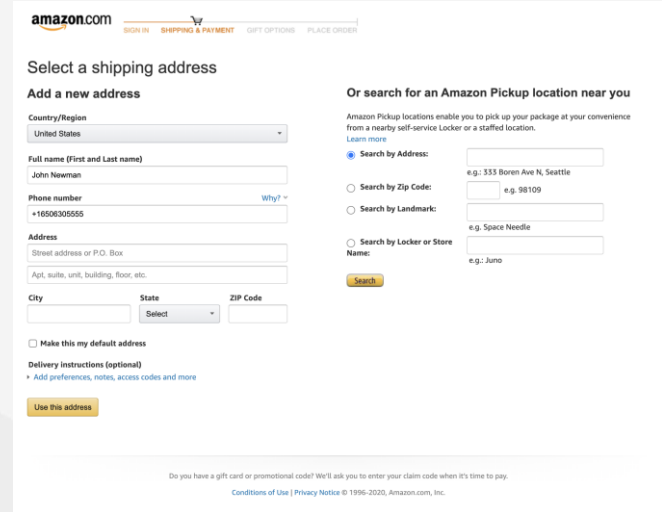
Use cases for Web applications using names data



Location apps and websites



Navigation software



Web shops using address data





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Characteristics of databases



What do you have to consider (or to know) before you start creating a database?



Characteristics of databases

Data Capture



Data Storage

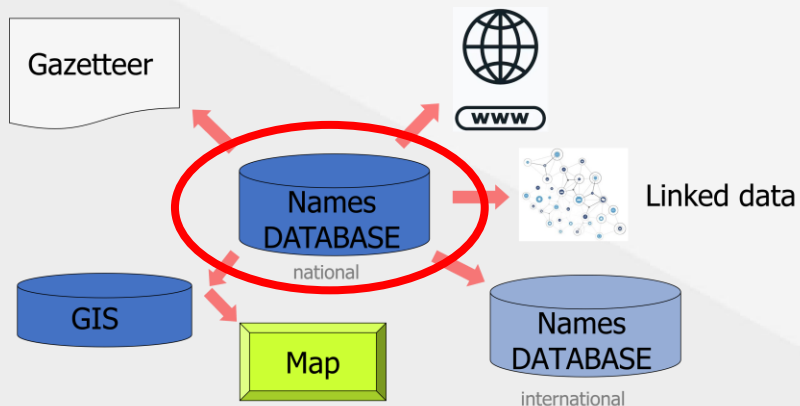


Data Processing



Data Output

from cards, lists,
books, fieldwork, maps,
other databases,



Characteristics of databases

Main software requirements:

1. Operating system

software program that manages the hardware and software resources of a computer.

Examples: Microsoft Windows, Apple iOS (proprietary), Linux (open source = free of charge and usage)

2. Database

collection of records stored in a computer in a systematic way, so that it can be consulted to answer questions.

Examples: Microsoft Access, SQL Server, Oracle (proprietary), MySQL, PostgreSQL / PostGIS (open source)

3. Geographic Information System (GIS) software

tool that allows users to select, analyze, edit, manipulate and visualize data from a database.

Examples: ESRI ArcGIS, Hexagon Geomedia, MapInfo (proprietary), QGIS, GRASS GIS (open source)



Characteristics of databases

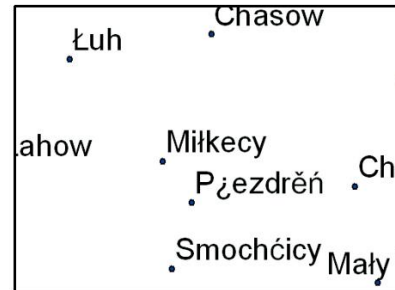
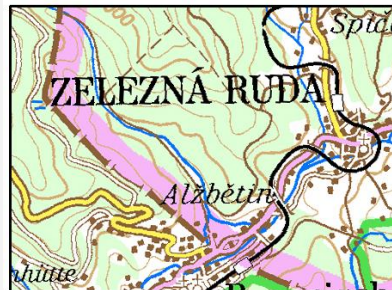
Important: Code files!

ISO8859 character set or *Unicode*?

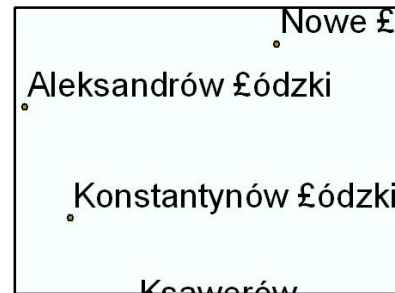
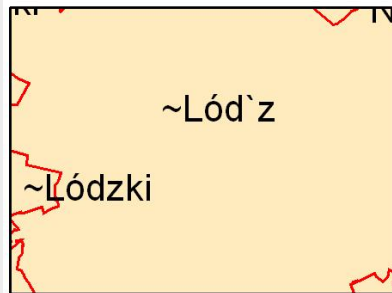
in (Microsoft Windows) operating system

Different interpretation of characters possible in

- Database products: MS Access or similar
- GIS software: ESRI ArcGIS or similar



Without Unicode





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Realization of databases

Operating System:

Microsoft Windows?

Linux? (open source)

Database:

Microsoft Access?

MySQL? (open source)

PostgreSQL/PostGIS? (open source)

Geographical Information System

ESRI ArcGIS?

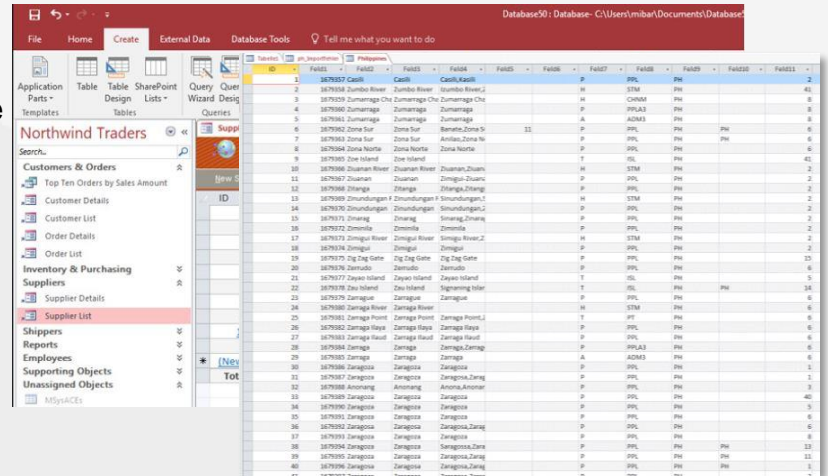
Quantum GIS? (open source)



Realization of databases

Database: Microsoft Access? (proprietary)

- Microsoft Access is a **pseudo-relational database management** system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools.
- Access stores data in its **own format** based on the Access Jet Database Engine. It can also import or link directly to data stored in other applications and databases.
- Website: <https://www.microsoft.com/en-us/microsoft-365/access>



Realization of databases

Database:

MySQL? (open source)

“The world's most popular open-source database”

- MySQL is a **relational database management system** (RDBMS) that runs as a server providing multi-user access to a number of databases.
- The MySQL development project has made its **source code available** under the terms of the GNU General Public License, as well as under a variety of proprietary agreements.
- MySQL is a popular choice of database for use in web applications.
- Website: <http://www.mysql.com/>



Realization of databases

Database:

PostgreSQL/PostGIS? (open source)

- PostgreSQL, often simply Postgres, is an **object-relational database management system (ORDBMS)**.
- PostgreSQL is not controlled by any single company — a global community of developers and companies develops the system.
- PostGIS **adds support for geographic objects** to the PostgreSQL object-relational database. In effect, PostGIS "spatially enables" the PostgreSQL server, allowing it to be used as a backend spatial database for geographic information systems (GIS), much like ESRI's SDE or Oracle's Spatial extension.
- Website: <http://www.postgresql.org/>
<http://www.postgis.net/> - <http://postgis.refractions.net/>



Realization of databases

Geographical Information System

ESRI ArcGIS? (proprietary)

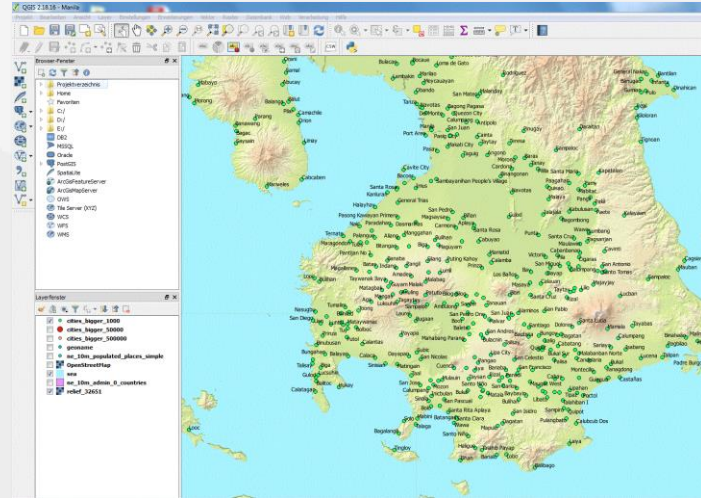
- Esri® ArcGIS® facilitates collaboration and **lets you author data, maps, globes, and models on the desktop** and serve them for use on a desktop, in a browser, or in the field, depending on the needs of your organization.
- ArcGIS **support and educational services** consist of technical maintenance programs, software releases and updates, technical support, online support services, publications, training, and consulting services.
- Website: <https://www.esri.com/en-us/arcgis/about-arcgis/overview>





Realization of databases Geographical Information System Quantum GIS? (open source)

- QGIS provides data viewing, editing, and analysis capabilities.
- Quantum GIS (QGIS) is a user-friendly open-source Geographic Information System (GIS) licensed under the GNU General Public License.
- QGIS runs on **Linux, Unix, Mac OSX, and Windows** and supports numerous vector, raster, and database formats and functionalities.
- Website: <http://www.qgis.org/en/site>





Realization of databases

Open Source Software Collection

Open source software collection: **OSGeo Live**

URL: <http://live.osgeo.org/en/index.html>

OSGeo-Live is a self-contained bootable DVD, USB thumb drive or Virtual Machine, that allows you to try a wide variety of open-source geospatial software without installing anything. It is composed entirely of free software, allowing it to be freely distributed, duplicated and passed around.





Content

Preparing the names database – General issues

- What are the purposes of a database?
- Names database and Geographic Information System (GIS)
- Names database and the Web
- Use cases for Web applications

Description of database characteristics – Database management

- Characteristics of databases
- Realization of databases: open source vs. proprietary
- Data model and database modelling



Data model and database modelling

“UNEGGN schema” (proposal): elements

Field Name	Data Type	Description	Example
RecordID	Index	This number is assigned automatically by the system. Do not change it.	
UID	Number (long integer)	A <u>unique identifier</u> assigned to the name (or named feature). In our exercise, each group may start to count from 1 and add the group number multiplied by 100, e.g. 201 for the first name by group 2.	20001 might indicate e.g. 2000 for feature type 'Populated places'
Name	Text (50 char.)	Geographical name in Romanian	Oran
Latitude	Number (double)	Geographical Coordinates, in degrees decimal.	35,...
Longitude	Number (double)		-0,5...
FeatureCode	Text (50 char.)	Feature codes, from an existing feature code table	DDS
AdminUnit	Text (50 char.)	Name of the administrative unit where the name is situated in	Departement d' Oran, Department of Oran
Language	Text (50 char.)	Language of the name	
Description	Text (255 char.)	Field remarks, meaning of the name, language of the name, historical names if any	e.g. capital of a political entity
VariantName	Text (50 char.)	Enter variant names, if any e.g. Hungarian name	Wilaya d' Oran, Wilaya d' Oran
MapSheet	Number (long integer)	Reference to a map sheet in a topographic map series, e.g. 1:250.000	80
Source	Text (255 char.)	Source of the information on the name: - Informant - Interviewer	Mr. XY, old person at xyz, interview by group 1
Status	Text (50 char.)	The status of the name. In our case, the names are not yet approved by the Board.	not approved
Pronunciation	OLE-Object	Audio-files of the pronunciation of the geographical name	e.g *.wav -file
Location information	OLE-Object	Digital pictures of the location	e.g *.jpg – image file



Data model and database modelling

The European (INSPIRE) GN schema: elements

mandatory

- name(s) (text, spelling)
- geometry
- feature type
- unique identifier

'voidable'

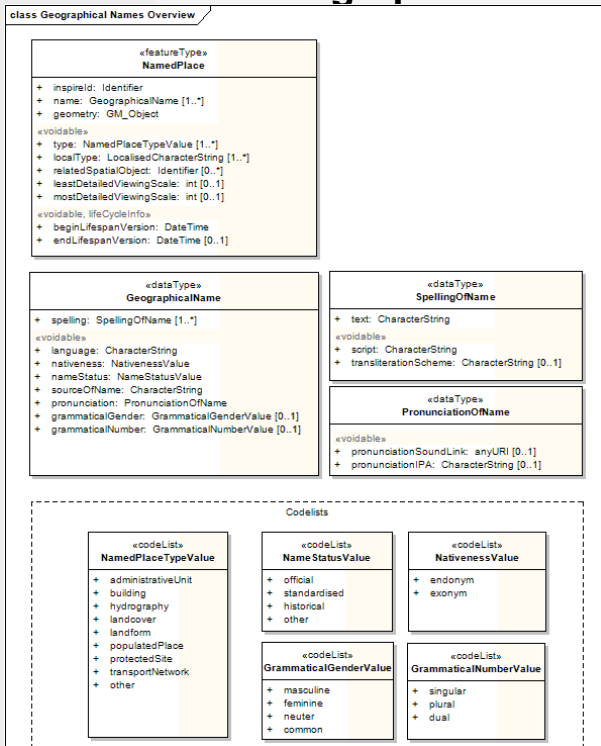
- language {three letter codes from ISO 639-3 or -5}
- nameStatus {official, standardised, historical, other}
- link to relatedSpatialObject
- script {four letters codes defined in ISO 15924}
- nativeness {endonym, exonym}
- transliterationScheme
- grammatical gender {masc., fem., neuter, common}
- grammatical number {singular, plural, dual}
- pronunciation
- sourceOfName
- typeLocal
- lifeCycleInfo (begin/end of the object in the source DB)
- ...





Data model and database modelling

INSPIRE Geographical Names – UML Schema



A *Named Place*,

representing a real world entity referred to by a Geographical Name

e.g “the City of Athens” type = built-up area
geometry = {X, Y}

is associated with one or several

Geographical Names,

i.e. proper noun applied to the feature

- (1) “Athína” language = Greek
nativeValue = Endonym
- (2) “Athens” language = English
nativeValue = Exonym

and may have one or several

Spellings of Name.

i.e. proper way of writing the name

- (1.1) text = **Aθnva** script = Greek
- (1.2) text = **Athína** script = Latin
- (2.1) text = **Athens** script = Latin



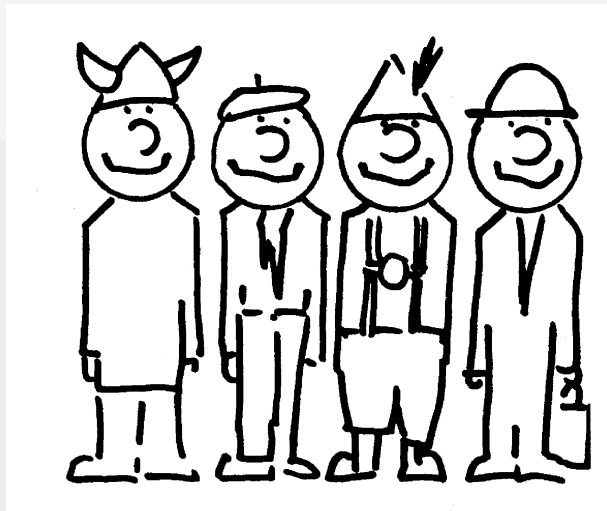
Standardization in Europe

Not standardized and very different



© Andreas Illert

Almost harmonized, but with national specialities



Information on geographical names data

List of geographical names databases:

<https://unstats.un.org/unsd/uneggn/nna/geo-names/>

United Nations Group of Experts on Geographical Names
National Names Authorities > Searchable geographical names databases

Searchable geographical names databases

Search

Search by Country/Organisation

Select Country

Filter Clear Back

- 2002 Gazetteer of 274,000 geographical names of Australia (<http://www.ga.gov.au/map/names/>)
- Australian Antarctic Gazetteer (<http://data.aad.gov.au/aadc/gaz/>)
- SCAR Composite Gazetteer of Antarctica (<http://data.aad.gov.au/aadc/gaz/scar/>)
- Bulgaria Antarctic Gazetteer (<http://apcbg.org/gazet.htm>)
- Canadian Geographical Names Data Base (<http://www.nrcan.gc.ca/earth-sciences/geography/place-names/search/9170>)
- Base de données toponymiques du Canada

UNEGGN

- Meetings
- Mandate
- Resolutions
- Divisions
- Working Groups
- Bureau and Convenors
- Liaison Officers
- Resources
- Events
- Links
- Contact

[UNEGGN Strategic Plan and Programme of Work 2021-2029](#)
Access the approved document here

United Nations Group of Experts on Geographical Names
National Names Authorities > Toponymic Guidelines for map and other editors

B. Toponymic Guidelines for Map and Other Editors for International Use

- Algeria
20th Session, Jan. 2000, WP.78
- Australia
https://www.icsm.gov.au/sites/default/files/consistent_place_names_principles.pdf
- Austria
http://ortsnamen.at/wp-content/uploads/2017/12/Toponymic_Guidelines_AT_2012_07.pdf
- Belgium
25th Session, May 2009, WP.93
- Canada

List of Toponymic Guidelines:

<https://unstats.un.org/unsd/uneggn/nna/toponymic/>





Get involved in UNGEGN

Working Group on Geographical Names Data Management

The screenshot shows the UNGEGN website page for the Working Group on Geographical Names Data Management. At the top, there is a blue header with the UNGEGN logo and the text 'United Nations Group of Experts on Geographical Names'. Below the header, the page title is 'United Nations Group of Experts on Geographical Names' and the breadcrumb is 'Working Groups > Geographical Names Data Management'. The main content area is divided into two columns. The left column contains the title 'Working Group on Geographical Names Data Management', the role 'Convenor' (Mr. Pier-Giorgio Zaccheddu), and the 'Scope of work' section. The right column contains a list of UNGEGN activities: Meetings, Mandate, Resolutions, Divisions, Working Groups, Bureau and Convenors, Liaison Officers, Resources, Events, Links, and Contact. At the bottom of the right column, there is a link to the 'UNGEKN Strategic Plan and Programme of Work 2021-2029' and a note to 'Access the approved document here'. A navigation bar at the bottom of the page includes 'Work plan', 'Actions 2020 - 2022', 'Reports', 'Meetings', and 'Suggested websites'.

https://unstats.un.org/unsd/ungegn/working_groups/wg2.cshhtml





Thank you for your attention!

