



Session 7.1:

Demonstration of processing of names collected during fieldwork

V1

Pier-Giorgio Zaccheddu

Federal Agency for Cartography and
Geodesy (BKG)

Richard-Strauss-Allee 11

60598 Frankfurt am Main

Tel.: +49 69 6333 305

Fax: +49 69 6333 441

Email: pier.zaccheddu@bkg.bund.de

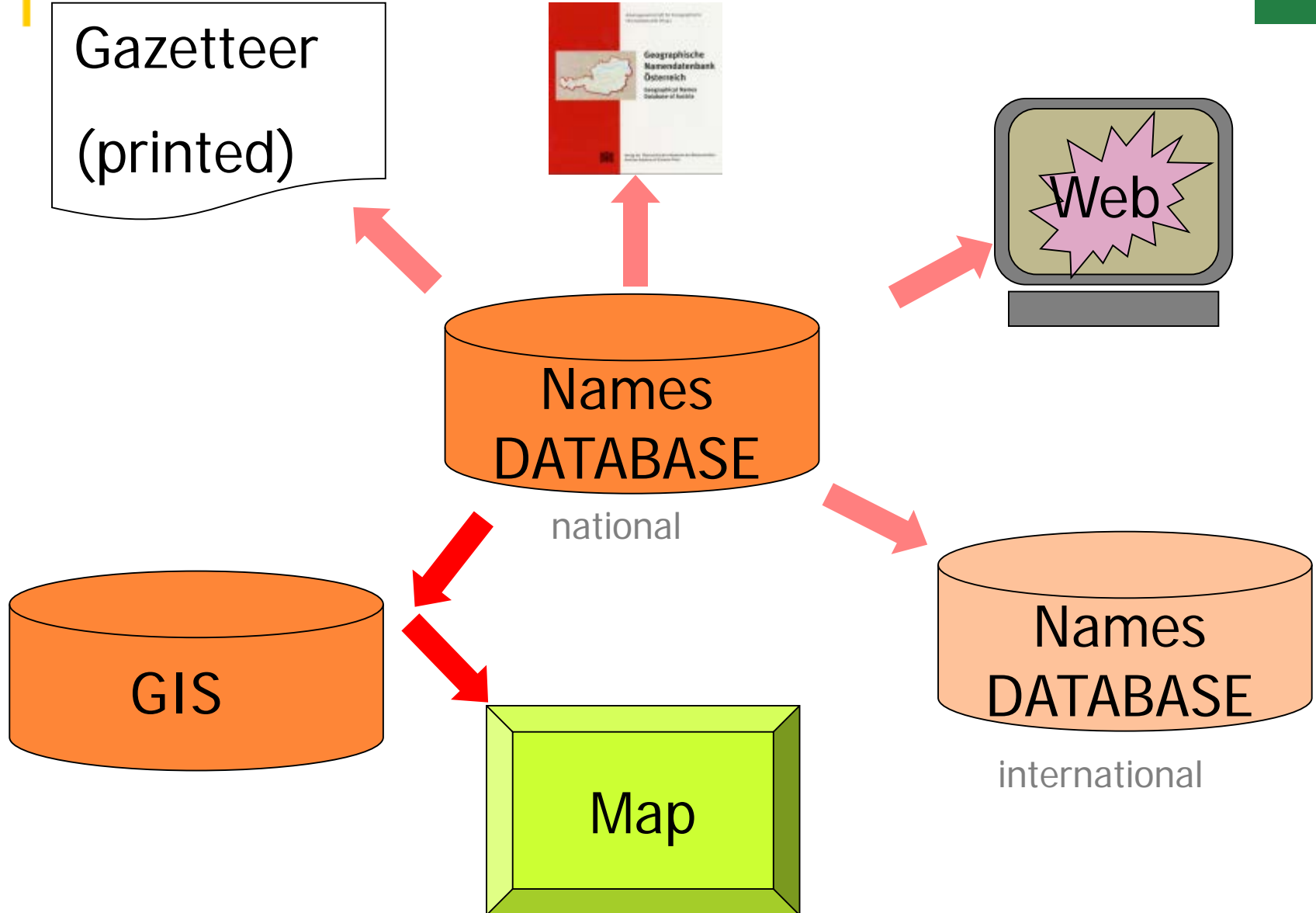
Content

7.1 Demonstration of processing of names collected during fieldwork

- What are the purposes of a database (incl. examples)?
- Names database and Geographic Information System (GIS)
- Names database and Web
- Structure for storing the data, maintaining records
- Feature categories/classification

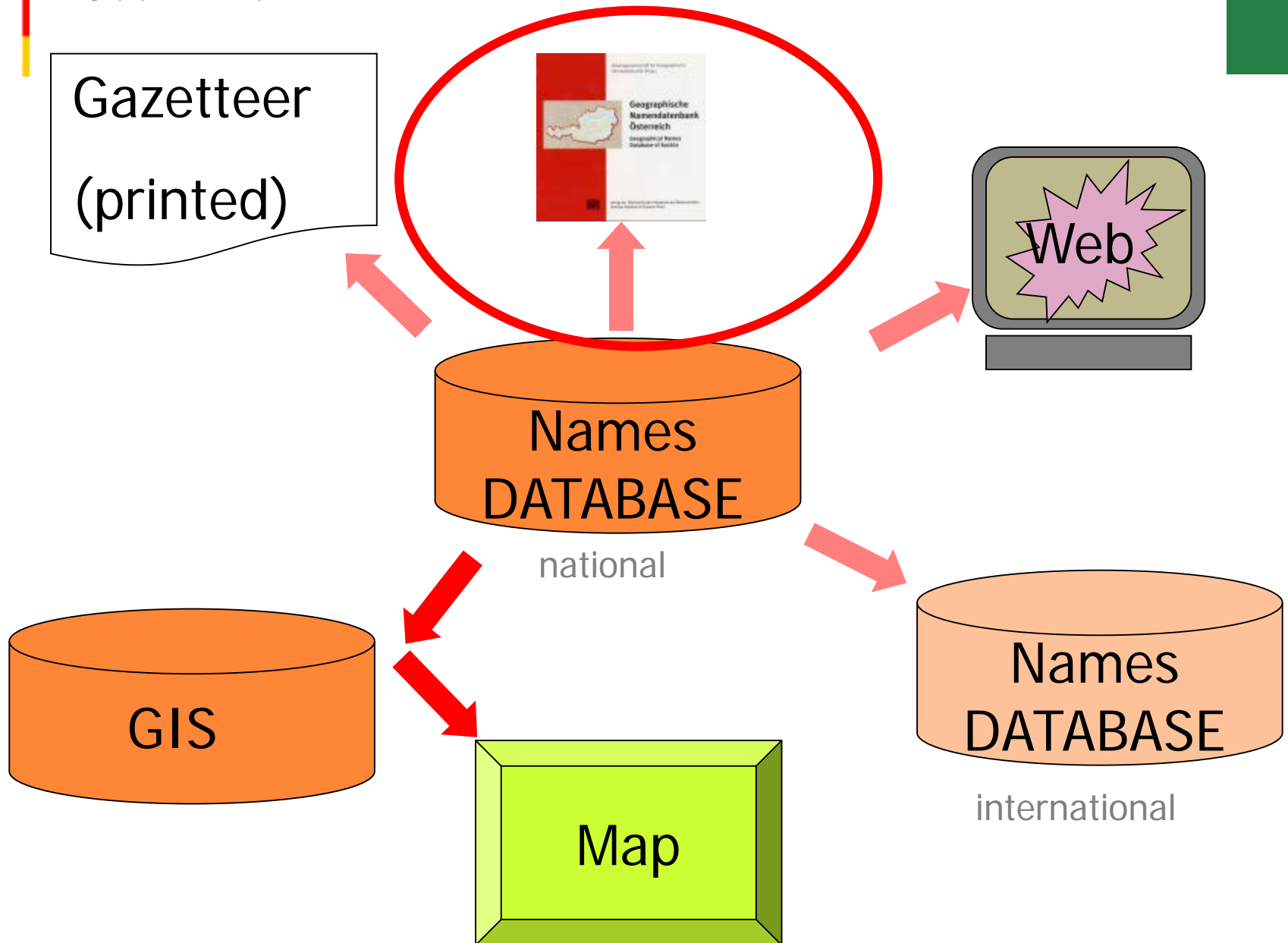


What are the purposes of a DB?





What are the purposes of a DB?





What are the purposes of a DB? Example: Netherlands

Digital Gazetteer M733 landmacht

Search for:

Name Sheetnumber Gazetteercode

Name: *amster*

Limit Selection to:
Sheetnumber
Gazetteercode
Administrative Code

Name	Code	Long	Lat	MGRS
Amsterdamse Bos	FRST	4°49'10"	52°18'48"	FT24039743
AMSTERDAM	POPL	4°49'14"	52°20'50"	FU24000122
Gemeente Amsterdam	ADMD	4°58'09"	52°24'38"	FU33940851
Amsterdam-Zuidoost	POPL	4°58'44"	52°18'04"	FT34929637
AMSTERDAM	POPL	4°53'60"	52°22'16"	FU29340402
Amsterdam-Rijnkanaal	CNAL	4°58'43"	52°21'07"	FU34760201
Amsterdam Arena	MISC	4°56'29"	52°18'51"	FT32339775
Amsterdamse Brug	BRDG	4°57'40"	52°21'59"	FU33520359
Amsterdam-Rijnkanaal	CNAL	5°00'17"	52°12'29"	FT36998606
Amsterdam-Rijnkanaal	CNAL	5°04'53"	52°04'36"	FT42637160
Amsterdamse Straatweg	ROAD	5°04'23"	52°06'59"	FT41957600
Klein Amsterdam	POPL	6°05'57"	52°09'04"	LC01548181
Amsterdam-Rijnkanaal	CNAL	5°08'09"	52°01'21"	FT46546571
Amsterdam-Rijnkanaal	CNAL	5°12'06"	51°59'57"	FT51156323
AMSTERDAM-RIJN KAI	CNAL	5°23'44"	51°56'13"	FT64685674

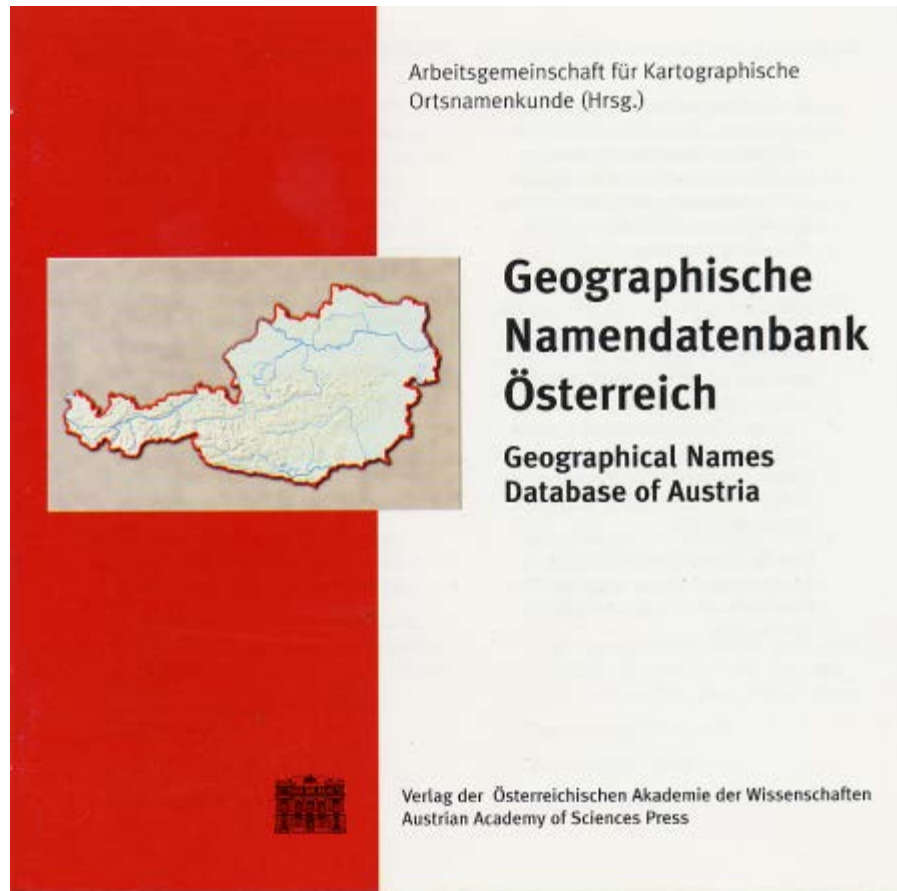
Search in Database New search Print Close

**Geographical
Names Database:
Netherlands**

Offline DB



What are the purposes of a DB? Example: Austria



**Geographical Names
Data Base: Austria**

CD-ROM



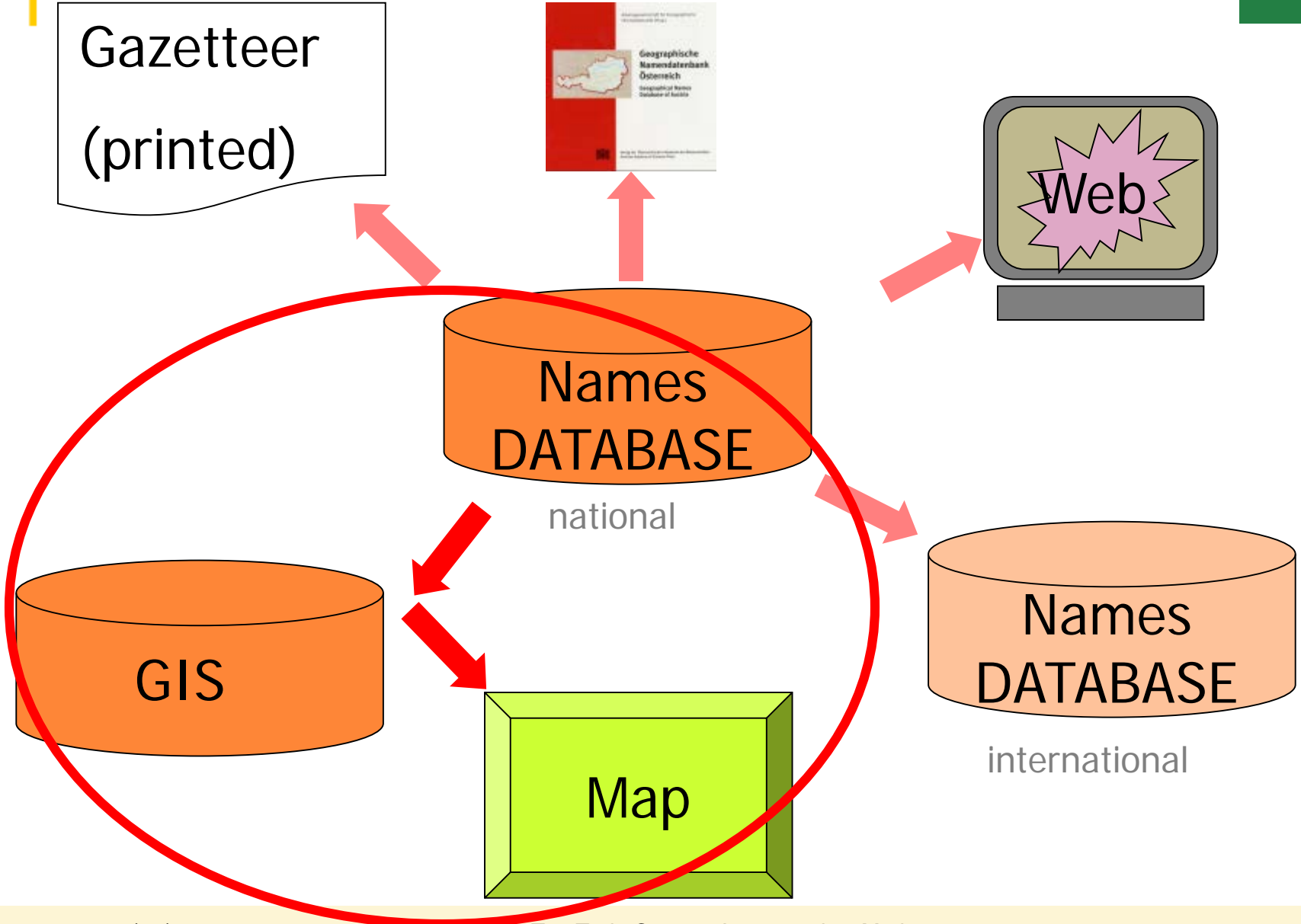
What are the purposes of a DB? Example: Germany



Example of a
topographic data file
with integrated
names data base:
Germany
CD-ROM



What are the purposes of a DB?





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

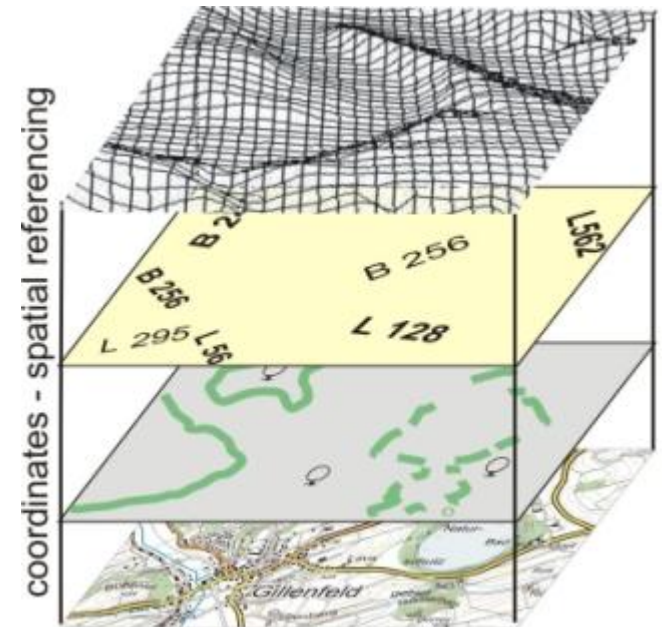
- ***necessary information is called geo(graphic) information***
- ***80% of all information is estimated to be spatially referenced***

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)

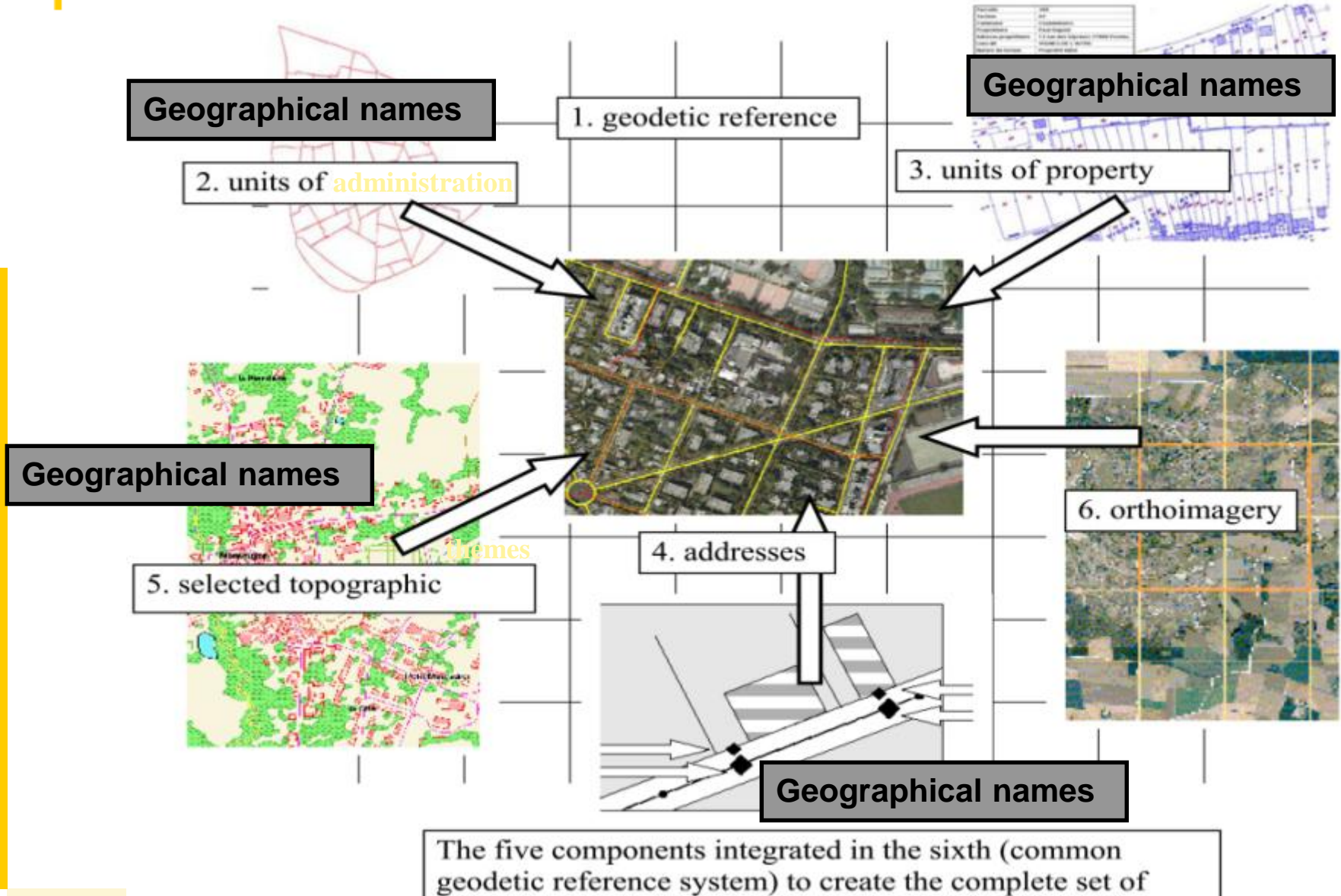
points, lines and
polygons (areas)

Raster data model
(coverage data)

gridded data (scanned maps,
satellite images, orthophotos)

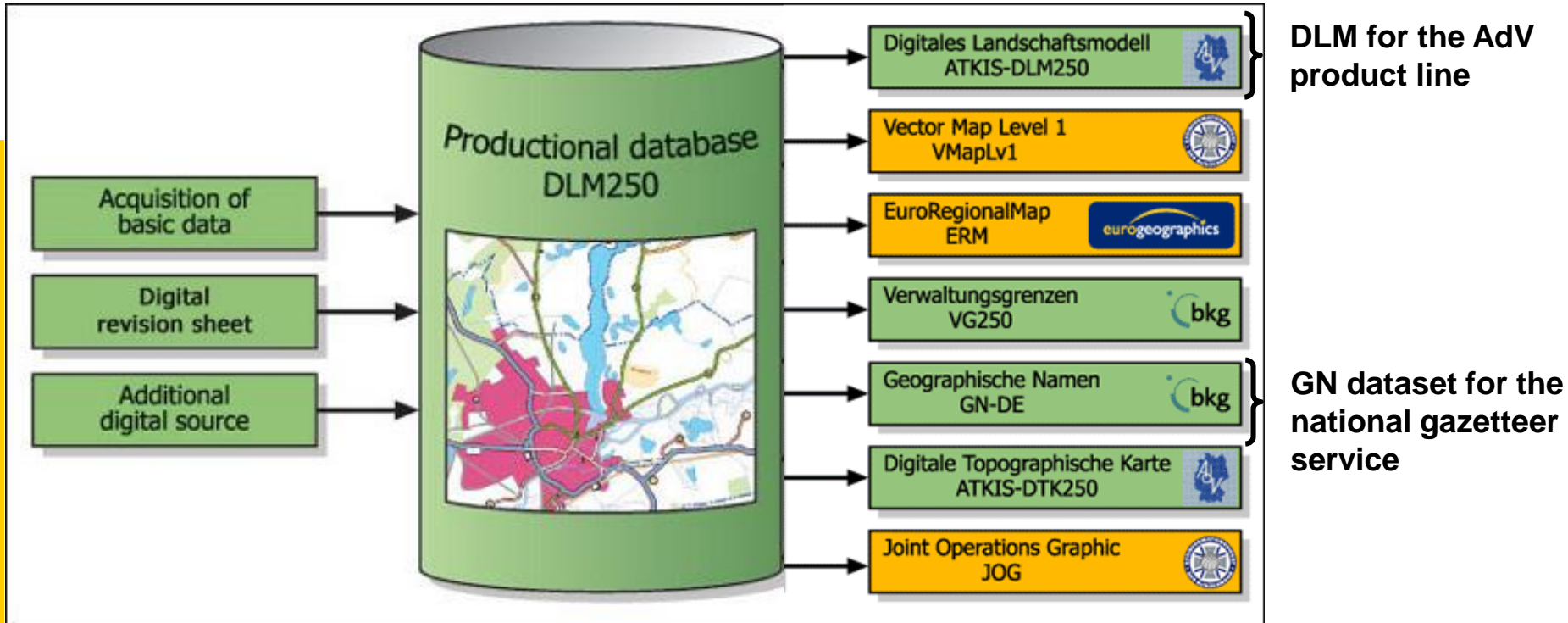


Names database and Geographic Information System (GIS)

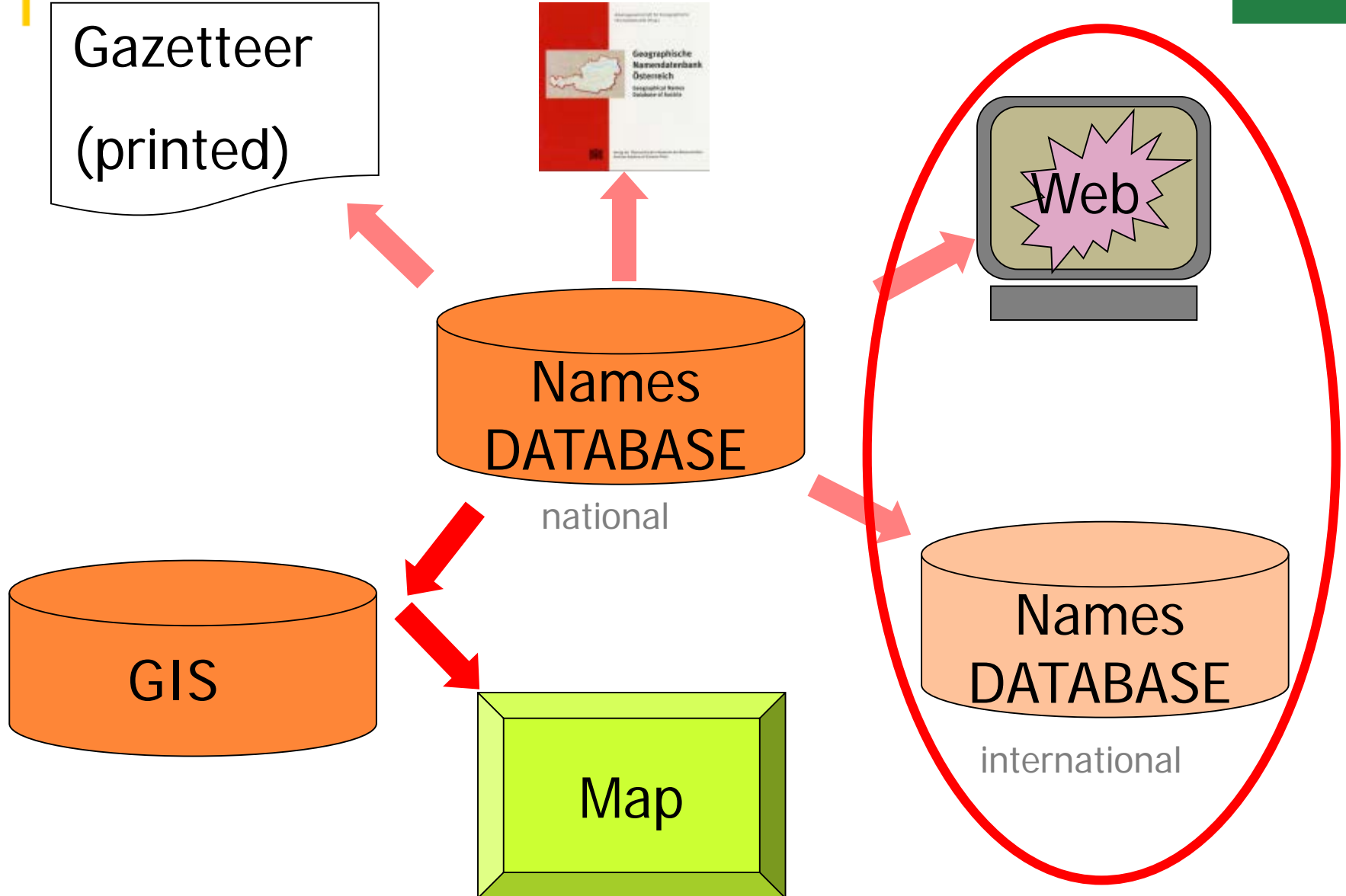


Names database and Geographic Information System (GIS)

BKG's produkt line – derived from the Digital Landscape Model (DLM250)



Geographical names data set **GN-DE** is essential part of the productional database and is unambiguously linked to the **spatial objects/features** through **unique identifiers (UIDs)**



The national gazetteer service – search for geographical names of Germany...

Find a Name

Name (min.3 characters * for arbitrary characters)


For experts and interested people:
Here you can have a look at the request to the standardized Web Feature Service (WFS) and the correspondig response in XML format.

[XML Request](#)

[XML Response](#)

Direct requests using our Applet [PostRequest](#).

Map Presentation and Search



Search in small map boxes only. At most 100 objects are shown.

Name	Object Type	Postcode	LAT	LON	Height	Area	Population	Language	Status	Map
Berlin	Ortslage	23823	10°26'56"	54°02'33"				deutsch	amtlich	
Berlin	Ortslage	<input type="text" value="10115"/>	13°24'37"	52°31'19"	34 m	892 km²	3387828	deutsch	amtlich	
Berlin	Siedlung		13°24'37"	52°31'19"				deutsch	amtlich	
Berlin	Verwaltungseinheit									
Berlin	Verwaltungseinheit									
Berlin	Verwaltungseinheit									

Gazetteer service based on the dataset **GN-DE**

- as graphical Web Application
- as OGC Web Feature Service (WFS)

Use cases for Web applications using names data services



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 original stone built house nestles in 3 hectares of land with a planting of chestnut (the house used to be a chestnut farm) and a swimming pool. Perfect for ...

Holiday Villa For Sale in Tuscany, Italy 1,000,000 €

Casa Migliano - 5 Migliano set in a little valley and the house is fully restored and is a sleepy hamlet 20 km from Lucca.

Villa For Sale in Limassol, Cyprus

The Most Exclusive built utilizing the best delivery time attest villa has been delivered partially furnished.

Village House For Sale in Olympia Raches Olympias

Village House For village of Olympia with 500 civilians, recently renovated but needs further renovation. Mountain view from the front side, sea view from the back side. 2 balconies and garden. A 3-level house that can easily ...

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

International purchase of
properties
with Internet property
services

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



Use cases for Web applications using names data services

Provision of European news

⇒ GN databases or web
services can provide
additional location based
information

einnews.com
a service for global professionals

SIGN UP FOR THIS NEWSLETTER MANAGE NEWSLETTERS MAKE A NEW NEWSLETTER SEND PAGE TO A FRIEND BOOKMARK THIS PAGE

Central Europe Online
EIN Home > Central Europe Home

All Central Europe Newsfeeds

Poland to Be Represented by President Kwasniewski at Yushchenko's Inauguration 20 Jan 2005 13:44

Analysis: EU's Busek Says Kosova Needs 'Europeanization' 20 Jan 2005 13:43

MACEDONIA: Sasa Lead and Zinc Mine Most Likely to Be Offered at New Tender 20 Jan 2005 13:43

- SERBIA AND MONTENEGRO: DS Leads Negotiations with G17 Plus 20 Jan 2005 13:43
- SERBIA AND MONTENEGRO: Net FDI in Montenegro Surge 60% y/y to USD 44mn in Jan-Sep. 20 Jan 2005 13:43
- SLOVENIA: Government and KBC to Decide NLB's Future 20 Jan 2005 13:43
- SLOVENIA: Dimitrij Rupel and Air Sierra - Inseparable 20 Jan 2005 13:43
- Moravian neighbors report less foot traffic 20 Jan 2005 13:42
- EU's Busek Says Kosova Needs 'Europeanization' 20 Jan 2005 13:39
- EU's Busek Says Kosova Needs 'Europeanization'

PICTURE OF THE DAY

U.S. Political News

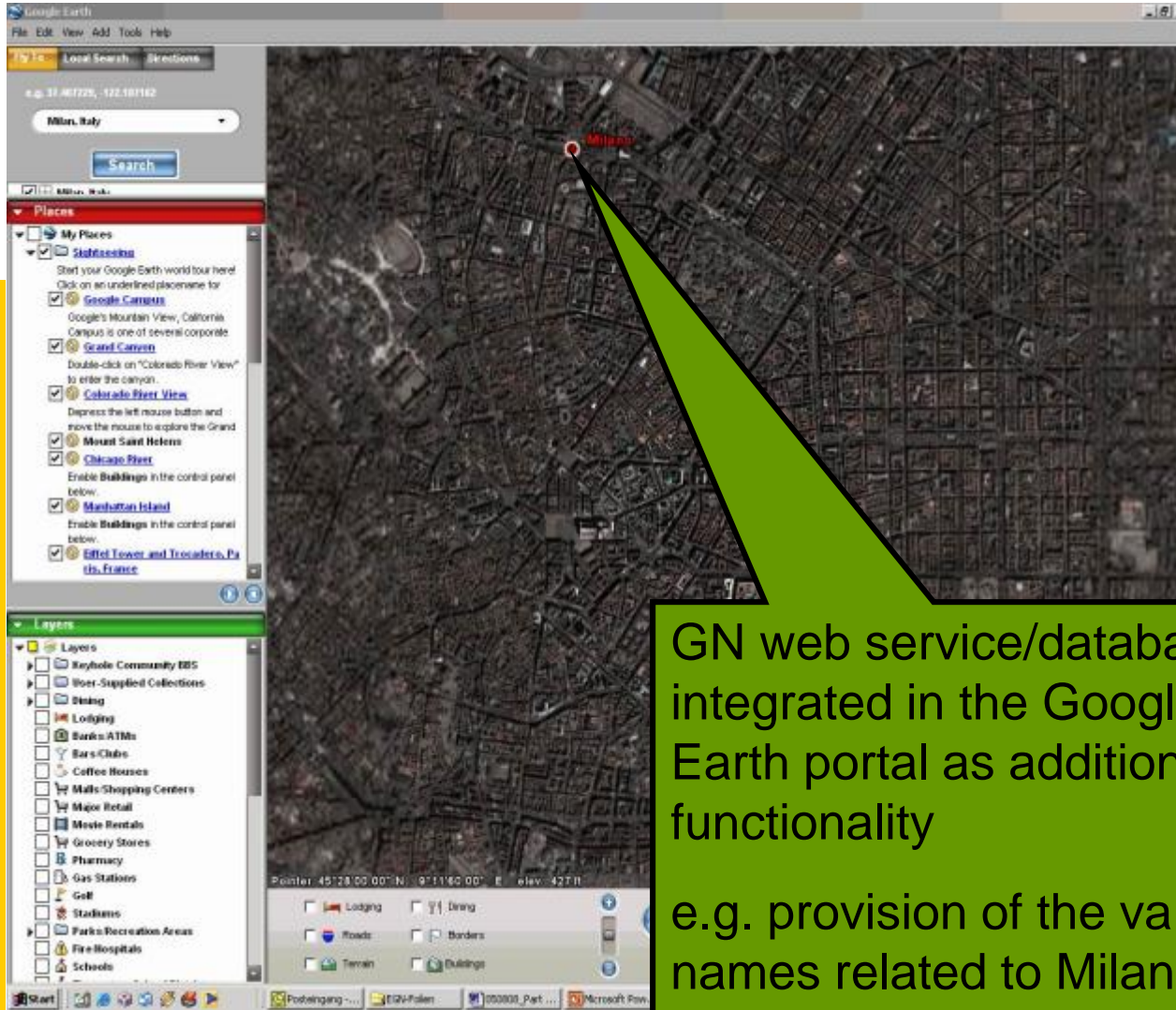
meteorite on Mars

NASA News · Mars Exploration News

GN web service integrated in
a news portal as additional
functionality
e.g. search for "Macedonia"



Use cases for Web applications using names data services



Google Earth Application

⇒ GN database or web
service could provide
additional location based
information

GN web service/database
integrated in the Google
Earth portal as additional
functionality

e.g. provision of the variant
names related to Milano

www.Geonames.org

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

Feature Class:

Continent:

fuzzy search :

14 records found for

Name	Country	Feature class	Latitude	Longitude
1 Alte Donau Alte Donau Arm,Altes Donaubett,Old Danube	Austria , AT.09,03	anabranch	N 48° 14' 3"	E 16° 00' 0"
2 Ludwig-Donau-Main-Kanal Ludwig-Kanal,Ludwigs Kanal,Main-Danube Canal	Germany , Bavaria	canal	N 49° 26' 0"	E 11° 00' 0"
3 Donau	Germany , Brandenburg	stream	N 51° 48' 0"	E 14° 00' 0"
4 Rhein-Main-Donau-Kanal Europa Kanal,Main-Donau-Kanal	Germany ,	canal	N 49° 52' 0"	E 10° 00' 0"
5 Alte Donau	Germany , Bavaria	lake	N 48° 58' 0"	E 12° 00' 0"
6 Alte Donau	Germany , Bavaria	channel	N 48° 43' 0"	E 13° 00' 0"
7 Donau Kanal Danube Canal	Austria , AT.09,03	navigation canal(s)	N 48° 15' 23"	E 16° 00' 0"
8 Neue Donau	Austria , Wien	section of stream	N 48° 9' 18"	E 16° 00' 0"
9 Neue Donau	Austria , AT.09,03	anabranch	N 48° 15' 51"	E 16° 00' 0"
10 Danube Danube,Danubio,Danubius,Danubo,Donau,Duna,Dunai,Dunaj,Dunarea,Dunav,Dunay,Dunărea	RO,HU,DE,CZ,AT,BG,HR,SK,UA,YU,MD	stream	N 45° 20' 0"	E 29° 00' 0"
11 Mosoni-Duna Kis Duna,Kis Dunaag,Kis Dunaág,Klein Donau,Kleine Donau,Little Danube River,Maly	HU,SK	anabranch	N 47° 44' 0"	E 17° 00' 0"

www.Geonames.org

GeoNames Home | Postal Codes | Download / Webservice | About

search [login](#)

Map center : N 45° 19' 58" E 29° 40' 1"

[ExploreOurPla.net](#) [google earth](#) [taqzania](#) [mapquest](#)



[GeoNames](#) [Wikipedia](#)

- features**
- city, village,...
 - mountain,hill,rock,...
 - stream, lake, ...
 - country, state, region,...
 - parks,area, ...
 - road, railroad
 - spot, building, farm
 - forest,heath,...
 - undersea

	name	country	feature	length
1	Danube River	Romania	stream	0.04 km
2	Gura Stambul' veclii	Romania	main channel	3.67 km
3	Kiliys'ke Hyrlo	Ukraine	stream	3.67 km
4	Ostrov Stambul'skiy	Ukraine	island	3.74 km
5	Ostrovul Popina	Romania	island	3.9 km



UNGEGN World Geographical Names

Multilingual, multiscriptural dataset of names of countries, capitals and major cities.

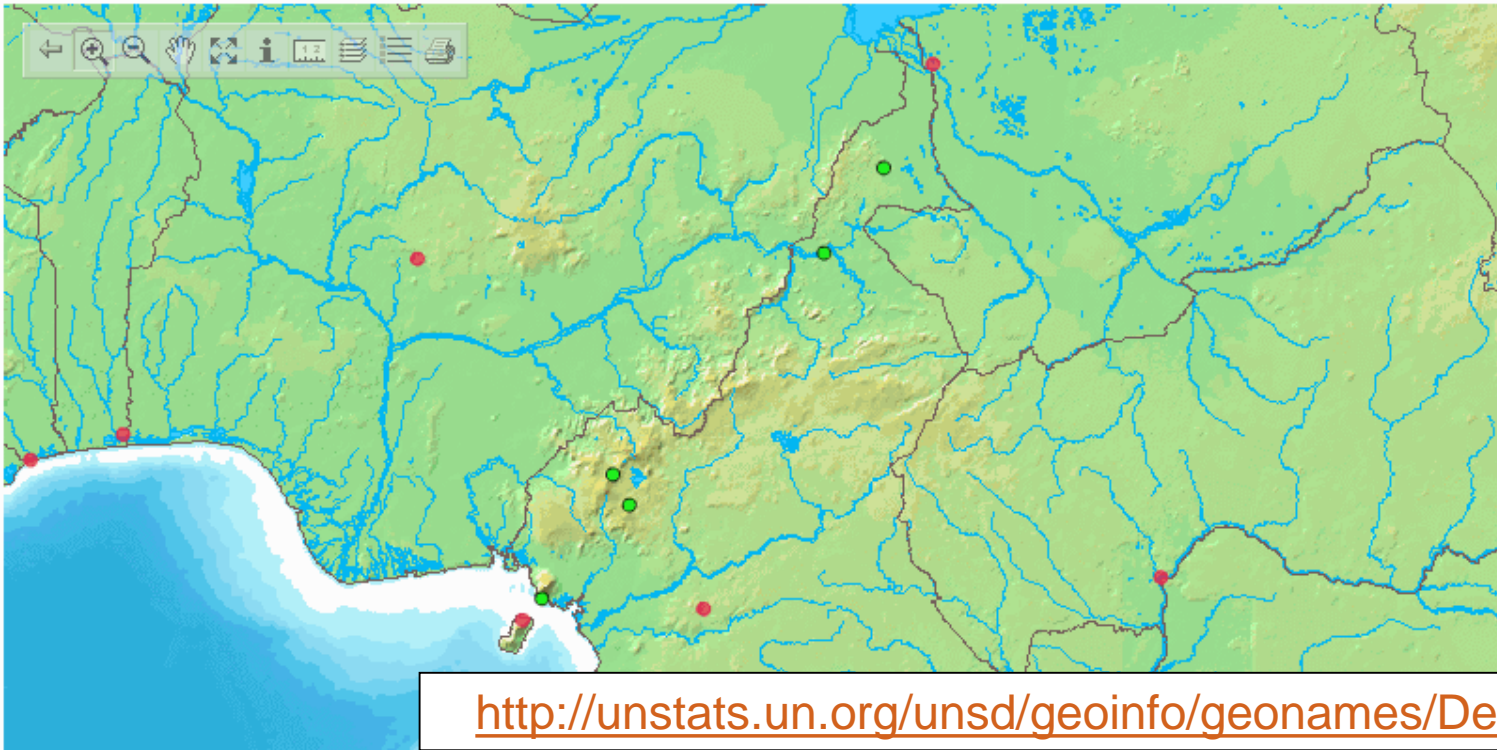
Geographical Names Database | About | FAQ | Feedback | Contact

Beta version

Cameroon

Roll over a country to display the country name in the six UN languages. Point to a city to see the city endonyms (where available and in romanized form only) and the English name. Capital cities are shown in red, other cities are shown in green.

Note: Depending on the computer settings, some names might not be able to be displayed properly.



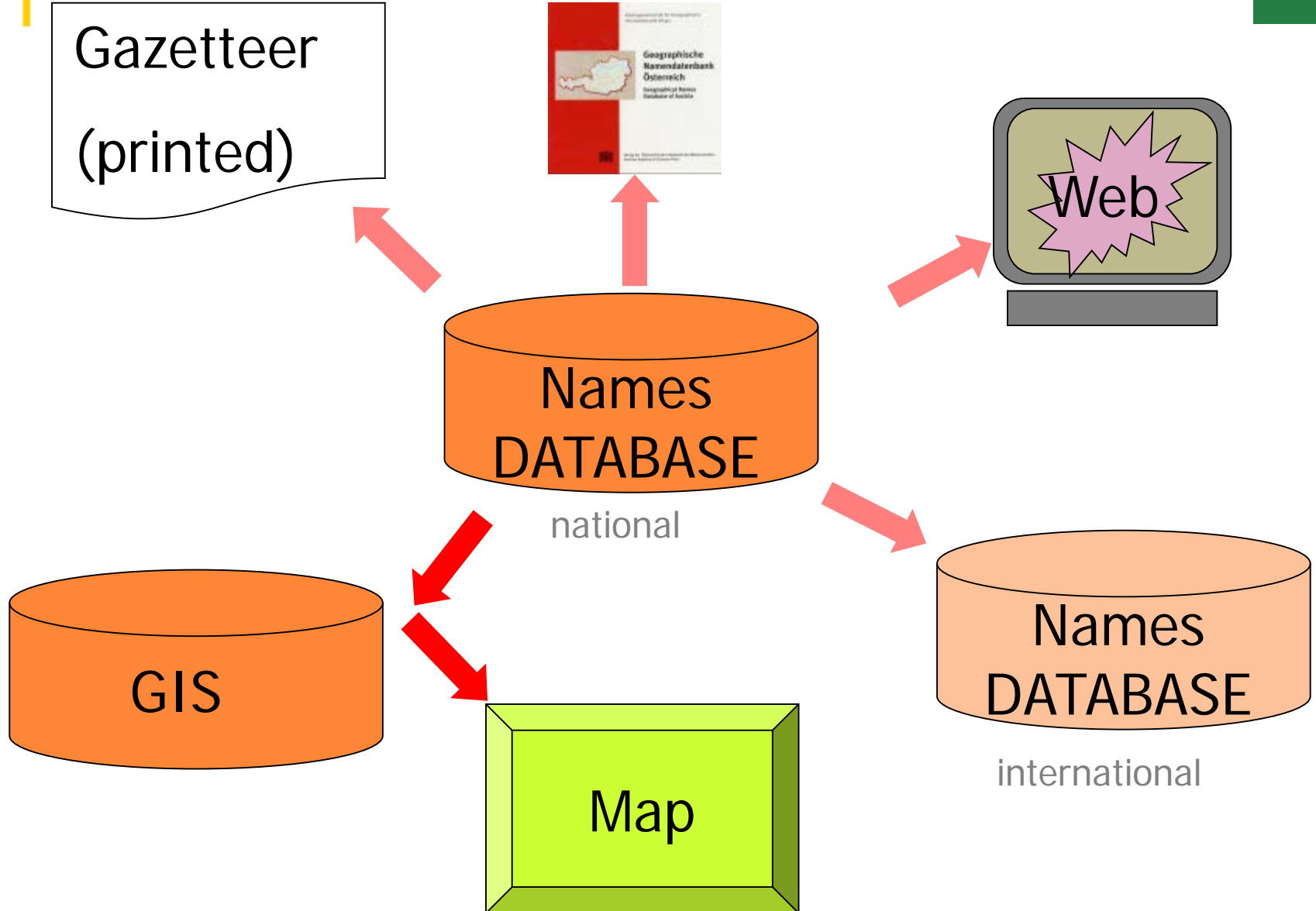
<http://unstats.un.org/unsd/geoinfo/geonames/Default.aspx>

Notes:

- The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. The



What are the purposes of a DB?





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.

Structure for storing the data, maintaining the records

1. Gathering of names information

2. Authorizing toponyms

3. Storing the data, maintaining the records

paper:	Gazetteer
digital:	Text file, Spreadsheet, Database

Structure: Tables !!

Columns:
attribute information to the name

Rows:
One for
each name

Name	Feature Type	Coordinates
Name1			
Name2			
Name3			
.....			

Structure: Tables !!

Columns:
attribute information to the name

Rows:
One for
each name

Name	Feature Type	Coordinates
Antananarivo	populated place	-18.91	47,53
Zatovo	stream	-19.46	45.43
Zarandahy	mountain	-13.73	49.13
Zahamena Strict Nature Reserve	Nature Reserve	-17.70	48.91

Structure: Tables !!

Columns:
attribute information to the name

Absolutely necessary!

Rows:
One for
each name

Field name	Data type	Description
Geographical Name	Text	the name
Feature Type	Text	e.g. River, Mountain, Populated Place. The types should be chosen from a standardized list, if exists.
Coordinates, e.g.:		
Longitude	Number	Geographical Coordinates
Latitude	Number	Geographical Coordinates Instead of Geographical Coordinates, other systems may be used, for instance UTM with X and Y coordinates.

Structure: Tables !!

Rows:
One for
each name

recommended

Field name	Data type	Description
FeatureID (for databases)	Integer	A unique identifier assigned to the name. This ID will be used to link the name with other database tables.
Variant Name	Text	Other names assigned to the feature, if any
Administrative Unit	Text	Name or Code of the Administrative Unit where the name is situated in.
Map Sheet	Text	Reference to a map sheet in a topographic map series. The data type may be Integer if the sheet name contains only numbers no letters.
Description	Text	Comments, e.g. on the history of the name, and verbal statements on the extension of the feature.
Source	Text	Source of the name. e.g. captured in the field by interview
Date	Date	Date of the entry to the Database. Other option: date of approval by the Board.
Status	Text	Comment, e.g. name is approved or not approved by the Board.

Columns:

attribute information to the name



Structure for storing the data, maintaining the records

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)
- ...

CODE

This column contains a specific code of maximally four letters which provides a further specification of the nature of the particular feature. It occasionally proved difficult to draw a sharp distinction between the names of polders and area names. The category 'polder' therefore includes all those names in which the word 'polder' occurs. In addition, this category also includes the names of drained lakes which are clearly visible as a landscape unit on the map, such as Schemer, Flevoland, etc.

Where no recognizable feature can be discerned from the topography, the name is coded as an area or local name.

The explanation of the 40 codes used is as follows:

ADMD	administrative division
AF	airfield, airport
AN	area name, local name
AQDT	aqueduct
BLDG	building, group of buildings
BRDG	bridge, viaduct
CEM	cemetery
CHAN	channel, fairway
CNAN	canal, waterway, ditch
DAM	dam, groyne, pier
DIKE	dike, embankment
DIST	residential district
FORT	fort, entrenchment
FRST	forest
HBR	harbour
HILL	hill, dune, mountain
HTH	(former) heathland
IND	industrial estate
INL	inlet, estuary
IS	island
LAKE	lake, pool, pond
LH	lighthouse
LOCK	sluice, lock
MISC	miscellaneous landmarks e.g. beacon, belvedere, dock, decoy, burial mound, light, ruin, warf

Gazetteer of

The Netherlands

- Feature codes

... is it a river,
a mountain, a
populated place, etc?



① Feature-Code (mnemotechnical) *1

Mnemotechnical Abbreviation	Feature-Code	Meaning
AD	0924	autobahn triangle
AF	5510	airport, aerodrome
AK	5128	autobahn crossing
AN	0641	landscape (general)
AST	5127	autobahn approach, autobahn exit
BAD	2840	spa, health resort, seaside resort
BANK	8046	sandbank, tidal flat, dune
BAR	1114	border crossing point
CNAL	8200	canal
CRRD	0926	important federal road crossing
GEM	0612	rural community
GEMT	0613	part of city or town, section of commune
HBR	5610	sea or inland port
HPL	0675	capital of a <i>Land</i>
HPR	0676	seat of Regierungspräsident
HPS	0674	capital of the Federal Republic of Germany
IS	0644	island/archipelago
JUNC	0925	main traffic junction (RSTA + AF**) + AST and/or AD, AK, CRRD)
KRS	0677	seat of district administration
LAKE	8610	lake (natural)
MAR	0692	small market town or townlet
MT	0931	elevation (mountain, hill)
MTS	0642	mountain range, hilly country
RES	8620	reservoir, dam
RSTA	5460	railway station, halt
SEA	8641	sea, bay, lagoon

Gazetteer

Federal Republic of Germany

- Feature codes

Feature types provided

EGN Feature classification

→ 8 classes and 27 sub-classes

- (1) Countries, administrative units and other areas,
- (2) Populated Places,
- (3) Non-residential structures and buildings,
- (4) Transport and telecommunication features,
- (5) Terrain features,
- (6) Hydrographic features,
- (7) Conservation areas,
- (8) Miscellaneous

→ essentially for the purpose of query-filtering

(defined by EGN Reference Group)

Code	Feature Type	Short Definition	Feature Type Examples	
1	COUNTRIES, ADMINISTRATIVE UNITS AND OTHER AREAS	Countries, territorial units of a country for administrative purposes and other man-made areas		
	1.1	Country	Country of Europe	
	1.2	Administrative units	Territorial units of every country for statistics and administrative purposes	
			<i>Including:</i> Nomenclature of Territorial Units for Statistics in EU (NUTS 1, 2 and 3)	länder (Germany) autonomous region (Spain) province
Local Administrative Units (LAU 1 and 2)			municipality	
	Other administrative units			
1.3	Other non-administrative units	Other type of man-made areas like economic, cultural, linguistic or tourist areas		
2	POPULATED PLACES	Buildings for housing of any category like cities, towns, villages, etc.		
	2.1	Administrative capitals	Populated places with capital status	
			<i>Including:</i> Administrative capitals of NUTS 1, 2 and 3	capital of country, autonomous region (Spain), province
			Administrative capitals of LAU 1 and 2	capital of municipality
			Other administrative capitals	
2.2	Other populated places	Populated places without administrative status		
		<i>Including:</i> Cities, towns, villages, hamlets...	city, town, village, hamlet hamlets...	
		Parts of them	neighborhood	



Madagascar

- Feature codes?

ID	FeatureType	in German	in French
3	Mountain	Berg	Montagne
4	Town	Stadt	Ville
5	Lake	See	Lac
7	River	Fluss	Rivière

Feature code	Feature Type (fra.)	Feature type (eng.)	Feature type (?)	Feature description (?)
4000	montagne	mountain	?	?



NAME FORM (Use Roman Alphabet)	
Page : Date/month/year :	
A. DATA REFERENCE	
<u>I. REGION</u>	<u>II. DATA SUPPORT</u>
1. Province :	1. Map sheet nr. :
2. Sub-province (Kabupaten) :	2. Map sheet name :
3. District (Kecamatan) :	3. Nr. of name :
4. Sub-district (Kelurahan) :	4. Feature type :
5. Village (Desa) :	5. Feature Code :
B. FIELD	
1. a. Name used by local government :	
Written :	
Oral (pronounced) :	
b. Original language of name :	
c. Meaning (if known) :	
2. a. Any other name now used locally ?	
1. 2.	
Written :	
Oral (pronounced) :	
b. Original language of name :	
c. Meaning (if known) :	
3. What is the meaning of the name which has literal relation with the feature (yes / no)	
If yes, clarify	
4. Name used previously (if any)	
a. Year of use	
b. Year of use	
5. If feature is kampung/dusun, in which desa / town ?	
6. Population	
7. Historical name (if any) :	
8. Field remarks :	
9. Informant : 1. 2.	
C. OFFICE TREATMENT	
1. Recommended name :	
2. Location of feature (Center / Mouth) : Lat. N/S Long. E	
Head : Lat. N/S Long. E	
3. Length of feature : Km	
4. Area of feature : Km ²	
5. Elevation : m (msl)	
Surveyor : 1. 2.	

Madagascar

- Feature codes based on the name form used within the names collection