

TOP products: The next step

Products derived from topographical base map TOP10NL

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TOP products a step further

- TOP database: All TOP10-map editions from 1990 to present in one relational database
- TOP monitoring: Visual Raster Information System (VIRIS) relational database with numbers of topographical features per 25m unique raster cell from all TOP10-map editions and raster output sets
- TOPSmart/TOPNature: Scaleless enriched 2.5 m raster version of TOP10NL for fast web mapping visualisation and ecological applications
- Open TOP data...

TOP product: TOP database

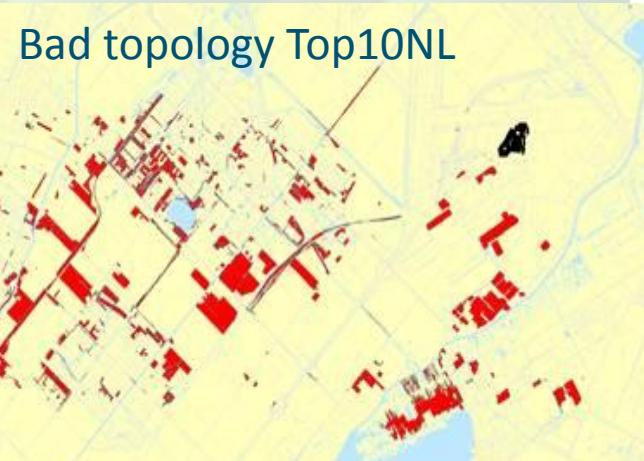
- Why a step further with the TOP10NL
- The user wishes
- The Design of TOP database
- The desired workflow
- The budget?
- The future....

Why a step further with TOP10NL?

Legend:

- Top10NL
 - Inrichtingselement lijn
 - Wegdeel lijnen
 - Inrichtingselement punt
 - Namen (tekst)
 - Waterdeel lijn
 - Waterdeel vlak
 - Wegdeel vlak
 - Gebouwen
 - Terrein

Bad topology Top10NL



File Explorer:

- + top10_libraries
- + Top10_Monitoring_Dataset
- Top10NL
 - + TOP10NL_Februari_2013
 - + Top10NL_November_2012
 - + Top25namen
 - Topkaarten
 - + BRT_Metadata_TOP10NL_2011-02-29
 - + Metadata_TOP10NL_2010
 - + top10_libraries
 - + AG93_top10nl_ontlaagd.gdb
 - + BRT_Top10NL_2012_02_01_ArcGis_9_3.gdb
 - + Top10_2003.gdb
 - + Top10_2004.gdb
 - + Top10_2005.gdb
 - + Top10_2006.gdb
 - + Top10_classic.gdb
 - + Top10_ontlaagd_2012.gdb
 - + TOP10NL_2009_05.gdb
 - + TOP10NL_2010.gdb
 - + TOP10NL_2011_09_01.gdb
 - + Top10NL_dubbel2011.gdb
 - + Top10NL_tabs_analyse.gdb
 - + TopSmart2012

Table:

	Shape	C1	C2	C3	C4	Jaar	JAAR2	VLAk_ID
►	Polygon	521	0	0	0	1997	2001	2835849
	Polygon	610	0	0	0	1998	2002	8020868
	Polygon	320	0	0	0	1999	2001	3015683
	Polvaon	334	0	0	0	2003	2222	5297810

Store only changed features

Only 1 Area feature class!

More easy GIS analysis

The user wishes

- 1st Only 1 Area feature class!
 - Topology checks
 - More easy GIS analysis
- Complete cover, no holes!
- No double features and consisted in time
- Easy change detection
- One database
- Down date correction of errors in previous versions

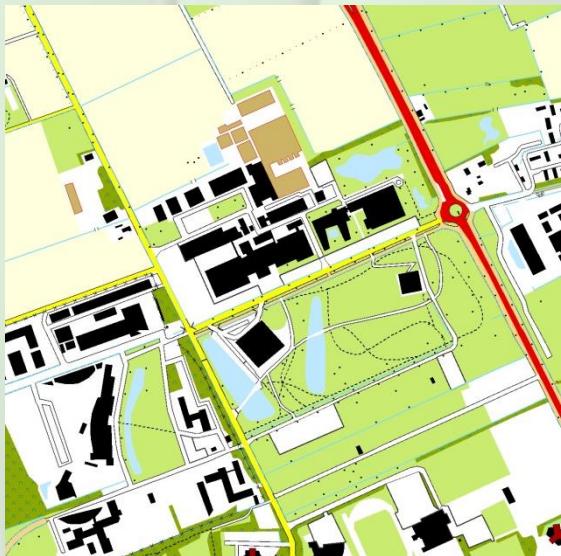
Design of TOP database

- 1st Delivery TOP10NL database based on GML output Kadaster
- 2nd insert into TOP database according to:
 - one feature layer concept (area, point and line)
 - Start and closing time features
 - Down date corrections
 - Correct topology
- Extract one FBGD version each year or special requests
- Build simple conversion tools for other TOP products

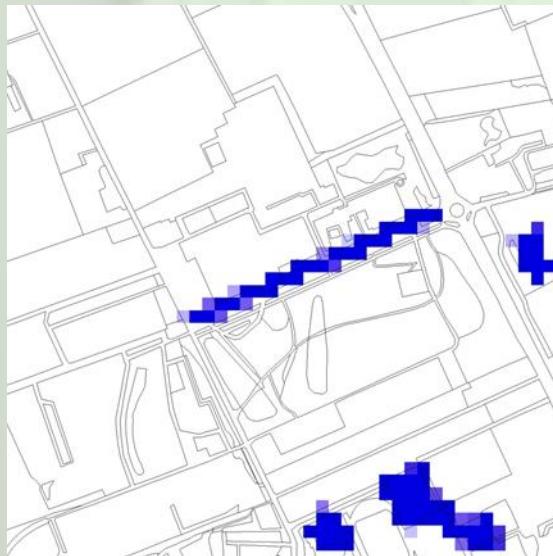
TOP monitoring/VIRIS

- Why VIRIS?
- Some examples
- Procedure from TOP10NL to VIRIS?
- The future....

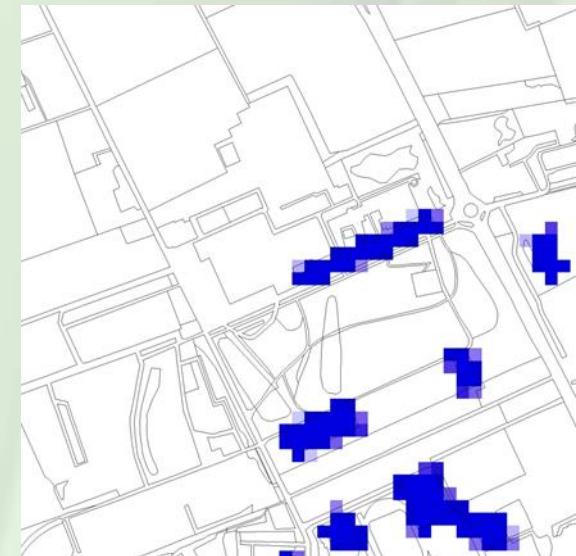
Example VIRIS2.0 output in detail



TOP10NL 2012
Campus Wageningen

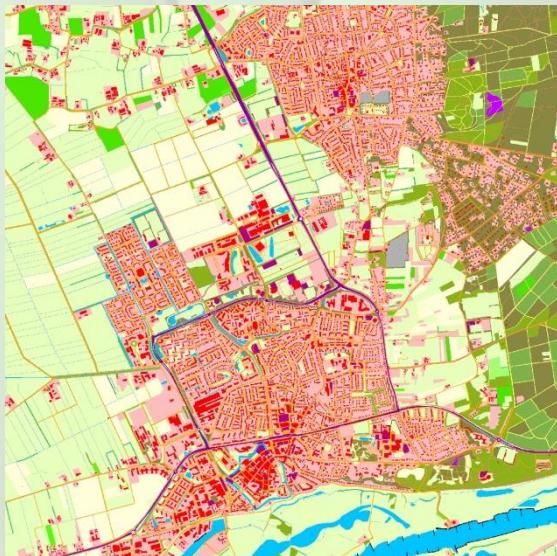


Year 2000
25m raster parking
area



Year 2010
25m raster parking
area

Example VIRIS2.0 output buildings Wageningen



Wageningen
Scale 1:25:000

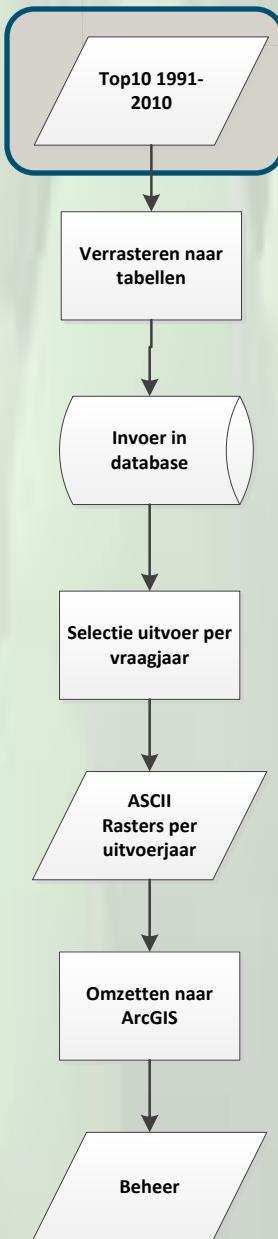


Year 1996
25m raster area

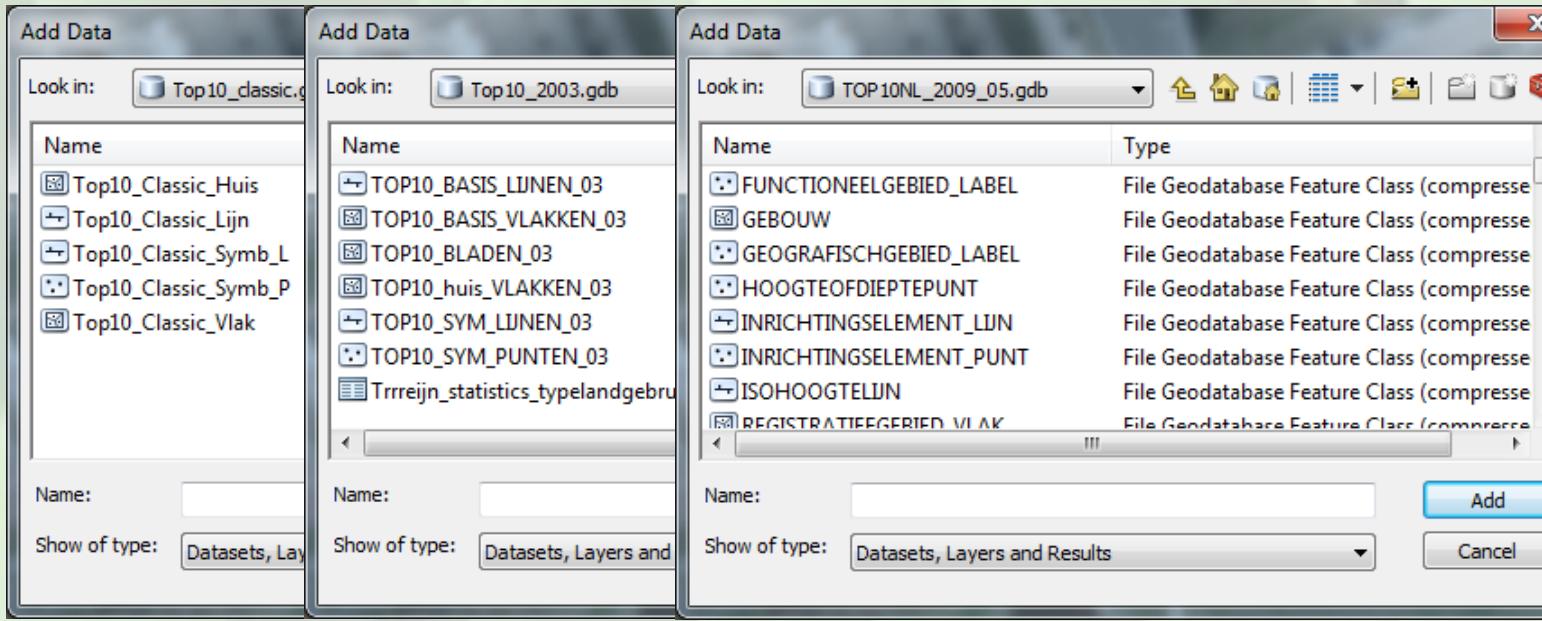


Year 2010
25m raster area

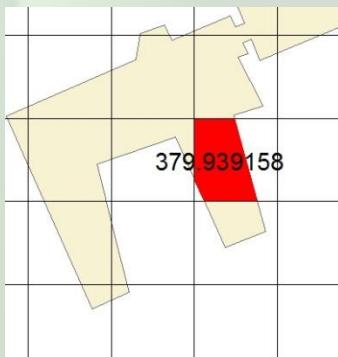
Procedure from TOP10NL to VIRIS



- Three different input dataset formats
 - Top10-vector (Classic: 1991-2003)
 - Top10SE (Spatial Edition: 2003-2006)
 - Top10NL (Kadaster FGDB: 2009-2011)



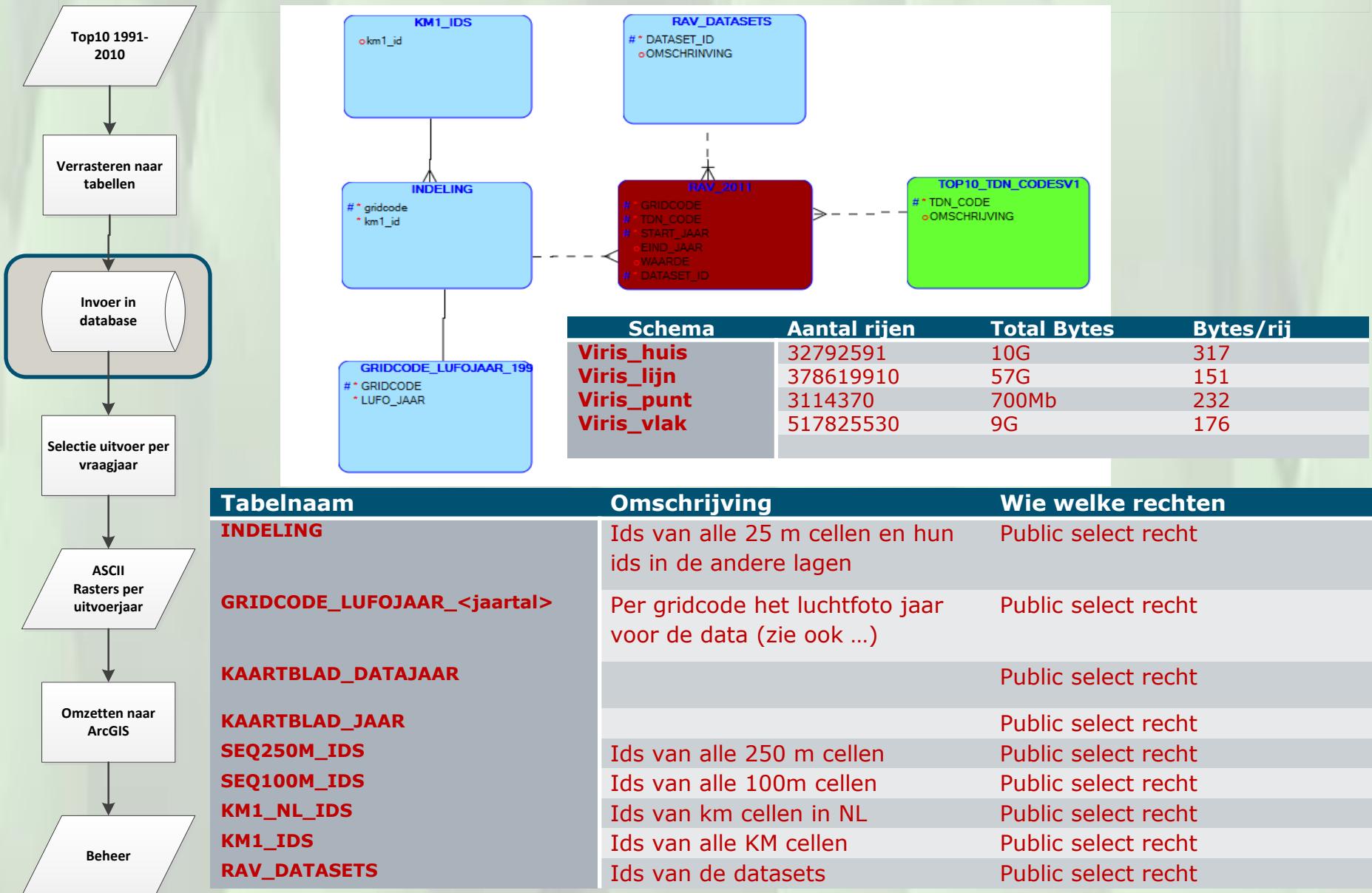
Overlay result to tables



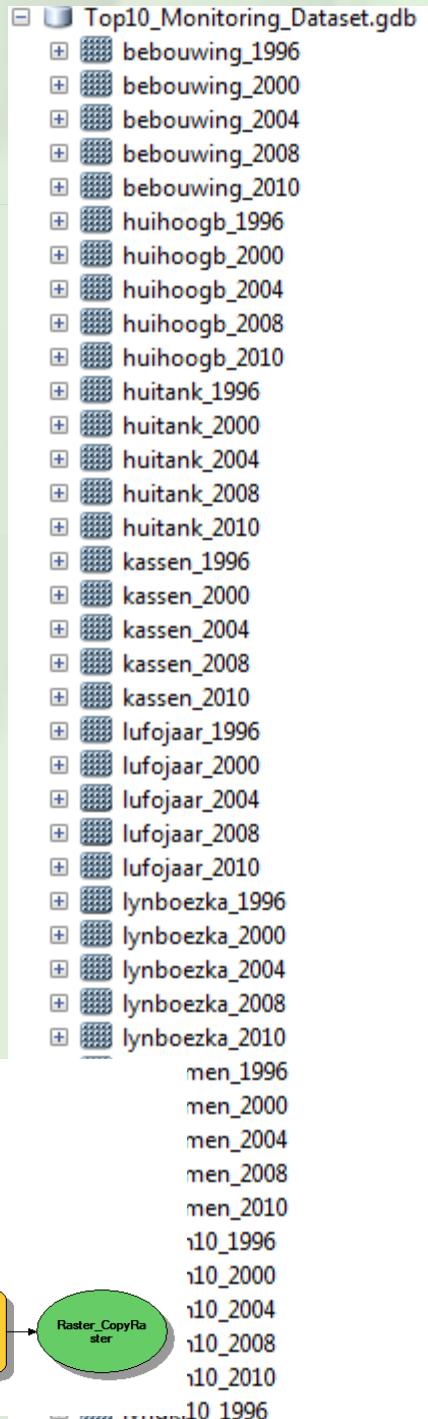
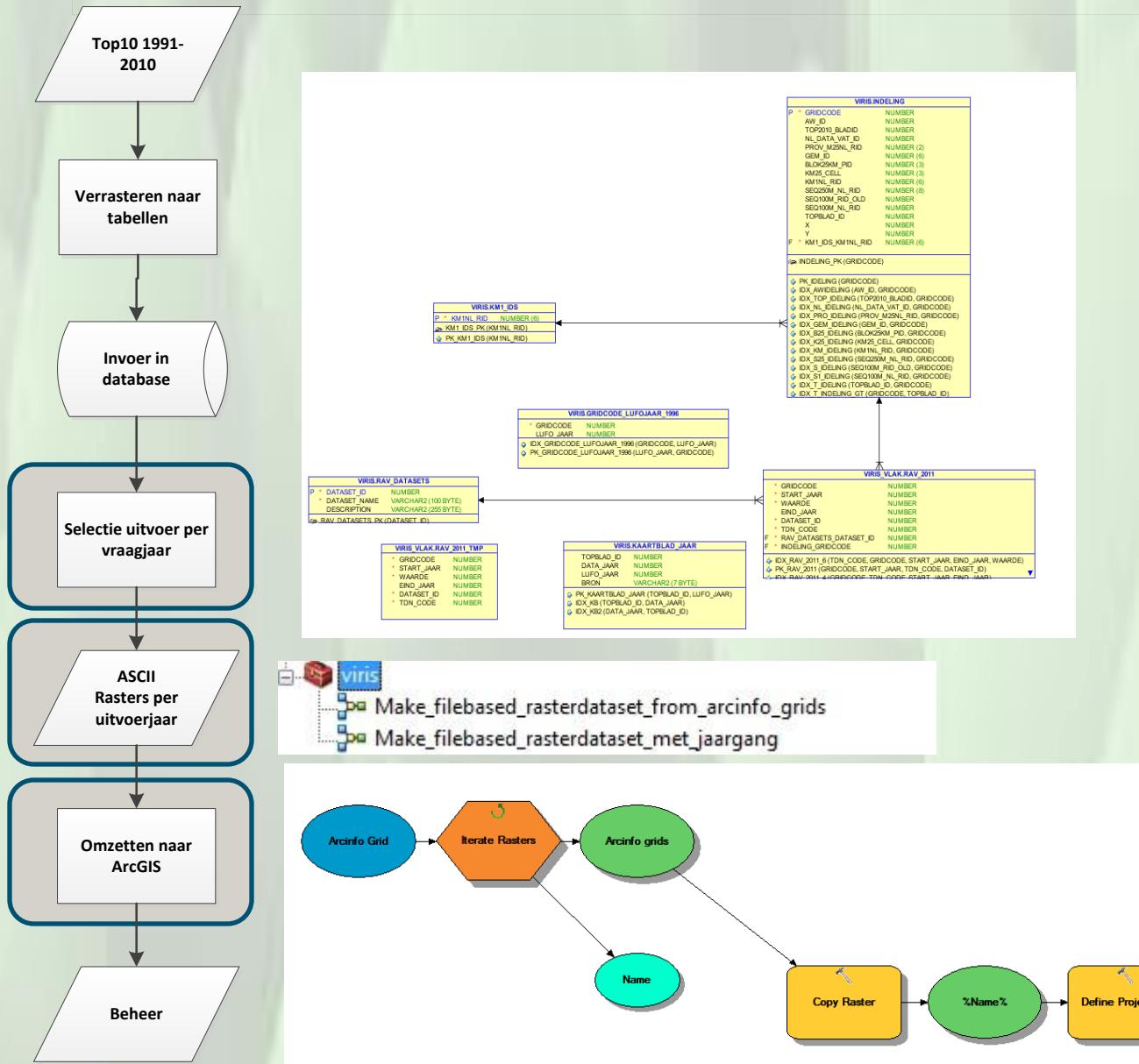
GRIDCODE	TOP10_ID	TDN_CODE	Shape_Area
80926967	102540274	100	379.939158

Overlay unique 25m fishnet with
Top features and store GRIDCODE,
Top10ID,TDN_code, Area/length
into tables per 25km block

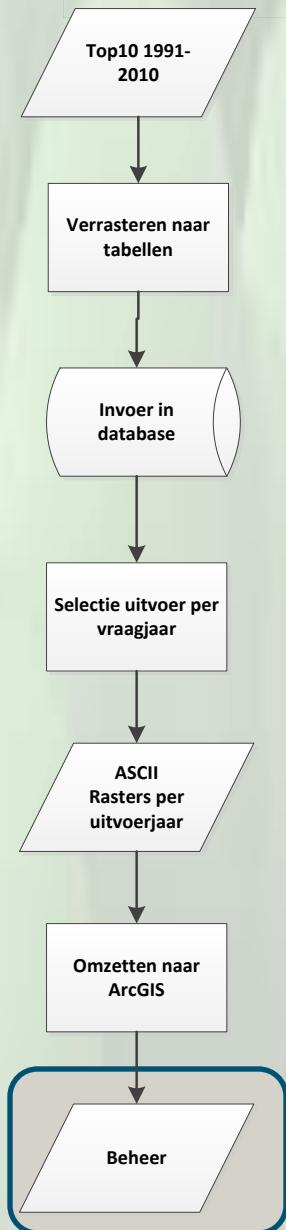
Insert tables to Oracle DBMS



Finishing VIRIS dataset



The future....

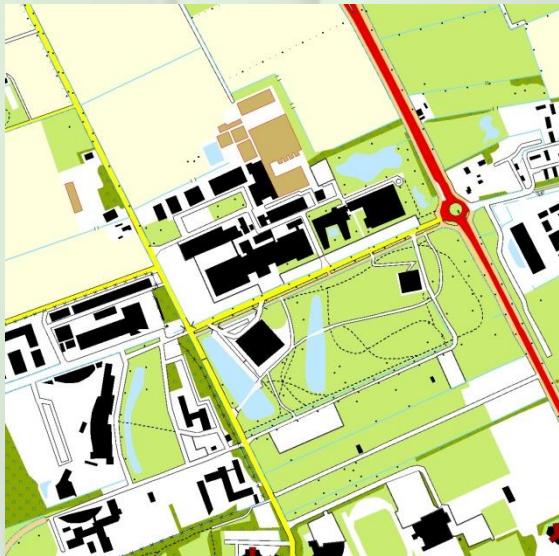


Schema	Aantal rijen	Total Bytes	Bytes/rij
Viris_huis	32792591	10G	317
Viris_lijn	378619910	57G	151
Viris_punt	3114370	700Mb	232
Viris_vlak	517825530	9G	176

TOPSmart/TOPNature

- Inspiration for a smart grid map
- Ten years of evolution TOPSmart/TOPNature
- The concept
- The application TOPSmart
- The application TOPNature
- The future

Examples of TOPSmart/TOPNature



TOP10NL 2012
Campus Wageningen

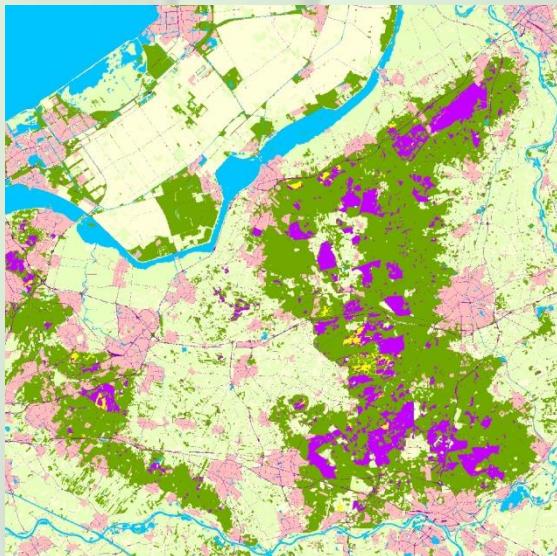


TOPSmart 2012
Visualisation scale
1:5000

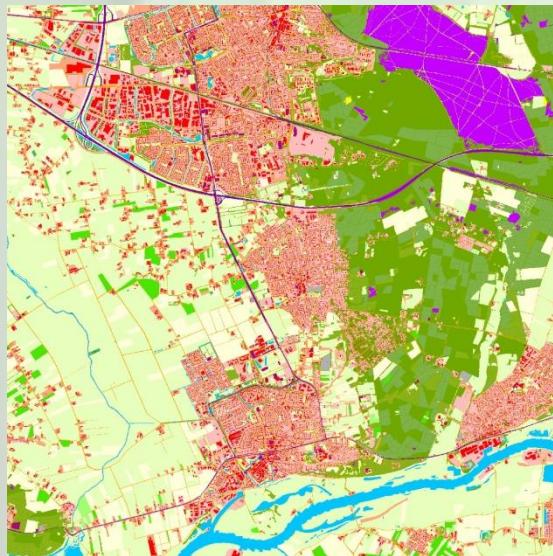


TOPNature 2012
Nature elements
application

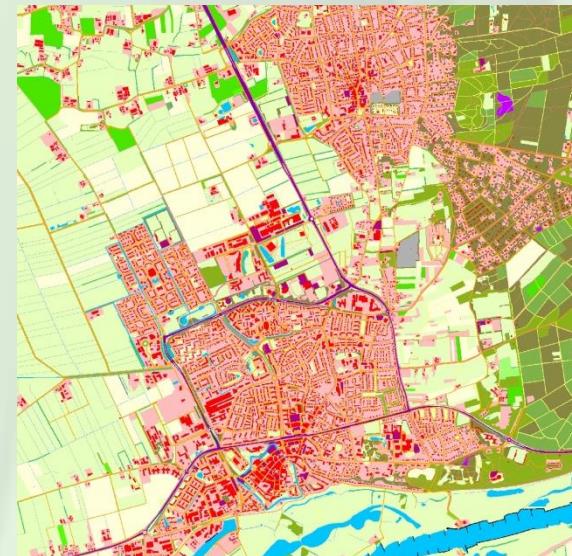
TOPSmart: One raster many scales



Veluwe
Scale 1:300.000

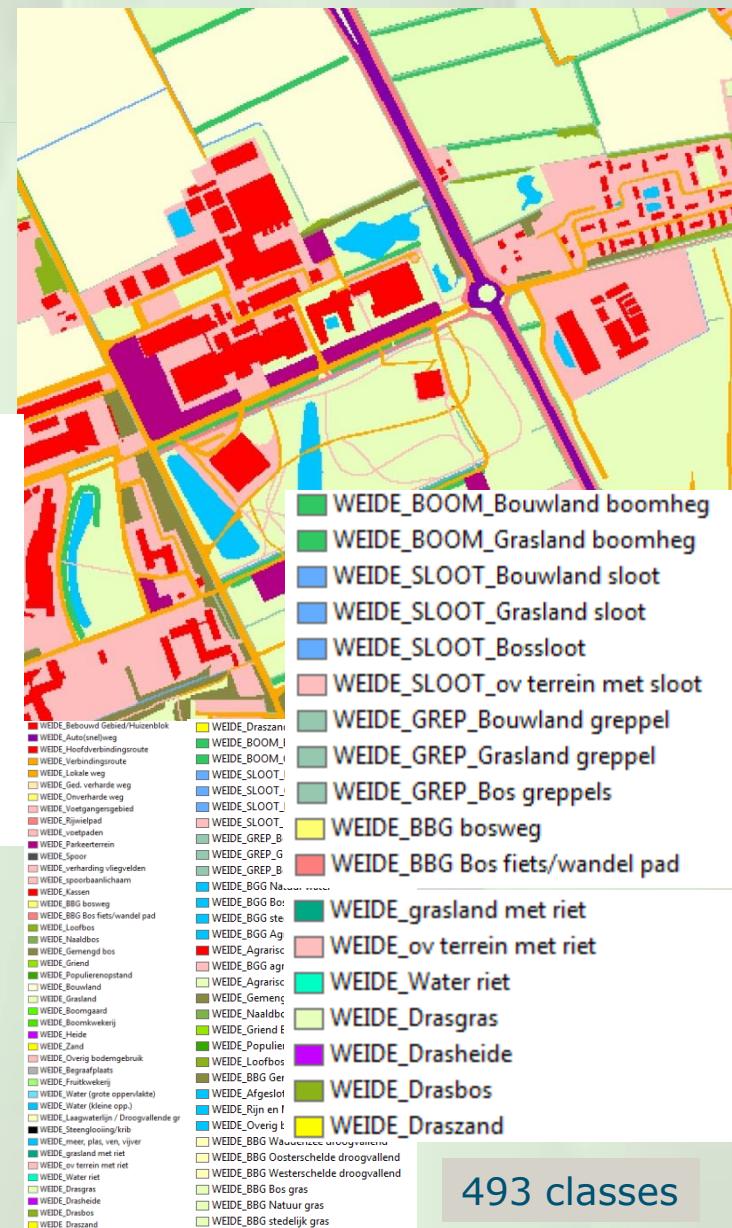
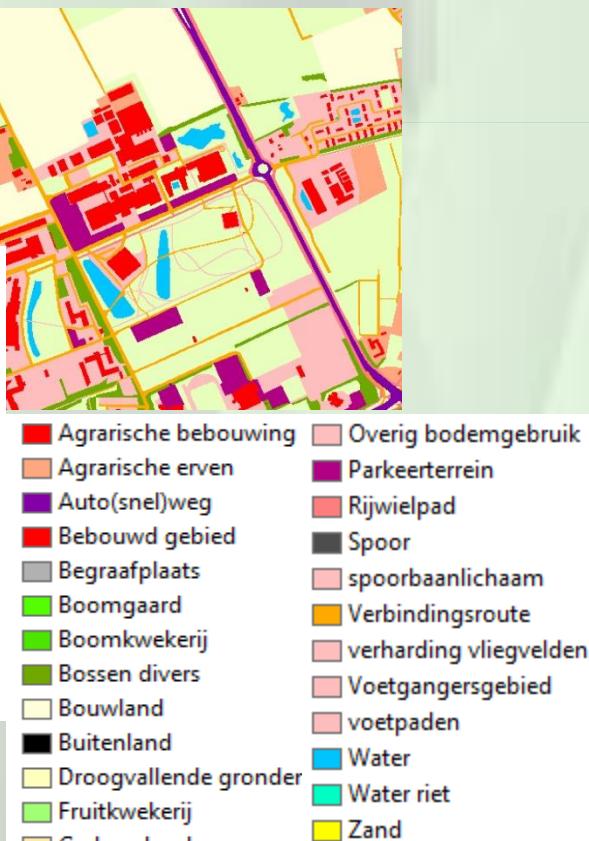
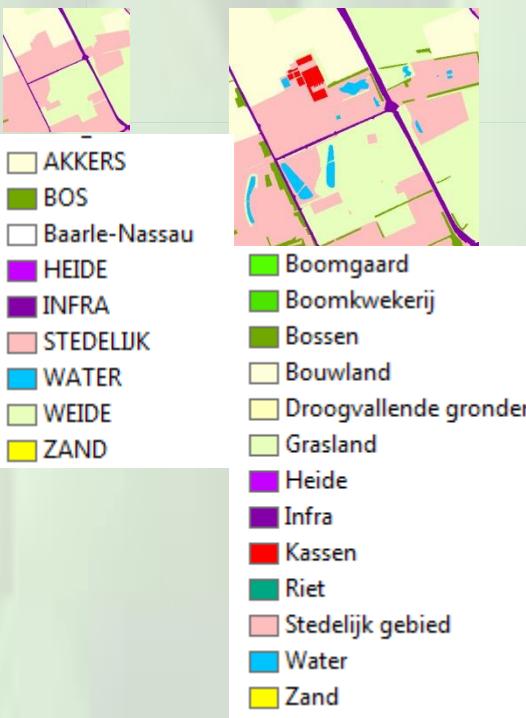


Ede Wageningen
Scale 1:50.000



Wageningen
Scale 1:25.000

Small scale to large scale TOP10Smart



Multi scale TOPSmart
Raster

Perfect performance drawing TOPSmart in ArcGIS



TOP10NL drawing....
A few minutes later



TOPSmart drawing
In 0.1 seconds

Bronbestanden voor natuurelementen-kaart:

TOPNature

Top10NL



&

CBS BBG



&

LGN



&

Beheer Natuur



&

AHN



vergridding natuurelementen op 2,5 x 2,5 m

TOPNature: Canopy Height for courtyard with AHN1 elevation data 2001



No trees on map
For courtyard



AHN1
Canopy Height



Courtyard with
Canopy Height

TopNatuur meer dan 50 categorieën:

Opgaande natuur

Loofbos
Naaldbos
Gemengd bos
Griend
Populierenopstand
BBG agr Bomenrij of heggen
BBG nat Bomenrij of heggen
BBG sted Bomenrij of heggen
Loofbos op zand
Naaldbos op zand
Duinen met een hoge vegetatie (>1m)
Loofbos < 1 ha
Naaldbos < 1 ha
Gemengd bos < 1 ha
Griend < 1 ha
Populierenopstand < 1 ha
Loofbos op zand < 1 ha
Naaldbos op zand < 1 ha

Grazige natuur

Heide
Extensief beheerde graslanden
weidevogel graslanden
weidevogel akkers
Bermgras
Duinen met een lage vegetatie (<1m)
Duinheide
Heide op zand
Matig vergraste heide
Sterk vergraste heide
G-Ged. verharde weg
G-Onverharde weg
G-Bouwland
G-Weiland
G-Heide
G-Extensief beheerde graslanden
G-weidevogel graslanden
G-weidevogel akkers
G-reservaat akkers
G-BBG agrarisch bebouwd (erven)
G-BBG agrarisch productie gras
G-BBG Stedelijk bebouwd

Natte natuur

BBG agrarische sloten
BBG Agrarisch water
BBG stedelijk water
BBG natuur/bos water
gras moeras
water moeras
waterkant agrarisch gras
BBG natuur of bos sloten
BBG stedelijke sloten
Kwelders

TOPNature classification



Natuur_Elementen_2013

LE_code

Overig

opgaande begroeiing

water en moeras

heide, zand en bermen met of zonder struweel

bouwland

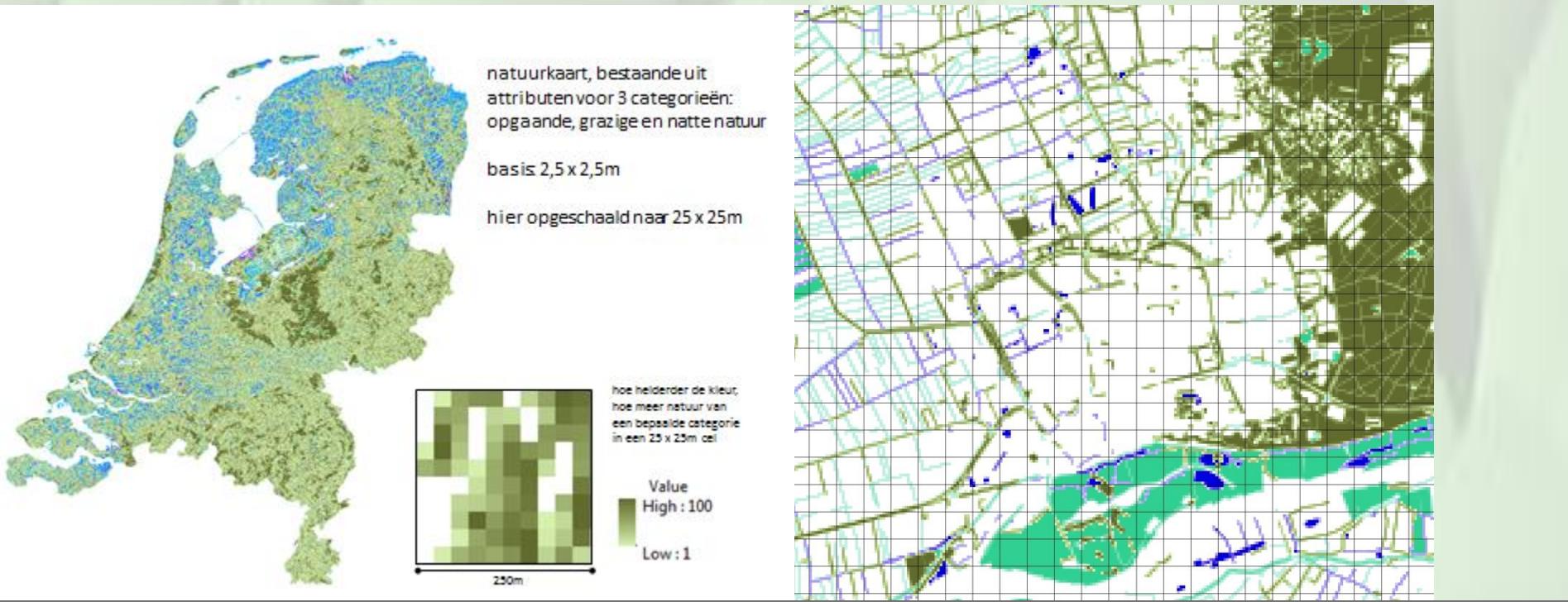
grasland

Natuur_Elementen_2013

OBJECTID *	VALUE	COUNT	SMARTNAAM2013	TOP10NAAM	SMART2009	RED	GREEN	BLUE	OPACITY	LE_code
19	18	5767743	BBG Bos fiets/wandel pad	Gemengd bos / Bos divers	16	0.99609	0.49609	0.49609	1	
20	19	131446243	Loofbos	Loofbos	19	0.54688	0.69922	0.09766	1	
21	20	139306656	Naaldbos	Naaldbos	20	0.5	0.69922	0.29688	1	
22	21	188662259	Gemengd bos	Gemengd bos / Bos divers	21	0.53516	0.53516	0.26563	1	
23	22	1464085	Oriënd	Gemengd bos / Bos divers	22	0.59375	0.89844	0	1	

TOPNature aggregation

From 2.5m -> 25m -> 250m



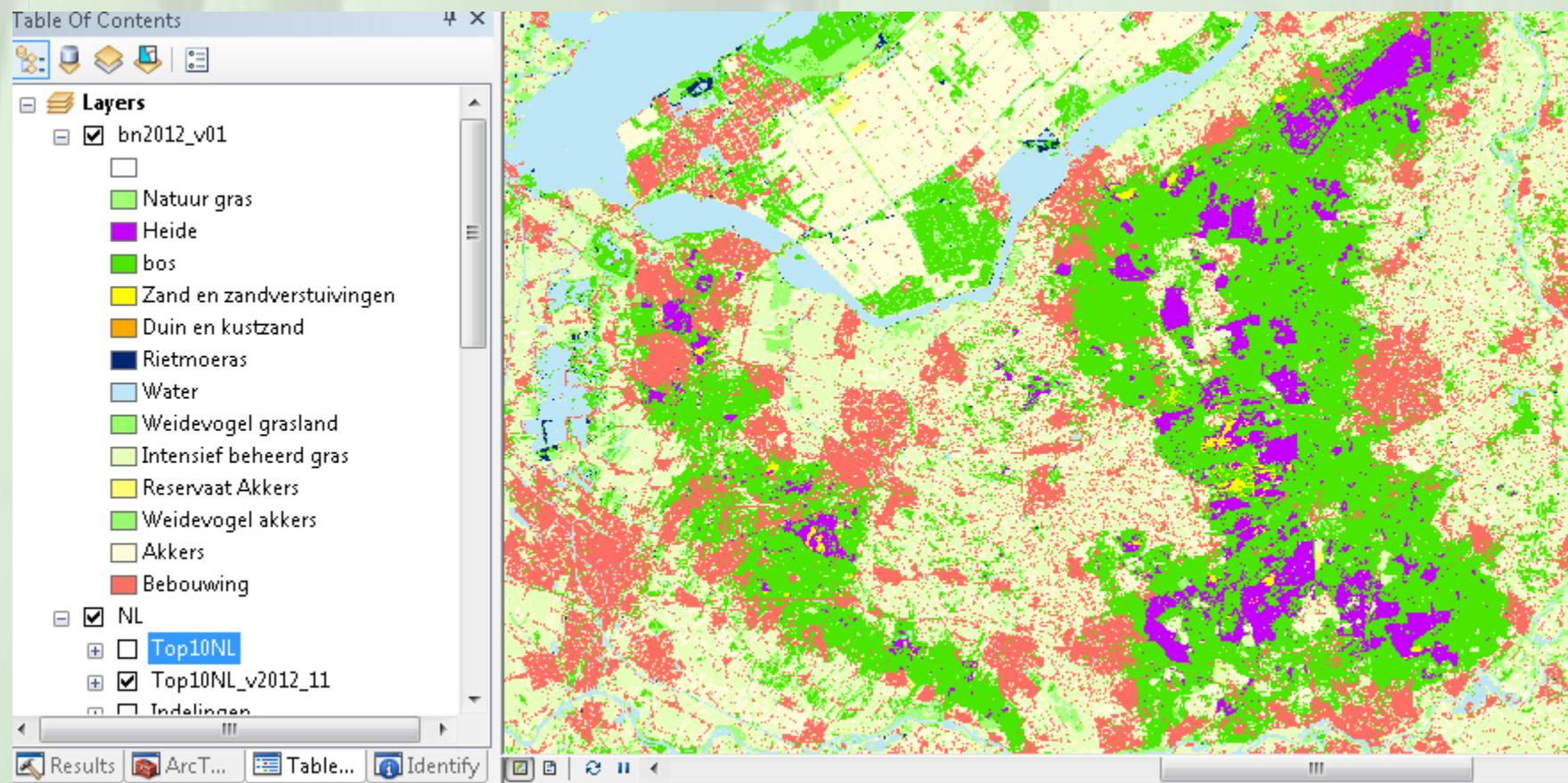
Example: TOPNature bird ecology

Ha land use	akker	gras	heide	bos	Overig	water
Boerenzwaluw	907395.1	1361089	120440.6	523109.5	367929.6	211273.6
	0	715171.2	1047118	106721	442513.1	290980.8
	1	192223.9	313970.9	13719.63	80596.38	76948.75
Boomleeuwerik	907395.1	1361089	120440.6	523109.5	367929.6	211273.6
	0	873480.8	1343708	65505.56	444951.1	365236.9
	1	33914.38	17380.94	54935.06	78158.38	2692.625
						3551.375



Characterise the habitat
Excel output GIS analyses

TOPNature: 25m raster Base map Nature 1990,2004,2006,2009 and 2012



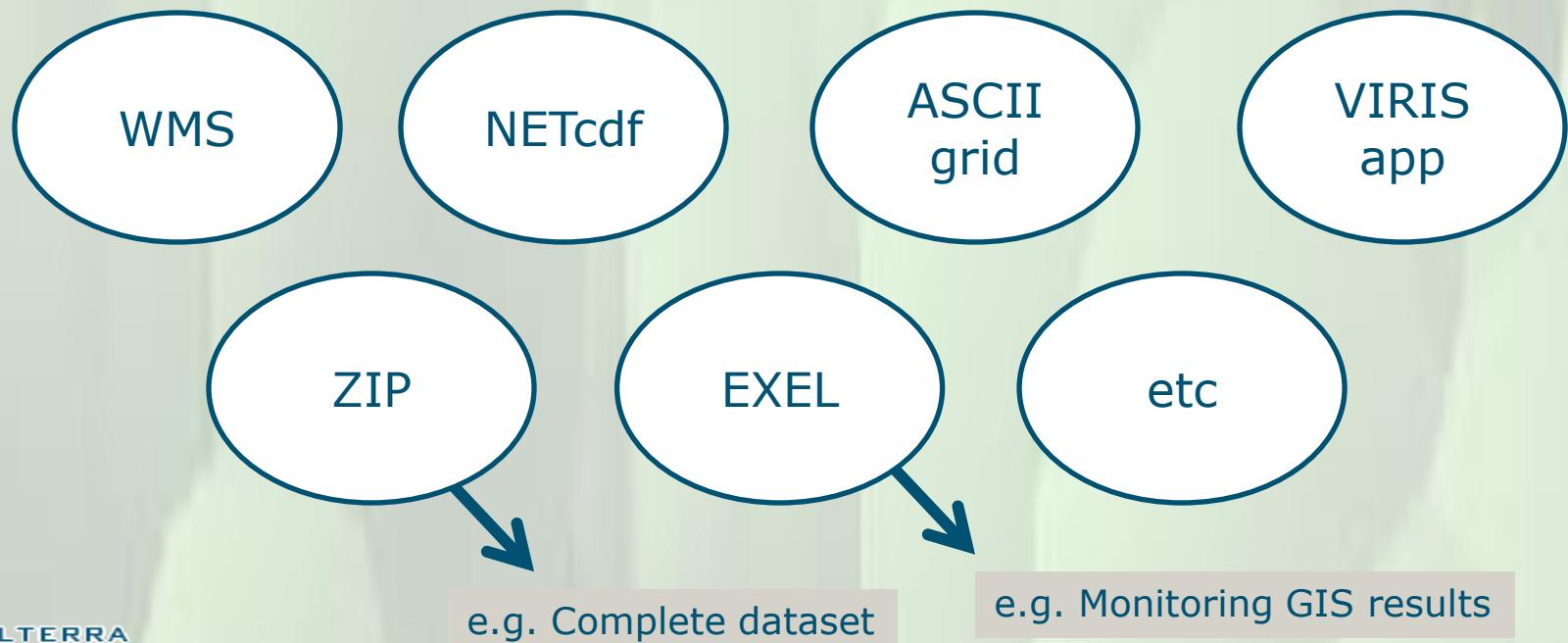
TOPSmart/TOPnature in action...

Yes

NO

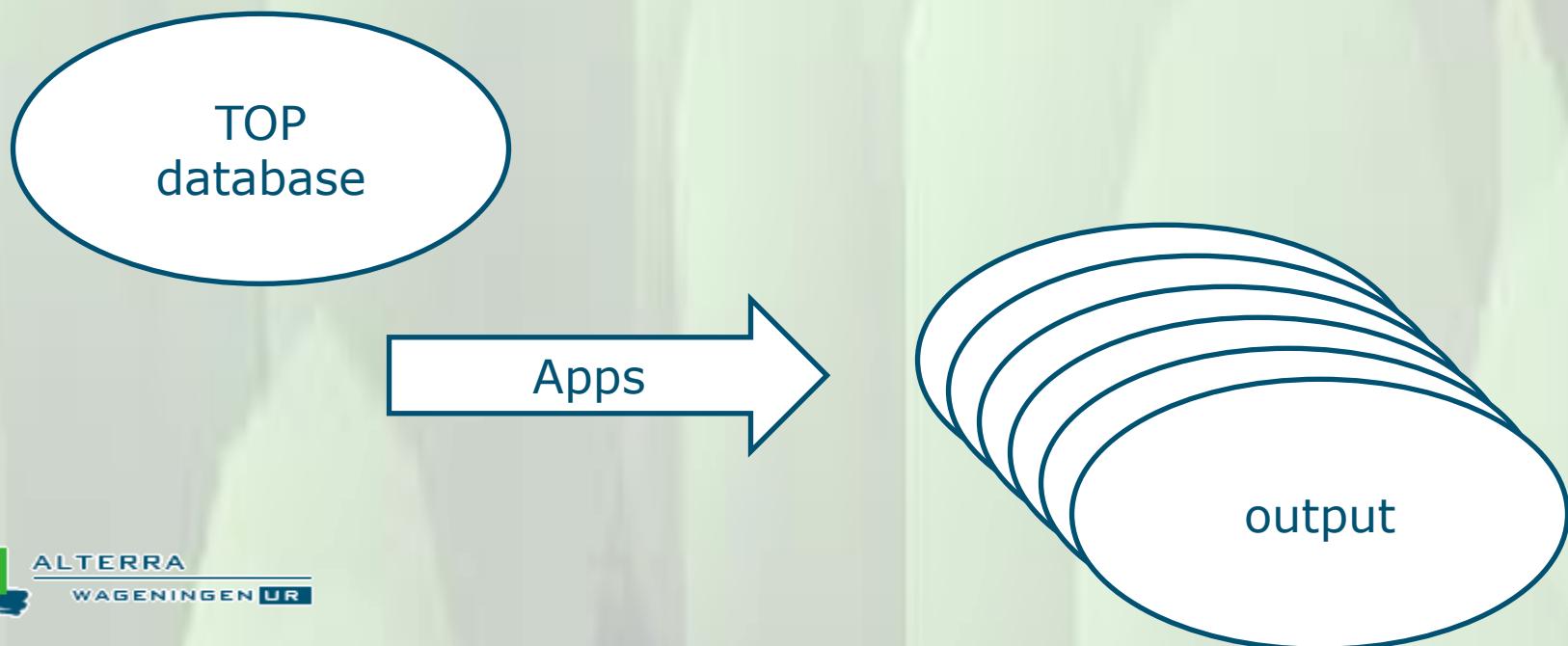
TOP Products: Open data?

- Alterra is thinking how to publish the maps for public and other potential users.



TOP Statements, questions and discussion

- TOP apps on base of TOP database have added value
- Open data <> free data (no costs)
- Raster products have added value to vector data



Thanks for the attention



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Twitter: http://twitter.com/#!/GEO_Jan

P Save a tree...please don't print this unless you really need to.