

A Carto Dashboard for Distributed Statistical Data

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or

*“how I learned to stop
worrying and love coding in
cartography”*

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A change in my world

My tools once were these:



A change in my world

...but now look like this:

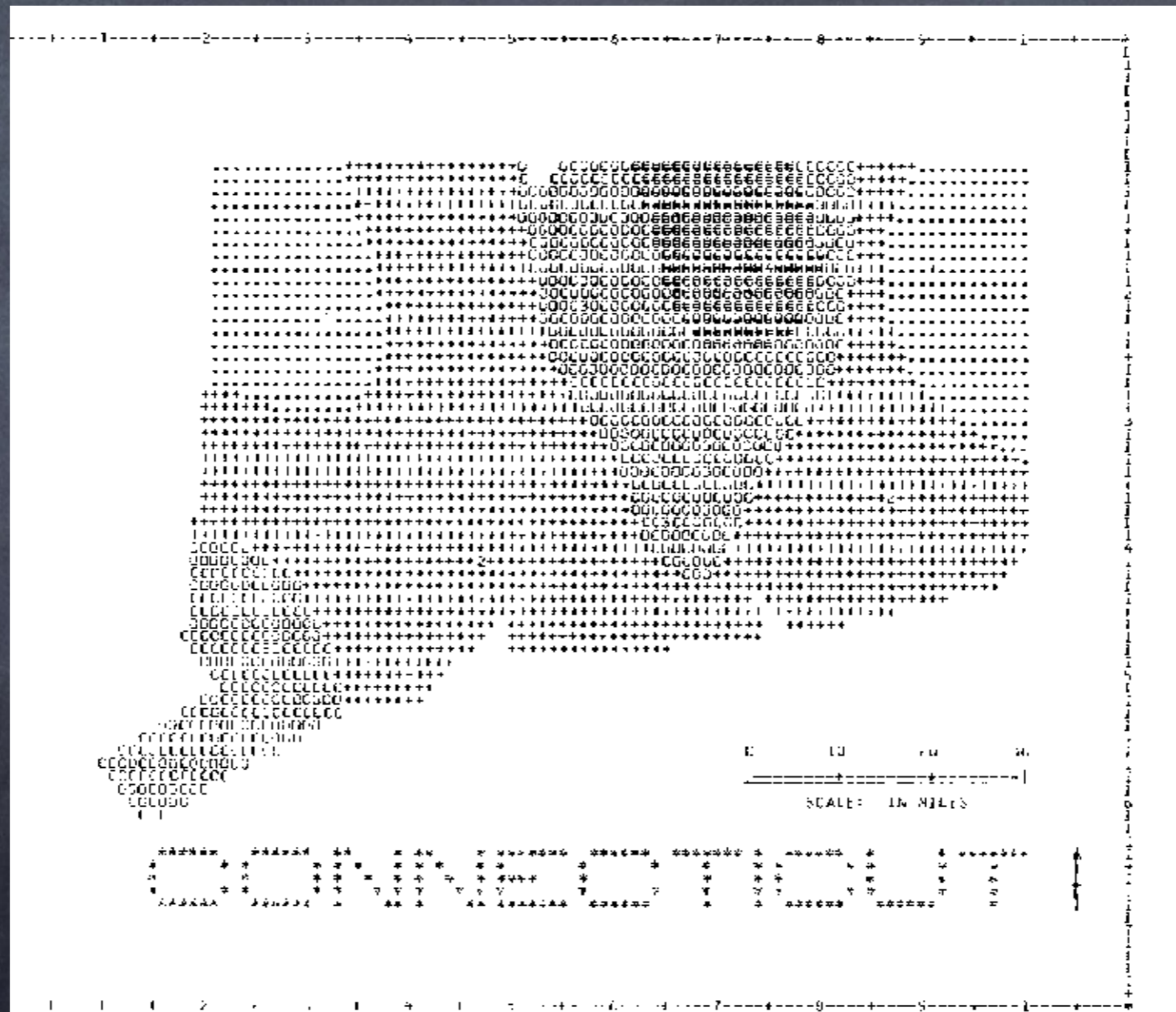
The screenshot displays a web browser window with the URL `localhost/D3tests/tracksViewer/napoleon.html`. The browser tabs include "The Graphical Web 2014" and "TRACKING GEOGRAPHY &". The browser's address bar shows the local file path. Below the browser, a code editor window titled "Napoleon.html - D3tests" is open, showing the source code for the visualization. The code includes D3.js selection and styling functions, variable definitions for margin and centered, projection parameters for a Mercator projection, and SVG element creation and styling. The code is as follows:

```
54 d3.selectAll("#Timeline").append("chart");
55
56 // define variables
57 var margin = {top: 0, right: 0, bottom: 0, left: 0};
58 width = 510;
59 height = 330;
60
61
62 var centered;
63
64 // define projection parameters
65 var projection = d3.geo.mercator()
66   .center([28.88034, 54.260112])
67   .rotate([0,0])
68   .scale(39000);
69
70 // create svg canvas to draw map on
71 var svg = d3.select("#Map").append("svg")
72   .attr("width", width)
73   .attr("height", height)
74   .attr("border", 3)
75   .attr("class", "canvas");
76
77 // create path object
78 var path = d3.geo.path().projection(projection);
79
80 // create group object g
81 var g = svg.append("g");
82
83 // create div object to use for dynamic tooltip
84 var div = d3.select("body")
85   .append("div")
86   .attr("class", "tooltip")
87   .style("opacity", 0);
```

The visualization on the right side of the browser shows a timeline from October to December. The timeline is represented by a horizontal axis with vertical lines indicating specific dates. The dates shown are 1717.5, 20, 22.5, 24, 25, and 30. The timeline is divided into three segments: October, November, and December. The visualization is styled with a blue background and red vertical lines. The timeline is labeled "October", "November", and "December".

A change in my world

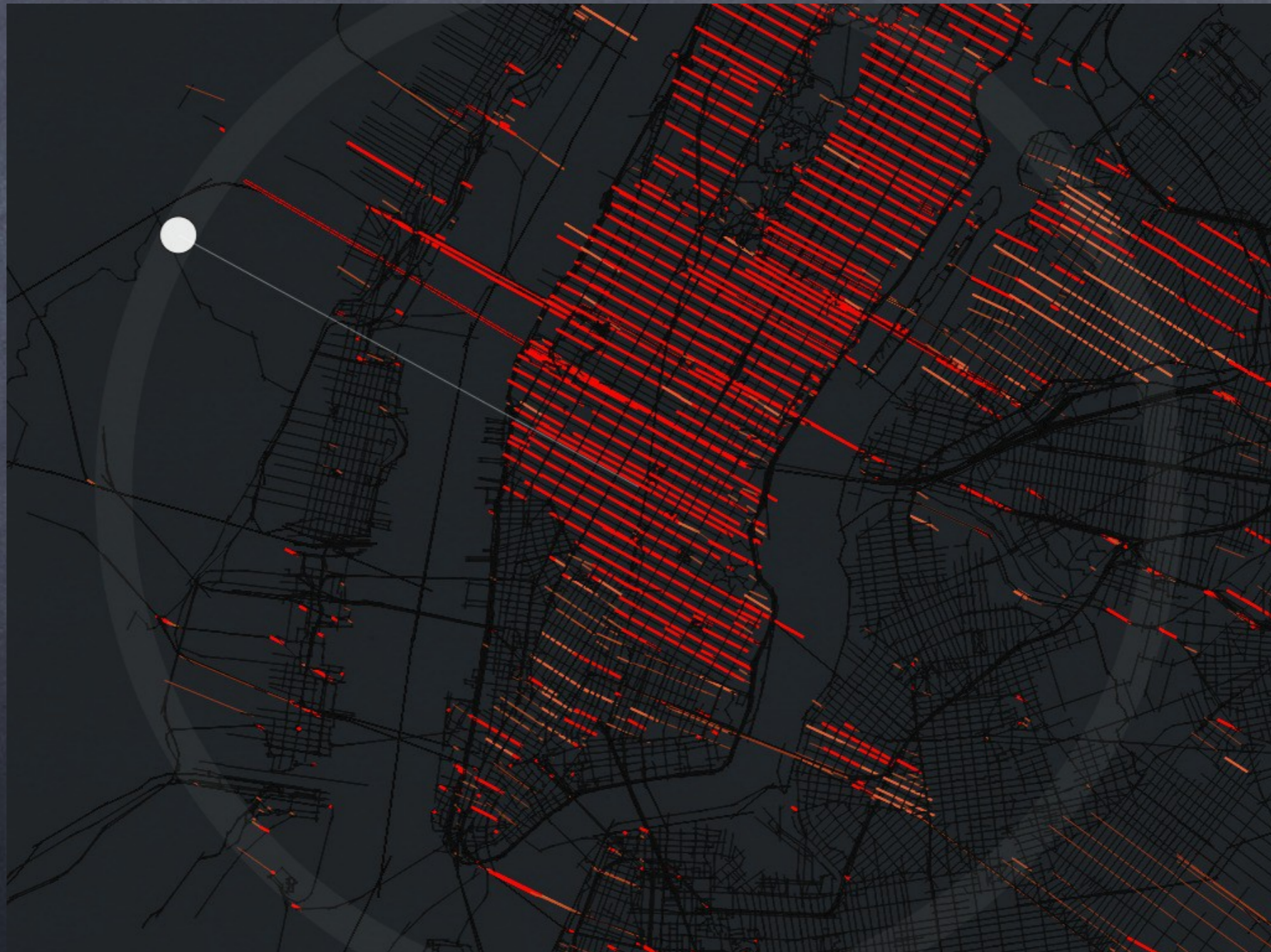
Computers gave me this at first:



SYMAP line printer output (1965, by Howard Fisher)

A change in my world

...but have been improving since:



CODED CARTOGRAPHY
possible...?

CODED CARTOGRAPHY ...or an oxymoron?



CODED CARTOGRAPHY

Can coders be cartographers...

...or should
cartographers become coders?

TRENDS

Technology influences cartography

TRENDS

Technology influences cartography

Cartography \neq Technology

TRENDS

Technology influences cartography
(or at least its tools)

Cartography \neq Technology

TRENDS

Technology influences cartography
(or at least its tools)

Cartography \neq Technology

publishing maps:

manuscript \rightarrow print \rightarrow digital \rightarrow web

TRENDS

Technology influences cartography
(or at least its tools)

Cartography \neq Technology

drawing maps:

hand drawing \rightarrow digital drawing

\rightarrow digital construction (coding)

TRENDS

Technology influences cartography
(or at least its tools)

Cartography \neq Technology

Cartography = visualising spatial data
with a certain INTENT

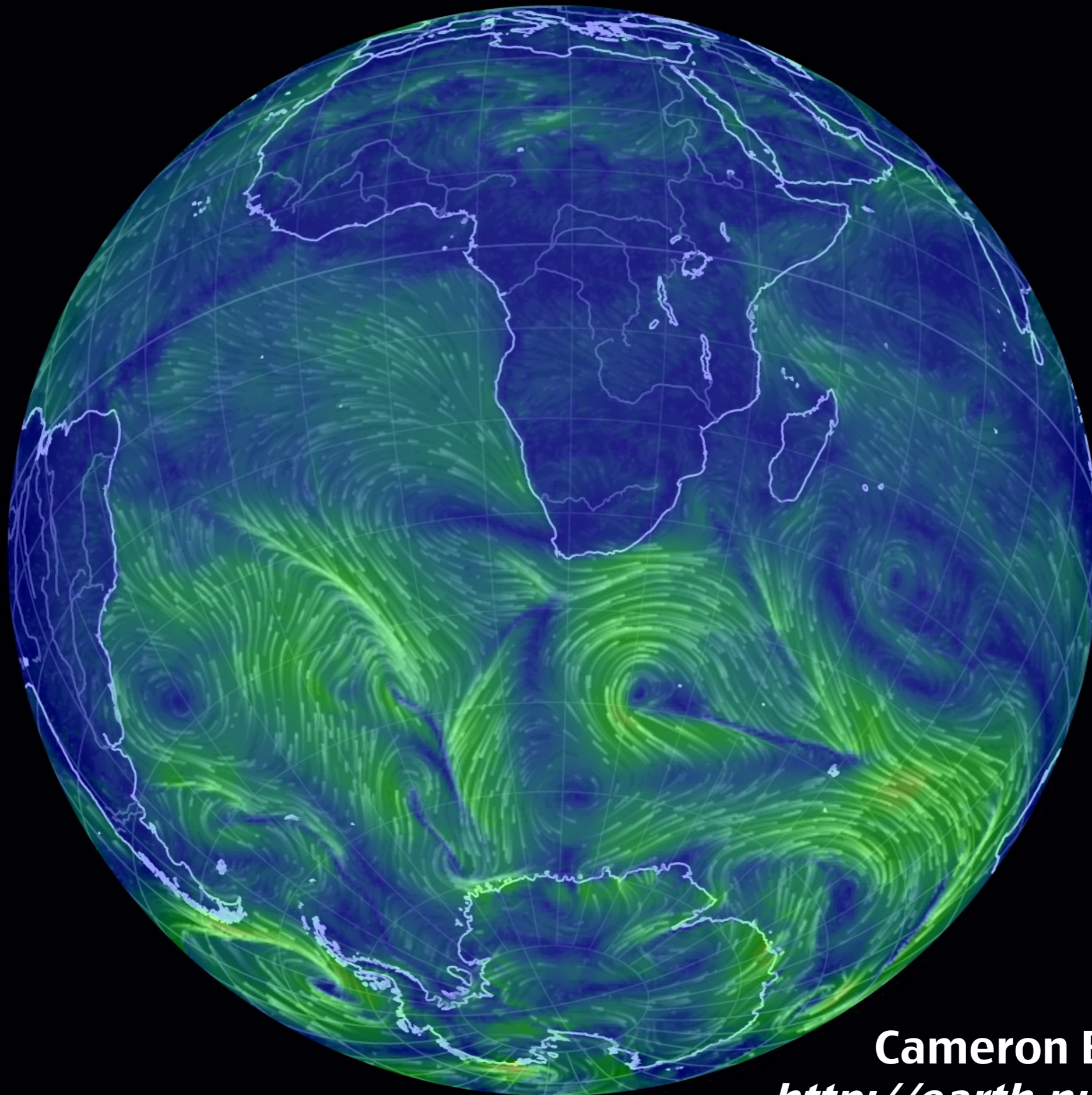
TRENDS

Technology influences cartography
(or at least its tools)

Cartography \neq Technology

Cartography = visualising spatial data
with a certain INTENT

sketched manuscript \leftrightarrow coded website



Cameron Beccario
<http://earth.nullschool.net/>

So....

Can coders be cartographers ...?

So....

Can coders be cartographers ...?

Sure, just as engravers could be cartographers

So....

Can coders be cartographers ...?

Sure, just as engravers could be cartographers

Cartography is a state of mind

So....

Can coders be cartographers ...

...or should
cartographers become coders?

So....

Can coders be cartographers ...

...or should
cartographers become coders?

Sure, just as they could become *engravers*

It's just another tool!

The new role of the cartographer

providing

tools that implement cartographic intent

The new role of the cartographer

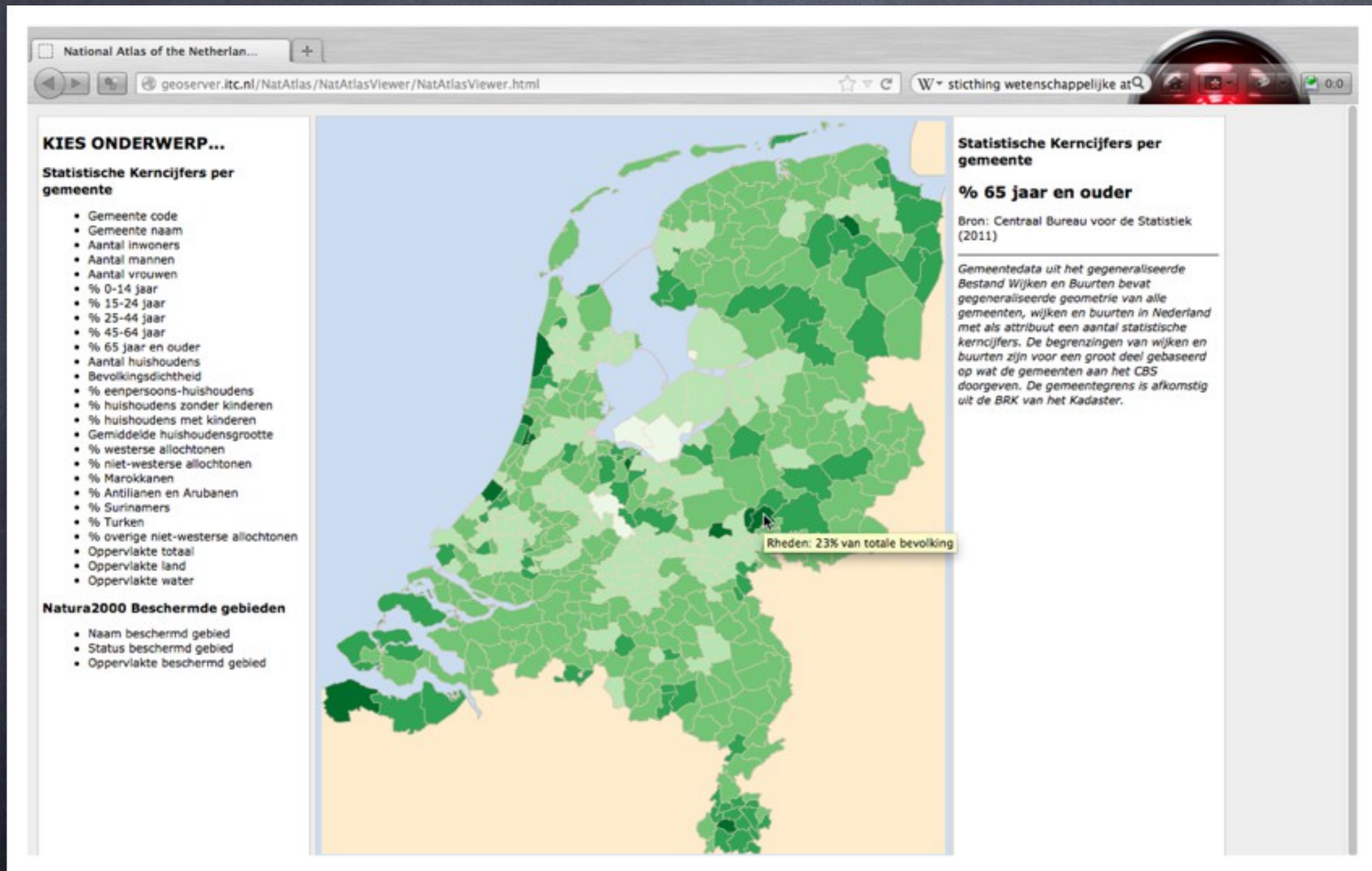
providing
(cartographic knowledge for)
tools that implement cartographic intent

The new role of the cartographer

providing
(cartographic knowledge for)
tools that implement cartographic intent:

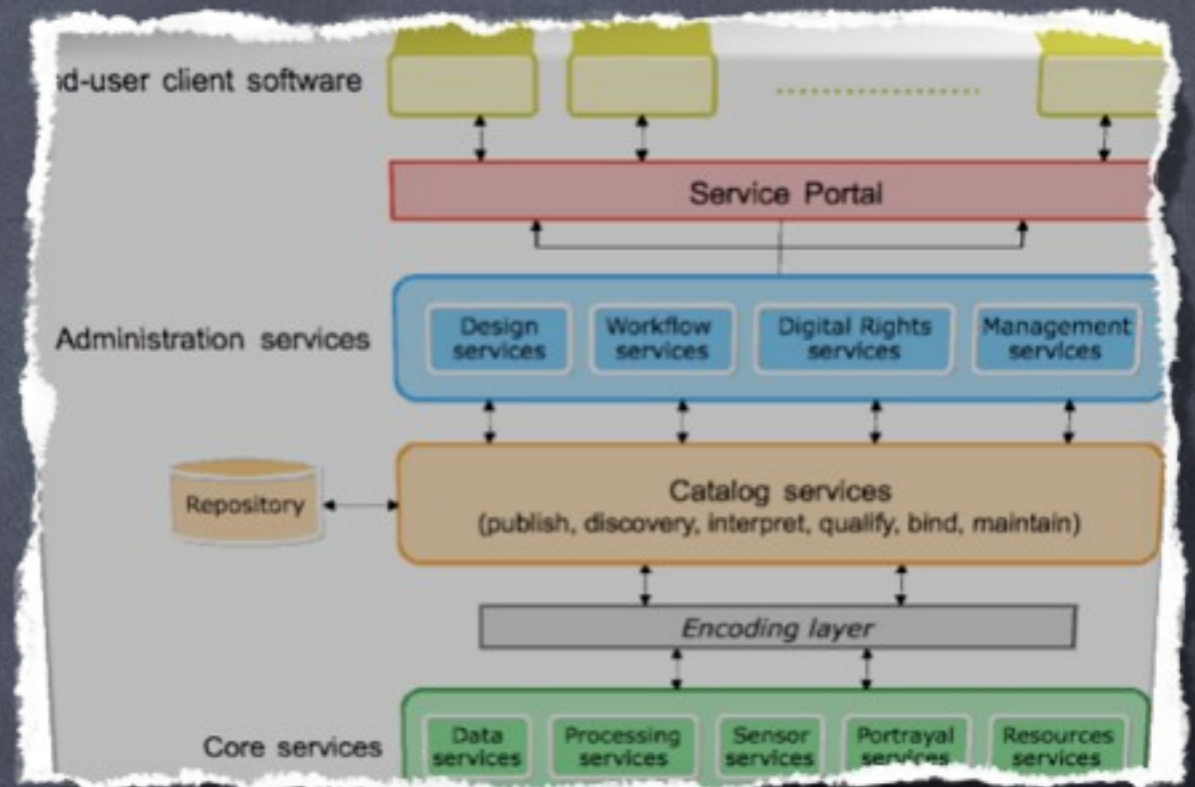
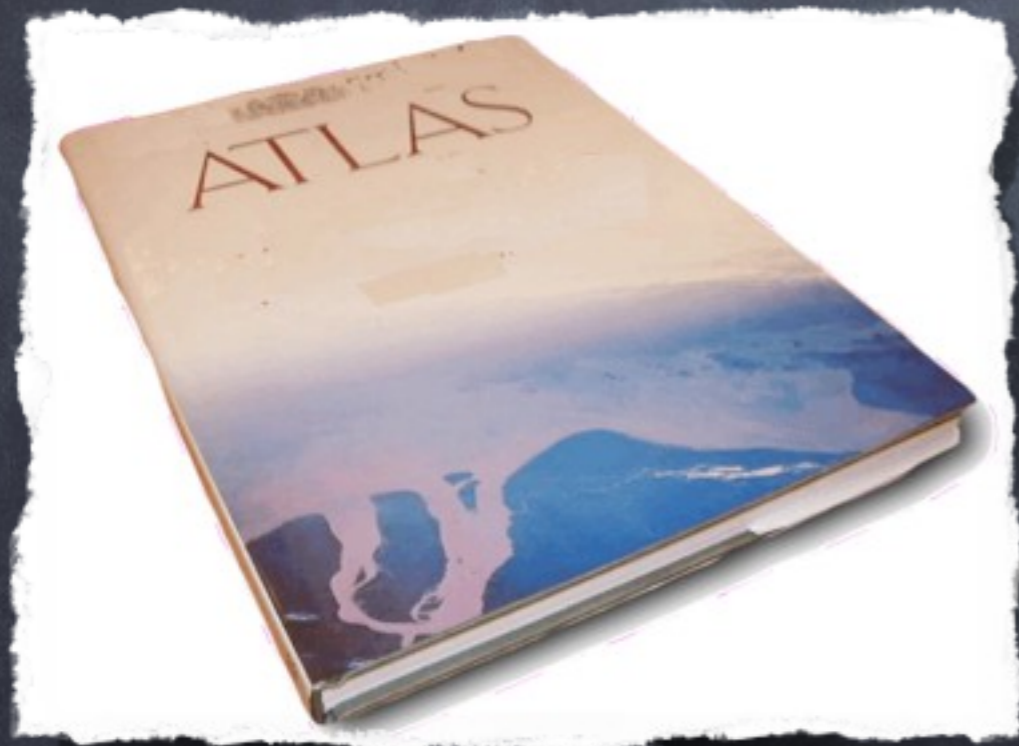
“code that thinks like an atlas”

The Dutch National Atlas



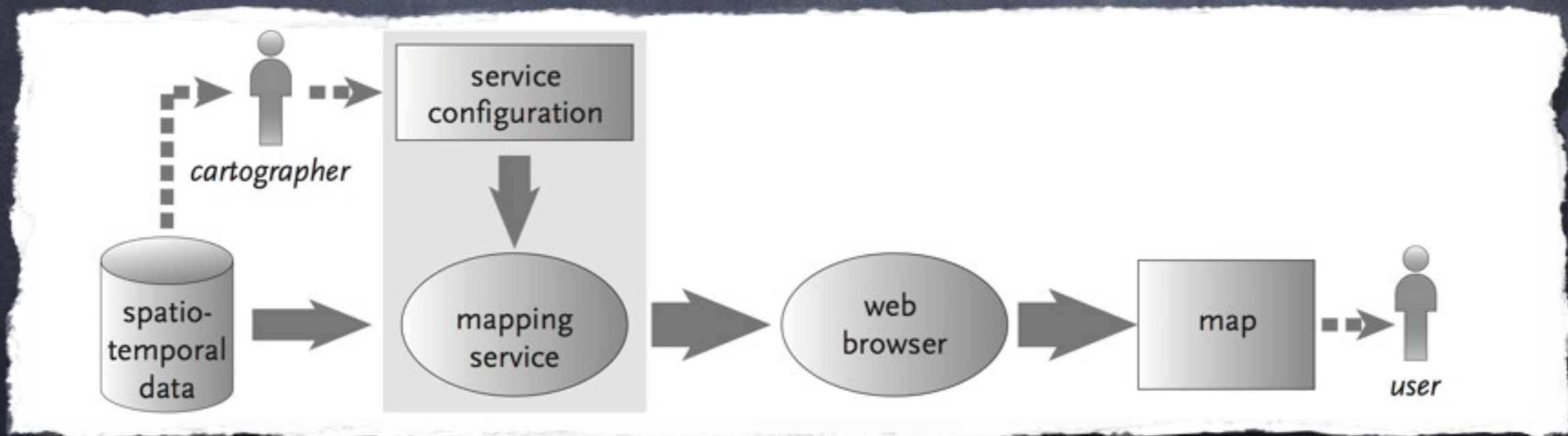
www.nationaleatlas.nl

Atlas as part of a Spatial Data Infrastructure

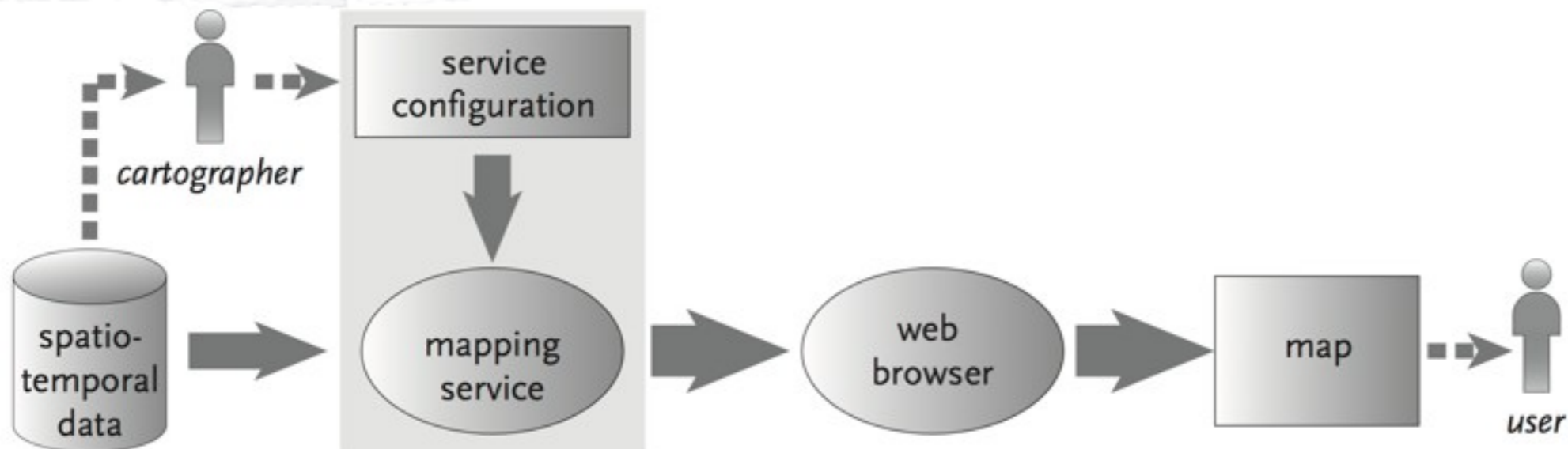


a combination of
two different worlds

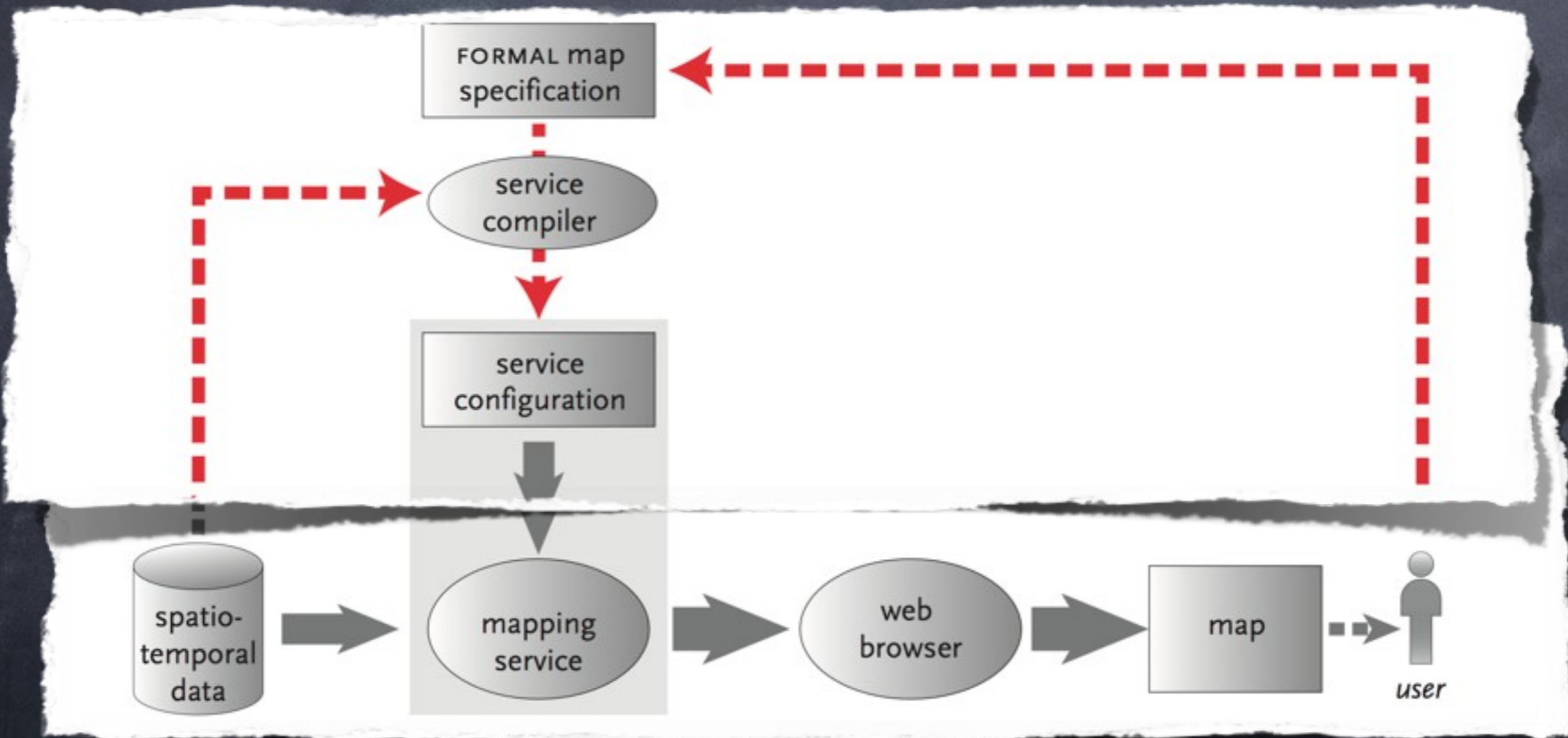
Mapping in a webservices environment



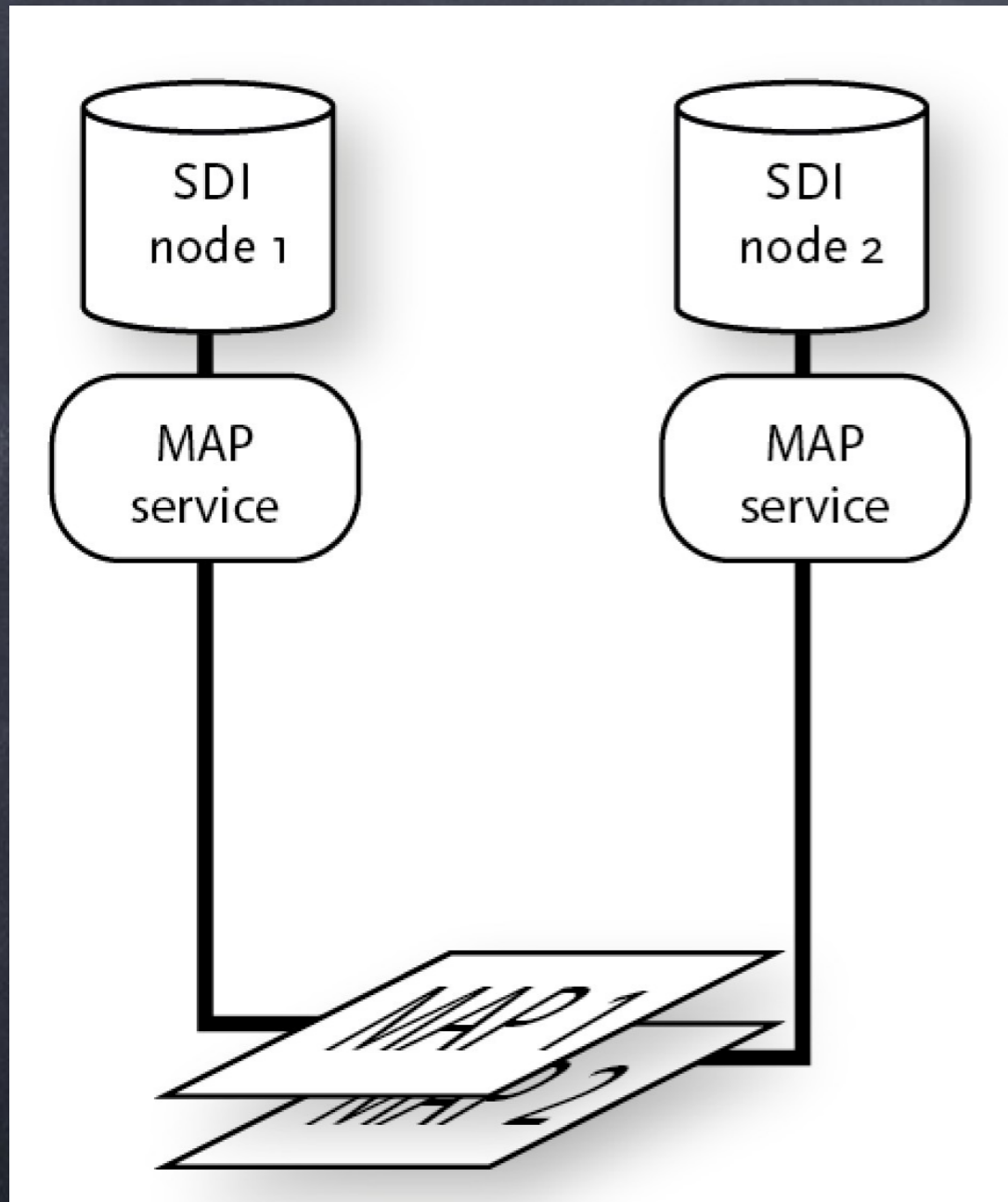
Mapping ~~in~~ a webservices environment as part of



Mapping ~~in~~ a webservices environment as part of

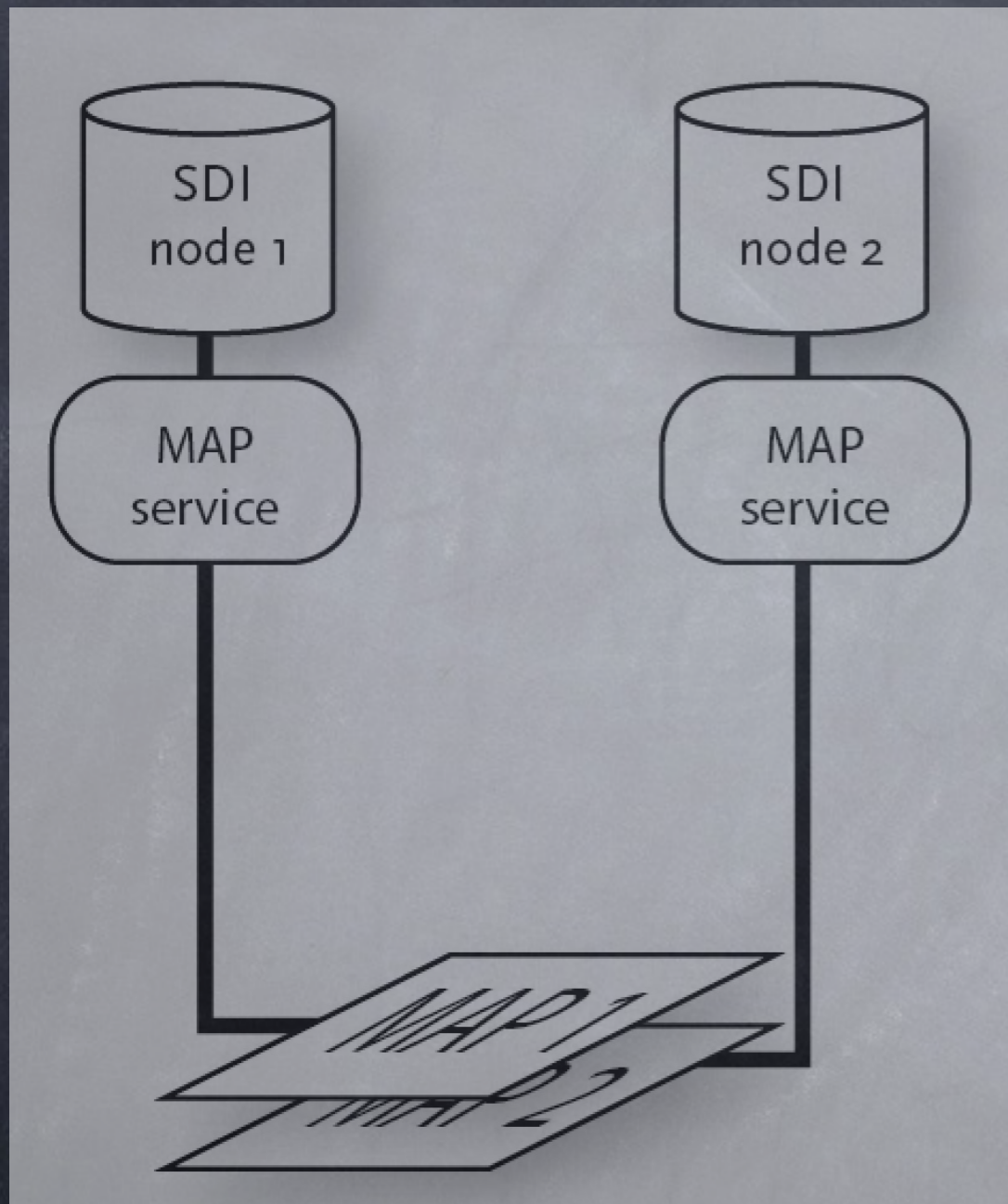


conceptual change needed

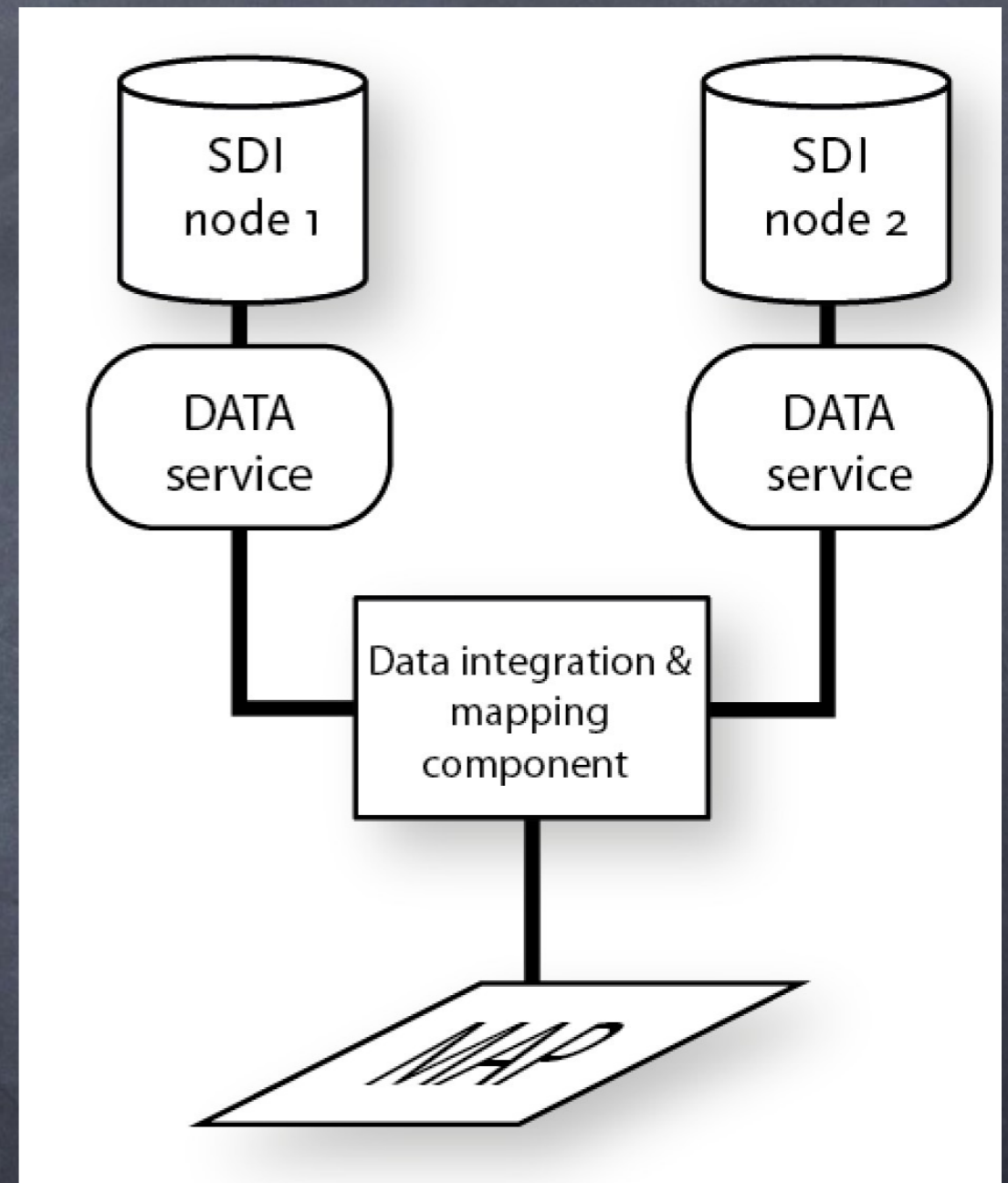
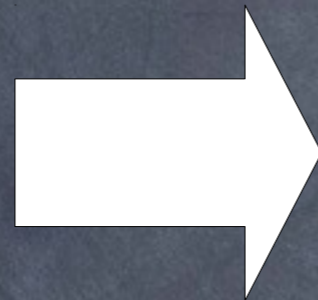


sub-optimal combination
of arbitrary map layers

conceptual change needed

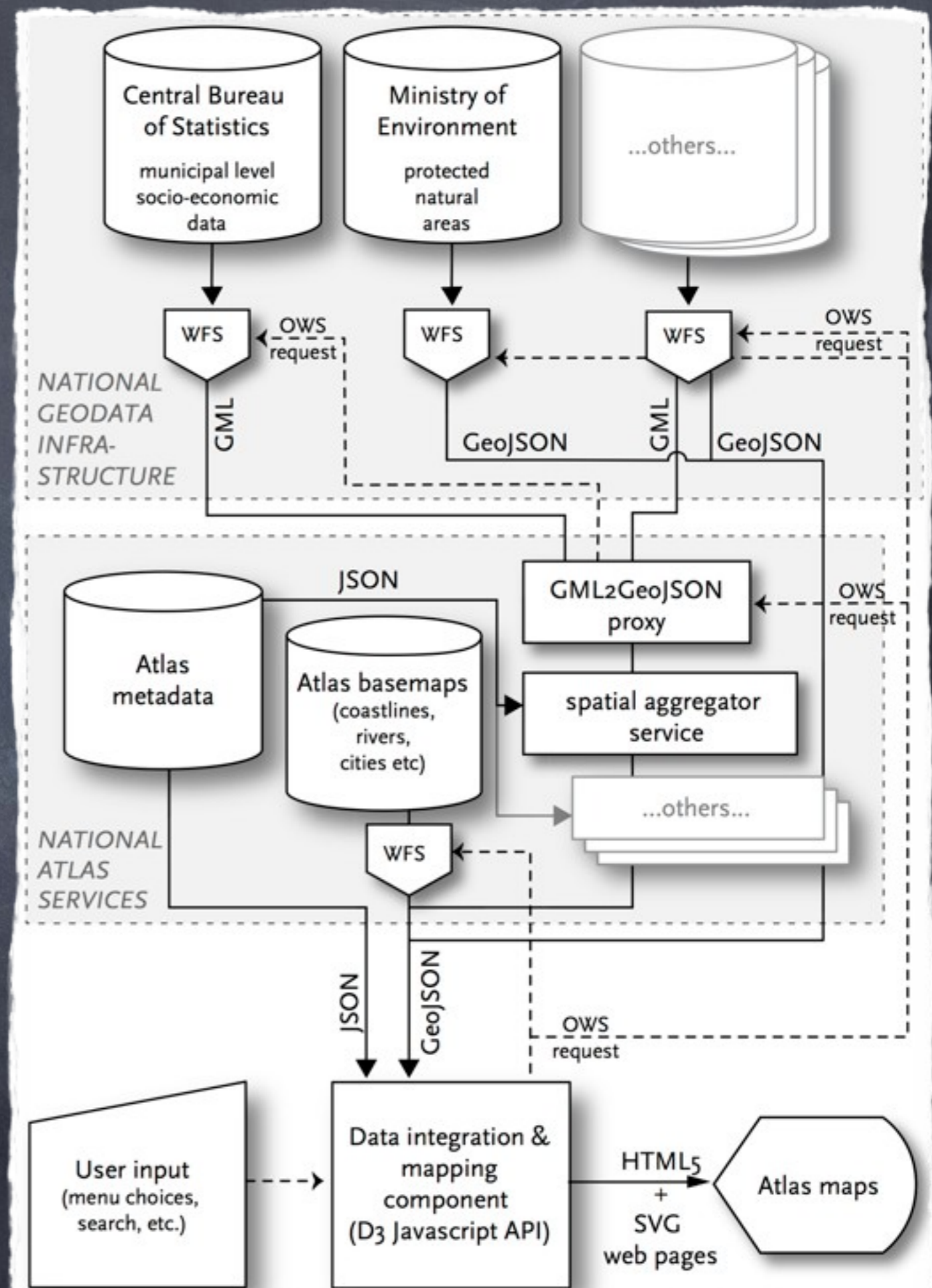


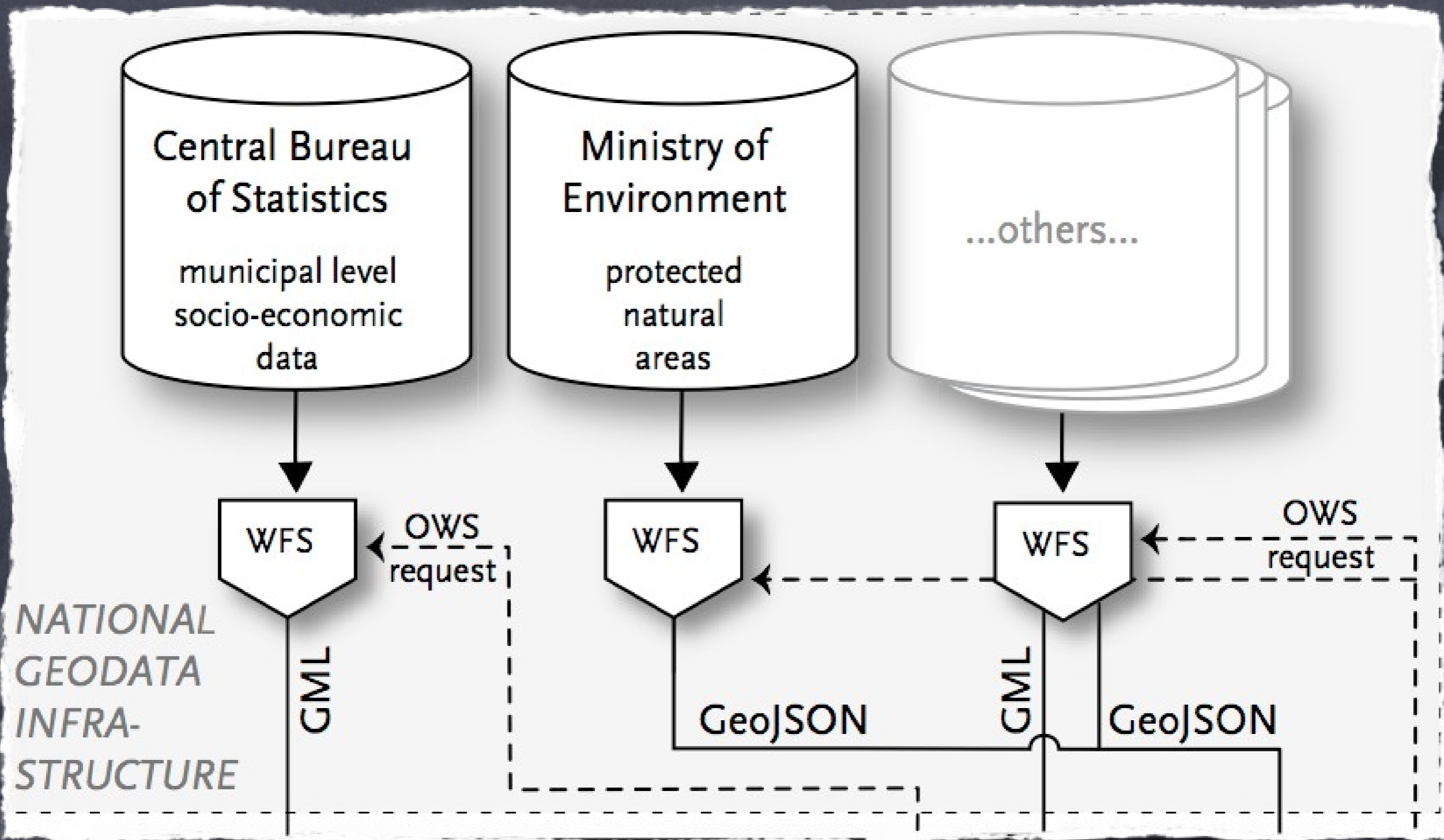
sub-optimal combination
of arbitrary map layers



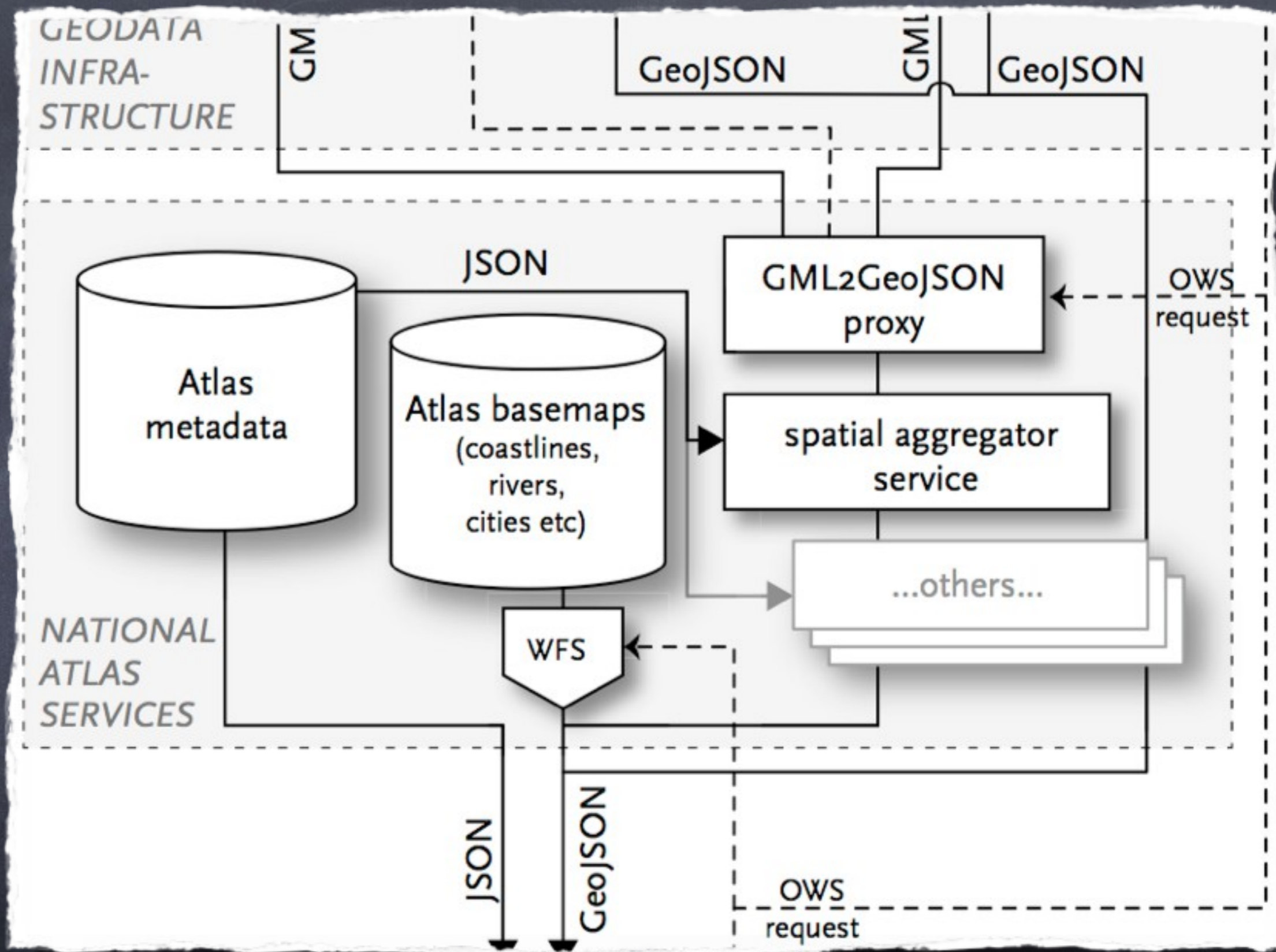
integrated mapping of
data layers

Architecture





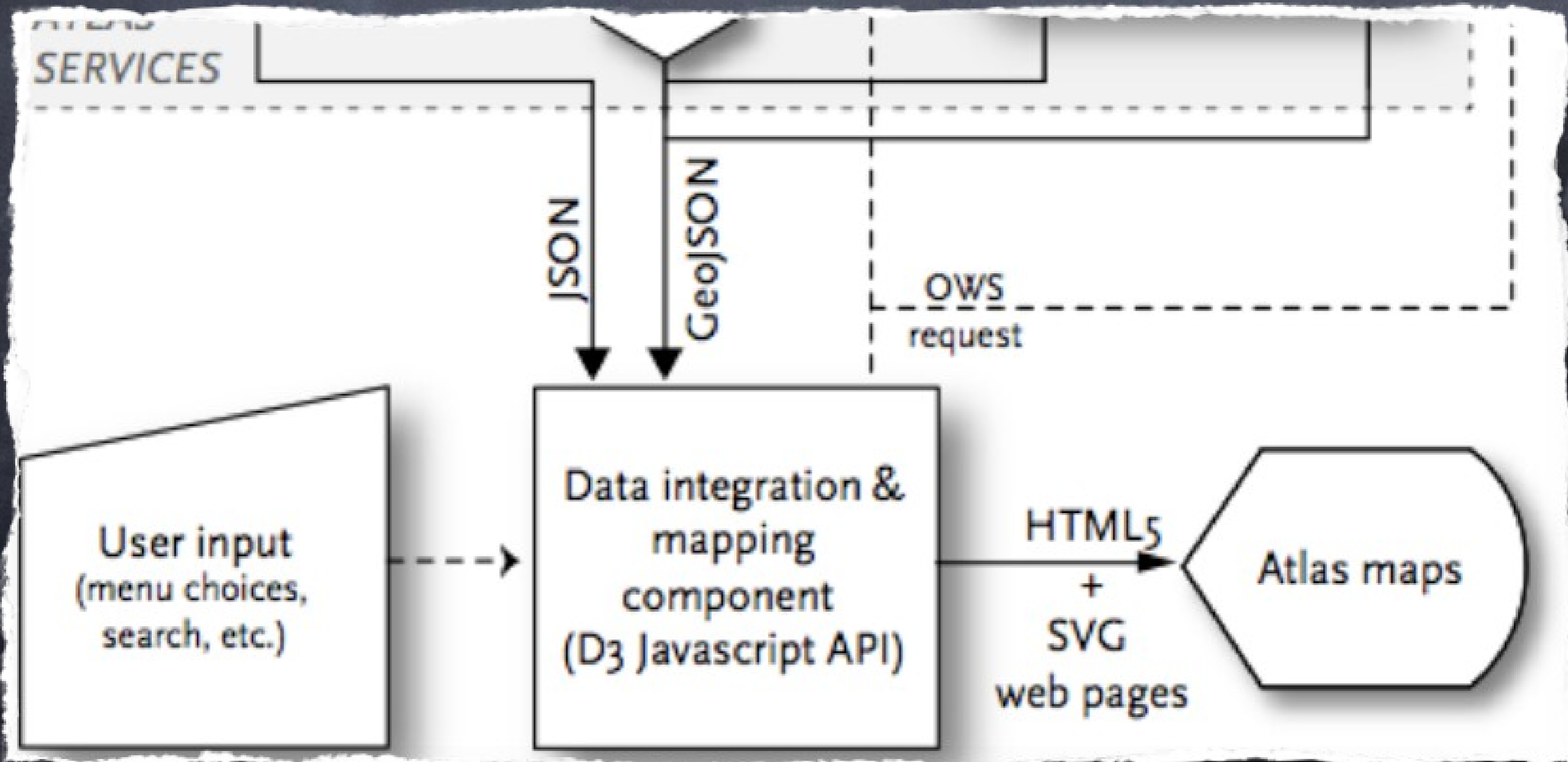
- use data services (WFS) requests
- GeoJSON where possible



ATLAS utility services & basedata

Atlas Viewer:

- based on the Open Web Platform
- uses D3 library



Statistics Dashboard

Statistics Dashboard

Building further on the Atlas prototype

Statistics Dashboard

Building further on the Atlas prototype

Specifically for Statistical Data

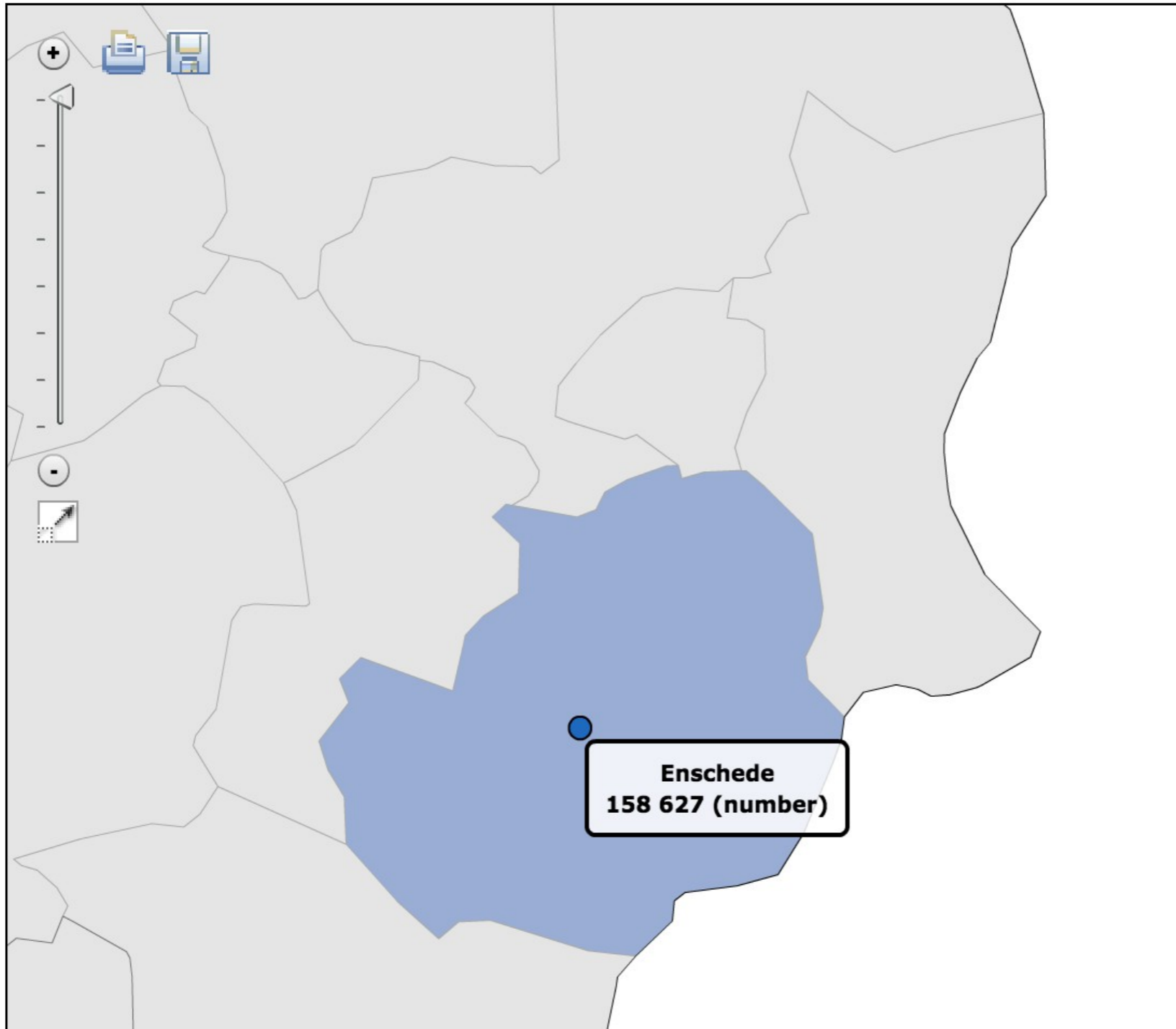
From Statistics Netherlands (CBS)

- Open Data, API using ODATA standard -
To be combined with other SDI data



Population dynamics; birth, death and migration per region

June 16 2014 | [more info](#)



Minimap 

Options 

Key (number) 




Selection 

Subjects

Population on 1 January 

Sex

Males and females 

Periods

2013 

Statistics Dashboard

Building further on the Atlas prototype

Specifically for Statistical Data

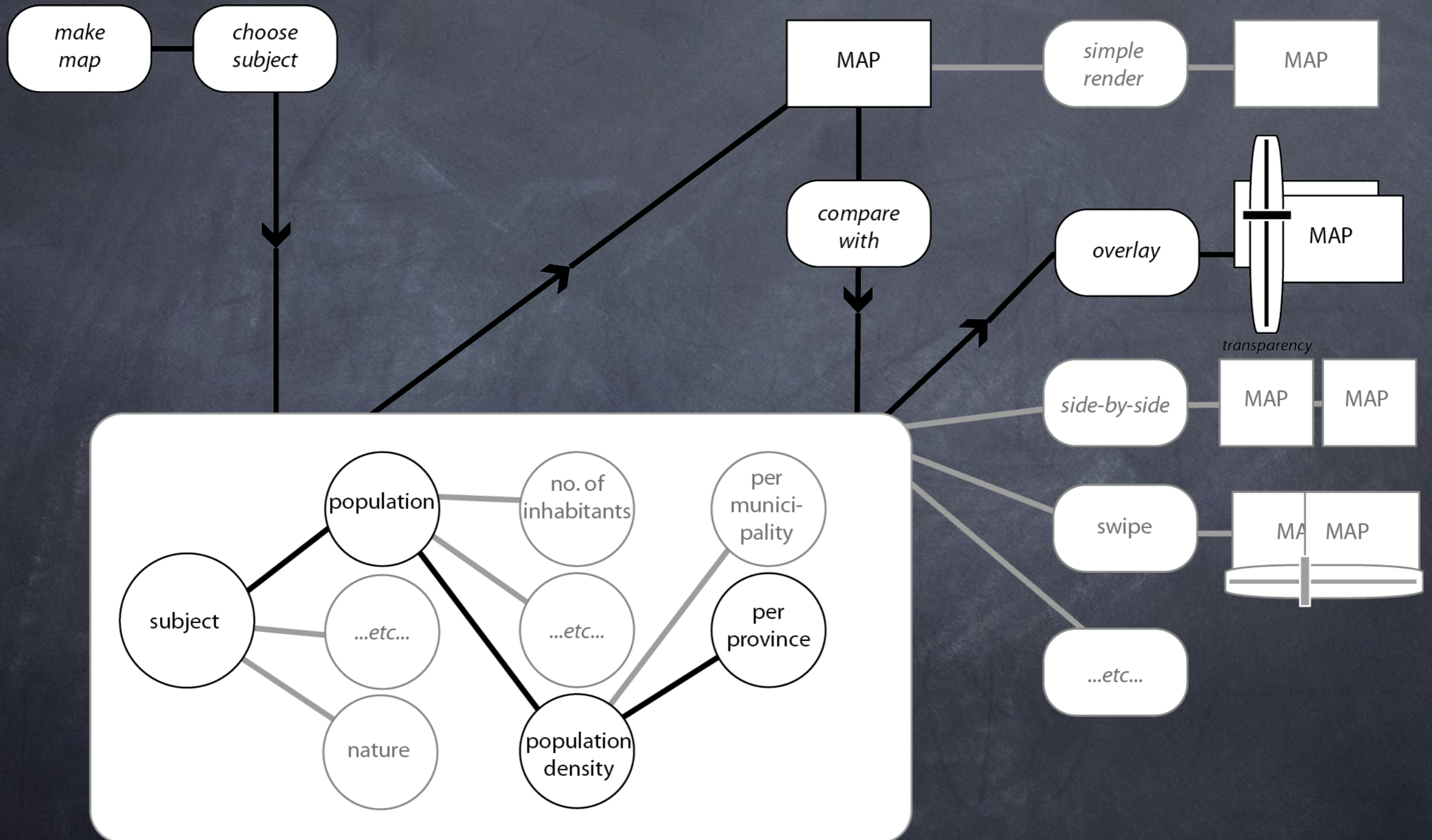
Concentrating on *comparison* tools

in space: same variable, different places or
same variable, different aggregation

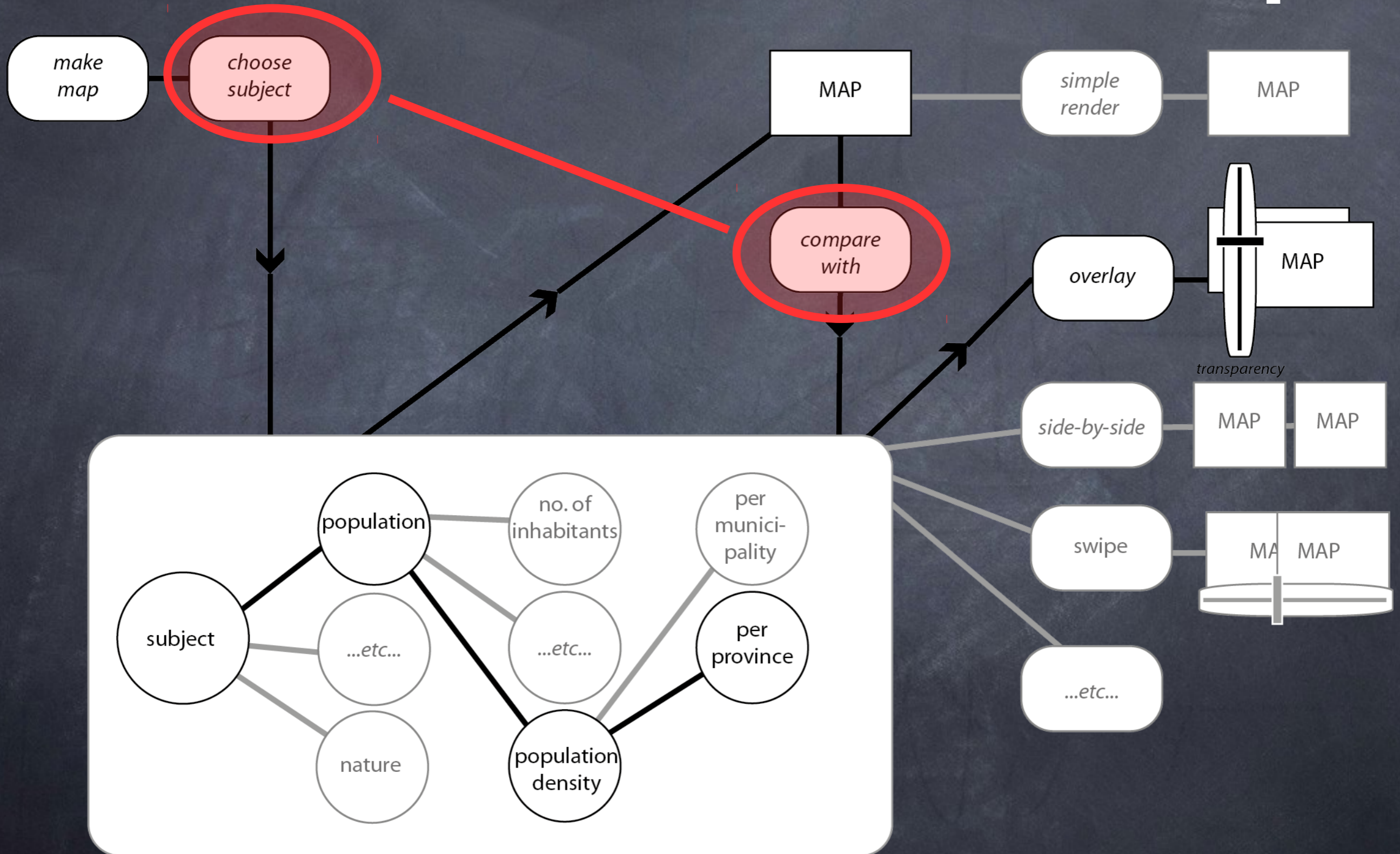
in time: same variable, different times

in theme: same place and time, different variables

Statistics Dashboard UI setup



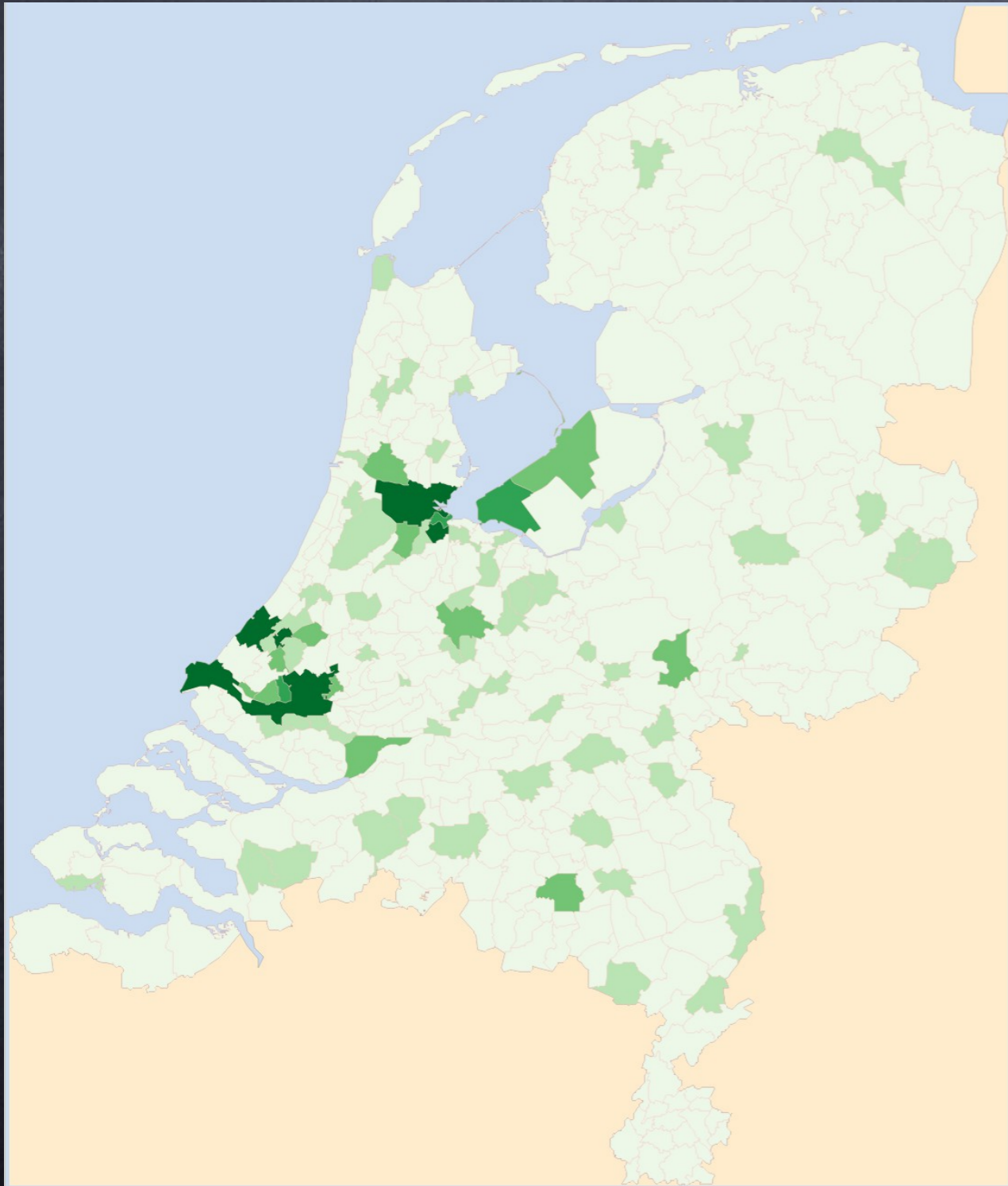
Statistics Dashboard UI setup



SIDE BY SIDE

% non-western foreigners

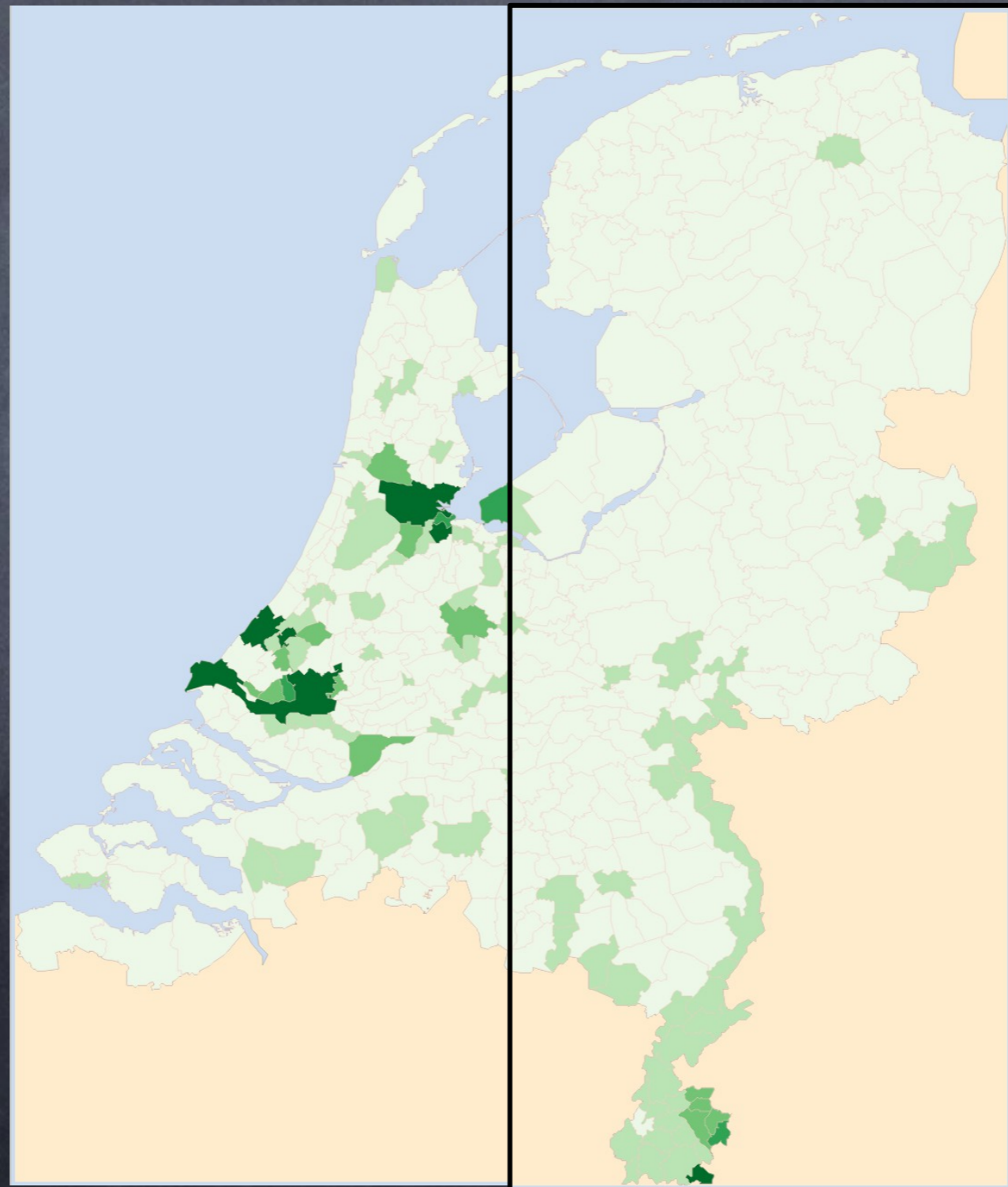
% western foreigners



SWIPE

% non-western foreigners

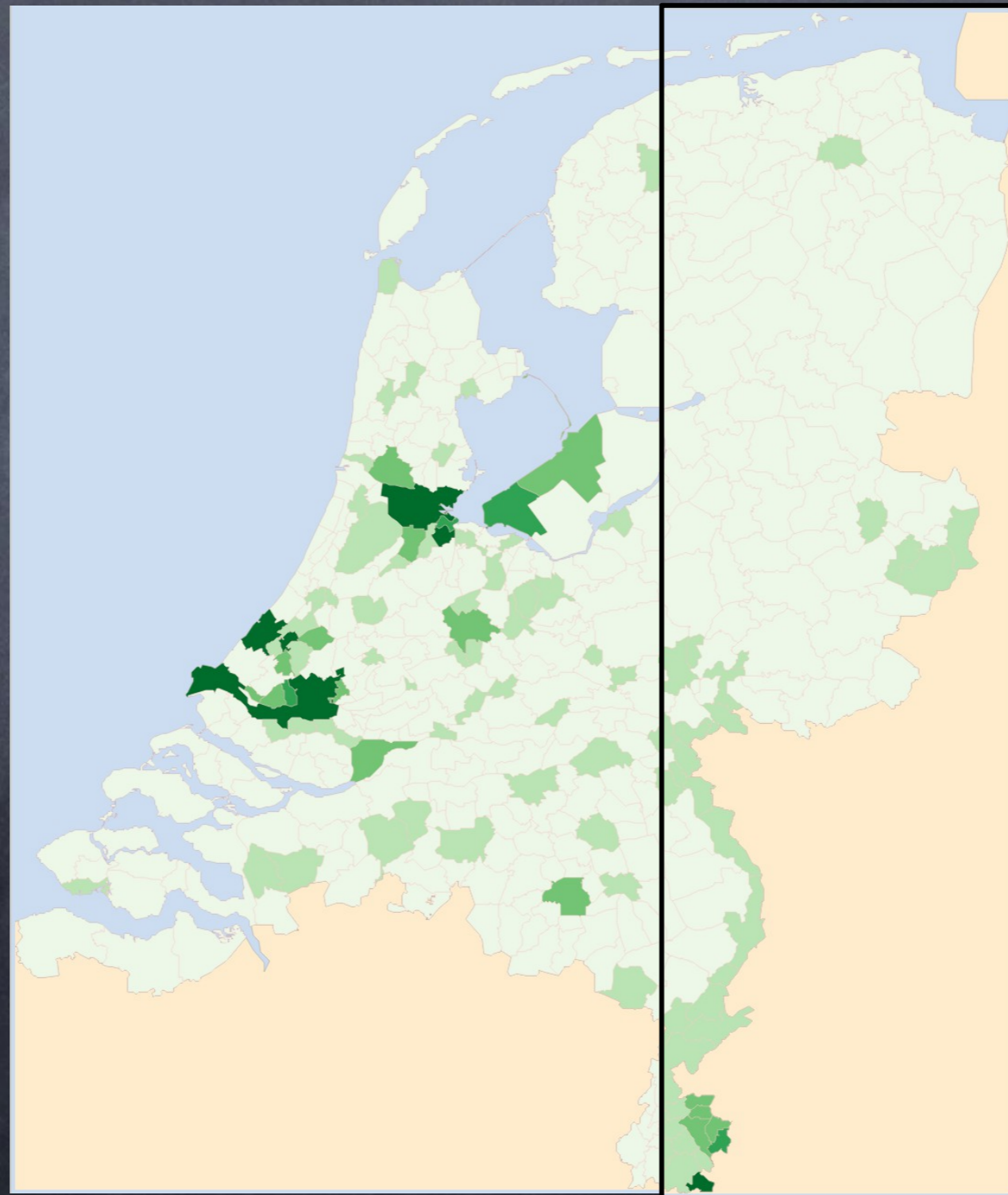
% western foreigners



SWIPE

% non-western foreigners

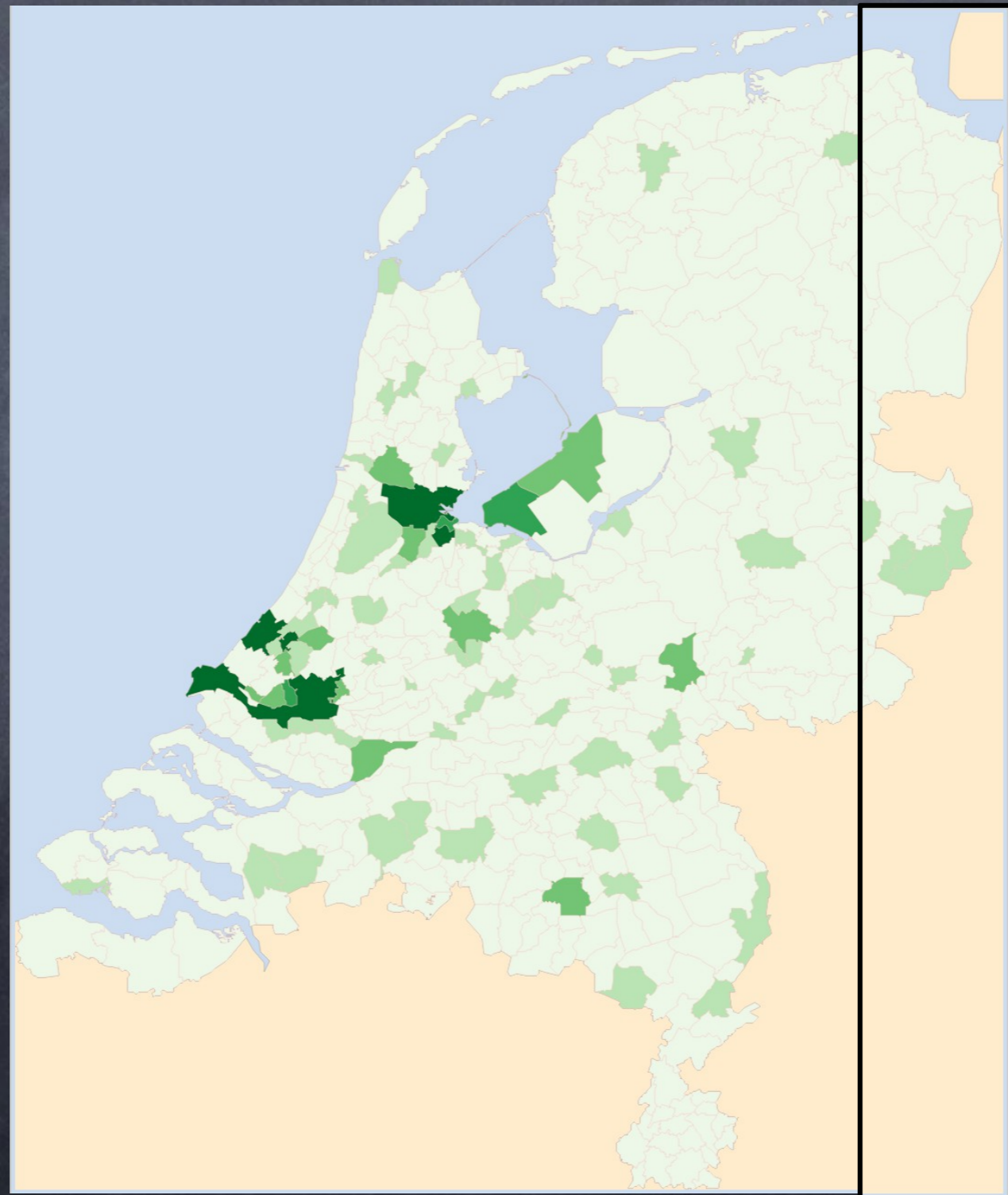
% western foreigners



SWIPE

% non-western foreigners

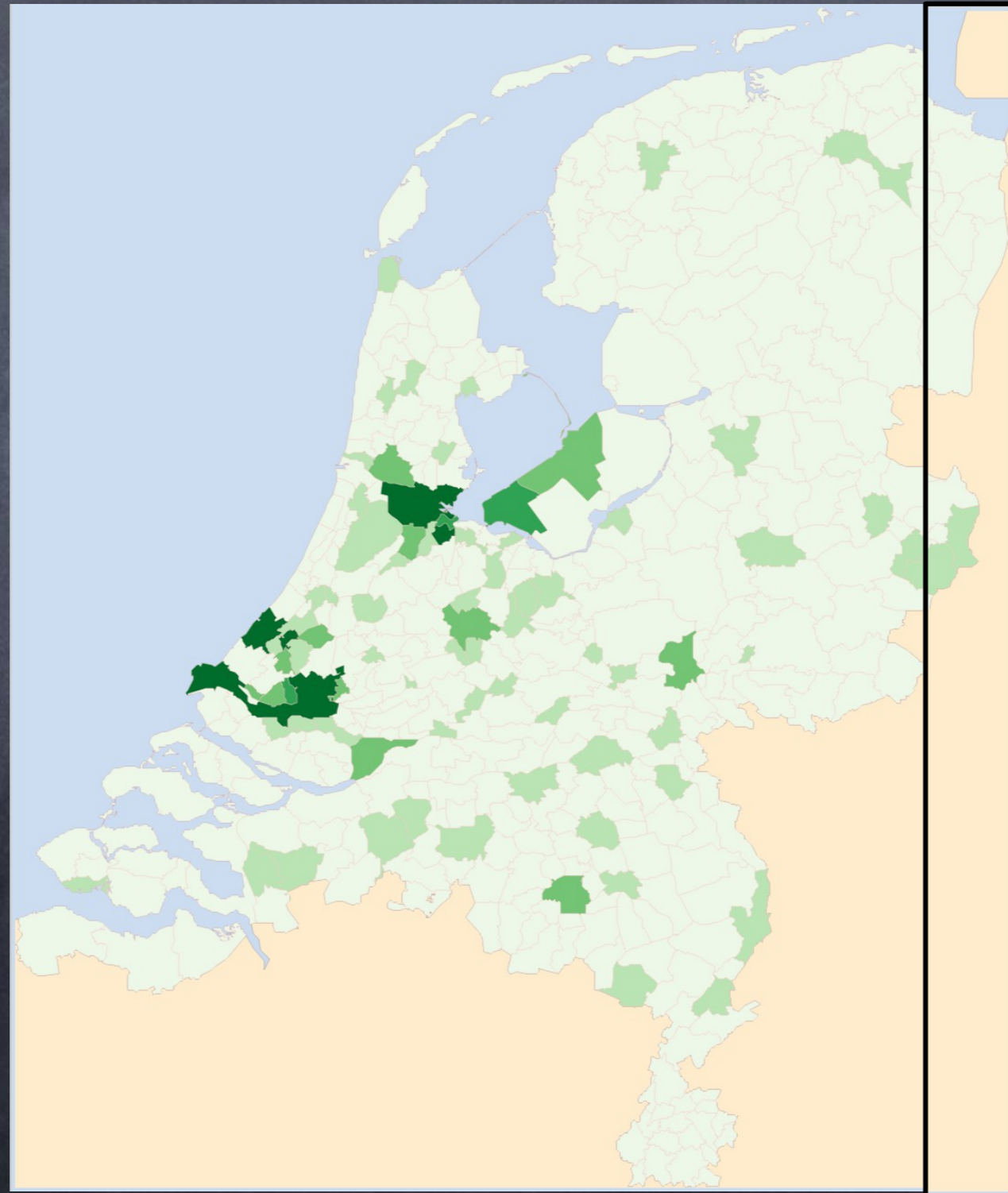
% western foreigners



SWIPE

% non-western foreigners

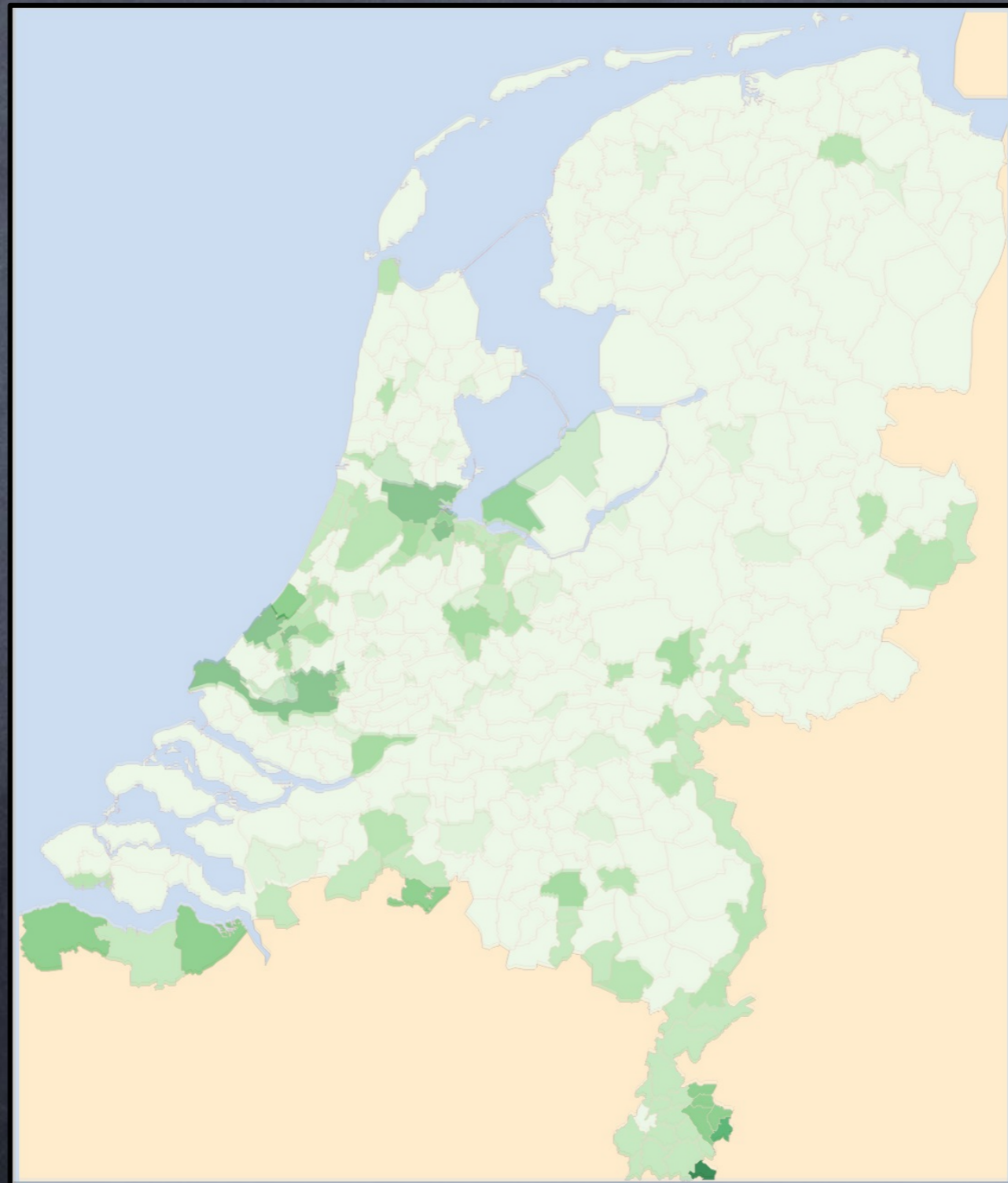
% western foreigners



TRANSPARENCY

% non-western foreigners

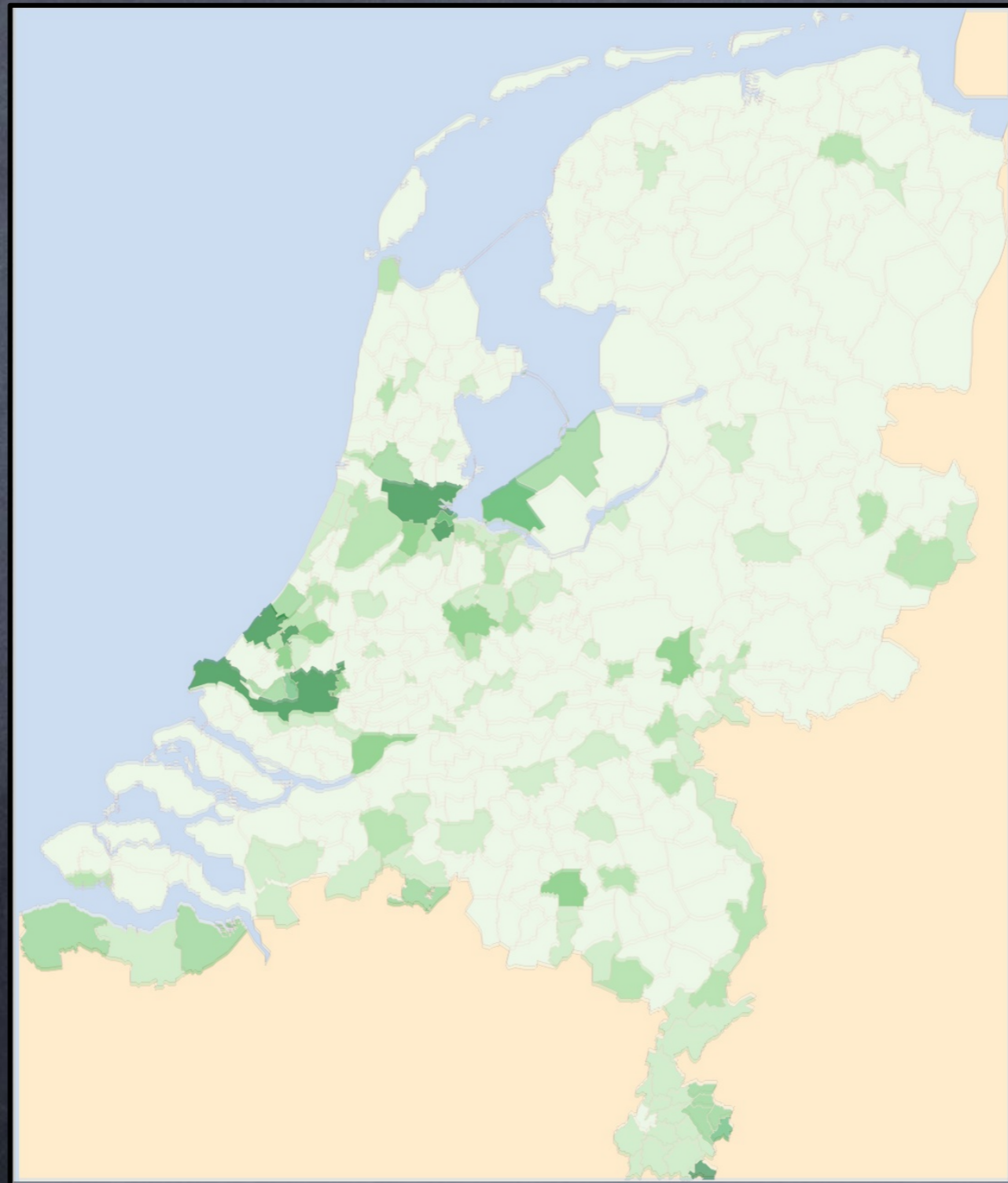
% western foreigners



TRANSPARENCY

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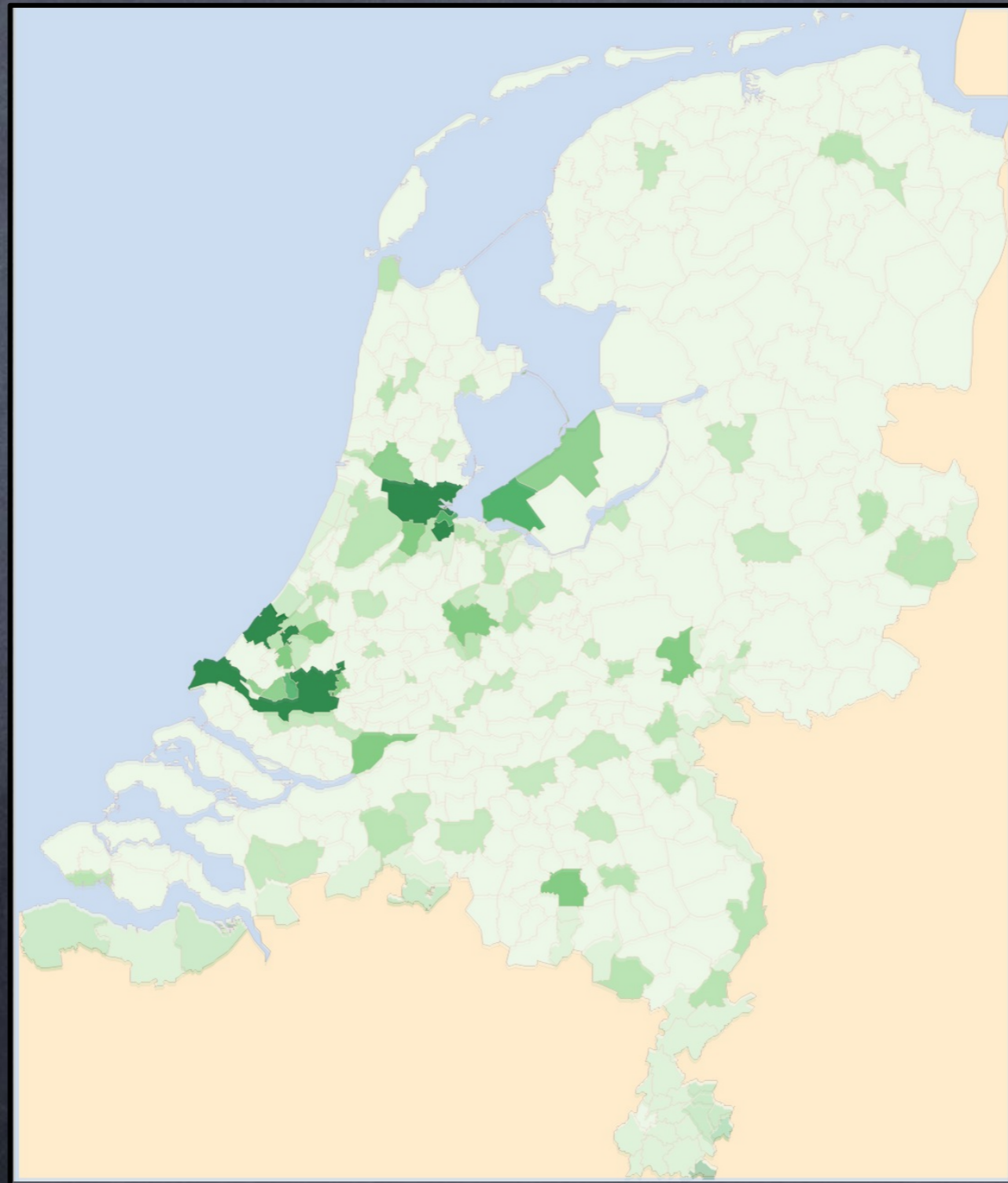
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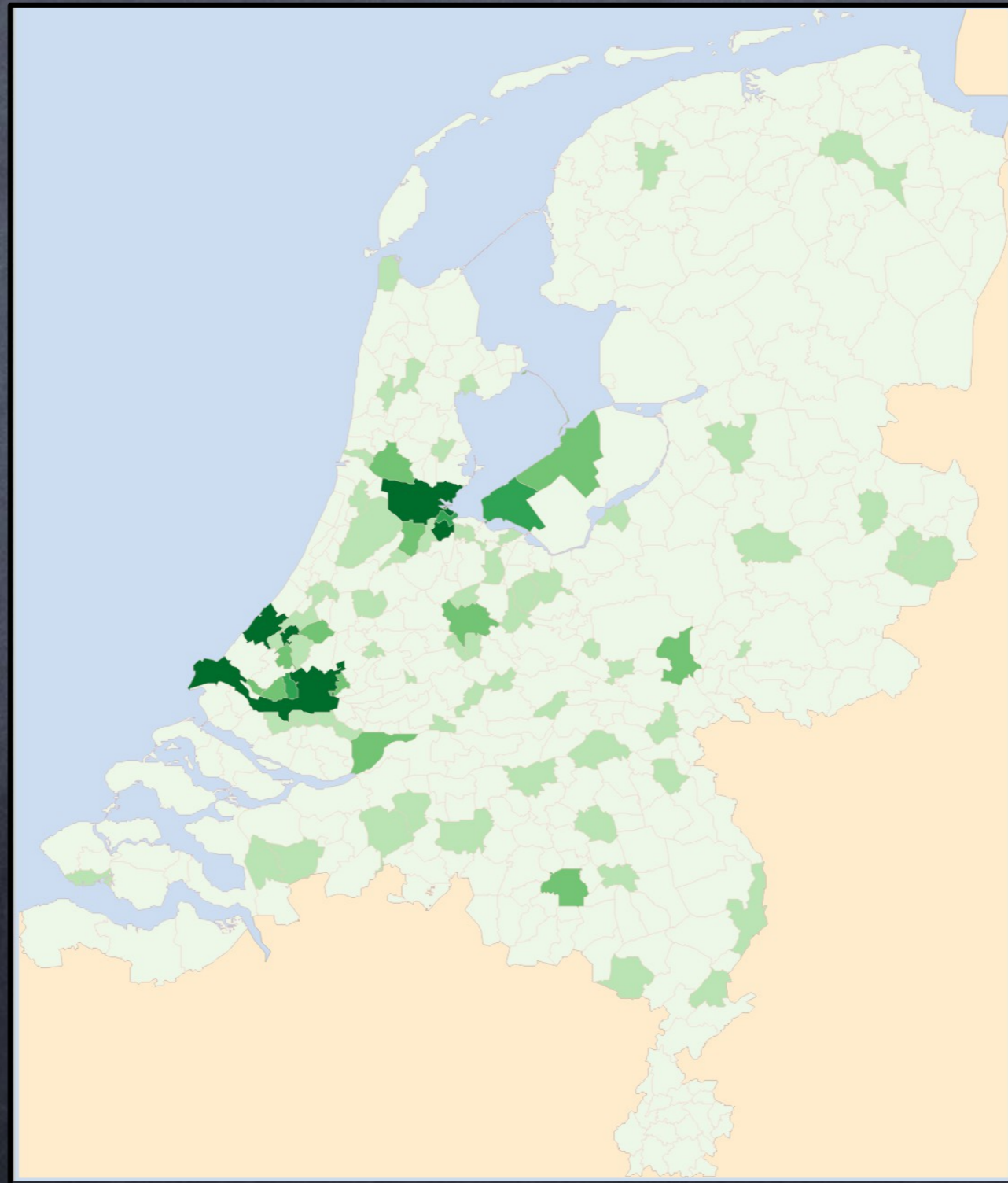
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Thank you!

<http://www.nationaleatlas.nl>

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