

Mapping on MediaWiki

Jeroen De Dauw, 2010-7-10, Wikimania 2010 Gdańsk

Presentation outline

- Maps
 - Concept
 - Coordinates
 - Geocoding
 - Displaying maps
 - Customizing maps
- Semantic Maps
 - ...

Presentation outline

- Maps
 - ...
- Semantic Maps
 - Concept
 - Coordinate data type
 - Queries
 - Forms
 - And even more awesomeness

Presentation outline

- Maps
 - **Concept**
 - Coordinates
 - Geocoding
 - Displaying maps
 - Customizing maps
- Semantic Maps
 - ...

Maps

- MediaWiki extension
- Hooks into
 - Validator
- Functionality
 - Visual display of coordinate data
 - Geocoding



Presentation outline

- Maps
 - Concept
 - **Coordinates**
 - Geocoding
 - Displaying maps
 - Customizing maps
- Semantic Maps
 - ...

Maps

Coordinates

- Floats
 - Non-directional: 55.7557860, 37.6176330
 - Directional: 55.7557860 N, 37.6176330 E
- DMS
 - Non-directional: 55°45'06", 37°37'04"
 - Directional: 55°45'06"N, 37°37'04"E
- Decimal Degrass
- Decimal Minutes



Maps

Formatting coordinates

- #coordinates parser function
- mapping.referata.com/wiki/Coordinates



Presentation outline

- Maps
 - Concept
 - Coordinates
 - **Geocoding**
 - Displaying maps
 - Customizing maps
- Semantic Maps
 - ...

Maps

Geocoding

- #geocode parser function
- mapping.referata.com/wiki/Geocoding



Presentation outline

- Maps
 - Concept
 - Coordinates
 - Geocoding
 - **Displaying maps**
 - Customizing maps
- Semantic Maps
 - ...

Maps

Displaying a map

```
{{#display_map: Moscow}}
```

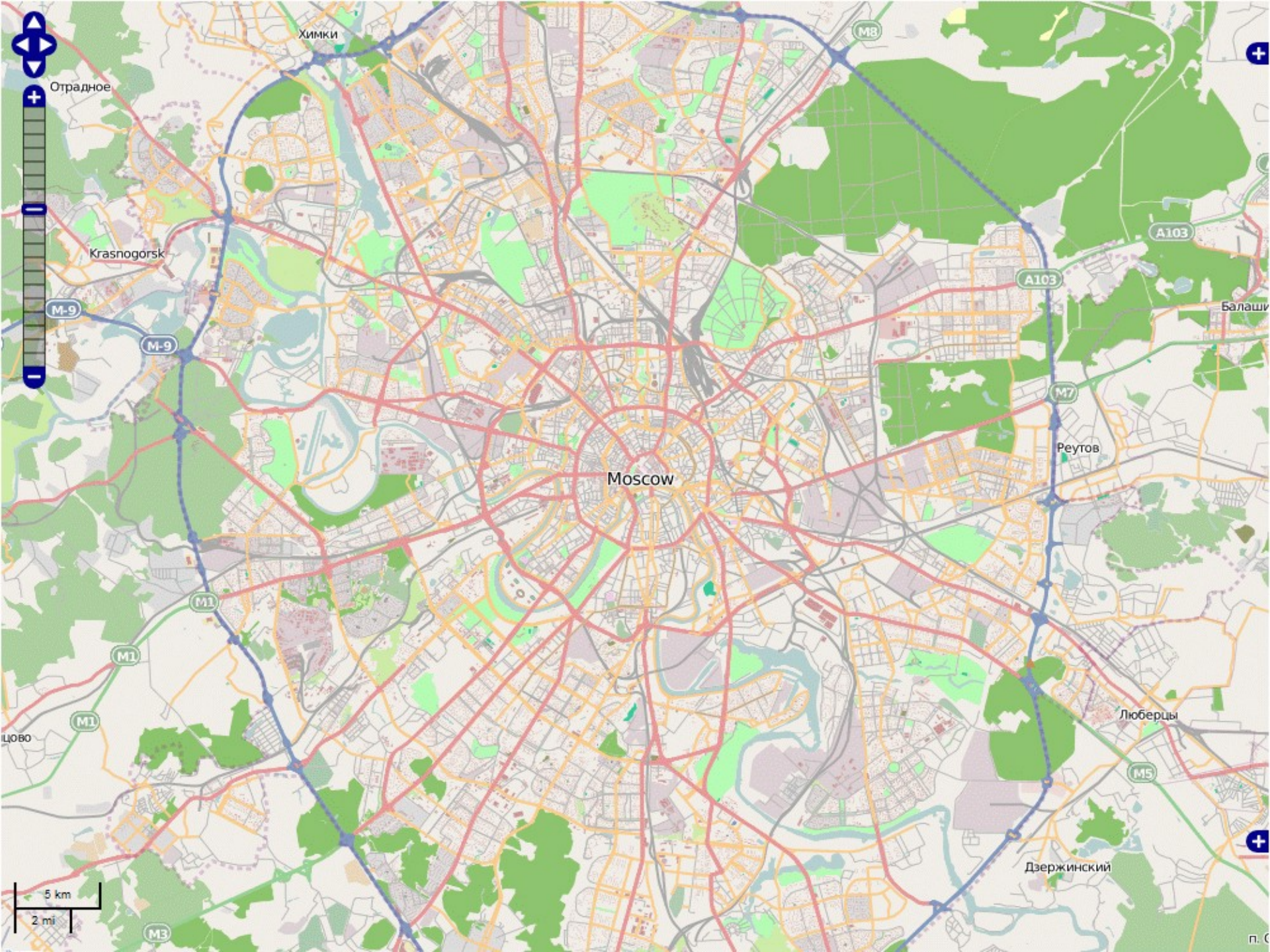
Or

```
{{#display_map: 55°45'06"N, 37°37'04"E}}
```

Or

...





Maps

Displaying points

```
{{#display_point: Moscow}}
```

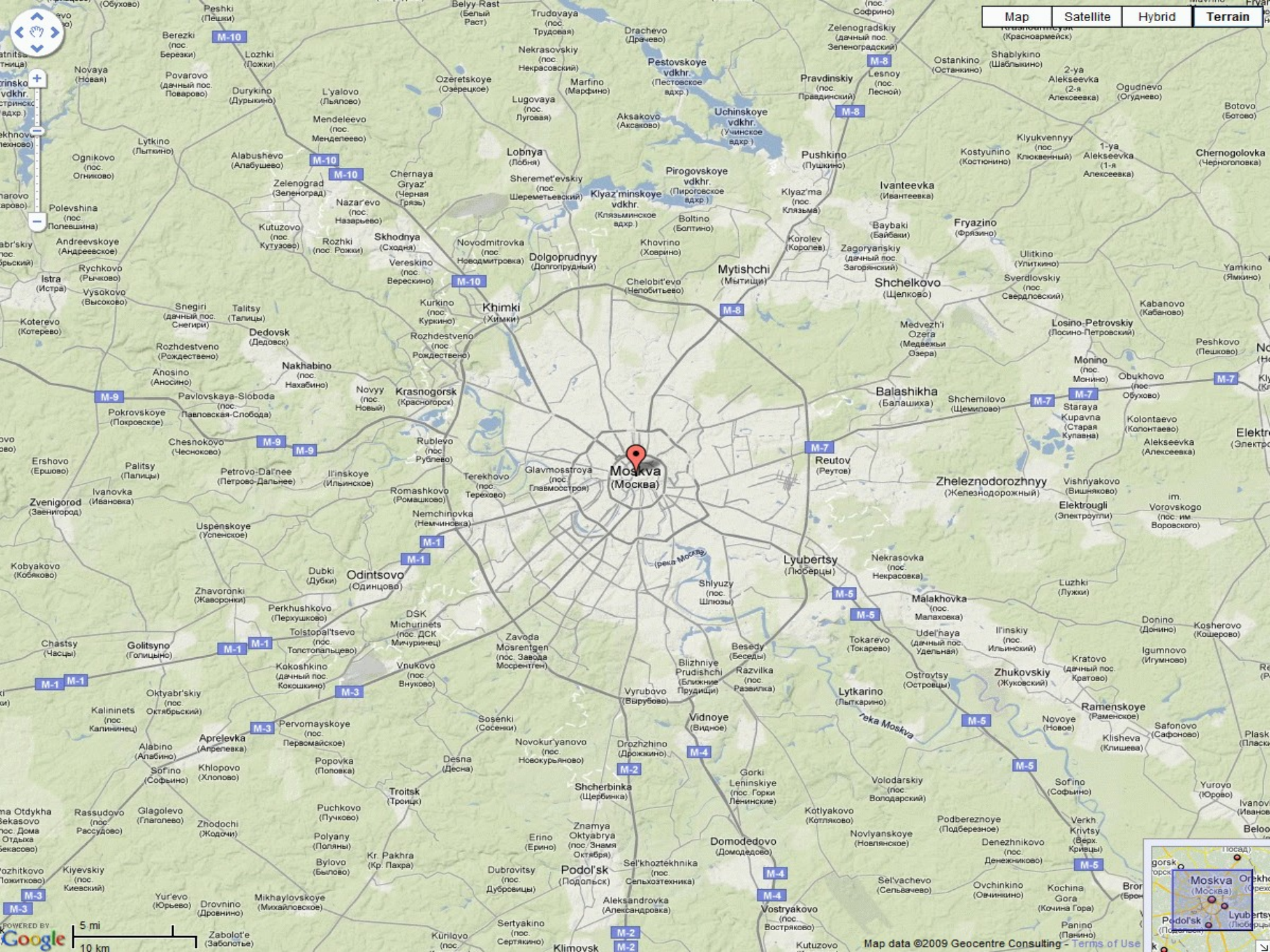
Or

```
{{#display_point: 55.7557860, 37.6176330}}
```

Or

...





Maps

Displaying points

```
{{
```

```
#display_points:
```

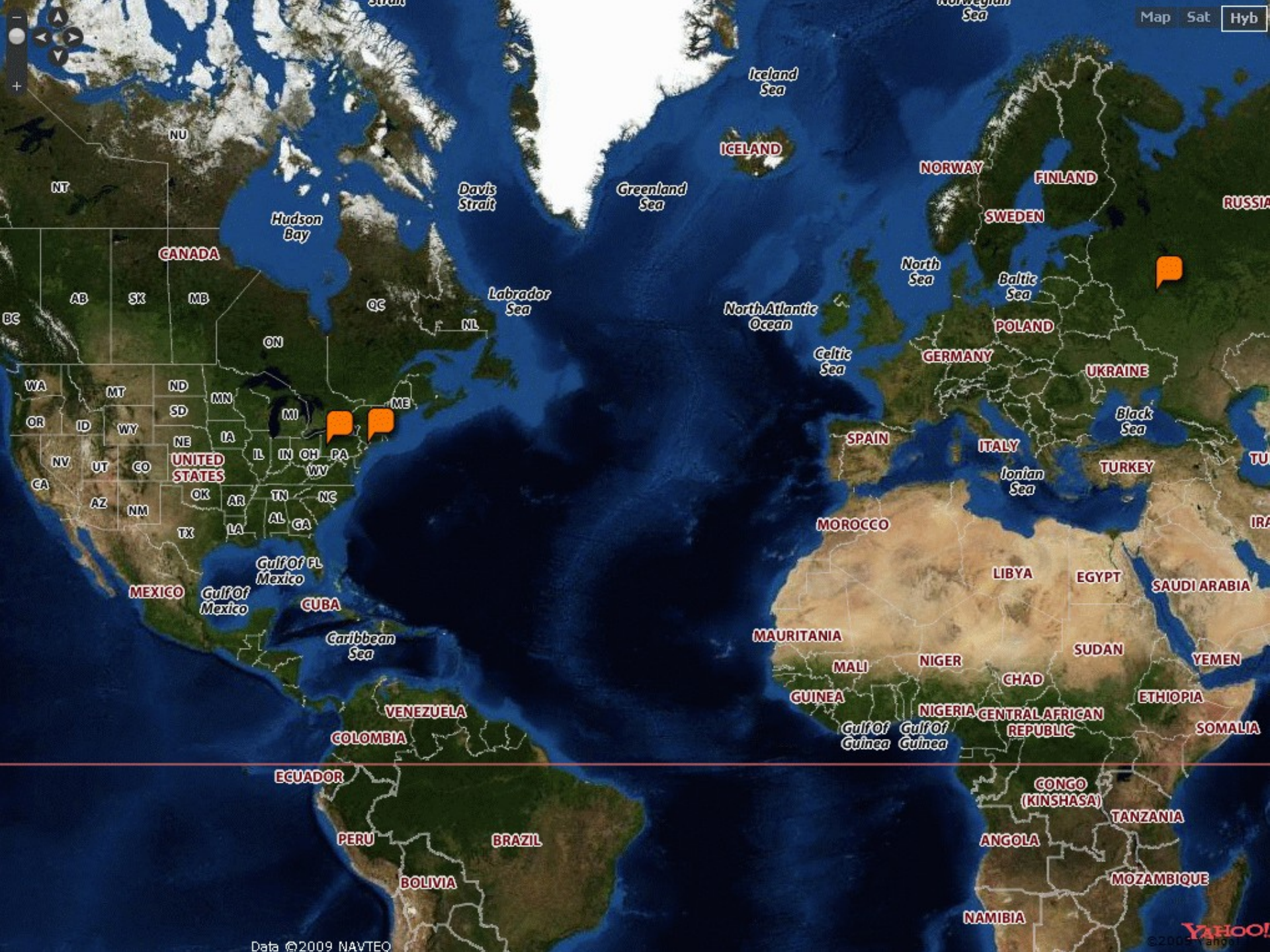
```
55°45'06"N, 37°37'04"E;
```

```
New York;
```

```
40.446195, -79.948862
```

```
}}
```





NU

NT

CANADA

AB

SK

MB

QC

Labrador Sea

Hudson Bay

Davis Strait

Greenland Sea

ICELAND

Iceland Sea

NORWAY

FINLAND

SWEDEN

RUSSIA

North Sea

Baltic Sea

North Atlantic Ocean

Celtic Sea

GERMANY

POLAND

UKRAINE

Black Sea

SPAIN

ITALY

Ionian Sea

TURKEY

WA

MT

ND

MN

SD

IA

MI

IN

OH

PA

WV

OR

ID

WY

NE

OK

AR

TN

NC

GA

CA

AZ

NM

TX

LA

AL

MS

FL

MEXICO

Gulf Of FL Mexico

Gulf Of Mexico

CUBA

Caribbean Sea

VENEZUELA

COLOMBIA

ECUADOR

PERU

BRAZIL

BOLIVIA

MAURITANIA

MALI

NIGER

GUINEA

NIGERIA

CENTRAL AFRICAN REPUBLIC

Gulf of Guinea

CHAD

SUDAN

ETHIOPIA

SOMALIA

EGYPT

SAUDI ARABIA

YEMEN

CONGO (KINSHASA)

TANZANIA

ANGOLA

MOZAMBIQUE

NAMIBIA

Maps

Displaying points: point specific data

Address~Title~Label~Icon



Maps

Displaying points: point specific data

```
{  
#display_points:  
Brussels;  
New York~New York city;  
Moscow, Russia~Moscow~A city in Russia;  
London~[[London]]~Capital of England~Green marker.png;  
Mali~Mali~~Blue marker.png  
}
```



Map

Satellite

Hybrid

Terrain

Ov

London



Capital of England

Presentation outline

- Maps
 - Concept
 - Coordinates
 - Geocoding
 - Displaying maps
 - **Customizing maps**
- Semantic Maps
 - ...

Maps

Customizing maps

```
{{  
#display_map: New York City  
| property = value  
| property 2 = value 2  
}}
```



Maps

Customizing maps with map properties

- mapping.referata.com/wiki/Display_map
- mapping.referata.com/wiki/Display_points

Maps

Mapping services

- mapping.referata.com/wiki/Help:Mapping_services

Presentation outline

- Maps
 - ...
- Semantic Maps
 - Concept
 - Coordinate data type
 - Queries
 - Forms
 - And even more awesomeness

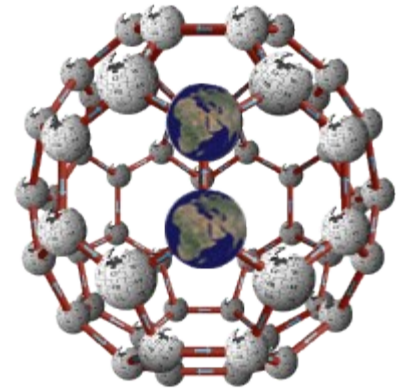


Presentation outline

- Maps
 - ...
- Semantic Maps
 - **Concept**
 - Coordinate data type
 - Queries
 - Forms
 - And even more awesomeness

Semantic Maps

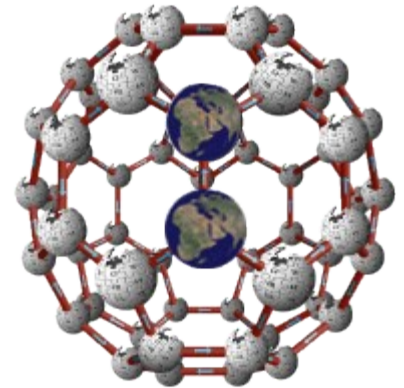
- MediaWiki extension
- Hooks into
 - Maps
 - Semantic MediaWiki (RTAM)
 - Semantic Forms
- Functionality
 - Aggregation of coordinates (Result formats)
 - Insertion of coordinates (Form inputs)



Semantic Maps

Mapping services

- “Identical” to the ones of Maps
 - Google Maps
 - Yahoo! Maps
 - OpenLayers
 -



Presentation outline

- Maps
 - ...
- Semantic Maps
 - Concept
 - **Coordinate data type**
 - Queries
 - Forms
 - And even more awesomeness

Semantic Maps

Geographical Coordinates datatype

- Semantic datatype based on Maps
- Queries on latitude or longitude
 - Distance query
- Planned spatial extensions support

Presentation outline

- Maps
 - ...
- Semantic Maps
 - Concept
 - Coordinate data type
 - **Queries**
 - Forms
 - And even more awesomeness

Semantic Maps

Result formats

- mapping.referata.com/wiki/Help:Queries

{{

#ask: [[Category:City]] [[located in::Germany]]

| ?population

| ?area#km² = Size in km²

| ?coordinates

| **format=map**

}}



Semantic Maps

Result formats: Example

- mapping.referata.com/wiki/Semantic_Maps_examples

```
{{ #ask:
```

```
[[Category:City]] [[located in::Germany]]
```

```
| ?population| ?area#km2 = Size in km2 | ?coordinates
```

```
| format=openlayers
```

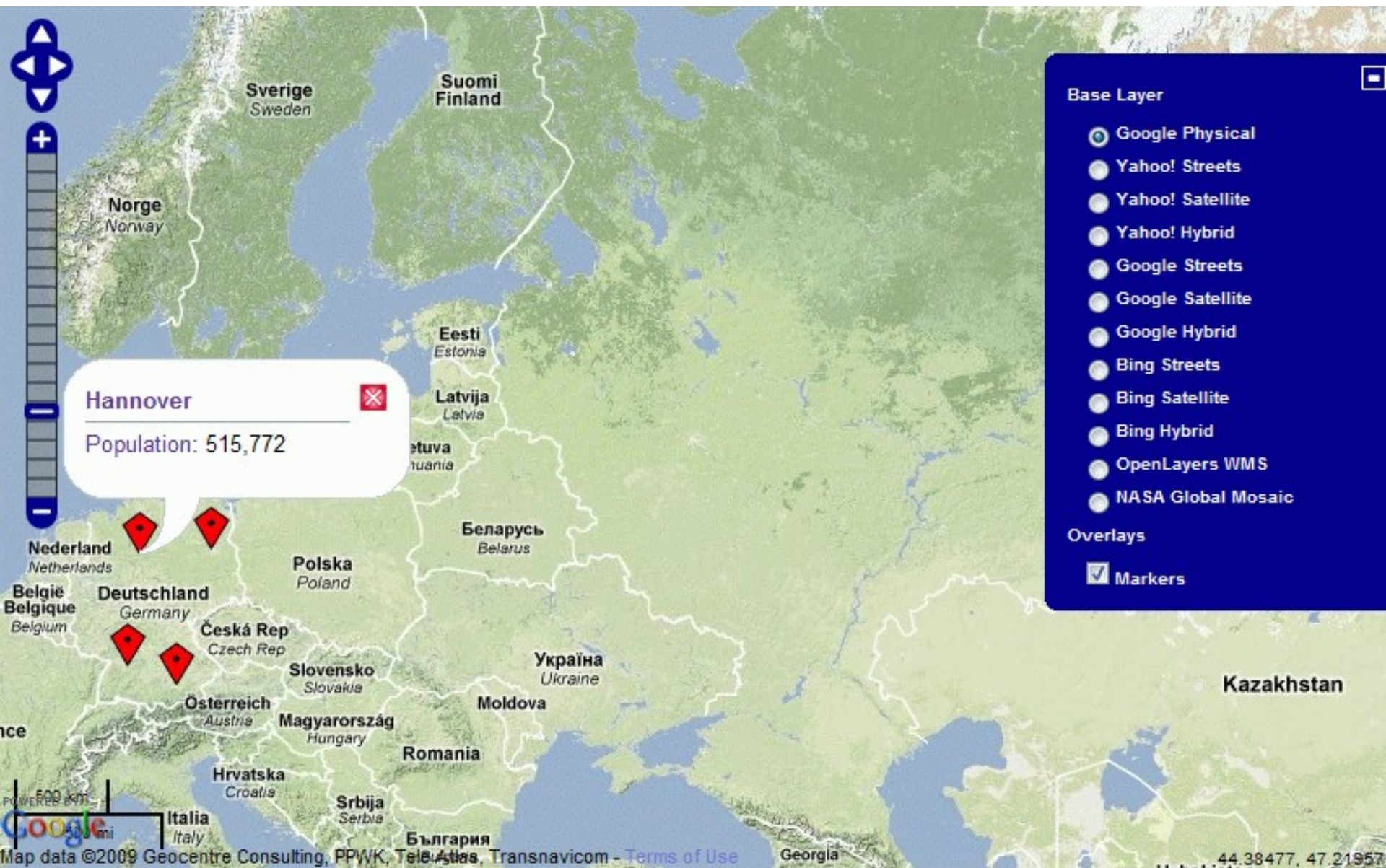
```
| width=800 | height=500
```

```
| zoom=4
```

```
| center={{#geocode:Moscow, Russia}}
```

```
| layers=google-physical,yahoo,google,bing,openlayers,nasa
```

```
}}
```



Hannover

Population: 515,772



Base Layer

- Google Physical
- Yahoo! Streets
- Yahoo! Satellite
- Yahoo! Hybrid
- Google Streets
- Google Satellite
- Google Hybrid
- Bing Streets
- Bing Satellite
- Bing Hybrid
- OpenLayers WMS
- NASA Global Mosaic

Overlays

- Markers

Sverige
Sweden

Suomi
Finland

Norge
Norway

Eesti
Estonia

Latvija
Latvia

Litva
Lithuania

Беларусь
Belarus

Nederland
Netherlands

Polska
Poland

Belgie
Belgique
Belgium

Deutschland
Germany

Česká Rep
Czech Rep

Slovensko
Slovakia

Україна
Ukraine

Kazakhstan

Österreich
Austria

Magyarország
Hungary

Moldova

Romania

Hrvatska
Croatia

Srbija
Serbia

България
Bulgaria

Italia
Italy

Srbija
Serbia

България
Bulgaria

Georgia



Semantic Maps

Result formats: Using SCQ

- smw.referata.com

```
{{
```

```
#compound_query:
```

```
  [[Category:People]];?Has coordinates
```

```
  | [[Category:Organizations]];?Has coordinates;icon=Green marker.png
```

```
  | [[Category:Events]];?Has coordinates;icon=Blue marker.png
```

```
  | format=map
```

```
}}
```




Semantic Maps

Result formats: Using Semantic Drilldown

- discoursedb.org/wiki/Special:BrowseData

Browse data: Cities

Cities

Click on one or more items below to narrow your results.

▼ **Country:**

[Ecuador \(1\)](#) · [People's Republic of China \(1\)](#) · [Peru \(1\)](#) · [Slovenia \(1\)](#) · [USA \(1\)](#) · [United Kingdom \(1\)](#) ·

[United States \(3\)](#)

Showing below up to **10** results starting with **#1**.

View ([previous 250](#) | [next 250](#)) ([20](#) | [50](#) | [100](#) | [250](#) | [500](#))



Choose a category:
Authors (420)
Cities (10)
Items (1968)
Magazines (14)
Positions (126)
Sources (94)
Themes (8)
Topics (65)

Browse data: Cities

Cities > **Country: United States** ⊗

Click on one or more items below to narrow your results.

▶ **Country:** (Click arrow to add another value)

Showing below up to 3 results starting with #1.

View (previous 250 | next 250) (20 | 50 | 100 | 250 | 500)



Choose a category:
Authors (420)
Cities (10)
Items (1968)
Magazines (14)
Positions (126)
Sources (94)
Themes (8)
Topics (65)

Presentation outline

- Maps
 - ...
- Semantic Maps
 - Concept
 - Coordinate data type
 - Queries
 - **Forms**
 - And even more awesomeness

Semantic Maps

Form Inputs

- Semantic Forms hook
- Allows
 - Coordinate insertion and editing
 - Forms => no wiki text needed!
- mapping.referata.com/wiki/Help:Forms

Semantic Maps

Form Inputs: Example

```
{{
```

```
field
```

```
|The coordinates
```

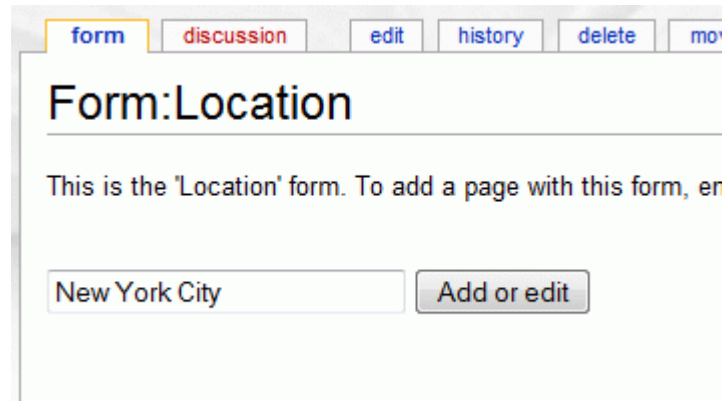
```
|input type=yahoomap
```

```
|width=800
```

```
|height=500
```

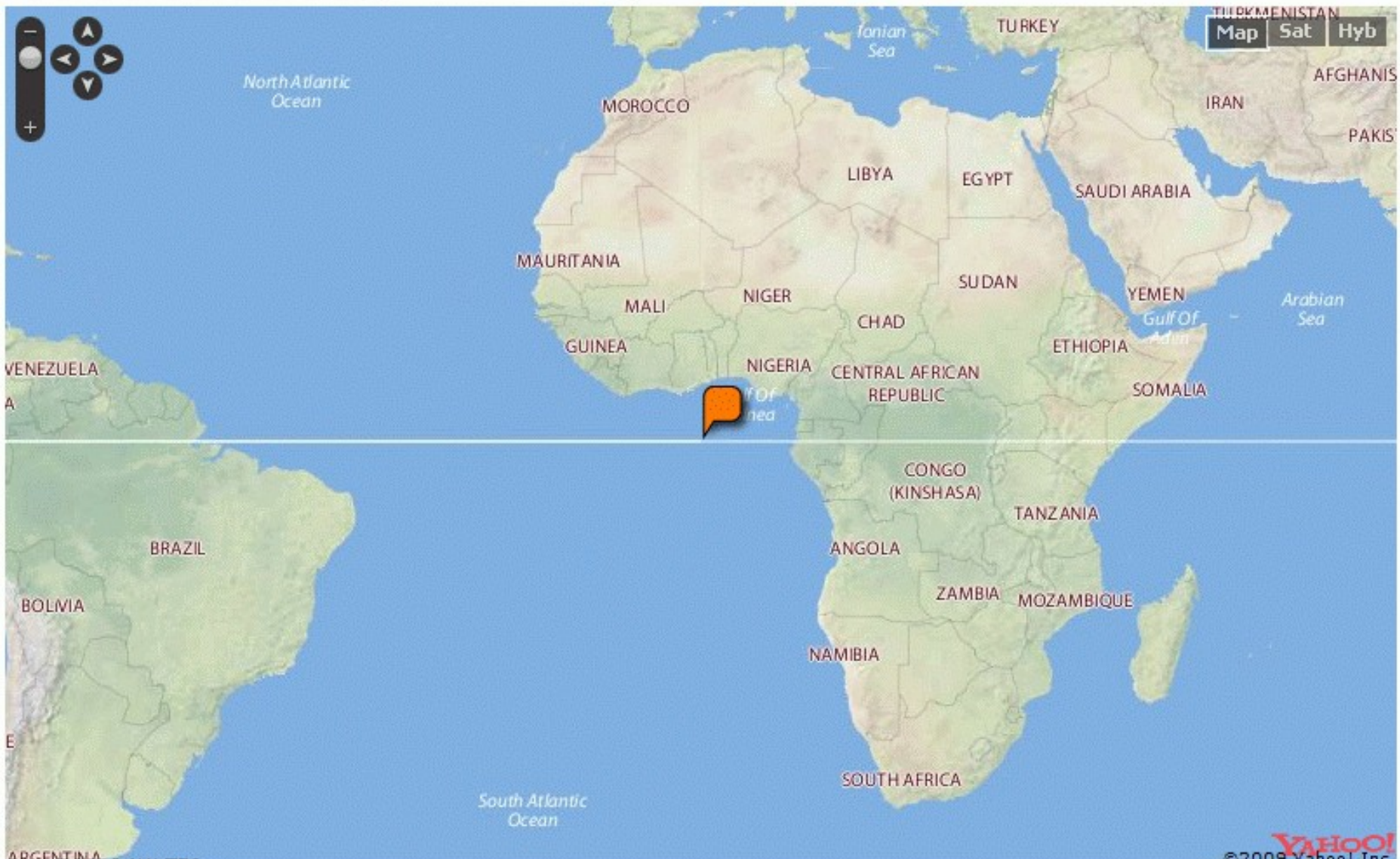
```
|autozoom=off
```

```
}}
```



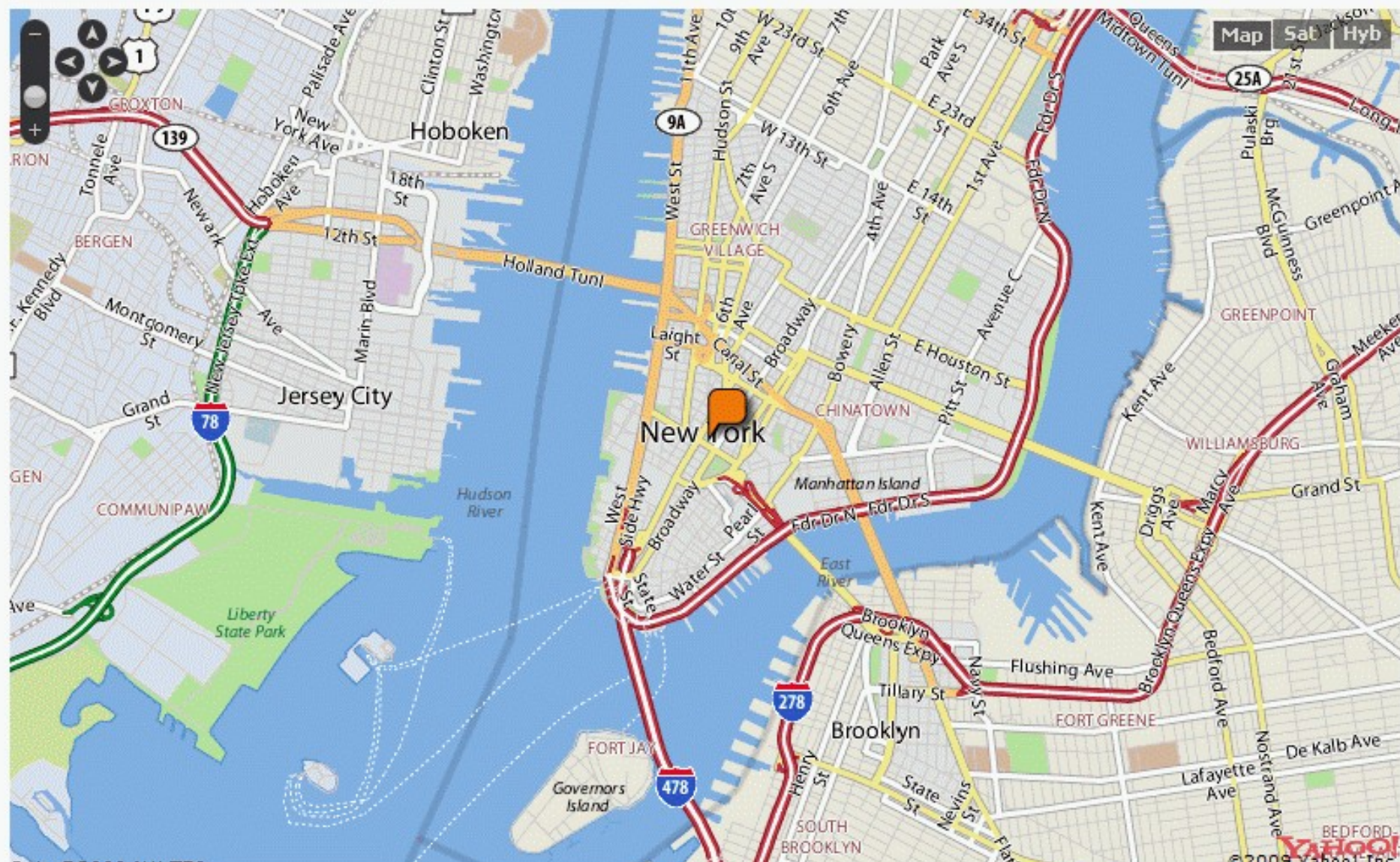
Add Location: New York City

Coordinates:



Add Location: New York City

Coordinates:



Presentation outline

- Maps
 - ...
- Semantic Maps
 - Concept
 - Coordinate data type
 - Queries
 - Forms
 - **And even more awesomeness**

Future Plans

Awesome stuff that's not there yet!

- Images as layers
- Full Google Maps V3 and OSM support
- KML, GIS, ...
- Marker clustering
- Routes
- >9000 others o_0

References

- Maps documentation:

mapping.referata.com/wiki/Maps

- Semantic Maps documentation:

mapping.referata.com/wiki/Semantic_Maps

- Contact

mediawiki.org/wiki/User:Jeroen_De_Dauw

- Commercial support

WikiWorks 
MediaWiki consulting

Slides

- ODP: <http://is.gd/dAE8Z>
- PDF: <http://is.gd/dAEbp>