

Nutzung von GeoDaten in den Sozialwissenschaften - Das Arbeiten mit OpenStreetMap Daten

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Ausschnitte herunterladen

<www.openstreetmap.org/export>

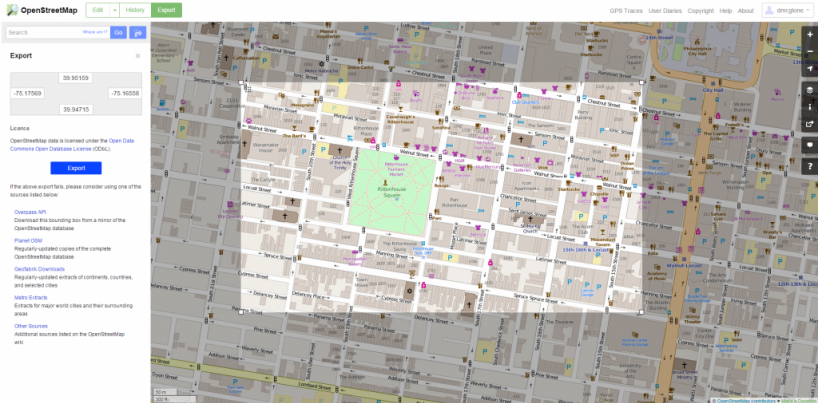


Figure 1: osm export

Das R-Paket XML - Gaston Sanchez

```
library("XML")
```



Wichtiger für mich:

work with XML data

Funktionen im XML Paket

Function	Description
xmlName()	name of the node
xmlSize()	number of subnodes
xmlAttrs()	named character vector of all attributes
xmlGetAttr()	value of a single attribute
xmlValue()	contents of a leaf node
xmlParent()	name of parent node
xmlAncestors()	name of ancestor nodes
getSibling()	siblings to the right or to the left
xmlNamespace()	the namespace (if there's one)

Beispiel: administrative Grenzen Berlin

Administrative Grenzen für Deutschland

```
url <- "http://api.openstreetmap.org/api/0.6/relation/62422"

BE <- xmlParse(url)
```

```
-<osm version="0.6" generator="CGImap 0.4.0 (19884 thorn-03.openstreetmap.org)" copyright="OpenStreetMap and contributors" attribution="http://www.openstreetmap.org/copyright"
license="http://opendatacommons.org/licenses/odbl/1-0/">
-<relation id="62422" visible="true" version="209" changeset="36072269" timestamp="2015-12-20T19:49:52Z" user="tbicr" uid="278800">
  <member type="node" ref="240109189" role="admin_centre"/>
  <member type="way" ref="50291800" role="outer"/>
  <member type="way" ref="77913336" role="outer"/>
  <member type="way" ref="315222039" role="outer"/>
  <member type="way" ref="77487568" role="outer"/>
  <member type="way" ref="315222038" role="outer"/>
  <member type="way" ref="98035898" role="outer"/>
  <member type="way" ref="77501737" role="outer"/>
```

Figure 3: Admin Berlin

Das XML analysieren

- Tobi Bosede - Working with XML Data in R

```
xmltop = xmlRoot(BE)  
class(xmltop)
```

```
## [1] "XMLInternalElementNode" "XMLInternalNode"  
## [3] "XMLAbstractNode"
```

```
xmlSize(xmltop)
```

```
## [1] 1
```

```
xmlSize(xmltop[[1]])
```

```
## [1] 322
```

Xpath, the XML Path Language, is a query language for selecting nodes from an XML document.

```
xpathApply(BE, "//tag[@k = 'source:population']")
```

More working example with XML files:

- ▶ Extracting data from XML
- ▶ Duncan Temple Lang - A Short Introduction to the XML package for R

Further information

- ▶ Manipulating Data from the Web
- ▶ Information on xquery
- ▶ R and the web (for beginners), Part II: XML in R
- ▶ String Manipulation

Kompletter Datensatz

- ▶ geofabrik
- ▶ Shapefiles are not complete
- ▶ but e.g. `germany-latest.osm.pbf`

Referenzen

```
citation("XML")
```

```
##
```

```
## To cite package 'XML' in publications use:
```

```
##
```

```
## Duncan Temple Lang and the CRAN Team (2016). XML: Tools
```

```
## Parsing and Generating XML Within R and S-Plus. R pack
```

```
## version 3.98-1.4. https://CRAN.R-project.org/package=XML
```

```
##
```

```
## A BibTeX entry for LaTeX users is
```

```
##
```

```
## @Manual{,
```

```
## title = {XML: Tools for Parsing and Generating XML W
```

```
## author = {Duncan Temple Lang and the CRAN Team},
```

```
## year = {2016},
```

```
## note = {R package version 3.98-1.4},
```

```
## url = {https://CRAN.R-project.org/package=XML},
```

```
## }
```