



Transparency of Information on the Water Basin Committees Plenums in the São Paulo Macrometropolis, Brazil

Beatriz Milz & Pedro Roberto Jacobi

The São Paulo Research Foundation (FAPESP) grant numbers:
2018/23771-6 and 2015/03804-9

Presentation available in: <https://macroamb-isaconf2021.netlify.app/>

February 2021

Before we start...

The presentation is open and online, with a lot of interesting links:



Challenges of the 21st Century: Democracy, Environment, Inequalities, Intersectorially

www.isa-sociology.org

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The code is available on GitHub:



Click here!

Click here!

Work in progress!

Authors



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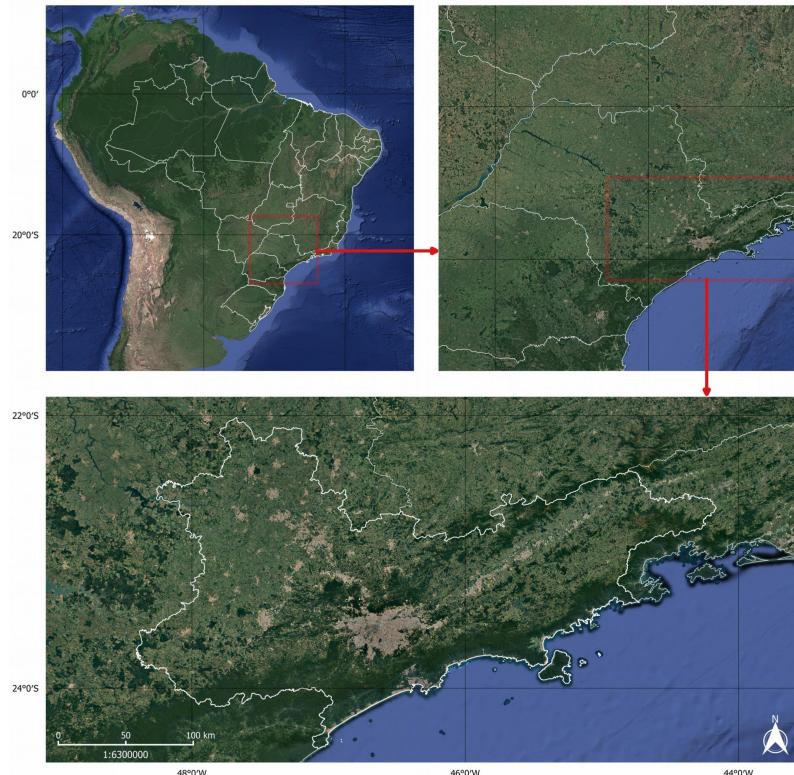
Thematic Project supported by The São Paulo Research Foundation (FAPESP):

Environmental governance of the São Paulo Macrometropolis in face of climate variability (MacroAmb)

Grant number: 15/03804-9

- Read more: [FAPESP](#), [Website](#), [Youtube](#).
- IV ISA CONF:
 - Sessions organized: 288 - Science, Public Policy and Adaptation to Climate Change; and 293 - Metropolis and the Environment: Conflicts, Challenges, Opportunities
 - Presentations: 282.2 Inequality and Adaptation to Climate Change in São Paulo Macrometropolis: An Environmental Justice Approach; and 286.1 - Transparency of Information on the Water Basin Committees Plenums in the São Paulo Macrometropolis, Brazil.

Sao Paulo Macrometropolis



Fonte: Limite estadual (IBGE, 2010), Macrometrópole Paulista (EMPLASA, GIP/CDI, 2017), Imagem (Google satélite).
Elaboração: LaPlan/UFABC/ MacroAmb.

2013 - 2015

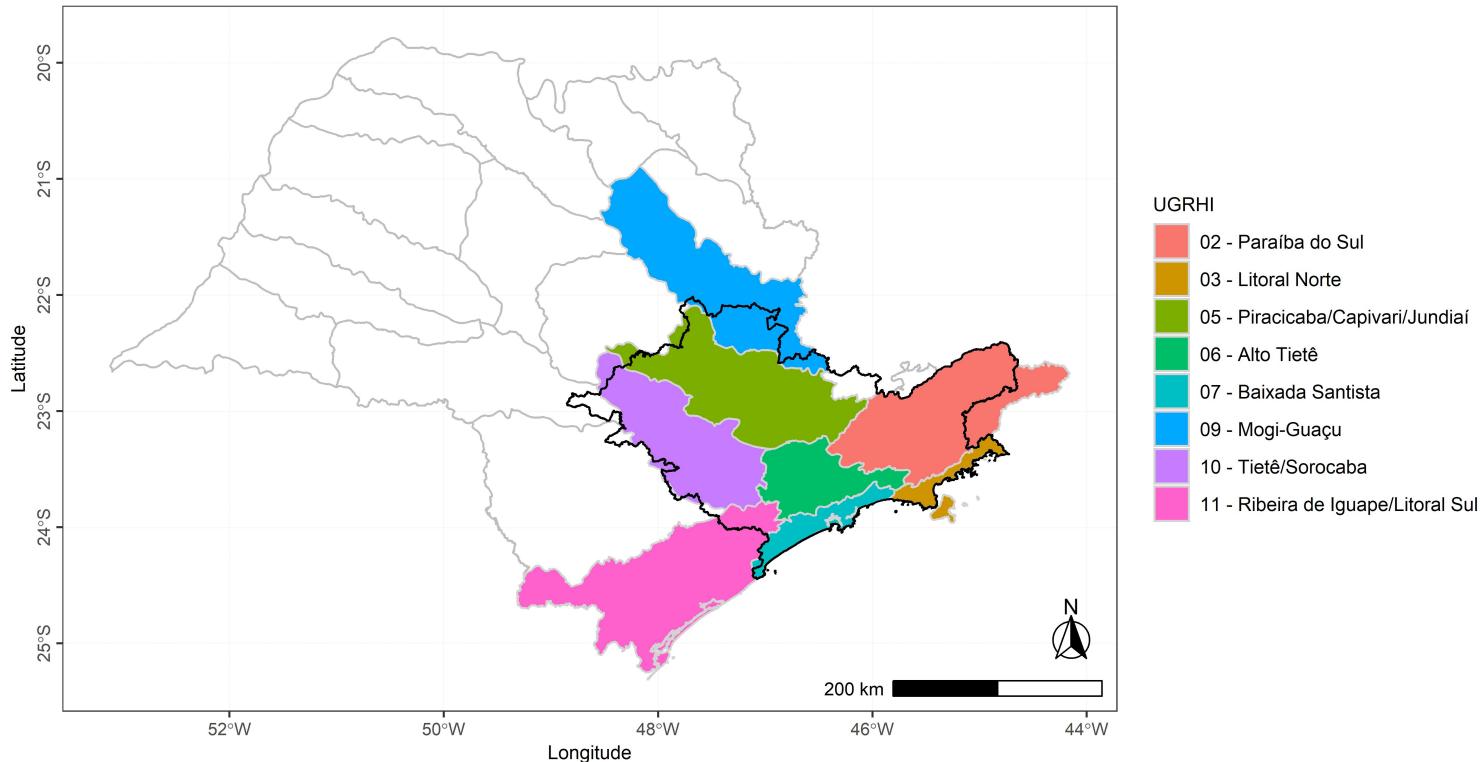
Water Crisis affected the SPMM



Source: [G1, 2014](#). Description: Photo of the drought in the reservoir Jaguari-Jacareí.

Water Resource Management Units

- There are eight Water Resource Management Units (WRMU) completely or partially in the area of the SPMM:

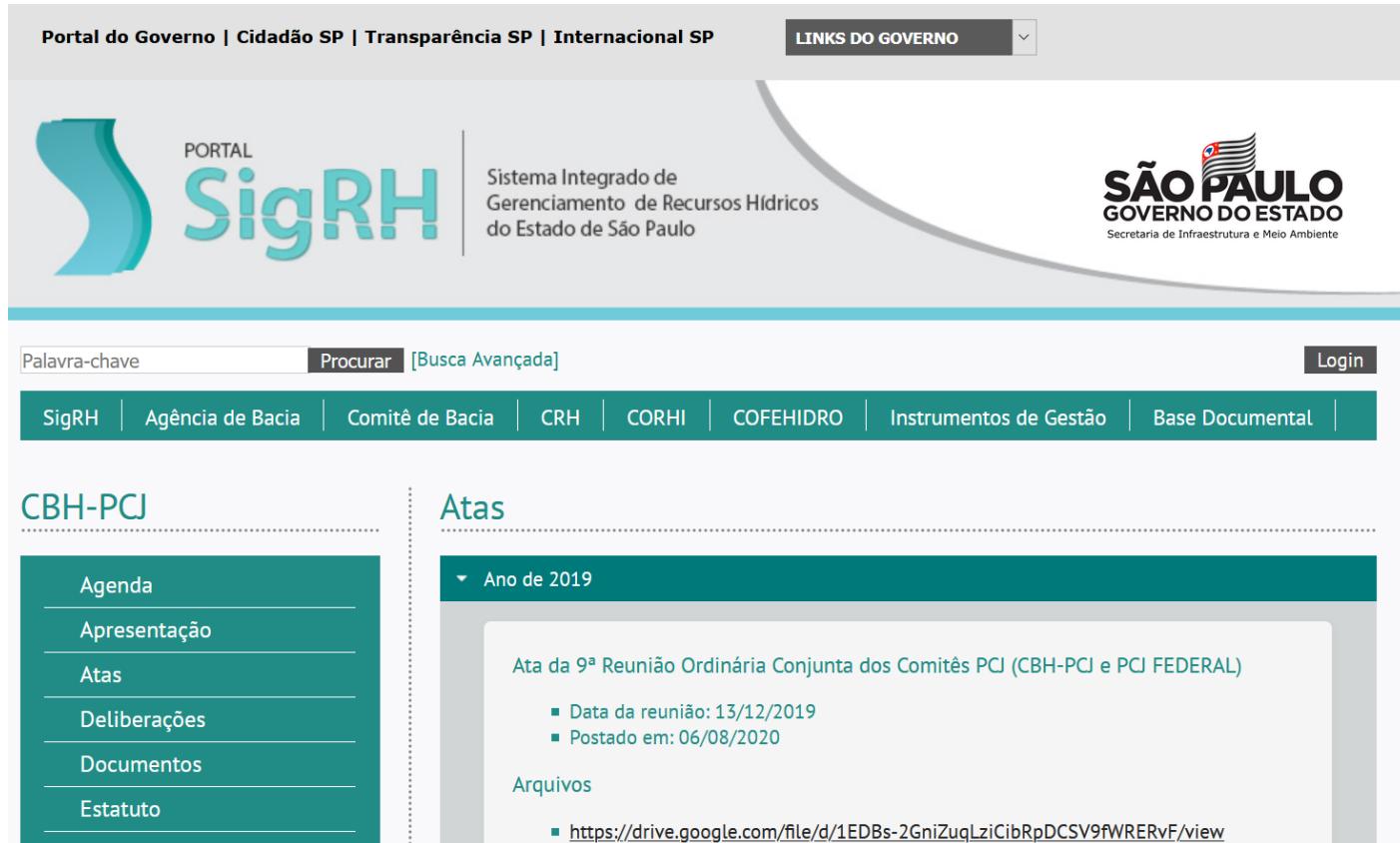


Water Basin Committees



Source: Illustration by [Hamilton Rangel](#).

- Portal SigRH - Integrated System of Water Resources Management of the State of São Paulo.



The screenshot shows the homepage of the SigRH (Integrated System of Water Resources Management) portal. At the top, there is a navigation bar with links to 'Portal do Governo', 'Cidadão SP', 'Transparéncia SP', and 'Internacional SP'. On the right side of the navigation bar is a 'LINKS DO GOVERNO' dropdown menu. Below the navigation bar, the main header features the 'PORTAL SigRH' logo on the left, followed by the text 'Sistema Integrado de Gerenciamento de Recursos Hídricos do Estado de São Paulo'. To the right of this is the 'SÃO PAULO GOVERNO DO ESTADO' logo, which includes the text 'Secretaria de Infraestrutura e Meio Ambiente'. Below the header, there is a search bar with fields for 'Palavra-chave', 'Procurar', and '[Busca Avançada]'. A 'Login' button is located on the right side of the search bar. A horizontal menu bar below the search bar contains links for 'SigRH', 'Agência de Bacia', 'Comitê de Bacia', 'CRH', 'CORHI', 'COFEHIDRO', 'Instrumentos de Gestão', and 'Base Documental'. The main content area is divided into two sections: 'CBH-PCJ' on the left and 'Atas' on the right. The 'CBH-PCJ' section has a sidebar with links for 'Agenda', 'Apresentação', 'Atas', 'Deliberações', 'Documentos', and 'Estatuto'. The 'Atas' section displays a list of documents under the heading 'Ano de 2019', with the first item being 'Ata da 9ª Reunião Ordinária Conjunta dos Comitês PCJ (CBH-PCJ e PCJ FEDERAL)'.

Portal do Governo | Cidadão SP | Transparéncia SP | Internacional SP

LINKS DO GOVERNO

PORTAL
SigRH

Sistema Integrado de
Gerenciamento de Recursos Hídricos
do Estado de São Paulo

SÃO PAULO
GOVERNO DO ESTADO

Secretaria de Infraestrutura e Meio Ambiente

Palavra-chave Procurar [Busca Avançada] Login

SigRH | Agência de Bacia | Comitê de Bacia | CRH | CORHI | COFEHIDRO | Instrumentos de Gestão | Base Documental |

CBH-PCJ

Agenda
Apresentação
Atas
Deliberações
Documentos
Estatuto

Atas

Ano de 2019

Ata da 9ª Reunião Ordinária Conjunta dos Comitês PCJ (CBH-PCJ e PCJ FEDERAL)

- Data da reunião: 13/12/2019
- Postado em: 06/08/2020

Arquivos

- <https://drive.google.com/file/d/1EDBs-2GniZuqLziCibRpDCSV9fWRERvF/view>

Website: <http://www.sigrh.sp.gov.br/>

Objective

We aim to evaluate whether the plenum's minutes of the Water Basin Committees that are part of the SPMM are made available publicly on the Portal SigRH - Integrated System of Water Resources Management of the State of São Paulo.

Materials and Methods

- R programming language 
- Integrated Development Environment (IDE): RStudio



-  Several R packages to perform the collection, cleaning, analysis, visualization and communication of the data.
 -  `rvest`, `purrr`, `dplyr`, `tibble`, `stringr`, `magrittr`, `glue`, `ggplot2`, `tidyverse`, `tidytext`, `readtext`, `xml2`, `rvest`.

Materials and Methods

- An R package is being developed: [ComitesBaciaSP](#).
- Functions are already available to scrape data from plenums minutes and list of participants in the WBC.

Website



CBH-PCJ

- Agenda
- Apresentação
- Atas
- Deliberações
- Documentos
- Estatuto
- Estrutura
- Notícias
- Representantes

Sub-Unidades

- CT-AS
- CT-EA
- CT-ID
- CT-IND
- CT-MH
- CT-OI

Atas

Ano de 2019

Ata da 9ª Reunião Ordinária Conjunta dos Comitês PCJ (CBH-PCJ e PCJ FEDERAL)

- Data da reunião: 13/12/2019
- Postado em: 06/08/2020

Arquivos

- <https://drive.google.com/file/d/1EDBs-2GniZuqLziCibRpDCSV9fWRERvF/view>
- [9-ord-conjunta_13-12-19.pdf](#)

Compartilhar

Ata da 19ª Reunião Extraordinária dos Comitês PCJ

- Data da reunião: 26/07/2019
- Postado em: 17/12/2019

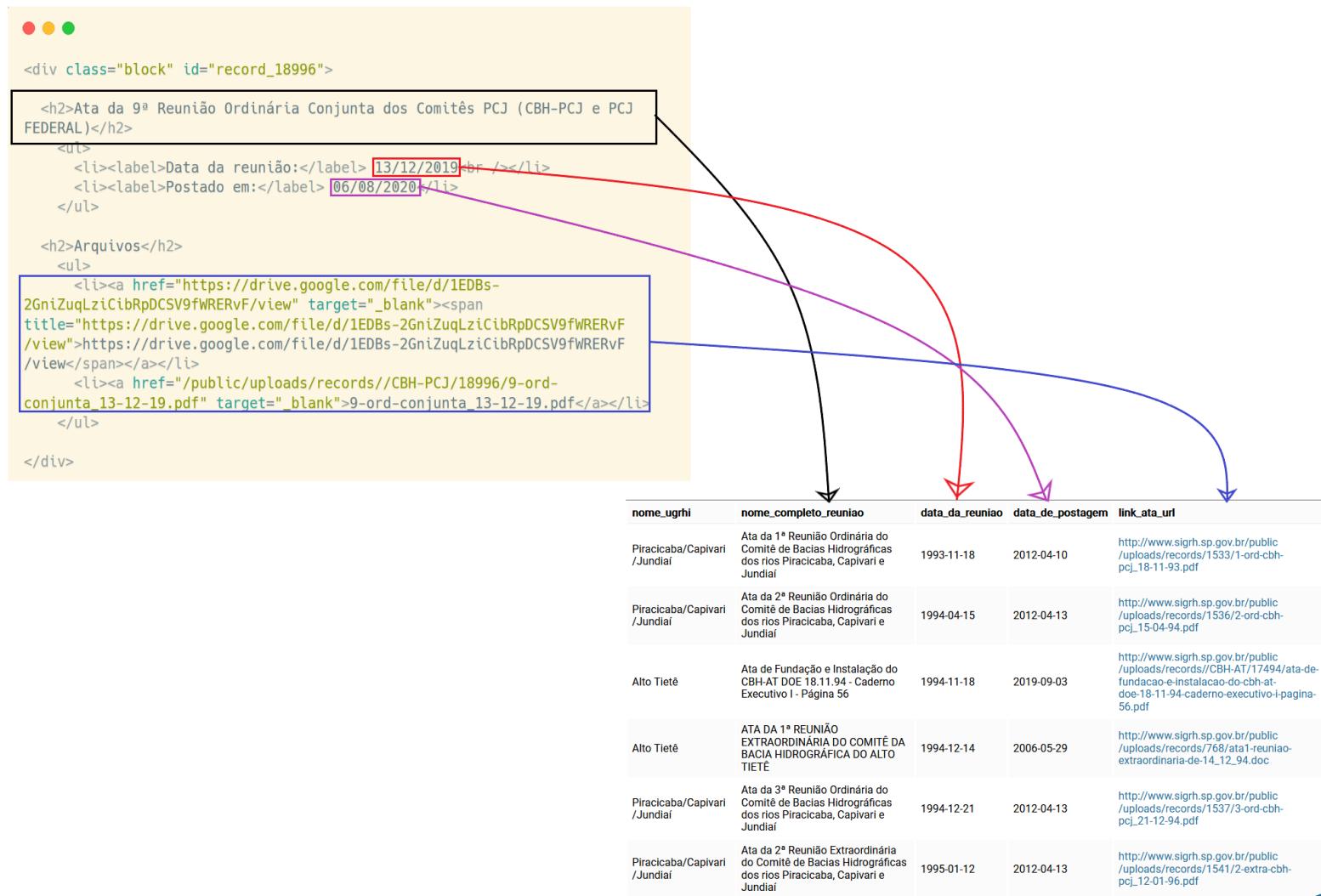
Arquivos

- https://drive.google.com/file/d/1revvMThiZBoHm7rw-PaxUM_6gVXEo42J/view
- [ata_19-extra-cmtspcj_saltinho_27-07-19.pdf](#)

Compartilhar

Website: <http://www.sigrh.sp.gov.br/cbhpcj/atas>

Website (HTML) -> Web Scraping -> Table



Materials and Methods

- 1) **Data collection:** Web Scraping using package [ComitesBaciaSP](#) - December 8th 2020.
- 2) Downloaded the html pages in order to have a backup.
- 3) Every file in the dataset (total of 930) was tested in order to see if the file was available.
- 4) Downloaded all the files available for the plenums minutes.
- 5) Filtered the dataset in order to have 1 file of minute per plenum. Examples:
 - There were plenums that had duplicate files for minutes. Removed the duplicates.
 - There were files with wrong date of the plenum in the website. Checked and corrected in the dataset.
 - There were minutes available as images.
- 6) Read the files for the minutes in the resulted dataset (656 files), into a new dataset with a column with the content of the minute, and also an id for each plenum. (Some word files had problems, and were converted to PDF outside R in order to be able to import the content)
- 7) Data was categorized: before (2008 - 2012), during (2013 - 2015) and after the water crisis (2016 - 2020).
- 8) Using text mining methods ([SILGE & ROBINSON, 2017](#)), constructed vizualizations of the frequency of bigrams in this 3 periods for each WBC.

Preliminary Results

- *Non-Discriminatory* ([TAUBERER, 2014](#))*: "Data are available to anyone, with no requirement of registration."
- *Complete* ([TAUBERER, 2014](#)): "All public data are made available."
 - The majority of the links to the plenums minutes available was working.
 - Paraíba do Sul: this WBC did not make any plenums minutes available.
 - Sorocaba e Médio Tietê: there are period gaps.

* Principles of Open Government Data

Preliminary Results

AT

BS

LN

Mogi

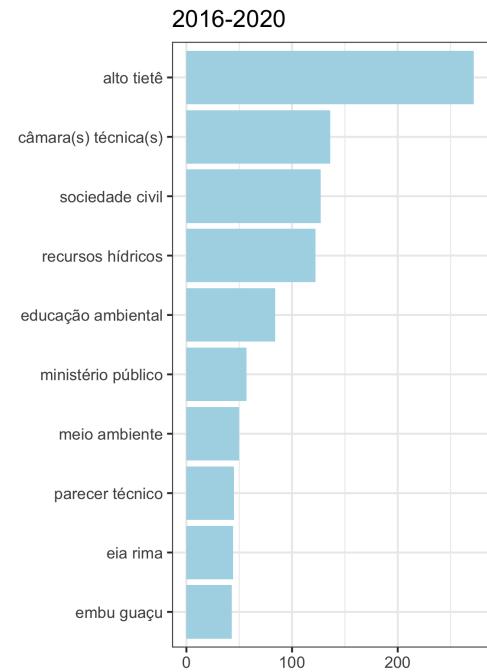
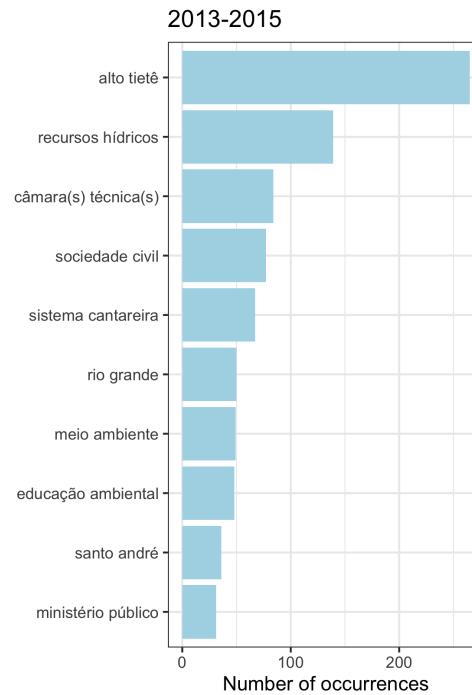
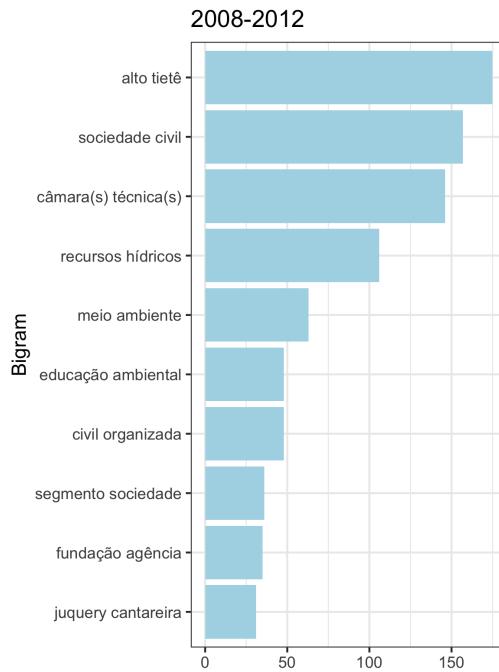
PCJ

PS

RB

SMT

Water Basin Committee Alto Tietê



Data collected in Dec 08th 2020

Preliminary conclusions

- Data from the plemuns minutes need to be more complete.
- In order to clean and organize the dataset, we found several inconsistencies which are important to understand better the dataset considering concepts of open data.

Next steps

- Continue to develop and improve the package [ComitesBaciaSP](#).
- Expand the analysis to contemplate more [Principles of Open Government Data](#).
- Study the corpus with qualitative data analysis. (1)

* (1) Not in the scope of the ongoing research.

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Thank you!

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Presentation made with  and the packages  [xaringan](#) and  [xaringanthemer](#).