

# *Geofaceting* Argentina

## Grillas como si fueran mapas

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LatinR - 47JAII  
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[https://github.com/TuQmano/geofacet\\_ARG](https://github.com/TuQmano/geofacet_ARG)

# Hoja de ruta

Data Viz

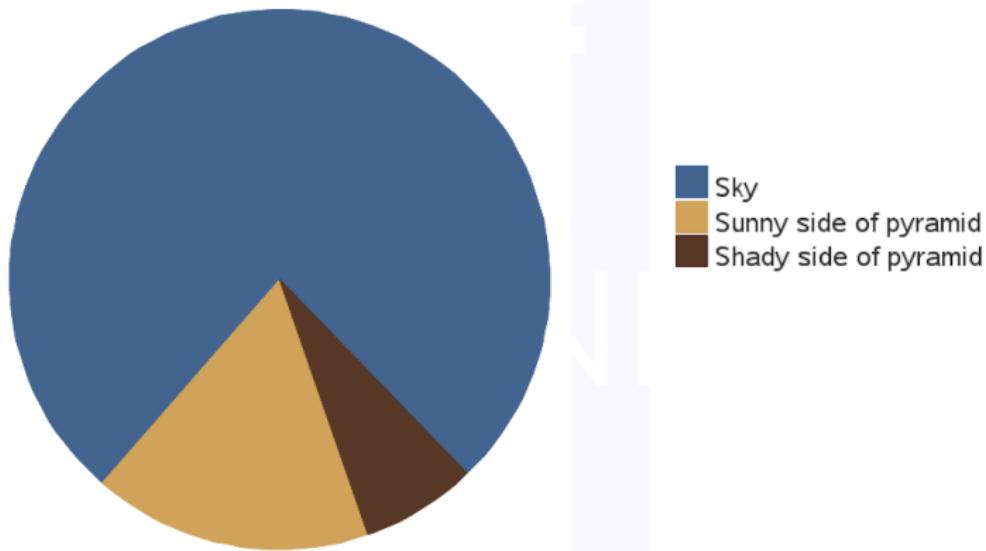
Geo

Una Argentina en grillas

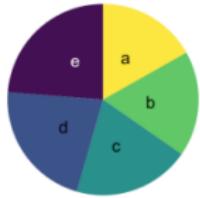


# Data Viz - Elegir el gráfico adecuado

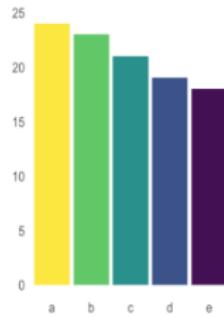
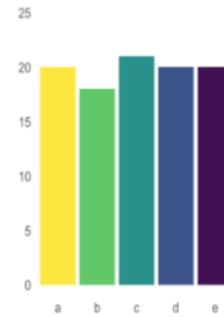
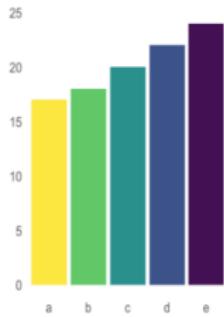
¿Cuándo usar un gráfico de torta? (When to use a Pie Chart?)



# Data Viz: ¿Tortas (Pie Chart)?



# Data Viz: ¿Tortas (Pie Chart)?



Source: <https://www.data-to-viz.com/caveat/pie.html>

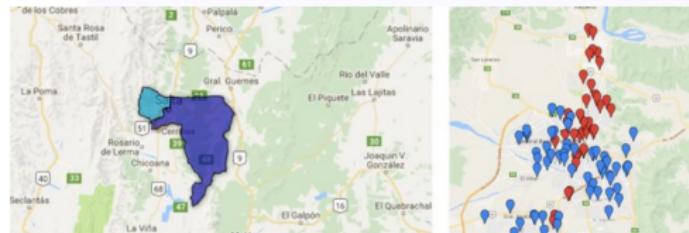
# TIP Data Viz (I): Evitar Tortas (Avoid Pie Chart)

O que sea remera!!! (Make a t-shirt!!!)



# Data Viz (GEO)

## Motivación



Caption

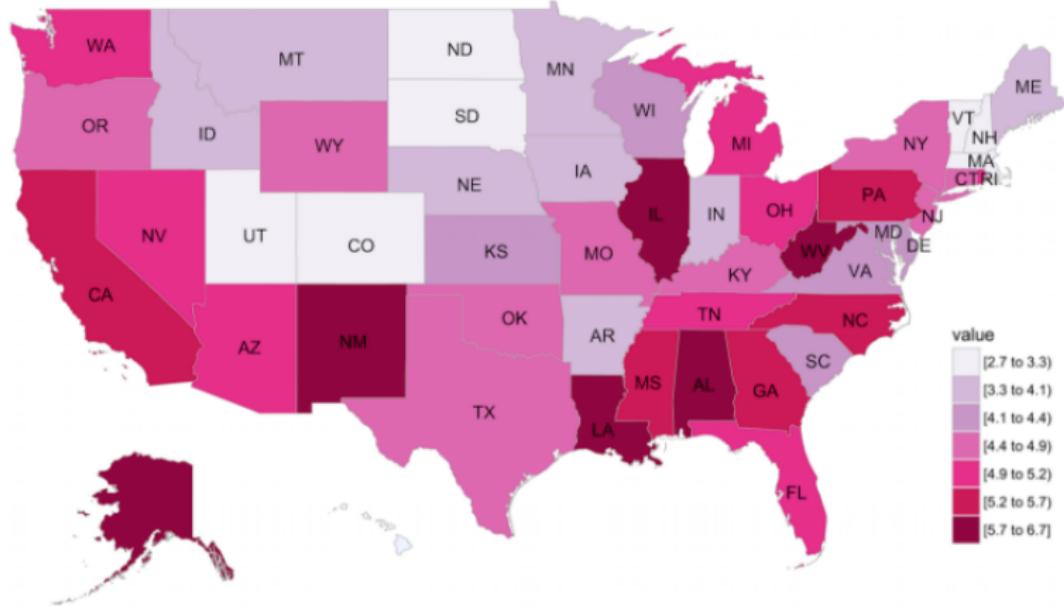
Figura 7: Izquierda-Departamento Capital (Municipios de San Lorenzo y Salta). Derecha-Distribución de centros de votación (Escuelas) en el municipio de Salta, por instrumento de votación: sistema de voto electrónico (rojo) y sistema tradicional de boletas partidarias en papel (azul).

Figura: *El impacto de enchufar los votos* (Ruiz Nicolini, 2017)

Gran abanico de posibilidades para representar data georeferenciada

# Ejemplos

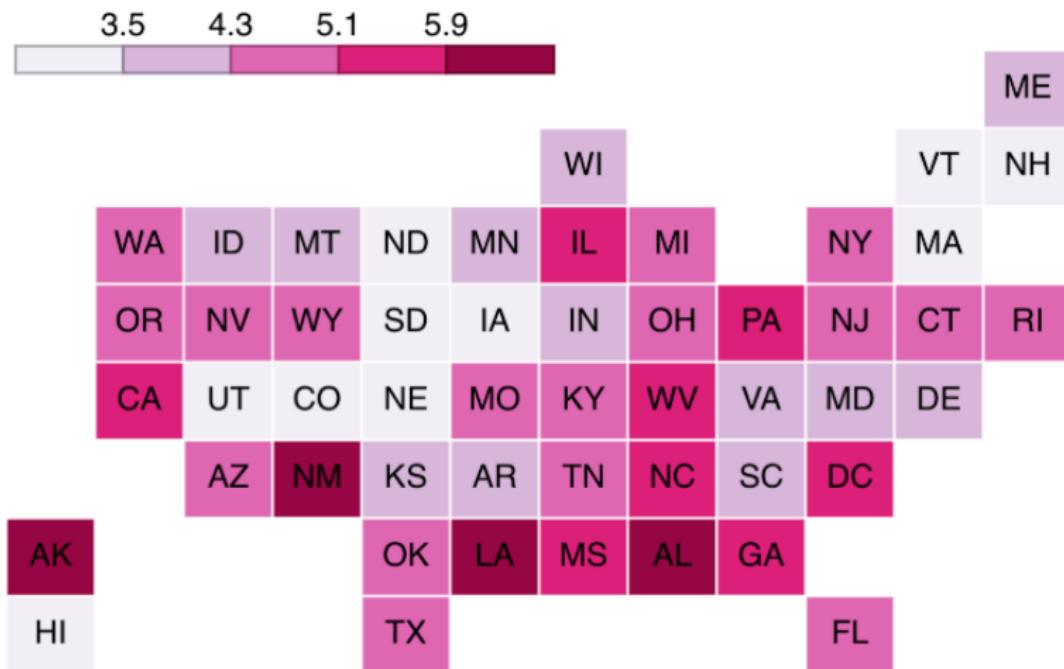
## 1. Choropleth Map



(Fuente: Ryan Hafen)

## Ejemplos

## 2. Hex Tile Map



(Fuente: Ryan Hafen)

# Ejemplos

## 3. Faceted Choropleth or Tile Maps

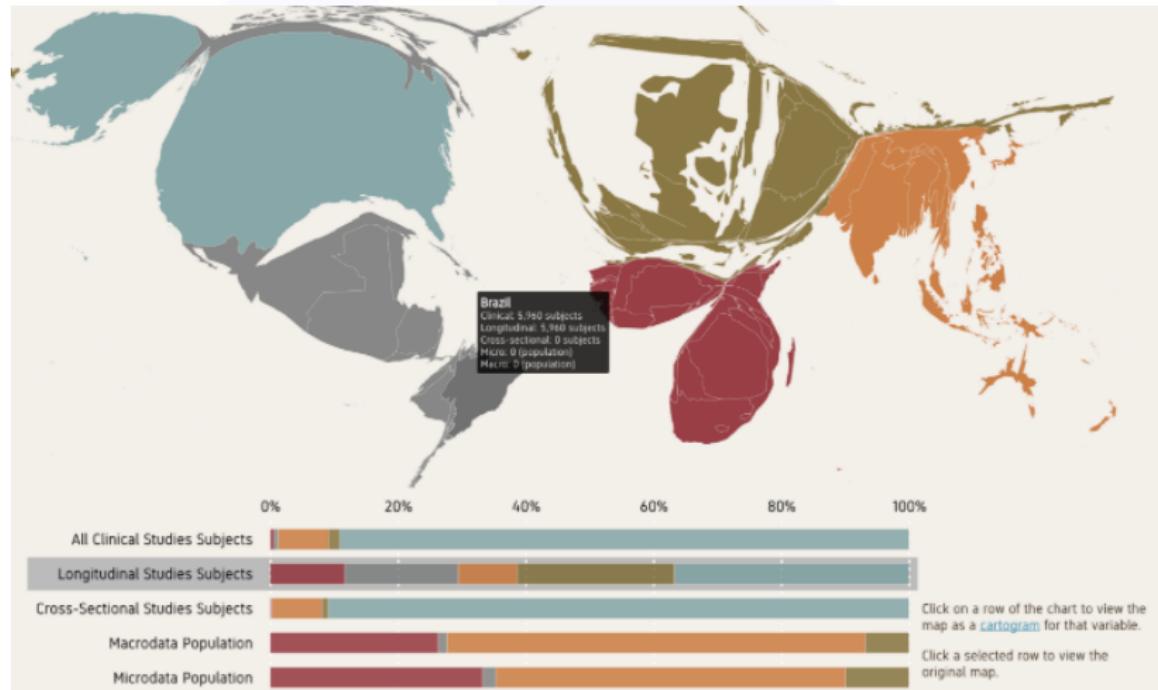
Share of workforce with jobs lost or threatened by trade



(Fuente: Ryan Hafen)

# Ejemplos

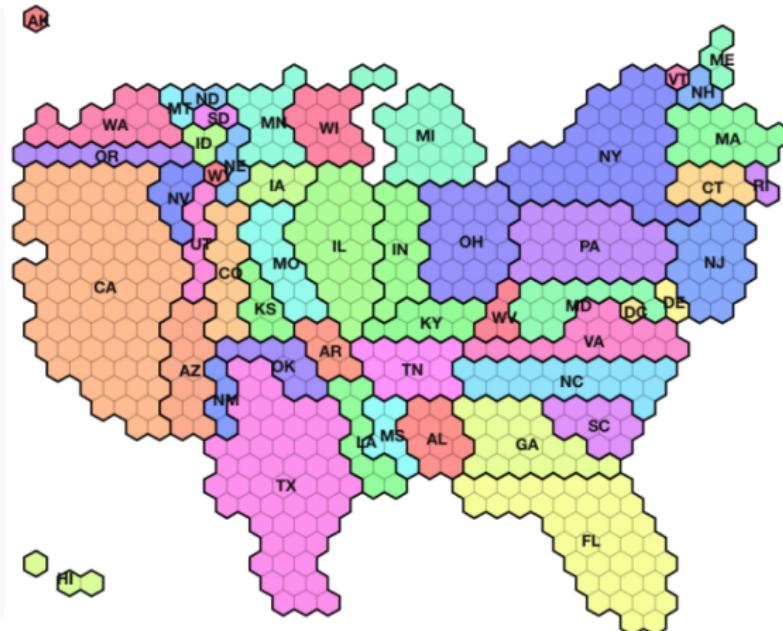
## 4. Cartograms



(Fuente: Ryan Hafen)

# Ejemplos

## 5. Tilegrams



(Fuente: Ryan Hafen)

# Qué y Por Qué? (What & Why?)

**geofacet** → extensión de **ggplot2** diseñado por Ryan Hafen:

- ▶ Permite graficar múltiples variables por entidad geográfica.
- ▶ Permite esquemas visuales más efectivos que **simplemente** el color.
- ▶ Las entidades geográficas obtienen el mismo espacio en el gráfico.

Fuente: <http://ryanhafen.com/blog/geofacet>

# Las geo - grillas de *ggplot2*

## Geo Grid Designer

Grid Data (csv)

```
row,col,code,name
1,11,ME,Maine
1,10,NH,New Hampshire
1,9,VT,Vermont
1,6,WI,Wisconsin
2,2,ID,Idaho
2,6,IL,Illinois
2,10,MA,Massachusetts
2,7,MI,Michigan
2,5,MN,Minnesota
2,3,MT,Montana
```

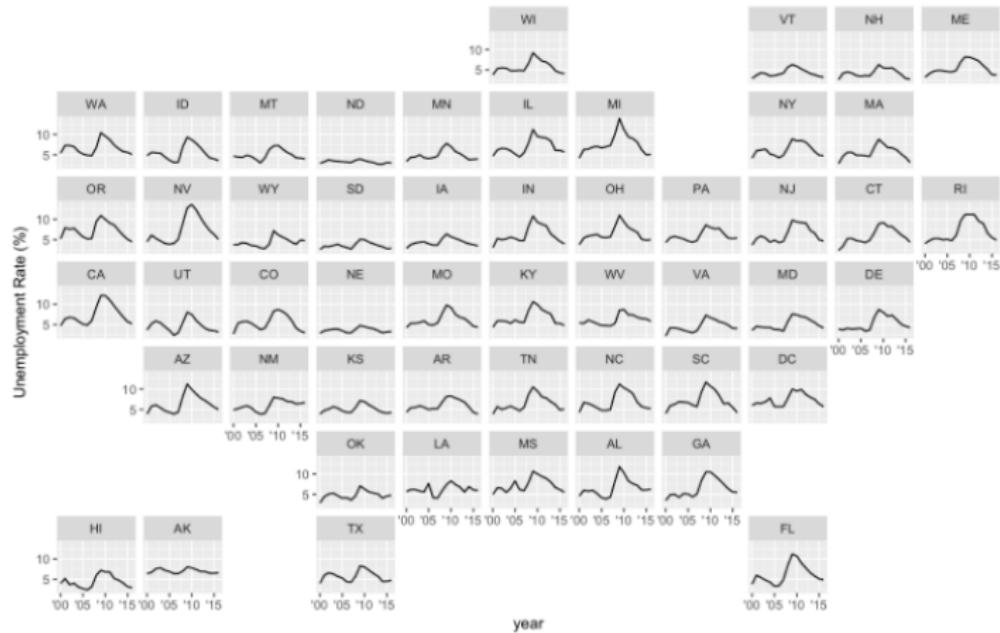
POPULATE GRID



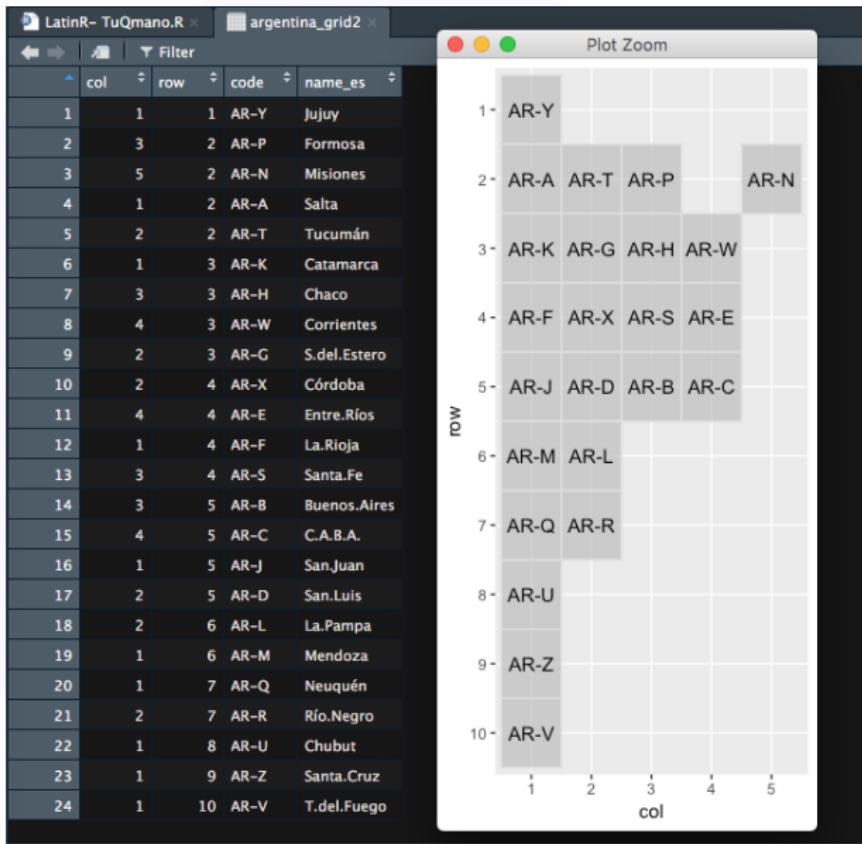
built by Ryan Hafen

# Ejemplo gráfico

## 6.GEOFACET



# Una Argentina en grillas (geofaceting Argentina)



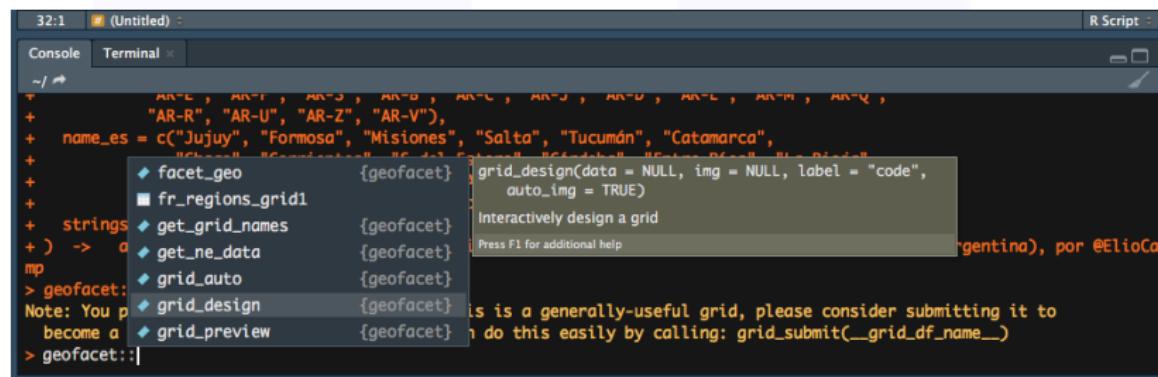
# Una Argentina en grillas (geofaceting Argentina)

The screenshot shows the RStudio interface with the following details:

- Script Editor:** The file `LatinR-TuQmano.R` contains R code for geofaceting Argentina. The code includes comments by Juan Pablo Ruiz Nicolini (@TuQmano) and a date of September 4, 2018. It defines a data frame `argentina_grid2` based on the `argentina_grid1` dataset, which includes the Malvinas and Antarctica.
- Data View:** The `Data` pane shows the `argentina...` dataset with 24 observations and 4 variables.
- Console:** The R console output shows the execution of the script and the creation of the `argentina_grid2` grid. A note from the `grid.preview` function indicates that the user-specified grid is generally useful and suggests submitting it to the package.

# Una Argentina en grillas (geofaceting Argentina)

**grid design** Permite ajustar la grilla facilmente de modo interactivo



The screenshot shows an RStudio interface with the code editor tab open. The code in the editor is:

```
32:1 (Untitled) :  
Console Terminal R Script  
~/  
+ AR-E, AR-E, AR-S, AR-B, AR-C, AR-S, AR-B, AR-L, AR-M, AR-Q,  
+ "AR-R", "AR-U", "AR-Z", "AR-V"),  
+ name_es = c("Jujuy", "Formosa", "Misiones", "Salta", "Tucumán", "Catamarca",  
+ "Chaco", "Corrientes", "Río Negro", "Mendoza", "Entre Ríos", "La Pampa",  
+ facet_geo {geofacet}  
+ fr_regions_grid1  
+ strings + get_grid_names {geofacet}  
+ ) -> a + get_ne_data {geofacet}  
mp  
> geofacet:  
Note: You p + grid_design {geofacet}  
become a + grid_preview {geofacet}  
> geofacet::|
```

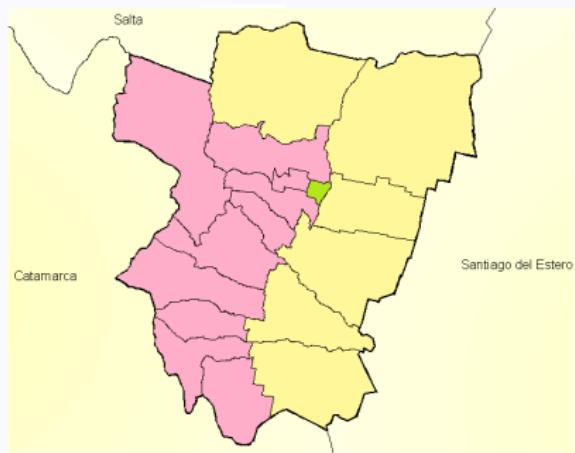
A tooltip is displayed over the `grid_design` function call, providing its documentation:

`grid_design(data = NULL, img = NULL, label = "code", auto_img = TRUE)`  
Interactively design a grid  
Press F1 for additional help

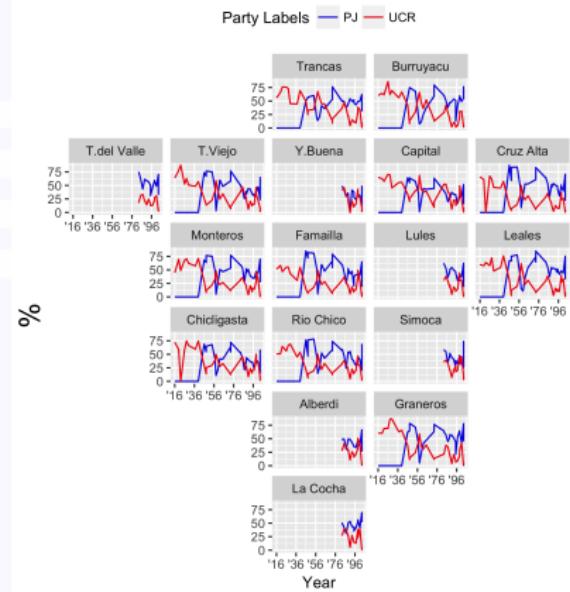
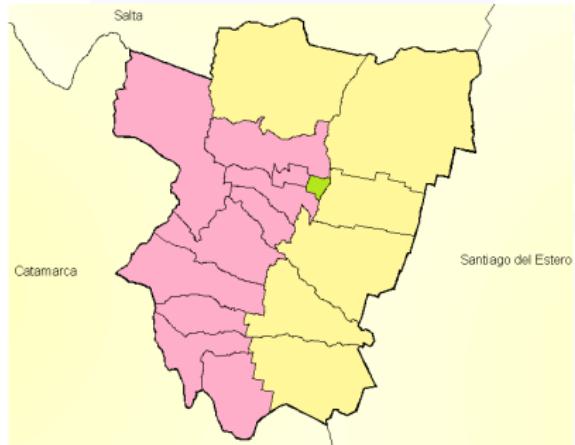
At the bottom of the tooltip, there is a note: "Is a generally-useful grid, please consider submitting it to GitHub. You can do this easily by calling: `grid_submit(__grid_df_name__)`".

**grid submit** abre un issue en github

# El ejemplo: Tucumán



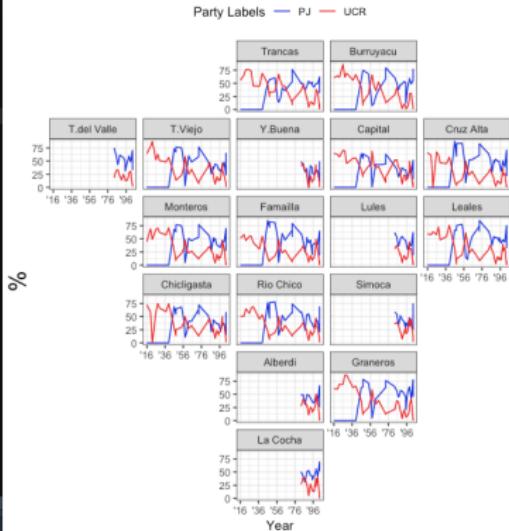
# El ejemplo: Tucumán



# El ejemplo: Tucumán

```
95
96 ##### TUCUMAN's departments "grid.map" --> to fit grids as if they where a map-
97 mygrid <- data.frame(
98   .name = c("Trancas", "Burruyacu", "T.del Valle", "Cruz Alta",
99   ., "Y.Buena", "Capital", "T.Viejo", "Leales", "Monteros",
100  ., "Famaila", "Lules", "Chicligasta", "Rio Chico",
101  ., "Simoca", "Graneros", "Alberdi", "La Cocha"),
102  .code = c("2", "3", "1", "7", "5", "6", "4", "11", "10", "9",
103  ., "8", "12", "14", "13", "16", "15", "17"),
104  .row = c(1, 1, 2, 2, 2, 2, 3, 3, 3, 3, 4, 4, 4, 5, 5, 6),
105  .col = c(3, 4, 1, 5, 3, 4, 2, 5, 2, 3, 4, 2, 3, 4, 4, 3, 3),
106  .stringsAsFactors = FALSE
107 )
108
109 # PLOT ...
110
111
112 ggplot(tuc.electoral) +
113   geom_line(aes(year, votes, group=party, colour=party)) +
114   facet_geo(~ depto, grid = mygrid) +
115   ylab("Votes") +
116   scale_colour_manual(name="Party Labels", breaks = c("PJ", "UCR"),
117   .values=c("#0025E1", "#FF1111")) +
118   scale_x_continuous(name = "Year", breaks = c(1916, 1936, 1956, 1976, 1996),
119   .labels = function(x) paste0("'", substr(x, 3, 4))) +
120   theme_bw() +
121   theme(legend.position="top", ...
122     axis.title.y = element_text(size = 20), ...
123     plot.title = element_text(size = 20, face = "bold")) +
124   ggsave("TUCGeoFacet.png", plot = last_plot(), width = 14, height = 15, units = "cm")
125
126
127
103:12 □ (Untitled)
```

Console Terminal



## Otro ejemplo: AbortoLegalYa

Juanjo  
@\_j\_u\_a\_n\_j\_o

Siguiendo ▾

Aborto legal: así está el país, según los posibles votos de los senadores.  
Muy buen trabajo de @LosAndesDiario.  
[losandes.com.ar/article/view?s...](http://losandes.com.ar/article/view?s...)

¿SÍ O NO AL ABORTO?

Argentina

19:13 - 1 ago. 2018

517 Retweets 977 Me gusta

49 517 977

## Otro ejemplo: AbortoLegalYa

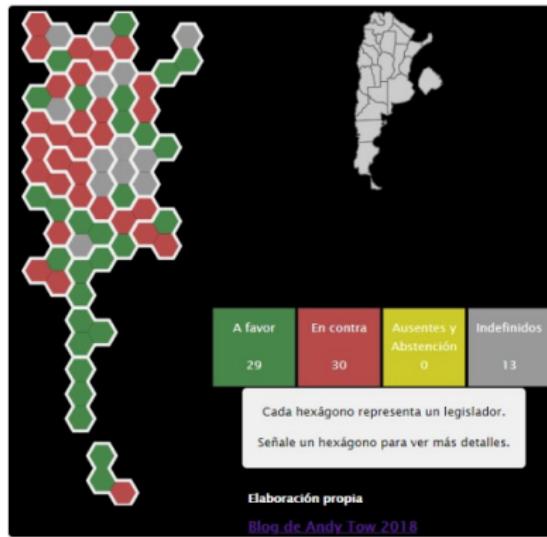


Andy Tow  
@andy\_tow

Siguiendo

Siguiendo con la cobertura de la ley de aborto, en este link podrán seguir nuestro conteo de apoyos y rechazos en el Senado [andytow.com/scripts/discip](http://andytow.com/scripts/discip)

...

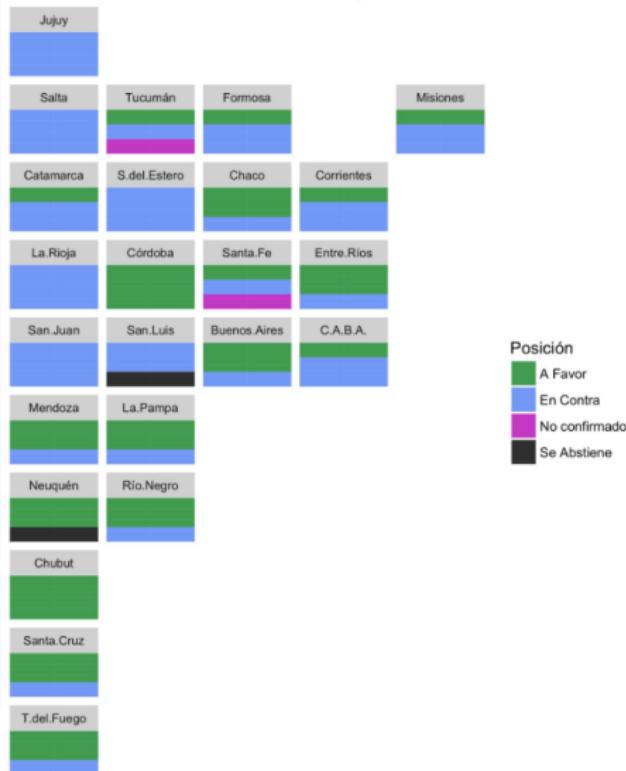


10:12 - 15 jun. 2018

# Otro ejemplo: AbortoLegalYa

Senadores respecto a #AbortoLegalYa (7 de agosto)

Nota: posiciones considerando modificaciones al original.

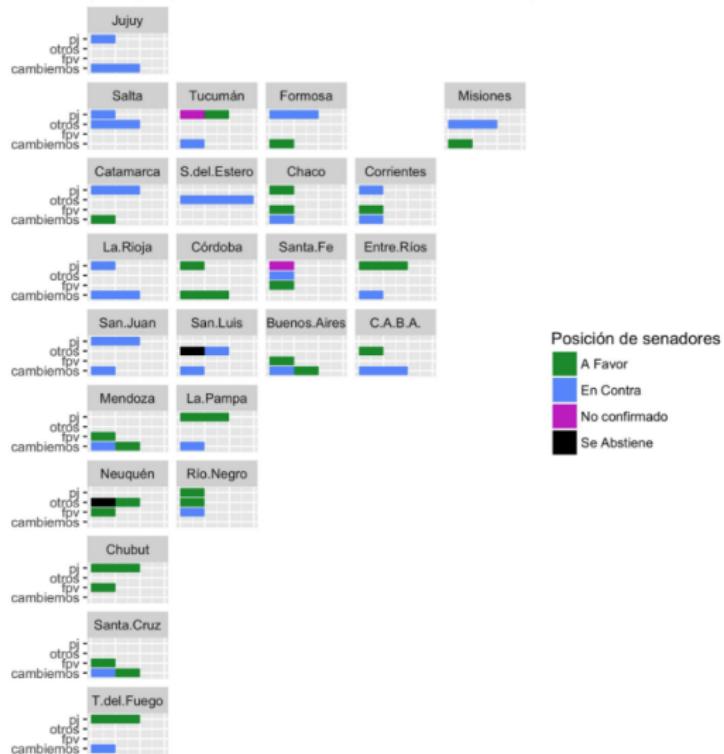


@TuQmano con datos de @EcoFeminita

# Otro ejemplo: AbortoLegalYa

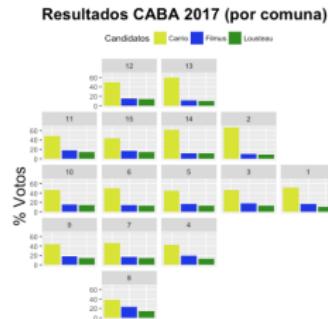
## Senadores frente al #AbortoLegalYa

(7 de agosto) Nota: posiciones considerando modificaciones al original.



@TuQmano con datos de @ecofeminista

24 provincias  
Argentina  
Uruguay



### Elecciones 2014 (URUGUAY)

Partido: Asociación Popular (Yellow), Frente Amplio (Blue), Partido Colorado (Red), Partido Independiente (Black), Partido Nacional (Green)



# GRACIAS!!!

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- ▶ twitter: @TuQmano