

# Análisis de datos exploratorio para proyecto jurel

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## Quarto

Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see <https://quarto.org>.

Attaching package: 'MASS'

The following object is masked from 'package:dplyr':

`select`

Attaching package: 'reshape2'

The following object is masked from 'package:tidyr':

`smiths`

Attaching package: 'reshape'

The following objects are masked from 'package:reshape2':

`colsplit, melt, recast`

The following object is masked from 'package:dplyr':

`rename`

The following objects are masked from 'package:tidyr':

expand, smiths

Linking to GEOS 3.9.1, GDAL 3.4.3, PROJ 7.2.1; sf\_use\_s2() is TRUE

To access larger datasets in this package, install the spDataLarge package with: ``install.packages('spDataLarge', repos='https://nowosad.github.io/drat/', type='source')``

Loading required package: sp

rgeos version: 0.5-9, (SVN revision 684)  
GEOS runtime version: 3.9.1-CAPI-1.14.2  
Please note that rgeos will be retired by the end of 2023,  
plan transition to sf functions using GEOS at your earliest convenience.  
GEOS using OverlayNG  
Linking to sp version: 1.5-0  
Polygon checking: TRUE

Please note that rgdal will be retired by the end of 2023,  
plan transition to sf/stars/terra functions using GDAL and PROJ  
at your earliest convenience.

rgdal: version: 1.5-32, (SVN revision 1176)  
Geospatial Data Abstraction Library extensions to R successfully loaded  
Loaded GDAL runtime: GDAL 3.4.3, released 2022/04/22  
Path to GDAL shared files: C:/Users/Gamer/AppData/Local/R/win-library/4.2/rgdal/gdal  
GDAL binary built with GEOS: TRUE  
Loaded PROJ runtime: Rel. 7.2.1, January 1st, 2021, [PJ\_VERSION: 721]  
Path to PROJ shared files: C:/Users/Gamer/AppData/Local/R/win-library/4.2/rgdal/proj  
PROJ CDN enabled: FALSE  
Linking to sp version: 1.5-0  
To mute warnings of possible GDAL/OSR exportToProj4() degradation,  
use `options("rgdal_show_exportToProj4_warnings"="none")` before loading sp or rgdal.

Registered S3 method overwritten by 'geojsonlint':

method from  
print.location dplyr

La documentacion del paquete y ejemplos de uso se encuentran en <https://pacha.dev/chilemapas>.  
Visita <https://buymeacoffee.com/pacha/> si deseas donar para contribuir al desarrollo de este

Attaching package: 'patchwork'

The following object is masked from 'package:MASS':

area

Warning: package 'gghighlight' was built under R version 4.2.3

Warning: package 'akima' was built under R version 4.2.3

Loading required package: lme4

Loading required package: Matrix

Attaching package: 'Matrix'

The following object is masked from 'package:reshape':

expand

The following objects are masked from 'package:tidyr':

expand, pack, unpack

Loading required package: Hmisc

Loading required package: lattice

Loading required package: survival

Loading required package: Formula

Attaching package: 'Hmisc'

The following object is masked from 'package:rgeos':

translate

The following objects are masked from 'package:dplyr':

src, summarize

The following objects are masked from 'package:base':

format.pval, units

Loading required package: gam

Loading required package: splines

Loading required package: foreach

Attaching package: 'foreach'

The following objects are masked from 'package:purrr':

accumulate, when

Loaded gam 1.20.2

```
[[1]]  
[1] TRUE
```

```
[[2]]  
[1] TRUE
```

```
[[3]]  
[1] TRUE
```

```
[[4]]  
[1] TRUE
```

```
[[5]]
```

[1] TRUE

[[6]]

[1] TRUE

[[1]]

[1]	"gam"	"foreach"	"splines"	"Hmisc"	"Formula"
[6]	"survival"	"lattice"	"lme4"	"Matrix"	"akima"
[11]	"gghighlight"	"RColorBrewer"	"colorspace"	"patchwork"	"chilemapas"
[16]	"rgdal"	"ggspatial"	"rgeos"	"sp"	"ggforce"
[21]	"spData"	"sf"	"reshape"	"reshape2"	"MASS"
[26]	"readxl"	"forcats"	"stringr"	"dplyr"	"purrr"
[31]	"readr"	"tidyr"	"tibble"	"ggplot2"	"tidyverse"
[36]	"stats"	"graphics"	"grDevices"	"utils"	"datasets"
[41]	"methods"	"base"			

[[2]]

[1]	"gam"	"foreach"	"splines"	"Hmisc"	"Formula"
[6]	"survival"	"lattice"	"lme4"	"Matrix"	"akima"
[11]	"gghighlight"	"RColorBrewer"	"colorspace"	"patchwork"	"chilemapas"
[16]	"rgdal"	"ggspatial"	"rgeos"	"sp"	"ggforce"
[21]	"spData"	"sf"	"reshape"	"reshape2"	"MASS"
[26]	"readxl"	"forcats"	"stringr"	"dplyr"	"purrr"
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[36]	"stats"	"graphics"	"grDevices"	"utils"	"datasets"
[41]	"methods"	"base"			

[[3]]

[1]	"gam"	"foreach"	"splines"	"Hmisc"	"Formula"
[6]	"survival"	"lattice"	"lme4"	"Matrix"	"akima"
[11]	"gghighlight"	"RColorBrewer"	"colorspace"	"patchwork"	"chilemapas"
[16]	"rgdal"	"ggspatial"	"rgeos"	"sp"	"ggforce"
[21]	"spData"	"sf"	"reshape"	"reshape2"	"MASS"
[26]	"readxl"	"forcats"	"stringr"	"dplyr"	"purrr"
[31]	"readr"	"tidyr"	"tibble"	"ggplot2"	"tidyverse"
[36]	"stats"	"graphics"	"grDevices"	"utils"	"datasets"
[41]	"methods"	"base"			

[[4]]

[1]	"gam"	"foreach"	"splines"	"Hmisc"	"Formula"
[6]	"survival"	"lattice"	"lme4"	"Matrix"	"akima"
[11]	"gghighlight"	"RColorBrewer"	"colorspace"	"patchwork"	"chilemapas"

```

[16] "rgdal"      "ggspatial"  "rgeos"      "sp"         "ggforce"
[21] "spData"    "sf"         "reshape"    "reshape2"   "MASS"
[26] "readxl"    "forcats"    "stringr"    "dplyr"      "purrr"
[31] "readr"     "tidyr"      "tibble"     "ggplot2"    "tidyverse"
[36] "stats"     "graphics"   "grDevices"  "utils"      "datasets"
[41] "methods"   "base"

[[5]]
 [1] "gam"      "foreach"  "splines"  "Hmisc"     "Formula"
 [6] "survival" "lattice"  "lme4"     "Matrix"    "akima"
[11] "gghighlight" "RColorBrewer" "colorspace" "patchwork" "chilemapas"
[16] "rgdal"      "ggspatial"  "rgeos"      "sp"         "ggforce"
[21] "spData"    "sf"         "reshape"    "reshape2"   "MASS"
[26] "readxl"    "forcats"    "stringr"    "dplyr"      "purrr"
[31] "readr"     "tidyr"      "tibble"     "ggplot2"    "tidyverse"
[36] "stats"     "graphics"   "grDevices"  "utils"      "datasets"
[41] "methods"   "base"

[[6]]
 [1] "gam"      "foreach"  "splines"  "Hmisc"     "Formula"
 [6] "survival" "lattice"  "lme4"     "Matrix"    "akima"
[11] "gghighlight" "RColorBrewer" "colorspace" "patchwork" "chilemapas"
[16] "rgdal"      "ggspatial"  "rgeos"      "sp"         "ggforce"
[21] "spData"    "sf"         "reshape"    "reshape2"   "MASS"
[26] "readxl"    "forcats"    "stringr"    "dplyr"      "purrr"
[31] "readr"     "tidyr"      "tibble"     "ggplot2"    "tidyverse"
[36] "stats"     "graphics"   "grDevices"  "utils"      "datasets"
[41] "methods"   "base"

```

```

log_sa = cut_number(log(df$Sa), n=5)
levels(log_sa)

```

```

[1] "[-Inf,3.74]" "(3.74,4.97]" "(4.97,6.07]" "(6.07,7.23]" "(7.23,11.2]"

```

```

quantile(log(df$Sa), c(0, 0.2, 0.4, 0.6, 0.8, 1))

```

```

      0%      20%      40%      60%      80%     100%
-Inf  3.737670  4.967026  6.070722  7.228679 11.202752

```