

# Package ‘geojsonio’

February 6, 2017

**Title** Convert Data from and to 'GeoJSON' or 'TopoJSON'

**Description** Convert data to 'GeoJSON' or 'TopoJSON' from various R classes, including vectors, lists, data frames, shape files, and spatial classes. geojsonio does not aim to replace packages like 'sp', 'rgdal', 'rgeos', but rather aims to be a high level client to simplify conversions of data from and to 'GeoJSON' and 'TopoJSON'.

**Version** 0.3.2

**License** MIT + file LICENSE

**URL** <https://github.com/ropensci/geojsonio>

**BugReports** <https://github.com/ropensci/geojsonio/issues>

**LazyData** true

**VignetteBuilder** knitr

**Depends** R (>= 2.10)

**Imports** methods, sp, rgdal (>= 1.1-1), rgeos, httr (>= 1.1.0), mapproj, jsonlite (>= 0.9.21), magrittr, readr (>= 0.2.2), V8

**Suggests** gistr, testthat, knitr, leaflet, sf

**Enhances** RColorBrewer

**RoxygenNote** 5.0.1

**NeedsCompilation** no

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**Repository** CRAN

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as.json	<i>Convert inputs to JSON</i>
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### Description

Convert inputs to JSON

### Usage

```
as.json(x, ...)
```

### Arguments

x	Input
...	Further args passed on to <a href="#">toJSON</a>

**Examples**

```
## Not run:
(res <- geojson_list(us_cities[1:2,], lat='lat', lon='long'))
as.json(res)
as.json(res, pretty = TRUE)

vec <- c(-99.74, 32.45)
as.json(geojson_list(vec))
as.json(geojson_list(vec), pretty = TRUE)

## End(Not run)
```

---

as.location	<i>Convert a path or URL to a location object.</i>
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---

**Description**

Convert a path or URL to a location object.

**Usage**

```
as.location(x, ...)
```

**Arguments**

x	Input.
...	Ignored.

**Examples**

```
## Not run:
# A file
file <- system.file("examples", "zillow_or.geojson", package = "geojsonio")
as.location(file)

# A URL
url <- "https://raw.githubusercontent.com/glynnbird/usstatesgeojson/master/california.geojson"
as.location(url)

## End(Not run)
```

---

bounds	<i>Get bounds for a list or geo_list</i>
--------	--

---

**Description**

Get bounds for a list or geo\_list

**Usage**

```
bounds(x, ...)
```

**Arguments**

x	An object of class list or geo_list
...	Ignored

**Value**

A vector of the form min longitude, min latitude, max longitude, max latitude

**Examples**

```
# numeric
vec <- c(-99.74, 32.45)
x <- geojson_list(vec)
bounds(x)

# list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
               list(latitude=30, longitude=130, marker="blue"))
x <- geojson_list(mylist)
bounds(x)

# data.frame
x <- geojson_list(states[1:20,])
bounds(x)
```

---

canada_cities	<i>This is the same data set from the maps library, named differently</i>
---------------	---

---

**Description**

This database is of Canadian cities of population greater than about 1,000. Also included are province capitals of any population size.

**Format**

A list with 6 components, namely "name", "country.etc", "pop", "lat", "long", and "capital", containing the city name, the province abbreviation, approximate population (as at January 2006), latitude, longitude and capital status indication (0 for non-capital, 1 for capital, 2 for provincial

---

centroid	<i>Get centroid for a geo_list</i>
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---

**Description**

Get centroid for a geo\_list

**Usage**

```
centroid(x, ...)
```

**Arguments**

x	An object of class geo_list
...	Ignored

**Value**

A vector of the form longitude, latitude

**Examples**

```
# numeric
vec <- c(-99.74, 32.45)
x <- geojson_list(vec)
centroid(x)

# list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
               list(latitude=30, longitude=130, marker="blue"))
x <- geojson_list(mylist)
centroid(x)

# data.frame
x <- geojson_list(states[1:20,])
centroid(x)
```

---

file_to_geojson	<i>Convert spatial data files to GeoJSON from various formats.</i>
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---

## Description

You can use a web interface called OGRE, or do conversions locally using the `rgdal` package.

## Usage

```
file_to_geojson(input, method = "web", output = ".", parse = FALSE,
               encoding = "CP1250", verbose = FALSE, ...)
```

## Arguments

input	The file being uploaded, path to the file on your machine.
method	(character) One of "web" (default) or "local". Matches on partial strings. This parameter determines how the data is read. "web" means we use the OGRE web service, and "local" means we use <b>rgdal</b> . See Details for more.
output	Destination for output geojson file. Defaults to current working directory, and gives a random alphanumeric file name
parse	(logical) To parse geojson to data.frame like structures if possible. Default: FALSE
encoding	(character) The encoding passed to <code>readOGR</code> . Default: CP1250
verbose	(logical) Printing of <code>readOGR</code> progress. Default: FALSE
...	Additional parameters passed to <code>readOGR</code>

## Method parameter

The web option uses the OGRE web API. OGRE currently has an output size limit of 15MB. See here <http://ogre.adc4gis.com/> for info on the OGRE web API. The local option uses the function `writeOGR` from the package `rgdal`.

## OGRE

Note that for Shapefiles, GML, MapInfo, and VRT, you need to send zip files to OGRE. For other file types (.bna, .csv, .dgn, .dxf, .gxt, .txt, .json, .geojson, .rss, .georss, .xml, .gmt, .kml, .kmz) you send the actual file with that file extension.

## Linting GeoJSON

If you're having trouble rendering GeoJSON files, ensure you have a valid GeoJSON file by running it through the package **geojsonlint**, which has a variety of different GeoJSON linters.

**Examples**

```

## Not run:
file <- system.file("examples", "norway_maple.kml", package = "geojsonio")

# KML type file - using the web method
file_to_geojson(input=file, method='web', output='kml_web')
## read into memory
file_to_geojson(input=file, method='web', output = ":memory:")
file_to_geojson(input=file, method='local', output = ":memory:")

# KML type file - using the local method
file_to_geojson(input=file, method='local', output='kml_local')

# Shp type file - using the web method - input is a zipped shp bundle
file <- system.file("examples", "bison.zip", package = "geojsonio")
file_to_geojson(file, method='web', output='shp_web')

# Shp type file - using the local method - input is the actual .shp file
file <- system.file("examples", "bison.zip", package = "geojsonio")
dir <- tempdir()
unzip(file, exdir = dir)
list.files(dir)
shpfile <- file.path(dir, "bison-Bison_bison-20130704-120856.shp")
file_to_geojson(shpfile, method='local', output='shp_local')

# Neighborhoods in the US
## beware, this is a long running example
# url <- 'http://www.nws.noaa.gov/geodata/catalog/national/data/ci08au12.zip'
# out <- file_to_geojson(input=url, method='web', output='cities')

# geojson with .json extension
x <- gsub("\n", "", paste0('https://gist.githubusercontent.com/hunterowens/
25ea24e198c80c9fbcc7/raw/7fd3efda9009f902b5a991a506cea52db19ba143/
wards2014.json', collapse = ""))
res <- file_to_geojson(x)
jsonlite::fromJSON(res)
res <- file_to_geojson(x, method = "local")
jsonlite::fromJSON(res)

## End(Not run)

```

---

geojson-add

*Add together geo\_list or json objects*


---

**Description**

Add together geo\_list or json objects

**Usage**

```
## S3 method for class 'geo_list'
x1 + x2

## S3 method for class 'json'
x1 + x2
```

**Arguments**

x1                    An object of class `geo_list` or `json`

x2                    A component to add to x1, of class `geo_list` or `json`

**Details**

If the first object is an object of class `geo_list`, you can add another object of class `geo_list` or of class `json`, and will result in a `geo_list` object.

If the first object is an object of class `json`, you can add another object of class `json` or of class `geo_list`, and will result in a `json` object.

**See Also**

[geojson\\_list](#), [geojson\\_json](#)

**Examples**

```
## Not run:
# geo_list + geo_list
## Note: geo_list is the output type from geojson_list, it's just a list with
## a class attached so we know it's geojson :)
vec <- c(-99.74,32.45)
a <- geojson_list(vec)
vecs <- list(c(100.0,0.0), c(101.0,0.0), c(101.0,1.0), c(100.0,1.0), c(100.0,0.0))
b <- geojson_list(vecs, geometry="polygon")
a + b

# json + json
c <- geojson_json(c(-99.74,32.45))
vecs <- list(c(100.0,0.0), c(101.0,0.0), c(101.0,1.0), c(100.0,1.0), c(100.0,0.0))
d <- geojson_json(vecs, geometry="polygon")
c + d
(c + d) %>% pretty

## End(Not run)
```



## Description

Convert various data formats to/from GeoJSON or TopoJSON. This package focuses mostly on converting lists, `data.frame`'s, numeric, `SpatialPolygons`, `SpatialPolygonsDataFrame`, and more to GeoJSON with the help of `rgdal` and friends. You can currently read TopoJSON - writing TopoJSON will come in a future version of this package.

## Package organization

The core functions in this package are organized first around what you're working with or want to get, `gejson` or `topojson`, then convert to or read from various formats:

- `gejson_list` - convert to `gejson` as R list format
- `gejson_json` - convert to `gejson` as json
- `gejson_sp` - convert to a spatial object from `gejson_list` or `gejson_json`
- `gejson_read` / `topojson_read` - read a `gejson/topojson` file from file path or URL
- `gejson_write` - write a `gejson` file locally (`topojson` coming later)

Other interesting functions:

- `map_gist` - Create a GitHub gist (renders as an interactive map)
- `map_leaf` - Create a local interactive map using the `leaflet` package
- `lint` - Checks validity of `gejson` using the Javascript library `gejsonhint`. See also [gejsonio-deprecated](#)
- `validate` - Checks validity of `gejson` using the web service at <http://gejsonlint.com/>. See also [gejsonio-deprecated](#)

All of the above functions have methods for various classes, including `numeric` vectors, `data.frame`, `list`, `SpatialPolygons`, `SpatialLines`, `SpatialPoints`, and many more - which will try to do the right thing based on the data you give as input.

## Author(s)

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`gejsonio-deprecated` *Deprecated functions in gejsonio*

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## Description

- `lint`: In the next version this function will be removed, defunct. See `gejsonlint::gejson_hint`
- `validate`: In the next version this function will be removed, defunct. See `gejsonlint::gejson_lint`

---

geojson_json	<i>Convert many input types with spatial data to geojson specified as a json string</i>
--------------	---

---

### Description

Convert many input types with spatial data to geojson specified as a json string

### Usage

```
geojson_json(input, lat = NULL, lon = NULL, group = NULL,
  geometry = "point", type = "FeatureCollection", convert_wgs84 = FALSE,
  crs = NULL, ...)
```

### Arguments

input	Input list, data.frame, spatial class, or sf class. Inputs can also be dplyr tbl_df class since it inherits from data.frame.
lat	(character) Latitude name. The default is NULL, and we attempt to guess.
lon	(character) Longitude name. The default is NULL, and we attempt to guess.
group	(character) A grouping variable to perform grouping for polygons - doesn't apply for points
geometry	(character) One of point (Default) or polygon.
type	(character)The type of collection. One of FeatureCollection (default) or GeometryCollection.
convert_wgs84	Should the input be converted to the <b>standard coordinate referece system defined for GeoJSON</b> (geographic coordinate reference system, using the WGS84 datum, with longitude and latitude units of decimal degrees; EPSG: 4326). Default is FALSE though this may change in a future package version. This will only work for sf or Spatial objects with a CRS already defined. If one is not defined but you know what it is, you may define it in the crs argument below.
crs	The CRS of the input if it is not already defined. This can be an epsg code as a four or five digit integer or a valid proj4 string. This argument will be ignored if convert_wgs84 is FALSE or the object already has a CRS.
...	Further args passed on to <a href="#">toJSON</a>

### Details

This function creates a geojson structure as a json character string; it does not write a file using rgdal - see [geojson\\_write](#) for that.

Note that all sp class objects will output as FeatureCollection objects, while other classes (numeric, list, data.frame) can be output as FeatureCollection or GeometryCollection objects. We're working on allowing GeometryCollection option for sp class objects.

Also note that with `sp` classes we do make a round-trip, using `writeOGR` to write GeoJSON to disk, then read it back in. This is fast and we don't have to think about it too much, but this disk round-trip is not ideal.

For `sf` classes (`sf`, `sfc`, `sfg`), the following conversions are made:

- `sfg`: the appropriate geometry `Point`, `LineString`, `Polygon`, `MultiPoint`, `MultiLineString`, `MultiPolygon`, `GeometryCollection`
- `sfc`: `GeometryCollection`, unless the `sfc` is length 1, then the geometry as above
- `sf`: `FeatureCollection`

## Value

An object of class `geo_json` (and `json`)

## Examples

```
## Not run:
# From a numeric vector of length 2, making a point type
geojson_json(c(-99.74,32.45), pretty=TRUE)
geojson_json(c(-99.74,32.45), type = "GeometryCollection", pretty=TRUE)

## polygon type
### this requires numeric class input, so inputting a list will dispatch on the list method
poly <- c(c(-114.345703125,39.436192999314095),
          c(-114.345703125,43.45291889355468),
          c(-106.61132812499999,43.45291889355468),
          c(-106.61132812499999,39.436192999314095),
          c(-114.345703125,39.436192999314095))
geojson_json(poly, geometry = "polygon", pretty=TRUE)

# Lists
## From a list of numeric vectors to a polygon
vecs <- list(c(100.0,0.0), c(101.0,0.0), c(101.0,1.0), c(100.0,1.0), c(100.0,0.0))
geojson_json(vecs, geometry="polygon", pretty=TRUE)

## from a named list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
              list(latitude=30, longitude=130, marker="blue"))
geojson_json(mylist, lat='latitude', lon='longitude')

# From a data.frame to points
geojson_json(us_cities[1:2,], lat='lat', lon='long', pretty=TRUE)
geojson_json(us_cities[1:2,], lat='lat', lon='long',
             type="GeometryCollection", pretty=TRUE)

# from data.frame to polygons
head(states)
## make list for input to e.g., rMaps
geojson_json(states[1:351, ], lat='lat', lon='long', geometry="polygon", group='group')

# from a geo_list
a <- geojson_list(us_cities[1:2,], lat='lat', lon='long')
```

```

geojson_json(a)

# sp classes

## From SpatialPolygons class
library('sp')
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100),
  c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90),
  c(30,40,35,30)))), "2")
sp_poly <- SpatialPolygons(list(poly1, poly2), 1:2)
geojson_json(sp_poly)
geojson_json(sp_poly, pretty=TRUE)

## Another SpatialPolygons
library("sp")
library("rgeos")
pt <- SpatialPoints(coordinates(list(x = 0, y = 0)), CRS("+proj=longlat +datum=WGS84"))
## transform to web mercator because geos needs project coords
crs <- gsub("\n", "", paste0("+proj=merc +a=6378137 +b=6378137 +lat_ts=0.0 +lon_0=0.0 +x_0=0.0
  +y_0=0 +k=1.0 +units=m +nadgrids=@null +wktext +no_defs", collapse = ""))
pt <- spTransform(pt, CRS(crs))
## buffer
pt <- gBuffer(pt, width = 100)
pt <- spTransform(pt, CRS("+proj=longlat +datum=WGS84"))
geojson_json(pt)

## data.frame to geojson
geojson_write(us_cities[1:2,], lat='lat', lon='long') %>% as.json

# From SpatialPoints class
x <- c(1,2,3,4,5)
y <- c(3,2,5,1,4)
s <- SpatialPoints(cbind(x,y))
geojson_json(s)

## From SpatialPointsDataFrame class
s <- SpatialPointsDataFrame(cbind(x,y), mtcars[1:5,])
geojson_json(s)

## From SpatialLines class
library("sp")
c1 <- cbind(c(1,2,3), c(3,2,2))
c2 <- cbind(c1[,1]+.05,c1[,2]+.05)
c3 <- cbind(c(1,2,3),c(1,1.5,1))
L1 <- Line(c1)
L2 <- Line(c2)
L3 <- Line(c3)
Ls1 <- Lines(list(L1), ID = "a")
Ls2 <- Lines(list(L2, L3), ID = "b")
s11 <- SpatialLines(list(Ls1))
s112 <- SpatialLines(list(Ls1, Ls2))
geojson_json(s11)

```

```

geojson_json(sl12)

## From SpatialLinesDataFrame class
dat <- data.frame(X = c("Blue", "Green"),
                 Y = c("Train", "Plane"),
                 Z = c("Road", "River"), row.names = c("a", "b"))
sldf <- SpatialLinesDataFrame(sl12, dat)
geojson_json(sldf)
geojson_json(sldf, pretty=TRUE)

## From SpatialGrid
x <- GridTopology(c(0,0), c(1,1), c(5,5))
y <- SpatialGrid(x)
geojson_json(y)

## From SpatialGridDataFrame
sgdim <- c(3,4)
sg <- SpatialGrid(GridTopology(rep(0,2), rep(10,2), sgdim))
sgdf <- SpatialGridDataFrame(sg, data.frame(val = 1:12))
geojson_json(sgdf)

# From SpatialRings
library("rgeos")
r1 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="1")
r2 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="2")
r1r2 <- SpatialRings(list(r1, r2))
geojson_json(r1r2)

# From SpatialRingsDataFrame
dat <- data.frame(id = c(1,2), value = 3:4)
r1r2df <- SpatialRingsDataFrame(r1r2, data = dat)
geojson_json(r1r2df)

# From SpatialPixels
library("sp")
pixels <- suppressWarnings(SpatialPixels(SpatialPoints(us_cities[c("long", "lat")])))
summary(pixels)
geojson_json(pixels)

# From SpatialPixelsDataFrame
library("sp")
pixelsdf <- suppressWarnings(
  SpatialPixelsDataFrame(points = canada_cities[c("long", "lat")], data = canada_cities)
)
geojson_json(pixelsdf)

# From SpatialCollections
library("sp")
library("rgeos")
pts <- SpatialPoints(cbind(c(1,2,3,4,5), c(3,2,5,1,4)))
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100), c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90), c(30,40,35,30)))), "2")
poly <- SpatialPolygons(list(poly1, poly2), 1:2)

```

```

dat <- SpatialCollections(pts, polygons = poly)
geojson_json(dat)

# From sf classes:
if (require(sf)) {
## sfg (a single simple features geometry)
  p1 <- rbind(c(0,0), c(1,0), c(3,2), c(2,4), c(1,4), c(0,0))
  poly <- rbind(c(1,1), c(1,2), c(2,2), c(1,1))
  poly_sfg <-st_polygon(list(p1))
  geojson_json(poly_sfg)

## sfc (a collection of geometries)
  p1 <- rbind(c(0,0), c(1,0), c(3,2), c(2,4), c(1,4), c(0,0))
  p2 <- rbind(c(5,5), c(5,6), c(4,5), c(5,5))
  poly_sfc <- st_sfc(st_polygon(list(p1)), st_polygon(list(p2)))
  geojson_json(poly_sfc)

## sf (collection of geometries with attributes)
  p1 <- rbind(c(0,0), c(1,0), c(3,2), c(2,4), c(1,4), c(0,0))
  p2 <- rbind(c(5,5), c(5,6), c(4,5), c(5,5))
  poly_sfc <- st_sfc(st_polygon(list(p1)), st_polygon(list(p2)))
  poly_sf <- st_sf(foo = c("a", "b"), bar = 1:2, poly_sfc)
  geojson_json(poly_sf)
}

## Pretty print a json string
geojson_json(c(-99.74,32.45))
geojson_json(c(-99.74,32.45)) %>% pretty

## End(Not run)

```

---

geojson_list	<i>Convert many input types with spatial data to geojson specified as a list</i>
--------------	--

---

## Description

Convert many input types with spatial data to geojson specified as a list

## Usage

```

geojson_list(input, lat = NULL, lon = NULL, group = NULL,
  geometry = "point", type = "FeatureCollection", convert_wgs84 = FALSE,
  crs = NULL, ...)

```

## Arguments

input	Input list, data.frame, spatial class, or sf class. Inputs can also be dplyr tbl_df class since it inherits from data.frame.
-------	--

lat	(character) Latitude name. The default is NULL, and we attempt to guess.
lon	(character) Longitude name. The default is NULL, and we attempt to guess.
group	(character) A grouping variable to perform grouping for polygons - doesn't apply for points
geometry	(character) One of point (Default) or polygon.
type	(character) The type of collection. One of FeatureCollection (default) or GeometryCollection.
convert_wgs84	Should the input be converted to the <b>standard coordinate reference system defined for GeoJSON</b> (geographic coordinate reference system, using the WGS84 datum, with longitude and latitude units of decimal degrees; EPSG: 4326). Default is FALSE though this may change in a future package version. This will only work for sf or Spatial objects with a CRS already defined. If one is not defined but you know what it is, you may define it in the crs argument below.
crs	The CRS of the input if it is not already defined. This can be an epsg code as a four or five digit integer or a valid proj4 string. This argument will be ignored if convert_wgs84 is FALSE or the object already has a CRS.
...	Ignored

## Details

This function creates a geojson structure as an R list; it does not write a file using `rgdal` - see [geojson\\_write](#) for that.

Note that all `sp` class objects will output as `FeatureCollection` objects, while other classes (numeric, list, data.frame) can be output as `FeatureCollection` or `GeometryCollection` objects. We're working on allowing `GeometryCollection` option for `sp` class objects.

Also note that with `sp` classes we do make a round-trip, using `writeOGR` to write GeoJSON to disk, then read it back in. This is fast and we don't have to think about it too much, but this disk round-trip is not ideal.

For `sf` classes (`sf`, `sfc`, `sfg`), the following conversions are made:

- `sfg`: the appropriate geometry `Point`, `LineString`, `Polygon`, `MultiPoint`, `MultiLineString`, `MultiPolygon`, `GeometryCollection`
- `sfc`: `GeometryCollection`, unless the `sfc` is length 1, then the geometry as above
- `sf`: `FeatureCollection`

For `list` and `data.frame` objects, you don't have to pass in `lat` and `lon` parameters if they are named appropriately (e.g., `lat/latitude`, `lon/long/longitude`), as they will be auto-detected. If they can not be found, the function will stop and warn you to specify the parameters specifically.

## Examples

```
## Not run:
# From a numeric vector of length 2 to a point
vec <- c(-99.74, 32.45)
geojson_list(vec)

# Lists
```

```

## From a list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
              list(latitude=30, longitude=130, marker="blue"))
geojson_list(mylist)

## From a list of numeric vectors to a polygon
vecs <- list(c(100.0,0.0), c(101.0,0.0), c(101.0,1.0), c(100.0,1.0), c(100.0,0.0))
geojson_list(vecs, geometry="polygon")

# from data.frame to points
(res <- geojson_list(us_cities[1:2,], lat='lat', lon='long'))
as.json(res)
## guess lat/long columns
geojson_list(us_cities[1:2,])
geojson_list(states[1:3,])
geojson_list(states[1:351,], geometry="polygon", group='group')
geojson_list(canada_cities[1:30,])
## a data.frame with columns not named appropriately, but you can specify them
# dat <- data.frame(a = c(31, 41), b = c(-120, -110))
# geojson_list(dat)
# geojson_list(dat, lat="a", lon="b")

# from data.frame to polygons
head(states)
geojson_list(states[1:351, ], lat='lat', lon='long', geometry="polygon", group='group')

# From SpatialPolygons class
library('sp')
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100),
                                     c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90),
                                     c(30,40,35,30)))), "2")
sp_poly <- SpatialPolygons(list(poly1, poly2), 1:2)
geojson_list(sp_poly)

# From SpatialPolygonsDataFrame class
sp_polydf <- as(sp_poly, "SpatialPolygonsDataFrame")
geojson_list(input = sp_polydf)

# From SpatialPoints class
x <- c(1,2,3,4,5)
y <- c(3,2,5,1,4)
s <- SpatialPoints(cbind(x,y))
geojson_list(s)

# From SpatialPointsDataFrame class
s <- SpatialPointsDataFrame(cbind(x,y), mtcars[1:5,])
geojson_list(s)

# From SpatialLines class
library("sp")
c1 <- cbind(c(1,2,3), c(3,2,2))
c2 <- cbind(c1[,1]+.05,c1[,2]+.05)

```



```

c3 <- cbind(c(1,2,3),c(1,1.5,1))
L1 <- Line(c1)
L2 <- Line(c2)
L3 <- Line(c3)
Ls1 <- Lines(list(L1), ID = "a")
Ls2 <- Lines(list(L2, L3), ID = "b")
s11 <- SpatialLines(list(Ls1))
s112 <- SpatialLines(list(Ls1, Ls2))
geojson_list(s11)
geojson_list(s112)
as.json(geojson_list(s112))
as.json(geojson_list(s112), pretty=TRUE)

# From SpatialLinesDataFrame class
dat <- data.frame(X = c("Blue", "Green"),
                 Y = c("Train", "Plane"),
                 Z = c("Road", "River"), row.names = c("a", "b"))
sldf <- SpatialLinesDataFrame(s112, dat)
geojson_list(sldf)
as.json(geojson_list(sldf))
as.json(geojson_list(sldf), pretty=TRUE)

# From SpatialGrid
x <- GridTopology(c(0,0), c(1,1), c(5,5))
y <- SpatialGrid(x)
geojson_list(y)

# From SpatialGridDataFrame
sgdim <- c(3,4)
sg <- SpatialGrid(GridTopology(rep(0,2), rep(10,2), sgdim))
sgdf <- SpatialGridDataFrame(sg, data.frame(val = 1:12))
geojson_list(sgdf)

# From SpatialRings
library("rgeos")
r1 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="1")
r2 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="2")
r1r2 <- SpatialRings(list(r1, r2))
geojson_list(r1r2)

# From SpatialRingsDataFrame
dat <- data.frame(id = c(1,2), value = 3:4)
r1r2df <- SpatialRingsDataFrame(r1r2, data = dat)
geojson_list(r1r2df)

# From SpatialPixels
library("sp")
pixels <- suppressWarnings(SpatialPixels(SpatialPoints(us_cities[c("long", "lat")])))
summary(pixels)
geojson_list(pixels)

# From SpatialPixelsDataFrame
library("sp")

```

```

pixelsdf <- suppressWarnings(
  SpatialPixelsDataFrame(points = canada_cities[c("long", "lat")], data = canada_cities)
)
geojson_list(pixelsdf)

# From SpatialCollections
library("sp")
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100), c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90), c(30,40,35,30)))), "2")
poly <- SpatialPolygons(list(poly1, poly2), 1:2)
coordinates(us_cities) <- ~long+lat
dat <- SpatialCollections(points = us_cities, polygons = poly)
out <- geojson_list(dat)
out$SpatialPoints
out$SpatialPolygons

## End(Not run)

# From sf classes:
if (require(sf)) {
## sfg (a single simple features geometry)
p1 <- rbind(c(0,0), c(1,0), c(3,2), c(2,4), c(1,4), c(0,0))
poly <- rbind(c(1,1), c(1,2), c(2,2), c(1,1))
poly_sfg <- st_polygon(list(p1))
geojson_list(poly_sfg)

## sfc (a collection of geometries)
p1 <- rbind(c(0,0), c(1,0), c(3,2), c(2,4), c(1,4), c(0,0))
p2 <- rbind(c(5,5), c(5,6), c(4,5), c(5,5))
poly_sfc <- st_sfc(st_polygon(list(p1)), st_polygon(list(p2)))
geojson_list(poly_sfc)

## sf (collection of geometries with attributes)
p1 <- rbind(c(0,0), c(1,0), c(3,2), c(2,4), c(1,4), c(0,0))
p2 <- rbind(c(5,5), c(5,6), c(4,5), c(5,5))
poly_sfc <- st_sfc(st_polygon(list(p1)), st_polygon(list(p2)))
poly_sf <- st_sf(foo = c("a", "b"), bar = 1:2, poly_sfc)
geojson_list(poly_sf)
}

```

---

geojson\_read

*Read geojson or other formats from a local file or a URL*


---

## Description

Read geojson or other formats from a local file or a URL

## Usage

```
geojson_read(x, method = "web", parse = FALSE, what = "list", ...)
```

**Arguments**

x	(character) Path to a local file or a URL.
method	(character) One of "web" (default) or "local". Matches on partial strings. This parameter determines how the data is read. "web" means we use the OGRE web service, and "local" means we use <b>rgdal</b> . See Details for more.
parse	(logical) To parse geojson to data.frame like structures if possible. Default: FALSE
what	(character) What to return. One of "list" or "sp" (for Spatial class). Default: "list". If "sp" chosen, forced to method="local".
...	Additional parameters passed to <a href="#">readOGR</a>

**Details**

Uses [file\\_to\\_geojson](#) internally to give back geojson, and other helper functions when returning spatial classes.

This function supports various geospatial file formats from a URL, as well as local kml, shp, and geojson file formats.

**Method parameter**

The web option uses the OGRE web API. OGRE currently has an output size limit of 15MB. See here <http://ogre.adc4gis.com/> for info on the OGRE web API. The local option uses the function [writeOGR](#) from the package **rgdal**.

**OGRE**

Note that for Shapefiles, GML, MapInfo, and VRT, you need to send zip files to OGRE. For other file types (.bna, .csv, .dgn, .dxf, .gxt, .txt, .json, .geojson, .rss, .georss, .xml, .gmt, .kml, .kmz) you send the actual file with that file extension.

**Linting GeoJSON**

If you're having trouble rendering GeoJSON files, ensure you have a valid GeoJSON file by running it through the package **geojsonlint**, which has a variety of different GeoJSON linters.

**Examples**

```
## Not run:
# From a file
file <- system.file("examples", "california.geojson", package = "geojsonio")
out <- geojson_read(file)

# From a URL
url <- "https://raw.githubusercontent.com/glynnbird/usstatesgeojson/master/california.geojson"
geojson_read(url, method = "local")

# Use as.location first if you want
geojson_read(as.location(file))
```

```

# use jsonlite to parse to data.frame structures where possible
geojson_read(url, method = "local", parse = TRUE)

# output a SpatialClass object
## read kml
file <- system.file("examples", "norway_maple.kml", package = "geojsonio")
geojson_read(as.location(file), what = "sp")
## read geojson
file <- system.file("examples", "california.geojson", package = "geojsonio")
geojson_read(as.location(file), what = "sp")
## read geojson from a url
url <- "https://raw.githubusercontent.com/glynnbird/usstatesgeojson/master/california.geojson"
geojson_read(url, what = "sp")
## read from a shape file
file <- system.file("examples", "bison.zip", package = "geojsonio")
dir <- tempdir()
unzip(file, exdir = dir)
shpfile <- list.files(dir, pattern = ".shp", full.names = TRUE)
geojson_read(shpfile, what = "sp")

x <- "https://raw.githubusercontent.com/johan/world.geo.json/master/countries.geo.json"
geojson_read(x, method = "local", what = "sp")
geojson_read(x, method = "local", what = "list")

utils::download.file(x, destfile = basename(x))
geojson_read(basename(x), method = "local", what = "sp")

# doesn't work right now
## file <- system.file("examples", "feature_collection.geojson",
##   package = "geojsonio")
## geojson_read(file, what = "sp")

## End(Not run)

```

---

geojson\_sp

*Convert output of geojson\_list or geojson\_json to spatial classes*

---

### Description

Convert output of geojson\_list or geojson\_json to spatial classes

### Usage

```
geojson_sp(x, disambiguateFIDs = TRUE, ...)
```

### Arguments

x                    Object of class geo\_list or geo\_json

```

disambiguateFIDs
      (logical) default FALSE, if TRUE, and FID values are not unique, they will be set
      to unique values 1:N for N features; problem observed in GML files
...
      Further args passed on to readOGR

```

## Details

The spatial class object returned will depend on the input GeoJSON. Sometimes you will get back a `SpatialPoints` class, and sometimes a `SpatialPolygonsDataFrame` class, etc., depending on what the structure of the GeoJSON.

The reading and writing of the CRS to/from geojson is inconsistent. You can directly set the CRS by passing a valid PROJ4 string to the `p4s` argument in [readOGR](#).

## Value

A spatial class object, see [Details](#).

## Examples

```

## Not run:
library(sp)

# geo_list -----
## From a numeric vector of length 2 to a point
vec <- c(-99.74,32.45)
geojson_list(vec) %>% geojson_sp

## Lists
## From a list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
              list(latitude=30, longitude=130, marker="blue"))
geojson_list(mylist) %>% geojson_sp
geojson_list(mylist) %>% geojson_sp %>% plot

## From a list of numeric vectors to a polygon
vecs <- list(c(100.0,0.0), c(101.0,0.0), c(101.0,1.0), c(100.0,1.0), c(100.0,0.0))
geojson_list(vecs, geometry="polygon") %>% geojson_sp
geojson_list(vecs, geometry="polygon") %>% geojson_sp %>% plot

# geo_json -----
## from point
geojson_json(c(-99.74,32.45)) %>% geojson_sp
geojson_json(c(-99.74,32.45)) %>% geojson_sp %>% plot

# from featurecollectino of points
geojson_json(us_cities[1:2,], lat='lat', lon='long') %>% geojson_sp
geojson_json(us_cities[1:2,], lat='lat', lon='long') %>% geojson_sp %>% plot

# Set the CRS via the p4s argument
geojson_json(us_cities[1:2,], lat='lat', lon='long') %>% geojson_sp(p4s = "+init=epsg:4326")

```

```
# json -----
x <- geojson_json(us_cities[1:2,], lat='lat', lon='long')
geojson_sp(x)

## End(Not run)
```

---

geojson\_style

*Style a data.frame or list prior to converting to geojson*

---

## Description

This helps you add styling following the Simplestyle Spec. See Details

## Usage

```
geojson_style(input, var = NULL, var_col = NULL, var_sym = NULL,
  var_size = NULL, var_stroke = NULL, var_stroke_width = NULL,
  var_stroke_opacity = NULL, var_fill = NULL, var_fill_opacity = NULL,
  color = NULL, symbol = NULL, size = NULL, stroke = NULL,
  stroke_width = NULL, stroke_opacity = NULL, fill = NULL,
  fill_opacity = NULL)
```

## Arguments

input	A data.frame or a list
var	(character) A single variable to map colors, symbols, and/or sizes to.
var_col	(character) A single variable to map colors to.
var_sym	(character) A single variable to map symbols to.
var_size	(character) A single variable to map size to.
var_stroke	(character) A single variable to map stroke to.
var_stroke_width	(character) A single variable to map stroke width to.
var_stroke_opacity	(character) A single variable to map stroke opacity to.
var_fill	(character) A single variable to map fill to.
var_fill_opacity	(character) A single variable to map fill opacity to.
color	(character) Valid RGB hex color. Assigned to the variable marker-color
symbol	(character) An icon ID from the Maki project <a href="http://www.mapbox.com/maki/">http://www.mapbox.com/maki/</a> or a single alphanumeric character (a-z or 0-9). Assigned to the variable marker-symbol
size	(character) One of 'small', 'medium', or 'large'. Assigned to the variable marker-size
stroke	(character) Color of a polygon edge or line (RGB). Assigned to the variable stroke

stroke_width	(numeric) Width of a polygon edge or line (number > 0). Assigned to the variable stroke-width
stroke_opacity	(numeric) Opacity of a polygon edge or line (0.0 - 1.0). Assigned to the variable stroke-opacity
fill	(character) The color of the interior of a polygon (GRB). Assigned to the variable fill
fill_opacity	(character) The opacity of the interior of a polygon (0.0-1.0). Assigned to the variable fill-opacity

## Details

The parameters color, symbol, size, stroke, stroke\_width, stroke\_opacity, fill, and fill\_opacity expect a vector of size 1 (recycled), or exact length of vector being applied to in your input data.

This function helps add styling data to a list or data.frame following the Simplestyle Spec (<https://github.com/mapbox/simplestyle-spec/tree/master/1.1.0>), used by MapBox and GitHub Gists (that renders geoJSON/topoJSON as interactive maps).

There are a few other style variables, but deal with polygons

GitHub has a nice help article on geoJSON files <https://help.github.com/articles/mapping-geojson-files-on-github>

Please do get in touch if you think anything should change in this function.

## Examples

```
## Not run:
## from data.frames - point data
library("RColorBrewer")
smalluscities <-
  subset(us_cities, country.etc == 'OR' | country.etc == 'NY' | country.etc == 'CA')

### Just color
geojson_style(smalluscities, var = 'country.etc',
  color=brewer.pal(length(unique(smalluscities$country.etc)), "Blues"))
### Just size
geojson_style(smalluscities, var = 'country.etc', size=c('small','medium','large'))
### Color and size
geojson_style(smalluscities, var = 'country.etc',
  color=brewer.pal(length(unique(smalluscities$country.etc)), "Blues"),
  size=c('small','medium','large'))

## from lists - point data
mylist <- list(list(latitude=30, longitude=120, state="US"),
  list(latitude=32, longitude=130, state="OR"),
  list(latitude=38, longitude=125, state="NY"),
  list(latitude=40, longitude=128, state="VT"))

# just color
geojson_style(mylist, var = 'state',
  color=brewer.pal(length(unique(sapply(mylist, '[', 'state'))), "Blues"))
# color and size
geojson_style(mylist, var = 'state',
  color=brewer.pal(length(unique(sapply(mylist, '[', 'state'))), "Blues"),
```

```

    size=c('small','medium','large','large'))
# color, size, and symbol
geojson_style(mylist, var = 'state',
  color=brewer.pal(length(unique(sapply(mylist, '[', 'state'))), "Blues"),
  size=c('small','medium','large','large'),
  symbol="zoo")
# stroke, fill
geojson_style(mylist, var = 'state',
  stroke=brewer.pal(length(unique(sapply(mylist, '[', 'state'))), "Blues"),
  fill=brewer.pal(length(unique(sapply(mylist, '[', 'state'))), "Greens"))

# from data.frame - polygon data
smallstates <- states[states$group %in% 1:3, ]
head(smallstates)
geojson_style(smallstates, var = 'group',
  stroke = brewer.pal(length(unique(smallstates$group)), "Blues"),
  stroke_width = c(1, 2, 3),
  fill = brewer.pal(length(unique(smallstates$group)), "Greens"))

## End(Not run)

```

---

geojson\_write

*Convert many input types with spatial data to a geojson file*

---

## Description

Convert many input types with spatial data to a geojson file

## Usage

```

geojson_write(input, lat = NULL, lon = NULL, geometry = "point",
  group = NULL, file = "myfile.geojson", overwrite = TRUE,
  precision = NULL, convert_wgs84 = FALSE, crs = NULL, ...)

```

## Arguments

input	Input list, data.frame, spatial class, or sf class. Inputs can also be dplyr tbl_df class since it inherits from data.frame.
lat	(character) Latitude name. The default is NULL, and we attempt to guess.
lon	(character) Longitude name. The default is NULL, and we attempt to guess.
geometry	(character) One of point (Default) or polygon.
group	(character) A grouping variable to perform grouping for polygons - doesn't apply for points
file	(character) A path and file name (e.g., myfile), with the .geojson file extension. Default writes to current working directory.
overwrite	(logical) Overwrite the file given in file with input. Default: TRUE. If this param is FALSE and the file already exists, we stop with error message.



precision	desired number of decimal places for the coordinates in the geojson file. Using fewer decimal places can decrease file sizes (at the cost of precision).
convert_wgs84	Should the input be converted to the <b>standard coordinate reference system defined for GeoJSON</b> (geographic coordinate reference system, using the WGS84 datum, with longitude and latitude units of decimal degrees; EPSG: 4326). Default is FALSE though this may change in a future package version. This will only work for sf or Spatial objects with a CRS already defined. If one is not defined but you know what it is, you may define it in the crs argument below.
crs	The CRS of the input if it is not already defined. This can be an epsg code as a four or five digit integer or a valid proj4 string. This argument will be ignored if convert_wgs84 is FALSE or the object already has a CRS.
...	Further args passed on to <a href="#">writeOGR</a>

**See Also**

[geojson\\_list](#), [geojson\\_json](#)

**Examples**

```
## Not run:
# From a data.frame
## to points
geojson_write(us_cities[1:2,], lat='lat', lon='long')

## to polygons
head(states)
geojson_write(input=states, lat='lat', lon='long',
  geometry='polygon', group="group")

## partial states dataset to points (defaults to points)
geojson_write(input=states, lat='lat', lon='long')

## Lists
### list of numeric pairs
poly <- list(c(-114.345703125,39.436192999314095),
  c(-114.345703125,43.45291889355468),
  c(-106.61132812499999,43.45291889355468),
  c(-106.61132812499999,39.436192999314095),
  c(-114.345703125,39.436192999314095))
geojson_write(poly, geometry = "polygon")

### named list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
  list(latitude=30, longitude=130, marker="blue"))
geojson_write(mylist)

# From a numeric vector of length 2
## Expected order is lon, lat
vec <- c(-99.74, 32.45)
geojson_write(vec)
```

```

## polygon from a series of numeric pairs
### this requires numeric class input, so inputting a list will
### dispatch on the list method
poly <- c(c(-114.345703125,39.436192999314095),
          c(-114.345703125,43.45291889355468),
          c(-106.61132812499999,43.45291889355468),
          c(-106.61132812499999,39.436192999314095),
          c(-114.345703125,39.436192999314095))
geojson_write(poly, geometry = "polygon")

# Write output of geojson_list to file
res <- geojson_list(us_cities[1:2,], lat='lat', lon='long')
class(res)
geojson_write(res)

# Write output of geojson_json to file
res <- geojson_json(us_cities[1:2,], lat='lat', lon='long')
class(res)
geojson_write(res)

# From SpatialPolygons class
library('sp')
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100),
                                   c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90),
                                   c(30,40,35,30)))), "2")
sp_poly <- SpatialPolygons(list(poly1, poly2), 1:2)
geojson_write(sp_poly)

# From SpatialPolygonsDataFrame class
sp_polydf <- as(sp_poly, "SpatialPolygonsDataFrame")
geojson_write(input = sp_polydf)

# From SpatialGrid
x <- GridTopology(c(0,0), c(1,1), c(5,5))
y <- SpatialGrid(x)
geojson_write(y)

# From SpatialGridDataFrame
sgdim <- c(3,4)
sg <- SpatialGrid(GridTopology(rep(0,2), rep(10,2), sgdim))
sgdf <- SpatialGridDataFrame(sg, data.frame(val = 1:12))
geojson_write(sgdf)

# From SpatialRings
r1 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="1")
r2 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="2")
r1r2 <- SpatialRings(list(r1, r2))
geojson_write(r1r2)

# From SpatialRingsDataFrame
dat <- data.frame(id = c(1,2), value = 3:4)
r1r2df <- SpatialRingsDataFrame(r1r2, data = dat)

```

```

geojson_write(r1r2df)

# From SpatialPixels
library("sp")
pixels <- suppressWarnings(SpatialPixels(SpatialPoints(us_cities[c("long", "lat")])))
summary(pixels)
geojson_write(pixels)

# From SpatialPixelsDataFrame
library("sp")
pixelsdf <- suppressWarnings(
  SpatialPixelsDataFrame(points = canada_cities[c("long", "lat")], data = canada_cities)
)
geojson_write(pixelsdf)

# From SpatialCollections
library("sp")
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100), c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90), c(30,40,35,30)))), "2")
poly <- SpatialPolygons(list(poly1, poly2), 1:2)
coordinates(us_cities) <- ~long+lat
dat <- SpatialCollections(points = us_cities, polygons = poly)
geojson_write(dat)

## End(Not run)

# From sf classes:
if (require(sf)) {
  file <- system.file("examples", "feature_collection.geojson", package = "geojsonio")
  sf_fc <- st_read(file, quiet = TRUE)
  geojson_write(sf_fc)
}

```

---

lint

*Lint geojson*


---

## Description

Lint geojson

## Usage

```
lint(x, ...)
```

## Arguments

x	Input, a geojson character string or list
...	Further args passed on to helper functions.

## Details

This function is Deprecated - and will be removed in the next version of this package. See [geojsonio-deprecated](#) for more information

## Examples

```
## Not run:
lint('{ "type": "FooBar" }')
lint('{ "type": "FeatureCollection" }')
lint('{ "type": "Point", "geometry": { "type": "Point", "coordinates": [-80, 40] }, "properties": { } }')
```

```
# From a list turned into geo_list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
              list(latitude=30, longitude=130, marker="blue"))
x <- geojson_list(mylist)
class(x)
lint(x)
```

```
# A file
file <- system.file("examples", "zillow_or.geojson", package = "geojsonio")
lint(as.location(file))
```

```
# A URL
url <- "https://raw.githubusercontent.com/glynnbird/usstatesgeojson/master/california.geojson"
lint(as.location(url))
```

```
# from json (jsonlite class)
x <- jsonlite::minify('{ "type": "FeatureCollection" }')
class(x)
lint(x)
```

```
# From SpatialPoints class
library("sp")
a <- c(1,2,3,4,5)
b <- c(3,2,5,1,4)
(x <- SpatialPoints(cbind(a,b)))
class(x)
lint(x)
```

```
# From a data.frame
## need to specify what columns are lat and long with a data.frame
lint(us_cities[1:2,], lat='lat', lon='long')
```

```
# From numeric
vec <- c(32.45, -99.74)
lint(vec)
```

```
# From a list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
              list(latitude=30, longitude=130, marker="blue"))
lint(mylist)
```

```
## End(Not run)
```

---

```
map_gist
```

*Publish an interactive map as a GitHub gist*

---

## Description

There are two ways to authorize to work with your GitHub account:

- PAT - Generate a personal access token (PAT) at <https://help.github.com/articles/creating-an-access-token-for-command-line-use> and record it in the GITHUB\_PAT envvar in your .Renvirom file.
- Interactive - Interactively login into your GitHub account and authorise with OAuth.

Using the PAT method is recommended.

Using the gist\_auth() function you can authenticate seperately first, or if you're not authenticated, this function will run internally with each function call. If you have a PAT, that will be used, if not, OAuth will be used.

## Usage

```
map_gist(input, lat = "lat", lon = "long", geometry = "point",
         group = NULL, type = "FeatureCollection", file = "myfile.geojson",
         description = "", public = TRUE, browse = TRUE, ...)
```

## Arguments

input	Input object
lat	Name of latitude variable
lon	Name of longitude variable
geometry	(character) Are polygons in the object
group	(character) A grouping variable to perform grouping for polygons - doesn't apply for points
type	(character) One of FeatureCollection or GeometryCollection
file	File name to use to put up as the gist file
description	Description for the Github gist, or leave to default (=no description)
public	(logical) Want gist to be public or not? Default: TRUE
browse	If TRUE (default) thef map opens in your default browser.
...	Further arguments passed on to <a href="#">POST</a>

**Examples**

```

## Not run:
# From file
file <- "myfile.geojson"
geojson_write(us_cities[1:20, ], lat='lat', lon='long', file = file)
map_gist(file=as.location(file))

# From SpatialPoints class
library("sp")
x <- c(1,2,3,4,5)
y <- c(3,2,5,1,4)
s <- SpatialPoints(cbind(x,y))
map_gist(s)

# from SpatialPointsDataFrame class
x <- c(1,2,3,4,5)
y <- c(3,2,5,1,4)
s <- SpatialPointsDataFrame(cbind(x,y), mtcars[1:5,])
map_gist(s)

# from SpatialPolygons class
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100),
  c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90),
  c(30,40,35,30)))), "2")
sp_poly <- SpatialPolygons(list(poly1, poly2), 1:2)
map_gist(sp_poly)

# From SpatialPolygonsDataFrame class
sp_polydf <- as(sp_poly, "SpatialPolygonsDataFrame")
map_gist(sp_poly)

# From SpatialLines class
c1 <- cbind(c(1,2,3), c(3,2,2))
c2 <- cbind(c1[,1]+.05,c1[,2]+.05)
c3 <- cbind(c(1,2,3),c(1,1.5,1))
L1 <- Line(c1)
L2 <- Line(c2)
L3 <- Line(c3)
Ls1 <- Lines(list(L1), ID = "a")
Ls2 <- Lines(list(L2, L3), ID = "b")
s11 <- SpatialLines(list(Ls1))
s112 <- SpatialLines(list(Ls1, Ls2))
map_gist(s11)

# From SpatialLinesDataFrame class
dat <- data.frame(X = c("Blue", "Green"),
  Y = c("Train", "Plane"),
  Z = c("Road", "River"), row.names = c("a", "b"))
sldf <- SpatialLinesDataFrame(s112, dat)
map_gist(sldf)

```

```

# From SpatialGrid
x <- GridTopology(c(0,0), c(1,1), c(5,5))
y <- SpatialGrid(x)
map_gist(y)

# From SpatialGridDataFrame
sgdim <- c(3,4)
sg <- SpatialGrid(GridTopology(rep(0,2), rep(10,2), sgdim))
sgdf <- SpatialGridDataFrame(sg, data.frame(val = 1:12))
map_gist(sgdf)

# from data.frame
## to points
map_gist(us_cities)

## to polygons
head(states)
map_gist(states[1:351, ], lat='lat', lon='long', geometry="polygon", group='group')

## From a list
mylist <- list(list(lat=30, long=120, marker="red"),
               list(lat=30, long=130, marker="blue"))
map_gist(mylist, lat="lat", lon="long")

# From a numeric vector
## of length 2 to a point
vec <- c(-99.74,32.45)
map_gist(vec)

## this requires numeric class input, so inputting a list will dispatch on the list method
poly <- c(c(-114.345703125,39.436192999314095),
          c(-114.345703125,43.45291889355468),
          c(-106.61132812499999,43.45291889355468),
          c(-106.61132812499999,39.436192999314095),
          c(-114.345703125,39.436192999314095))
map_gist(poly, geometry = "polygon")

# From a json object
(x <- geojson_json(c(-99.74,32.45)))
map_gist(x)
## another example
map_gist(geojson_json(us_cities[1:10,], lat='lat', lon='long'))

# From a geo_list object
(res <- geojson_list(us_cities[1:2,], lat='lat', lon='long'))
map_gist(res)

# From SpatialPixels
pixels <- suppressWarnings(SpatialPixels(SpatialPoints(us_cities[c("long", "lat")])))
summary(pixels)
map_gist(pixels)

# From SpatialPixelsDataFrame

```

```

pixelsdf <- suppressWarnings(
  SpatialPixelsDataFrame(points = canada_cities[c("long", "lat")], data = canada_cities)
)
map_gist(pixelsdf)

# From SpatialRings
library("rgeos")
r1 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="1")
r2 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="2")
r1r2 <- SpatialRings(list(r1, r2))
map_gist(r1r2)

# From SpatialRingsDataFrame
dat <- data.frame(id = c(1,2), value = 3:4)
r1r2df <- SpatialRingsDataFrame(r1r2, data = dat)
map_gist(r1r2df)

## End(Not run)

```

---

map\_leaf

*Make an interactive map locally*


---

## Description

Make an interactive map locally

## Usage

```
map_leaf(input, lat = NULL, lon = NULL, basemap = "Stamen.Toner", ...)
```

## Arguments

input	Input object
lat	Name of latitude variable
lon	Name of longitude variable
basemap	Basemap to use. See <a href="#">addProviderTiles</a> . Default: Stamen.Toner
...	Further arguments passed on to <a href="#">addPolygons</a> , <a href="#">addMarkers</a> , <a href="#">addGeoJSON</a> , or <a href="#">addPolylines</a>

## Examples

```

## Not run:
# We'll need leaflet below
library("leaflet")

# From file
file <- "myfile.geojson"
geojson_write(us_cities[1:20, ], lat='lat', lon='long', file = file)

```



```

map_leaf(as.location(file))

# From SpatialPoints class
library("sp")
x <- c(1,2,3,4,20)
y <- c(3,2,5,3,4)
s <- SpatialPoints(cbind(x,y))
map_leaf(s)

# from SpatialPointsDataFrame class
x <- c(1,2,3,4,5)
y <- c(3,2,5,1,4)
s <- SpatialPointsDataFrame(cbind(x,y), mtcars[1:5,])
map_leaf(s)

# from SpatialPolygons class
poly1 <- Polygons(list(Polygon(cbind(c(-100,-90,-85,-100),
  c(40,50,45,40)))), "1")
poly2 <- Polygons(list(Polygon(cbind(c(-90,-80,-75,-90),
  c(30,40,35,30)))), "2")
sp_poly <- SpatialPolygons(list(poly1, poly2), 1:2)
map_leaf(sp_poly)

# From SpatialPolygonsDataFrame class
sp_polydf <- as(sp_poly, "SpatialPolygonsDataFrame")
map_leaf(sp_poly)

# From SpatialLines class
c1 <- cbind(c(1,2,3), c(3,2,2))
c2 <- cbind(c1[,1]+.05,c1[,2]+.05)
c3 <- cbind(c(1,2,3),c(1,1.5,1))
L1 <- Line(c1)
L2 <- Line(c2)
L3 <- Line(c3)
Ls1 <- Lines(list(L1), ID = "a")
Ls2 <- Lines(list(L2, L3), ID = "b")
s11 <- SpatialLines(list(Ls1))
s112 <- SpatialLines(list(Ls1, Ls2))
map_leaf(s11)
map_leaf(s112)

# From SpatialLinesDataFrame class
dat <- data.frame(X = c("Blue", "Green"),
  Y = c("Train", "Plane"),
  Z = c("Road", "River"), row.names = c("a", "b"))
sldf <- SpatialLinesDataFrame(s112, dat)
map_leaf(sldf)

# From SpatialGrid
x <- GridTopology(c(0,0), c(1,1), c(5,5))
y <- SpatialGrid(x)
map_leaf(y)

```

```

# From SpatialGridDataFrame
sgdim <- c(3,4)
sg <- SpatialGrid(GridTopology(rep(0,2), rep(10,2), sgdim))
sgdf <- SpatialGridDataFrame(sg, data.frame(val = 1:12))
map_leaf(sgdf)

# from data.frame
map_leaf(us_cities)

## another example
head(states)
map_leaf(states[1:351, ])

## From a named list
mylist <- list(list(lat=30, long=120, marker="red"),
               list(lat=30, long=130, marker="blue"))
map_leaf(mylist, lat="lat", lon="long")

## From an unnamed list
poly <- list(c(-114.345703125, 39.436192999314095),
             c(-114.345703125, 43.45291889355468),
             c(-106.61132812499999, 43.45291889355468),
             c(-106.61132812499999, 39.436192999314095),
             c(-114.345703125, 39.436192999314095))
map_leaf(poly)
## NOTE: Polygons from lists aren't supported yet

# From a json object
map_leaf(geojson_json(c(-99.74, 32.45)))
map_leaf(geojson_json(c(-119, 45)))
map_leaf(geojson_json(c(-99.74, 32.45)))
## another example
map_leaf(geojson_json(us_cities[1:10,], lat='lat', lon='long'))

# From a geo_list object
(res <- geojson_list(us_cities[1:2,], lat='lat', lon='long'))
map_leaf(res)

# From SpatialPixels
pixels <- suppressWarnings(SpatialPixels(SpatialPoints(us_cities[c("long", "lat")])))
summary(pixels)
map_leaf(pixels)

# From SpatialPixelsDataFrame
pixelsdf <- suppressWarnings(
  SpatialPixelsDataFrame(points = canada_cities[c("long", "lat")], data = canada_cities)
)
map_leaf(pixelsdf)

# From SpatialRings
library("rgeos")
r1 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="1")
r2 <- Ring(cbind(x=c(1,1,2,2,1), y=c(1,2,2,1,1)), ID="2")

```

```

r1r2 <- SpatialRings(list(r1, r2))
map_leaf(r1r2)

# From SpatialRingsDataFrame
dat <- data.frame(id = c(1,2), value = 3:4)
r1r2df <- SpatialRingsDataFrame(r1r2, data = dat)
map_leaf(r1r2df)

# basemap toggling -----
map_leaf(us_cities, basemap = "Acetate.terrain")
map_leaf(us_cities, basemap = "CartoDB.Positron")
map_leaf(us_cities, basemap = "OpenTopoMap")

# leaflet options -----
map_leaf(us_cities) %>%
  addPopups(-122.327298, 47.597131, "foo bar", options = popupOptions(closeButton = FALSE))

##### not working yet
# From a numeric vector
## of length 2 to a point
## vec <- c(-99.74,32.45)
## map_leaf(vec)

## End(Not run)

```

---

pretty

*Convert json input to pretty printed output*


---

## Description

Convert json input to pretty printed output

## Usage

```
pretty(x, indent = 4)
```

## Arguments

x	Input, character string
indent	(integer) Number of spaces to indent

## Details

Only works with json class input. This is a simple wrapper around [prettify](#), so you can easily use that yourself.

---

 projections

*topojson projections and extensions*


---

**Description**

topojson projections and extensions

**Usage**

```
projections(proj, rotate = NULL, center = NULL, translate = NULL,
  scale = NULL, clipAngle = NULL, precision = NULL, parallels = NULL,
  clipExtent = NULL, invert = NULL)
```

**Arguments**

proj	Map projection name. One of albers, albersUsa, azimuthalEqualArea, azimuthalEquidistant, conicEqualArea, conicConformal, conicEquidistant, equirectangular, gnomonic, mercator, orthographic, stereographic, or transverseMercator.
rotate	If rotation is specified, sets the projection's three-axis rotation to the specified angles yaw, pitch and roll (or equivalently longitude, latitude and roll) in degrees and returns the projection. If rotation is not specified, returns the current rotation which defaults [0, 0, 0]. If the specified rotation has only two values, rather than three, the roll is assumed to be 0.
center	If center is specified, sets the projection's center to the specified location, a two-element array of longitude and latitude in degrees and returns the projection. If center is not specified, returns the current center which defaults to (0,0)
translate	If point is specified, sets the projection's translation offset to the specified two-element array [x, y] and returns the projection. If point is not specified, returns the current translation offset which defaults to [480, 250]. The translation offset determines the pixel coordinates of the projection's center. The default translation offset places (0,0) at the center of a 960x500 area.
scale	If scale is specified, sets the projection's scale factor to the specified value and returns the projection. If scale is not specified, returns the current scale factor which defaults to 150. The scale factor corresponds linearly to the distance between projected points. However, scale factors are not consistent across projections.
clipAngle	If angle is specified, sets the projection's clipping circle radius to the specified angle in degrees and returns the projection. If angle is null, switches to antimeridian cutting rather than small-circle clipping. If angle is not specified, returns the current clip angle which defaults to null. Small-circle clipping is independent of viewport clipping via clipExtent.
precision	If precision is specified, sets the threshold for the projection's adaptive resampling to the specified value in pixels and returns the projection. This value corresponds to the Douglas-Peucker distance. If precision is not specified, returns the projection's current resampling precision which defaults to Math.SQRT(1/2).

parallels	Depends on the projection used! See <a href="https://github.com/mboostock/d3/wiki/Geo-Projections#standard-projections">https://github.com/mboostock/d3/wiki/Geo-Projections#standard-projections</a> for help
clipExtent	If extent is specified, sets the projection's viewport clip extent to the specified bounds in pixels and returns the projection. The extent bounds are specified as an array <code>[[x0, y0], [x1, y1]]</code> , where <code>x0</code> is the left-side of the viewport, <code>y0</code> is the top, <code>x1</code> is the right and <code>y1</code> is the bottom. If extent is null, no viewport clipping is performed. If extent is not specified, returns the current viewport clip extent which defaults to null. Viewport clipping is independent of small-circle clipping via <code>clipAngle</code> .
invert	Projects backward from Cartesian coordinates (in pixels) to spherical coordinates (in degrees). Returns an array <code>[longitude, latitude]</code> given the input array <code>[x, y]</code> .

### Examples

```

projections(proj="albers")
projections(proj="albers", rotate='[98 + 00 / 60, -35 - 00 / 60]', scale=5700)
projections(proj="albers", scale=5700)
projections(proj="albers", translate='[55 * width / 100, 52 * height / 100]')
projections(proj="albers", clipAngle=90)
projections(proj="albers", precision=0.1)
projections(proj="albers", parallels='[30, 62]')
projections(proj="albers", clipExtent='[[105 - 87, 40], [105 + 87 + 1e-6, 82 + 1e-6]]')
projections(proj="albers", invert=60)
projections("orthographic")

```

---

states

*This is the same data set from the ggplot2 library*

---

### Description

This is a data.frame with "long", "lat", "group", "order", "region", and "subregion" columns specifying polygons for each US state.

---

topojson\_read

*Read topojson from a local file or a URL*

---

### Description

Read topojson from a local file or a URL

### Usage

```
topojson_read(x, ...)
```

**Arguments**

x                    Path to a local file or a URL.  
 ...                  Further args passed on to [readOGR](#)

**Details**

Returns a Spatial class (e.g., `SpatialPolygonsDataFrame`), but you can easily and quickly get this to `geojson`, see examples

**Value**

A Spatial Class, varies depending on input

**Examples**

```
## Not run:
# From a file
file <- system.file("examples", "us_states.topojson", package = "geojsonio")
topojson_read(file)

# From a URL
url <- "https://raw.githubusercontent.com/shawnbot/d3-cartogram/master/data/us-states.topojson"
topojson_read(url)

# Use as.location first if you want
topojson_read(as.location(file))

# quickly convert to geojson as a list
file <- system.file("examples", "us_states.topojson", package = "geojsonio")
tmp <- topojson_read(file)
geojson_list(tmp)

## End(Not run)
```

---

us\_cities

*This is the same data set from the maps library, named differently*

---

**Description**

This database is of us cities of population greater than about 40,000. Also included are state capitals of any population size.

**Format**

A list with 6 components, namely "name", "country.etc", "pop", "lat", "long", and "capital", containing the city name, the state abbreviation, approximate population (as at January 2006), latitude, longitude and capital status indication (0 for non-capital, 1 for capital, 2 for state capital).

---

validate	<i>Validate a geoJSON file, json object, list, or Spatial class.</i>
----------	--

---

### Description

Validate a geoJSON file, json object, list, or Spatial class.

### Usage

```
validate(x, ...)
```

### Arguments

x	Input list, data.frame, or spatial class. Inputs can also be dplyr tbl_df class since it inherits from data.frame.
...	Further args passed on to helper functions.

### Details

Uses the web service at <http://geojsonlint.com/>

This function is Deprecated - and will be removed in the next version of this package. See [geojsonio-deprecated](#) for more information

### Examples

```
## Not run:
# From a json character string
validate(x = '{"type": "Point", "coordinates": [-100, 80]}') # good
validate(x = '{"type": "Rhombus", "coordinates": [[1, 2], [3, 4], [5, 6]]}') # bad

# A file
file <- system.file("examples", "zillow_or.geojson", package = "geojsonio")
validate(x = as.location(file))

# A URL
url <- "https://raw.githubusercontent.com/glynnbird/usstatesgeojson/master/california.geojson"
validate(as.location(url))

# From output of geojson_list
(x <- geojson_list(us_cities[1:2,], lat='lat', lon='long'))
validate(x)

# From output of geojson_json
(x <- geojson_json(us_cities[1:2,], lat='lat', lon='long'))
validate(x)

# From a list turned into geo_list
mylist <- list(list(latitude=30, longitude=120, marker="red"),
              list(latitude=30, longitude=130, marker="blue"))
```

```
x <- geojson_list(mylist)
class(x)
validate(x)

# From SpatialPoints class
library("sp")
a <- c(1,2,3,4,5)
b <- c(3,2,5,1,4)
(x <- SpatialPoints(cbind(a,b)))
class(x)
validate(x)

## End(Not run)
```



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