

# Package ‘geojson’

January 18, 2019

**Type** Package

**Title** Classes for 'GeoJSON'

**Description** Classes for 'GeoJSON' to make working with 'GeoJSON' easier. Includes S3 classes for 'GeoJSON' classes with brief summary output, and a few methods such as extracting and adding bounding boxes, properties, and coordinate reference systems; working with newline delimited 'GeoJSON'; linting through the 'geojsonlint' package; and serializing to/from 'Geobuf' binary 'GeoJSON' format.

**Version** 0.3.0

**License** MIT + file LICENSE

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

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

**LazyData** true

**VignetteBuilder** knitr

**Encoding** UTF-8

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geojson-package	<i>geojson</i>
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### Description

Classes for GeoJSON to make working with GeoJSON easier

### Package API

GeoJSON objects:

- [feature](#) - Feature
- [featurecollection](#) - FeatureCollection
- [geometrycollection](#) - GeometryCollection
- [linestring](#) - LineString
- [multilinestring](#) - MultiLineString
- [multipoint](#) - MultiPoint
- [multipolygon](#) - MultiPolygon

- [point](#) - Point
- [polygon](#) - Polygon

The above are assigned two classes. All of them are class **gejson**, but also have a class name that is **geo** plus the name of the geometry, e.g., **geopolygon** for polygon.

GeoJSON properties:

- [properties\\_add](#), [properties\\_get](#) - Add or get properties
- [crs\\_add](#), [crs\\_get](#) - Add or get CRS
- [bbox\\_add](#), [bbox\\_get](#) - Add or get bounding box

GeoJSON operations:

- [geo\\_bbox](#) - calculate a bounding box for any GeoJSON object
- [geo\\_pretty](#) - pretty print any GeoJSON object
- [geo\\_type](#) - get the object type for any GeoJSON object
- [geo\\_write](#) - easily write any GeoJSON to a file
- More complete GeoJSON operations are provided in the package **geoops**

GeoJSON/Geobuf serialization:

- [from\\_geobuf](#) - Geobuf to GeoJSON
- [to\\_geobuf](#) - GeoJSON to Geobuf
- Check out <https://github.com/mapbox/geobuf> for information on the Geobuf format

### Coordinate Reference System

According to RFC 7946 (<https://tools.ietf.org/html/rfc7946#page-12>) the CRS for all GeoJSON objects must be WGS-84, equivalent to urn:ogc:def:crs:OGC::CRS84. And lat/long must be in decimal degrees.

Given the above, but considering that GeoJSON blobs exist that have CRS attributes in them, we provide CRS helpers in this package. But moving forward these are not likely to be used much.

### Coordinate precision

According to RFC 7946 (<https://tools.ietf.org/html/rfc7946#section-11.2>) consider that 6 decimal places amounts to ~10 centimeters, a precision well within that of current GPS systems. Further, A GeoJSON text containing many detailed Polygons can be inflated almost by a factor of two by increasing coordinate precision from 6 to 15 decimal places - so consider whether it is worth it to have more decimal places.

### Author(s)

Scott Chamberlain, Jeroen Ooms

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`as.geojson`*Geojson class*

---

## Description

Geojson class

## Usage

```
as.geojson(x)

## S4 method for signature 'json'
as.geojson(x)

## S4 method for signature 'geojson'
as.geojson(x)

## S4 method for signature 'character'
as.geojson(x)

## S4 method for signature 'SpatialPointsDataFrame'
as.geojson(x)

## S4 method for signature 'SpatialPoints'
as.geojson(x)

## S4 method for signature 'SpatialLinesDataFrame'
as.geojson(x)

## S4 method for signature 'SpatialLines'
as.geojson(x)

## S4 method for signature 'SpatialPolygonsDataFrame'
as.geojson(x)

## S4 method for signature 'SpatialPolygons'
as.geojson(x)
```

## Arguments

`x` input, an object of class `character`, `json`, `SpatialPoints`, `SpatialPointsDataFrame`, `SpatialLines`, `SpatialLinesDataFrame`, `SpatialPolygons`, or `SpatialPolygonsDataFrame`

## Details

The `print.geojson` method prints the geojson geometry type, the bounding box, number of features (if applicable), and the geometries and their lengths

**Value**

an object of class `geojson/json`

**Examples**

```
# character
as.geojson(geojson_data$featurecollection_point)
as.geojson(geojson_data$polygons_average)
as.geojson(geojson_data$polygons_aggregate)
as.geojson(geojson_data$points_count)

# sp classes

## SpatialPoints
library(sp)
x <- c(1,2,3,4,5)
y <- c(3,2,5,1,4)
s <- SpatialPoints(cbind(x,y))
as.geojson(s)

## SpatialPointsDataFrame
s <- SpatialPointsDataFrame(cbind(x,y), mtcars[1:5,])
as.geojson(s)

## SpatialLines
L1 <- Line(cbind(c(1,2,3), c(3,2,2)))
L2 <- Line(cbind(c(1.05,2.05,3.05), c(3.05,2.05,2.05)))
L3 <- Line(cbind(c(1,2,3),c(1,1.5,1)))
Ls1 <- Lines(list(L1), ID = "a")
Ls2 <- Lines(list(L2, L3), ID = "b")
sl1 <- SpatialLines(list(Ls1))
as.geojson(sl1)

## SpatialLinesDataFrame
sl12 <- SpatialLines(list(Ls1, Ls2))
dat <- data.frame(X = c("Blue", "Green"),
                 Y = c("Train", "Plane"),
                 Z = c("Road", "River"), row.names = c("a", "b"))
slidf <- SpatialLinesDataFrame(sl12, dat)
as.geojson(sldf)

## SpatialPolygons
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)
as.geojson(sp_poly)

## SpatialPolygonsDataFrame
sp_polydf <- as(sp_poly, "SpatialPolygonsDataFrame")
as.geojson(sp_polydf)
```

```
## sf objects
if (requireNamespace('sf')) {
  nc <- sf::st_read(system.file("shape/nc.shp", package = "sf"), quiet = TRUE)
  as.geojson(nc)
}
```

---

bbox

*Add or get bounding box*

---

## Description

Add or get bounding box

## Usage

```
bbox_add(x, bbox = NULL)
```

```
bbox_get(x)
```

## Arguments

x	An object of class <code>geojson</code>
bbox	(numeric) a vector or list of length 4. If <code>NULL</code> , the bounding box is calculated for you

## Details

Note that `bbox_get` outputs the `bbox` if it exists, but does not calculate it from the `geojson`. See [geo\\_bbox](#) to calculate a bounding box. Bounding boxes can be 2D or 3D.

## Value

a bounding box, of the form `[west, south, east, north]` for 2D or of the form `[west, south, min-altitude, east, north, max-altitude]` for 3D

## References

<https://tools.ietf.org/html/rfc7946#section-5>

## Examples

```
# make a polygon
x <- '{ "type": "Polygon",
"coordinates": [
  [ [100.0, 0.0], [101.0, 0.0], [101.0, 1.0], [100.0, 1.0], [100.0, 0.0] ]
]
}'
(y <- polygon(x))

# add bbox - without an input, we figure out the 2D bbox for you
y %>% feature() %>% bbox_add()
## 2D bbox
y %>% feature() %>% bbox_add(c(100.0, -10.0, 105.0, 10.0))
## 3D bbox
y %>% feature() %>% bbox_add(c(100.0, -10.0, -100.0, 105.0, 10.0, 0.0))

# get bounding box
z <- y %>% feature() %>% bbox_add()
bbox_get(z)

## returns NULL if no bounding box
bbox_get(x)
```

---

crs

*Add or get CRS*

---

## Description

Add or get CRS

## Usage

```
crs_add(x, crs)
```

```
crs_get(x)
```

## Arguments

x	An object of class <code>geojson</code>
crs	(character) a CRS string. required.

## Details

According to RFC 7946 (<https://tools.ietf.org/html/rfc7946#page-12>) the CRS for all GeoJSON objects must be WGS-84, equivalent to `urn:ogc:def:crs:OGC::CRS84`. And lat/long must be in decimal degrees.

Given the above, but considering that GeoJSON blobs exist that have CRS attributes in them, we provide CRS helpers here. But moving forward these are not likely to be used much.

## References

<https://github.com/OSGeo/proj.4>, <http://geojson.org/geojson-spec.html#coordinate-reference-system-objects>

## Examples

```
x <- '{ "type": "Polygon",
"coordinates": [
  [ [100.0, 0.0], [101.0, 0.0], [101.0, 1.0], [100.0, 1.0], [100.0, 0.0] ]
]
}'

# add crs
crs <- '{"type": "name",
"properties": {
  "name": "urn:ogc:def:crs:OGC:1.3:CRS84"
}}'
x %>% feature() %>% crs_add(crs)

# get crs
z <- x %>% feature() %>% crs_add(crs)
crs_get(z)
```

---

feature

*feature class*

---

## Description

feature class

## Usage

feature(x)

## Arguments

x                   input

## Details

Feature objects:

- A feature object must have a member with the name "geometry". The value of the geometry member is a geometry object as defined above or a JSON null value.
- A feature object must have a member with the name "properties". The value of the properties member is an object (any JSON object or a JSON null value).
- If a feature has a commonly used identifier, that identifier should be included as a member of the feature object with the name "id".



**Examples**

```

# point -> feature
x <- '{ "type": "Point", "coordinates": [100.0, 0.0] }'
point(x) %>% feature()

# multipoint -> feature
x <- '{ "type": "MultiPoint", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ] }'
multipoint(x) %>% feature()

# linestring -> feature
x <- '{ "type": "LineString", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ] }'
linestring(x) %>% feature()

# multilinestring -> feature
x <- '{ "type": "MultiLineString",
  "coordinates": [ [ [100.0, 0.0], [101.0, 1.0] ], [ [102.0, 2.0], [103.0, 3.0] ] ] }'
multilinestring(x) %>% feature()

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(multilinestring(x)))

```

---

featurecollection      *featurecollection class*

---

**Description**

featurecollection class

**Usage**

featurecollection(x)

**Arguments**

x                    input

**Examples**

```

file <- system.file("examples", 'featurecollection1.geojson',
  package = "geojson")
file <- system.file("examples", 'featurecollection2.geojson',
  package = "geojson")
str <- paste0(readLines(file), collapse = " ")
(y <- featurecollection(str))
geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)

```

```

unlink(f)

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(y))

# features to featurecollection
x <- '{ "type": "Point", "coordinates": [100.0, 0.0] }'
point(x) %>% feature() %>% featurecollection()

## all points
x <- '{ "type": "Point", "coordinates": [100.0, 0.0] }'
y <- '{ "type": "Point", "coordinates": [100.0, 50.0] }'
featls <- lapply(list(x, y), function(z) feature(point(z)))
featurecollection(featls)

```

---

geobuf

*Geobuf serialization*


---

## Description

Geobuf serialization

## Usage

```
from_geobuf(x, pretty = FALSE)
```

```
to_geobuf(x, file = NULL, decimals = 6)
```

## Arguments

x	(character) a file or raw object for from_geobuf, and json string for to_geobuf
pretty	(logical) pretty print JSON. Default: FALSE
file	(character) file to write protobuf to. if NULL, geobuf raw binary returned
decimals	(integer) how many decimals (digits behind the dot) to store for numbers

## Details

from\_geobuf uses [geobuf2json](#), while to\_geobuf uses [json2geobuf](#)

Note that **protolite** expects either a **Feature**, **FeatureCollection**, or **Geometry** class geojson object, Thus, for to\_geobuf we check the geojson class, and convert to a **Feature** if the class is something other than the acceptable set.

## Value

for from\_geobuf JSON as a character string, and for to\_geobuf raw or file written to disk

## References

Geobuf is a compact binary encoding for geographic data using protocol buffers <https://github.com/mapbox/geobuf>

## Examples

```
file <- system.file("examples/test.pb", package = "geojson")
(json <- from_geobuf(file))
from_geobuf(file, pretty = TRUE)
pb <- to_geobuf(json)
f <- tempfile(fileext = ".pb")
to_geobuf(json, f)
from_geobuf(f)

object.size(json)
object.size(pb)
file.info(file)$size
file.info(f)$size

file <- system.file("examples/featurecollection1.geojson",
  package = "geojson")
json <- paste0(readLines(file), collapse = "")
to_geobuf(json)

# other geojson class objects
x <- '{ "type": "Polygon",
"coordinates": [
  [ [100.0, 0.0], [101.0, 0.0], [101.0, 1.0], [100.0, 1.0], [100.0, 0.0] ]
]
}'
(y <- polygon(x))
to_geobuf(y)

x <- '{"type": "MultiPoint", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ] }'
(y <- multipoint(x))
to_geobuf(y)
```

---

geojson\_data

*Data for use in examples*

---

## Description

Data for use in examples

## Format

A list of character strings of points or polygons in FeatureCollection or Feature Geojson formats.

## Details

The data objects included in the list, accessible by name

- featurecollection\_point - FeatureCollection with a single point
- filter\_features - FeatureCollection of points
- points\_average - FeatureCollection of points
- polygons\_average - FeatureCollection of polygons
- points\_count - FeatureCollection of points
- polygons\_count - FeatureCollection of polygons
- points\_within - FeatureCollection of points
- polygons\_within - FeatureCollection of polygons
- poly - Feature of a single 1 degree by 1 degree polygon
- multipoly - FeatureCollection of two 1 degree by 1 degree polygons
- polygons\_aggregate - FeatureCollection of Polygons from turf.js examples
- points\_aggregate - FeatureCollection of Points from turf.js examples

---

geometrycollection      *geometrycollection class*

---

## Description

geometrycollection class

## Usage

geometrycollection(x)

## Arguments

x                    input

## Examples

```
x <- '{
  "type": "GeometryCollection",
  "geometries": [
    {
      "type": "Point",
      "coordinates": [100.0, 0.0]
    },
    {
      "type": "LineString",
      "coordinates": [ [101.0, 0.0], [102.0, 1.0] ]
    }
  ]
}
```

```

}'
(y <- geometrycollection(x))
geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)
unlink(f)

# bigger geometrycollection
file <- system.file("examples", "geometrycollection1.geojson", package = "geojson")
(y <- geometrycollection(paste0(readLines(file), collapse="")))
geo_type(y)
geo_pretty(y)

```

---

 geo\_bbox

*Calculate a bounding box*


---

### Description

Calculate a bounding box

### Usage

```
geo_bbox(x)
```

### Arguments

x                    an object of class `geojson`

### Details

Supports inputs of type: character, point, multipoint, linestring, multilinestring, polygon, multipolygon, feature, and featurecollection

On character inputs, we lint the input to make sure it's proper JSON and GeoJSON, then calculate the bounding box

### Value

a vector of four doubles: min lon, min lat, max lon, max lat

### Examples

```

# point
x <- '{ "type": "Point", "coordinates": [100.0, 0.0] }'
(y <- point(x))
geo_bbox(y)
y %>% feature() %>% geo_bbox()

# multipoint

```

```

x <- '{"type": "MultiPoint", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ] }'
(y <- multipoint(x))
geo_bbox(y)
y %>% feature() %>% geo_bbox()

# linestring
x <- '{ "type": "LineString", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ] }'
(y <- linestring(x))
geo_bbox(y)
y %>% feature() %>% geo_bbox()
file <- system.file("examples", 'linestring_one.geojson',
  package = "geojson")
con <- file(file)
str <- paste0(readLines(con), collapse = " ")
(y <- linestring(str))
geo_bbox(y)
y %>% feature() %>% geo_bbox()
close(con)

# multilinestring
x <- '{ "type": "MultiLineString",
  "coordinates": [ [ [100.0, 0.0], [101.0, 1.0] ], [ [102.0, 2.0],
  [103.0, 3.0] ] ] }'
(y <- multilinestring(x))
geo_bbox(y)
y %>% feature() %>% geo_bbox()

# polygon
x <- '{ "type": "Polygon",
  "coordinates": [
    [ [100.0, 0.0], [101.0, 0.0], [101.0, 1.0], [100.0, 1.0], [100.0, 0.0] ]
  ]
}'
(y <- polygon(x))
geo_bbox(y)
y %>% feature() %>% geo_bbox()

# multipolygon
x <- '{ "type": "MultiPolygon",
  "coordinates": [
    [[ [102.0, 2.0], [103.0, 2.0], [103.0, 3.0], [102.0, 3.0], [102.0, 2.0] ]],
    [[ [100.0, 0.0], [101.0, 0.0], [101.0, 1.0], [100.0, 1.0], [100.0, 0.0] ]],
    [[ [100.2, 0.2], [100.8, 0.2], [100.8, 0.8], [100.2, 0.8], [100.2, 0.2] ] ]
  ]
}'
(y <- multipolygon(x))
geo_bbox(y)
y %>% feature() %>% geo_bbox()

# featurecollection
file <- system.file("examples", 'featurecollection2.geojson',
  package = "geojson")
str <- paste0(readLines(file), collapse = " ")

```

```
x <- featurecollection(str)
geo_bbox(x)

# character
file <- system.file("examples", 'featurecollection2.geojson',
  package = "geojson")
str <- paste0(readLines(file), collapse = " ")
geo_bbox(str)

# json
library('jsonlite')
geo_bbox(toJSON(fromJSON(str), auto_unbox = TRUE))
```

---

geo\_pretty

*Pretty print geojson*

---

## Description

Pretty print geojson

## Usage

```
geo_pretty(x)
```

## Arguments

x                   input, an object of class geojson

## Details

Wrapper around [prettify](#)

## Examples

```
geo_pretty(point('{ "type": "Point", "coordinates": [100.0, 0.0] }'))

x <- '{ "type": "Polygon",
"coordinates": [
  [ [100.0, 0.0], [100.0, 1.0], [101.0, 1.0], [101.0, 0.0], [100.0, 0.0] ]
]
}'
poly <- polygon(x)
geo_pretty(poly)
```

---

geo_type	<i>Get geometry type</i>
----------	--------------------------

---

**Description**

Get geometry type

**Usage**

```
geo_type(x)
```

**Arguments**

x                   input, an object of class geojson

**Examples**

```
geo_type(point('{ "type": "Point", "coordinates": [100.0, 0.0] }'))

x <- '{ "type": "Polygon",
"coordinates": [
  [ [100.0, 0.0], [100.0, 1.0], [101.0, 1.0], [101.0, 0.0], [100.0, 0.0] ]
]
}'
poly <- polygon(x)

geo_type(poly)
```

---

geo_write	<i>Write geojson to disk</i>
-----------	------------------------------

---

**Description**

Write geojson to disk

**Usage**

```
geo_write(x, file)
```

**Arguments**

x                   input, an object of class geojson  
file               (character) a file path, or connection

**Details**

Wrapper around [toJSON](#) and [cat](#)



**Examples**

```
file <- tempfile(fileext = ".geojson")
geo_write(
  point('{ "type": "Point", "coordinates": [100.0, 0.0] }'),
  file
)
readLines(file)
unlink(file)
```

---

linestring

*linestring class*

---

**Description**

linestring class

**Usage**

linestring(x)

**Arguments**

x                   input

**Examples**

```
x <- '{ "type": "LineString", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ] }'
(y <- linestring(x))
geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)
unlink(f)

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(y))
```

---

linting_opts	<i>GeoJSON Linting</i>
--------------	------------------------

---

## Description

GeoJSON Linting

## Usage

```
linting_opts(lint = FALSE, method = "hint", error = FALSE)
```

## Arguments

lint	(logical) lint geojson or not. Default: FALSE
method	(character) method to use: <ul style="list-style-type: none"><li>• hint - uses <a href="#">geojson_hint</a></li><li>• lint - uses <a href="#">geojson_lint</a></li><li>• validate - uses <a href="#">geojson_validate</a></li></ul>
error	(logical) Throw an error on parse failure? If TRUE, then function returns TRUE on success, and stop with the error message on error. Default: FALSE

## Details

if you have **geojsonlint** installed, we can lint your GeoJSON inputs for you. If not, we skip that step.

Note that even if you aren't linting your geojson with **geojsonlint**, we still do some minimal checks.

## Examples

```
linting_opts(lint = TRUE)

linting_opts(lint = TRUE, method = "hint")
linting_opts(lint = TRUE, method = "hint", error = TRUE)
linting_opts(lint = TRUE, method = "lint")
linting_opts(lint = TRUE, method = "lint", error = TRUE)
linting_opts(lint = TRUE, method = "validate")
linting_opts(lint = TRUE, method = "validate", error = TRUE)
```

---

multilinestring      *multilinestring class*

---

### Description

multilinestring class

### Usage

```
multilinestring(x)
```

### Arguments

x                    input

### Examples

```
x <- '{ "type": "MultiLineString",
  "coordinates": [ [ [100.0, 0.0], [101.0, 1.0] ], [ [102.0, 2.0], [103.0, 3.0] ] ] }'
(y <- multilinestring(x))
y[1]
geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)
unlink(f)

file <- system.file("examples", 'multilinestring_one.geojson',
  package = "geojson")
con <- file(file)
str <- paste0(readLines(con), collapse = " ")
(y <- multilinestring(str))
y[1]
geo_type(y)
geo_pretty(y)
close(con)

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(y))
```

---

multipoint            *multipoint class*

---

### Description

multipoint class

**Usage**

```
multipoint(x)
```

**Arguments**

```
x          input
```

**Examples**

```
x <- '{"type": "MultiPoint", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ] }'
(y <- multipoint(x))
geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)
unlink(f)

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(y))

# as.geojson coercion
as.geojson(x)
```

---

multipolygon

*multipolygon class*


---

**Description**

multipolygon class

**Usage**

```
multipolygon(x)
```

**Arguments**

```
x          input
```

**Examples**

```
x <- '{ "type": "MultiPolygon",
"coordinates": [
  [[102.0, 2.0], [103.0, 2.0], [103.0, 3.0], [102.0, 3.0], [102.0, 2.0]],
  [[100.0, 0.0], [101.0, 0.0], [101.0, 1.0], [100.0, 1.0], [100.0, 0.0]],
  [[100.2, 0.2], [100.8, 0.2], [100.8, 0.8], [100.2, 0.8], [100.2, 0.2]]
]
}'
(y <- multipolygon(x))
```

```

geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)
unlink(f)

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(y))

```

---

ndgeo	<i>Read and write newline-delimited GeoJSON (GeoJSON text sequences)</i>
-------	--

---

## Description

There are various flavors of newline-delimited GeoJSON, all of which we aim to handle here. See Details for more.

## Usage

```

ndgeo_write(x, file, sep = "\n")

## Default S3 method:
ndgeo_write(x, file, sep = "\n")

## S3 method for class 'geofeaturecollection'
ndgeo_write(x, file, sep = "\n")

## S3 method for class 'geofeature'
ndgeo_write(x, file, sep = "\n")

ndgeo_read(txt, pagesize = 500, verbose = TRUE)

```

## Arguments

x	input, an object of class <code>geojson</code>
file	(character) a file. not a connection. required.
sep	(character) a character separator to use in <code>writelines()</code>
txt	text, a file, or a url. required.
pagesize	(integer) number of lines to read/write from/to the connection per iteration
verbose	(logical) print messages. default: TRUE

## Details

- `ndgeo_write`: writes **geojson** package types as newline-delimited GeoJSON to a file
- `ndgeo_read`: reads newline-delimited GeoJSON from a string, file, or URL into the appropriate `geojson` type

As an alternative to `ndgeo_read`, you can simply use `jsonlite::stream_in()` to convert newline-delimited GeoJSON to a `data.frame`

## Value

a `geojson` class object

## Note

**IMPORTANT:** `ndgeo_read` for now only handles lines of `geojson` in your file that are either features or geometry objects (e.g., `point`, `multipoint`, `polygon`, `multipolygon`, `linestring`, `multilinestring`)

## References

Newline-delimited JSON has a few flavors. The only difference between `ndjson` <http://ndjson.org/> and JSON Lines <http://jsonlines.org/> I can tell is that the former requires UTF-8 encoding, while the latter does not.

GeoJSON text sequences has a specification found at <https://tools.ietf.org/html/rfc8142>. The spec states that:

- a GeoJSON text sequence is any number of GeoJSON RFC7946 texts
- each line encoded in UTF-8 RFC3629
- each line preceded by one ASCII RFC20 record separator (RS; "0x1e") character
- each line followed by a line feed (LF)
- each JSON text **MUST** contain a single GeoJSON object as defined in RFC7946

See also the GeoJSON specification <https://tools.ietf.org/html/rfc7946>

## Examples

```
# featurecollection
## write
file <- system.file("examples", 'featurecollection2.geojson',
  package = "geojson")
str <- paste0(readLines(file), collapse = " ")
(x <- featurecollection(str))
outfile <- tempfile(fileext = ".geojson")
# fconn <- file(outfile)
ndgeo_write(x, outfile)
fconn <- file(outfile)
readLines(outfile)
jsonlite::stream_in(file(outfile))
## read
ndgeo_read(outfile)
unlink(outfile)
```

```
# feature
x <- '{ "type": "Point", "coordinates": [100.0, 0.0] }'
(z <- point(x) %>% feature())

# read from an existing file
## GeoJSON objects all of same type: Feature
file <- system.file("examples", 'ndgeojson1.json', package = "geojson")
ndgeo_read(file)
## GeoJSON objects all of same type: Point
file <- system.file("examples", 'ndgeojson2.json', package = "geojson")
ndgeo_read(file)
## GeoJSON objects of mixed type: Point, and Feature
file <- system.file("examples", 'ndgeojson3.json', package = "geojson")
ndgeo_read(file)

## Not run:
# read from a URL
url <- "https://storage.googleapis.com/osm-extracts.interline.io/honolulu_hawaii.geojson1"
f <- tempfile(fileext = ".geojson1")
download.file(url, f)
x <- ndgeo_read(f)
x
unlink(f)

# geojson text sequences from file
file <- system.file("examples", 'featurecollection2.geojson',
  package = "geojson")
str <- paste0(readLines(file), collapse = " ")
x <- featurecollection(str)
outfile <- tempfile(fileext = ".geojson")
ndgeo_write(x, outfile, sep = "\u001e\n")
con <- file(outfile)
readLines(con)
close(con)
ndgeo_read(outfile)
unlink(outfile)

## End(Not run)
```

---

point

*point class*

---

## Description

point class

## Usage

point(x)

**Arguments**

x                   input

**Examples**

```
x <- '{ "type": "Point", "coordinates": [100.0, 0.0] }'
(y <- point(x))
geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)
unlink(f)

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(y))

# as.geojson coercion
as.geojson(x)
```

---

polygon

*polygon class*

---

**Description**

polygon class

**Usage**

polygon(x)

**Arguments**

x                   input

**Examples**

```
x <- '{ "type": "Polygon",
"coordinates": [
  [ [100.0, 0.0], [100.0, 1.0], [101.0, 1.0], [101.0, 0.0], [100.0, 0.0] ]
]
}'
(y <- polygon(x))
y[1]
geo_type(y)
geo_pretty(y)
geo_write(y, f <- tempfile(fileext = ".geojson"))
jsonlite::fromJSON(f, FALSE)
unlink(f)
```



```
x <- '{ "type": "Polygon",
"coordinates": [
  [ [100.0, 0.0], [101.0, 0.0], [101.0, 1.0], [100.0, 1.0], [100.0, 0.0] ],
  [ [100.2, 0.2], [100.8, 0.2], [100.8, 0.8], [100.2, 0.8], [100.2, 0.2] ]
]
}'
(y <- polygon(x))
y[1]
geo_type(y)
geo_pretty(y)

# add to a data.frame
library('tibble')
tibble(a = 1:5, b = list(y))
```

---

properties	<i>Add or get properties</i>
------------	------------------------------

---

## Description

Add or get properties

## Usage

```
properties_add(x, ..., .list = NULL)

properties_get(x, property)
```

## Arguments

x	An object of class <code>geojson</code>
...	Properties to be added, supports NSE as well as SE
.list	a named list of properties to add. must be named
property	(character) property name

## References

<http://geojson.org/geojson-spec.html>

## Examples

```
# add properties
x <- '{ "type": "LineString", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ]}'
(y <- linestring(x))
y %>% feature() %>% properties_add(population = 1000)

## add with a named list already created
```

```

x <- '{ "type": "LineString", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ]}'
(y <- linestring(x))
props <- list(population = 1000, temperature = 89, size = 5)
y %>% feature() %>% properties_add(.list = props)

## combination of NSE and .list
x <- '{ "type": "LineString", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ]}'
(y <- linestring(x))
props <- list(population = 1000, temperature = 89, size = 5)
y %>% feature() %>% properties_add(stuff = 4, .list = props)

# features to featurecollection
x <- '{ "type": "Point", "coordinates": [100.0, 0.0] }'
point(x) %>%
  feature() %>%
  featurecollection() %>%
  properties_add(population = 10)

# get property
x <- '{ "type": "LineString", "coordinates": [ [100.0, 0.0], [101.0, 1.0] ]}'
(y <- linestring(x))
x <- y %>% feature() %>% properties_add(population = 1000)
properties_get(x, property = 'population')

```

---

to\_geojson

---

*Convert GeoJSON character string to appropriate GeoJSON class*


---

## Description

Automatically detects and adds the class

## Usage

```
to_geojson(x)
```

## Arguments

x                      GeoJSON character string

## Examples

```

mp <- '{"type":"MultiPoint","coordinates":[[100,0],[101,1]]}'
to_geojson(mp)

ft <- '{"type":"Feature","properties":{"a":"b"},
"geometry":{"type": "MultiPoint","coordinates": [ [100.0, 0.0], [101.0, 1.0] ]}}'
to_geojson(mp)

fc <- '{"type":"FeatureCollection","features":[{"type":"Feature","properties":{"a":"b"},
"geometry":{"type": "MultiPoint","coordinates": [ [100.0, 0.0], [101.0, 1.0] ]}}]}'
to_geojson(fc)

```

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