Package ‘crsmeta’

October 12, 2022

Title  Extract Coordinate System Metadata

Version  0.3.0

Description  Obtain coordinate system metadata from various data formats. There are functions to extract a 'CRS' (coordinate reference system, <https://en.wikipedia.org/wiki/Spatial_reference_system>) in 'EPSG' (European Petroleum Survey Group, <http://www.epsg.org/>), 'PROJ4' <https://proj.org/>, or 'WKT2' (Well-Known Text 2, <http://docs.opengeospatial.org/is/12-063r5/12-063r5.html>) forms. This is purely for getting simple metadata from in-memory formats, please use other tools for out of memory data sources.

License  GPL-3

Encoding  UTF-8

LazyData  true

RoxygenNote  7.1.0

Depends  R (>= 3.5.0)

Suggests  testthat (>= 2.1.0), spelling

Imports  methods

URL  https://github.com/hypertidy/crsmeta

BugReports  https://github.com/hypertidy/crsmeta/issues

Language  en-US

NeedsCompilation  no

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Repository  CRAN

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### crs_epsg

**Description**

Obtain the 'EPSG' string from an object, if it has one. Supported inputs include sf.

**Usage**

```r
crs_epsg(x, ...)
```

**Arguments**

- `x`  
  object with 'EPSG' value

- `...`  
  ignored

**Value**

integer (or NA)

**References**

EPSG website

**See Also**

`crs_wkt2()` `crs_proj()` `crs_input()`

**Examples**

```r
crs_epsg(sfx)
x <- sfx
attr(x$geom, "crs")$epsg <- NA ## oh no we lost it
crs_epsg(x)

crs_epsg(sfx_new) ## NA, doesn't exist now
```
**Description**

Obtain the 'input' string from an object, if it has one. Supported inputs include sf (>= 0.8-1 - probably).

**Usage**

```r
crs_input(x, ...)
```

**Arguments**

- `x`: object with 'input' value
- `...`: ignored

**Value**

character (or NA)

**Warning**

Note that the 'input' value could be almost anything, there is a huge variety of inputs that can work such as 4326, projstrings, WKT2 strings, EPSG declarations 'EPSG:4326', or common strings like 'WGS84' or 'NAD27'.

Strings like '+init=epsg:4326' have been deprecated but still can work, so beware.

**References**

- sf

**See Also**

- `crs_wkt2()`
- `crs_proj()`
- `crs_epsg()`

**Examples**

```r
crs_input(sfx) # doesn't have one
crs_input(sfx_new) # a proj4string
```
crs_proj  

Extract 'PROJ4' string

Description

Obtain the 'PROJ4' string from an object, if it has one. Supported inputs include raster, sf, sp, and silicate.

Usage

crs_proj(x, ...)

Arguments

x              object with 'PROJ4' string
...            ignored

Value

character string (or NA)

References

PROJ system website

See Also

crs_epsg() crs_wkt2() crs_input()

Examples

crs_proj(sfx)

crs_proj(sfx$geom)

crs_proj(sfx_new) ## NA
**Description**

Obtain the 'WKT2' string from an object, if it has one. Supported inputs include sp and sf.

**Usage**

```r
crs_wkt2(x, ...)
crs_wkt(x, ...)
```

**Arguments**

- `x` object with 'WKT2' string
- `...` ignored

**Details**

The functions `crs_wkt()` and `crs_wkt2()` are aliased, they do the same thing.

**Value**

character string (or NA)

**Warning**

For WKT2 only, PROJ6 and beyond

**References**

WKT2 specification

**See Also**

`crs_epsg()` `crs_proj()` `crs_wkt()` `crs_input()`

**Examples**

```r
crs_wkt2(sfx) # NA
crs_wkt2(sfx$geom) # NA
crs_wkt2(sfx_new)
crs_wkt2(sfx_new$geom)
```
Description

A copy of the ‘minimal_mesh’ data set from the silicate package, with coordinate reference system information added.

Details

sfx is the old-style PROJ.4 and EPSG code CRS (prior to sf 0.8-1).
sfx_new is the new-style WKT2, with user input.

Warning

do not use this data in real situations, or as exemplary of the ’sf’ format. It was created purely to add examples to this package.

Examples

```r
## three equivalent representations, of increasing richness
crs_epsg(sfx)
crs_proj(sfx)
crs_wkt2(sfx)  ## did not exist in earlier sf

## new style

## did not exist in earlier sf

## NA!

### NA!

### NA!

crs_input(sfx_new)
crs_wkt(sfx_new)
```
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