Package: geoarrow (via r-universe)

June 4, 2026

Title Extension Types for Spatial Data for Use with 'Arrow'

Version 0.4.3

Description Provides extension types and conversions to between R-native object types and 'Arrow' columnar types. This includes integration among the 'arrow', 'nanoarrow', 'sf', and 'wk' packages such that spatial metadata is preserved wherever possible. Extension type implementations ensure first-class geometry data type support in the 'arrow' and 'nanoarrow' packages.

License Apache License (>= 2)

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.3

Imports nanoarrow (>= 0.5.0), wk (>= 0.9.0)

LinkingTo wk

Config/testthat/edition 3

URL https://geoarrow.org/geoarrow-r/, https://github.com/geoarrow/geoarrow-r

BugReports https://github.com/geoarrow/geoarrow-r/issues

Depends R (>= 3.6.0)

Suggests arrow, R6, sf, testthat (>= 3.0.0)

SystemRequirements C++17

Config/pak/sysreqs libzstd-dev

Repository https://r-multiverse.r-universe.dev

Date/Publication 2026-06-04 02:52:41 UTC

RemoteUrl https://github.com/geoarrow/geoarrow-r

RemoteRef v0.4.3

RemoteSha 9c305a06f6bd68f6f0d3565cb8971bcedb04a579

Contents

`as_geoarrow_array` *Convert an object to a GeoArrow array*

Description

Convert an object to a GeoArrow array

Usage

```
as_geoarrow_array(x, ..., schema = NULL)

as_geoarrow_array_stream(x, ..., schema = NULL)
```

Arguments

`x`	An object
`...`	Passed to S3 methods
`schema`	A geoarrow extension schema to use as the target type

Value

A nanoarrow_array.

Examples

```
as_geoarrow_array(wk::wkt("POINT (0 1)"))
```

as_geoarrow_vctr *GeoArrow encoded arrays as R vectors*

Description

GeoArrow encoded arrays as R vectors

Usage

```
as_geoarrow_vctr(x, ..., schema = NULL)
```

Arguments

x	An object that works with as_geoarrow_array_stream(). Most spatial objects in R already work with this method.
...	Passed to as_geoarrow_array_stream()
schema	An optional schema (e.g., na_extension_geoarrow()).

Value

A vctr of class 'geoarrow_vctr'

Examples

```
as_geoarrow_vctr("POINT (0 1)")
```

geoarrow_handle *Handler/writer interface for GeoArrow arrays*

Description

Handler/writer interface for GeoArrow arrays

Usage

```
geoarrow_handle(x, handler, size = NA_integer_)

geoarrow_writer(schema)
```

Arguments

x	An object implementing as_geoarrow_array_stream()
handler	A wk handler
size	The number of elements in the stream or NA if unknown
schema	A nanoarrow_schema

Value

- `geoarrow_handle()`: Returns the result of `handler`
- `geoarrow_writer()`: Returns a nanoarrow array

Examples

```
geoarrow_handle(wk::xy(1:3, 2:4), wk::wk_debug_filter())
wk::wk_handle(wk::xy(1:3, 2:4), geoarrow_writer(na_extension_wkt()))
```

`geoarrow_schema_parse` *Inspect a GeoArrow schema*

Description

Inspect a GeoArrow schema

Usage

```
geoarrow_schema_parse(
  schema,
  extension_name = NULL,
  infer_from_storage = FALSE
)

is_geoarrow_schema(schema)

as_geoarrow_schema(schema)
```

Arguments

`schema`	A nanoarrow_schema
`extension_name`	An extension name to use if schema is a storage type.
`infer_from_storage`	Attempt to guess an extension name if schema is not a geoarrow extension type.

Value

A list of parsed properties

Examples

```
geoarrow_schema_parse(na_extension_geoarrow("POINT"))
```

geoarrow_wkb *GeoArrow Types*

Description

These functions provide GeoArrow type definitions as zero-length vectors.

Usage

```
geoarrow_wkb(crs = NULL, edges = "PLANAR")

geoarrow_wkt(crs = NULL, edges = "PLANAR")

geoarrow_large_wkb(crs = NULL, edges = "PLANAR")

geoarrow_large_wkt(crs = NULL, edges = "PLANAR")

geoarrow_wkb_view(crs = NULL, edges = "PLANAR")

geoarrow_wkt_view(crs = NULL, edges = "PLANAR")

geoarrow_native(
  geometry_type,
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)

geoarrow_point(
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)

geoarrow_linestring(
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)

geoarrow_polygon(
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
```

```
  edges = "PLANAR"
)

geoarrow_multipoint(
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)

geoarrow_multilinestring(
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)

geoarrow_multipolygon(
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)

geoarrow_box(
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)
```

Arguments

crs	An object representing a CRS. For maximum portability, it should implement wk::wk_crs_projjson().
edges	One of "PLANAR" or "SPHERICAL".
geometry_type	One of "POINT", "LINESTRING", "POLYGON", "MULTIPOINT", "MULTILINESTRING", "MULTIPOLYGON".
dimensions	One of "XY", "XYZ", "XYM", or "XYZM"
coord_type	One of "SEPARATE" or "INTERLEAVED"

Value

A geoarrow_vctr

Examples

```
geoarrow_wkb()
```

```
geoarrow_wkt()
geoarrow_point()
```

`infer_geoarrow_schema` *Infer a GeoArrow-native type from a vector*

Description

Infer a GeoArrow-native type from a vector

Usage

```
infer_geoarrow_schema(x, ..., promote_multi = TRUE, coord_type = NULL)
```

Arguments

`x`	An object from which to infer a schema.
`...`	Passed to S3 methods.
`promote_multi`	Use `TRUE` to return a MULTI type when both normal and MULTI elements are in the same array.
`coord_type`	Specify the coordinate type to use if returning

Value

A nanoarrow_schema

Examples

```
infer_geoarrow_schema(wk::wkt("POINT (0 1)"))
```

`na_extension_wkb` *Extension type definitions for GeoArrow extension types*

Description

Extension type definitions for GeoArrow extension types

Usage

```
na_extension_wkb(crs = NULL, edges = "PLANAR")

na_extension_wkt(crs = NULL, edges = "PLANAR")

na_extension_large_wkb(crs = NULL, edges = "PLANAR")

na_extension_large_wkt(crs = NULL, edges = "PLANAR")

na_extension_wkb_view(crs = NULL, edges = "PLANAR")

na_extension_wkt_view(crs = NULL, edges = "PLANAR")

na_extension_geoarrow(
  geometry_type,
  dimensions = "XY",
  coord_type = "SEPARATE",
  crs = NULL,
  edges = "PLANAR"
)
```

Arguments

crs	An object representing a CRS. For maximum portability, it should implement wk::wk_crs_projjson().
edges	One of "PLANAR" or "SPHERICAL".
geometry_type	One of "POINT", "LINESTRING", "POLYGON", "MULTIPOINT", "MULTILINESTRING", "MULTIPOLYGON".
dimensions	One of "XY", "XYZ", "XYM", or "XYZM"
coord_type	One of "SEPARATE" or "INTERLEAVED"

Value

A nanoarrow_schema.

Examples

```
na_extension_wkb(crs = "OGC:CRS84")
na_extension_geoarrow("POINT")
```

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