Package: starc (via r-universe)

June 2, 2026

Title Obtain 'SpatioTemporal Asset Catalog' (STAC) Assets

Version 0.1.0

Description What the package does (one paragraph).

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Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

Depends R (>= 4.2.0)

Imports arrow, digest, dplyr, geographiclib, jsonlite, PROJ, purrr, reproj, rlang, sds, stringi, tibble, vaster

Remotes hypertidy/geographiclib, hypertidy/sds, hypertidy/vaster

Config/pak/sysreqs cmake libicu-dev libssl-dev libproj-dev

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

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RemoteUrl https://github.com/hypertidy/starc

RemoteRef HEAD

RemoteSha 19d6d1b8716682f6753442bc9285ebaa4226cb5b

Contents

`compute_spatial_window` *Compute spatial window for location*

Description

Converts lon/lat + buffer to:

- UTM CRS (appropriate zone)
- Projected extent (xmin, xmax, ymin, ymax)
- Lonlat extent (lonmin, lonmax, latmin, latmax)

Usage

```
compute_spatial_window(locations)
```

Arguments

`locations`	Data frame with lon, lat, radiusx, radiusy

Value

Data frame with added spatial fields

`consolidate_assets_parquet` *Consolidate all Parquet files with deduplication*

Description

Consolidate all Parquet files with deduplication

Usage

```
consolidate_assets_parquet(
  parquet_dir = "_targets/assets_parquet",
  parquet_files = NULL,
  dedup_keys = c("SITE_ID", "datetime")
)
```

Arguments

`parquet_dir`	Directory containing Parquet files
`parquet_files`	Character vector of Parquet file paths (from targets)
`dedup_keys`	Character vector of columns to deduplicate on

Value

Tibble with consolidated, deduplicated assets

`define_test_location` *Define test location (Noville Peninsula)*

Description

Define test location (Noville Peninsula)

Usage

```
define_test_location()
```

Value

Data frame with single location

`get_assets_from_urls` *Get assets from pre-built query URLs*

Description

This was born as hrefs from scene

Usage

```
get_assets_from_urls(query_urls)
```

Arguments

`query_urls`	Query URL(s) from sds::stacit()

Value

Tibble with asset URLs and metadata

get_assets_single *Internal: Fetch single STAC query with pagination*

Description

This was born as hrefs0 from scene

Usage

```
get_assets_single(query_url)
```

Arguments

query_url	STAC query URL

Value

Tibble with assets + metadata

mk_utm_centre *Determine UTM point from lon/lat*

Description

Determine UTM point from lon/lat

Usage

```
mk_utm_centre(lon, lat)
```

Arguments

lon	Longitude
lat	Latitude

Value

dataframe with columns x, y in UTM

mk_utm_crs *Determine UTM CRS from lon/lat*

Description

Determine UTM CRS from lon/lat

Usage

```
mk_utm_crs(lon, lat)
```

Arguments

lon	Longitude
lat	Latitude

Value

EPSG code as string

prepare_query *Prepare STAC query*

Description

Prepare STAC query

Prepare STAC query

Usage

```
prepare_query(spatial_window, start_date, end_date, collections, provider)

prepare_query(spatial_window, start_date, end_date, collections, provider)
```

Arguments

spatial_window	Spatial window with bbox
start_date	Start date
end_date	End date

Value

Query specification

Query specification

process_feature *Internal: Extract assets and metadata from single feature*

Description

Internal: Extract assets and metadata from single feature

Usage

```
process_feature(feature)
```

Arguments

feature	Single STAC feature (one row from features data frame)

Value

Named list with assets + metadata

sanitize_location *Sanitize location name for filesystem*

Description

Sanitize location name for filesystem

Usage

```
sanitize_location(location)
```

write_assets_to_parquet *Write assets table to Parquet file (parallel-safe)*

Description

Write assets table to Parquet file (parallel-safe)

Usage

```
write_assets_to_parquet(
  assets_table,
  output_dir = "_targets/assets_parquet",
  collection = NULL
)
```

Arguments

assets_table	Tibble with assets for ONE location (from get_assets) Should have: SITE_ID, location_id, solarday, scene_id, datetime, cloud_cover, red, green, blue, nir, scl, etc.
output_dir	Directory to write Parquet files
collection	Optional collection name for subfolder

Value

Character. Path to written Parquet file

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write_consolidated_assets

Write consolidated assets to single Parquet file

Description

Write consolidated assets to single Parquet file

Usage

```
write_consolidated_assets(
  assets_consolidated,
  output_path = "_targets/assets_consolidated.parquet"
)
```

Arguments

assets_consolidated	Consolidated assets tibble
output_path	Path to write final Parquet file

Value

Character. Path to written file

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