Package 'edr4r'

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Title Client for OGC API - Environmental Data Retrieval (EDR)

Version 0.1.1

Description A tidy R client for services implementing the OGC API - Environmental Data Retrieval ('EDR') standard with JSON discovery and 'GeoJSON' or 'CoverageJSON' query responses. General purpose, but most of its real-world use is against in-situ monitoring networks (stream gauges, weather stations, snow and reservoir telemetry) that expose their stations and time series as EDR collections. Known working endpoints include the USGS waterdata OGC API and the Western Water Datahub. Provides discovery, query, and parsing helpers for the locations, items, position, area, cube, radius, trajectory, and corridor query types. Returns 'CoverageJSON' as tidy 'tibble' rows and 'GeoJSON' as 'sf' objects.

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URL https://github.com/ksonda/edr4r

BugReports https://github.com/ksonda/edr4r/issues

Encoding UTF-8

Depends R (>= 4.1)

Imports cli, httr2 (>= 1.1.0), jsonlite, purrr, rlang, tibble, vctrs

Suggests base64enc, ggplot2, htmlwidgets, knitr, leaflet, rmarkdown, sf, svglite, testthat (>= 3.0.0), webfakes

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VignetteBuilder knitr

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Contents

`covjson_to_tibble` *Convert a CoverageJSON response to a tidy tibble*

Description

Flattens a CoverageJSON `Coverage` or `CoverageCollection` into a long tibble with one row per (coverage, parameter, domain position). Handles primitive, regularly spaced, and composite tuple axes, including the axes used by `Grid`, `PointSeries`, `MultiPointSeries`, and `Trajectory` domains. Inline `NdArray` ranges are validated before they are flattened.

Usage

```
covjson_to_tibble(x, datetime_as_posix = TRUE)
```

Arguments

`x`	A CoverageJSON object: either an `edr_response` returned by `edr_location()` / `edr_area()` / `edr_cube()` (etc.) with `format = "covjson"`, or the raw parsed list.

datetime_as_posix
: If TRUE (default), attempts to parse the time axis to POSIXct (UTC). Falls back to character on failure.

Value

A tibble with columns coverage_id, parameter, parameter_label, unit, datetime, x, y, z, and value. Columns that are absent from the source are filled with NA.

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edr_area *Area query (data inside a polygon)*

Description

Calls GET /collections/{collection_id}/area with a WKT POLYGON in the coords parameter.

Usage

```
edr_area(
  client,
  collection_id,
  coords,
  datetime = NULL,
  parameter_name = NULL,
  z = NULL,
  crs = NULL,
  format = c("covjson", "json"),
  ...
)
```

Arguments

client	An edr_client.
collection_id	Collection identifier.
coords	WKT polygon string, or a matrix / data.frame of (lon, lat) rows that will be closed into a POLYGON. May also be an sf / sfc polygon if sf is installed.
datetime	ISO-8601 instant or interval, e.g. "2024-01-01/2024-12-31" or "2024-01-01/..".
parameter_name	Character vector of parameter names to filter on. Sent as a comma-separated parameter-name= query.
z	Vertical level filter.
crs	Optional CRS URI for the response.
format	"covjson" (default) or "json".
...	Additional query parameters passed through verbatim.

Value

An `edr_response` containing the server's CoverageJSON response. Convert it with `covjson_to_tibble()`.

`edr_client` *Create an EDR client*

Description

Builds a reusable client object that captures the base URL of an OGC API - EDR service, a default user-agent, and HTTP options that are applied to every request.

Usage

```
edr_client(
  base_url,
  user_agent = NULL,
  timeout = 60,
  max_tries = 3,
  retry_on_failure = TRUE,
  headers = NULL,
  verbose = FALSE
)
```

Arguments

`base_url`	Base URL of an OGC API - EDR service. Examples: the USGS waterdata OGC API at `"https://api.waterdata.usgs.gov/ogcapi/beta"`, the Western Water Datahub at `"https://api.wwdh.internetofwater.app"`, or `"http://localhost:5005"` for a local pygeoapi dev server. A trailing slash is optional.
`user_agent`	String sent in the `User-Agent` header. Defaults to `"edr4r/<version> (+https://github.com/ksonda/`
`timeout`	Request timeout in seconds. Defaults to 60.
`max_tries`	Maximum number of attempts per request. The client retries on 408, 429, and 5xx responses with exponential backoff. Defaults to 3.
`retry_on_failure`	If `TRUE` (default), retry low-level transport failures such as connection resets and transient DNS / TLS errors. EDR requests made by this package are read-only GET requests, so retrying them is safe.
`headers`	Named character vector of extra headers attached to every request (e.g. `c(Authorization = "Bearer ...")`).
`verbose`	If `TRUE`, prints request URLs to the console as they are made. Useful for debugging.

Value

An object of class `edr_client`.

Examples

```
usgs <- edr_client("https://api.waterdata.usgs.gov/ogcapi/beta")
usgs
```

`edr_collection` *Get a single collection's metadata*

Description

Get a single collection's metadata

Usage

```
edr_collection(client, collection_id)
```

Arguments

`client`	An `edr_client`.
`collection_id`	Collection identifier as advertised by the server – e.g. `"monitoring-locations"` or `"daily-values"`.

Value

A list with the raw collection document.

`edr_collections` *List collections offered by the service*

Description

List collections offered by the service

Usage

```
edr_collections(client)
```

Arguments

`client`	An `edr_client`.

Value

A tibble with one row per collection. Always includes `id`, `title`, `description`, `extent_bbox`, `crs`, `data_queries`, and `links` columns.

edr_conformance *Declared OGC API conformance classes*

Description

Declared OGC API conformance classes

Usage

```
edr_conformance(client)
```

Arguments

client	An edr_client.

Value

A character vector of conformance class URIs.

edr_corridor *Corridor query (data along a path with a width)*

Description

Calls GET /collections/{collection_id}/corridor.

Usage

```
edr_corridor(
  client,
  collection_id,
  coords,
  corridor_width,
  corridor_height,
  width_units = "km",
  height_units = "m",
  datetime = NULL,
  parameter_name = NULL,
  z = NULL,
  crs = NULL,
  format = c("covjson", "json"),
  ...
)
```

Arguments

client	An edr_client.
collection_id	Collection identifier.
coords	WKT LINESTRING, a matrix / data.frame of (lon, lat) rows, or an sfc linestring.
corridor_width	Width of the corridor.
corridor_height	Vertical extent of the corridor. Required by the EDR corridor query requirements.
width_units	Units for corridor_width.
height_units	Units for corridor_height.
datetime	ISO-8601 instant or interval, e.g. "2024-01-01/2024-12-31" or "2024-01-01/..".
parameter_name	Character vector of parameter names to filter on. Sent as a comma-separated parameter-name= query.
z	Vertical level filter.
crs	Optional CRS URI for the response.
format	"covjson" (default) or "json".
...	Additional query parameters passed through verbatim.

Value

An edr_response containing the server's CoverageJSON response. Convert it with covjson_to_tibble().

---

edr_cube *Cube query (data inside a bounding box)*

Description

Calls GET /collections/{collection_id}/cube with a bounding box.

Usage

```
edr_cube(
  client,
  collection_id,
  bbox,
  datetime = NULL,
  parameter_name = NULL,
  z = NULL,
  crs = NULL,
  format = c("covjson", "json"),
  ...
)
```

Arguments

client	An edr_client.
collection_id	Collection identifier.
bbox	Numeric vector of length 4 or 6.
datetime	ISO-8601 instant or interval, e.g. "2024-01-01/2024-12-31" or "2024-01-01/..".
parameter_name	Character vector of parameter names to filter on. Sent as a comma-separated parameter-name= query.
z	Vertical level filter.
crs	Optional CRS URI for the response.
format	"covjson" (default) or "json".
...	Additional query parameters passed through verbatim.

Value

An edr_response containing the server's CoverageJSON response. Convert it with covjson_to_tibble().

---

edr_explore *One-shot fetch + plot + map for a collection*

Description

Convenience wrapper that plans a supported query, fetches data with **one** bulk request via edr_cube() or edr_area() when possible, and hands the result to edr_map() or edr_plot(). Station locations are requested only when the result needs a station map or a per-location fallback. Optionally writes a map to a self-contained HTML file.

Usage

```
edr_explore(
  client,
  collection_id,
  bbox = NULL,
  coords = NULL,
  datetime = NULL,
  parameter_name = NULL,
  limit = NULL,
  record_limit = NULL,
  max_requests = 100L,
  file = NULL,
  popup = "plot+csv",
  method = c("auto", "cube", "area", "position", "per-location"),
  output = c("auto", "map", "plot", "data"),
  plot_view = c("auto", "time", "profile", "grid"),
  quiet = FALSE,
  ...
)
```

Arguments

client	An edr_client.
collection_id	Collection identifier.
bbox	Optional numeric length-4 bbox. Used both to filter the locations index (if the server honours it) and as the bbox for the cube fetch in method = "auto". If omitted with method = "cube", derived from the bounding box of the returned locations sf.
coords	Point coords for position, or polygon coords for area. Forwarded to edr_position() / edr_area().
datetime	ISO-8601 interval forwarded to the data fetch.
parameter_name	Character vector of parameter ids; forwarded to the data fetch. Use edr_parameters() to discover valid ids.
limit	Optional cap on the number of stations to map.
record_limit	Optional per-station record cap, passed through to edr_location() in the per-location path. Useful for servers (e.g. USGS waterdata) that cap responses at ~10 records by default. Ignored on the cube and area paths.
max_requests	Maximum number of per-location data requests permitted in one call. Defaults to 100. Set to Inf only when an intentionally unbounded batch is acceptable. Ignored by bulk methods.
file	If non-NULL, write the map to this HTML path via edr_save_html() and return file invisibly. Otherwise return the leaflet map.
popup	Popup mode (forwarded to edr_map()).
method	One of "auto" (default), "cube", "area", "position", or "per-location". See above.
output	One of "auto" (default), "map", "plot", or "data". "auto" returns a station map for station time-series results and an interactive coverage map for gridded/profile results.
plot_view	Plot view passed to edr_plot() when returning a plot. Defaults to "auto".
quiet	If FALSE (default), print a cli progress bar when falling back to per-location fetches.
...	Forwarded to edr_map() when returning a map.

Details

The default method = "auto" picks the cheapest route the collection advertises in its data_queries:

- **cube** – one HTTP call returning a CoverageCollection across the whole bbox. Fast. Used when the collection supports cube *and* a bbox is supplied.
- **area** – like cube but uses a polygon. Used when coords is supplied and the collection supports area.
- **position** – one HTTP call at a point. Useful for vertical profiles returned by position queries.
- **per-location** – the fallback: one HTTP call per station via edr_location(). Slower (N+1), used when neither spatial bulk query is supported or the matching spatial input was not supplied.

Force a specific path by setting `method`. `coords` is required for `area` and `position`; if `method = "cube"` and `bbox` is omitted, the bbox is derived from the returned locations.

Value

A `leaflet` htmlwidget, a `ggplot`, a tidy tibble/list when `output = "data"`, or `invisible(file)` when a map is saved.

Examples

```
## Not run:
cl <- edr_client("https://api.wwdh.internetofwater.app")

# One /cube call across a bbox -- fast.
edr_explore(
  cl, "rise-edr",
  bbox           = c(-116, 35.5, -114, 36.5),
  datetime       = "2023-01-01/2023-03-31",
  parameter_name = "3",
  file           = tempfile(fileext = ".html")
)

## End(Not run)
```

`edr_items` *Items (OGC API Features) helpers*

Description

Many EDR servers expose an OGC API Features `/items` endpoint alongside the EDR queries. Behaviour varies: some deployments implement `items` as a full Features endpoint, others as a thin stub used only to register the collection as both EDR and Features. In the stub case, non-trivial data is usually obtained via the EDR queries (`edr_locations()`, `edr_area()`, `edr_cube()`, etc.).

Usage

```
edr_items(
  client,
  collection_id,
  bbox = NULL,
  datetime = NULL,
  limit = NULL,
  format = c("geojson", "json"),
  ...
)

edr_item(client, collection_id, item_id, format = c("geojson", "json"), ...)
```

Arguments

client	An edr_client.
collection_id	Collection identifier.
bbox	Numeric vector of length 4 or 6 (c(minx, miny, maxx, maxy) or with z).
datetime	ISO-8601 instant or interval, e.g. "2024-01-01/2024-12-31" or "2024-01-01/..".
limit	Maximum number of features to return.
format	"geojson" (default) or "json".
...	Additional query parameters passed through verbatim.
item_id	Identifier of a single feature.

Value

An sf object when sf is installed and the server returns GeoJSON; otherwise an edr_response wrapping the GeoJSON document.

---

edr_landing *EDR service landing page*

Description

Retrieves the service root document, which advertises links to the collections, conformance, and openapi endpoints.

Usage

```
edr_landing(client)
```

Arguments

client	An edr_client.

Value

A list with the parsed landing document.

edr_location *Get data for a single location*

Description

Calls GET /collections/{collection_id}/locations/{location_id}. Typically returns CoverageJSON; pass the result to covjson_to_tibble() for a tidy data frame.

Usage

```
edr_location(
  client,
  collection_id,
  location_id,
  datetime = NULL,
  parameter_name = NULL,
  z = NULL,
  crs = NULL,
  format = c("covjson", "geojson", "csv", "json"),
  ...
)
```

Arguments

client	An edr_client.
collection_id	Collection identifier.
location_id	Identifier of the location, as advertised by the server. IDs vary by deployment: bare integers, alphanumeric station codes, or compound identifiers (e.g. colon-separated triplets used by some snow / forecast networks). Reserved characters are URL-encoded for you; a literal / is rejected because it cannot round-trip through HTTP path segments.
datetime	ISO-8601 instant or interval, e.g. "2024-01-01/2024-12-31" or "2024-01-01/..".
parameter_name	Character vector of parameter names to filter on. Sent as a comma-separated parameter-name= query.
z	Vertical level filter.
crs	Optional CRS URI for the response.
format	"covjson" (default), "geojson", "csv", or "json".
...	Additional query parameters passed through verbatim.

Value

An edr_response containing CoverageJSON or GeoJSON, or a tibble for CSV responses. Use covjson_to_tibble() or geojson_to_sf() to convert structured JSON responses.

`edr_locations` *List locations in a collection*

Description

Calls `GET /collections/{collection_id}/locations`. With no extra filters, EDR servers typically return a GeoJSON `FeatureCollection` of available locations.

Usage

```
edr_locations(
  client,
  collection_id,
  bbox = NULL,
  datetime = NULL,
  parameter_name = NULL,
  crs = NULL,
  limit = NULL,
  format = c("geojson", "json"),
  ...
)
```

Arguments

`client`	An `edr_client`.
`collection_id`	Collection identifier.
`bbox`	Numeric vector of length 4 or 6 (`c(minx, miny, maxx, maxy)` or with z).
`datetime`	ISO-8601 instant or interval, e.g. `"2024-01-01/2024-12-31"` or `"2024-01-01/.."`.
`parameter_name`	Character vector of parameter names to filter on. Sent as a comma-separated `parameter-name=` query.
`crs`	Optional CRS URI for the response.
`limit`	Maximum number of features to return.
`format`	`"geojson"` (default) or `"json"`.
`...`	Additional query parameters passed through verbatim.

Value

When the server returns GeoJSON, an `sf` object if the `sf` package is installed, otherwise an `edr_response` wrapping the raw GeoJSON. When the server returns CoverageJSON, an `edr_response`.

edr_map *Map EDR locations or coverage data*

Description

Builds a leaflet::leaflet map of station features or gridded/profile CoverageJSON data. Station maps can show per-station popups with interactive time-series charts and CSV downloads. Coverage maps keep all supplied parameters, times, and vertical levels in the widget and expose in-map controls for choosing the active slice; grid cells open popups with a time-series chart for the clicked cell.

Usage

```
edr_map(
  locations,
  data = NULL,
  popup = c("plot+csv", "plot", "csv", "table", "all"),
  location_col = "coverage_id",
  id_col = NULL,
  label_col = NULL,
  parameter = NULL,
  plot_width = 7,
  plot_height = 3.5,
  plot_dpi = 72,
  tile_provider = "CartoDB.Positron",
  marker_radius = 6,
  matched_color = "#2C7FB8",
  unmatched_color = "#BBBBBB",
  show_unmatched = TRUE,
  legend = TRUE,
  max_match_distance = NULL,
  mode = c("auto", "stations", "grid", "profile"),
  controls = TRUE,
  initial = list(),
  grid_opacity = 0.75
)
```

Arguments

locations	An sf object from edr_locations(), an edr_response wrapping GeoJSON, or tidy coverage data from covjson_to_tibble() / a CoverageJSON edr_response.
data	See above. Defaults to NULL.
popup	One of "plot+csv" (default), "plot", "csv", "table", or "all".
location_col	Column in data carrying the location id when data is a single tibble. Default "coverage_id".

id_col — Column in locations to join on. If NULL, the function looks for "id" then "_id" then the first character column.

label_col — Column in locations used for the popup heading. If NULL, tries "name", "locationName", "title", then the detected id column.

parameter — Optional character vector restricting which parameters are displayed. On station maps, the filtered rows also determine whether a station is marked as having data. On coverage maps, only matching rows are included in the widget payload.

plot_width, plot_height — Popup chart dimensions in inches. Display size in pixels is plot_width * plot_dpi by plot_height * plot_dpi, with a larger minimum size for readable interactive popups.

plot_dpi — Display dots-per-inch for popup charts. Default 72; bump to 90+ if popups look small on hi-DPI displays.

tile_provider — Leaflet basemap. Default "CartoDB.Positron".

marker_radius — Marker radius in pixels for stations that have time-series data. Data-less stations are drawn one pixel smaller.

matched_color — Marker colour for stations that joined to a coverage in data. Default deep blue.

unmatched_color — Marker colour for stations without data (only relevant when data is supplied and show_unmatched = TRUE). Default light grey.

show_unmatched — If TRUE (default), data-less stations are drawn in unmatched_color so the user can see the full station network. Set to FALSE to drop them entirely. Ignored when data is NULL.

legend — If TRUE (default), add a legend distinguishing stations with data from those without. Suppressed automatically when there are no unmatched markers to label.

max_match_distance — Optional maximum coordinate distance for spatially matching data rows with x / y columns to stations. Units are those of the station coordinates. NULL (default) keeps the nearest-station fallback unlimited.

mode — Map mode. "auto" (default) uses station markers for spatial feature inputs, grid cells for gridded coverage data, and profile markers for vertical profiles. Use "stations", "grid", or "profile" to force a mode.

controls — If TRUE (default), coverage maps include in-map controls for available slice dimensions (parameter, datetime, and z for grids).

initial — Named list of initial coverage-map selections, e.g. list(parameter = "temperature", datetime = "2024-01-01", z = 0).

grid_opacity — Fill opacity for gridded coverage cells.

Details

data can be one of:

- NULL – just markers with the sf attribute table as a popup (when popup = "table" or popup = "all").

- A long tibble (the output of `covjson_to_tibble()`) with one column matching the locations' id column. Set `location_col =` to the column in `data` that holds the location id and `id_col =` to the column in `locations`.
- A named list of tibbles, keyed by feature id. This is what `edr_explore()` passes when it fetches one time series per station — and the right shape when each station has its own CovJSON response, because server-assigned `coverage_ids` like `"1"` won't naturally match the feature id.

Value

A `leaflet` htmlwidget. Pass it to `edr_save_html()` to write a selfcontained HTML file.

`edr_parameters` *List the data parameters a collection serves*

Description

Pulls the `parameter_names` block out of the collection document (`GET /collections/{id}`) and flattens it into a tidy tibble. These are the observed properties you can pass to `parameter_name =` on the query verbs (`edr_location()`, `edr_cube()`, etc.).

Usage

```
edr_parameters(client, collection_id)
```

Arguments

`client`	An `edr_client`.
`collection_id`	Collection identifier as advertised by the server – e.g. `"monitoring-locations"` or `"daily-values"`.

Details

EDR servers vary in how they key the `parameter_names` dictionary (numeric IDs, short codes, etc.). The `id` column in the returned tibble is the value to pass back as `parameter_name`; the `name` column is the human-readable label.

Value

A tibble with one row per parameter. Columns: `id`, `name`, `description`, `unit_symbol`, `unit_label`, `observed_property`.

edr_plot *Plot an EDR response as a ggplot*

Description

Convenience wrapper around `ggplot2::ggplot()` for the long tibble returned by `covjson_to_tibble()`. Automatically chooses a sensible view for time series, vertical profiles, and x/y grids.

Usage

```
edr_plot(
  data,
  parameter = NULL,
  group = "coverage_id",
  facet = "parameter",
  scales = "free_y",
  geom = c("line", "point", "both"),
  facet_labels = TRUE,
  view = c("auto", "time", "profile", "grid")
)
```

Arguments

`data`	Either a tidy tibble from `covjson_to_tibble()` or an `edr_response` / `edr_covjson` object (which we flatten with `covjson_to_tibble()` for you).
`parameter`	Optional character vector restricting to a subset of parameters.
`group`	Column in `data` used for the colour aesthetic. Defaults to `"coverage_id"` (one colour per location). Set to `NULL` to disable.
`facet`	Column to facet by. Defaults to `"parameter"` so each variable gets its own panel; pass `NULL` to plot everything on one axis.
`scales`	`facet_wrap()` scales argument. Default `"free_y"` gives each parameter its own y-axis range.
`geom`	One of `"line"`, `"point"`, or `"both"`.
`facet_labels`	If `TRUE` (default), facet strip labels include the unit (e.g. `"discharge (ft3/s)"`).
`view`	Plot view. `"auto"` (default) detects grids from varying `x` and `y`, profiles from varying `z`, and otherwise falls back to a time-series view. Set to `"time"`, `"profile"`, or `"grid"` to force a specific layout.

Value

A `ggplot` object.

Examples

```
## Not run:
cl <- edr_client("https://api.wwdh.internetofwater.app")
resp <- edr_location(cl, "rise-edr",
                     location_id    = 3514,
                     datetime       = "2023-01-01/2023-06-30",
                     parameter_name = "3")
edr_plot(resp)

## End(Not run)
```

`edr_position` *Position query (data at a point)*

Description

Calls `GET /collections/{collection_id}/position` with a WKT POINT in the `coords` parameter.

Usage

```
edr_position(
  client,
  collection_id,
  coords,
  datetime = NULL,
  parameter_name = NULL,
  z = NULL,
  crs = NULL,
  format = c("covjson", "json"),
  ...
)
```

Arguments

`client`	An `edr_client`.
`collection_id`	Collection identifier.
`coords`	Either a length-2 numeric vector `c(lon, lat)`, a length-3 vector `c(lon, lat, z)`, or a WKT POINT string.
`datetime`	ISO-8601 instant or interval, e.g. `"2024-01-01/2024-12-31"` or `"2024-01-01/.."`.
`parameter_name`	Character vector of parameter names to filter on. Sent as a comma-separated `parameter-name=` query.
`z`	Vertical level filter.
`crs`	Optional CRS URI for the response.
`format`	`"covjson"` (default) or `"json"`.
`...`	Additional query parameters passed through verbatim.

Value

An `edr_response` containing the server's CoverageJSON response. Convert it with `covjson_to_tibble()`.

`edr_queryables` *Get the queryables (filter properties) for a collection*

Description

Returns the OGC API queryables document for a collection – a JSON Schema describing the filter properties the server exposes (this is typically used by OGC API Features for CQL2 / property-based filtering). It is **not** the right place to look up the data parameters / observed properties an EDR collection serves; for that, use `edr_parameters()`.

Usage

```
edr_queryables(client, collection_id)
```

Arguments

`client`	An `edr_client`.
`collection_id`	Collection identifier as advertised by the server – e.g. `"monitoring-locations"` or `"daily-values"`.

Value

A list with the parsed queryables document.

`edr_radius` *Radius query (data within a radius of a point)*

Description

Calls `GET /collections/{collection_id}/radius`.

Usage

```
edr_radius(
  client,
  collection_id,
  coords,
  within,
  within_units = "km",
  datetime = NULL,
  parameter_name = NULL,
  z = NULL,
```

```
  crs = NULL,
  format = c("covjson", "json"),
  ...
)
```

Arguments

client	An edr_client.
collection_id	Collection identifier.
coords	Either a length-2 numeric vector c(lon, lat), a length-3 vector c(lon, lat, z), or a WKT POINT string.
within	Radius value.
within_units	Units of within (e.g. "km", "mi").
datetime	ISO-8601 instant or interval, e.g. "2024-01-01/2024-12-31" or "2024-01-01/..".
parameter_name	Character vector of parameter names to filter on. Sent as a comma-separated parameter-name= query.
z	Vertical level filter.
crs	Optional CRS URI for the response.
format	"covjson" (default) or "json".
...	Additional query parameters passed through verbatim.

Value

An edr_response containing the server's CoverageJSON response. Convert it with covjson_to_tibble().

---

edr_request *Perform a low-level EDR request*

Description

Generally you should not need to call this directly: the high-level verbs (edr_locations(), edr_area(), etc.) build the path and query string for you. Use edr_request() when you need to hit a bespoke path or a non-standard parameter.

Usage

```
edr_request(
  client,
  path,
  query = list(),
  format = c("json", "geojson", "covjson", "csv", "html", "raw"),
  parse = TRUE
)
```

Arguments

client	An edr_client from edr_client().
path	Path under the base URL (with or without leading slash), e.g. "collections/monitoring-locations/l
query	Named list of query parameters. Values may be scalars or vectors; vectors are joined with ",". NULL entries are dropped.
format	Response format: one of "json" (default), "geojson", "covjson", "csv", "html", or "raw". Passed as ?f= (except "covjson", which is sent as ?f=json with a CoverageJSON Accept hint, since EDR servers return CovJSON via JSON).
parse	If TRUE (default), parses JSON / GeoJSON / CovJSON bodies into R structures. If FALSE, returns the raw httr2 response.

Value

A parsed list, tibble, or edr_response wrapper; an httr2_response when parse = FALSE; or a typed empty result for HTTP 204 responses.

---

edr_save_html *Save a map to a standalone HTML file*

Description

Thin wrapper around htmlwidgets::saveWidget() for the leaflet map returned by edr_map() or edr_explore(). With selfcontained = TRUE (the default), popup chart data and CSV download links live inside the file – no sidecar directory.

Usage

```
edr_save_html(map, file, selfcontained = TRUE, ...)
```

Arguments

map	A leaflet or htmlwidget.
file	Path to write to.
selfcontained	If TRUE, embed all assets in the file.
...	Forwarded to htmlwidgets::saveWidget().

Value

Invisibly returns file.

`edr_trajectory` *Trajectory query (data along a path)*

Description

Calls `GET /collections/{collection_id}/trajectory`.

Usage

```
edr_trajectory(
  client,
  collection_id,
  coords,
  datetime = NULL,
  parameter_name = NULL,
  z = NULL,
  crs = NULL,
  format = c("covjson", "json"),
  ...
)
```

Arguments

`client`	An `edr_client`.
`collection_id`	Collection identifier.
`coords`	WKT LINESTRING, a matrix / data.frame of `(lon, lat)` rows, or an `sfc` linestring.
`datetime`	ISO-8601 instant or interval, e.g. `"2024-01-01/2024-12-31"` or `"2024-01-01/.."`.
`parameter_name`	Character vector of parameter names to filter on. Sent as a comma-separated `parameter-name=` query.
`z`	Vertical level filter.
`crs`	Optional CRS URI for the response.
`format`	`"covjson"` (default) or `"json"`.
`...`	Additional query parameters passed through verbatim.

Value

An `edr_response` containing the server's CoverageJSON response. Convert it with `covjson_to_tibble()`.

`geojson_to_sf` *Convert a GeoJSON EDR response to an* `sf` *object*

Description

Convert a GeoJSON EDR response to an `sf` object

Usage

```
geojson_to_sf(x)
```

Arguments

`x`	An `edr_response` wrapping GeoJSON (e.g. from `edr_locations()`) or a raw parsed GeoJSON list.

Value

An `sf` object. Requires the `sf` package. If `sf` is not installed, returns a tibble of feature properties (without geometry) and warns.

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