

Package: mnedesigndata (via r-universe)

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Title Design data of the Monitoring Programme for the Natural Environment (MNE)

Version 0.3.0

Description mnedesigndata is an R package to distribute and document R data objects that reflect the current implementation design of the Monitoring Programme for the Natural Environment (MNE). Aspects are covered such as the scheme's spatial sampling frames, the spatiotemporal samples and the designed revisit patterns of the most important field activities. The objects originate particularly from the REP workflow (revisitplan) and scripts tied to it.

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URL <https://inbo.github.io/mnedesigndata>,
<https://github.com/inbo/mnedesigndata>

BugReports <https://github.com/inbo/mnedesigndata/issues>

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activities

Activities that support data collection directly or indirectly

Description

The data frame `activities` defines activities that support data collection in some essential way, either directly or indirectly.

Format

Data frame.

Details

Several attributes are given and not all categories are further used by the REP-workflow. The field activities are used in the REP to create the designed sampling unit calendar of field activity groups (`fag_stratum_grts_calendar`). Several other activities are used in fieldwork optimization steps outside of the REP.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: `activity_sequences`, `domains`, `mod_scheme_vars`, `module_domains`, `modules`, `n2khab_strata`, `scheme_sampling_frame`, `scheme_targetpop_sets`, `sp_samplingframes`, `submodules`

activity_sequences

Activity sequences

Description

The data frame `activity_sequences` defines the available activity sequences. An activity sequence is a set of activities (from `activities`) that are tied together at location level for a specific scheme in a module, with a specific chronological order and a specific intent.

Format

Data frame.

Details

The intent of an activity sequence is to be seen in the context of a scheme in a module, and relates to data collection for one or more variables. An activity sequence may be used by different schemes, and a single scheme may combine more than one, since multiple variables are determined by a single scheme. Also, different activity sequences may apply to the same scheme depending on the module.

Some activities in an activity sequence may have different panel designs, due to the nature of the activity or other requirements or restrictions, so the frequency of some activities may be higher but the overall chronology remains in place.

Note

Currently, `activity_sequences` is also the place where the activity groups are inherently defined (i.e. which activities they are composed of), although this is no logical place for this. The plan is to isolate that aspect so that `activity_sequences` can be replaced by an object `activity_group_sequences`.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [domains](#), [mod_scheme_vars](#), [module_domains](#), [modules](#), [n2khab_strata](#), [scheme_sampling_frame](#), [scheme_targetpop_sets](#), [sp_samplingframes](#), [submodules](#)

domain_stratum_nunits *Spatial population sizes of strata in each domain*

Description

The data frame `domain_stratum_nunits` contains the spatial population size of each stratum in each domain, without taking into account scheme-specific spatial restrictions.

Format

Data frame.

Details

`domain_stratum_nunits` is based on the collapsed & phab-corrected base sampling frame (`stratum_grts_n2khab_phabcor`). Hence it is scheme-agnostic, while some schemes need a more restricted sampling frame (see [sp_samplingframes](#)). For the final population sizes at submodule x domain x scheme level, see [submod_dom_scheme_ssf_stratum_nunits](#).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects about spatial population size: [domain_type_nunits](#), [submod_dom_scheme_ssf_stratum_nunits](#), [submodule_domain_scheme_stratumstats](#), [submodule_domain_scheme_tpestats](#)

domain_type_nunits	<i>Spatial population sizes of types in each domain</i>
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Description

The data frame `domain_type_nunits` contains the spatial population size of each type in each domain, without taking into account scheme-specific spatial restrictions.

Format

Data frame.

Details

`domain_type_nunits` is derived from [domain_stratum_nunits](#) by simply aggregating strata that belong to the same type; see its documentation for more background, as well as [submod_dom_scheme_ssf_stratum_nunits](#).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects about spatial population size: [domain_stratum_nunits](#), [submod_dom_scheme_ssf_stratum_nunits](#), [submodule_domain_scheme_stratumstats](#), [submodule_domain_scheme_tpestats](#)

domainpart_grts_n2khab	<i>Domain partition of each GRTS address in the base sampling frame</i>
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Description

The data frame domainpart_grts_n2khab classifies the GRTS addresses of the base sampling frame using the domain partition. Domain partitions are mutually exclusive in space, while domains (see domains) can spatially overlap.

Format

Data frame.

Details

The domain partition is used to uniquely characterize each GRTS address, preferring its membership to the smallest (innermost) domain it belongs to, whereas the remainder of the larger (including) domain is regarded as the domain partition labelled with suffix "_remainder".

Note that values of the domain_part column can also be based on domains that are not used to drive sampling.

domainpart_grts_n2khab is derived from the domain_grts_n2khab data frame, itself derived from domains and grts_mh_n2khab (= the GRTSmaster_habitats raster data source subsetting by the base sampling frame).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: mod_scheme_field_activity, mod_scheme_targetfieldactivity, mod_scheme_variableset_mainfieldactivity, module_domain_schemes, module_schemes, module_targetpops, schemes, sp_samplingframe_domain, targetpops, targetpops_strata

domains	<i>Domains</i>
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Description

The sf object domains defines code, names and geometry of each geospatial domain that is targeted by a module (see module_domains).

Format

A simple feature collection of type MULTIPOLYGON.

Details

With the term 'domain' we always refer to a geospatial domain listed in this object.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [mod_scheme_vars](#), [module_domains](#), [modules](#), [n2khab_strata](#), [scheme_sampling_frame](#), [scheme_targetpop_sets](#), [sp_samplingframes](#), [submodules](#)

fag_stratum_grts_calendar

Designed fieldwork calendar

Description

The data frame fag_stratum_grts_calendar represents the designed sampling unit calendar – across schemes – of the distinguished field activity groups (FAGs). It has unique combinations of stratum, grts_address, date_interval and field_activity_group.

Format

Data frame.

Details

fag_stratum_grts_calendar is derived from the scheme-specific FAG calendars (object [scheme_moco_ps_spsubset_fag](#)) by eliminating spatiotemporal duplication and taking into account the highest required FAG frequency across schemes.

fag_stratum_grts_calendar can have extensions included, i.e. appended FAG occasions according to older fag_stratum_grts_calendar versions, i.e. from older REP versions. This subset can be seen by inspecting the object cal_old_continuation. Some of these rows may even concern spatial sampling units that are missing from the [current spatiotemporal samples](#), but for which selected field activity groups (FAGs) and occasions have been retained. The appended FAG occasions can only be applied in reality if the preceding FAG occasions on which they depend (not included) have already taken place, i.e. in the context of a previous REP release.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects of the design outcome: [scheme_moco_ps_spsubset_fag_stratum_sppost_spsamples_calendar](#), [scheme_moco_ps_spsubset_targetfag_stratum_sppost_spsamples_calendar](#), [scheme_moco_ps_stratum_sppost_spsamples_calendar](#), [scheme_moco_ps_stratum_sppost_spsamples_spare](#)

fieldwork_shortterm_prioritization_by_stratum

Designed short-term fieldwork calendar with extra attributes

Description

The data frame `fieldwork_shortterm_prioritization_by_stratum` is an extract from [fag_stratum_grts_calendar](#) and has extra attribute columns. The aim is to provide the input needed for shortterm fieldwork planning and prioritization, based on the designed revisit pattern of the most important field activities. For that reason, it has the `priority` and `wait_xxx` columns.

Format

Data frame.

Details

The `is_forest`, `in_mhq_samples` and `last_type_assessment_in_field` columns are given because they drive subsampling locations in cell-based sampling units.

The dates of early FAG occasions that match "LOCEVAL|SAMPLPOINT" may have been edited (postponed) compared to [fag_stratum_grts_calendar](#).

The object typically focuses on a shorter time frame, e.g. one year, but it may also contain some future FAG occasions if in reality it is allowed to execute them earlier or if more preceding occasions can be added to them. An example (since tags `rep_0.14.0` and `fieldworksnippets_0.12.0_poc_0.14.0`) is to include all *first* FAG occasions per sampling unit that match "INST|LEVREAD|SPATPOSIT" in groundwater schemes: INST & SPATPOSIT then represent FAGs that can be executed earlier than planned, and the LEVREAD occasions can be used as a reference to add more preceding occasions that comply with the revisit pattern of this FAG in a specific sampling unit.

Beware that [fag_stratum_grts_calendar](#) may contain appended FAG occasions according to older versions, i.e. from older REP versions, and that this is consequently present in `fieldwork_shortterm_prioritization_by_stratum`. See [fag_stratum_grts_calendar](#) for more information.

Fields

- `scheme_ps_targetpanels_served` Factor. A concatenation of "{scheme}:PS{panel set number}{targetpanel}" strings, separated by " | " in case more than one targetpanel applies. It represents the different schemes (with the associated panel set and targetpanel of the sampling unit) that *require* this field activity group in the specified spatial sampling unit to happen in the specified date interval as it cannot be delayed with regard to the data collection for these schemes. Compare with `schemes_served_all`. For field activity group (FAG) occasions and spatial sampling units that do *not* correspond to the current spatiotemporal samples (see `scheme_ps_oldtargetpanels_served`), the value of `scheme_ps_oldtargetpanels_served` is used instead. This is done to avoid missing values in derived objects or overviews.
- `schemes_served_all` Factor. A concatenation of schemes, separated by " | ", that will make use of this scheduled field activity group (FAG) in the specified spatial sampling unit. It includes the schemes mentioned in `scheme_ps_targetpanels_served` but it can have more: in other schemes this FAG would have been scheduled at a later time, but they can and will use this FAG occasion instead.
- `nr_schemes_current` Integer. The number of schemes that have scheduled this field activity group in the specified spatial sampling unit in the specified date interval.
- `nr_schemes_later` Integer. The number of schemes that originally scheduled this field activity group in the specified spatial sampling unit in a later date interval, but that will be using this occasion instead.
- `stratum` Factor. A type or a subdivision thereof, used in the stratified sampling design and inference. Defined by the `n2khab_strata` data frame.
- `grts_join_method` Factor. The method that has served to assign a GRTS address to the sampling unit.
- `sample_support_code` Factor. Code that reflects the sample support, i.e. geometric properties (size, shape, orientation) that define the sampling unit. The sample support depends on the type (hence on stratum).
- `grts_address` Integer. The GRTS address from the `GRTSmaster_habitats` data source that has been drawn when creating the sample. **grts_address and stratum together identify the spatial sampling unit.**
- `grts_address_final` Integer. The GRTS address from the `GRTSmaster_habitats` data source that has been used as a local replacement for `grts_address`, given the stratum. Its role is to point at the final location for data collection. `grts_address_final` remains tied to `grts_address` and `stratum`, that identify the spatial sampling unit. (`grts_address_final` can also be regarded as a secondary sampling unit within a larger primary sampling unit determined by `grts_address` and `stratum`.)
- `domain_part` Factor. The domain partition to which the spatial sampling unit belongs.
- `is_forest` Logical. Does the stratum correspond to a forest type? Forest types are defined using the regex "`^9|^2180|^rbppm`".
- `in_mhq_samples` Logical. Is the sampling unit also a member of a spatial sample of MHQ (at the Flemish level)?
- `last_type_assessment_in_field` Logical. Did the sampling unit get a field assessment in the past as part of MHQ (at the Flemish level)?
- `last_type_assessment` Date. Latest available MHQ field assessment date for the sampling unit in MHQ (at the Flemish level).

- last_inaccessible** Factor. The degree of inaccessibility during the latest available MHQ field assessment for the sampling unit (MHQ at the Flemish level). Possible factor levels (if not missing) are "short term" and "long term", reflecting an estimated duration of inaccessibility.
- date_start** Date. Start of the date interval during which the field activity group is scheduled in the spatial sampling unit.
- date_end** Date. End of the date interval during which the field activity group is scheduled in the spatial sampling unit.
- date_interval** [Interval](#). The date interval during which the field activity group is scheduled in the spatial sampling unit.
- field_activity_group** Factor. A defined group of field activities. Many field activity groups consist of just one field activity.
- rank** Integer. A rank number representing the order of execution relative to other field activity groups that are scheduled in the same date interval, for the same spatial sampling unit. This rank has originally been defined within an activity sequence that was assigned to the spatial sampling unit in the context of a specific module and scheme.
- matching_occasion** Factor. If present, the value is common between at least two rows (FAG occasions). FAG occasions marked in this way as a 'matching occasion' involve the same FAG at the same GRTS address but across different lentic strata (types). A matching date interval may also be a requirement, depending on the FAG. Matching FAG occasions effectively represent a single FAG occasion in the field, even though data collection may be still be stratum-specific. The value is composed as <field_activity_group>_<grts_address_final>_[<formatted date interval>]. The date interval is missing for FAGs that match regex "INST|LEVREAD|SPATPOSIT", as they don't require the same date interval order to be 'matching'.
- scheme_ps_oldtargetpanels_served** Factor. A string formatted as and with a meaning similar to `scheme_ps_targetpanels_served` but according to older versions of the REP. Most rows have a missing value, but rows *with* a value refer to a part of [fag_stratum_grts_calendar](#) from an older REP version that has been appended to the current version. Some of these rows may even concern spatial sampling units that are missing from the [current spatiotemporal samples](#), for which selected field activity groups (FAGs) and occasions have been retained. The appended FAG occasions can only be applied in reality if the preceding FAG occasions on which they depend (not included) have already taken place, i.e. in the context of a previous release of the short-term fieldwork calendar.
- priority** Integer. A rank number representing the priority of the scheduled field activity group for the specified spatial sampling unit.
- wait_any** Logical. Should the scheduled field activity group in the specified spatial sampling unit be put on hold? This column is TRUE if any of the other wait columns is TRUE.
- wait_watersurface** Logical. Should the scheduled field activity group in the specified spatial sampling unit be put on hold because the sampling unit is a watersurface type? The value may also depend on the schemes in `schemes_served_all`.
- wait_3260** Logical. Should the scheduled field activity group in the specified spatial sampling unit be put on hold because the sampling unit belongs to type 3260?
- wait_7220** Logical. Should the scheduled field activity group in the specified spatial sampling unit be put on hold because the sampling unit belongs to type 7220?

- `wait_floating` Logical. Should the scheduled field activity group in the specified spatial sampling unit be put on hold because the sampling unit belongs to a floating (fen) type? Currently this is defined as type 7140_mrd.
- `wait_mhq` Logical. Should the scheduled field activity group in the specified spatial sampling unit be put on hold because in the considered date interval (year) the field activity group is only needed for a MHQ scheme? (The latter is seen in the value of `scheme_ps_targetpanels_served`.)
- `wait_obsolete_types` Logical. Should the scheduled field activity group in the specified spatial sampling unit be put on hold because the type will be obsoleted and this makes this FAG occasion in this panel set irrelevant?

Source

The code snippets file, which creates objects derived from REP objects. See https://github.com/inbo/n2khab-mne-monitoring/blob/main/020_fieldwork_organization/code_snippets.R.

legacy_watersamplepoints_spslocs_lentic

Prioritized legacy watersample points for the lentic spatial sampling units

Description

The sf object `legacy_watersamplepoints_spslocs_lentic` lists legacy watersample points in the spatial locations (watersurfaces) of the lentic spatial sampling units, with those spatial locations being defined by `grts_address_final`. These points serve as candidates for re-use when taking watersamples. If multiple points are available for a single watersurface, then guidance is added about which one is preferred. The prior criterion variable is `legacy_try_first`. Since the x and y coordinates directly define the points, they are included as explicit attribute columns in order to maintain the point definition if the geometry column is dropped.

Format

A simple feature collection of type POINT.

Details

Once a point for surface water sample extraction has been established in the field for an aquatic sampling unit, it can be reused as long as it remains useful and conforms to a list of (field) criteria. Existing (legacy) watersample point data for lentic types are available in an INBO database (ArcGIS file geodatabase); the ones that are potentially relevant to the (current) lentic spatial sampling units are withheld in the object.

The prior criterion to decide on reuse of a legacy watersample point is the column `legacy_try_first` (see its description for the workflow).

`lastdate_legacysampling_polygon` is the latest 'legacy' sampling date of the watersurface polygon, i.e. from before 1 July 2026. If it is recent enough (its year is not older than the planned sampling year minus 2 years) *and* `legacy_try_first` for the considered watersample point is

TRUE, then a planned SAMPLPOINT FAG for the unit in the FAG calendar can be ignored. However, if during fieldwork it is found that the point where `legacy_try_first` is TRUE does not fulfill criteria, then the SAMPLPOINT FAG still needs to be executed (note: the same adhoc SAMPLPOINT approach applies when revisiting points created within MNE). The sampling date does not apply to older points, i.e. where `legacy_try_first` is FALSE. If such a point is considered, the SAMPLPOINT FAG is always needed. Consequently, `lastdate_legacysampling_polygon` only has values in rows where `legacy_try_first` is TRUE.

The columns `active_in_db_from`, `active_in_db_till`, `annotation` and `ranknr` may provide an extra hint if the `legacy_try_first` criterion and field criteria still yield multiple point candidates.

Fields

`grts_address_final` Integer. The GRTS address that defines the spatial position and geometry of a lentic spatial sampling unit, i.e. the watersurface polygon, given a data frame that links unique, stable GRTS addresses to watersurface geometries (see REP object `stratum_grts_spsamples_lentic_sf` or the derived `grts_lentic_sf` snippet object). `grts_address_final` may (theoretically) represent a local replacement for `grts_address`, given the `stratum`. Its role is to define the final location for data collection.

`polygon_id` String. Identifier of the watersurface *according to the used version* of data sources that provide the geometries and extra attributes of watersurfaces (notably the 'watersurfaces_hab' and 'watersurfaces' data sources). See REP object `stratum_grts_spsamples_lentic_sf` or the derived `grts_lentic_sf` snippet object to readily obtain these geometries in R. Use `n2khab::read_watersurfaces_hab()` and `n2khab::read_watersurfaces()` if you need more attributes from the original data sources.

Note that `polygon_id` is kept only for information and perhaps to join extra attributes from 'watersurfaces_hab' and 'watersurfaces'. The stable column to identify the polygons is `grts_address_final`. This is because `polygon_id` values can change with the versions of 'watersurfaces_hab' and 'watersurfaces'.

`lastdate_legacysampling_polygon` Date. The latest sampling date of the corresponding watersurface polygon before 1 July 2026 ('legacy sampling'), if available. The date is to be used as a criterion to decide whether a full SAMPLPOINT FAG is needed, but only if `legacy_try_first` is TRUE (see Details). As the date does not apply to points where `legacy_try_first` is FALSE, it is only present in rows where `legacy_try_first` is TRUE.

`legacy_try_first` Logical. TRUE marks the (current) legacy watersample point that should be favoured for data collection, if the field criteria for point validity still hold. In some cases, multiple different points with TRUE may be present, in which case field criteria must be used. If the TRUE point does not fulfill criteria, then (historical) points marked as FALSE can still be considered, making use of the field criteria. If multiple points still survive in either of these cases (TRUE, or FALSE if TRUE isn't successful), then additional information can be inspected to make a choice, such as `active_in_db_from`, `active_in_db_till`, `annotation` and `ranknr`.

`x` Numeric. Easting coordinate. In this object, a point is considered as defined by its coordinates, rather than by names or IDs.

`y` Numeric. Northing coordinate. In this object, a point is considered as defined by its coordinates, rather than by names or IDs.

`annotation` String. Point description according to the source database (column `WATERSTAAL.puntwaterkwal`). This may be a current or an outdated polygon ID, and it sometimes contains extra information.

- ranknr** Integer. Object ID according to the source database (column WATERSTAAL.OBJECTID). A higher number refers to a later addition in the source database.
- active_in_db_from** Date. Automated date field from the source database (column WATERSTAAL.GDB_FROM_DATE), reflecting a date where the point started to be marked as active *in the database*. **active_in_db_from** and **active_in_db_till** do not reflect the active period in the field; for that no point-specific date information exists.
- active_in_db_till** Date. Automated date field from the source database (column WATERSTAAL.GDB_TO_DATE), reflecting a date where the point stopped to be marked as active *in the database*. If the date is in year 9999, then the point is a currently valid point according to the source database; this is one of the criteria that has been used to construct **legacy_try_first**. **active_in_db_from** and **active_in_db_till** do not reflect the active period in the field; for that no point-specific date information exists.
- geometry** A simple feature geometry list-column of type POINT. The geometry column mirrors the x and y columns.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

mod_scheme_field_activity

Field activities and field activity groups per module, scheme & spatial subset

Description

The data frame **mod_scheme_field_activity** contains all field activities and associated field activity groups (FAGs) for each activity sequence in a module x scheme x spatial subset.

Format

Data frame.

Details

mod_scheme_field_activity (indirectly) builds on **mod_scheme_variableset_mainfieldactivity**, **activity_sequences** and properties of the target populations.

Spatial subset XXXXXXXXXXXXXXXX

XXXXXX **Omit once columns have been described:** XXXXXXXXXXXXXXXX The spatial subset is used in multiple objects and currently only concerns the distinction between aquatic and terrestrial strata (column **in_aquatic_subset**). It is relevant to determine the applicable activity sequence (i.e. for involved field activity groups).

Restriction by domains and sampling frames

This object has been further restricted by `module_domain_schemes`. This means that the current spatial distribution of target populations of the module's schemes *within the module's domain(s)* is taken into account, using the scheme's spatial sampling frame. When the domains of a module represent a relatively small area, it is possible:

- for target populations: that some types (that were initially targeted by the module) are not present in that area and consequently dropped from the module's target populations
- for schemes: that some schemes targeted by the module are not applicable, i.e. when no types of its target population are present in that area

Also, note that for MHQ schemes, `module_domain_schemes` only considers – on a domain basis – the schemes with sampling approaches, not the census approaches, and this also leads to a further restriction.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: `domainpart_grts_n2khab`, `mod_scheme_targetfieldactivity`, `mod_scheme_variableset_mainfieldactivity`, `module_domain_schemes`, `module_schemes`, `module_targetpops`, `schemes`, `sp_samplingframe_domain`, `targetpops`, `targetpops_strata`

mod_scheme_ps_fag_paneldesign

*Panel design of field activity groups per module x scheme x panel set
x spatial subset*

Description

The data frame `mod_scheme_ps_fag_paneldesign` defines the panel design of each field activity group per module x scheme x panel set x spatial subset.

Format

Data frame.

Details

`mod_scheme_ps_fag_paneldesign` (indirectly) uses `mod_scheme_field_activity` as its base, but with collapsed activity sequences: field activity groups shared among multiple activity sequences (in the same module, scheme and spatial subset) appear only once.

Spatial subset XXXXXXXXXXXXXXXX

XXXXXX **Omit once columns have been described:** XXXXXXXXXXXXXXXX The spatial subset is used in multiple objects and currently only concerns the distinction between aquatic and terrestrial strata (column in_aquatic_subset). It is relevant to determine the applicable activity sequence (i.e. for involved field activity groups).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects with design attributes: [mod_scheme_yrs_moco_ps](#), [module_domain_scheme_ps_stratum_sample_size](#), [scheme_ps_target_paneldesign](#), [scheme_ps_variableset_paneldesign](#), [submodule_domain_scheme_ps_designatt](#)

mod_scheme_targetfieldactivity

Target field activities per module and scheme

Description

The data frame mod_scheme_targetfieldactivity contains the main field activities that are related to the target variable(s) of a module and scheme: the so-called 'target field activities'.

Format

Data frame.

Details

mod_scheme_targetfieldactivity is indirectly derived from [mod_scheme_variableset_mainfieldactivity](#).

Restriction by domains and sampling frames

This object has been further restricted by [module_domain_schemes](#). This means that the current spatial distribution of target populations of the module's schemes *within the module's domain(s)* is taken into account, using the scheme's spatial sampling frame. When the domains of a module represent a relatively small area, it is possible:

- for target populations: that some types (that were initially targeted by the module) are not present in that area and consequently dropped from the module's target populations
- for schemes: that some schemes targeted by the module are not applicable, i.e. when no types of its target population are present in that area

Also, note that for MHQ schemes, [module_domain_schemes](#) only considers – on a domain basis – the schemes with sampling approaches, not the census approaches, and this also leads to a further restriction.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: [domainpart_grts_n2khab](#), [mod_scheme_field_activity](#), [mod_scheme_variableset_mainfieldactivity](#), [module_domain_schemes](#), [module_schemes](#), [module_targetpops](#), [schemes](#), [sp_samplingframe_domain](#), [targetpops](#), [targetpops_strata](#)

mod_scheme_variableset_mainfieldactivity

Main field activities per module and scheme

Description

The data frame `mod_scheme_variableset_mainfieldactivity` contains just the main data collection methods from [mod_scheme_vars](#) that are field activities, which are now renamed as 'main field activities'. In addition, it contains the main field activities for MHQ schemes.

Format

Data frame.

Details

Note that MHQ schemes are not considered in [mod_scheme_vars](#), which is focused on MNE, but their associated activities are supported by [activities](#) and [activity_sequences](#).

Note that the terms 'main data collection method' and 'main field activity' are to be understood from the viewpoint of a *variable (variable set)* in a module:scheme combination; it is not about the 'main method' of the module:scheme combination. In consequence, multiple 'main field activities' can be linked to a module:scheme combination, and they may come from target variables and other variables as well.

Restriction by domains and sampling frames

This object has been further restricted by [module_domain_schemes](#). This means that the current spatial distribution of target populations of the module's schemes *within the module's domain(s)* is taken into account, using the scheme's spatial sampling frame. When the domains of a module represent a relatively small area, it is possible:

- for target populations: that some types (that were initially targeted by the module) are not present in that area and consequently dropped from the module's target populations
- for schemes: that some schemes targeted by the module are not applicable, i.e. when no types of its target population are present in that area

Also, note that for MHQ schemes, [module_domain_schemes](#) only considers – on a domain basis – the schemes with sampling approaches, not the census approaches, and this also leads to a further restriction.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: [domainpart_grts_n2khab](#), [mod_scheme_field_activity](#), [mod_scheme_targetfieldactivity](#), [module_domain_schemes](#), [module_schemes](#), [module_targetpops](#), [schemes](#), [sp_samplingframe_domain](#), [targetpops](#), [targetpops_strata](#)

mod_scheme_vars	<i>Variables and measurement variables</i>
-----------------	--

Description

The data frame `mod_scheme_vars` defines variables (usually environmental variables) per module and (MNE) scheme, as well the associated measurement variable (if the variable is directly based on measurements). Also, the target site factor is given for which the variable serves a role in the module and scheme. Further, multiple attributes are given that characterize the variable in the context of the module and the scheme.

Format

Data frame.

Details

The measurement variable may be different from the environmental variable when the latter is defined by aggregating multiple measurements to obtain one value for the spatiotemporal sampling unit.

In the context of a module and (especially) a scheme, variables can be qualified as 'target variables' (aka primary environmental variables), 'explanatory variables' or 'quality control variables'. A variable sometimes belongs to more than one of these categories.

XXXXXXX Omit once columns have been described: XXXXXXXXXXXXXXXXXXXX The main data collection method represents the activity that is considered most essential (most specific) for the data collection in the spatial or spatiotemporal sampling unit. It must be an activity from the [activities](#) object.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [domains](#), [module_domains](#), [modules](#), [n2khab_strata](#), [scheme_sampling_frame](#), [scheme_targetpop_sets](#), [sp_samplingframes](#), [submodules](#)

mod_scheme_yrs_moco_ps
<i>Relation between module x scheme x panel set and module combos</i>

Description

The data frame mod_scheme_yrs_moco_ps is a simple object with the link between modules and module combos per scheme x panel set.

Format

Data frame.

Details

mod_scheme_yrs_moco_ps is derived from [scheme_ps_target_paneldesign](#) and [module_domain_scheme_ps_stratum_s](#)

Compared to [scheme_ps_target_paneldesign](#), mod_scheme_yrs_moco_ps no longer covers the non-core schemes, except if a type had been additionally adopted for such a scheme (see [module_domain_scheme_ps_stratu](#)

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects with design attributes: [mod_scheme_ps_fag_paneldesign](#), [module_domain_scheme_ps_stratum_samp](#), [scheme_ps_target_paneldesign](#), [scheme_ps_variableset_paneldesign](#), [submodule_domain_scheme_ps_designatt](#)

module_domain_scheme_ps_stratum_sample_size
<i>Spatial sample sizes of strata per module x domain x scheme x panel set</i>

Description

The data frame module_domain_scheme_ps_stratum_sample_size contains the spatial sample size per stratum in each module x domain x scheme x panel set.

Format

Data frame.

Details

module_domain_scheme_ps_stratum_sample_size plays a key role in the spatial sampling procedure. It is derived from `submodule_domain_scheme_ps_designattr`, it no longer distinguishes between submodules (see `submodules`) and takes into account finite population correction.

Note

This object still has the full target population for each module x domain x scheme in the case of non-core schemes, but the sample sizes will generally be missing values since they are not designed: only the locations that are common between the sample of a related core scheme and the sampling frame of the non-core scheme can be attributed to the non-core scheme (insofar the core scheme schedules data collection that makes sense to the non-core scheme target variables). So this sample can be a subset of the sample of the core scheme. Since it causes no extra fieldwork, we don't explicitly consider these sample sizes and samples. (There's still an exception possible: we exceptionally attribute an extra sample size in non-core MNE schemes in order to adopt an extra type (which must belong to the non-core scheme's target population) that is not covered by a corresponding core MNE scheme, if it makes an important difference to that non-core scheme.)

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects with design attributes: `mod_scheme_ps_fag_paneldesign`, `mod_scheme_yrs_moco_ps`, `scheme_ps_target_paneldesign`, `scheme_ps_variableset_paneldesign`, `submodule_domain_scheme_ps_designattr`.

module_domain_schemes	<i>Schemes per module x domain, taking into account the sampling frames</i>
-----------------------	---

Description

The data frame `module_domain_schemes` lists the schemes that apply to each domain in each module, according to the presence of strata in domains, hence according to the sampling frames.

Format

Data frame.

Details

For MHQ schemes, `module_domain_schemes` only considers – on a domain basis – the schemes with sampling approaches, not the census approaches, and this also leads to a further restriction.

module_domain_schemes is derived from [submod_dom_scheme_ssf_stratum_nunits](#), which is in turn derived from [scheme_sampling_frame](#), [sp_samplingframe_domain](#) and a few other objects (see there).

module_domain_schemes has been used to limit several module:scheme objects that had been made before, such as [module_schemes](#), [module_targetpops](#), [mod_scheme_variableset_mainfieldactivity](#), [mod_scheme_field_activity](#), [mod_scheme_ps_fag_paneldesign](#).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: [domainpart_grts_n2khab](#), [mod_scheme_field_activity](#), [mod_scheme_targetfieldactivity](#), [mod_scheme_variableset_mainfieldactivity](#), [module_schemes](#), [module_targetpops](#), [schemes](#), [sp_samplingframe_domain](#), [targetpops](#), [targetpops_strata](#)

module_domains	<i>Domains per module</i>
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Description

The data frame module_domains defines which geospatial domains are targeted by each module.

Format

Data frame.

Details

For the domains, see [domains](#); for the modules, see [modules](#).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [domains](#), [mod_scheme_vars](#), [modules](#), [n2khab_strata](#), [scheme_sampling_frame](#), [scheme_targetpop_sets](#), [sp_samplingframes](#), [submodules](#)

module_schemes	<i>Schemes per module</i>
----------------	---------------------------

Description

The data frame `module_schemes` lists the schemes of each module. It is derived from `submodules` and `scheme_targetpop_sets`.

Format

Data frame.

Restriction by domains and sampling frames

This object has been further restricted by `module_domain_schemes`. This means that the current spatial distribution of target populations of the module's schemes *within the module's domain(s)* is taken into account, using the scheme's spatial sampling frame. When the domains of a module represent a relatively small area, it is possible:

- for target populations: that some types (that were initially targeted by the module) are not present in that area and consequently dropped from the module's target populations
- for schemes: that some schemes targeted by the module are not applicable, i.e. when no types of its target population are present in that area

Also, note that for MHQ schemes, `module_domain_schemes` only considers – on a domain basis – the schemes with sampling approaches, not the census approaches, and this also leads to a further restriction.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: `domainpart_grts_n2khab`, `mod_scheme_field_activity`, `mod_scheme_targetfieldactivity`, `mod_scheme_variableset_mainfieldactivity`, `module_domain_schemes`, `module_targetpops`, `schemes`, `sp_samplingframe_domain`, `targetpops`, `targetpops_strata`

module_targetpops	<i>Target populations per module</i>
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Description

The data frame `module_targetpops` lists the target populations of each module at type level. It is derived from `submodules` and `scheme_targetpop_sets`.

Format

Data frame.

Restriction by domains and sampling frames

This object has been further restricted by `module_domain_schemes`. This means that the current spatial distribution of target populations of the module's schemes *within the module's domain(s)* is taken into account, using the scheme's spatial sampling frame. When the domains of a module represent a relatively small area, it is possible:

- for target populations: that some types (that were initially targeted by the module) are not present in that area and consequently dropped from the module's target populations
- for schemes: that some schemes targeted by the module are not applicable, i.e. when no types of its target population are present in that area

Also, note that for MHQ schemes, `module_domain_schemes` only considers – on a domain basis – the schemes with sampling approaches, not the census approaches, and this also leads to a further restriction.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: `domainpart_grts_n2khab`, `mod_scheme_field_activity`, `mod_scheme_targetfieldactivity`, `mod_scheme_variableset_mainfieldactivity`, `module_domain_schemes`, `module_schemes`, `schemes`, `sp_samplingframe_domain`, `targetpops`, `targetpops_strata`

modules	<i>Modules</i>
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Description

The data frame `modules` defines the modules, their names, shortnames and codes, as well as several temporal attributes.

Format

Data frame.

Details

A module is like a project, that aims at realizing some well-defined part of MNE + MHQ. It determines which schemes, which domains and which part of the target populations are in scope for the module. For the schemes and target populations this happens indirectly via [submodules](#); for the domains this is via [module_domains](#).

Several objects with scheme properties have a module column to make these properties module-dependent.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [domains](#), [mod_scheme_vars](#), [module_domains](#), [n2khab_strata](#), [scheme_sampling_frame](#), [scheme_targetpop_sets](#), [sp_samplingframes](#), [submodules](#)

n2khab_strata	<i>Strata for sampling and inference</i>
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Description

The data frame `n2khab_strata` defines the stratum levels available in the `stratum` column of the spatial sampling frames (see [sp_samplingframes](#), [scheme_sampling_frame](#)). Also, the data frame defines the link between type and stratum.

Format

Data frame.

Details

The strata are used in spatial sampling and inference. They are either a type or a subdivision thereof. The latter applies to watersurface types (type regex "³¹|^{2190_a}") and to type 8310.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [domains](#), [mod_scheme_vars](#), [module_domains](#), [modules](#), [scheme_sampling_frame](#), [scheme_targetpop_sets](#), [sp_samplingframes](#), [submodules](#)

scheme_moco_ps_spsubset_fag_stratum_sppost_spsamples_calendar

*Designed fieldwork calendar per scheme x module combo x panel set
x spatial poststratum*

Description

The data frame `scheme_moco_ps_spsubset_fag_stratum_sppost_spsamples_calendar` represents the designed sampling unit calendar of the distinguished field activity groups (FAGs), after cleaning *within*, but not between, levels of scheme x module combo x panel set x spatial poststratum.

Format

Data frame.

Details

`scheme_moco_ps_spsubset_fag_stratum_sppost_spsamples_calendar` combines the panel calendar and the panel memberships generated in the REP workflow, which have been (indirectly) based on [mod_scheme_ps_fag_paneldesign](#) and [scheme_moco_ps_stratum_sppost_spsamples](#). Panels and FAG occasions have been dropped if the scheduled calendar starts at a later point in time. Also some superfluous occasions of specific auxiliary FAGs have been dropped.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects of the design outcome: [fag_stratum_grts_calendar](#), [scheme_moco_ps_spsubset_targetfag_stratum](#), [scheme_moco_ps_stratum_sppost_spsamples](#), [scheme_moco_ps_stratum_sppost_spsamples_spares](#)

scheme_moco_ps_spsubset_targetfag_stratum_sppost_spsamples_calendar
Spatiotemporal samples

Description

The data frame `scheme_moco_ps_spsubset_targetfag_stratum_sppost_spsamples_calendar` represents the (planned) spatiotemporal samples per scheme x module combo x panel set x spatial poststratum.

Format

Data frame.

Details

`scheme_moco_ps_spsubset_targetfag_stratum_sppost_spsamples_calendar` is the subset of `scheme_moco_ps_spsubset_fag_stratum_sppost_spsamples_calendar` that only contains the target field activity groups (based on `mod_scheme_targetfieldactivity`). The corresponding panel labels have been simplified in the `targetpanel` column: 'targetpanels' are the panels of target FAGs, cf. `scheme_ps_target_paneldesign`.

The spatiotemporal samples are not further used in the REP workflow, but the object can be useful to add some attributes to FAG occasions from `fag_stratum_grts_calendar`, such as the involved scheme, module combo, panel set and targetpanel. This has been done in the 'code snippets' (e.g. `fieldwork_shortterm_prioritization_by_stratum`).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects of the design outcome: `fag_stratum_grts_calendar`, `scheme_moco_ps_spsubset_fag_stratum_sppost_spsamples_calendar`, `scheme_moco_ps_stratum_sppost_spsamples`, `scheme_moco_ps_stratum_sppost_spsamples_spare`

scheme_moco_ps_stratum_sppost_spsamples
Spatial samples

Description

The data frame `scheme_moco_ps_stratum_sppost_spsamples` contains the spatial samples per stratum, for each scheme x panel set x module combo.

Format

Data frame.

Details

scheme_moco_ps_stratum_sppost_spsamples is like [scheme_moco_ps_stratum_sppost_spsamples_spare](#) without the spare units.

Note that spatial samples typically overlap between schemes, i.e. where the scheme's target populations overlap.

Sample column notes

XXXXXX Omit once columns have been described: XXXXXXXXXXXXXXXXXXXX

- grts_address and stratum together identify the spatial sampling unit. See further in [fieldwork_shortterm_priorit](#)
- The spatial poststratum (sp_poststratum) serves to add spare units and to apply the revisit design (notably the panel membership design): it is based on the domain overlaps between modules in a module combo for a specific stratum in a scheme x panel set, so it is not an overall predetermined classification but a 'classification as needed'. It takes values of domains as well as the complement of overlapped smaller domains by using the suffix '_remainder', e.g. 'Flanders_remainder'. Don't use sp_poststratum to just characterize a GRTS address. If you need a fixed spatial partitioning across strata and schemes, make a join with [domainpart_grts_n2khab](#), where the 'domain partition' only represents areas that are mutually exclusive in space.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects of the design outcome: [fag_stratum_grts_calendar](#), [scheme_moco_ps_spsubset_fag_stratum_sppost_spsamples_calendar](#), [scheme_moco_ps_spsubset_targetfag_stratum_sppost_spsamples_calendar](#), [scheme_moco_ps_stratum_sppost_spsamples_calendar](#).

scheme_moco_ps_stratum_sppost_spsamples_spare

Spatial samples plus spare sampling units

Description

The data frame scheme_moco_ps_stratum_sppost_spsamples_spare contains the spatial samples plus the spare units per stratum, for each scheme x panel set x module combo.

Format

Data frame.

Details

scheme_moco_ps_stratum_sppost_spsamples_spare is the first result of the spatial sampling procedure that distinguishes the spatial poststrata.

Note that spatial samples typically overlap between schemes, i.e. where the scheme's target populations overlap.

Sample column notes

XXXXXX Omit once columns have been described: XXXXXXXXXXXXXXXXXXXX

- grts_address and stratum together identify the spatial sampling unit. See further in [fieldwork_shortterm_priorit](#)
- The spatial poststratum (sp_poststratum) serves to add spare units and to apply the revisit design (notably the panel membership design): it is based on the domain overlaps between modules in a module combo for a specific stratum in a scheme x panel set, so it is not an overall predetermined classification but a 'classification as needed'. It takes values of domains as well as the complement of overlapped smaller domains by using the suffix '_remainder', e.g. 'Flanders_remainder'. Don't use sp_poststratum to just characterize a GRTS address. If you need a fixed spatial partitioning across strata and schemes, make a join with [domainpart_grts_n2khab](#), where the 'domain partition' only represents areas that are mutually exclusive in space.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects of the design outcome: [fag_stratum_grts_calendar](#), [scheme_moco_ps_spsubset_fag_stratum_sppost](#), [scheme_moco_ps_spsubset_targetfag_stratum_sppost_spsamples_calendar](#), [scheme_moco_ps_stratum_sppost_spsamples](#)

scheme_ps_target_paneldesign

Target panel designs per scheme x panel set x module combo

Description

The data frame scheme_ps_target_paneldesign contains only the panel designs (from [mod_scheme_ps_fag_paneldesign](#)) for the so called 'target field activity groups' (target FAGs), i.e. the FAGs containing the target field activity (see [mod_scheme_targetfieldactivity](#)). These panel designs can be called *target* panel designs and the corresponding panels will be called 'targetpanels'. Importantly, the module level is gone: instead, modules with the same target panel design are combined as 'module combos' at the scheme x panel set level.

Format

Data frame.

Details

scheme_ps_target_paneldesign is derived from [mod_scheme_targetfieldactivity](#), [mod_scheme_ps_fag_paneldesign](#) and [mod_scheme_field_activity](#) (to link field activity and field activity groups).

The target variables limit the main field activities of a module x scheme to a great extent, since the latter also comprise variables for explanation & quality control. (Remember: the term 'main field activity' is to be understood from the viewpoint of a variable (set) in a module x scheme, not just the module x scheme; see [mod_scheme_variableset_mainfieldactivity](#).)

For each scheme x panel set, the modules (in [mod_scheme_ps_fag_paneldesign](#)) have been collapsed to **module combos** (module combinations) if the corresponding target panel design is the same.

- So, beware that the module combo can only be interpreted as a unique panel design in combination with scheme x panel set.
- scheme_ps_target_paneldesign is the object in the REP-workflow where the module combos are effectively generated and defined.
- However, see the derived data frame [mod_scheme_yrs_moco_ps](#) for a convenient object that links modules and module combos within scheme x panel set.
- The concept of module combos is important to the spatial sampling procedure: spatial sampling for a scheme x panel set is to be combined over active modules when their target panel design and domain is the same. Also with overlapping domains, the sampling procedure must take into account the relation between the samples from both domains.

Note that the 'spatial subset' from [mod_scheme_ps_fag_paneldesign](#) is gone. That is because for the *main* field activities the spatial subsets don't have differences in the corresponding panel designs.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects with design attributes: [mod_scheme_ps_fag_paneldesign](#), [mod_scheme_yrs_moco_ps](#), [module_domain_scheme_ps_stratum_sample_size](#), [scheme_ps_variableset_paneldesign](#), [submodule_domain_sche](#)

scheme_ps_variableset_paneldesign

Panel designs of measurements (data occurrence) per scheme x panel set

Description

The data frame `scheme_ps_variableset_paneldesign` contains the panel design of measurements at the level of a variable set in a scheme x panel set. With 'measurements' we mean the data occurrence, not the human activity. The associated 'main field activity' is included though to make clear *how* the data are collected. All variables are covered, so this is different from the scope of `scheme_ps_target_paneldesign`, where only the 'target field activities' (main field activities for target variables) are considered.

Format

Data frame.

Details

`scheme_ps_variableset_paneldesign` has statistical relevance and it is (should be) in line with relevant parts of `mod_scheme_ps_fag_paneldesign`, but it is not used further in the REP workflow.

`scheme_ps_variableset_paneldesign` uses `mod_scheme_variableset_mainfieldactivity` as its base.

Notable differences with `mod_scheme_ps_fag_paneldesign` are that:

- automated frequent measurements are reflected as 'frequent revisit' while fieldwork is much less frequent;
- currently no distinction between modules is made;
- only core schemes are considered;
- no installation or maintenance is involved, since those are not main field activities (for a variable set).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects with design attributes: `mod_scheme_ps_fag_paneldesign`, `mod_scheme_yrs_moco_ps`, `module_domain_scheme_ps_stratum_sample_size`, `scheme_ps_target_paneldesign`, `submodule_domain_scheme_ps`.

`scheme_sampling_frame` *Spatial sampling frames by scheme*

Description

The data frame `scheme_sampling_frame` defines which spatial sampling frame from `sp_samplingframes` should be further processed to use in a specific scheme.

Format

Data frame.

Details

See [sp_samplingframes](#) for more information.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [domains](#), [mod_scheme_vars](#), [module_domains](#), [modules](#), [n2khab_strata](#), [scheme_targetpop_sets](#), [sp_samplingframes](#), [submodules](#)

scheme_targetpop_sets *Named sets of schemes with target populations*

Description

The data frame `scheme_targetpop_sets` defines different collections of schemes with associated target populations. Each submodule in the [submodules](#) object refers to a single 'scheme + target population set', i.e. to one row of this data frame.

Format

Data frame.

Details

The target populations are given at type level and at stratum level. The stratum level target population follows from the type level, as all strata of each involved type are included.

These target populations cannot exceed the target populations defined by `n2khabmon::read_scheme_types()`, but they can be subsets considered by a specific (sub)module, which is their true aim.

Note that `scheme_targetpop_sets` can list more sets than actually used by the active modules and submodules.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [domains](#), [mod_scheme_vars](#), [module_domains](#), [modules](#), [n2khab_strata](#), [scheme_sampling_frame](#), [sp_samplingframes](#), [submodules](#)

schemes	<i>All schemes considered by scheme_targetpop_sets</i>
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Description

The data frame schemes contains the schemes listed by at least one 'scheme + target population set' of the [scheme_targetpop_sets](#) object.

Format

Data frame.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: [domainpart_grts_n2khab](#), [mod_scheme_field_activity](#), [mod_scheme_targetfieldactivity](#), [mod_scheme_variableset_mainfieldactivity](#), [module_domain_schemes](#), [module_schemes](#), [module_targetpops](#), [sp_samplingframe_domain](#), [targetpops](#), [targetpops_strata](#)

sp_samplingframe_domain	<i>Spatial sampling frames with a domain attribute</i>
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Description

The data frame sp_samplingframe_domain is no more than the data frame sp_samplingframes where each sampling frame has been extended with a domain column. Since domains can overlap, joining the spatial population units with the applicable domain(s) has generated duplicates of many units in this object.

Format

Data frame.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: [domainpart_grts_n2khab](#), [mod_scheme_field_activity](#), [mod_scheme_targetfieldactivity](#), [mod_scheme_variableset_mainfieldactivity](#), [module_domain_schemes](#), [module_schemes](#), [module_targetpops](#), [schemes](#), [targetpops](#), [targetpops_strata](#)

sp_samplingframes	<i>Spatial sampling frames</i>
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Description

The data frame `sp_samplingframes` defines spatial sampling frames that can be shared among different schemes and modules, but which are generally still 'too large' for a specific scheme in a specific module. The object `scheme_sampling_frame` defines which spatial sampling frame should be further processed for use in a specific scheme.

Format

Data frame.

Details

These spatial sampling frames are the result of applying some special spatial restrictions to the base sampling frame as implied by `n2khabmon::read_scheme_types()`. To obtain the ultimate spatial sampling frame for a specific scheme in a specific module, these sampling frames must still be subsetting using the target population and domain implied by a scheme in a module. A summarized result of that final step can be found in `submod_dom_scheme_ssf_stratum_nunits`.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: `activities`, `activity_sequences`, `domains`, `mod_scheme_vars`, `module_domains`, `modules`, `n2khab_strata`, `scheme_sampling_frame`, `scheme_targetpop_sets`, `submodules`

submod_dom_scheme_ssf_stratum_nunits	<i>Spatial population sizes of strata at submodule x domain x scheme level</i>
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Description

The data frame `submod_dom_scheme_ssf_stratum_nunits` contains the spatial population size of each stratum in each submodule x domain x scheme.

Format

Data frame.

Details

submod_dom_scheme_ssf_stratum_nunits is based on [scheme_sampling_frame](#), [sp_samplingframe_domain](#), [scheme_targetpop_sets](#), [submodules](#) and [module_domains](#). Its main application is the finite population correction.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects about spatial population size: [domain_stratum_nunits](#), [domain_type_nunits](#), [submodule_domain_scheme_stratumstats](#), [submodule_domain_scheme_typestats](#)

submodule_domain_scheme_ps_designattr

Spatiotemporal design attributes per submodule x domain x scheme x panel set

Description

The data frame submodule_domain_scheme_ps_designattr contains the spatiotemporal design attributes per submodule x domain x scheme x panel set.

Format

Data frame.

Details

submodule_domain_scheme_ps_designattr is the last stage in the REP workflow where submodules are being distinguished; in determining stratum level sample sizes (see [module_domain_scheme_ps_stratum_sample_size](#)) the sample sizes of the submodules of each module are taken together (see [submodules](#)).

XXXXXX **Omit once columns have been described:** XXXXXXXXXXXXXXXXXXXX The spatial sample sizes refer to the submodule x domain x scheme x panel set level (sp_sample_size_all_panels) and to the level of a single (generalized) type (sp_sample_size_all_panels_type) within submodule x domain x scheme x panel set, respectively.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects with design attributes: [mod_scheme_ps_fag_paneldesign](#), [mod_scheme_yrs_moco_ps](#), [module_domain_scheme_ps_stratum_sample_size](#), [scheme_ps_target_paneldesign](#), [scheme_ps_variableset_paneldesign](#)

submodule_domain_scheme_stratumstats

Stratum population size summary statistics per submodule x domain x scheme

Description

The data frame submodule_domain_scheme_stratumstats contains stratum counts and spatial population size ranges and quartiles for each submodule x domain x scheme.

Format

Data frame.

Details

submodule_domain_scheme_stratumstats is an aggregation based on [submod_dom_scheme_ssf_stratum_nunits](#). It is used in the spatiotemporal design attributes ([submodule_domain_scheme_ps_designattr](#)).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects about spatial population size: [domain_stratum_nunits](#), [domain_type_nunits](#), [submod_dom_scheme_ssf_stratum_nunits](#), [submodule_domain_scheme_tpestats](#)

submodule_domain_scheme_tpestats

Type population size summary statistics per submodule x domain x scheme

Description

The data frame submodule_domain_scheme_tpestats contains type counts and spatial population size ranges and quartiles for each submodule x domain x scheme.

Format

Data frame.

Details

submodule_domain_scheme_tpestats is an aggregation based on [submod_dom_scheme_ssf_stratum_nunits](#). It is used in the spatiotemporal design attributes ([submodule_domain_scheme_ps_designattr](#)).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other REP objects about spatial population size: [domain_stratum_nunits](#), [domain_type_nunits](#), [submod_dom_scheme_ssf_stratum_nunits](#), [submodule_domain_scheme_stratumstats](#)

submodules

Submodules, with a set of schemes and target populations

Description

The data frame submodules defines the submodules of each module. Each submodule is strictly linked to a set of schemes and associated target populations.

Format

Data frame.

Details

The submodule name is only unique within a module. Each module has at least a single submodule, typically the submodule 'main'. With only a single submodule 'main' in place, the role of a submodule is trivial.

More submodules can exist in the same module, and these open the possibility to differentially extend the spatial sample of the main submodule. This means that some strata get extra locations than others, and other strata may be neglected in the submodule, meaning that the scheme + target population set may be smaller than the one at the module level. Put more generally, submodules differ in their scheme + target population set but together they represent the scheme + target population set of the module.

Submodules of the same module serve to contribute a part of the spatial sample size of each stratum in a module x scheme x domain, via [submodule_domain_scheme_ps_designattr](#).

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other defining REP objects: [activities](#), [activity_sequences](#), [domains](#), [mod_scheme_vars](#), [module_domains](#), [modules](#), [n2khab_strata](#), [scheme_sampling_frame](#), [scheme_targetpop_sets](#), [sp_samplingframes](#)

targetpops	<i>All target populations considered by scheme_targetpop_sets, at type level</i>
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Description

The data frame targetpops contains the target populations (at type level) listed by at least one 'scheme + target population set' of the [scheme_targetpop_sets](#) object.

Format

Data frame.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: [domainpart_grts_n2khab](#), [mod_scheme_field_activity](#), [mod_scheme_targetfieldactivity](#), [mod_scheme_variableset_mainfieldactivity](#), [module_domain_schemes](#), [module_schemes](#), [module_targetpops](#), [schemes](#), [sp_samplingframe_domain](#), [targetpops_strata](#)

targetpops_strata	<i>All target populations considered by scheme_targetpop_sets, at stratum level</i>
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Description

The data frame targetpops_strata contains the target populations (at stratum level) listed by at least one 'scheme + target population set' of the [scheme_targetpop_sets](#) object.

Format

Data frame.

Source

The REP (revisitplan) workflow. See https://github.com/inbo/n2khab-mne-designs/tree/main/100_design_common/010_revisitplan.

See Also

Other derivatives of defining REP objects: [domainpart_grts_n2khab](#), [mod_scheme_field_activity](#), [mod_scheme_targetfieldactivity](#), [mod_scheme_variableset_mainfieldactivity](#), [module_domain_schemes](#), [module_schemes](#), [module_targetpops](#), [schemes](#), [sp_samplingframe_domain](#), [targetpops](#)

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