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Description Tools for spatio-temporal disaggregation of areal data across multiple time points, including support for changing polygon boundaries. Implements methods for spatially aggregated log-Gaussian Cox process models with changing areal boundaries as described in Ripstein, Brown and Stafford (2026) ``Spatio-Temporal Disaggregation with Changing Areal Boundaries'' <doi:10.48550/arXiv.2606.25074>. Combines polygon-level observations, population rasters and optional covariate rasters to infer fine-scale spatial fields over time. Models can be efficiently fit using 'TMB' (Template Model Builder) and adaptive Gauss-Hermite quadrature for fast approximate inference or via 'tmbstan' for MCMC.

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`disag_model_mmap` *Fit a multi-map disaggregation model (via AGHQ, TMB, or MCMC)*

Description

Top-level fitting wrapper with engine dispatch and engine-specific argument handling. Engine-specific controls should be supplied via `engine.args`.

Usage

```
disag_model_mmap(
  data,
  priors = NULL,
  family = "poisson",
  link = "log",
  engine = c("AGHQ", "TMB", "MCMC"),
  time_varying_betas = FALSE,
  fixed_effect_betas = TRUE,
  engine.args = NULL,
  aghq_k = 2,
  field = TRUE,
  iid = TRUE,
  silent = TRUE,
  starting_values = NULL,
  optimizer = NULL,
  verbose = FALSE,
  ...
)
```

Arguments

`data` A `disag_data_mmap` object.

`priors` Optional named list of prior overrides.

`family` One of `"gaussian"`, `"binomial"`, `"poisson"`, or `"negbinomial"`.

`link` One of `"identity"`, `"logit"`, or `"log"`.

`engine` Character; one of `"AGHQ"`, `"TMB"`, or `"MCMC"`. The MCMC engine uses **tmbstan**.

`time_varying_betas` Logical; if TRUE, each time point has its own fixed-effect.

`fixed_effect_betas` Logical; if TRUE (default), beta coefficients are treated as fixed effects in the AGHQ outer parameter block (current behavior). If FALSE and `engine = "AGHQ"`, beta coefficients are moved to TMB random effects so they are integrated in the inner Laplace step.

`engine.args` Optional named list of engine-specific options. Supported AGHQ keys are `aghq_k`, `optimizer`, and `outer_derivative_method`. Supported TMB keys are `iterations`, `hess_control_parscale`, `hess_control_ndeps`, and `outer_derivative_method`. `outer_derivative_method` may be `"tmb"` (default) or `"finite_difference"`. The finite-difference option affects only the outer fixed/hyperparameter optimization and Hessian; TMB still handles the inner Laplace approximation. Supported MCMC keys are `chains`, `iter`, `warmup`, `thin`, `cores`, `seed`, `refresh`, `laplace`, `lower`, `upper`, and `control`. Additional named MCMC keys are passed through to `tmbstan::tmbstan()` and `rstan::sampling()`. `iter` is the total number of Stan iterations, including warmup.

`aghq_k` Deprecated at wrapper level; use `engine.args = list(aghq_k = ...)`. Retained for backward compatibility.

`field`	Logical; include spatial field?
`iid`	Logical; include IID polygon effects?
`silent`	Logical; pass through to engine fit function.
`starting_values`	Optional named list of starting values.
`optimizer`	Deprecated at wrapper level; use `engine.args = list(optimizer = ...)`. Retained for backward compatibility.
`verbose`	Logical; print runtime diagnostics.
`...`	Additional arguments. Engine-specific arguments passed via `...` are deprecated in this wrapper and should be moved to `engine.args`.

Value

A fitted model object of class `disag_model_mmap_tmb`, `disag_model_mmap_aghq`, or `disag_model_mmap_mcmc` (all also inherit `disag_model_mmap`).

`disag_model_mmap_aghq` *Fit a multi-map disaggregation model via TMB + AGHQ*

Description

Builds the TMB ADFun object for a multi-map disaggregation model, then fits the model via AGHQ with desired number of quadrature points.

Usage

```
disag_model_mmap_aghq(
  data,
  priors = NULL,
  family = "poisson",
  link = "log",
  time_varying_betas = FALSE,
  fixed_effect_betas = TRUE,
  aghq_k = 1,
  field = TRUE,
  iid = TRUE,
  silent = TRUE,
  starting_values = NULL,
  optimizer = NULL,
  outer_derivative_method = "tmb",
  verbose = FALSE
)
```

Arguments

- `data` — A 'disag_data_mmap' object (from 'prepare_data_mmap()').
- `priors` — Optional named list of prior specifications (see internal helper).
- `family` — One of "gaussian", "binomial", "poisson", or "negbinomial".
- `link` — One of "identity", "logit", or "log".
- `time_varying_betas` — Logical; if TRUE, each time point has its own fixed-effect
- `fixed_effect_betas` — Logical; if TRUE (default), beta coefficients are in AGHQ outer parameters. If FALSE, active betas are treated as TMB random effects.
- `aghq_k` — Integer >= 1: number of quadrature nodes for AGHQ ('1' = Laplace).
- `field` — Logical: include the spatial random field?
- `iid` — Logical: include polygon-specific IID effects?
- `silent` — Logical: if TRUE, suppress TMB's console output.
- `starting_values` — Optional named list of starting parameter values.
- `optimizer` — Optional optimizer name passed to AGHQ control.
- `outer_derivative_method` — Character; `"tmb"` (default) uses TMB's analytic outer gradient and `"finite_difference"` uses finite differences of `obj$fn` for outer optimization and Hessian construction. The finite-difference option is only supported with `optimizer = "nlminb"`. The inner Laplace approximation is still handled by TMB.
- `verbose` — Logical: if TRUE, print total runtime.

Value

An object of class 'disag_model_mmap_aghq' (a list with '$aghq_model', '$data', and '$model_setup').

`disag_model_mmap_mcmc` *Fit a multi-map disaggregation model via tmbstan MCMC*

Description

Builds the shared TMB ADFun object for a multi-map disaggregation model, then samples from it with `tmbstan::tmbstan()`. This engine supports parameter estimation only; prediction is not implemented for MCMC fits.

Usage

```
disag_model_mmap_mcmc(
  data,
  priors = NULL,
  family = "poisson",
  link = "log",
  time_varying_betas = FALSE,
  fixed_effect_betas = TRUE,
  chains = 4L,
  iter = 2000L,
  warmup = NULL,
  thin = 1L,
  cores = NULL,
  seed = NULL,
  refresh = NULL,
  laplace = FALSE,
  lower = numeric(0),
  upper = numeric(0),
  control = NULL,
  field = TRUE,
  iid = TRUE,
  silent = TRUE,
  starting_values = NULL,
  verbose = FALSE,
  ...
)
```

Arguments

`data`	A 'disag_data_mmap' object (from 'prepare_data_mmap()').
`priors`	Optional named list of prior specifications.
`family`	One of 'gaussian', 'binomial', 'poisson', or 'negbinomial'.
`link`	One of 'identity', 'logit', or 'log'.
`time_varying_betas`	Logical; if TRUE, each time point has its own fixed-effect.
`fixed_effect_betas`	Logical; if TRUE (default), active beta coefficients are sampled as fixed effects. If FALSE, active beta coefficients are included in the TMB random-effect block.
`chains`	Integer >= 1; number of MCMC chains.
`iter`	Integer >= 1; total Stan iterations per chain, including warmup.
`warmup`	Integer >= 0 and less than `iter`; warmup iterations per chain. Defaults to `floor(iter / 2)`.
`thin`	Integer >= 1; thinning interval.
`cores`	Integer >= 1; number of cores passed to Stan. Defaults to `getOption("mc.cores", chains)`.

seed	Optional positive integer seed.
refresh	Optional integer >= 0; Stan progress refresh interval.
laplace	Logical; passed to `tmbstan::tmbstan()`. Defaults to `FALSE` for full posterior sampling.
lower	Numeric lower bounds passed to `tmbstan::tmbstan()`.
upper	Numeric upper bounds passed to `tmbstan::tmbstan()`.
control	Optional list passed to `rstan::sampling()`.
field	Logical: include the spatial random field?
iid	Logical: include polygon-specific IID effects?
silent	Logical: if TRUE, suppress TMB/tmbstan console output.
starting_values	Optional named list of starting parameter values.
verbose	Logical: if TRUE, print total runtime.
...	Additional arguments passed through to `tmbstan::tmbstan()` and `rstan::sampling()`.

Value

An object of class 'disag_model_mmap_mcmc' with components `stanfit`, `obj`, `data`, and `model_setup`.

`disag_model_mmap_tmb` *Fit a multi-map disaggregation model via TMB*

Description

Builds the TMB ADFun object for a multi-map disaggregation model, then fits the model by maximizing the TMB objective and approximates uncertainty via the optimized Hessian.

Usage

```
disag_model_mmap_tmb(
  data,
  priors = NULL,
  family = "poisson",
  link = "log",
  time_varying_betas = FALSE,
  fixed_effect_betas = TRUE,
  iterations = 1000,
  field = TRUE,
  iid = TRUE,
  hess_control_parscale = NULL,
  hess_control_ndeps = 1e-04,
  outer_derivative_method = "tmb",
  silent = TRUE,
  starting_values = NULL,
  verbose = FALSE
)
```

Arguments

- `data` — A 'disag_data_mmap' object (from 'prepare_data_mmap()').
- `priors` — Optional named list of prior specifications (see internal helper).
- `family` — One of 'gaussian', 'binomial', 'poisson', or 'negbinomial'.
- `link` — One of 'identity', 'logit', or 'log'.
- `time_varying_betas` — Logical; if TRUE, each time point has its own fixed-effect
- `fixed_effect_betas` — Logical; if TRUE (default), active beta coefficients are treated as fixed effects. If FALSE, active beta coefficients are treated as random effects in the inner Laplace step.
- `iterations` — Integer >= 1: maximum number of optimizer iterations.
- `field` — Logical: include the spatial random field?
- `iid` — Logical: include polygon-specific IID effects?
- `hess_control_parscale` — Optional numeric vector for scaling the Hessian steps.
- `hess_control_ndeps` — Numeric; relative step size for Hessian finite-difference (default 1e-4).
- `outer_derivative_method` — Character; `"tmb"` (default) uses TMB's analytic outer gradient and `"finite_difference"` uses finite differences of `obj$fn` for outer optimization and Hessian construction. The inner Laplace approximation is still handled by TMB.
- `silent` — Logical: if TRUE, suppress TMB's console output.
- `starting_values` — Optional named list of starting parameter values.
- `verbose` — Logical: if TRUE, print total runtime.

Value

An object of class 'disag_model_mmap_tmb' (a list with '$obj', '$opt', '$sd_out', '$data', and '$model_setup').

`get_priors` *Get Default Prior Values for Disaggregation Model*

Description

Calculates the default Penalized Complexity (PC) prior parameters and Gaussian priors that will be used by `disag_model_mmap()` if the user does not provide overrides.

Usage

```
get_priors(data)
```

Arguments

data	A disag_data_mmap object (output from prepare_data_mmap).

Details

The default priors are dynamic and depend on the input data:

- **Range (Rho):** The lower bound prior_rho_min is set to 1/3 of the diagonal length of the study area's bounding box.
- **Spatial SD (Sigma):** The upper bound prior_sigma_max is set to the coefficient of variation of the polygon response counts.

Value

A named list of prior specifications.

Examples

```
# Create minimal polygon and covariate inputs for one time point.
polygons <- sf::st_sf(
  area_id = 1:2,
  response = c(10, 12),
  geometry = sf::st_sfc(
    sf::st_polygon(list(rbind(c(0, 0), c(1, 0), c(1, 2), c(0, 2), c(0, 0)))),
    sf::st_polygon(list(rbind(c(1, 0), c(2, 0), c(2, 2), c(1, 2), c(1, 0)))),
    crs = 3857
  )
)
covariate <- terra::rast(
  ncols = 2, nrows = 2, xmin = 0, xmax = 2, ymin = 0, ymax = 2,
  crs = "EPSG:3857"
)
terra::values(covariate) <- c(1, 2, 3, 4)

data <- suppressMessages(prepare_data_mmap(
  polygon_shapefile_list = list(polygons),
  covariate_rasters_list = list(covariate),
  make_mesh = FALSE
))

# Inspect defaults and modify a prior for a later model fit.
defaults <- get_priors(data)
defaults[c("prior_rho_min", "prior_sigma_max")]
my_priors <- defaults
my_priors$prior_rho_prob <- 0.05
```

make_model_object_mmap

Build the TMB ADFun object for multi-map disaggregation

Description

Internal helper. Converts data, priors, and model settings into the list of inputs required by 'TMB::MakeADFun()'.

Usage

```
make_model_object_mmap(
  data,
  priors = NULL,
  family = "gaussian",
  link = "identity",
  time_varying_betas = FALSE,
  fixed_effect_betas = TRUE,
  field = TRUE,
  iid = TRUE,
  silent = TRUE,
  starting_values = NULL,
  optimizer = NULL,
  verbose = FALSE
)
```

Arguments

`data`	A 'disag_data_mmap' object.
`priors`	NULL or named list overriding default hyperpriors.
`family`	One of "gaussian", "binomial", "poisson", "negbinomial".
`link`	One of "identity", "logit", "log".
`time_varying_betas`	Logical; if TRUE, each time point has its own fixed-effect
`fixed_effect_betas`	Logical; if FALSE, active beta coefficients are included in TMB random effects (for AGHQ inner-Laplace treatment).
`field`	Logical: include spatial field?
`iid`	Logical: include IID polygon effects?
`silent`	Logical: pass to 'MakeADFun()' to suppress output.
`starting_values`	NULL or named list of starting values.
`optimizer`	Optional; For changing the arguments used in AGHQ.
`verbose`	Logical: if TRUE, print details throughout including runtime.

Value

A 'TMB::ADFun' object ready for 'marginal_laplace_tmb()'.

---

plot.disag_data_mmap *Visual summary plot of prepared data*

Description

Combines polygons, aggregation raster, mesh, and (if present) a covariate into a 2x2 grid.

Usage

```
## S3 method for class 'disag_data_mmap'
plot(x, y = NULL, ..., covariate = 1, time = 1, max_categories = 10)
```

Arguments

x	A ‘disag_data_mmap‘ object.
y	Not used (required for S3 method compatibility).
...	Additional arguments passed to plot_prepare_summary.
covariate	Integer or name of the covariate to display (default = 1).
time	Integer time-slice (default = 1).
max_categories	Maximum number of unique values to consider categorical (default = 10).

Value

A ggdraw object (from cowplot) which can be printed.

---

plot_aggregation_raster *Plot the offset raster*

Description

Draws the aggregation pixel values used in the fit

Usage

```
plot_aggregation_raster(disag_data, time = 1)
```

Arguments

disag_data	A 'disag_data_mmap' object.
time	Integer time-slice (default = 1).

Value

A ggplot2 object.

---

plot_covariate_raster *Plot a single covariate raster*

Description

Renders one layer of the covariate raster stack, preserving the raster's CRS, and coloring by value with a Viridis scale. Automatically detects and handles categorical covariates with appropriate discrete color scales.

Usage

```
plot_covariate_raster(disag_data, covariate = 1, time = 1, max_categories = 10)
```

Arguments

disag_data	A 'disag_data_mmap' object.
covariate	Integer index or name of the covariate layer.
time	Integer time-slice (default = 1).
max_categories	Maximum number of unique values to consider categorical (default = 10).

Value

A ggplot2 object.

---

plot_mesh *Plot the SPDE mesh with custom outer/inner boundaries*

Description

Plot the SPDE mesh with custom outer/inner boundaries

Usage

```
plot_mesh(
  disag_data,
  edge_col = "grey70",
  edge_size = 0.2,
  outer_col = "black",
  outer_size = 1,
  inner_col = "blue",
  inner_size = 1,
  node_col = "black",
  node_size = 0.5
)
```

Arguments

`disag_data`	A 'disag_data_mmap' object.
`edge_col`	Colour for internal mesh edges (default = "grey70").
`edge_size`	Line width for those edges (default = 0.2).
`outer_col`	Colour for the outer perimeter (default = "black").
`outer_size`	Line width for the outer perimeter (default = 1).
`inner_col`	Colour for any inner perimeter (default = "blue").
`inner_size`	Line width for inner perimeter (default = 1).
`node_col`	Colour for mesh nodes (default = "black").
`node_size`	Size for mesh nodes (default = 0.5).

Value

A ggplot2 object.

`plot_polygons` *Plot polygon response data*

Description

Draws the prepared polygons colored by the response variable, with an optional title.

Usage

```
plot_polygons(disag_data, time = 1, show_title = TRUE)
```

Arguments

`disag_data`	A 'disag_data_mmap' object.
`time`	Integer index of time-slice to plot (default = 1).
`show_title`	Logical; if TRUE (default), add a title "Response at time X".

Value

A ggplot2 object.

predict.disag_model_mmap_aghq

Predict mean & credible intervals for AGHQ-fitted disaggregation model

Description

Given a 'disag_model_mmap_aghq' object, draws from the AGHQ marginal, builds per-cell posterior samples, and returns means and credible-interval rasters.

Usage

```
## S3 method for class 'disag_model_mmap_aghq'
predict(
  object,
  new_data = NULL,
  predict_iid = FALSE,
  N = 1000,
  CI = 0.95,
  verbose = FALSE,
  ...
)
```

Arguments

`object`	A 'disag_model_mmap_aghq' fit (from 'disag_model_mmap_aghq()').
`new_data`	Optional covariates for prediction (see helper).
`predict_iid`	Currently not implemented; must be FALSE.
`N`	Number of marginal draws to sample (default 1000).
`CI`	Credible-interval level in (0,1) (default 0.95).
`verbose`	If TRUE, prints runtime in minutes.
`...`	Unused.

Value

An object of class 'disag_prediction_mmap_aghq' containing: - 'mean_prediction': list of SpatRasters ('prediction', 'field', 'covariates'). - 'uncertainty_prediction': list with 'predictions_ci$lower' & 'upper'.

predict.disag_model_mmap_mcmc

Prediction guard for MCMC-fitted multi-map disaggregation models

Description

Prediction is intentionally not implemented for MCMC fits. This method provides a clear error directing users to the parameter-estimation outputs.

Usage

```
## S3 method for class 'disag_model_mmap_mcmc'
predict(object, ...)
```

Arguments

object	A fitted 'disag_model_mmap_mcmc' object.
...	Unused.

Value

This function always errors.

predict.disag_model_mmap_tmb

Predict for Multi-Map Disaggregation Model fit with TMB

Description

Predict for Multi-Map Disaggregation Model fit with TMB

Usage

```
## S3 method for class 'disag_model_mmap_tmb'
predict(object, new_data = NULL, predict_iid = FALSE, N = 100, CI = 0.95, ...)
```

Arguments

object	A fitted disag_model_mmap_tmb object.
new_data	Optionally, a new SpatRaster (or list of them) for prediction.
predict_iid	Logical. If TRUE, include the polygon iid effect in predictions.
N	Number of Monte Carlo draws for uncertainty estimation.
CI	Credible interval level (default 0.95).
...	Further arguments.

Value

An object of class ‘disag_prediction_mmap‘ (also a list) with: - ‘mean_prediction‘: a list containing time-layered ‘SpatRaster‘s named ‘time_<time point>‘: ‘prediction‘ (response-scale mean prediction), ‘field‘ (spatial-field contribution, or ‘NULL‘ when no field was fitted), ‘iid‘ (polygon IID contribution when requested and supported, otherwise ‘NULL‘), and ‘covariates‘ (covariate-only linear predictor). - ‘uncertainty_prediction‘: a list containing ‘realisations‘, a list of one ‘SpatRaster‘ stack per time point with ‘N‘ Monte Carlo draws, and ‘predictions_ci‘, a list with time-layered ‘SpatRaster‘s ‘lower‘ and ‘upper‘ containing cell-wise credible bounds at level ‘CI‘.

---

prepare_data_mmap *Prepare multi-map disaggregation data*

Description

Given lists of polygon sf’s, covariate rasters, and aggregation rasters, combines them into a single ’disag_data_mmap’ object ready for model fitting.

Usage

```
prepare_data_mmap(
  polygon_shapefile_list,
  covariate_rasters_list = NULL,
  aggregation_rasters_list = NULL,
  id_var = "area_id",
  response_var = "response",
  categorical_covariate_baselines = NULL,
  sample_size_var = NULL,
  mesh_args = NULL,
  na_action = FALSE,
  make_mesh = TRUE,
  verbose = FALSE
)
```

Arguments

`polygon_shapefile_list`
: List of ’sf’ polygon objects, one per time point.

`covariate_rasters_list`
: Optional list of ’SpatRaster’ stacks; may be NULL.

`aggregation_rasters_list`
: Optional list of ’SpatRaster’; if NULL, uses uniform counts.

`id_var`
: Name of the polygon ID column in each ’sf’.

`response_var`
: Name of the response column.

`categorical_covariate_baselines`
: Named list; names are categorical raster layers and values are baseline levels to drop (either level labels or numeric codes).

`sample_size_var`
: Name of the sample-size column (for binomial models); may be NULL.

`mesh_args`
: Passed to 'build_mesh()'.

`na_action`
: Logical; if TRUE, drop or impute NAs instead of stopping.

`make_mesh`
: Logical; if TRUE, build the spatial mesh over all polygons.

`verbose`
: Logical; if TRUE, print timing info.

Value

An object of class 'disag_data_mmap' with components including - 'polygon_data', 'covariate_data', 'aggregation_pixels', ... - 'categorical_covariate_baselines' (normalized baseline labels) - 'categorical_covariate_schema' (internal encoding schema used for fit/predict consistency)

`print.disag_data_mmap` *Print method for 'disag_data_mmap' objects*

Description

Displays a brief overview of a multi-map disaggregation dataset: number of time points, total polygons, and total pixels.

Usage

```
## S3 method for class 'disag_data_mmap'
print(x, ...)
```

Arguments

`x`
: A 'disag_data_mmap' object.

`...`
: Additional arguments (unused).

Value

Invisibly returns the original 'disag_data_mmap' object.

print.disag_model_mmap_aghq

Print method for 'disag_model_mmap_aghq' objects

Description

Displays a brief overview of a multi-map disaggregation model: model family, link function, and components included.

Usage

```
## S3 method for class 'disag_model_mmap_aghq'
print(x, ..., max_print = 30)
```

Arguments

x	A 'disag_model_mmap_aghq' object.
...	Additional arguments (not used).
max_print	Maximum number of random effects details to print.

Value

Invisibly returns the original 'disag_model_mmap_aghq' object.

print.disag_model_mmap_mcmc

Print method for 'disag_model_mmap_mcmc' objects

Description

Displays a brief overview of a multi-map disaggregation model fit with the MCMC engine.

Usage

```
## S3 method for class 'disag_model_mmap_mcmc'
print(x, ...)
```

Arguments

x	A 'disag_model_mmap_mcmc' object.
...	Additional arguments (unused).

Value

Invisibly returns the original object.

print.summary.disag_model_mmap_aghq

Print method for 'summary.disag_model_mmap_aghq' objects (direct approach)

Description

Displays the summary information for a multi-map disaggregation model in a well-formatted way, directly using the AGHQ model's summary information.

Usage

```
## S3 method for class 'summary.disag_model_mmap_aghq'
print(x, ...)
```

Arguments

x	A 'summary.disag_model_mmap_aghq' object.
...	Additional arguments (not used).

Value

Invisibly returns the original summary object.

print.summary.disag_model_mmap_mcmc

Print method for 'summary.disag_model_mmap_mcmc' objects

Description

Displays parameter estimates and MCMC diagnostics for an MCMC-fitted disaggregation model.

Usage

```
## S3 method for class 'summary.disag_model_mmap_mcmc'
print(x, ..., max_print = 30)
```

Arguments

x	A 'summary.disag_model_mmap_mcmc' object.
...	Additional arguments (unused).
max_print	Maximum number of parameter rows to print.

Value

Invisibly returns the original summary object.

summary.disag_data_mmap

Summary function for disag_data_mmap objects

Description

Prints counts of time points, polygons, pixels, per-time largest/smallest polygon sizes, number of covariates and their summaries and a mesh summary

Usage

```
## S3 method for class 'disag_data_mmap'
summary(object, ...)
```

Arguments

`object`	A 'disag_data_mmap' object (from 'prepare_data_mmap()').
`...`	Additional arguments (unused).

Value

Invisibly returns a list with components: - 'n_times', 'n_polygons', 'n_pixels' - 'per_time': data.frame with 'time', 'min_pixels', 'max_pixels' - 'n_covariates', 'covariate_summaries' (named list of summaries) - 'mesh_nodes', 'mesh_triangles'

summary.disag_model_mmap_aghq

Summary method for 'disag_model_mmap_aghq' objects (direct approach)

Description

Creates a simplified summary of a multi-map disaggregation model fit with AGHQ, directly using the AGHQ model's summary information.

Usage

```
## S3 method for class 'disag_model_mmap_aghq'
summary(object, ...)
```

Arguments

`object`	A 'disag_model_mmap_aghq' object.
`...`	Additional arguments (not used).

Value

An object of class 'summary.disag_model_mmap_aghq' containing the summary information.

`summary.disag_model_mmap_mcmc`
Summary method for 'disag_model_mmap_mcmc' objects

Description

Summarizes parameter estimates and MCMC diagnostics from the underlying `stanfit` returned by `tmbstan::tmbstan()`.

Usage

```
## S3 method for class 'disag_model_mmap_mcmc'
summary(object, pars = NULL, probs = c(0.025, 0.5, 0.975), ...)
```

Arguments

`object`	A 'disag_model_mmap_mcmc' object.
`pars`	Optional parameter names passed to `summary.stanfit()`.
`probs`	Numeric vector of quantile probabilities.
`...`	Additional arguments passed to `summary.stanfit()`.

Value

An object of class 'summary.disag_model_mmap_mcmc'.

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