Package: DAST (via r-universe)

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Type Package

Title Spatio-Temporal Disaggregation for Maps with Changing Areal Boundaries

Version 0.1.0

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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Imports aghq, cowplot, disaggregation, fmesher, ggplot2, Matrix, numDeriv, rSPDE, sf, sparseMVN, terra, TMB

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Contents

`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'.

Index