

The user constructs a mesh for the SPDE; **R-INLA** and **fmesher** are used in the backend

The user passes the mesh and all model information to **sdmTMB()**

Model inputs are generated; if needed, smoother matrices are constructed with **mgcv**

A **TMB** objective function is built that returns the negative marginal log likelihood and its gradient

[Bayesian] The user passes the objective function to **tmbstan**, which fits the model with **rstan**

[Maximum likelihood]
The objective function is minimized with R optimizers

Results can be inspected with various R methods

TMB calculates standard errors using the generalized delta method

Results can be inspected with various R methods