# MetadataS1

The *DataS1* repository contains all functions (in *R* directory), simulation results (in *RData*) and a script file for excecuting simulations and recreating results presented in *Appendix-S2.R*.

#### *R* folder

Contents:

* setup\_code.R functions for simulating data under *2SppCt*, and provides relevant formats for using those data with the MLE-metric.
* mle\_britzkeLRT\_functions.R functions for using the MLE-metric at the site and visit levels for the *MLESite* and *Remove* approaches, respectively.
* simulation\_functions.R Simulation wrapper functions for investigating parameter estimation of *2SppCt*, *Remove*, and *Naive* approaches, and site-level decisions for *MLESite*. Includes NIMBLE model code for the *2SppCt* model and a standard single-species occupancy model for fitting *Remove* and *Naive*.
* z-decision-functions.R includes functions for making site-level decisions about species presence for the Bayesian (*2SppCt*, *Remove*, *Naive*) and *MLESite* approaches.

#### *RData* folder

Contents: simulation results from all models and all scenarios with the following MCMC sampler settings.

* Scenarios 1,2,3,4: 16 and 8 visits; niter = 10000, nburn = 5000, thin = 5, nchains = 3
* Scenario 5: required very long burnin and a more aggressive thin
  + 8 visits: niter = 80000, nburn = 70000, thin = 10, nchains = 3
  + 16 visits: niter = 110000, nburn = 100000, thin = 10, nchains = 3