

# Cheatsheet: R package StrathE2EPolar version 1.0.0 (<https://gitlab.com/MarineResourceModelling/StrathE2E/StrathE2EPolar>)

## Model house-keeping

e2ep_ls()	List the available models in a designated workspace
e2ep_copy()	Make a copy of a named model/variant
e2ep_get_parmdoc()	Download parameter documentation as a dataframe

## Basic model operations

e2ep_read()	Read a model setup from a given workspace
e2ep_run()	Run StrathE2E for a prescribed number of years with a given setup
e2ep_extract_start()	Create a new initial values file from the end of a model run
e2ep_extract_hr()	Extract the values of harvest ratios generated by the fleet model
e2ep_plot_ts()	Time-series plots of model outputs for the full duration of a run

## Visualize model inputs

e2ep_plot_edrivers()	Plot a climatological year of environmental driving data
e2ep_plot_fdrivers()	Plot distributions of fishery-related driving data

## Visualize model outputs from the final year of a run

e2ep_plot_eco()	Plot annual cycles of ecology model variables
e2ep_plot_migration()	Plot annual cycles of active migration fluxes
e2ep_plot_catch()	Plot distributions of annual landings and discards
e2ep_plot_trophic()	Plot mean trophic level and omnivory indices
e2ep_plot_biomass()	Plot zonal distributions of annual average biomass densities

## Quick start

```
library(StrathE2EPolar)
model <- e2ep_read("Barents_Sea", "2011-2019")
e2ep_plot_edrivers(model)
results <- e2ep_run(model, nyears=5)
e2ep_plot_ts(model, results, selection="ECO")
```

# Load the package  
# Read an internal model setup  
# Plots of the driving data  
# Run the model for 5 years  
# Plot time series of results

## Parameter estimation

e2ep_optimize_eco()	Optimize ecology model parameters
e2ep_optimize_hr()	Optimize fleet model harvest ratio scaling parameters
e2ep_optimize_act()	Optimize fleet model fishing activity parameters
e2ep_plot_opt_diagnostics()	Plot diagnostic data from optimisation runs
e2ep_calculate_hrscale()	Calculate initial values of harvest ratio scaling parameters

## Sensitivity and Monte Carlo analyses

e2ep_run_sens()	Run a global parameter sensitivity analysis for a given model setup
e2ep_run_mc()	Run a Monte Carlo analysis with given model setup
e2ep_merge_sens_mc()	Merge parallel processing files from sensitivity or Monte Carlo runs
e2ep_process_sens_mc()	Post-process raw output data from sensitivity or Monte Carlo runs
e2ep_plot_sen_mcs()	Plot diagnostic results from sensitivity or Monte Carlo runs
e2ep_get_senscrit()	List the model outputs available as the basis for sensitivity analysis

## Compare model runs and observations

e2ep_compare_obs()	Box-plot comparisons between observations and model outputs
e2ep_compare_runs_box()	Box-plot comparisons between two different model runs
e2ep_compare_runs_bar()	Tornado bar-plot comparisons between two different model runs

## Fishery yield analyses

e2ep_run_ycurve()	Perform a set of model runs to generate fishery field curve data
e2ep_plot_ycurve()	Plot fishery yield curve data

## Getting help

```
help(StrathE2EPolar)
vignette("StrathE2EPolar_CheatSheet")
help(function_name)
https://marineresourcemodelling.gitlab.io/resources/index.html
```

Load package help page  
Load this CheatSheet  
Load function help page  
Package website: User Manual, Technical Manual, and more