foieGras an R package for rapid quality control, behavioural estimation and simulation of animal track data

Ian D. Jonsen[1,*], Toby A. Patterson[2], and [2]

[1]Department of Biological Sciences, Macquarie University, Sydney, NSW, Australia
[2]CSIRO Ocean and Atmosphere Research, Hobart, TAX, Australia
[*]Corresponding author. Email: ian.jonsen@mq.edu.au

Abstract

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1: Introduction

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2: foieGras Overview

The workflow for `foieGras` is deliberately simple, with much of the usual track data processing checks and formatting handled automatically. The main functions are listed in Table 1.

Table 1: Main functions for the R package `foieGras`

Function	Description
`fit_mpm`	Fit a Move Persistence Model to location data
`fit_ssm`	Fit a State-Space Model to location data
`fmap`	Plot fitted/predicted locations on a map with or without a defined projection
`grab`	Extract fitted/predicted/data locations from a foieGras model, with or without projection information
`osar`	Calculate One-Step-Ahead Residuals from a foieGras SSM
`plot.fG_mpm`	Plot move persistence estimates as 1-D or 2-D (along track) time-series
`plot.fG_osar`	Plot One-Step-Ahead Residuals from a foieGras SSM
`plot.fG_ssm`	Plot fitted/predicted locations from a foieGras SSM

4: SSM fitting

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5: Visualisation and Diagnostics

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6: Behavioural Estimation

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7: Extending the Behavioural Model

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8: Simulation

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9: Examples

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10: Discussion

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