

sftrack, a package for movement data

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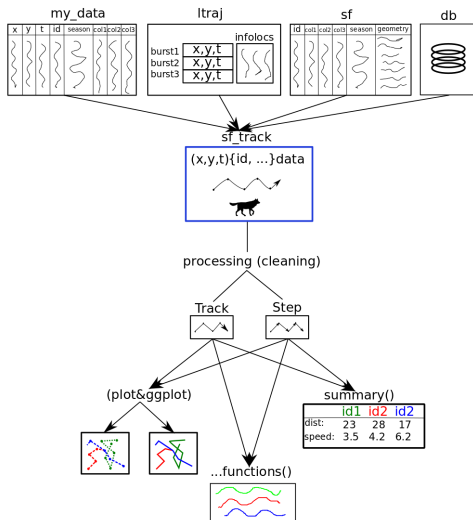
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What is it?

Package with central **classes** for **tracking data** and basic functions to handle, summarize and plot them.



In this talk


- ① **Why** is this a big deal?
- ② What **features** do we want this to have?
- ③ How can **you help**?

1. Why is this a big deal?


Why is this a big deal?

Journal of Animal Ecology



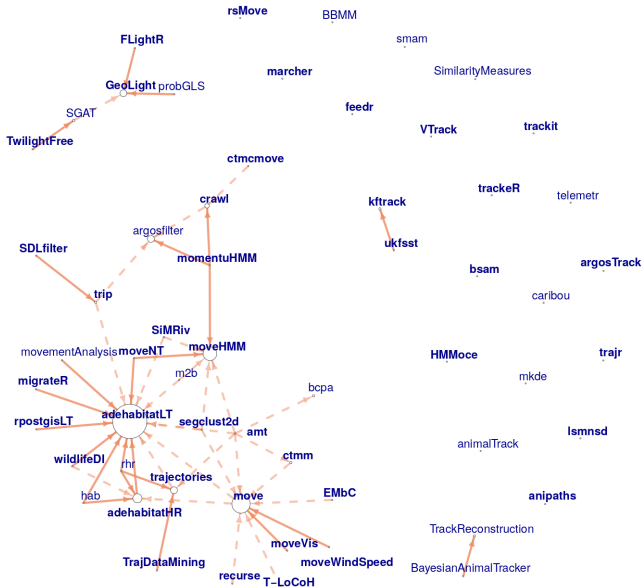
BIOLOGGING: REVIEW |  Free Access |

Navigating through the R packages for movement

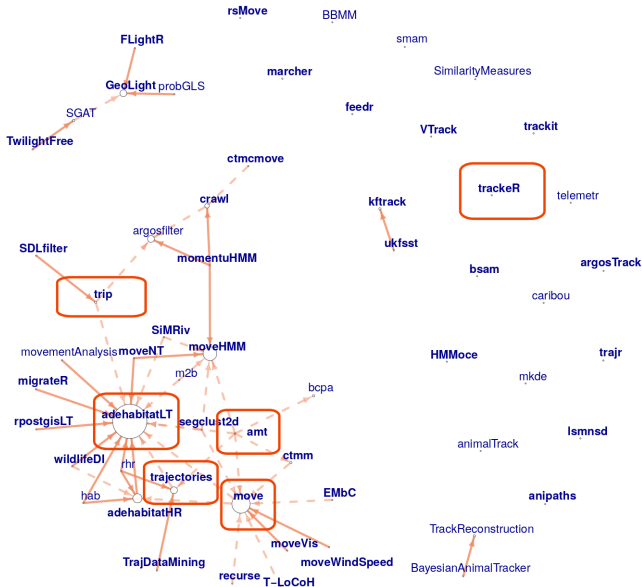
Rocío Joo , Matthew E. Boone, Thomas A. Clay, Samantha C. Patrick, Susana Clusella-Trullas, Mathieu Basille

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Why is this a big deal?

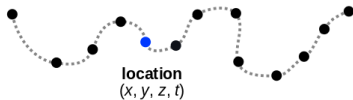


Why is this a big deal?

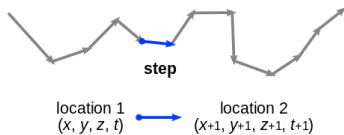


Why is this a big deal?

Tracking data

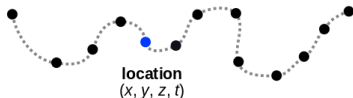


Movement data

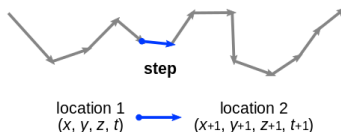


Why is this a big deal?

Tracking data



Movement data



Data classes

Conceptual
model

Space
structure

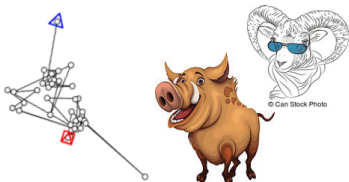
Time
structure

Object

Easy to use
and manipulate?

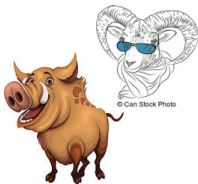
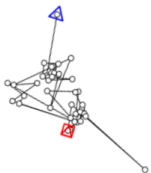
Handle missing
data

Why is this a big deal?



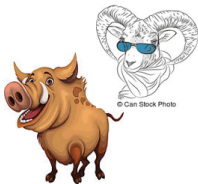
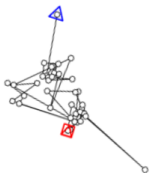
| | | | |
|--------------------------------|--------------|------------------------------|------------------------------|
| | adehabitatLT | trip | move |
| Data classes | ltraj | trip | Move, MoveStack |
| Conceptual model | steps | points | points |
| Space structure | ad-hoc steps | Spatial Points Data Frame | Spatial Points Data Frame |
| Time structure | POSIXct | Time Ordered Records | POSIXct |
| Object | S3 (list) | S4 (sp-like) | S4 (hierarchical) |
| Easy to use and manipulate? | hard | very hard | very hard |
| Handle missing data | yes | no | no |

Why is this a big deal?



| | | | |
|-----------------------------|-----------------------|---------------------------|----------------------------|
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Why is this a big deal?



Data classes

trajectories
Track, Tracks,
TracksCollection

amt
track_xy,
track_xyt
points,
steps

tracker
trackerdata

Conceptual
model

points

points

Space
structure

sp points
(STIDF)

nothing

nothing

Time
structure

POSIXct
(STIDF)

POSIXct

ts (zoo)

Object

S4 (hierarchical)

S3 (tibble)

S3 (list)

Easy to use
and manipulate?

very hard

very easy

hard

Handle missing
data

no

no

no

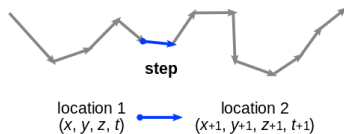
2. What do we want?

What do we want?

Tracking data



Movement data



Data classes

Conceptual model

Space structure

Time structure

Object

Easy to use and manipulate?

Handle missing data

sftrack

points

sf points

sftrack

sftraj

steps

sf linestrings

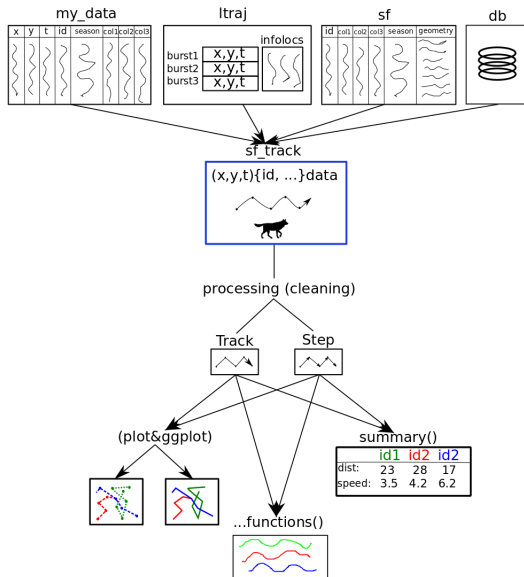
POSIXct

S3 (sf data.frame)

very easy

yes

What do we want?

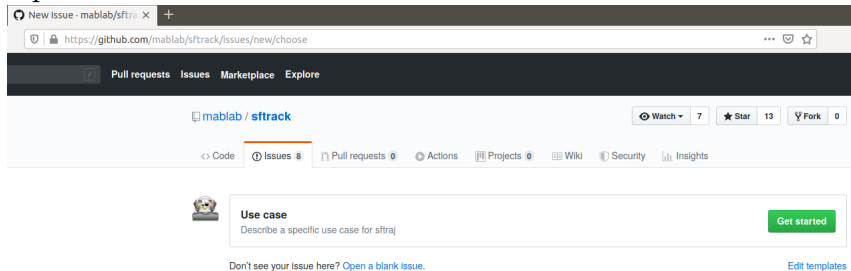


3. How can you help?

How can you help?

If you use tracking data for processing or analysis

- 1 Go to: <https://github.com/mablabs/sftrack/>
- 2 Open an issue



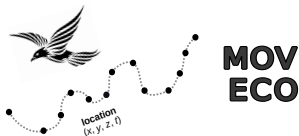
How can you help?

- 3 **Use case:** how you use or want to use tracking data
- 4 **Inputs** (data you enter) to sftrack
- 5 **Outputs** (data you need) from sftrack
- 6 **Requirements** (e.g. needs to store errors in positioning; needs vertical coordinate)

You can also talk to us here!

*Package downloadable at <https://github.com/mablab/sftrack>

Thanks for your attention



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<https://github.com/mablab/sftrack/>