

Empower your telemetry code

The *open & contribute* approach:
the distance matrix example

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Intro: timeline

2017: R script for calculating the **distance matrix** along riverways (developed by **ex-colleague**)

2017-18: R script used for stations in **Scheldt river basin** (BE-NL)

2020: **bugs** found when applied to other **European riverways**

2020: understand what the code does

2021: solve bugs

2021: **functionalities added** for improving distance calculation accuracy

2021: **contribute** - ask OTN

2021: **contribute** - ask Hugo Flávio (actel)

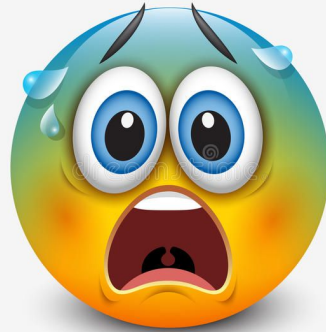
1. Open your code

The screenshot shows a GitHub issue page for the repository 'inbo / fish-tracking'. The issue title is 'Can we make this repo public? #74' and it is marked as 'Closed'. The issue was opened by 'damianooldoni' on 29 Sep. The issue description asks for advice on whether to make the repository public, mentioning a collaborator '@PieterjanVerhelst' and the 'actel' package. The issue has 6 comments. A blue callout box is overlaid on the bottom right of the screenshot, containing the following text:

- Opening is claiming**
- Your code is findable
- Your code can be reused

The callout box is a blue rectangle with a white background for the text. The text is centered and uses a sans-serif font. The top line is bolded. The bottom two lines are separated by a thin blue horizontal line.

2. Contact package maintainers



Maintainers are humans

they don't bite (as far as I know)

be polite

3. Organize the work to do

Add preprocessing features to package #68

Open

7 tasks

damianooldoni opened this issue 2 hours ago · 0 comments



damianooldoni commented 2 hours ago · edited

During a very prolific meeting with @hugomflavio and @PieterjanVerhelst on Oct 29, we compared the work @PieterjanVerhelst and I did to calculate distances along riverways within INBO's fish-tracking repo (not a package) and the functionalities already implemented by @hugomflavio in this package. We agreed to add to actel some features we developed. Notice all these features are preprocessing features.

Here below a descriptive To Do List to implement in several Pull Requests:

- we agree to this three steps strategy: load shapefiles, plot (optional), rasterize. For this reason, transform the shapefile to raster in a new function called `shapefiletoaster()` (quite similar to what we developed in function `shape.to.binary.mask()`). Some refactoring will be needed
- add function `placestationsinwater()`: sometimes the stations are not located in the river, but quite far away. Extending the river raster to include them adds a bias in the distance calculation (see details in [Details for implementation of placeStationsinWater\(\) function #69\), so should be avoided](#)
- still, if user prefers to not use `placeStationsinWater()`, or if the function fails to do what it should do, we could still provide the option to extend the river body just enough to include the stations. This is something we have implemented at raster level by turning (small pieces of) land into water. But we cannot put this as a "hidden" step within `placestationsinwater()` as it acts at raster level. However, I find this approach asymmetric (something I realized today). It should be done at shapefile level as this will be much faster and will make workflow easier to understand (something to do by transforming two points into a line/polygon depending on the input shapefile)
- in our work, we had to deal with river bodies mixing polygons and lines: doing this was possible but some working around were introduced which should be double checked and hopefully removed. The functionality to mix them up could be added to the package
- write unit-testing using shapefiles (`example_shapefile_1`) and stations (`example_spatial.csv`) in `/inst`
- test actel on the many river bodies used by @PieterjanVerhelst . As we found that the main functionality (calculate distance among stations along riverways) is already included in the package, this should work. In case it doesn't, find the reason and add unit-tests
- refactor code based on `sp` to `sf` has to be done sooner or later: maybe this is the best occasion for doing it? (optional)


Write feature issues

Issues are better than emails

Set task lists and milestones

4. Become a contributor

Contributors 15



+ 4 contributors

Coding together is nice

Coding together = better code

Acknowledged

Thank you

Oldoni (2021) Disclose your telemetry code. The open & contribute approach: the distance matrix example. Presentation.
<https://bit.ly/3qEVBXm>

Presentation - 15 November 2021

