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geotargets: a working title

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Signatories

Project team

Nicholas Tierney will serve as primary author and maintainer of `geotargets` during its development. Eric Scott (University of Arizona) will be a main contributor of code. Both anticipating using `geotargets` in ongoing and upcoming projects and have strong motivation to contribute to it's development.

Contributors

We already have contributions in the form of detailed reproducible examples in GitHub issues. In particular, Andrew Gene Brown at USDA-NRCS, has contributed code for dealing with reading and writing shapefiles, and choosing alternative filetypes for targets. Anthony North at Queensland Fire and Emergency Services has contributed code for using `geoarrow` as a backend for reading and writing targets. Dewey Dunnington at Voltron Data has also made suggestions on using `geoarrow`. Michael Sumner and Ben Raymond at Integrated Digital East Antarctica program, Australian Antarctic Division, have agreed to provide support and guidance in handling and managing geospatial data formats, in particular navigating GDAL. ## Consulted

The idea for `geotargets` originated in a discussion posted to the discussion forum for `targets` where the author and maintainer of `targets` and other "Targetopia" packages showed strong support. Community contributions to `geotargets` via issues and comments on issues have been numerous despite the repository only having existed since the beginning of March 2024. Additionally, we plan to consult with geospatial experts throughout development to be sure we are addressing the most pressing issues and addressing them in ways that will fit with common geospatial analysis workflows in R.

The Problem

An example in-text citation (Wickham, 2016).

The proposal

Overview

Detail

Project plan

Start-up phase

We have already created a repository on GitHub that uses GitHub actions to run package checks. In the start-up phase, we will focus on making design decisions about what the package will offer and research and discuss what r-spatial packages and object types will we support. Answering these questions will lay the groundwork for efficient collaborative development of the package.

Technical delivery

Our goal is to deliver a package that allows users to use the `targets` package with various r-spatial packages (`terra`, `sf`, `stars`, etc.) with as little friction as possible.

Milestone 1: July 31

- Basic package with functionality for `terra` `SpatRaster` and `SpatVector` objects
- Well documented functions with high test coverage ensuring a solid start to the project
- Creation of a `pkgdown` website for the package hosted on GitHub pages

Milestone 2: September 30

- Add support for objects from a second r-spatial package such as `sf`
- Benchmarking of various file type options for storing targets including file size and read and write speed. Our findings will be published as an article on the `geotargets` website.

Milestone 3: November 30

- Add support for objects from a third r-spatial package.

Other aspects

Throughout the project we will seek feedback from users on social media (Mastodon and Twitter) and on the `targets` discussion forum. Each milestone will coincide roughly with a release on GitHub and a short blog post on https://www.njtierney.com/. We intend to submit the package to rOpenSci for software review, and subsequently submit for publication to the Journal of Open Source Software.

Requirements

People

Processes

Tools & Tech

Funding

Summary

Success

Definition of done

Measuring success

Future work

Key risks

References

Wickham, H. (2016). *Ggplot2: Elegant graphics for data analysis*. Springer-Verlag New York. https://ggplot2.tidyverse.org