

## rOpenSci Social Coworking and Office Hours

# August 2023 - Spatial data in R

Thank you for joining our *Social Co-working and Office Hours*. We're delighted to have you here. No sign-ups needed! 😊

Please remember in this space we apply our [Code of Conduct](#).

This document will be shared after the event (names preserved, but contact information removed) to ensure the resources are available to all!

(We do recommend bringing your actual tea, coffee, mate, water, etc.) ☕ 🍵

**Hosts:** [Mike Mahoney](#) and [Steffi LaZerte](#)

**Resources:** [Slides](#), this document

### Today's Schedule:

- Introductions
- Co-working (40 min)
- Break! (5 min)
- Scavenger hunt! (5 min)
- Co-working (40 min)
- Summary and Good Byes

### Next Call

**Topic:** AI in/for R

**Date:** Tuesday, 05 September 2023 9am Australia Western / 01:00 UTC

**Hosts:** [Joel Nitta](#) and [Steffi LaZerte](#)

Ideas for future sessions? Let us know!

Theme/idea, contact information and potential date/time (if interested in hosting)

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Sign in below

**Name + Where you're calling from + Your favourite use of spatial data + an emoji to represent it (type : to get emojis, or use Insert > Emoji)**

- Mike Mahoney / Cambridge MA USA / Modeling forests! 🌲
- Alex Koiter Brandon Manitoba, Canada. DEMs 🏔️
- Steffi LaZerte, Brandon, Manitoba, Pretty maps ✨
- João Granja Correia, Lisbon (Portugal), don't really use spatial data - just want to learn more.
- Philippe Massicotte, Québec, Canada, Oceanography 🌊 and maintaining rnaturealearth.
- Julie Lowndes / California USA / supporting researchers using NASA Earthdata 🌐
- Hans Meijer / Dubai, UAE / equine science
- Eli Holmes / Seattle WA USA / pretty maps (but I don't get to do that much)
- Jacqui Levy / Squamish, BC, Canada / I don't use spatial data but here to learn 📖
- Samrit Pramanik, India/ Data Scientist/ I want to learn spatial data
- Paul Carteron, France, I'm working an happign package
- Chris Battisto, Elmhurst IL / Making simple maps from crunching big data! / 🧑🏻
- Eli Pousson / Baltimore, MD

Advertise and promote your event or anything exciting you're working on.

- [ESIP](#) Information Technology and Interoperability webinar series -- [more info here](#)
  - Past webinars:  
[https://www.youtube.com/playlist?list=PL8X9E6I5\\_i8i070SY0UwMjGrw4UzjCmlc](https://www.youtube.com/playlist?list=PL8X9E6I5_i8i070SY0UwMjGrw4UzjCmlc)
  - Recommended talks:
    - Mike Johnson on GDAL virtual file systems: [https://youtu.be/auK\\_gPR-e7M](https://youtu.be/auK_gPR-e7M)
    - Tom Kralidis on Python spatial evolution <https://youtu.be/HTouLSzKGto>
  - August 10th: [Carlos Scheidegger](#) on [Quarto](#)! Link [on the calendar](#) ("IT&I")
- Shameless plug -- star Mike on GitHub:
  - spatialsample: <https://github.com/tidymodels/spatialsample>
  - waywiser: <https://github.com/ropensci/waywiser>
- Very rough start to an R package I'm working on: <https://github.com/Jacqui-123/icycle> 😊
- Chris Battisto - Over at GES DISC, we just got our "gesdisc-tutorials" Github repository uploaded to Zenodo with a DOI! Check it out: <https://zenodo.org/record/8205655>

Shared

- R-Spatial Evolution:
  - <https://r-spatial.org/r/2022/04/12/evolution.html>
  - <https://r-spatial.org/r/2022/12/14/evolution2.html>

- <https://r-spatial.org/r/2023/04/10/evolution3.html>
- <https://r-spatial.org/r/2023/05/15/evolution4.html>
- GDAL virtual filesystems:
  - [https://gdal.org/user/virtual\\_file\\_systems.html](https://gdal.org/user/virtual_file_systems.html)

## Notes

- **Julie notes from asking about NASA Earthdata -**  
<https://nasa-openscapes.github.io/earthdata-cloud-cookbook/how-tos/if-im-local.html>
  - Sf and terra can - Mike Johnson gave a talk in Feb about gdal's virtual filesystems if it's stored in S3 or need curl to download
    - `sf::st_read("/vsicurl/https://github.com/r-spatial/sf/raw/main/inst/gpkg/nc.gpkg")`
    - [https://gist.github.com/mikemahoney218/903a789eb598cc587874827f5bbfd3be#file-get\\_dem-r-L46](https://gist.github.com/mikemahoney218/903a789eb598cc587874827f5bbfd3be#file-get_dem-r-L46) >> by pasting `vsicurl` in front of a list of assets, terra can use curl to download them all
  - Mike Sumner on Mastodon
  - Super-low level from GDAL: <https://github.com/hypertidy/vapour>
  - From Eli: Here is an example of reading a netcdf with raster. It just 'worked' as I recall.  
[https://pjbartlein.github.io/REarthSysSci/raster\\_intro.html#read-a-netcdf-file](https://pjbartlein.github.io/REarthSysSci/raster_intro.html#read-a-netcdf-file)
  - **Plan:** use terra to open netcdfs. Update Chris's Opening netCDF with R:  
<https://disc.gsfc.nasa.gov/information/howto?keywords=R&title=How%20to%20Read%20Data%20in%20netCDF%20Format%20with%20R> and add how to  
[https://nasa-openscapes.github.io/earthdata-cloud-cookbook/how-tos/read\\_data.html](https://nasa-openscapes.github.io/earthdata-cloud-cookbook/how-tos/read_data.html)
  - Mike - Speaking of stac, the rstac library is my new best friend --  
<https://github.com/brazil-data-cube/rstac>
- For plotting rasters -- <https://dieghernan.github.io/tidyterra/>
- [GitHub - walkerke/crsuggest: Get appropriate CRS suggestions for your spatial data in R](#)
- [GitHub - paleolimbot/ggspatial: Enhancing spatial visualization in ggplot2](#)
- [tidyverse Methods and ggplot2 Helpers for terra Objects • tidyterra](#)
- [tmap: get started!](#)
- <https://nasa-openscapes.github.io/earthdata-cloud-cookbook/how-tos/find-data/programmatic.html>

## Feedback at the end of the session

(Something you liked; something you didn't like; would you come again? What barriers prevent you from coming?)

- Hans - nice meeting you, was interesting, a lot of new and helpful inputs, will come again, cheers

## Useful links

- Our webpage: <https://ropensci.org/>
- rOpenSci Community Contributing Guide: <https://contributing.ropensci.org/>
- rOpenSci Packages: Development, Maintenance, and Peer Review:  
<https://devguide.ropensci.org/>
- <https://github.com/walkerke/crsuggest>
- <https://dieghernan.github.io/tidyterra/>
- <https://github.com/paleolimbot/ggspatial/>
- <https://cran.r-project.org/web/packages/tmap/vignettes/tmap-getstarted.html>
- <https://nasa-openscapes.github.io/earthdata-cloud-cookbook/how-tos/find-data/programmatic.html>
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