BLUEGREEN

bluegreenlabs.org github.com/bluegreen-labs Supporting Open Science and Data through an R package ecosystem



Open Science and Data has taken the forefront in current day research practices. With 80% of data science spent on data acquisition, cleaning and other tooling, easy access to ecologically relevant data is key. Easy access to open data using open source tools can speed up your analysis, while maintaining the required reproducibility.



The R **{ecmwfr}** and **{appeears}** packages simplify native support for querying gridded climate and remote sensing data (from ECMWF and NASA respectively).

set a key to the keychain
wf_set_key(
 user = "1234",
 key = "XXXXXXXXX",
 service = "cds"







Specify the data set request <- list("dataset short name" = "reanalysis-era5-pressure-levels", "product type" = "reanalysis", "variable" = "temperature", "pressure_level" = "850", = "2000", "year" "month" = "04", "day" = "04", "time" = "00:00", "area" = "70/-20/30/60", "format" = "netcdf", = "era5-demo.nc" "target"

downloading the data



Data can be easily loaded as netCDF files as delivered by ECMWF. The {appeears} package follows the same workflow. Our ecosystem includes many packages providing access to other data sources.



Native R Download queue



Koen Hufkens, Elizabeth Kearsley and all github collaborators

- Hufkens, K., R. Stauffer, & E. Campitelli. (2019). ecmwfr: Programmatic interface to the two European Centre for Medium-Range Weather Forecasts API services. Zenodo.
 http://doi.org/10.5281/zenodo.2647531
- Hufkens, K. (2023). appeears: Programmatic interface to the NASA AppEEARS API. Zenodo. <u>https://doi.org/10.5281/zenodo.7938190</u>