

Computerized resampling

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```
# setup -----

dat <- readRDS("transect_data.rds")
source("0.functions.R")

# create vector of steps -----
#geometric progression, fixed ratio between steps

n <- 20 #desired steps
max <- 250 #maximum step

z <- n - 1
steps <- vector(length = 0)

while(length(steps) < n){
  r <- max ^ (1 / z) #step ratio
  steps <- unique(round(r^(seq(0,z)))) #keep unique after rounding
  z <- z + 1 #add one step if less than desired
}

steps

## [1] 1 2 3 4 5 6 8 11 14 18 23 31 40 52 67 87 114 148 192
## [20] 250

# resample -----

resampled <- lapply(dat, function (x) resample(x, steps, 1000))

saveRDS(resampled, file = "transect_resampled.rds")

# session info -----

sessionInfo()

## R version 4.5.2 (2025-10-31)
## Platform: x86_64-redhat-linux-gnu
## Running under: Nobara Linux 43 (KDE Plasma Desktop Edition)
##
## Matrix products: default
## BLAS/LAPACK: FlexiBLAS OPENBLAS-OPENMP; LAPACK version 3.12.1
```

```

##
## locale:
## [1] LC_CTYPE=it_IT.UTF-8      LC_NUMERIC=C
## [3] LC_TIME=it_IT.utf8       LC_COLLATE=it_IT.UTF-8
## [5] LC_MONETARY=it_IT.utf8   LC_MESSAGES=it_IT.UTF-8
## [7] LC_PAPER=it_IT.utf8      LC_NAME=C
## [9] LC_ADDRESS=C             LC_TELEPHONE=C
## [11] LC_MEASUREMENT=it_IT.utf8 LC_IDENTIFICATION=C
##
## time zone: Europe/Rome
## tzcode source: system (glibc)
##
## attached base packages:
## [1] stats      graphics  grDevices datasets  utils      methods    base
##
## loaded via a namespace (and not attached):
## [1] compiler_4.5.2    fastmap_1.2.0     cli_3.6.5         tools_4.5.2
## [5] htmltools_0.5.9   rstudioapi_0.17.1 yaml_2.3.12       rmarkdown_2.30
## [9] knitr_1.50        xfun_0.55         digest_0.6.39     rlang_1.1.6
## [13] evaluate_1.0.5    CoprManager_0.5.7

```