

# Package: cart (via r-universe)

August 10, 2024

**Type** Package

**Title** Malaria Cartographic Information

**Version** 0.1.0

**Description** Extract population, prevalence and vector cartographic information for use with malarisimulation.

**License** MIT + file LICENSE

**Encoding** UTF-8

**LazyData** true

**Suggests** knitr, rmarkdown, roxygen2, testthat (>= 3.0.0)

**Config/testthat/edition** 3

**RoxygenNote** 7.1.2

**Imports** dplyr, geojsonsf, ggplot2, jsonlite, magrittr, malariaAtlas, methods, rlang (>= 0.4.11), sf, terra, tibble, tidyr, viridis

**VignetteBuilder** knitr

**Repository** <https://mrc-ide.r-universe.dev>

**RemoteUrl** <https://github.com/mrc-ide/cart>

**RemoteRef** main

**RemoteSha** a4e9502817ba6b46705440d05995b2a09aa17a9b

## Contents

get_pop . . . . .	2
get_prev . . . . .	2
get_spatial_limits . . . . .	3
get_vectors . . . . .	3
pull_cart . . . . .	4
unpack_cart . . . . .	5

<b>Index</b>	<b>6</b>
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get_pop	<i>Get population raster.</i>
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**Description**

Downloads the unconstrained individual countries 2000-2020 UN adjusted (1km resolution) from the [WorldPop server](#).

**Usage**

```
get_pop(iso3c, year)
```

**Arguments**

iso3c	Country iso3c code
year	Year of prevalence outputs

**Value**

Population raster

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get_prev	<i>Get prevalence rasters.</i>
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**Description**

Downloads the specified [malaria atlas project](#) prevalence rasters.

**Usage**

```
get_prev(prevalence_rasters, year, pop)
```

**Arguments**

prevalence_rasters	List of prevalence rasters. See <a href="#">listRaster</a> for available rasters. Default is for both falciparum and vivax.
year	Year of prevalence outputs
pop	Population raster

**Value**

A List of prevalence rasters.

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get\_spatial\_limits      *Get spatial limits rasters.*

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**Description**

Downloads the specified **malaria atlas project** spatial limits of transmission rasters.

**Usage**

```
get_spatial_limits(spatial_limits_rasters, pop)
```

**Arguments**

spatial_limits_rasters	List of spatial distribution limits rasters. Default is for both falciparum and vivax. See <a href="#">listRaster</a> for available rasters.
pop	Population raster

**Value**

A List of spatial limits rasters.

---

get\_vectors      *Get vector species.*

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**Description**

Downloads the specified **malaria atlas project** vector species rasters.

**Usage**

```
get_vectors(vector_rasters, year, pop)
```

**Arguments**

vector_rasters	List of vector species rasters. See <a href="#">listRaster</a> for available rasters. Specified rasters must have an extent $\geq$ to the extent of the country specified. Please note the different definitions of vector species metrics - especially relative abundance vs probability of occurrence.
year	Year of prevalence outputs
pop	Population raster

**Value**

A List of vector species rasters.

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pull_cart	<i>Pull cartographic information</i>
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## Description

Pull cartographic information

## Usage

```
pull_cart(
  iso3c,
  year,
  vector_rasters = list(funestus = "Anopheles funestus", arabiensis =
    "Anopheles arabiensis Patton, 1905", gambiae = "Anopheles gambiae Giles, 1902"),
  prevalence_rasters = list(pfpr = "Plasmodium falciparum PR2 - 10 version 2020", pvpr
    = "Plasmodium vivax PR1-99 version 2020"),
  spatial_limits_rasters = list(pf_limits = "Plasmodium falciparum Spatial Limits",
    pv_limits = "Plasmodium vivax Spatial Limits")
)
```

## Arguments

iso3c	Country iso3c code
year	Year of prevalence outputs
vector_rasters	List of vector species rasters. See <a href="#">listRaster</a> for available rasters. Specified rasters must have an extent $\geq$ to the extent of the country specified. Please note the different definitions of vector species metrics - especially relative abundance vs probability of occurrence.
prevalence_rasters	List of prevalence rasters. See <a href="#">listRaster</a> for available rasters. Default is for both falciparum and vivax.
spatial_limits_rasters	List of spatial distribution limits rasters. Default is for both falciparum and vivax. See <a href="#">listRaster</a> for available rasters.

## Value

A raster stack

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unpack_cart	<i>Extract information from rasters</i>
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**Description**

Extract information from rasters

**Usage**

```
unpack_cart(iso3c_sf, stack)
```

**Arguments**

iso3c_sf	A simple feature shape file to extract for
stack	The raster stack from <a href="#">pull_cart</a>

**Value**

Tibble with list columns of raw extracted values

# Index

`get_pop`, 2  
`get_prev`, 2  
`get_spatial_limits`, 3  
`get_vectors`, 3  
  
`listRaster`, 2–4  
  
`pull_cart`, 4, 5  
  
`unpack_cart`, 5