

Malaria Atlas Project Data Directory

Introduction

The Malaria Atlas Project (MAP) holds a wide range of malariometric data, so much so that it can prove difficult to find the correct page on the website to download a given set of data. This document provides a summary of the data available and links to appropriate pages on the MAP website for downloads.

MAP provides the outputs of our research, as well as broader technical advice and support, to National Malaria Control Programmes (NMCPs), non-governmental organisations (NGOs), Ministries of Health, and other third parties as part of our commitment to [open access data](#).

To this end, MAP obtains, curates, and shares a wide variety of malariometric data. These fall into two categories:

1. Published modelled outputs.

All the published outputs of MAP staff are available for download. We can also make unpublished intermediary outputs available on request.

2. Input data for models.

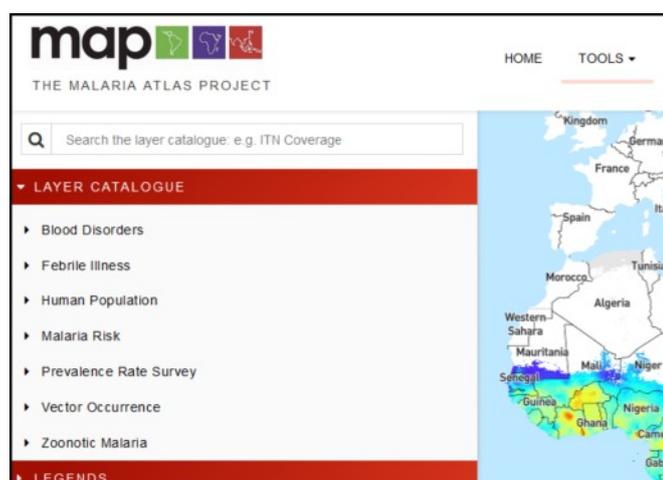
These include a wide variety of malariometric and covariate data. We make as much of this available for download as possible, although some datasets are restricted by either owner permissions or other factors.

Where to Find Data

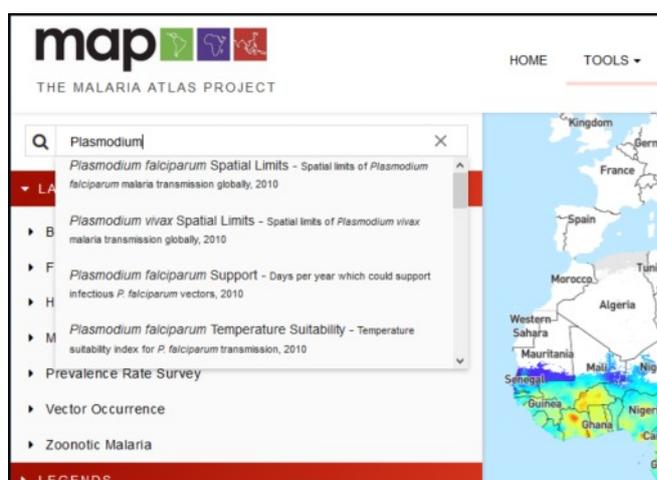
Because different audiences have varying requirements, we have provided three avenues to locate any given set of data.

Many areas of data have dedicated pages on which we have collected relevant files for convenience of download.

The [Data Explorer](#) provides a map-based interface and allows the download of data at a global scale. Search for data either by expanding the “Layer Catalogue” or by entering terms in the Search field.



Layer Catalogue



Search Field

The [Trends](#) pages provide interactive graphs, preformatted maps, and data sources and allow download of data clipped or restricted to the region or country of interest.

Published modelled outputs

MAP uses geostatistical models to make predictions of true malaria burden and related metrics. These are described below and are listed in the same order in which they appear in the Layer Catalogue on the [Data Explorer](#).

Blood Disorders

- **Predicted Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency frequency**

Median predicted allele frequency for G6PD deficiency globally [published in 2012](#) are available from the [Data Explorer](#) or [Trends](#) pages. MAP is engaged on a [project to refresh the survey data](#) that feeds these estimates, with a view to creating a new set of estimates.

- **Predicted Duffy negativity frequency**

The spatial distribution of the Duffy negative phenotype globally, 2010 [published in 2011](#) are available from the [Data Explorer](#) or [Trends](#) pages.

- **Predicted Haemoglobin S (HbS – sickle haemoglobin) frequency**

Mean estimates of sickle haemoglobin allele frequency globally, 2010 [published in 2013](#) are available from the [Data Explorer](#) or [Trends](#) pages.

- **Predicted Haemoglobin C frequency**

Predicted allele frequency in Africa [published in 2013](#) is available from the [Data Explorer](#) or [Trends](#) pages.

Febrile Illness

MAP has [quantified the prevalence of two key symptoms of malaria](#) (fever and anaemia) across Africa to generate a better understanding of how much malaria contributes to each of these syndromes on the continent. The following predictions of malaria attribution are available from the [Data Explorer](#) or [Trends](#) pages:

- All-cause fever
- Malaria-attributable fever as a proportion of all-cause fever
- Malaria-attributable fever as a proportion of malaria-positive fever
- Malaria-positive fever as a proportion of all-cause fever
- Non-malarial fever

Human Population

• Accessibility

MAP has modelled travel-times to centres of population (as a proxy for accessibility to services, institutions, and individuals supportive of socioeconomic success, good health, and overall well being. The following predictions are available from the [Accessibility Project Page](#) and the [Data Explorer](#) and [Trends](#) pages:

- A global friction surface enumerating land-based travel speed for a nominal year 2015 (minutes required to travel one metre)
- A global map of travel time to cities to assess inequalities in accessibility in 2015 (predicted travel time in minutes to nearest city) – available as both raster data and summarised to admin 1 level on the [Accessibility Project Page](#)
- Example Code for Accessibility Mapping (on the [Accessibility Project Page](#))

• Housing

MAP has led work to model the prevalence of [improved housing in sub-Saharan Africa](#). The following data are available from the [Data Explorer](#) and [Trends](#) pages:

- Prevalence of improved housing in sub-Saharan Africa, in 2000
- Prevalence of improved housing in sub-Saharan Africa, in 2015

Malaria Risk

MAP continually generates estimates of clinical burden and endemicity as part of its work with the World Health Organization and The Institute of Health Metrics and Evaluation. The most up-to-date estimates can be accessed from our [Malaria Burden](#) and [Malaria Burden Data Download](#) pages.

The [Malaria Burden Data Download](#) page provides global downloads of raster and summarised tabular data for:

- *Plasmodium falciparum* and *P. vivax* incidence count, incidence rate, parasite rate, and percentage change
- *P. falciparum* mortality count and rate

These data may also be downloaded from the [Data Explorer](#) and [Trends](#) pages.

Older work on malaria risk can be downloaded from the [Data Explorer](#) and [Trends](#) pages, as follows:

- **Clinical Burden**

- Predicted *P. falciparum* incidence rate in Africa, 2000-2015 ([published in 2015](#))
- Predicted *P. vivax* relapse incidence per 100,000 person days globally, 2013 (published in 2012)

- **Endemicity**

- Predicted *P. falciparum* parasite rate in 2-10 year olds in Africa, 2000-2015 ([published in 2015](#))

- **Intervention**

- Predicted ACT coverage in Africa, 2000-2015 ([published in 2015](#))
- Predicted IRS coverage in Africa, 2000-2015 ([published in 2015](#))
- Predicted ITN coverage in Africa, 2000-2015 ([published in 2015](#))

- **Reproductive number**

- Spatial distribution of *P. falciparum* reproductive number under control, 2000-2016 at admin 1 and admin 2 level (unpublished)

- **Temperature Suitability**

- Predicted days per year which could support infectious *P. falciparum* vectors, 2010 (published 2011)
- Predicted temperature suitability index for *P. falciparum* transmission, 2010 (published 2011)
- Predicted days per year which could support infectious *P. vivax* vectors, 2010 (published 2011)
- Predicted temperature suitability index for *P. vivax* transmission, 2010 (published 2011)

- **Transmission Limits**

- Predicted spatial limits of *P. falciparum* malaria transmission globally, 2010 (published 2011)
- Predicted spatial limits of *P. vivax* malaria transmission globally, 2010 (published 2012)

Vector Occurrence

The following data can be downloaded from the [Data Explorer](#) and [Trends](#) pages:

- Predicted dominant malaria vector species globally, 2010
- Predicted secondary dominant malaria vector species in Africa+, 2010
- Predicted vector occurrence (archive)
- Predicted vector occurrence (current – supercedes those maps in the archive)

Zoonotic Malaria

The following data can be downloaded from the [Data Explorer](#) and [Trends](#) pages:

- Predicted distribution of macaque hosts
- Predicted relative risk of zoonotic *Plasmodium knowlesi*, 2016

Input data for models

MAP collects a variety of malariometric data, which are available either directly from the pages listed below or on request. Data available for direct download can also be found at a global scale on the [Data Explorer](#) or at regional/country scale on the [Trends](#) pages.

Survey Data:

- **Nationally representative cross-sectional surveys of parasite rate**

These are updated as part of an annual [data-gathering project](#). Data can be [downloaded directly from the PR Data Page](#) or retrieved from the [Data Explorer](#) (the “Prevalence Rate Survey” option on the Layer Catalogue) or [Trends](#) pages.

- **Blood disorders**

- **Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency surveys**

A set of survey data from the [2013 publication](#) are available from the [Data Explorer](#) or [Trends](#) pages. MAP is engaged on a [project to refresh these data](#) but this dataset is not available for download yet.

- **Duffy negativity surveys**

Village level survey clusters measuring Duffy negativity [published in 2011](#) are available from the [Data Explorer](#) or [Trends](#) pages.

- **Haemoglobin S Surveys (HbS – sickle haemoglobin)**

Survey data measuring sickle haemoglobin alleles [published in 2013](#) are available from the [Data Explorer](#) or [Trends](#) pages.

- **Haemoglobin C Surveys**

Survey data measuring Haemoglobin C alleles [published in 2013](#) are available from the [Data Explorer](#) or [Trends](#) pages.

Vectors

- **Dominant Vector Surveys**

Survey occurrence data of the 41 dominant vector species are available from the [Data Explorer](#) or [Trends](#) pages.

- **Vector Bionomics Surveys**

Bionomics survey data for Africa, the Americas, and the Asia-Pacific region can be downloaded from the [Bionomics Page](#), which also has links to pages on all the main Anopheles vectors.

Public-domain malaria metrics reported through routine surveillance systems

MAP has an [annual project](#) to collect [public-domain malaria metrics reported through routine surveillance systems](#). These data are available for download [on request](#). We are planning to make them available for direct download from our website in due course.

Covariate data

MAP continually refreshes its set of satellite imagery capturing global environmental conditions that influence malaria transmission. Due to the large volumes of data involved, these data are available for download on request [on request](#) only. Please see the [Covariate Data Page](#) for further details.

Administrative Boundaries

MAP has assembled a set of [administrative unit geometry files](#) for the malaria-endemic world. All these geometry sets are publicly available but the conditions attached to them prevent us from currently making them available for download from our web site. We are able to share these data [on request](#).

Links

This section is included for printed versions of this document:

General

- The MAP website: www.map.ox.ac.uk
- The Data Explorer: www.map.ox.ac.uk/explorer
- The Trends Page: www.map.ox.ac.uk/trends

Specific Data Area Pages

- Malaria Burden: www.map.ox.ac.uk/malaria-burden/
- Malaria Burden Data Download: www.map.ox.ac.uk/malaria-burden-data-download/
- Accessibility: www.map.ox.ac.uk/research-project/accessibility_to_cities/
- Parasite Rate Surveys: www.map.ox.ac.uk/pr-survey-data/
- Routine Surveillance Data: www.map.ox.ac.uk/surveillance-data/
- Covariate Data: www.map.ox.ac.uk/data-project/covariates/
- Administrative Units: www.map.ox.ac.uk/data-project/administrative-boundaries/
- Vector Bionomics: www.map.ox.ac.uk/bionomics