

# Google Earth Engine App and Code Editor Walkthrough

## Ethiopia Environmental Data Download Tool

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For the use in the EPIDEMIA Forecasting System, we have developed two Google Earth Engine (GEE) tools for downloading Ethiopia-wide environmental data that has been summarized by worda: an app (Section [1](#)) and a script for use in the Code Editor (Section [2](#)).

### 1 Google Earth Engine App

The GEE app is for short time ranges (under two months) and does not require a GEE account:

<https://dawneko.users.earthengine.app/view/epidemiarethiopia-demo>

Earth Engine Apps Experimental

Search places

### EPIDEMIA Environmental Data Downloader

Generates daily environmental data summarized by worda, for use in the EPIDEMIA R system for forecasting malaria. Version 3.1b-ETH.

1 Access to Code Editor version (must have authorized Google account)

1. Enter a date range to download data. Download limit is 2 months at one time.

Start Date for Summary (YYYY-MM-DD):

2 End Date for Summary (YYYY-MM-DD):

2. Calculate environmental variables for selected dates:

Click to summarize (will take several seconds, please be patient)

Map of Ethiopia showing administrative boundaries and place names. Map data ©2020 Google. 50 km scale bar. Terms of Use.

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## Step 1

Enter the start and end dates of the environmental data you wish to download. The start date cannot be more than 2 months before the end date. If the end date is very recent, there may not be updated environmental data all the way to the end date, but it will automatically give the data up to the latest available.

## Step 2

Click on the button that says, “Click to summarize”. After clicking, this step will take a few moments while GEE is processing.

When it has finished processing, new options will become available:

The screenshot shows the Google Earth Engine App interface. The top bar includes the 'Earth Engine Apps' logo, a search bar, and a red 'Optional' button. The main map area displays a satellite view of Ethiopia. On the left sidebar, there are instructions for entering a date range to download data. The 'Start Date for Summary' is set to '2020-07-31' and the 'End Date for Summary' is set to '2020-08-28'. Below this, there is an 'Optional' section with a '(Current)' button and a date selector for August 2020. The 'Number of days selected' is 29. At the bottom of the sidebar, there is a button labeled '3. Get download links for woreda summary CSV files'. A red arrow points to the 'Optional' button in the top bar. Another red arrow points to the 'Layers' menu in the top right corner of the map. A third red arrow points to the '3. Get download links for woreda summary CSV files' button in the sidebar.

## Optional steps

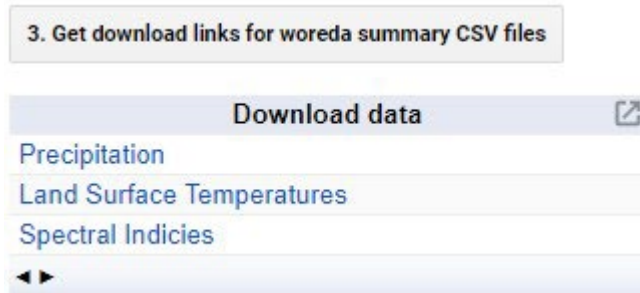
You may use the date selector to a particular day to view the environmental satellite data in the map viewer. Under the 'layer' drop down menu, you may pick which satellite-derived variable you wish to view.

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## Step 3

To download the summarized data, click on this button labeled “3. Get download links for woreda summary CSV files”. This will also take a few moments to process.

After it has finished processing, a new box will appear:



Clicking on each of the data files will cause an “Export” csv file to be downloaded from the browser. Please click one at a time.

The files will be named by the data type and date range, for example:

‘Export\_Spectral\_Data\_2020-07-21\_2020-08-08.csv’ is the spectral variables (NDVI, NDWIs, EVI, etc.) for the time range of 7 Jul 2020 to 08 Aug 2020.

Data close to the current date may not be available yet. If so, it will override the user end date and give you up to the most recent data available.





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## Step 1

Enter the full time frame desired in the “Start Date” and “End Date” fields. You can ignore the message about a 2-month limit.

## Step 2

Click on the ‘Click to Summarize’ button (which will turn into ‘(Current)’ afterwards. As in the app, you can select a day and see the satellite layer drawn in the map to the right. However, the ‘3. Get download links’ will not show for time periods longer than two months.

## Step 3

Instead, we will go to the upper-right corner of the page under “Tasks” and click on the blue “RUN” button to download the data from here. This will do the processing in the background and download the files into your Google Drive account. Depending on the time range selected this may take a few minutes to a few hours.

The files will be named by the data type and date range, for example:

“Export\_Spectral\_Data\_2010-08-04\_2020-08-08.csv” is the spectral variables (NDVI, NDWIs, EVI, etc.) starting 4 Aug 2010 through 8 Aug 2020.

Data close to the current date may not be available yet. If so, it will override the user end date and give you up to the most recent data available.