

COVID-19

EJERCICIO DE MODELAJE DE COVID-19

Una guía “paso a paso” para calcular el R_t con EpiEstim

PAHO



Pan American
Health
Organization



World Health
Organization
REGIONAL OFFICE FOR THE
Americas

BE AWARE. PREPARE. ACT.

www.paho.org/coronavirus

COVID-19

Cáculo del R_t con **EpiEstim**

→ Ir a <https://harvardanalytics.shinyapps.io/covid19/>

COVID-19

Paso 1:

Prepare la incidencia diaria de casos de su región/área/país en un archivo con extensión .csv

1. Prepare los datos de incidencia diaria de casos para la región/área/país que quiere estudiar en dos columnas : “dates” and “I”;
2. Guarde el archivo bajo la extensión formato .csv

	A	B	C
1	dates	I	
2	28/02/2020	2	
3	29/02/2020	0	
4	01/03/2020	0	
5	02/03/2020	3	
6	03/03/2020	0	
7	04/03/2020	0	
8	05/03/2020	0	
9	06/03/2020	0	
10	07/03/2020	0	
11	08/03/2020	2	
12	09/03/2020	0	
13	10/03/2020	0	
14	11/03/2020	0	
15	12/03/2020	4	
16	13/03/2020	1	
17	14/03/2020	14	
18	15/03/2020	15	
19	16/03/2020	12	
20	17/03/2020	29	
21	18/03/2020	11	
22	19/03/2020	25	
23	20/03/2020	46	
24	21/03/2020	0	
25	22/03/2020	0	
26	23/03/2020	87	
27	24/03/2020	119	
28	25/03/2020	0	
29	26/03/2020	108	
30	27/03/2020	0	
31	28/03/2020	111	
32	29/03/2020	128	
33	30/03/2020	131	
34	31/03/2020	145	
35	01/04/2020	101	

COVID-19

Paso 2:

Cargue el archivo .csv

The screenshot shows the 'COVID-19 Estimator' web application. On the left, there is a 'Choose CSV File' section with a 'Browse...' button and 'No file selected' text. Below this are settings for 'Toggle Settings for uploading CSV' (Header checked, Separator: Comma, Quote: Double Quote) and 'Toggle Settings for viewing results' (Display: Head). The main content area has tabs for 'Welcome', 'Graphs', and 'Statistics'. The title is 'COVID-19 Estimator'. Below the title, there is a list of results: '1. Epidemic curves (number of incidents) as a function of time t' and '2. Estimated R (Rate of transmission) as a function of time t with 95% confidence interval, $\mu_{si} = 4.8$ and standard deviation $\sigma_{si} = 2.3$ '. A red arrow points from the 'Browse...' button to a blue-bordered box containing the text '1° . Buscar y cargar el achivo .csv'. Another red arrow points from this box to a second screenshot of the 'Choose CSV File' section. In this second screenshot, the 'Browse...' button is replaced by a text input field containing 'country_timeseries.csv'. Below the input field is a blue bar with the text 'Upload complete'. A red arrow points from the input field to a blue-bordered box containing the text '2° . Cuando el archivo se haya cargado, la siguiente barra aparecerá:'.

Choose CSV File

Browse... No file selected

Toggle Settings for uploading CSV

Header

Separator

Comma

Semicolon

Tab

Quote

None

Double Quote

Single Quote

Toggle Settings for viewing results

Display

Head

All

Welcome Graphs Statistics

COVID-19 Estimator

... helps countries estimate the rate of transmission of COVID-19 u...
...ally produces the following results:

1. Epidemic curves (number of incidents) as a function of time t
2. Estimated R (Rate of transmission) as a function of time t with 95% confidence interval, $\mu_{si} = 4.8$ and standard deviation $\sigma_{si} = 2.3$

COVID-19 Estimator is available for all countries to use. It is part of the World Health Organization's efforts addressing the COVID-19 epidemic.

1° . Buscar y cargar el achivo .csv

2° . Cuando el archivo se haya cargado, la siguiente barra aparecerá:

Choose CSV File

Browse... country_timeseries.csv

Upload complete

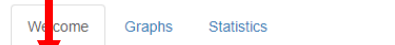
COVID-19

Paso 3:



COVID-19 Estimator

Verifique la pestaña de “bienvenida”



COVID-19 Estimator

This is an interface that helps countries estimate the rate of

This interface dynamically produces the following results:

1. Epidemic curves (number of incidents) as a function c
2. Estimated R (Rate of transmission) as a function of time t
 $\mu_{st} = 4.8$ and standard deviation $\sigma_{st} = 2.3$

COVID-19 Estimator is available for all countries to use. It is addressing the COVID-19 epidemic.

Getting Started

To begin, simply click [Browse...](#) and upload a CSV file (coronavirus_data.csv)

Note that the CSV must contain dates in the first column and the format can be downloaded below.

[Download Sample COVID-19 CSV File](#)

Uploaded File

dates	1
28/02/2020	2
29/02/2020	0

En la pestaña de “bienvenida” aparecerán los supuestos y el archivo cargado.

COVID-19

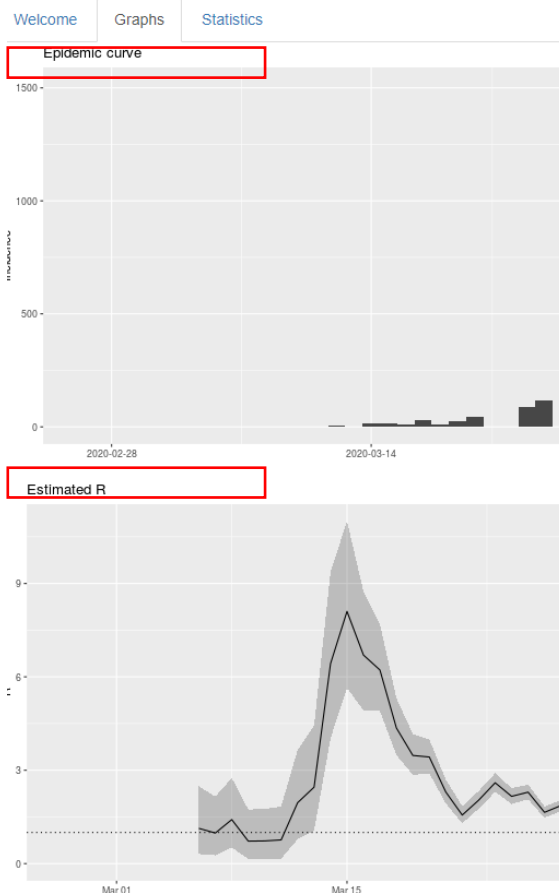
Welcome

Graphs

Statistics

COVID-19 Estimator

En la pestaña “graphs” aparecerán los gráficos de la epicurva y de la fluctuación de la Rt.



Paso 4:

Verifique la pestaña “graphs”

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Paso 5:

Welcome

Graphs

Statistics

COVID-19 Estimator

Verifique la pestaña "statistics"

- En la pestaña "statistics" aparecerá la R_t calculada.
- Este es el número que necesitará usar para las proyecciones con CovidSIM.

Welcome Graphs **Statistics**

Summary Statistics

The current rate of transmission is estimated to be
1.26896398090852

t_start	t_end	Mean(R)	Std(R)	Quantile.0.025(R)
2.00	8.00	1.13	0.57	0.31
3.00	9.00	0.98	0.49	0.27
4.00	10.00	1.41	0.58	0.52
5.00	11.00	0.72	0.42	0.15
6.00	12.00	0.73	0.42	0.15
7.00	13.00	0.76	0.44	0.16

[Download Summary Statistics of Transmission Rates](#)

COVID-19

harvardanalytics.shinyapps.io/covid19/

World Health Organization

Choose CSV File

Browse... Mexico_timeseries.csv

Upload complete

Toggle Settings for uploading CSV

Header

Separator

Comma

Semicolon

Tab

Quote

None

Double Quote

Single Quote

Toggle Settings for viewing results

Display

Head

All

Welcome Graphs Statistics

COVID-19 Estimator

This is an interface that helps countries estimate the rate of transmission of COVID-19 using the number of reported cases on specific dates.

This interface dynamically produces the following results:

1. Epidemic curves (number of incidents) as a function of time t
2. Estimated R (Rate of transmission) as a function of time t with 95% confidence intervals. This is calculated using sliding weekly windows, with a parametric serial interval based on a mean of $\mu_{SI} = 4.8$ and standard deviation $\sigma_{SI} = 2.3$

COVID-19 Estimator is available for all countries to use. It is part of the World Health Organization's efforts to help countries successfully monitor transmission rates and prescribe public policies addressing the COVID-19 epidemic.

Getting Started

To begin, simply click **Browse...** and upload a CSV file (comma-separated values) in the sidebar panel on the left.

Note that the CSV must contain dates in the first column and number of incidents in the second column. Note that dates must be written in the order of **Day/Month/Year**. A sample CSV in a correct format can be downloaded below.

[Download Sample COVID-19 CSV File](#)

Uploaded File

dates	I
28/02/2020	2
29/02/2020	0
01/03/2020	0
02/03/2020	3
03/03/2020	0
04/03/2020	0

Gracias

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