

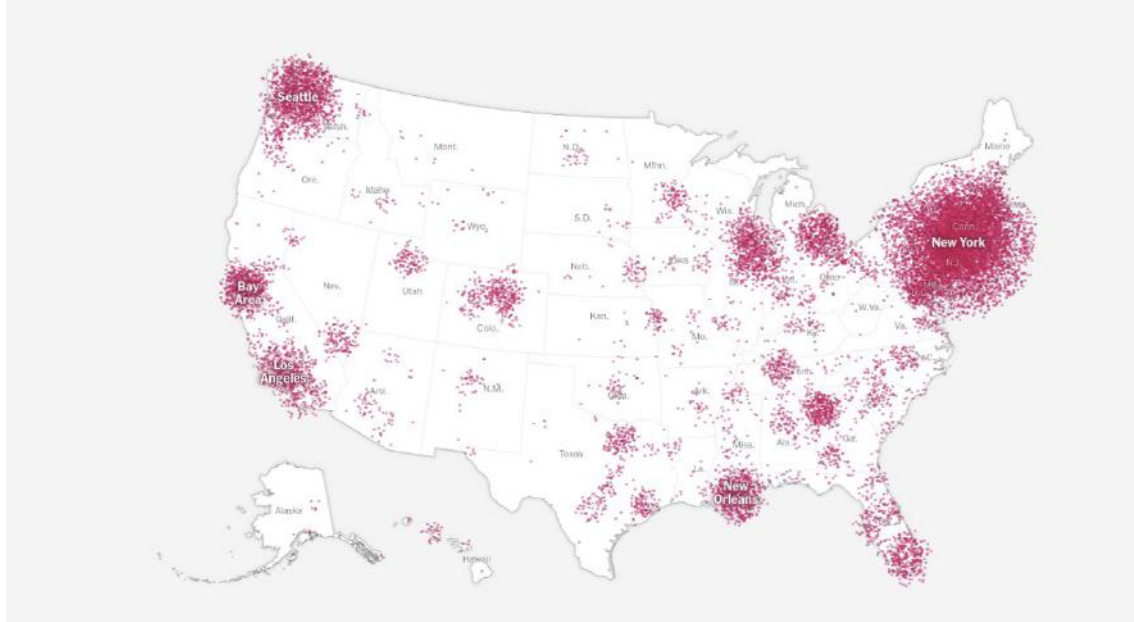
Corona-Vis: Covid-19 around the world

Expansion of COVID-19



New York Times, covid-19 China.

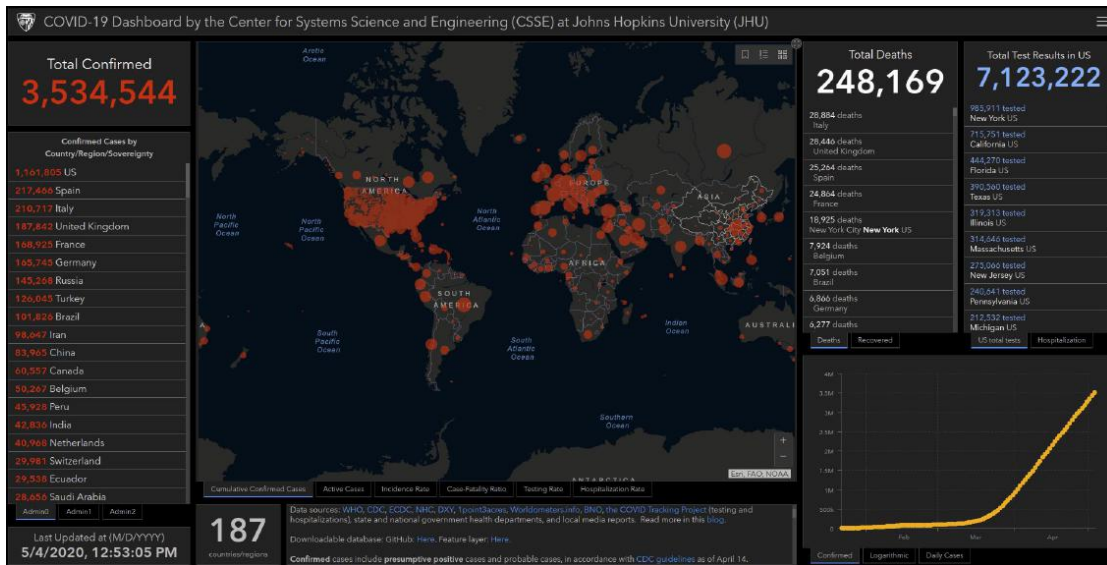
Expansion of COVID-19



New York Times, covid-19 EEUU.

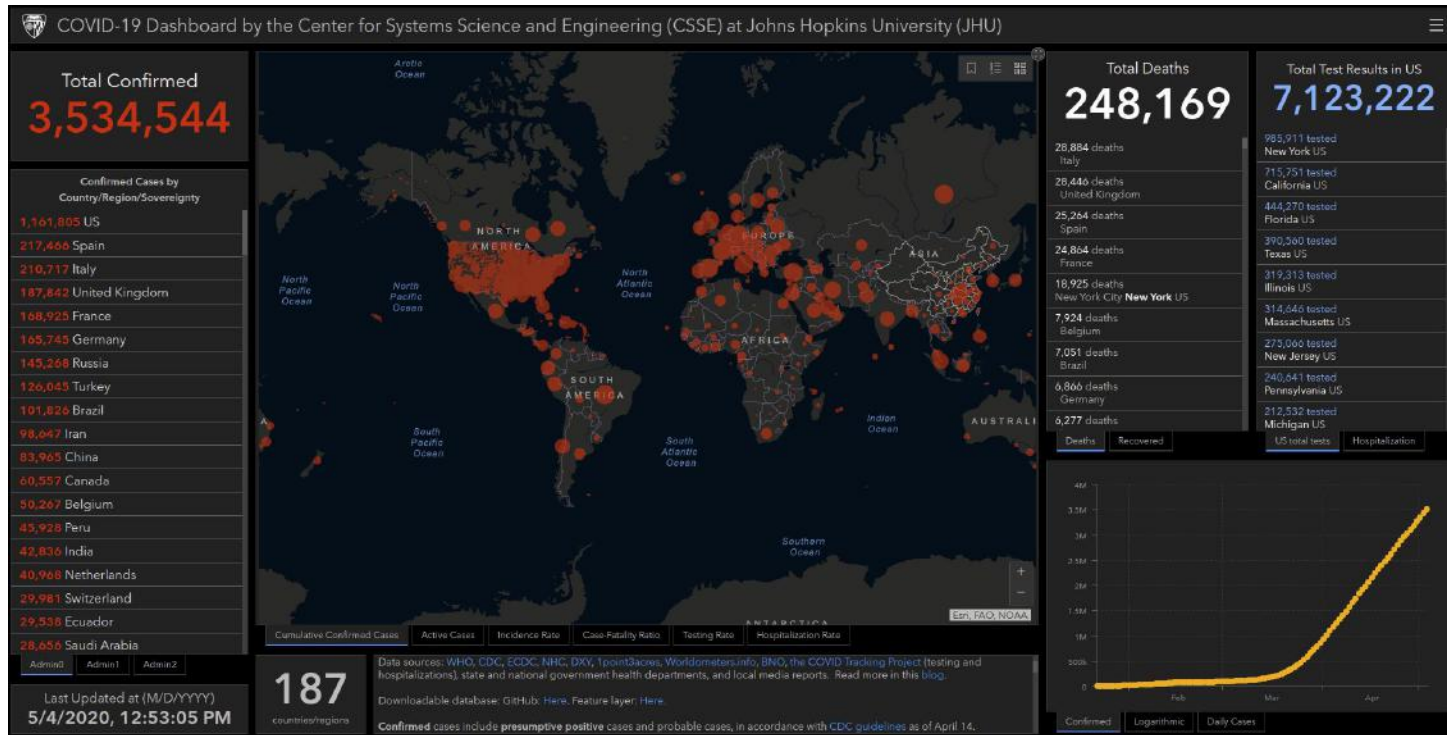
Data Source

- World Health Organization (WHO)
- China CDC (CCDC)
- US CDC
- New York State Department of Health
- DXY.cn. Pneumonia. 2020
- COVID Tracking Project



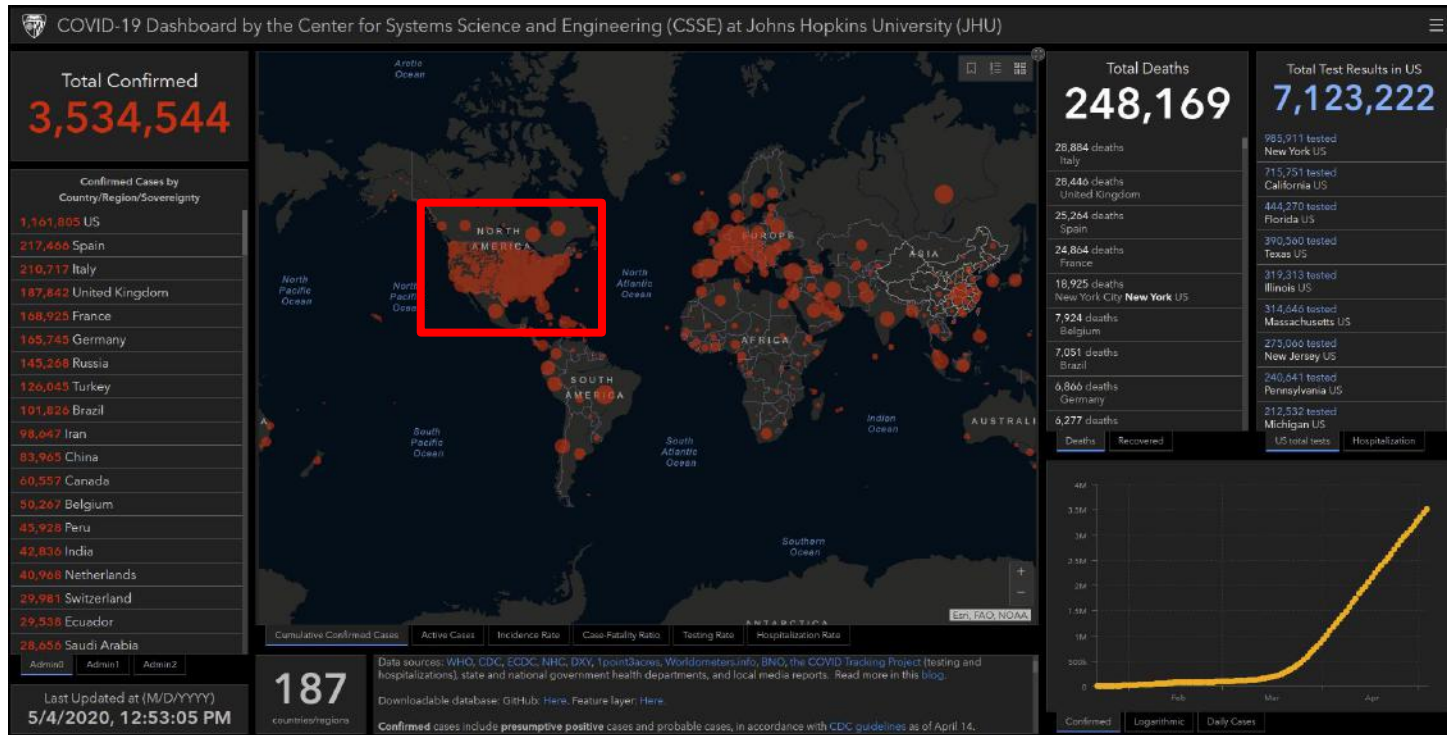
Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

Visualization Problems



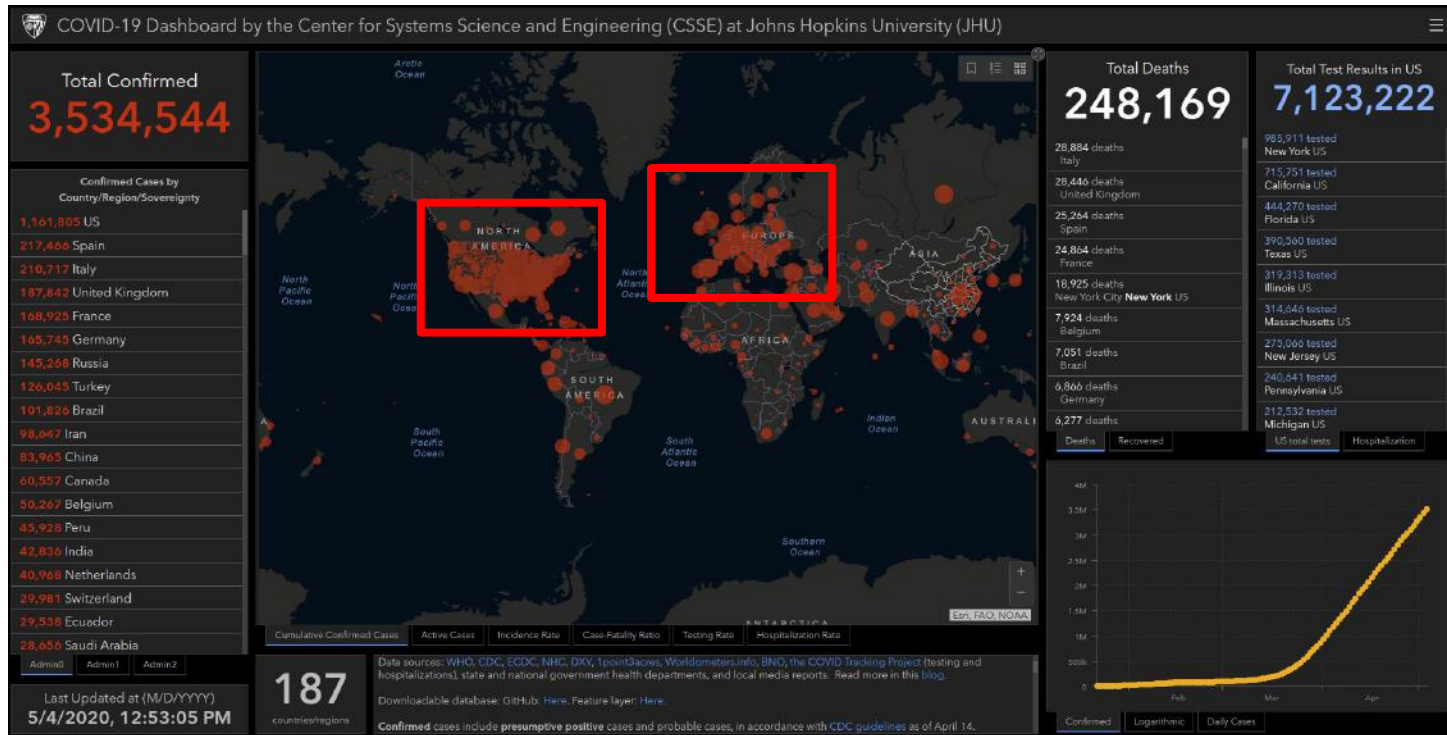
Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

Visualization Problems



Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

Visualization Problems



Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

Visualization System

Coronavirus en Perú By vizuniga and freemove

Total Confirmados

1414

Casos confirmados por departamento

1059 Lima

72 Loreto

40 Callao

38 Cusco

37 Lambayeque

34 La Libertad

30 Arequipa

27 Piura

17 Junín

15 Áncash

15 Tumbes

8 Ica

6 Huánuco

6 San Martín

3 Cajamarca

3 Tacna

1 Ayacucho

1 Huancaavelica

1 Madre de Dios

1 Pasco

0 Amazonas

0 Apurímac

0 Moquegua

0 Puno

Casos confirmados por departamento

Lima 1059

Loreto 72

Callao 40

Cusco 38

Lambayeque 37

La Libertad 34

Arequipa 30

Piura 27

Junín 17

Áncash 15

Tumbes 15

Ica 8

Huánuco 6

San Martín 6

Cajamarca 3

Tacna 3

Ayacucho 1

Huancaavelica 1

Madre de Dios 1

Pasco 1

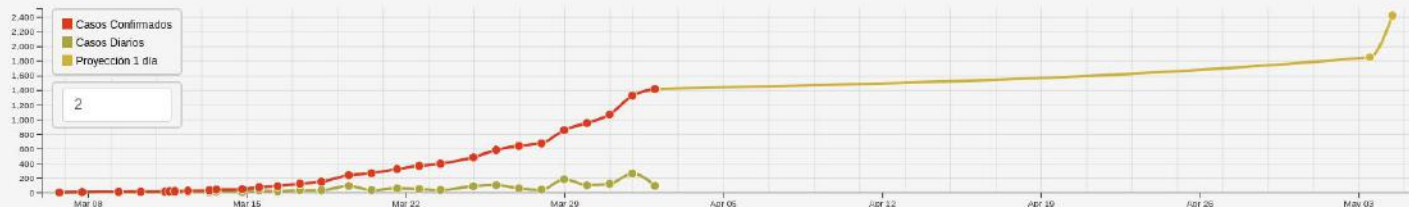
Amazonas 0

Apurímac 0

Moquegua 0

Puno 0

Ucayali 0



Visualization System

Coronavirus en Perú By vizuniga and freemove

Total Confirmados

1414

Casos confirmados por departamento

1059 Lima

72 Loreto

40 Callao

38 Cusco

37 Lambayeque

34 La Libertad

30 Arequipa

27 Piura

17 Junín

15 Áncash

15 Tumbes

8 Ica

6 Huánuco

6 San Martín

3 Cajamarca

3 Tacna

1 Ayacucho

1 Huancavelica

1 Madre de Dios

1 Pasco

0 Amazonas

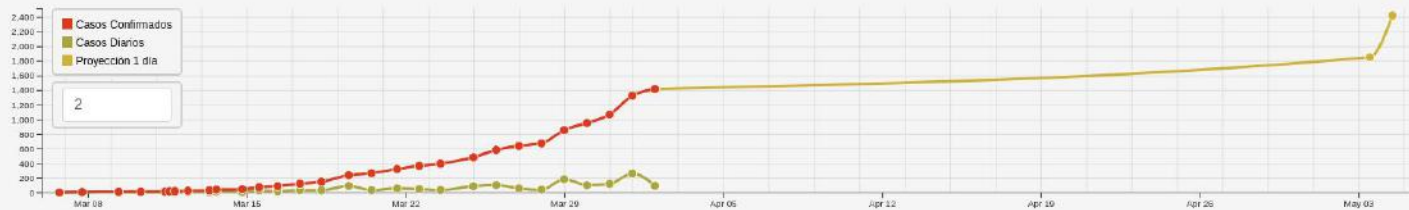
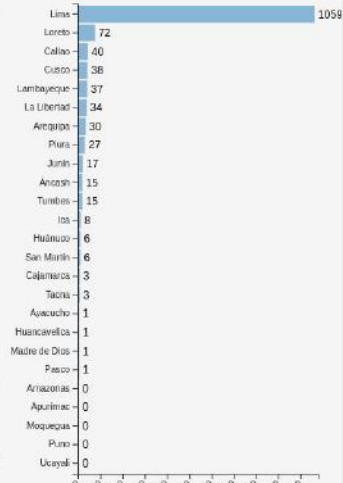
0 Apurímac

0 Moquegua

0 Puno



Casos confirmados por departamento



Visualization System

Coronavirus en Perú By vizuniga and freemove

Total Confirmados

1414

Casos confirmados por departamento

1059 Lima

72 Loreto

40 Callao

38 Cusco

37 Lambayeque

34 La Libertad

30 Arequipa

27 Piura

17 Junín

15 Áncash

15 Tumbes

8 Ica

6 Huánuco

6 San Martín

3 Cajamarca

3 Tacna

1 Ayacucho

1 Huancavelica

1 Madre de Dios

1 Pasco

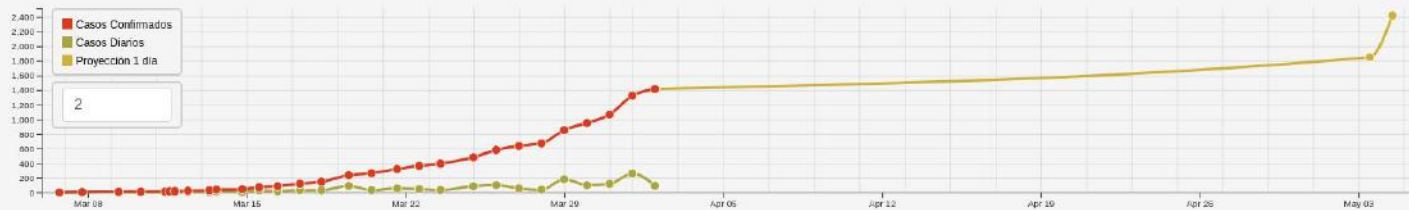
0 Amazonas

0 Apurímac

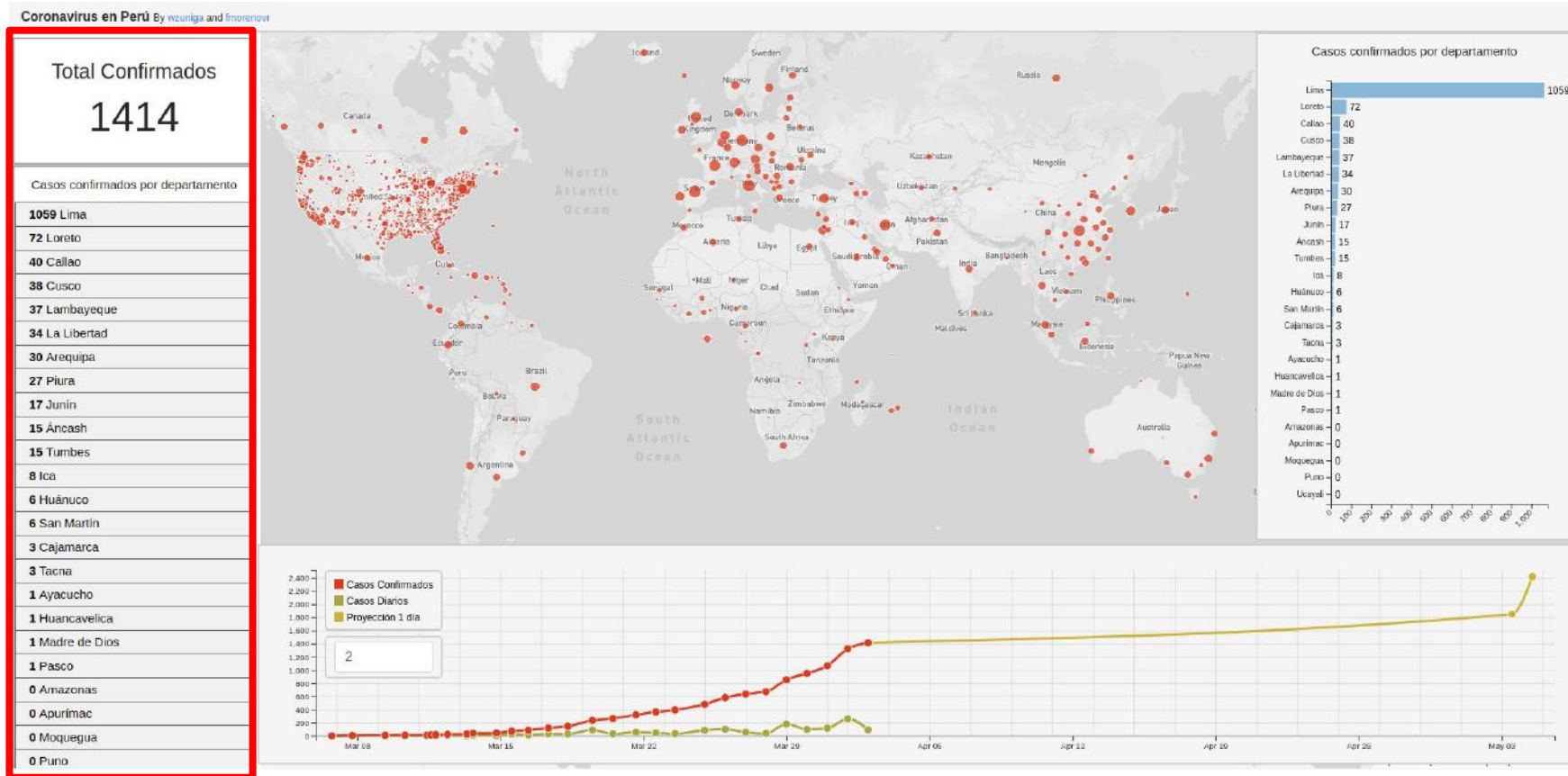
0 Moquegua

0 Puno

Casos confirmados por departamento

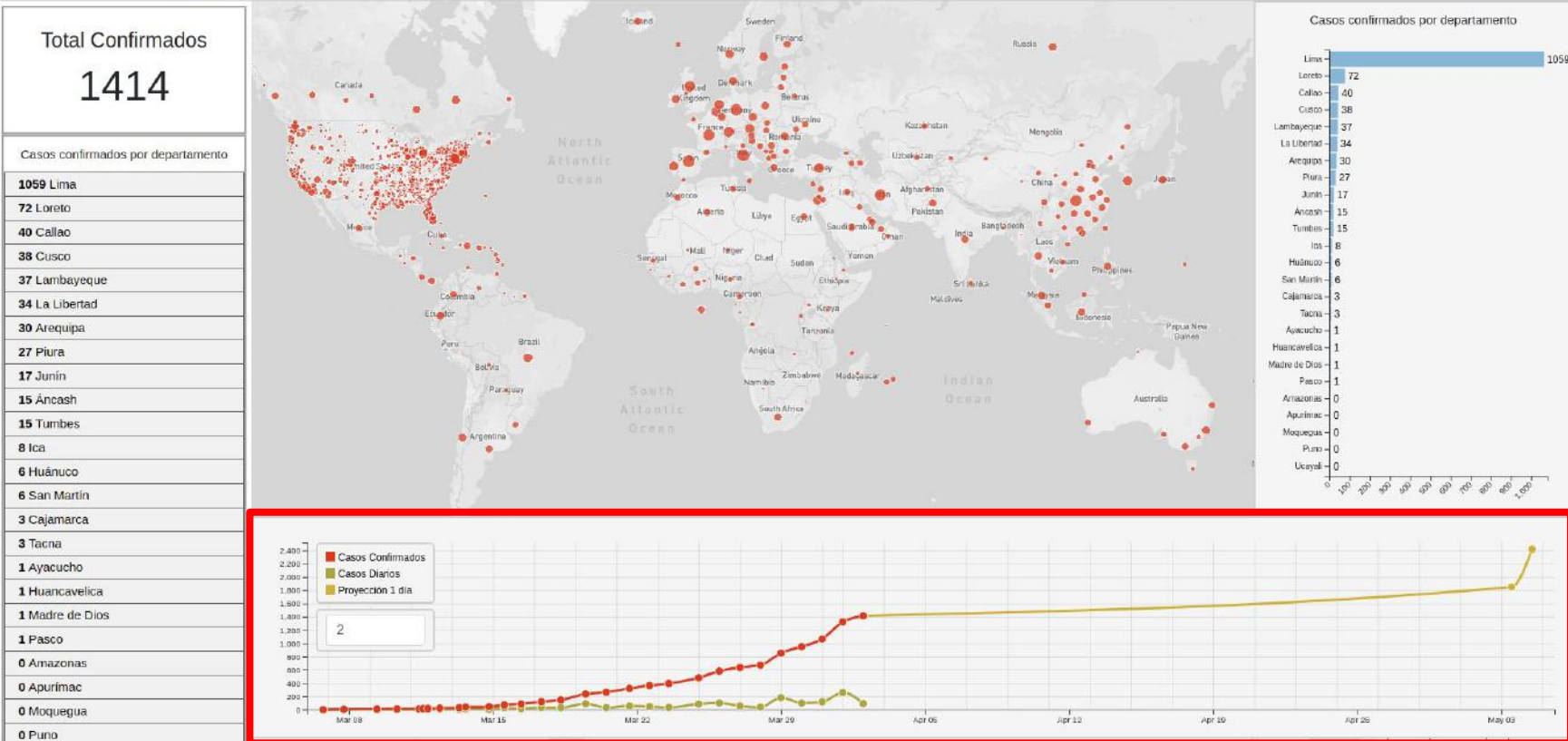


Visualization System

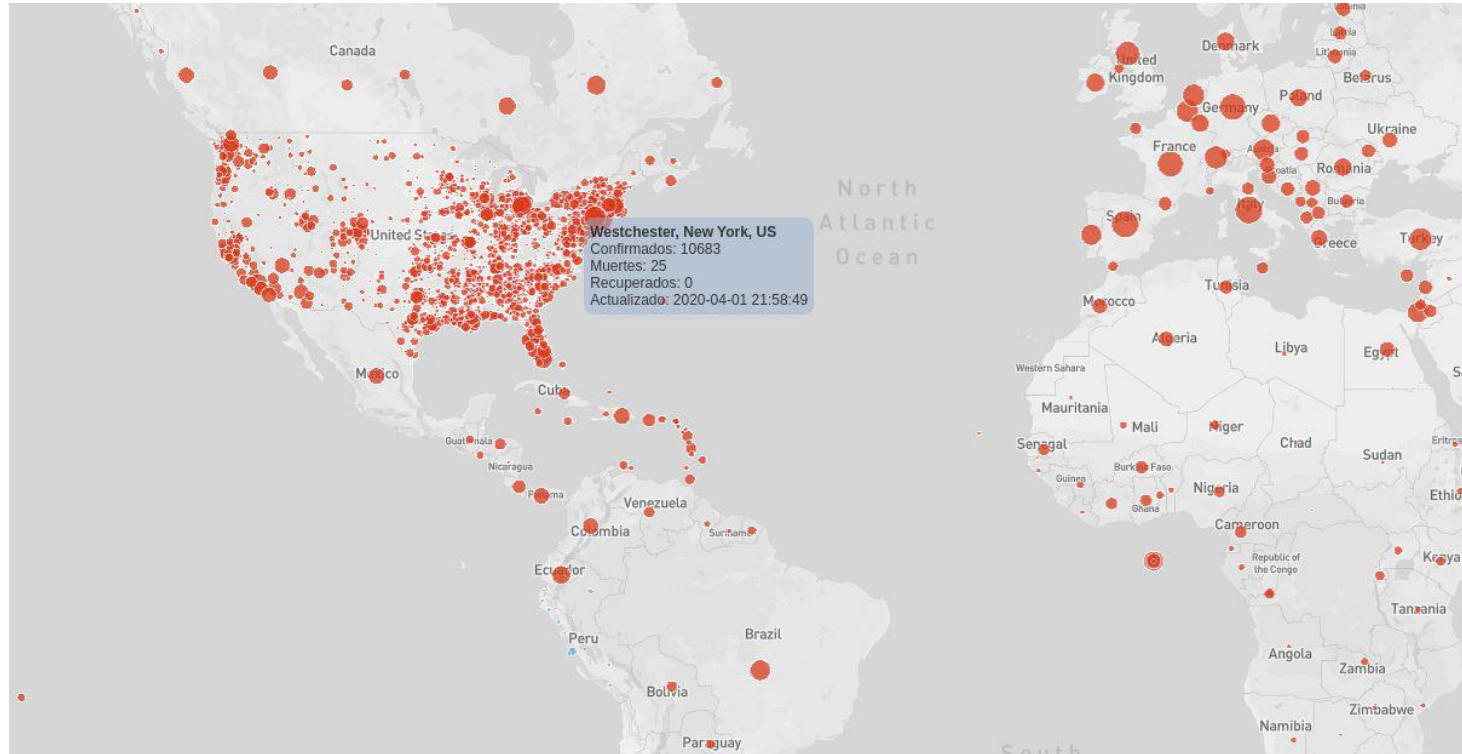


Visualization System

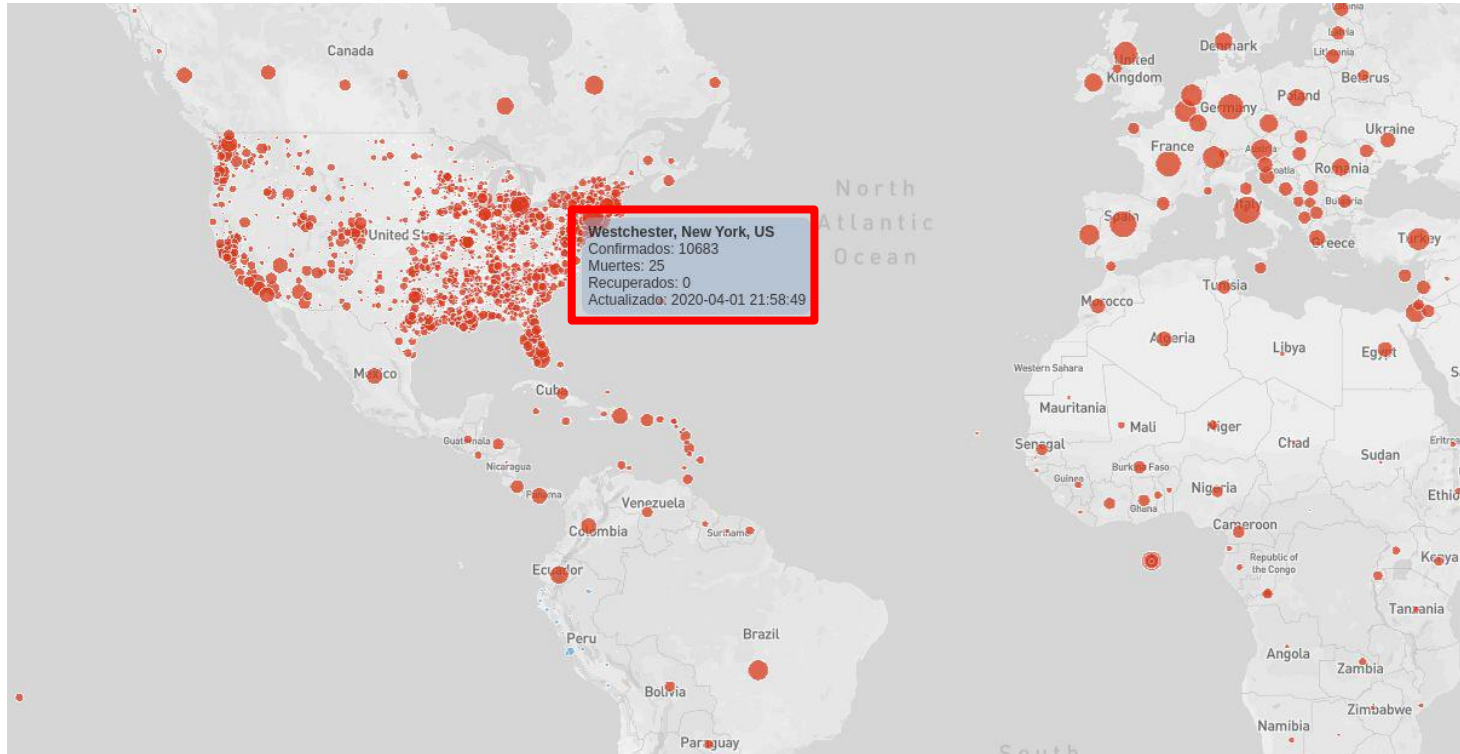
Coronavirus en Perú By vizuniga and freemove



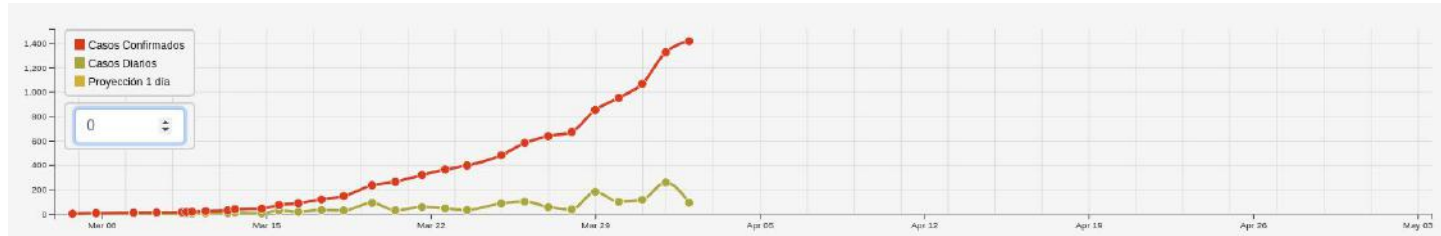
Show data



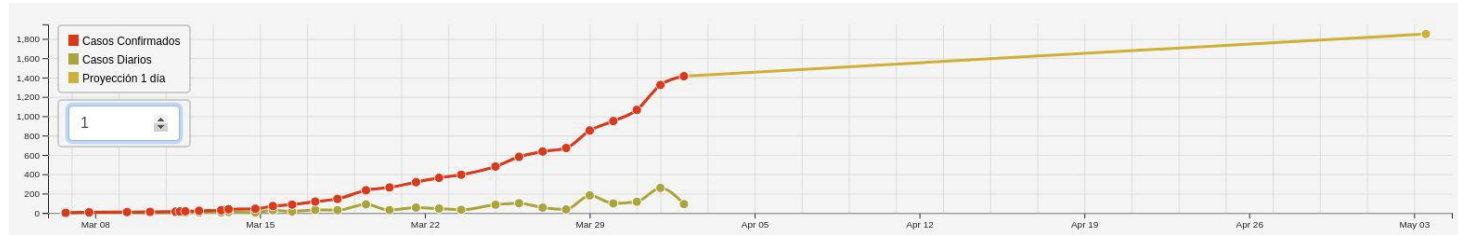
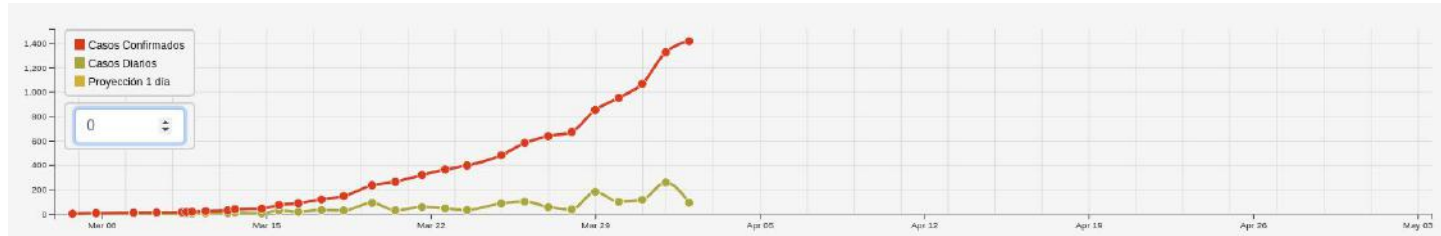
Show data



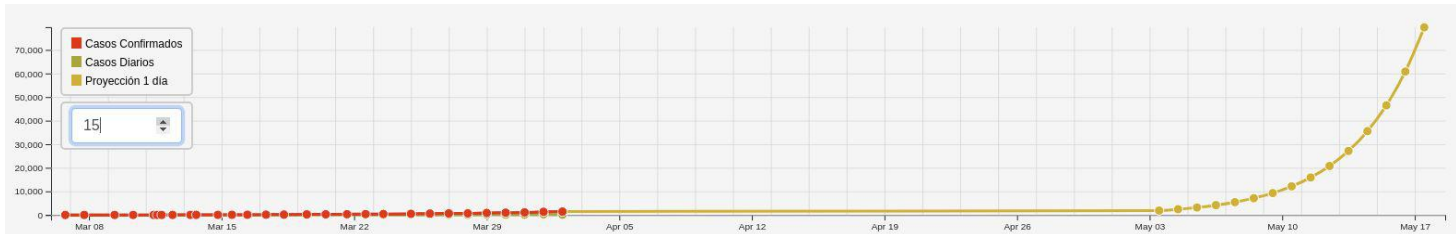
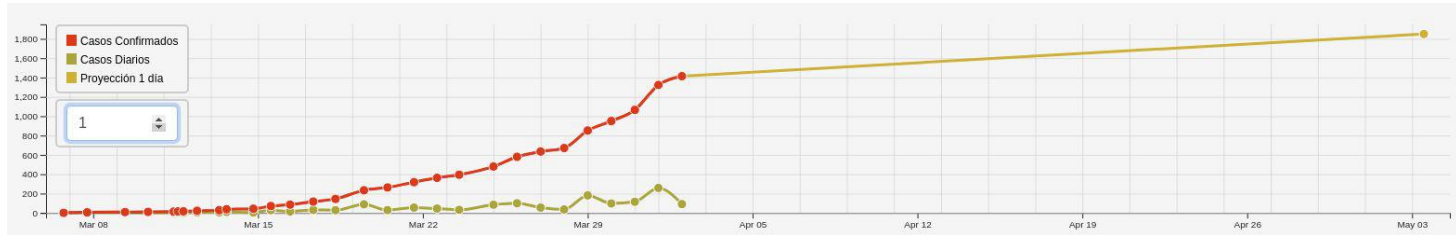
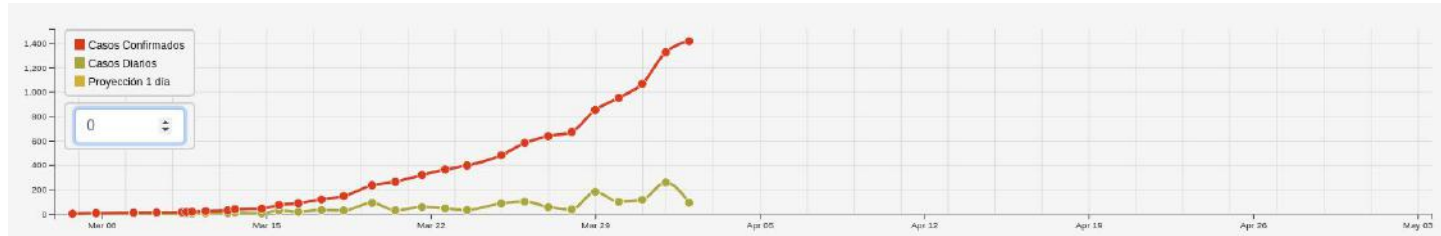
Prediction



Prediction



Prediction

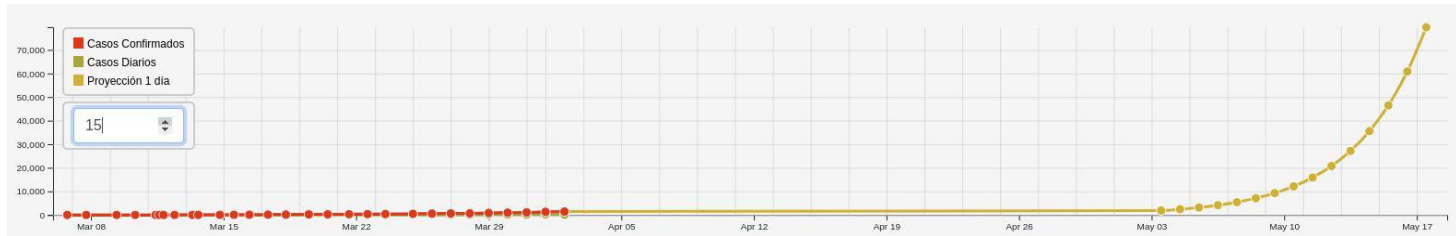


Prediction

$$P'(t) = k \cdot P(t) - n \cdot P^2(t)$$

$$P'(t) = P(t)(k - n \cdot P(t))$$

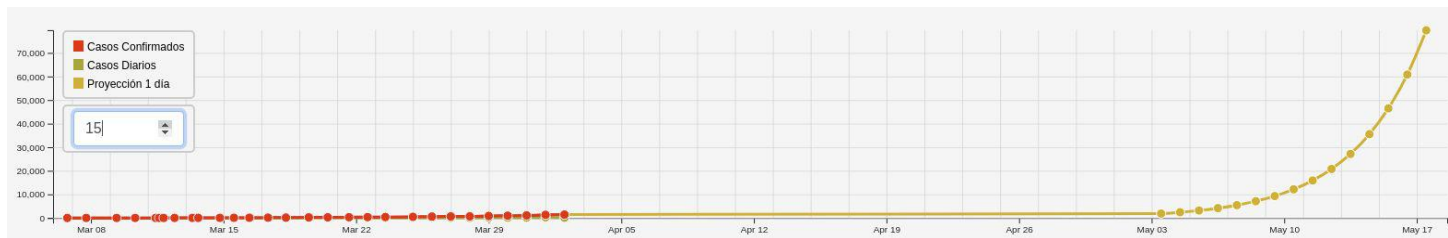
$$P'(t) = k \cdot P(t) \left(1 - \frac{n}{k} \cdot P(t)\right)$$



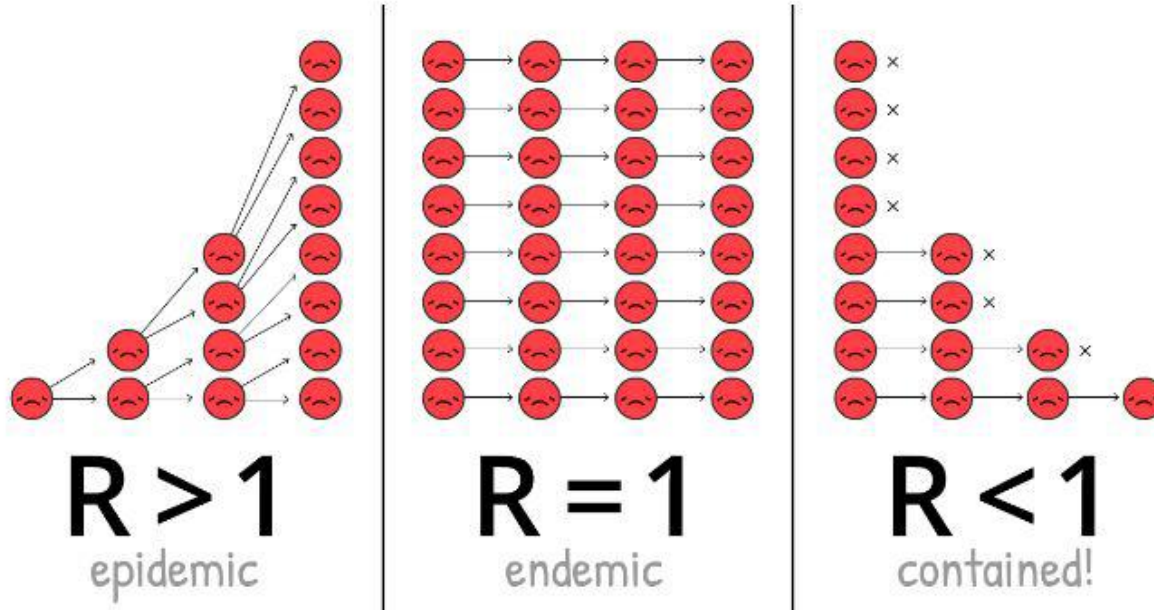
Prediction basic reproductive ratio (K) through time

$$\begin{aligned}P'(t) &= k \cdot P(t) - n \cdot P^2(t) \\P'(t) &= P(t)(k - n \cdot P(t)) \\P'(t) &= k \cdot P(t) \left(1 - \frac{n}{k} \cdot P(t)\right)\end{aligned}$$

$$P(t) = \frac{K}{1 + C e^{-kt}}$$



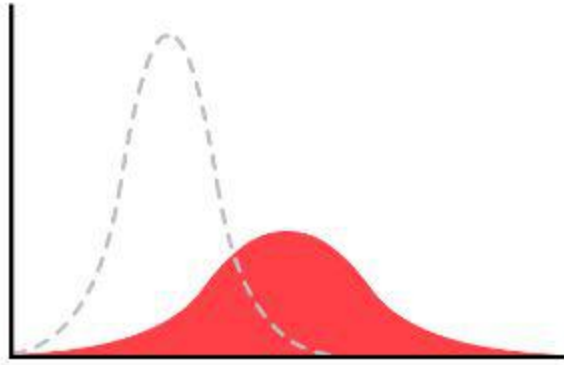
Prediction basic reproductive ratio (R) through time



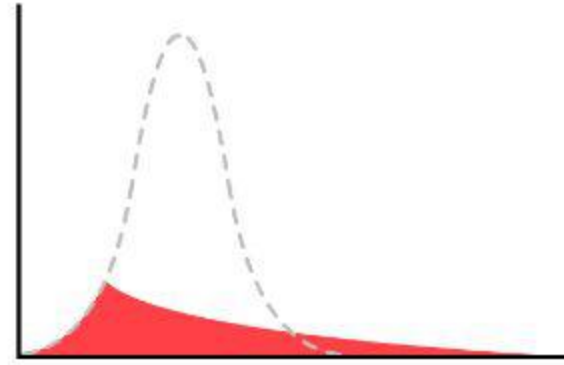
Source:

<https://ncase.me/covid-19/>

Prediction basic reproductive ratio (R) through time



Mitigation ($R > 1$)

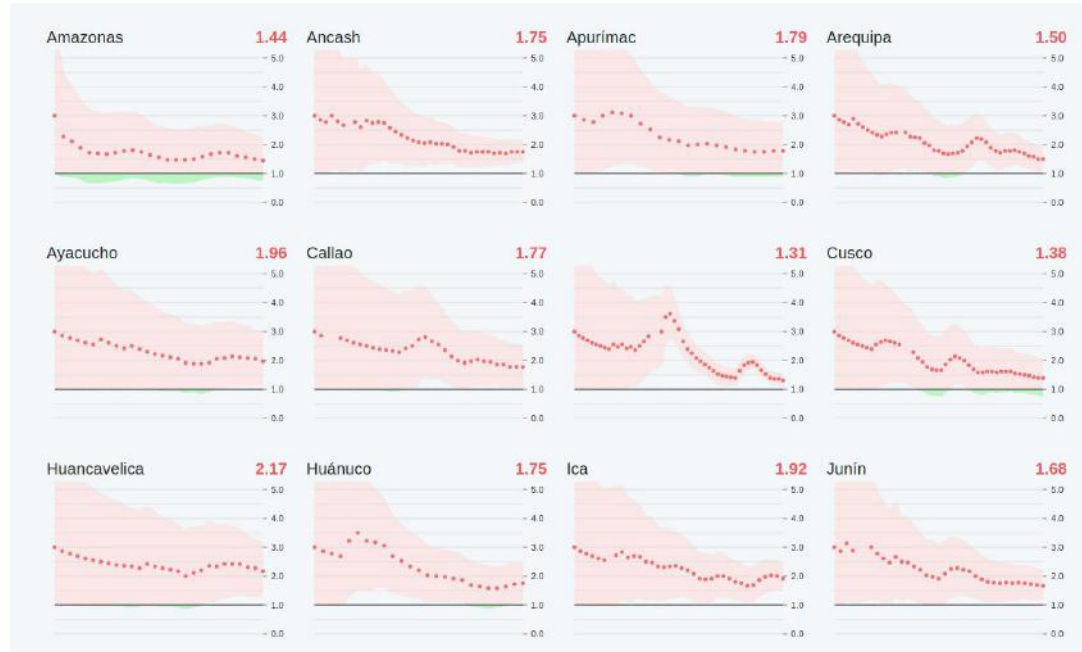


Suppression ($R < 1$)

Source:

<https://ncase.me/covid-19/>

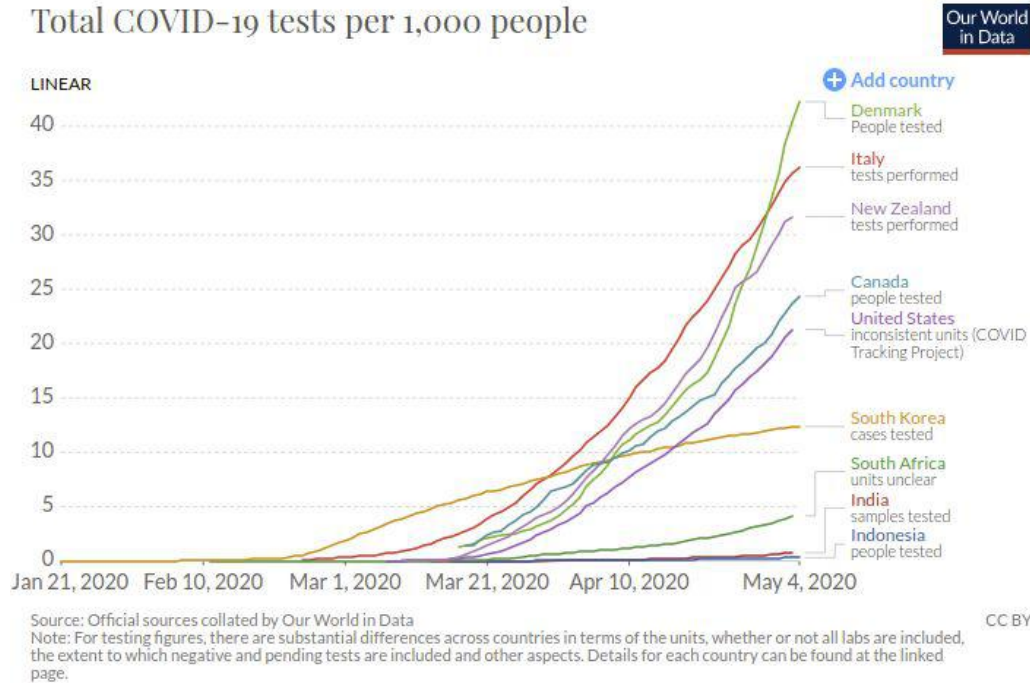
Case Example: Perú



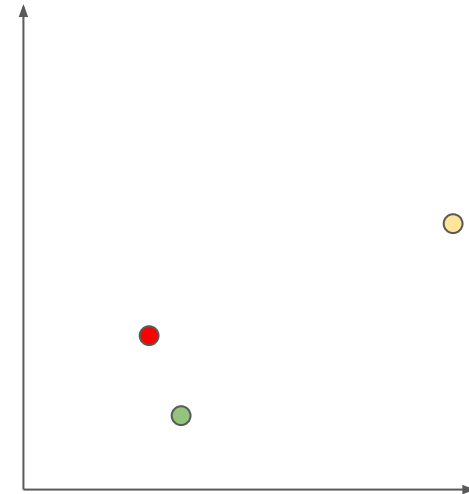
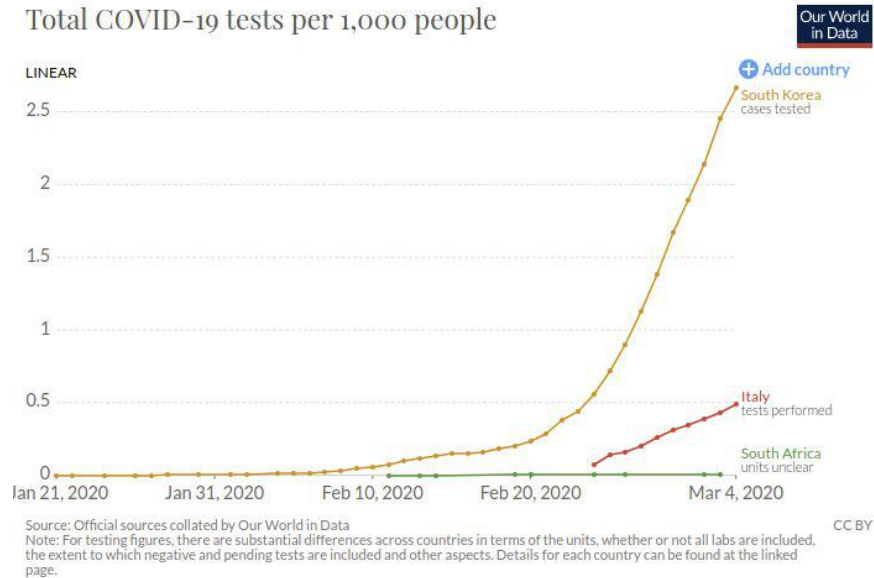
Source: <https://huaynodata.com/>

Thank you!

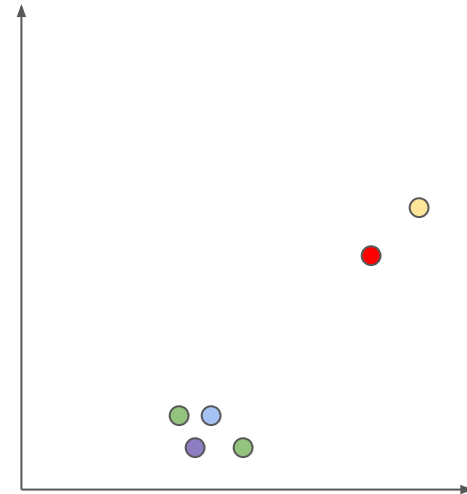
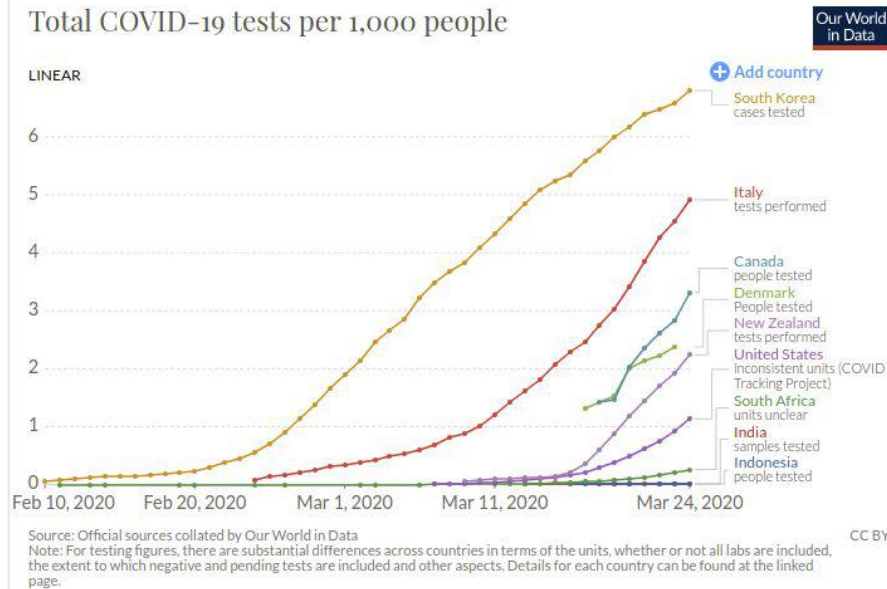
Visual Analysis



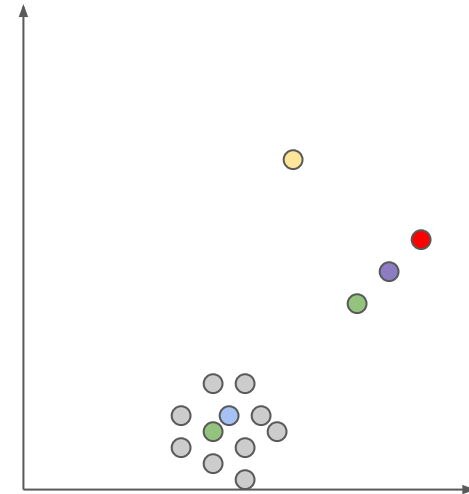
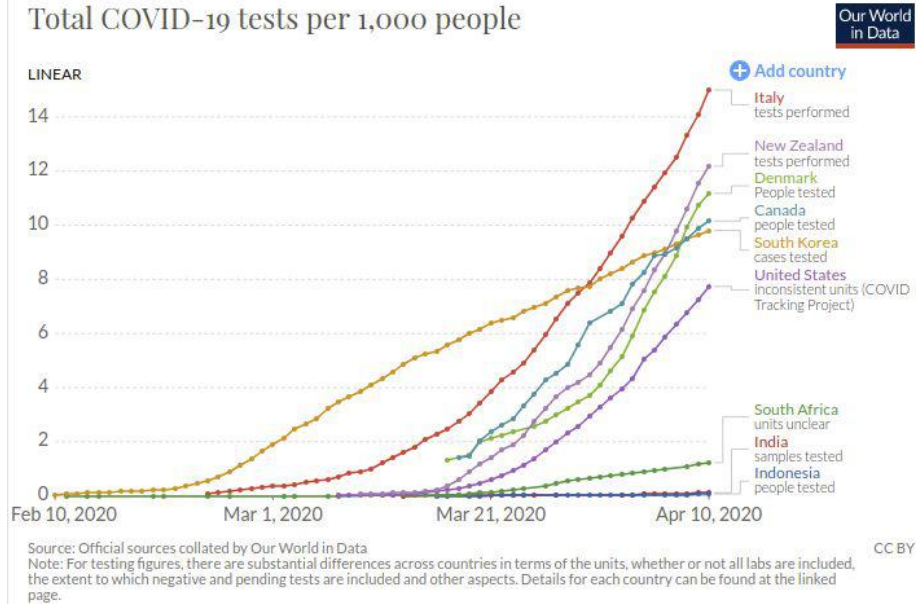
Visual Analysis



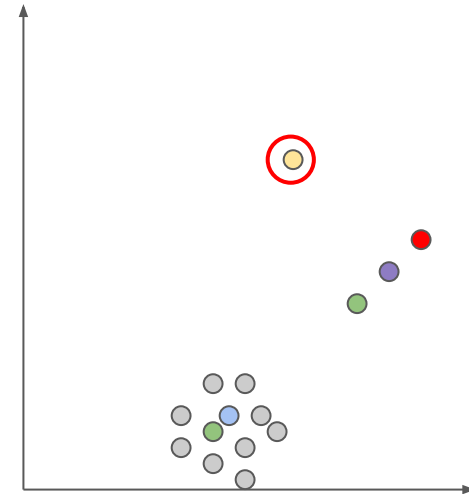
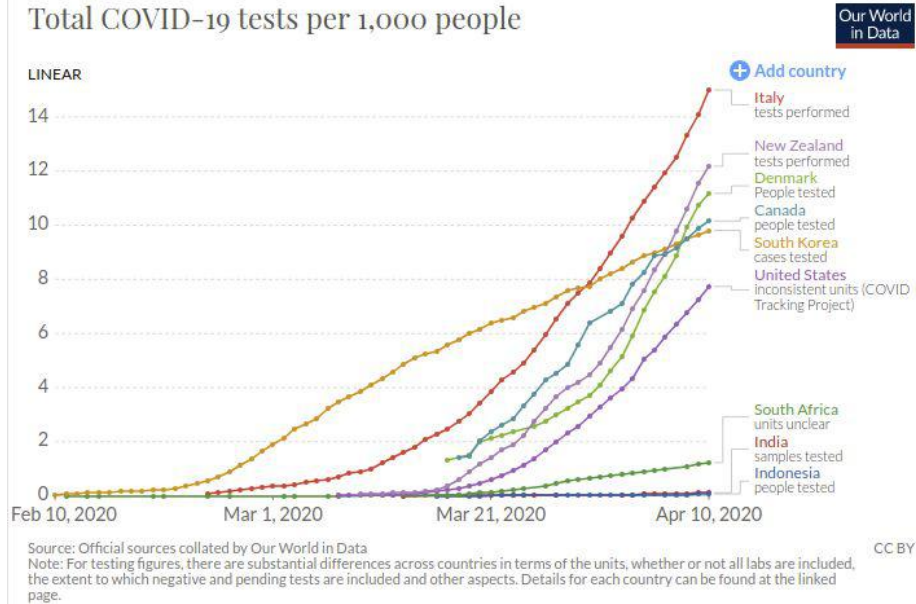
Visual Analysis



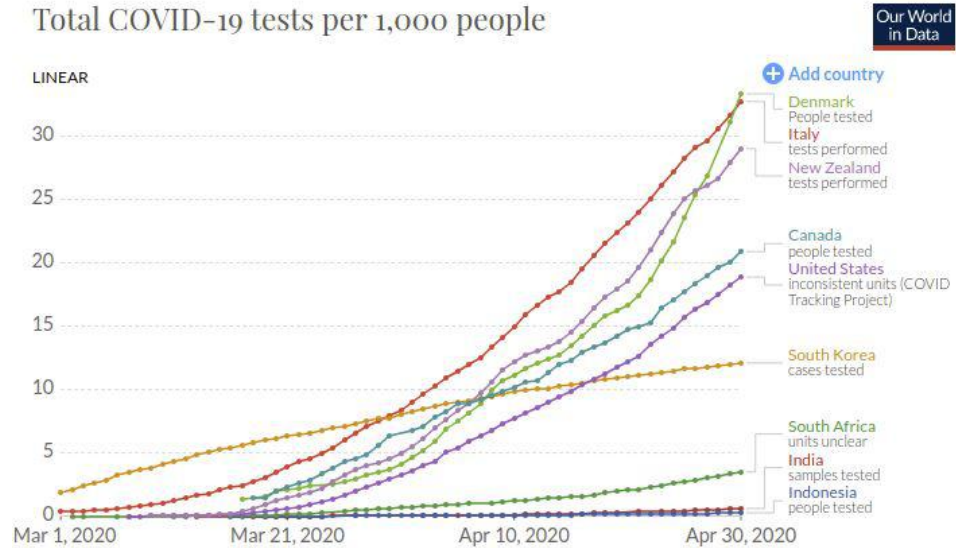
Visual Analysis



Visual Analysis



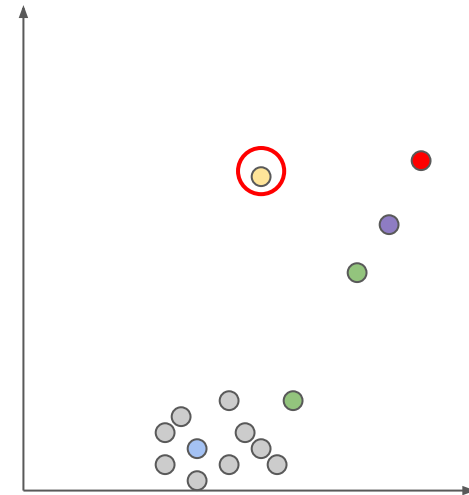
Visual Analysis



Source: Official sources collated by Our World in Data

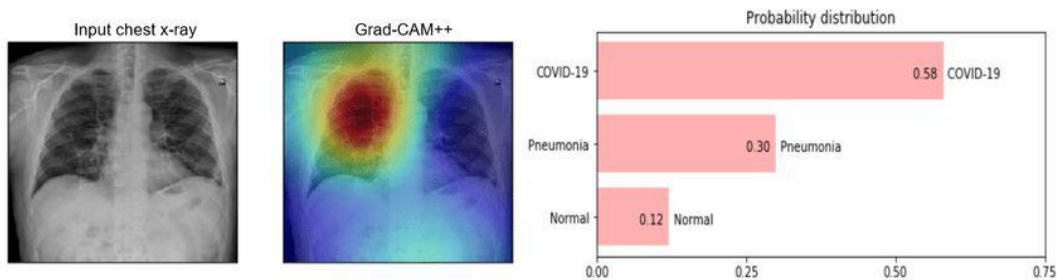
Note: For testing figures, there are substantial differences across countries in terms of the units, whether or not all labs are included, the extent to which negative and pending tests are included and other aspects. Details for each country can be found at the linked page.

CC BY



Data Source CNN

- rsna-pneumonia-detection-challenge*



Sample of simple output of our expected classifier

Source:

- * <https://www.kaggle.com/c/rsna-pneumonia-detection-challenge>
- <https://arxiv.org/pdf/2004.04582.pdf>

Visualization System

Coronavirus en Perú By vizuniga and freemove

