

Data in the COVID-19 Pandemic

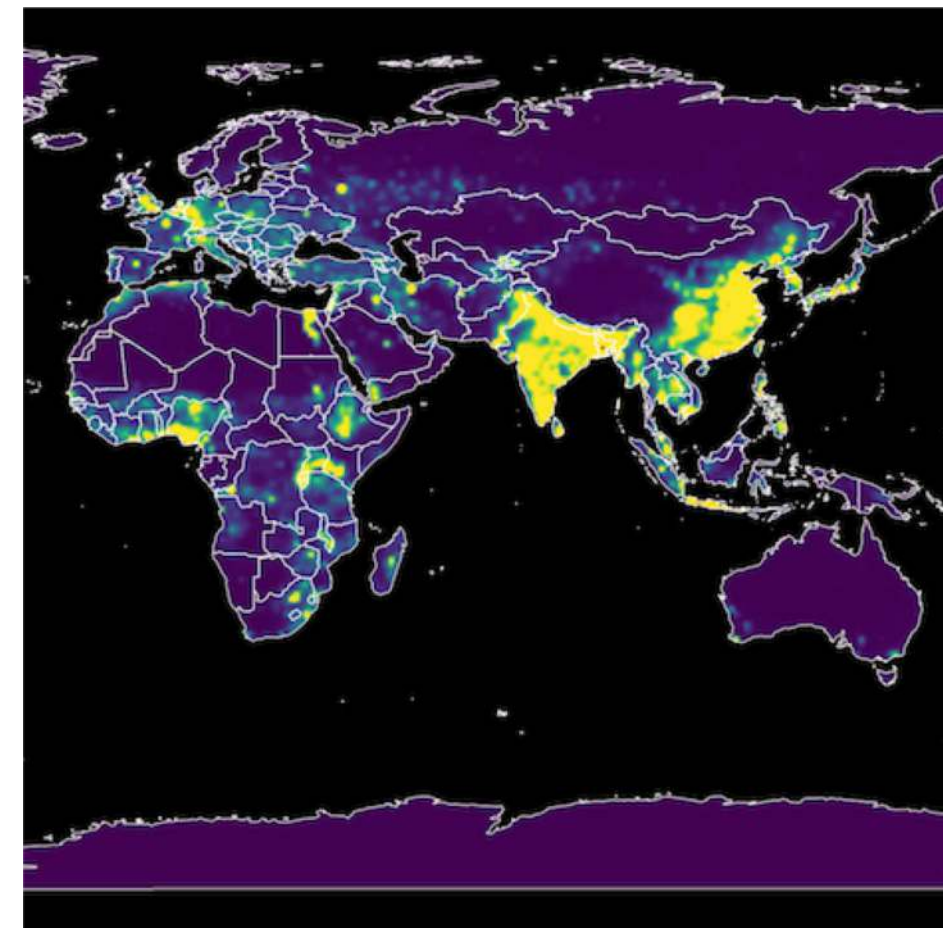
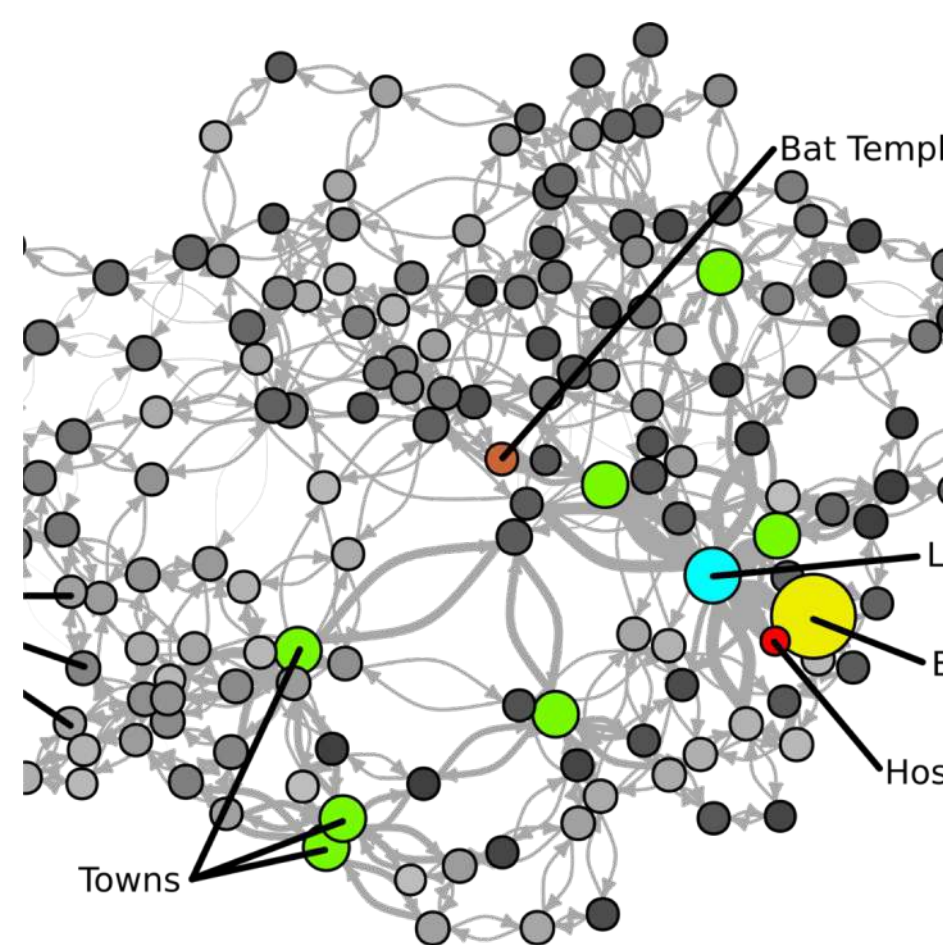
Noam Ross
Stanford COVID-19 Data Forum
2020-05-14

noamross @   



EcoHealth Alliance





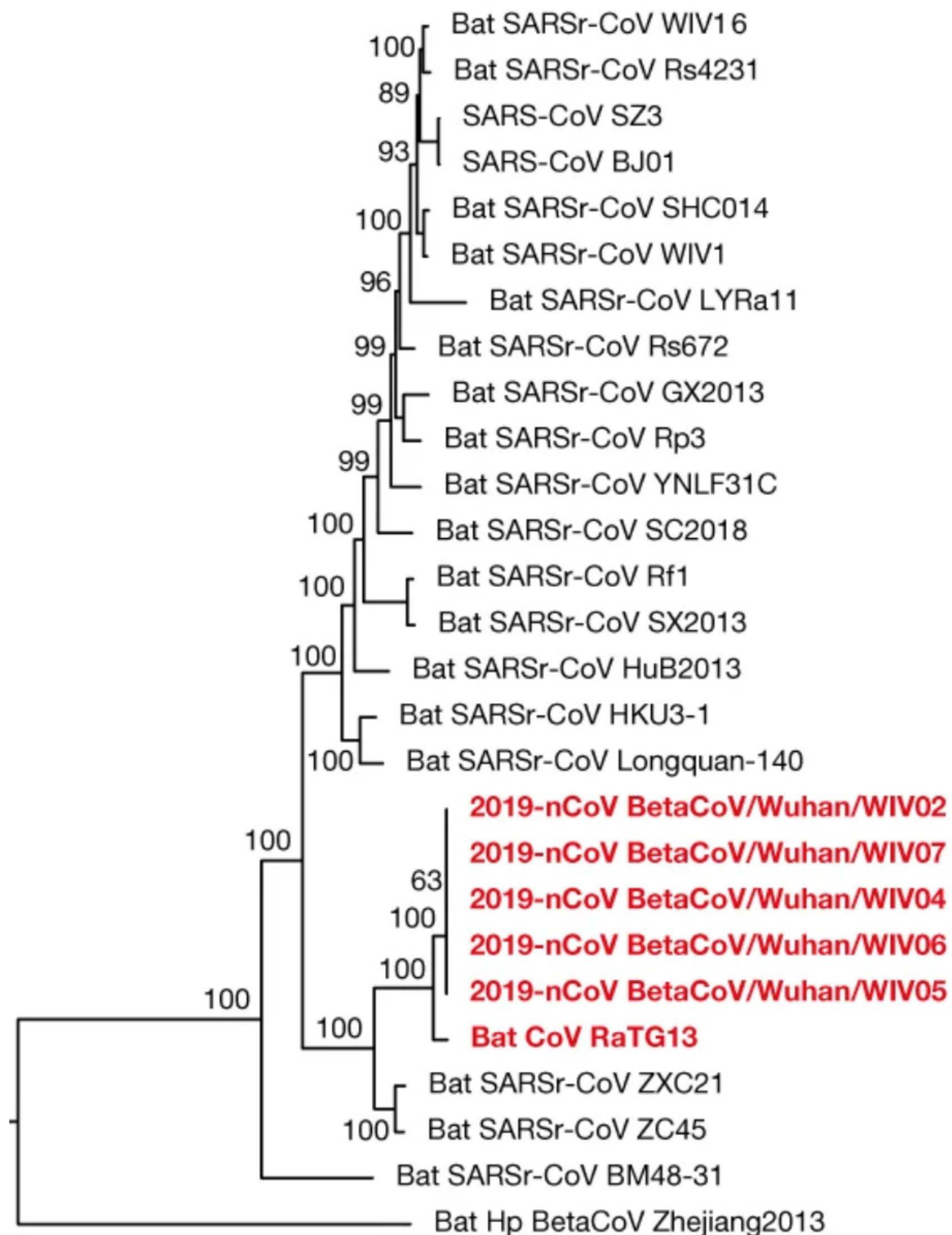
EcoHealth
Alliance

@EcoHealthNYC ecohealthalliance.org



Building technical and community
infrastructure for R to support
open, reproducible science

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Article | [Open Access](#) | Published: 03 February 2020

A pneumonia outbreak associated with a new coronavirus of probable bat origin

Peng Zhou, [Xing-Lou Yang](#), Xian-Guang Wang, Ben Hu, Lei Zhang, Wei Zhang, Hao-Rui Si, Yan Zhu, Bei Li, Chao-Lin Huang, Hui-Dong Chen, Jing Chen, Yun Luo, Hua Guo, Ren-Di Jiang, Mei-Qin Liu, Ying Chen, Xu-Rui Shen, Xi Wang, Xiao-Shuang Zheng, Kai Zhao, Quan-Jiao Chen, Fei Deng, Lin-Lin Liu, Bing Yan, Fa-Xian Zhan, Yan-Yi Wang, Geng-Fu Xiao & Zheng-Li Shi [✉](#) - [Show fewer authors](#)

Nature **579**, 270–273(2020) | [Cite this article](#)

772k Accesses | **265** Citations | **4061** Altmetric | [Metrics](#)

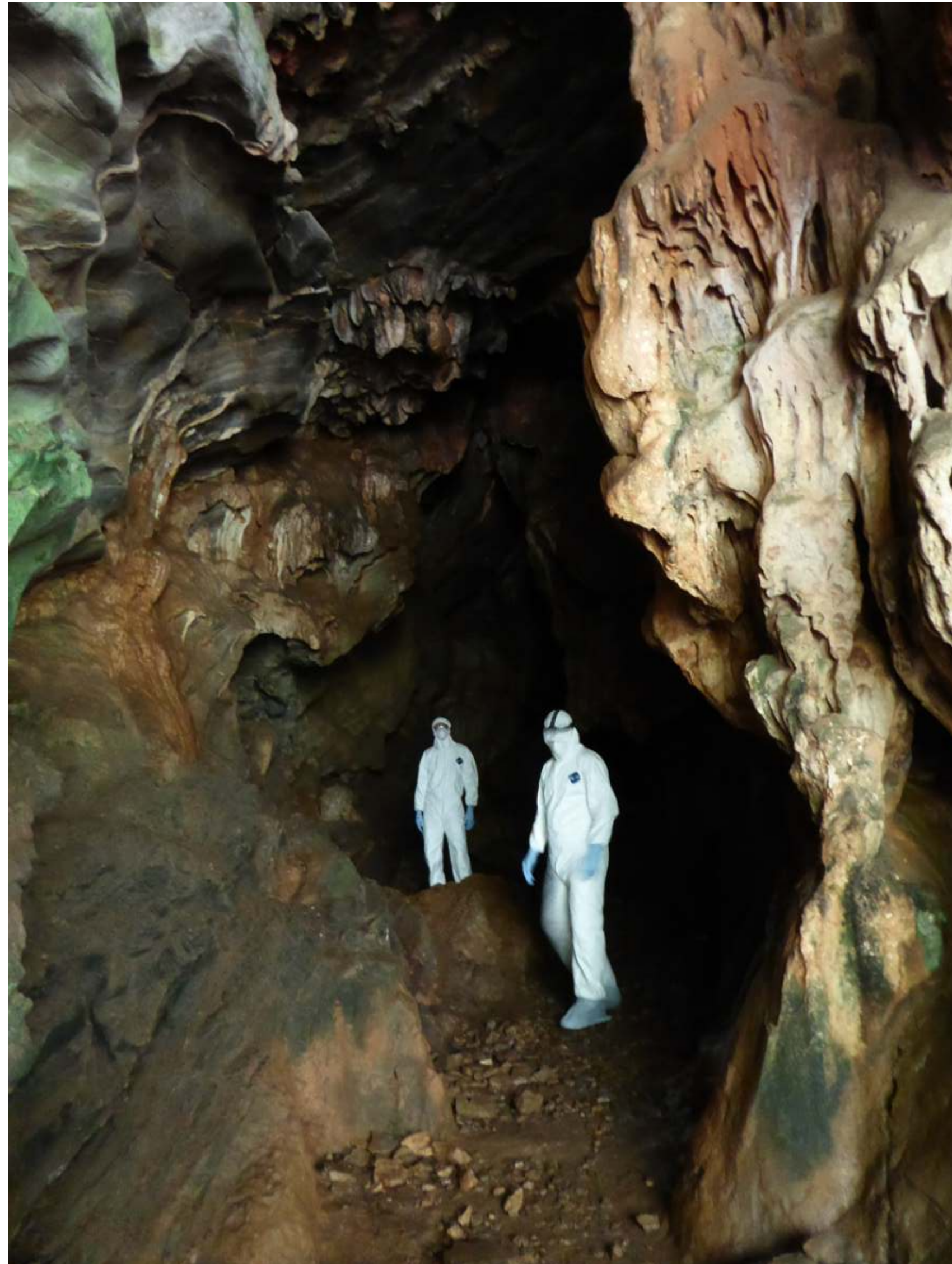
Correspondence | Published: 17 March 2020

The proximal origin of SARS-CoV-2

Kristian G. Andersen [✉](#), Andrew Rambaut, W. Ian Lipkin, Edward C. Holmes & Robert F. Garry

Nature Medicine **26**, 450–452(2020) | [Cite this article](#)

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RESEARCH ARTICLE

Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus

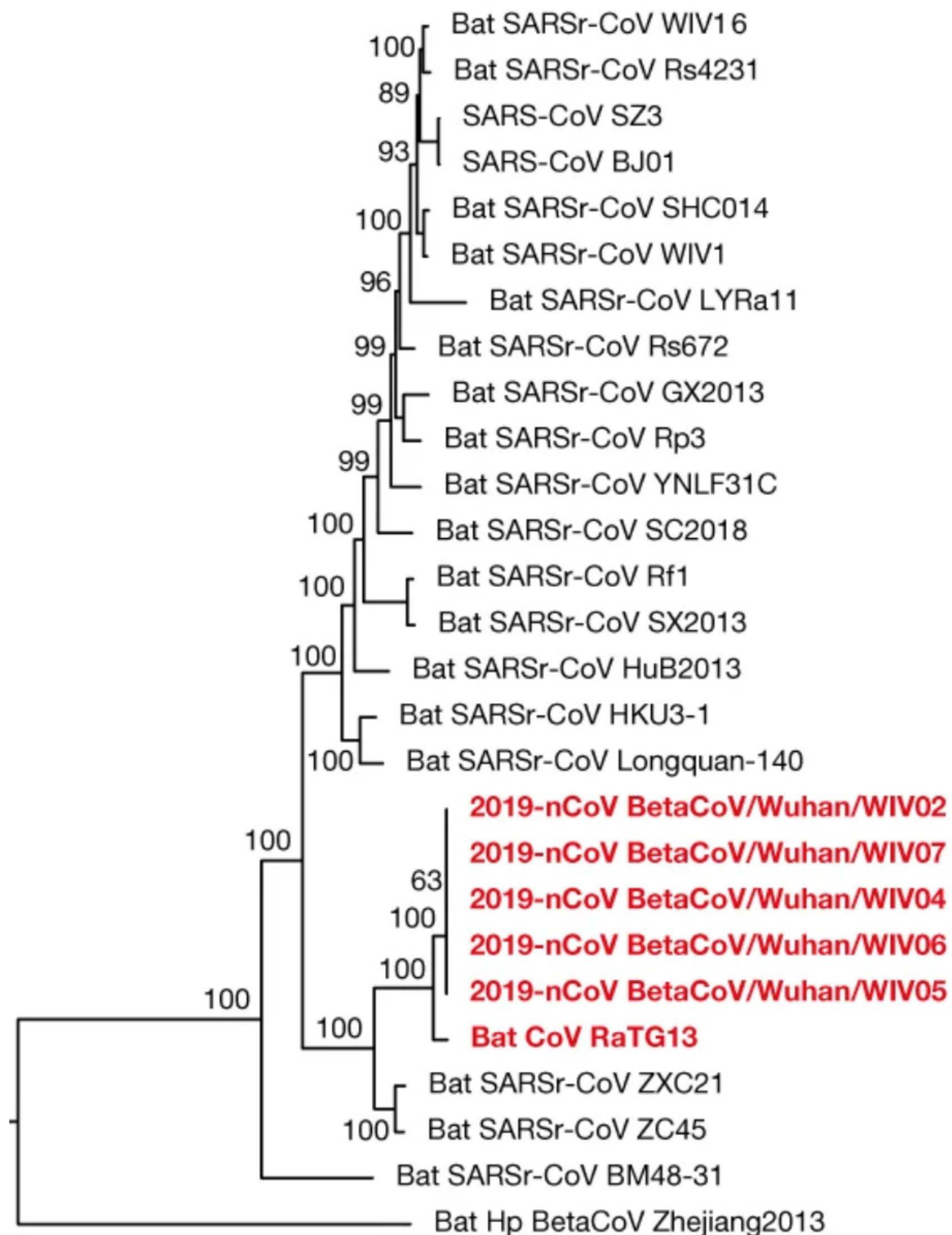
Ben Hu¹*, Lei-Ping Zeng¹*, Xing-Lou Yang¹*, Xing-Yi Ge¹, Wei Zhang¹, Bei Li¹, Jia-Zheng Xie¹, Xu-Rui Shen¹, Yun-Zhi Zhang^{2,3}, Ning Wang¹, Dong-Sheng Luo¹, Xiao-Shuang Zheng¹, Mei-Niang Wang¹, Peter Daszak⁴, Lin-Fa Wang⁵, Jie Cui¹*, Zheng-Li Shi¹*

Genetic Data Repositories



GenBank





Article | [Open Access](#) | Published: 03 February 2020

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Genomic epidemiology of novel coronavirus - Global subsampling

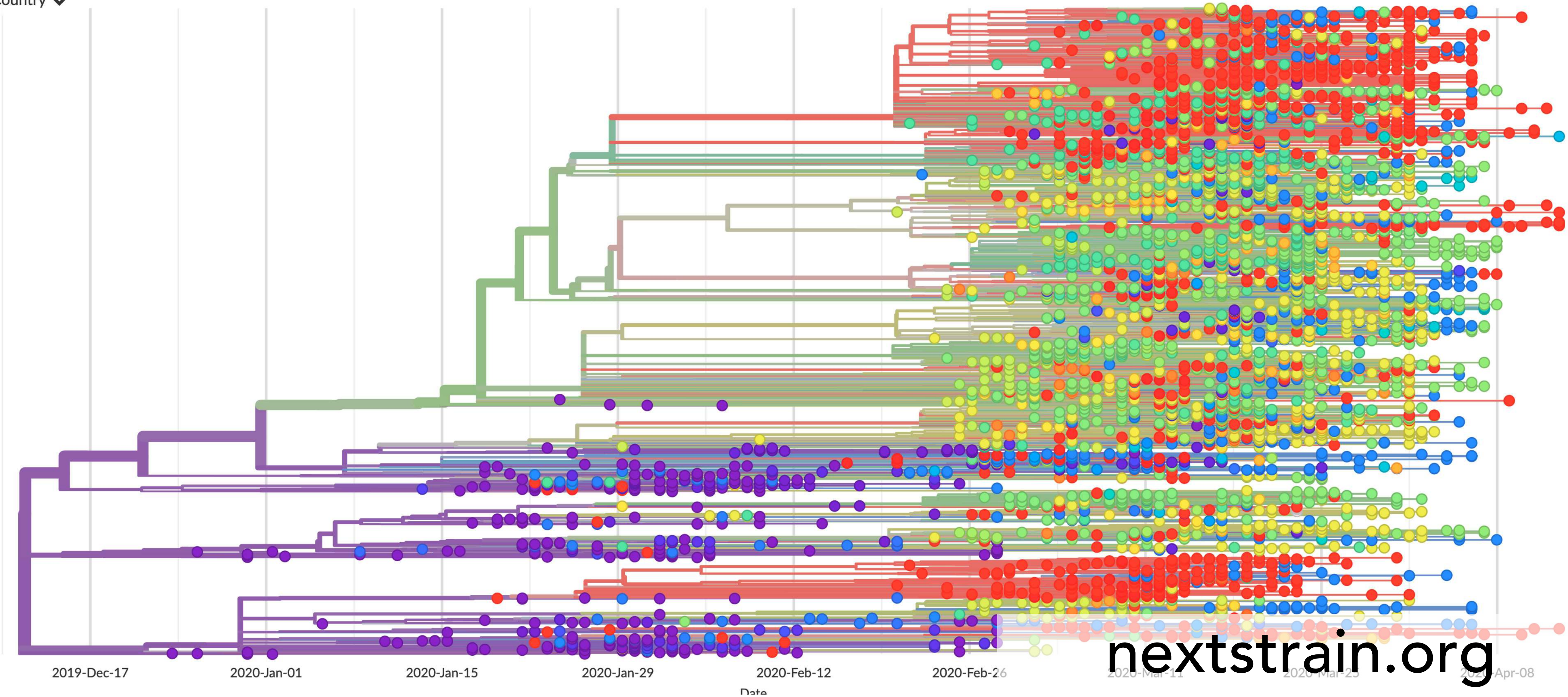
Maintained by [the Nextstrain team](#). Enabled by data from 

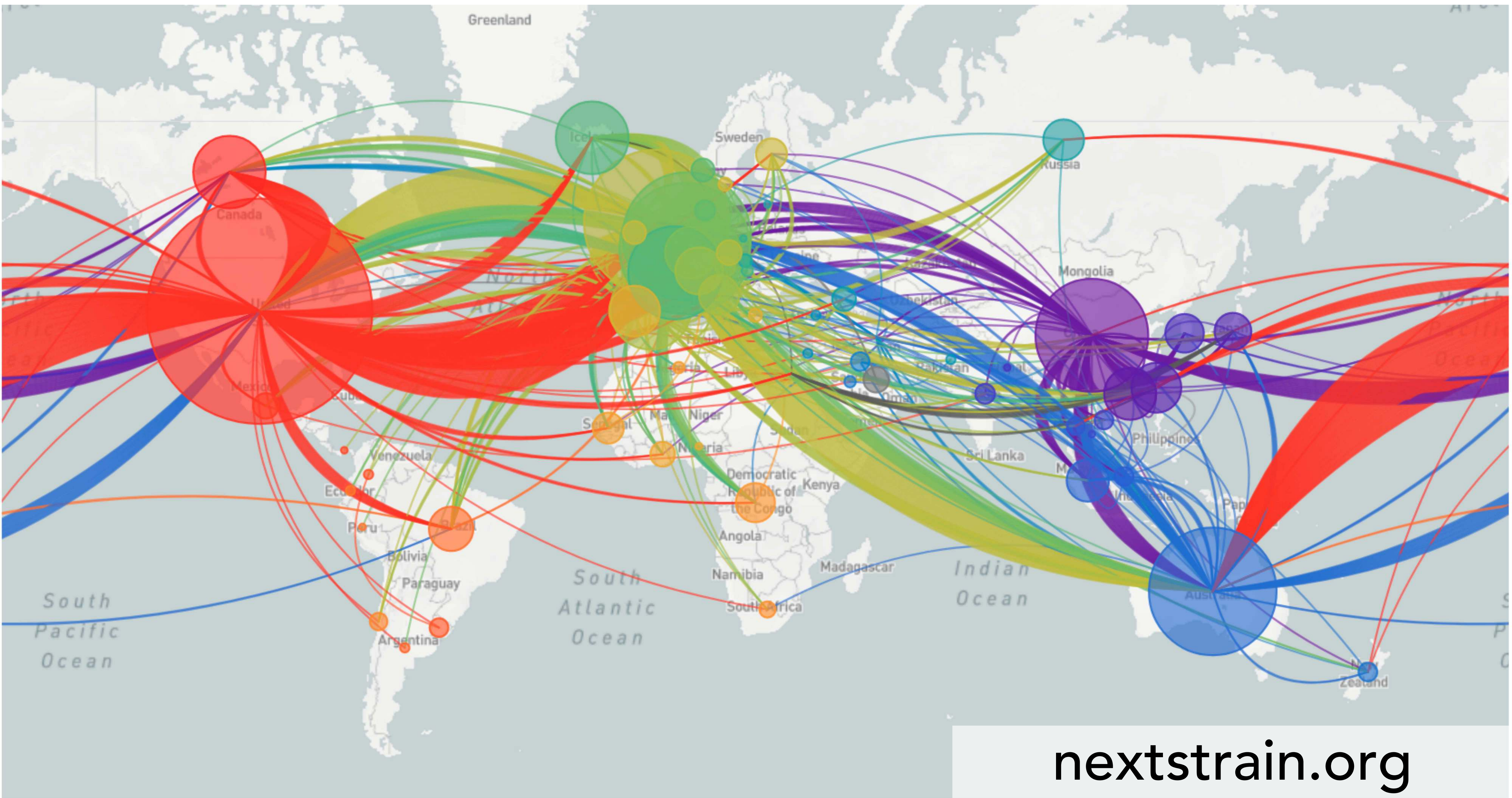
Showing 4537 of 4537 genomes sampled between Dec 2019 and Apr 2020.

Phylogeny

Country ▼

RESET LAYOUT





Biodiversity Data

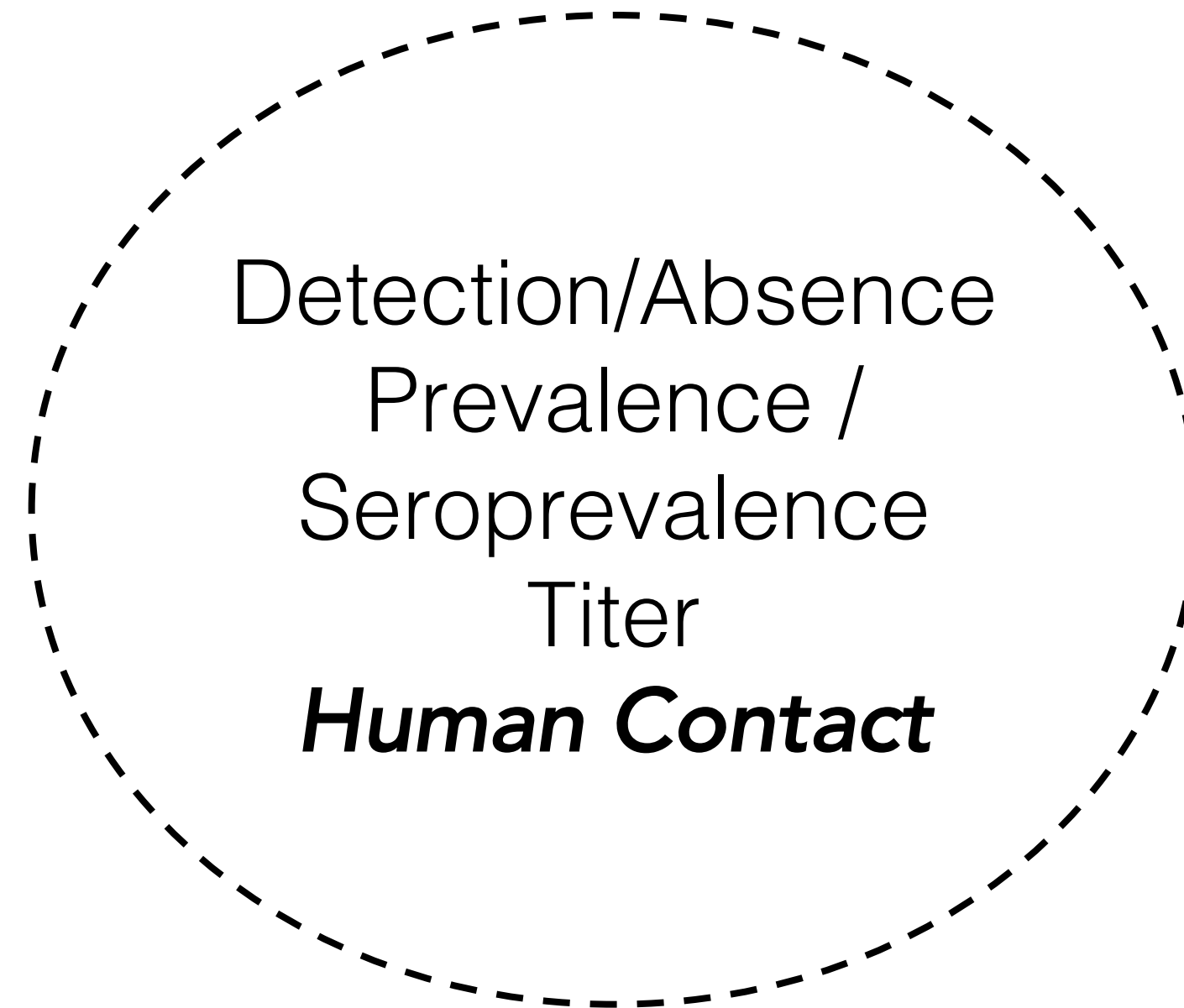


Knowledge Network for
Biocomplexity (KNB)

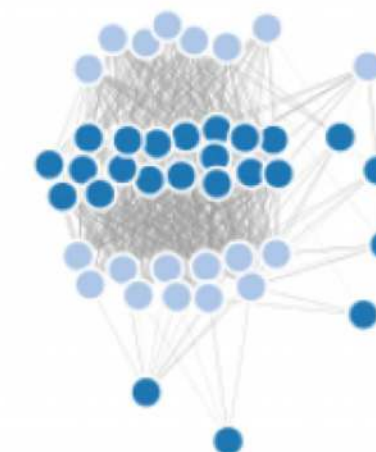
Host-Pathogen Interaction Data



The Gap for Wildlife Disease Surveillance Data



BAT ECO-INTERACTIONS



COVID: Government-Reported Epi Data

New York State Department of Health COVID-19 Tracker

Statewide

Total Persons Tested
1,258,907

Total Tested 5/12
33,794

Total Tested Positive
340,661

Sex Distribution of Positive Cases

Female

Male

Unknown

48.2%

51.3%

0.5%

Persons Tested Positive by County

Show Downstate Only

County Stats

Promoting and Protecting the City's Health

NYC Health

বাংলা Translate Text-Size

COVID

About

Our Health

Services

Providers

Data

Business

Search

COVID-19: Data

Coronavirus Disease 2019 (COVID-19)

Symptoms and What to Do When Sick

Prevention and Groups at

The data presented below reflect the most recent information collected about people who have tested positive for COVID-19 in NYC. We are discouraging people with mild to moderate symptoms from being tested at this time, so the data primarily represent people with more severe illness. All data included below are preliminary and subject to change.

Unless otherwise noted, all of the below information was collected by the NYC Health Department.

This page will be updated daily.

Health Milestones

Nei

m DEPARTMENT OF HEALTH

HOME TOPICS ABOUT US

Search

Coronavirus Disease 2019 (COVID-19)

COVID-19 Home

Strategies to Slow the Spread

Situation Update

About COVID-19

Protecting Yourself and Family

Situation Update for Coronavirus Disease 2019 (COVID-19)

Updated May 13, 2020.

Updated daily at 11 a.m., with data current as of 4 p.m. the previous day.

Data is for cases that were tested and returned positive. All data are preliminary and may change as cases are investigated. Many data points are collected during case interviews. Data presented below are for all cases, regardless of

CDC COVID Data Tracker

Explore and understand Coronavirus (COVID-19).

Maps, charts, and data provided by the Centers for Disease Control and Prevention

U.S. Cases

U.S. COVID Testing

U.S. Cases and Deaths by County

Social Impact

School Closures

Learn More

Surgeries and Procedures During COVID-19

COVID: Government-Reported Epi Data

NYC

OpenData

Home

Data

Ab

Q coronavirus

Categories

Business

City Government

Education

0 Results

No Results

Open Data Portal

Maryland.gov

Council on Open Data

Developers

Support

Local Data

Sign Up

coronavirus

Authority

Official

Community

Categories

Administrative

0 Results

No Results

CA

CALIFORNIA

GOV

OPEN DATA PORTAL

DATASETS

ORGANIZATIONS

TOPICS

Home

Datasets

Organizations

California Departme... (3)

Topics

Health & Human Serv... (3)

Tags

california departme... (3)

coronavirus (3)

19 (2)

corona (2)

covid (2)

covid-19 (2)

covid19 (2)

adenovirus (1)

coronavirus

Type search term here

3 datasets found for "coronavirus"

State Sponsored COVID-19 Test Sites in California

Location of COVID-19 testing sites sponsored by the State of California. This list do

ZIP

CSV

Influenza Surveillance

This dataset contains the following files for California influenza surveillance data: 1)

CSV

XLSX

ZIP

California COVID-19 Hospital Data and Case Statistics

UPDATE: In response to numerous public inquiries asking for more precise definitio

ZIP

CSV

chart

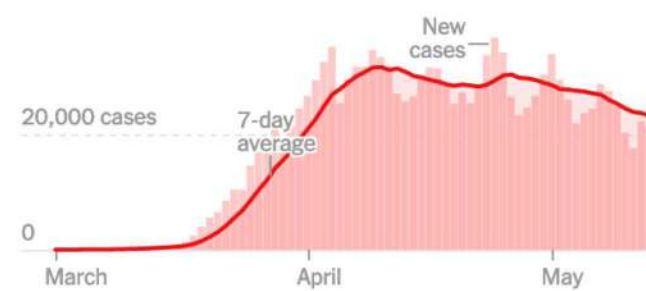
XLSX

Aggregation and Standardization

Coronavirus in the U.S.: Latest Map and Case Count

WORLD COUNTRIES | U.S.A. STATES | N.Y.C.

By The New York Times Updated May 14, 2020, 8:06 A.M. E.T.



TOTAL CASES
1.3 million+
DEATHS
84,109
Includes confirmed and probable cases where available

Map Cases by state Hot spots Clusters Latest news »

nytimes / covid-19-data

The COVID Tracking Project

Menu

FROM *The Atlantic*

Most recent data

State by State

Totals for the U.S.

Data API

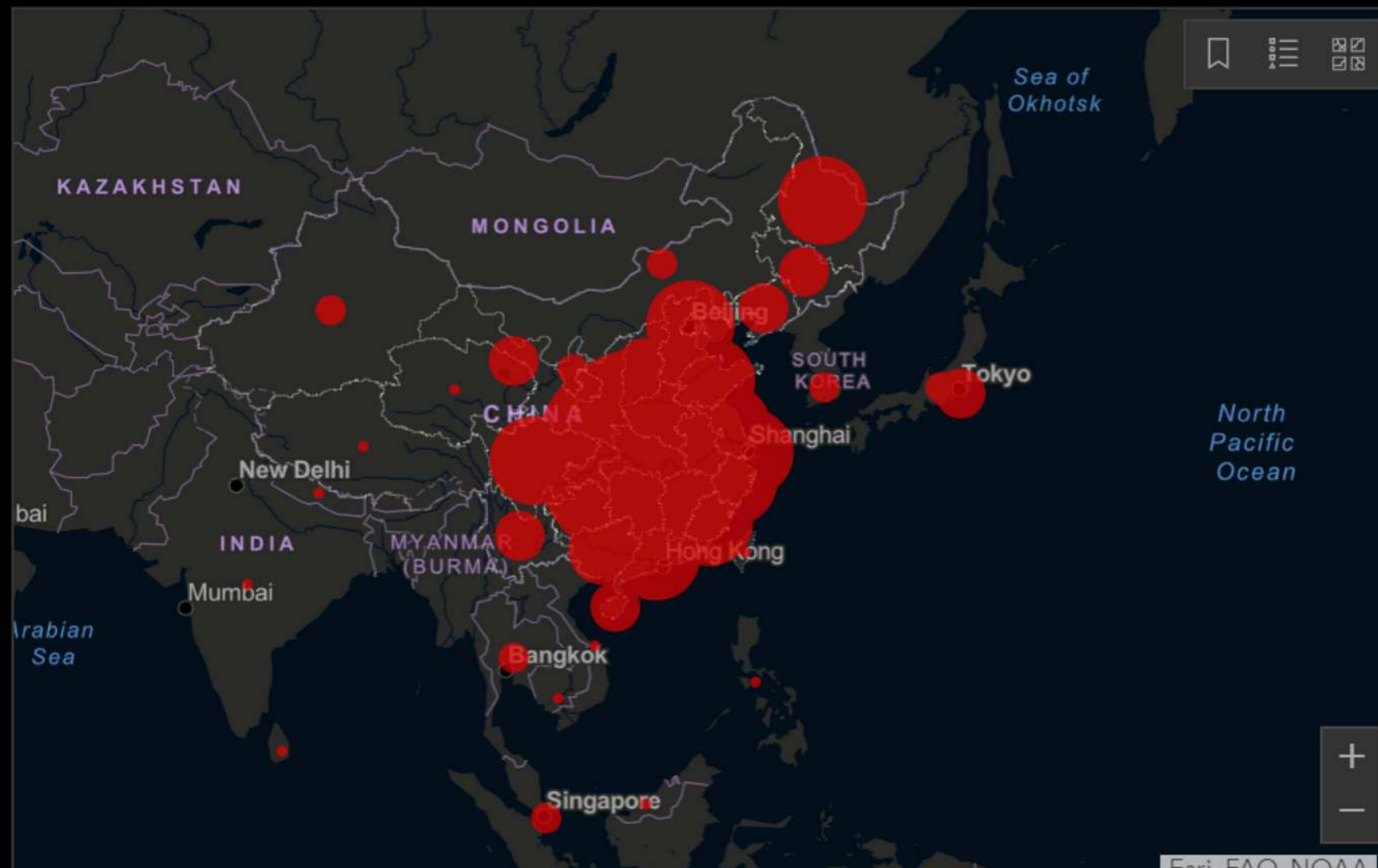
Coronavirus COVID-19 Global Cases by Johns Hopkins CSSE

Total Confirmed

43,141

Confirmed Cases by Country/Region

42,670 Mainland China
135 Others
49 Hong Kong
45 Singapore
32 Thailand
28 South Korea
26 Japan
18 Malaysia
18 Taiwan



Total Deaths

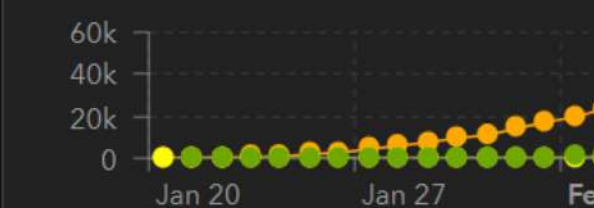
1,018

974 deaths
Hubei Mainland China
1 deaths
Guangdong Mainland China
7 deaths
Henan Mainland China
1 deaths
Hunan Mainland China
4 deaths
Anhui Mainland China

Total Recovered

4,340

2,310 recovered
Hubei Mainland China
270 recovered
Zhejiang Mainland China
247 recovered
Hunan Mainland China
218 recovered
Henan Mainland China



covid19R 0.1.0



Reference

covid19R

The goal of covid19R is to provide a single package that allows users to access all of the tidy covid-19 datasets collected by data packages that implement the covid19R tidy data standard. It provides access to multiple datasets that meet a tidy data standard.

To learn more about the Covid19R project, check [our extensive documentation](#) about data standards, how to get your data added to this list, and more.

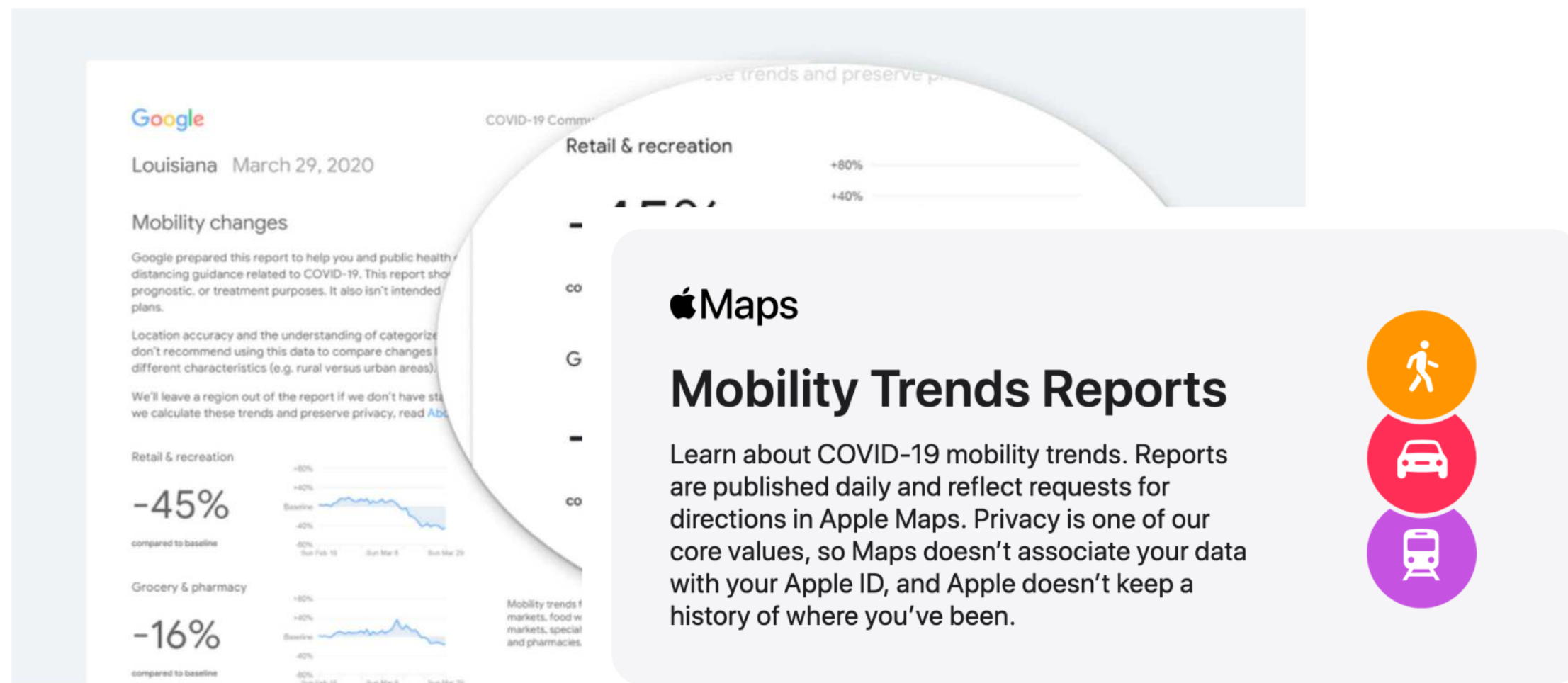
Our World in Data



Statistics and Research

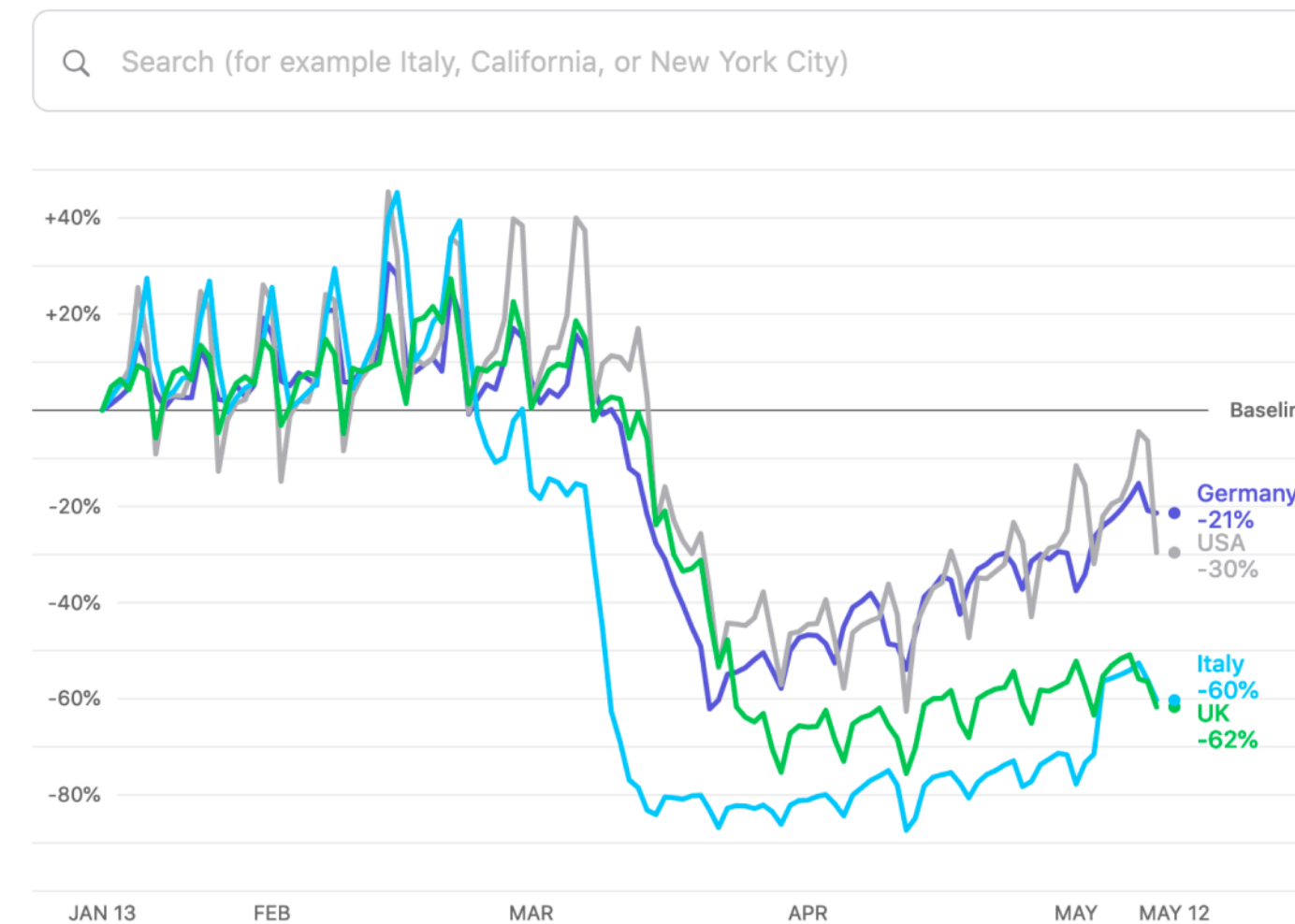
Coronavirus Pandemic (COVID-19)

Mobility Data



Mobility Trends

Change in routing requests since January 13, 2020



Shelter in Place Index: The Impact of Coronavirus on Human Movement

LAST UPDATE

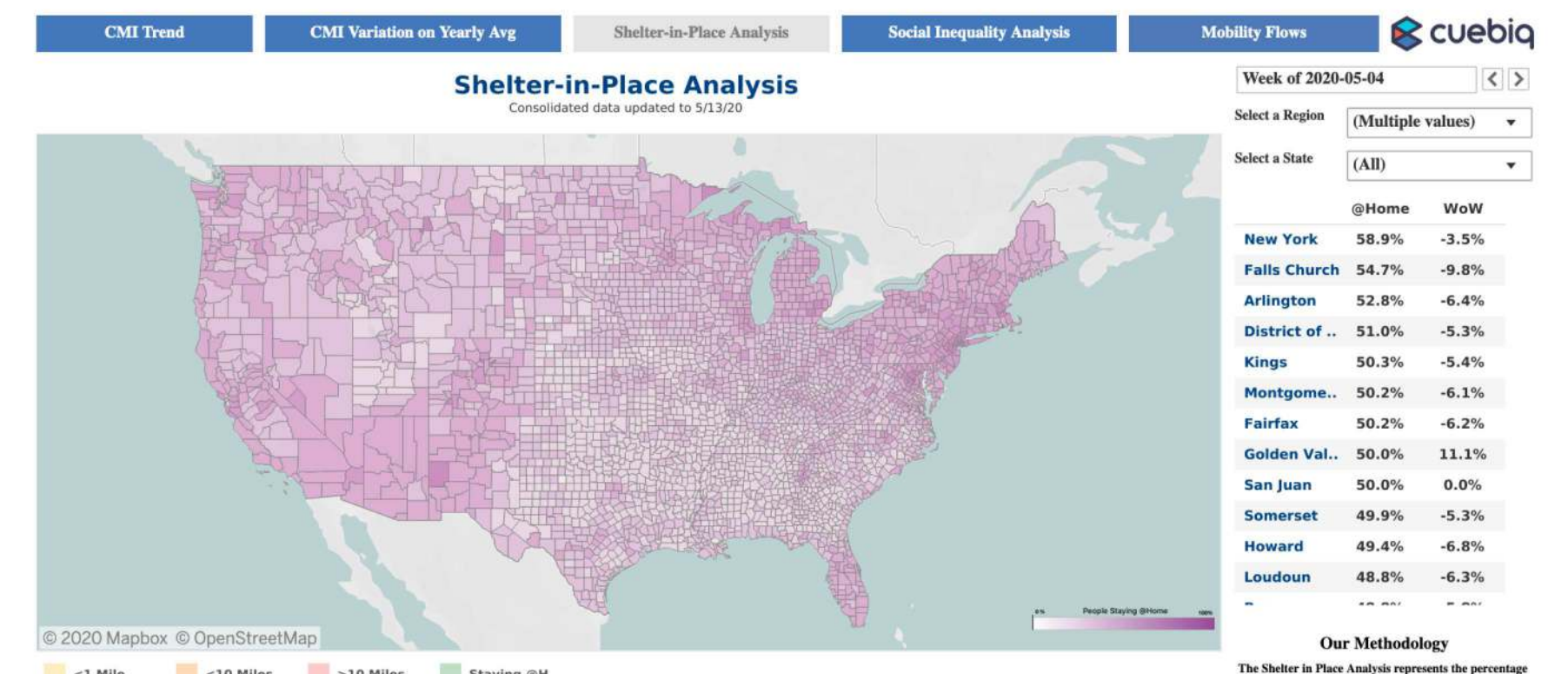
May 13, 2020

U.S. Geographic Responses to Shelter in Place Orders

Free Access

COVID-19 Mobility Insights

We understand this is a tough time for businesses as well as consumers. As part of our commitment to sharing data for the greater good, Cuebiq is providing free access to mobility and store visitation patterns during the COVID-19 crisis to help businesses as they look to adjust their strategies to meet this new and uncertain market.



Modeling Parameters and Clinical Study Data

Parameter Estimates - Peer-reviewed

Published estimates of epidemiological characteristics that have been peer-reviewed, encoded by community members and approved by authors. For complete information on each estimate, [view this file on GitHub](#).

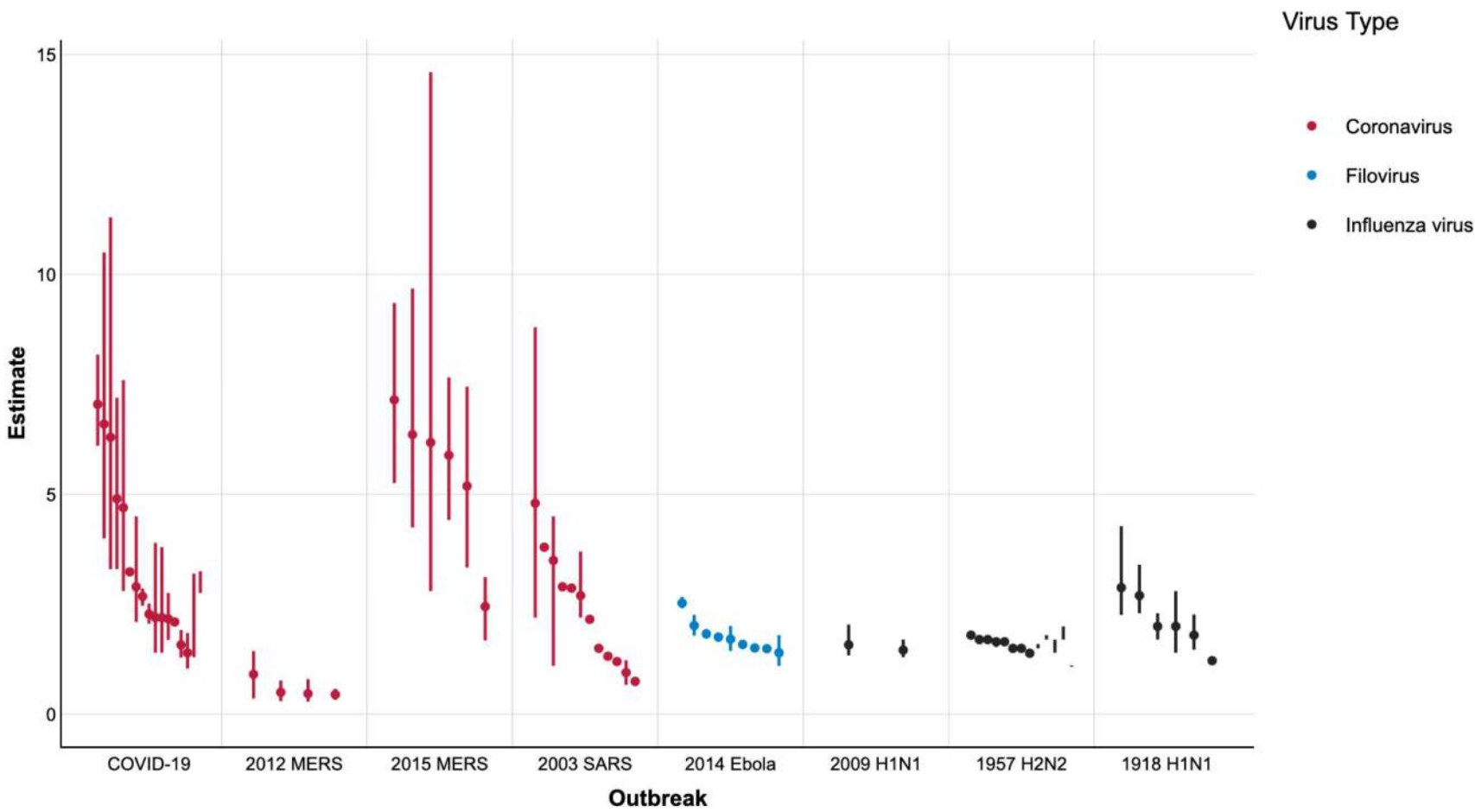
Show10entries

Search:

NAME	VALUE	COUNTRY	LOWER BOUND	UPPER BOUND	AGE RANGE	START DATE	END DATE	PUBLICATION DATE	SOURCE
Time from hospitalization to mechanical ventilation	1.5	United States	0	12	Unspecified	2020-02-20	2020-03-05	2020-03-19	Arentz M, et al.
Time from symptom onset to hospitalization	4.4	China	0	14	Unspecified	2020-12-24	2020-01-27	2020-04-02	Zhang J, et al.
Time from symptom onset to hospitalization	3.8								
Time from symptom onset to hospitalization	2.6	China	0	9	Unspecified	2020-01-28	2020-02-17	2020-04-02	Zhang J, et al.
Proportion of icu cases on extracorporeal membrane oxygenation (ecmo)									

How infectious is COVID-19?

Estimates of the **basic reproduction number (R_0)**: the average number of new infections that are caused by one infectious person, assuming the whole population is susceptible. This value can differ based on setting, e.g. it is likely higher in more crowded places, or can vary between children and adults.



<http://2019-coronavirus-tracker.com/context.html>



Literature Review

Using publications from the CORD-19 dataset ([Last updated: 2020-05-12](#))
Covers **10.1%** of the studies published since February 1 (834 of the 8221 papers)

[FEEDBACK](#)

About This Review

These findings have been extracted from the CORD-19 papers by machine learning algorithms with a human curation overlay (process described in [this thread](#)). The results and quotes on this page should not be relied on without reading and assessing the validity of the underlying research. If you see a conclusion that is misrepresented, please use the [feedback section](#) of this page to report it.

This project is a part of the White House Office of Science and Technology Policy's [call to action](#) for the technology community and addresses research priorities defined by the National Academies and the World Health Organization.

This review can be useful for those wanting a quick overview of what the latest literature is saying on the topics we cover. It might also help those writing local guides, expert opinions or systematic reviews. Click on the topic in the table of contents below to see the results table for that topic.

Key Scientific Questions about COVID-19

- [Persistence of sources](#)
- [Persistence on surfaces](#)
- [Incubation period](#)
- [Physical science](#)
- [Diagnostics](#)
- [Immune Response](#)
- [Asymptomatic shedding](#)
- [Movement Control](#)
- [Adaptation of Virus](#)
- [Information sharing and inter-sectoral collaboration](#)
- [Seasonality](#)
- [Social and Ethical Considerations](#)
- [Vaccine and Therapeutics](#)
- [Natural history of the virus](#)
- [PPE](#)

COVID-19 Risk factors

- [Hypertension](#)
- [Diabetes](#)
- [Male gender](#)
- [Heart Disease](#)

<https://www.kaggle.com/covid-19-contributions>

Some Observations

Aggregation happening fast
but but loses useful detail

Linking and metadata key
but one of the biggest
challenges

Relevant policy questions
changing rapidly

Answering the right questions for policymakers on COVID-19

[Ellie Graeden](#) • [Colin Carlson](#) • [Rebecca Katz](#) 

[Open Access](#) • Published: April 20, 2020 • DOI: [https://doi.org/10.1016/S2214-109X\(20\)30191-1](https://doi.org/10.1016/S2214-109X(20)30191-1)

Key questions that officials and experts need to be able to address

- 1. Clinical presentation and testing**
- 2. Treatment: supplies, hospital beds, workforce**
- 3. Non-pharmaceutical interventions: adherence and mobility**
- 4. Public health response: ability to contact trace and identify exposures**
- 5. Compound hazards and concurrent hazard planning**

Thanks!

