***GitHub***

<https://github.com/topics/covid-19>

Repositories that contain code focused around research and awareness of the virus.

<https://github.com/CSSEGISandData/COVID-19>

Data repository for the 2019 Novel Coronavirus Visual Dashboard operated by the Johns Hopkins University Center for Systems Science and Engineering.

<https://github.com/JohnCoene/coronavirus>

App that tracks the spread of the coronavirus, based on three data sources.

<https://github.com/tokyo-metropolitan-gov/covid19>

Tokyo COVID-19 Updates - <https://stopcovid19.metro.tokyo.lg.jp/en>

<https://github.com/ExpDev07/coronavirus-tracker-api>

API for tracking the global coronavirus, written in python.

<https://github.com/javieraviles/covidAPI>

API for coronavirus by country

***Data***

<https://www.covid19data.com.au/>

Data based on media reports and verified with updates from state and federal health departments. Example Website

Data on:

* Confirmed Cases (relies on data from the European Center for Disease Prevention and Control (ECDC).
* <https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases> Virus updated data found here.
* Confirmed Cases - Where they are in Australia
  + State and territory breakdowns
  + Deaths by state or territory

<https://ourworldindata.org/coronavirus>

Statistics and Research, including several graphs.

Data on:

* Visualisations – more than 40 in total
  + <https://ourworldindata.org/coronavirus-data>
* Figures on Growth rates
* Death by Countries
* Daily confirmed deaths
* Death relative to size of population
* Bending the curve

***Predictions***

<https://covid19-scenarios.org/>

Mathematical model to simulate a variety of COVID-19 outcomes based on user-defined parameters.

Source code:

<https://github.com/neherlab/covid19_scenarios>

The model works as follows:

*“Susceptible individuals are exposed/infected through contact with infectious individuals. Each infectious individual cause on average secondary infections while they are infectious. Transmissibility of the virus could have seasonal variation which is parameterized with the parameter "seasonal forcing" (amplitude) and "peak month" (month of most efficient transmission).*

*Exposed individuals progress to a symptomatic/infectious state after an average latency. This progression happens in three stages to ensure the distribution of times spend in the exposed compartment is more realistic than a simple exponential.*

*Infectious individuals recover or progress to severe disease. The ratio of recovery to severe progression depends on age*

*Severely sick individuals either recover or deteriorate and turn critical. Again, this depends on the age*

*Critically ill individuals either get admitted to ICU (if space is available) or are placed in an overflow compartment. Younger age-groups are given preferential access to ICU.*

*Critically ill individuals either return to regular hospital or die. Again, this depends on the age and on whether they receive intensive care or not.”*

***Research Papers***

<https://www.sciencedirect.com/science/article/abs/pii/S0303264709000768>

Optimal control strategies of an SIR (susceptible–infected–recovered) epidemic model with time delay.

<https://pdfs.semanticscholar.org/579d/40fec495648f55c92b284ef4cec366ed0914.pdf>

Modelling the SARS Epidemic.

<https://royalsocietypublishing.org/doi/pdf/10.1098/rsif.2013.1106>

Birth – death SIR model research Paper

<https://pdfs.semanticscholar.org/4a98/035ffea334153df344369d147526ba4cb622.pdf>

A SIR Model for Spread of Dengue Fever Disease

<https://www.researchgate.net/publication/260071063_Plausible_models_for_propagation_of_the_SARS_virus>

Plausible models for propagation of the SARS virus

***News Articles***

<https://www.smh.com.au/world/asia/global-coronavirus-cases-top-1-million-johns-hopkins-tally-20200403-p54gnj.html?fbclid=IwAR3OqRwZVr7wIs-PpzImFFZ3UQccjkAjnSEs11E9pZ1UtvLHLzRVOEq1o3M>

Stats and Figures up to date as of April 3, 2020.

Data On:

* Data visualisation graph on Case number
* Global fatality rate
* Unemployment claims

***Infographics***

<https://www.worldometers.info/coronavirus/>

Stats, graphs, figures.

Data On:

* Cases, Deaths, recovered
* Table on Confirmed Cases and Deaths by Country, Territory, or Conveyance
* How contagious it is
* Fatality Rate (<https://www.worldometers.info/coronavirus/coronavirus-death-rate/>)
* Incubation Period (<https://www.worldometers.info/coronavirus/coronavirus-incubation-period/>)
* Age and conditions (<https://www.worldometers.info/coronavirus/coronavirus-age-sex-demographics/> )
* WHO Risk Assessment (<https://www.worldometers.info/coronavirus/who-coronavirus/>)
* Symptoms (<https://www.worldometers.info/coronavirus/coronavirus-symptoms/>)

SOURCES

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3. [Outbreak Notification](http://www.nhc.gov.cn/xcs/yqtb/list_gzbd.shtml) - National Health Commission (NHC) of the People’s Republic of China
4. [Novel coronavirus (2019-nCoV)](https://www.health.gov.au/health-topics/novel-coronavirus-2019-ncov) - Australian Government Department of Health
5. [Novel coronavirus 2019-nCoV: early estimation of epidemiological parameters and epidemic prediction](https://www.medrxiv.org/content/10.1101/2020.01.23.20018549v2) - Jonathan M. Read et al, Jan. 23,2020.
6. [Early Transmissibility Assessment of a Novel Coronavirus in Wuhan, China](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3524675) - Maimuna Majumder and Kenneth D. Mandl, Harvard University - Computational Health Informatics Program - Posted: 24 Jan 2020 Last revised: 27 Jan 2020
7. [Report 3: Transmissibility of 2019-nCoV](https://www.imperial.ac.uk/mrc-global-infectious-disease-analysis/news--wuhan-coronavirus/) - 25 January 2020 - Imperial College London‌
8. [Case fatality risk of influenza A(H1N1pdm09): a systematic review](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3809029/) - Epidemiology. Nov. 24, 2013
9. [A novel coronavirus outbreak of global health concern](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30185-9/fulltext#tbl1) - Chen Want et al. The Lancet. January 24, 2020
10. [Symptoms of Novel Coronavirus (2019-nCoV)](https://www.cdc.gov/coronavirus/2019-ncov/about/symptoms.html) - CDC
11. [China's National Health Commission news conference on coronavirus](https://www.aljazeera.com/news/2020/01/chinas-national-health-commission-news-conference-coronavirus-200126105935024.html) - Al Jazeera. January 26, 2020
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13. [Statement on the meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV)](https://www.who.int/news-room/detail/23-01-2020-statement-on-the-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)) - WHO, January 23, 2020
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17. [CDC Confirms Person-to-Person Spread of New Coronavirus in the United States](https://www.cdc.gov/media/releases/2020/p0130-coronavirus-spread.html) - CDC Press Release, Jan. 30, 2020
18. [CMO confirms cases of coronavirus in England](https://www.gov.uk/government/news/cmo-confirms-cases-of-coronavirus-in-england) - CMO, UK, Jan. 31, 2020
19. [Coronavirus in France: what you need to know](https://www.thelocal.fr/20200131/coronavirus-in-france-what-you-need-to-know) - The Local France, Jan. 31, 2020
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<https://www.visualcapitalist.com/history-of-pandemics-deadliest/>

A Timeline of Historical Pandemics, images, tables, infographics.

Data on:

* Tracking Infectiousness and Urbanization and the Spread of Disease
* <https://www.visualcapitalist.com/7-best-covid-19-resources/>

<https://www.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>

Coronavirus COVID-19 Global Cases by the (CSSE). (Coronvirus Map).

<https://www.nytimes.com/interactive/2020/03/22/world/coronavirus-spread.html>

How the coronavirus spread interactive website.

Data on:

* Timing of the outbreak
* Geographical visual of spread

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•  Benjamin F. Maier and Dirk Brockmann, [“Effective containment explains sub-exponential growth in confirmed cases of recent COVID-19 outbreak in Mainland China”](https://www.medrxiv.org/content/10.1101/2020.02.18.20024414v1)

<https://who.sprinklr.com/>

World Health Organisation, Map, graphs, stats, confirmed, deaths, by country.

<https://www.csbs.org/information-covid-19-coronavirus>

COVID-19 Map

***Videos***

Minute Physics Covid

<https://www.youtube.com/watch?v=54XLXg4fYsc&fbclid=IwAR3z1C11CwLwQd3gTadQrRTRtUxSglHH4DgSoew8c_2_r7b4DUaLC9O8H84>

Simulating epidemics

<https://www.youtube.com/watch?v=gxAaO2rsdIs&fbclid=IwAR0TCQHE55t2IsWvufZ4QcV-v6CuHwCNC2xrjF7P9GReASZQUwpCV7_fuo8>

Estimating Deaths

<https://www.youtube.com/watch?v=mCa0JXEwDEk&fbclid=IwAR0MRnhQsKcLx95xeonpV1m9f1rDTtoew2lSVxtGJ4DStogpeDS74g8GdQo>

The Curve

<https://www.youtube.com/watch?v=k6nLfCbAzgo&fbclid=IwAR02BnvTcXkYMyMesGGbekN3706KUVAV0-V_JD8F86WjA9oZOWIn3cW6hTs>

SIR disease model

<https://www.youtube.com/watch?v=NKMHhm2Zbkw&fbclid=IwAR0biOtlgz7ne9wYPCOqeV8-QiI2nSVO3xBjt8BmlkFvr-41QLCnC84odDA>

The Coronavirus Explained

<https://www.youtube.com/watch?v=BtN-goy9VOY>