

# covid19

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Analysis of recent coronavirus data for different countries and regions.

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More info in [https://github.com/jmoldon/coronavirus\\_analysis](https://github.com/jmoldon/coronavirus_analysis)

## 1 General statistics

Data comes from Johns Hopkins University at <https://github.com/CSSEGISandData/COVID-19> that is updated daily.

### 1.1 List of most affected countries (sorted by number of confirmed cases)

Country/Region	Province/State	Confirmed	Deaths	Recovered
China	Hubei	67794	3085	54288
Italy		24747	1809	2335
Iran		13938	724	4590
Korea, South		8162	75	510
Spain		7798	289	517
Germany		5795	11	46
France	France	4499	91	12
Switzerland		2200	14	4
China	Guangdong	1360	8	1304
	Henan	1273	22	1250
	Zhejiang	1231	1	1211
Norway		1221	3	1
United Kingdom	United Kingdom	1140	21	18
Netherlands		1135	20	2
Sweden		1022	3	1
China	Hunan	1018	4	1014
	Anhui	990	6	984
	Jiangxi	935	1	934
Belgium		886	4	1
Denmark	Denmark	864	2	1

## 1.2 List of most affected countries/provinces (sorted by number of deaths)

Country/Region	Province/State	Confirmed	Deaths	Recovered
China	Hubei	67794	3085	54288
Italy		24747	1809	2335
Iran		13938	724	4590
Spain		7798	289	517
France	France	4499	91	12
Korea, South		8162	75	510
US	Washington	643	40	1
Japan		839	22	118
China	Henan	1273	22	1250
United Kingdom	United Kingdom	1140	21	18
Netherlands		1135	20	2
US	King County, WA	83	17	1
Switzerland		2200	14	4
China	Heilongjiang	482	13	453
Germany		5795	11	46
Philippines		140	11	2
Iraq		116	10	26
China	Guangdong	1360	8	1304
	Beijing	442	8	353
	Shandong	760	7	741

## 2 Evolution of cases (Confirmed, Deaths, Active and Recovery) per country

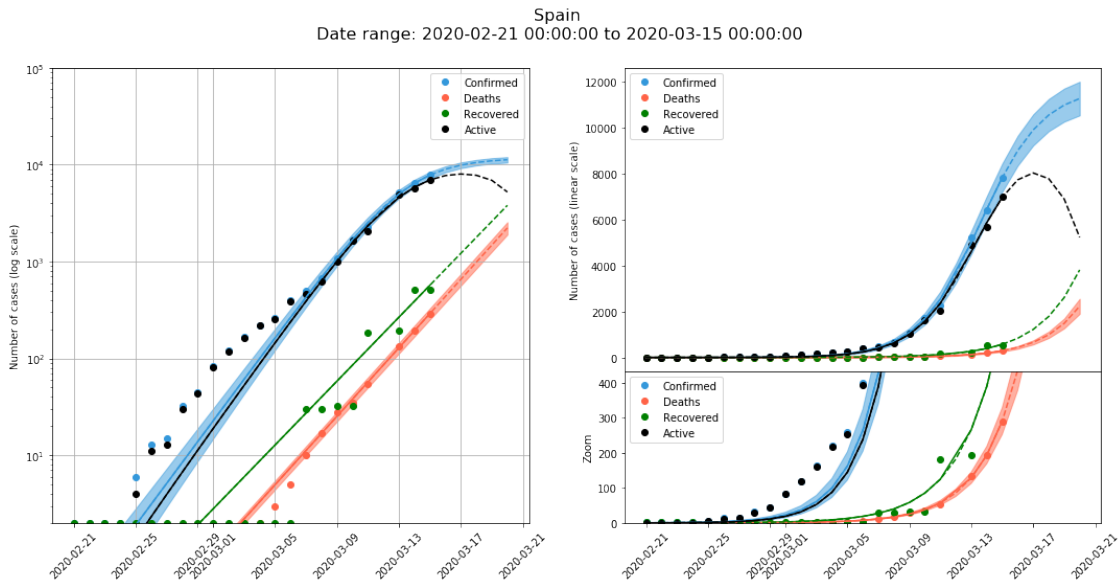
All plots have the same information. Left: log scale, right: linear scale. Bottom-right: is a zoom to show the correct scale for deaths. The straight line is a fit to a logistic growth when possible. If the fit does not converge (low number of points in early stages) a simple exponential is used. The dashed line is a prediction based on the fit.

## 3 Europe

### 3.1 Spain

#### 5 day prediction

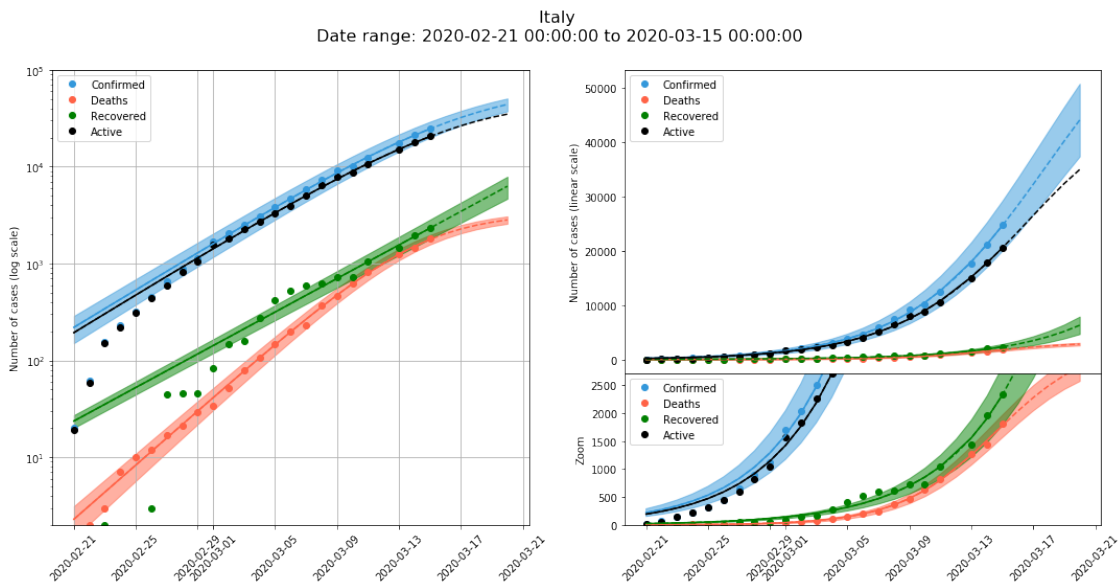
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<pandas.io.formats.style.Styler at 0x7f206b9046a0>
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## 3.2 Italy

### 5 day prediction

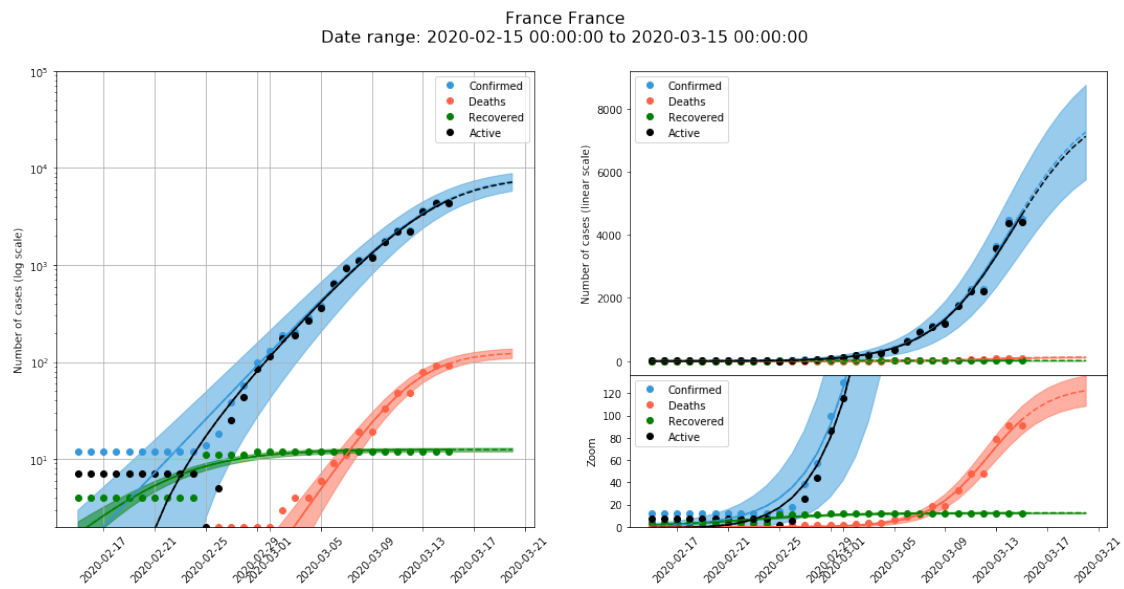
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### 3.3 France

#### 5 day prediction

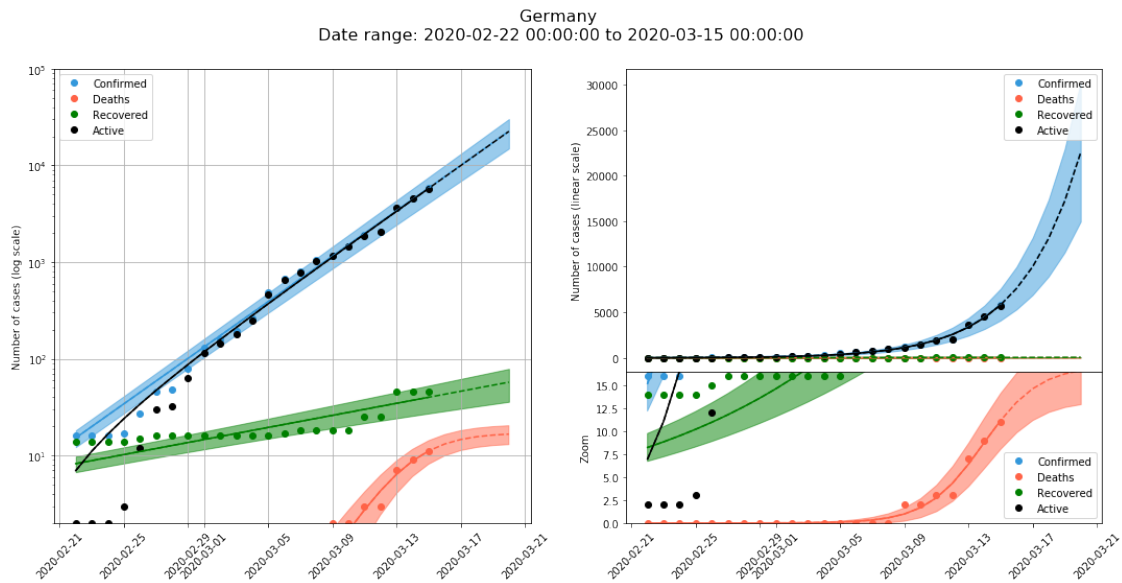
<pandas.io.formats.style.Styler at 0x7f206b69b3c8>



### 3.4 Germany

#### 5 day prediction

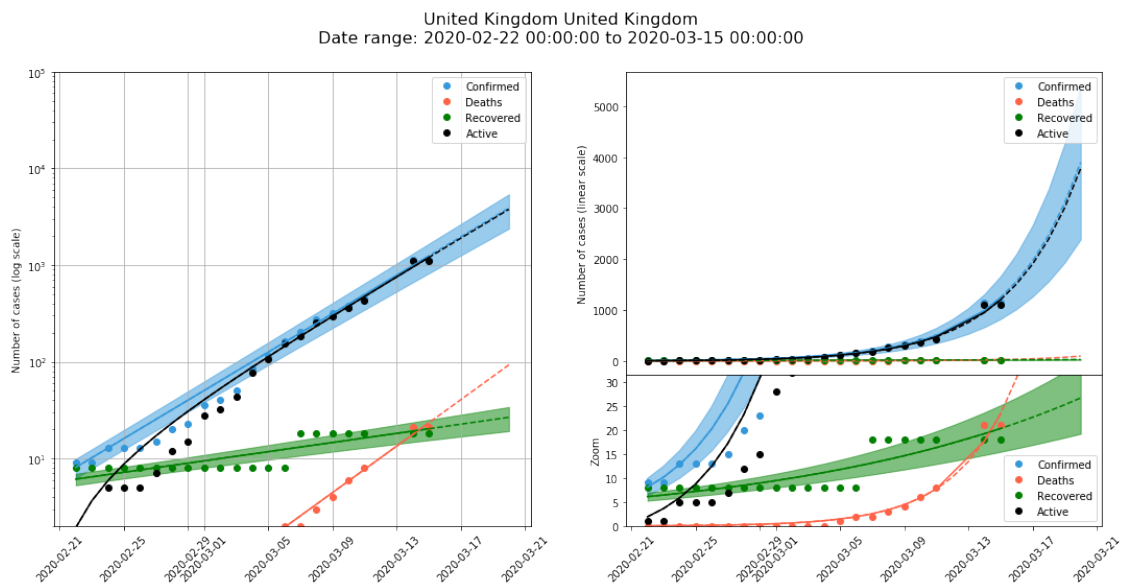
<pandas.io.formats.style.Styler at 0x7f206ab96160>



### 3.5 United Kingdom

#### 5 day prediction

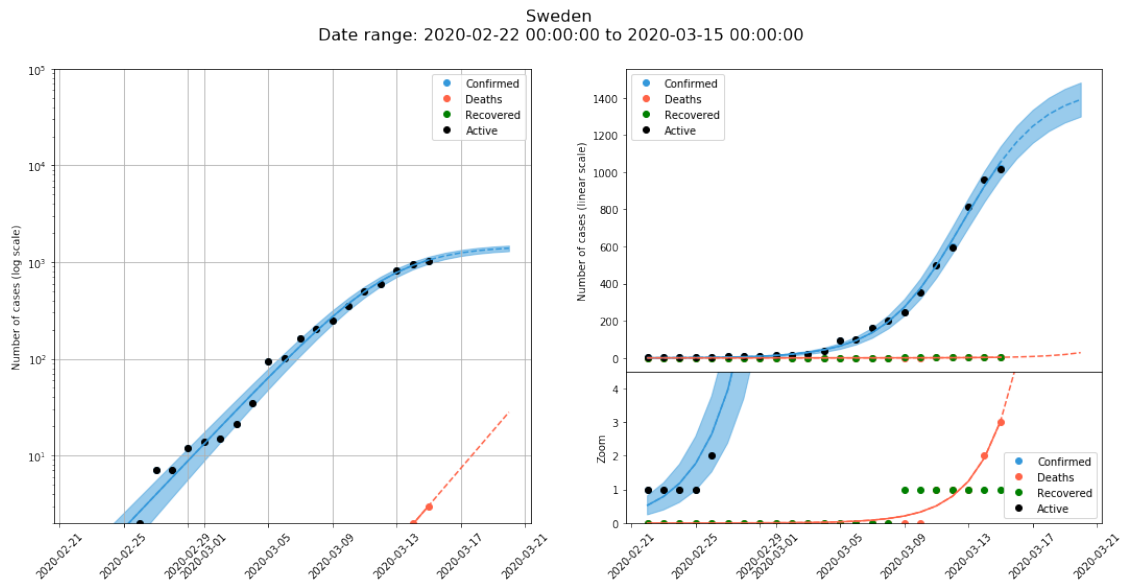
<pandas.io.formats.style.Styler at 0x7f206b3acef0>



## 3.6 Sweden

### 5 day prediction

<pandas.io.formats.style.Styler at 0x7f206b95eb00>

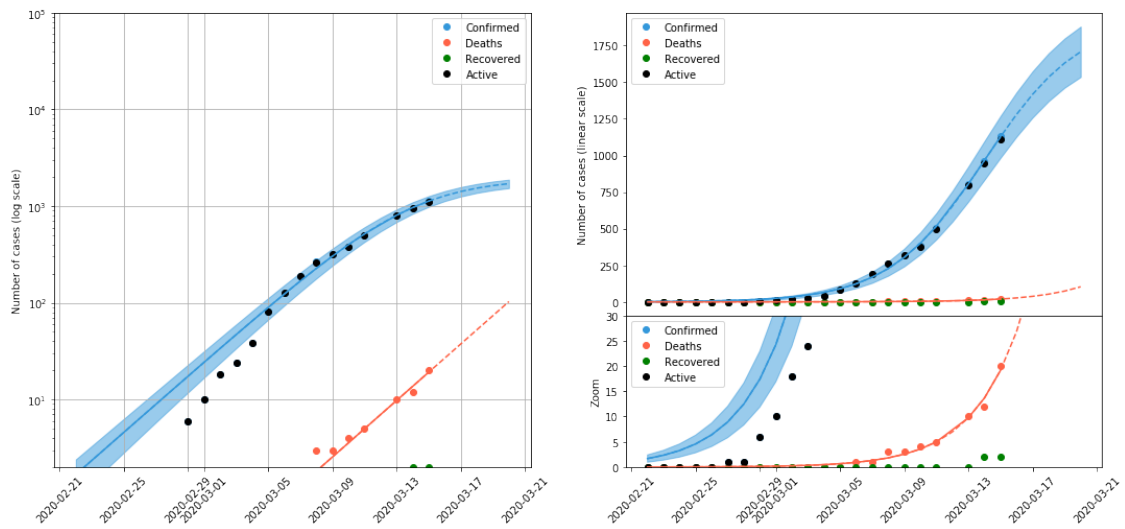


## 3.7 Netherlands

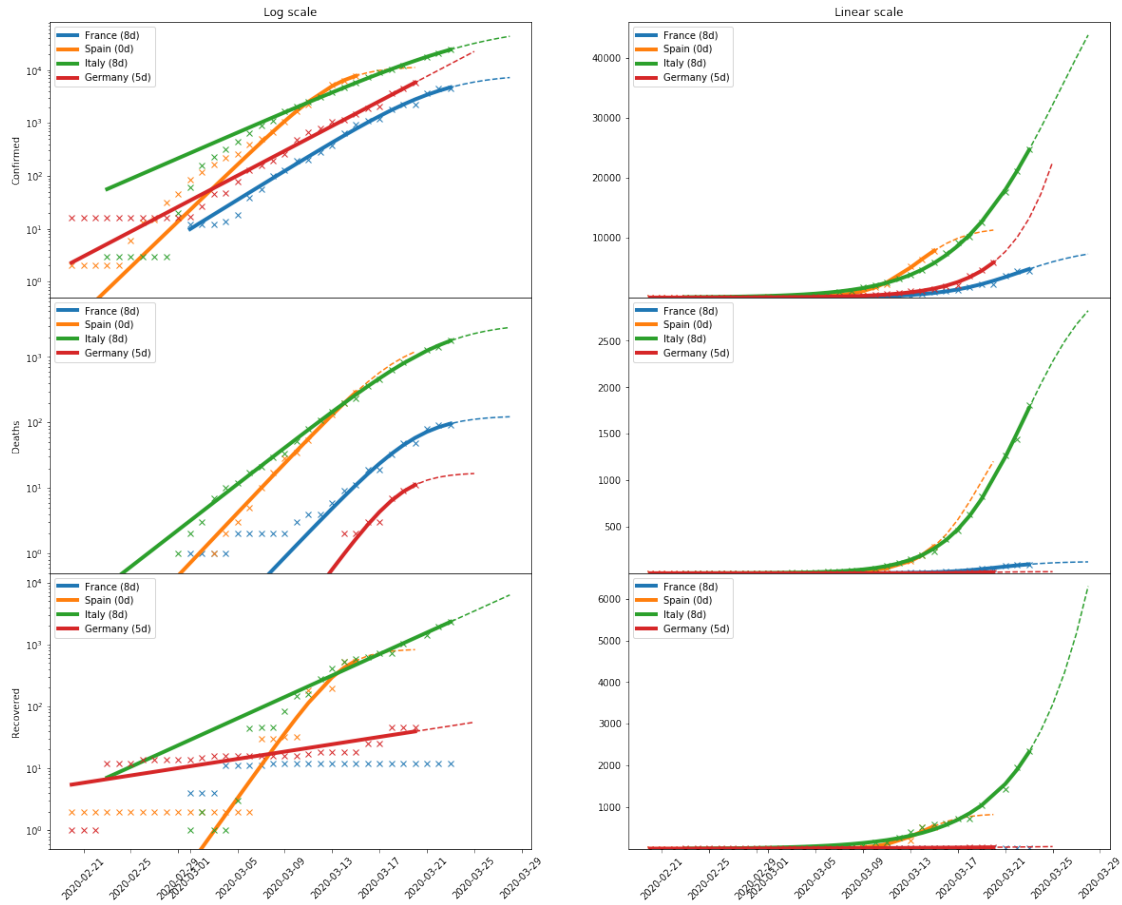
### 5 day prediction

<pandas.io.formats.style.Styler at 0x7f206ab8e4a8>

Netherlands  
Date range: 2020-02-22 00:00:00 to 2020-03-15 00:00:00



## 4 Comparison of different countries, with a manual time delay to align them

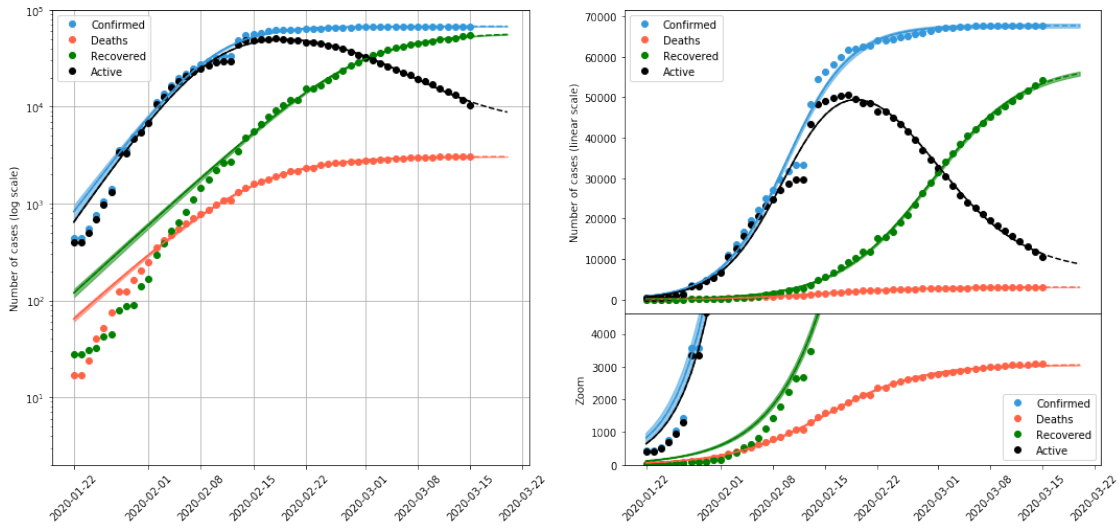


### 4.1 Early onset: China regions

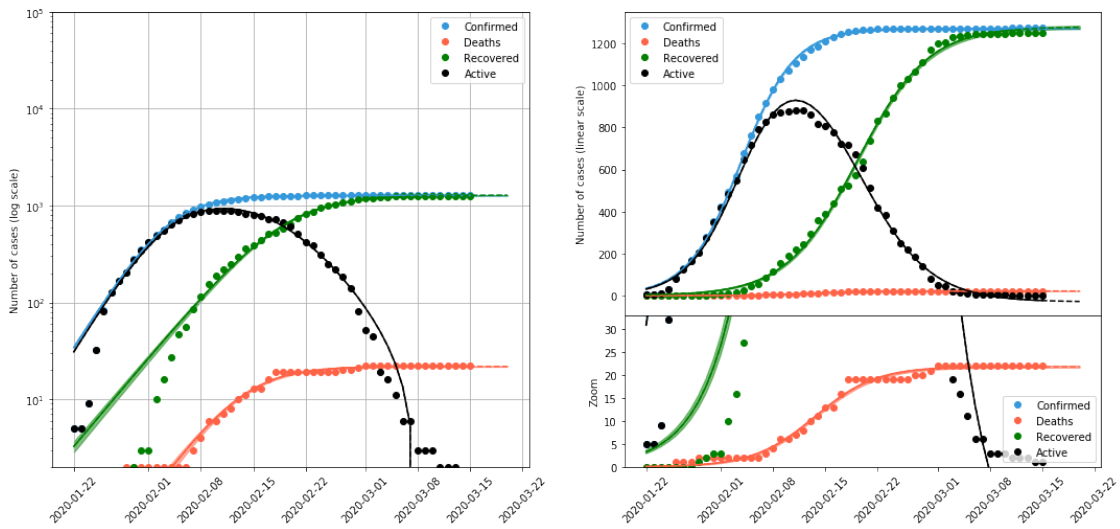
Most of the regions have almost completed the cycle and active cases are disappearing. Note that China Hubei (the original area) has a large number of confirmed cases (70000), but the other regions have very low number of cases, with number around 1200-500 or even less.



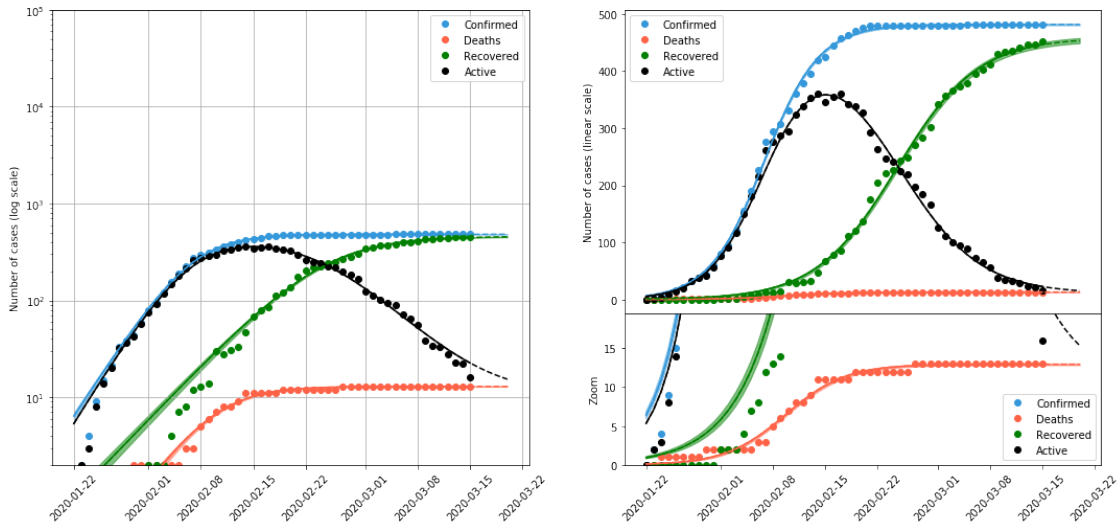
China Hubei  
Date range: 2020-01-22 00:00:00 to 2020-03-15 00:00:00



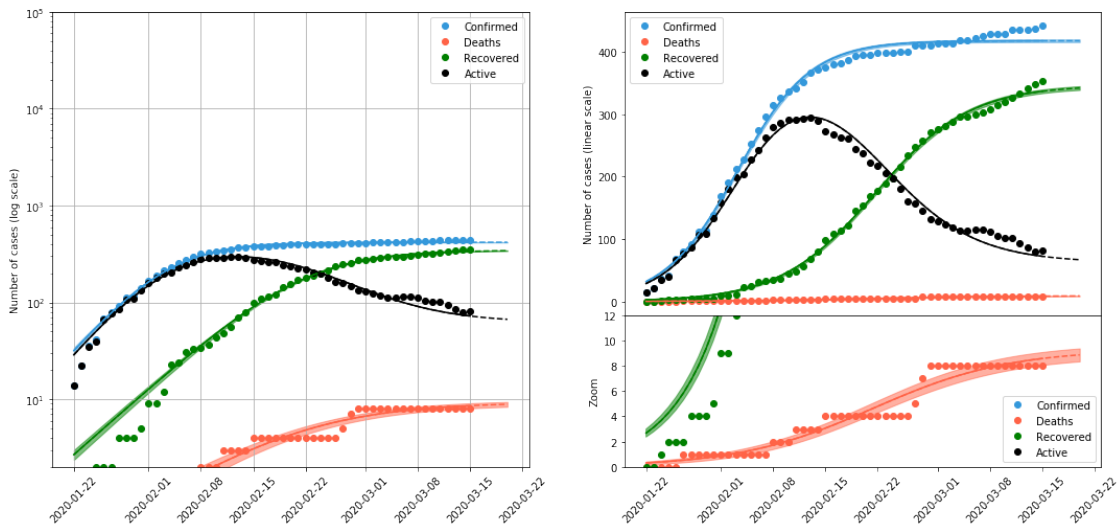
China Henan  
Date range: 2020-01-22 00:00:00 to 2020-03-15 00:00:00

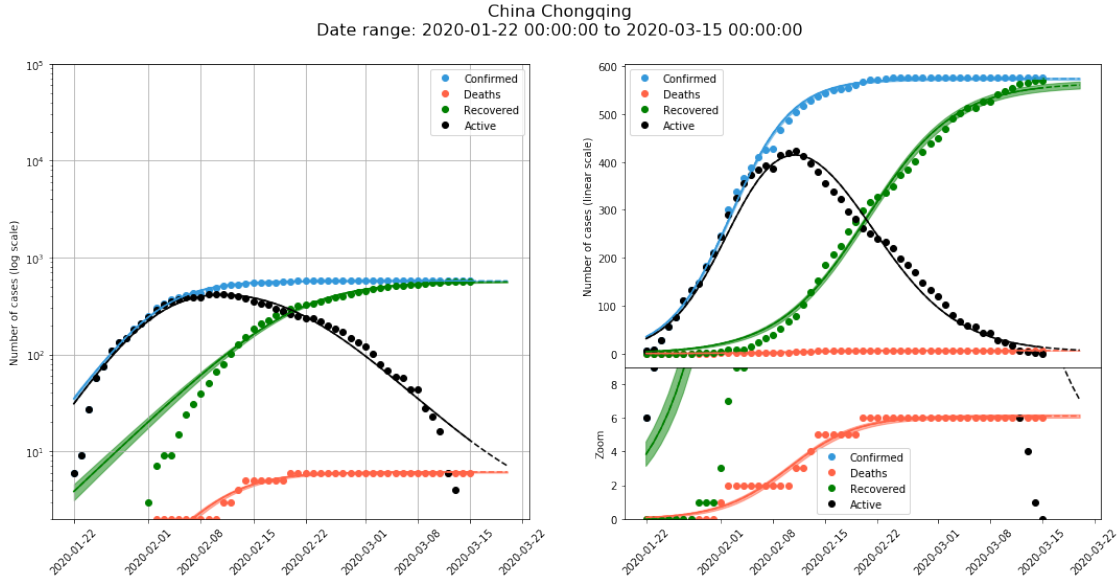


China Heilongjiang  
Date range: 2020-01-22 00:00:00 to 2020-03-15 00:00:00



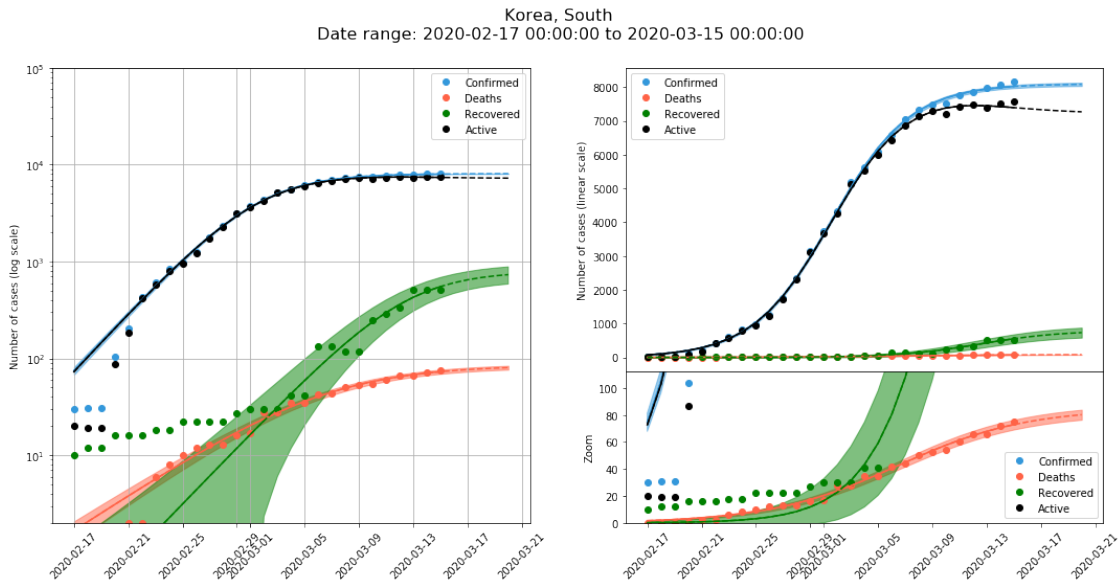
China Beijing  
Date range: 2020-01-22 00:00:00 to 2020-03-15 00:00:00

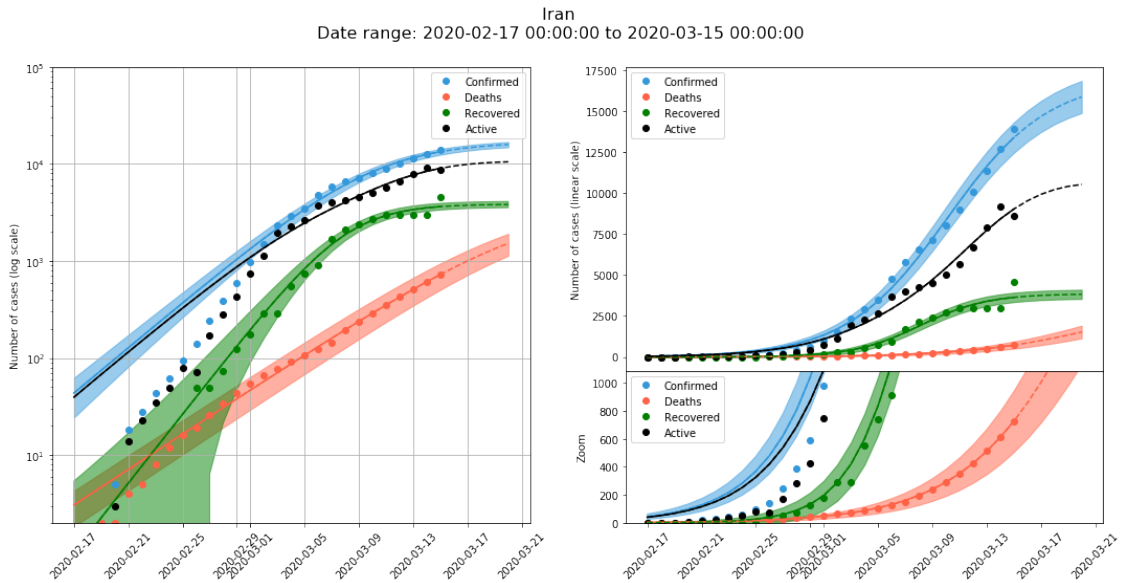
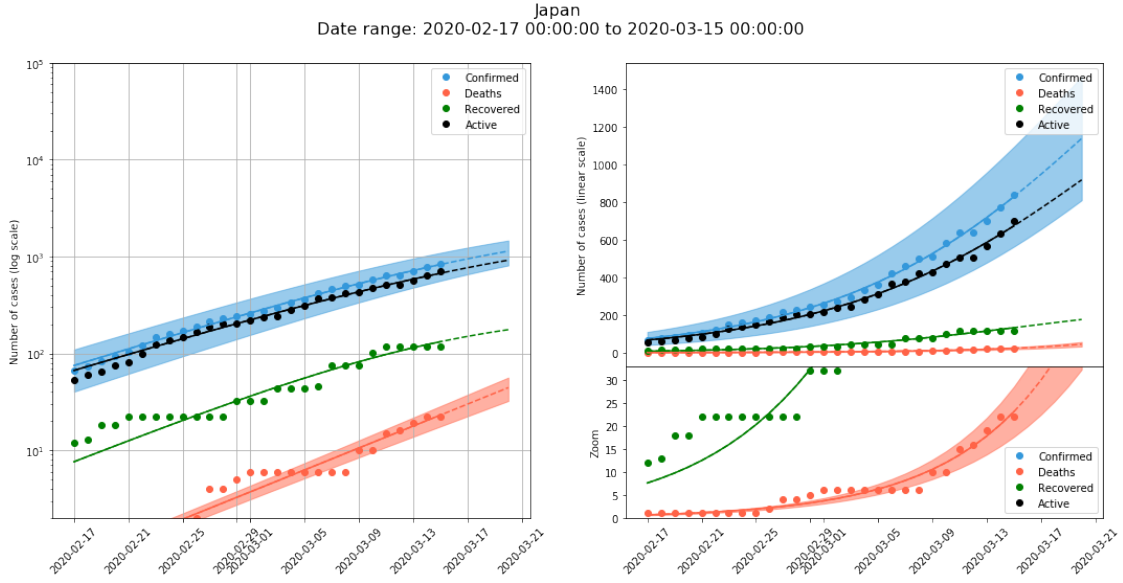




## 4.2 Other countries in Asia

South Korea has a remarkable recovery rate, with many cases and a reduced number of deaths. Japan growth is moderate, much smaller than in European countries. Iran is showing hints of flattening, although it is curious that the number of recoveries has significantly slowed down while the number of deaths still follow a very exponential trend.

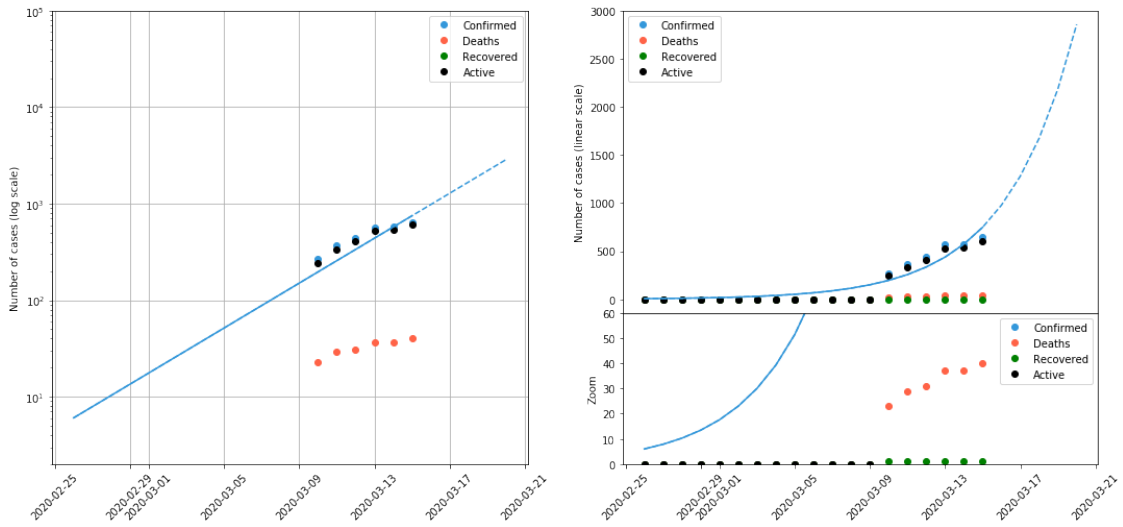




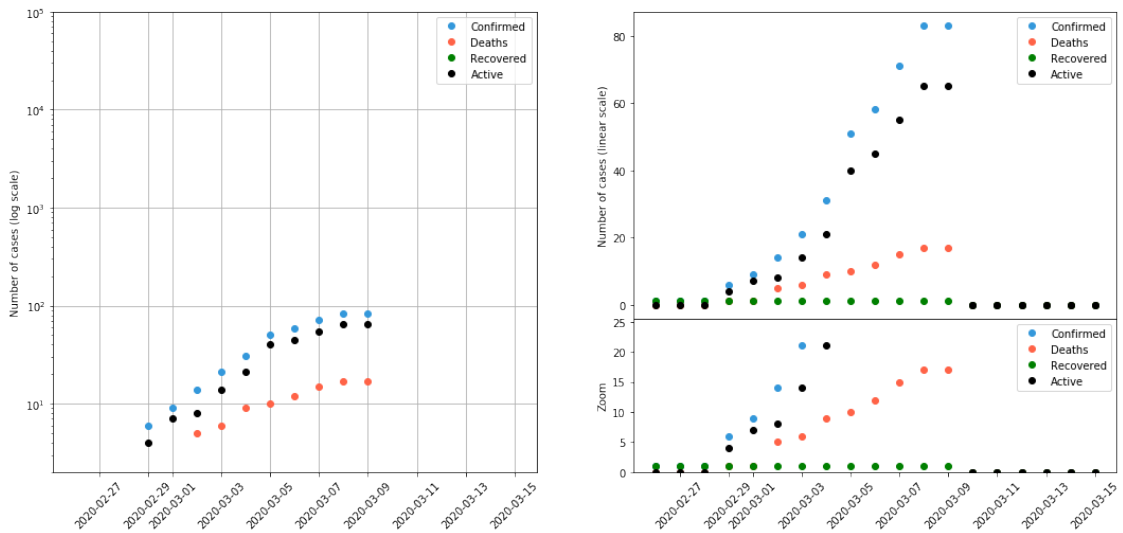
## 5 United States

The number of days with cases is still very low, and the fits are not very informative.

US Washington  
Date range: 2020-02-26 00:00:00 to 2020-03-15 00:00:00



US King County, WA  
Date range: 2020-02-26 00:00:00 to 2020-03-15 00:00:00



US California  
Date range: 2020-02-26 00:00:00 to 2020-03-15 00:00:00

