COVID-19 CASES
AS OF SATURDAY 4/4/2020, 6:00PM HST

Statistics regarding daily new cases and active cases the nine countries that has the highest number of total cases, and South Korea
Source: https://www.worldometers.info/coronavirus/

Statistics regarding daily new cases are also included for Cyprus and Hawaii.
Source: https://www.financialmirror.com/category/cyprus/
I. USA

Daily New Cases in the United States

Active Cases in the United States

3-Day Moving Average Trendline
2. Spain

**Daily New Cases in Spain**

**Active Cases in Spain**
Spain Bar Chart of Daily New Cases from Peak till Today

- Linear Trendline
  - when $y = 0; x = 119.7$ (July 23)

3-Day Moving Average Trendline

- Spain
- 3 per. Mov. Avg. (Daily New Cases)
3. Italy

Daily New Cases in Italy

Active Cases in Italy
Trendlines for Italy

![3-Day Moving Average Trendline](image)

Italy Bar Chart of Daily New Cases from Peak till Today

**Linear Trendline**

when $y = 0; x = 57.8$

(May 17)
Daily New Cases in Germany

Cases per Day
Data as of 0:00 GMT=0

Active Cases in Germany

Active Cases
(Number of Infected People)

Currently Infected
Trendlines for Germany

Linear Trendline when \( y = 0; x = 104.1 \) (July 9)

\[ y = -58.467x + 6087.2 \]
5. France

**Daily New Cases in France**

- **Daily New Cases**
  - Cases per Day
  - Data as of 0:00 GMT+0

**Active Cases in France**

- **Active Cases**
  - Number of Infected People

**3-Day Moving Average Trendline**

- France
- 3 per. Mov. Avg. (Daily New Cases)
6. China

**Daily New Cases in China**

- **Daily New Cases**
  - Cases per Day
  - Data as of 00 GMT+0

**Active Cases in China**

- **Active Cases**
  - Number of Infected People
Daily New Cases in Iran

<table>
<thead>
<tr>
<th>Daily New Cases</th>
<th>Day Moving Average Trendline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases per Day</td>
<td>Daily Cases</td>
</tr>
<tr>
<td>Data as of 00 GMT+0</td>
<td></td>
</tr>
</tbody>
</table>

3-Day Moving Average Trendline

- Iran
- 3 per. Mov. Avg. (Daily New Cases)

Active Cases in Iran

Active Cases

(Number of Infected People)

- Currently Infected
8. UK

### Daily New Cases in the United Kingdom

- **Daily New Cases**
  - Cases per Day
  - Data as of 0:00 GMT+0

### Active Cases in the United Kingdom

- **Active Cases**
  - (Number of Infected People)

#### 3-Day Moving Average Trendline

- **UK**
- **3 per. Mov. Avg. (Daily New Cases)**
9. Switzerland

**Daily New Cases in Switzerland**

**Active Cases in Switzerland**
Trendlines for Switzerland

3-Day Moving Average Trendline

Switzerland Bar Chart of Daily New Cases from Peak till Today

when \( y = 0; x = 62.2 \)

(May 21)

\[ y = -18.943x + 1178.7 \]
Daily New Cases in South Korea

- **Daily New Cases**
  - Cases per Day
  - Data as of 00 GMT +0

**Daily Cases**

- South Korea

3-Day Moving Average Trendline

- S Korea
- 3 per. Mov. Avg. (Daily New Cases)

**Active Cases in South Korea**

- Active Cases
  - (Number of Infected People)

**Total Coronavirus Currently Infected**

- Currently Infected
Daily New Cases in Cyprus

Daily New Cases in Hawaii

Correlation, $r$ (Between Cyprus and Hawaii) = 0.781

$r$ is significant at $a = 5\%$
Table 1.a
GROWTH IN NEW CASES SINCE THE DAY BEFORE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>1.591</td>
<td>1.235</td>
<td>0.862</td>
<td>1.936</td>
<td>1.089</td>
<td>1.091</td>
<td>1.204</td>
<td>1.290</td>
<td>1.085</td>
<td>1.041</td>
<td>1.024</td>
<td>1.022</td>
<td>1.216</td>
<td>1.070</td>
<td>1.128</td>
<td>1.081</td>
<td>1.059</td>
</tr>
<tr>
<td>Spain</td>
<td>1.124</td>
<td>1.056</td>
<td>1.123</td>
<td>0.834</td>
<td>1.946</td>
<td>1.087</td>
<td>1.077</td>
<td>1.109</td>
<td>0.959</td>
<td>0.947</td>
<td>0.915</td>
<td>1.141</td>
<td>1.015</td>
<td>1.029</td>
<td>0.970</td>
<td>0.898</td>
<td>0.977</td>
</tr>
<tr>
<td>Italy</td>
<td>1.265</td>
<td>1.125</td>
<td>1.095</td>
<td>0.848</td>
<td>0.861</td>
<td>1.096</td>
<td>0.993</td>
<td>1.191</td>
<td>0.953</td>
<td>1.011</td>
<td>0.873</td>
<td>0.776</td>
<td>1.001</td>
<td>1.180</td>
<td>0.976</td>
<td>0.982</td>
<td>1.048</td>
</tr>
<tr>
<td>Germany</td>
<td>1.011</td>
<td>1.513</td>
<td>0.556</td>
<td>1.667</td>
<td>0.941</td>
<td>1.101</td>
<td>1.527</td>
<td>1.048</td>
<td>0.984</td>
<td>0.695</td>
<td>0.939</td>
<td>1.106</td>
<td>1.254</td>
<td>1.104</td>
<td>0.934</td>
<td>0.775</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>1.325</td>
<td>0.869</td>
<td>1.142</td>
<td>0.844</td>
<td>2.462</td>
<td>0.638</td>
<td>1.196</td>
<td>1.339</td>
<td>0.971</td>
<td>1.211</td>
<td>0.564</td>
<td>1.684</td>
<td>1.732</td>
<td>0.641</td>
<td>0.435</td>
<td>10.898</td>
<td>0.338</td>
</tr>
<tr>
<td>China</td>
<td>1.15</td>
<td>1.051</td>
<td>1.122</td>
<td>0.848</td>
<td>2.000</td>
<td>0.603</td>
<td>1.426</td>
<td>0.821</td>
<td>0.982</td>
<td>0.833</td>
<td>0.000</td>
<td>---</td>
<td>0.456</td>
<td>0.972</td>
<td>0.886</td>
<td>0.613</td>
<td>1.579</td>
</tr>
<tr>
<td>Iran</td>
<td>0.878</td>
<td>1.183</td>
<td>0.781</td>
<td>1.064</td>
<td>1.373</td>
<td>1.249</td>
<td>1.252</td>
<td>1.083</td>
<td>1.225</td>
<td>1.051</td>
<td>0.943</td>
<td>1.098</td>
<td>0.976</td>
<td>0.961</td>
<td>0.962</td>
<td>0.944</td>
<td>0.943</td>
</tr>
<tr>
<td>UK</td>
<td>0.951</td>
<td>1.110</td>
<td>1.450</td>
<td>0.643</td>
<td>1.454</td>
<td>1.476</td>
<td>1.018</td>
<td>1.466</td>
<td>1.355</td>
<td>0.882</td>
<td>0.956</td>
<td>1.076</td>
<td>1.149</td>
<td>1.437</td>
<td>0.981</td>
<td>1.049</td>
<td>0.839</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2.968</td>
<td>1.258</td>
<td>0.896</td>
<td>0.490</td>
<td>2.162</td>
<td>0.819</td>
<td>0.943</td>
<td>0.896</td>
<td>1.222</td>
<td>1.028</td>
<td>0.656</td>
<td>1.452</td>
<td>0.625</td>
<td>1.703</td>
<td>0.911</td>
<td>0.736</td>
<td>1.154</td>
</tr>
<tr>
<td>S Korea</td>
<td>1.634</td>
<td>0.572</td>
<td>1.690</td>
<td>0.667</td>
<td>0.653</td>
<td>1.188</td>
<td>1.316</td>
<td>1.040</td>
<td>0.875</td>
<td>1.604</td>
<td>0.719</td>
<td>0.743</td>
<td>1.603</td>
<td>0.808</td>
<td>0.881</td>
<td>0.966</td>
<td>1.093</td>
</tr>
<tr>
<td>Cyprus</td>
<td>1.000</td>
<td>0.889</td>
<td>1.125</td>
<td>1.375</td>
<td>1.909</td>
<td>0.381</td>
<td>1.000</td>
<td>1.750</td>
<td>1.143</td>
<td>1.063</td>
<td>2.059</td>
<td>0.457</td>
<td>2.000</td>
<td>1.813</td>
<td>0.621</td>
<td>1.111</td>
<td>0.750</td>
</tr>
<tr>
<td>Hawaii</td>
<td>3.333</td>
<td>1.100</td>
<td>1.000</td>
<td>0.727</td>
<td>2.500</td>
<td>0.700</td>
<td>0.429</td>
<td>1.833</td>
<td>1.273</td>
<td>2.214</td>
<td>0.774</td>
<td>1.208</td>
<td>0.690</td>
<td>1.700</td>
<td>0.794</td>
<td>1.259</td>
<td>0.941</td>
</tr>
<tr>
<td>Worldwide</td>
<td>1.271</td>
<td>1.174</td>
<td>0.960</td>
<td>1.102</td>
<td>1.275</td>
<td>1.058</td>
<td>1.107</td>
<td>1.254</td>
<td>1.061</td>
<td>1.035</td>
<td>0.903</td>
<td>1.019</td>
<td>1.199</td>
<td>1.043</td>
<td>1.037</td>
<td>1.274</td>
<td>0.835</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>1.152</td>
<td>1.142</td>
<td>1.129</td>
<td>1.092</td>
<td>1.077</td>
<td>1.074</td>
<td>1.092</td>
<td>1.103</td>
<td>1.111</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>1.236</td>
<td>1.036</td>
<td>1.002</td>
<td>1.014</td>
<td>0.996</td>
<td>1.009</td>
<td>1.014</td>
<td>1.011</td>
<td>0.978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>1.019</td>
<td>1.049</td>
<td>1.004</td>
<td>0.961</td>
<td>0.923</td>
<td>0.968</td>
<td>0.961</td>
<td>0.983</td>
<td>1.037</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>1.257</td>
<td>1.120</td>
<td>1.071</td>
<td>1.039</td>
<td>0.954</td>
<td>0.996</td>
<td>1.019</td>
<td>1.067</td>
<td>1.035</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>1.321</td>
<td>1.071</td>
<td>1.056</td>
<td>1.154</td>
<td>1.232</td>
<td>1.166</td>
<td>1.011</td>
<td>3.078</td>
<td>2.809</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>1.166</td>
<td>0.933</td>
<td>0.812</td>
<td>0.659</td>
<td>0.568</td>
<td>0.565</td>
<td>0.578</td>
<td>0.732</td>
<td>0.901</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iran</td>
<td>1.236</td>
<td>1.172</td>
<td>1.111</td>
<td>1.080</td>
<td>1.059</td>
<td>1.006</td>
<td>0.988</td>
<td>0.988</td>
<td>0.957</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>1.354</td>
<td>1.239</td>
<td>1.135</td>
<td>1.147</td>
<td>1.084</td>
<td>1.100</td>
<td>1.120</td>
<td>1.138</td>
<td>1.091</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>1.208</td>
<td>0.982</td>
<td>0.949</td>
<td>1.051</td>
<td>0.996</td>
<td>1.093</td>
<td>1.069</td>
<td>1.085</td>
<td>1.026</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S Korea</td>
<td>1.014</td>
<td>1.205</td>
<td>1.111</td>
<td>0.996</td>
<td>1.109</td>
<td>1.095</td>
<td>0.951</td>
<td>1.000</td>
<td>1.070</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyprus</td>
<td>1.237</td>
<td>1.067</td>
<td>1.403</td>
<td>1.294</td>
<td>1.344</td>
<td>1.478</td>
<td>1.390</td>
<td>1.200</td>
<td>1.259</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawaii</td>
<td>1.347</td>
<td>1.290</td>
<td>1.305</td>
<td>1.461</td>
<td>1.232</td>
<td>1.317</td>
<td>1.033</td>
<td>1.130</td>
<td>1.077</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worldwide</td>
<td>1.151</td>
<td>1.103</td>
<td>1.072</td>
<td>1.054</td>
<td>1.043</td>
<td>1.040</td>
<td>1.040</td>
<td>1.115</td>
<td>1.078</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>0.701</td>
<td>0.796</td>
<td>0.921</td>
<td>0.865</td>
<td>0.806</td>
<td>0.879</td>
<td>0.949</td>
<td>0.972</td>
<td>0.978</td>
<td>0.876</td>
<td>0.901</td>
<td>0.905</td>
<td>0.915</td>
<td>0.939</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>0.908</td>
<td>0.710</td>
<td>0.798</td>
<td>0.927</td>
<td>0.913</td>
<td>0.954</td>
<td>0.956</td>
<td>0.900</td>
<td>0.896</td>
<td>0.914</td>
<td>0.968</td>
<td>0.972</td>
<td>0.938</td>
<td>0.889</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>0.920</td>
<td>0.859</td>
<td>0.793</td>
<td>0.775</td>
<td>0.847</td>
<td>0.881</td>
<td>0.919</td>
<td>0.869</td>
<td>0.775</td>
<td>0.677</td>
<td>0.655</td>
<td>0.686</td>
<td>0.713</td>
<td>0.715</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>0.703</td>
<td>0.678</td>
<td>0.782</td>
<td>0.917</td>
<td>0.750</td>
<td>0.860</td>
<td>0.979</td>
<td>0.889</td>
<td>0.770</td>
<td>0.679</td>
<td>0.747</td>
<td>0.861</td>
<td>0.930</td>
<td>0.871</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>0.900</td>
<td>0.629</td>
<td>0.681</td>
<td>0.800</td>
<td>0.790</td>
<td>0.906</td>
<td>0.892</td>
<td>0.797</td>
<td>0.838</td>
<td>0.640</td>
<td>0.740</td>
<td>0.640</td>
<td>0.434</td>
<td>0.476</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>0.003</td>
<td>0.004</td>
<td>0.004</td>
<td>0.005</td>
<td>0.004</td>
<td>0.004</td>
<td>0.004</td>
<td>0.002</td>
<td>0.003</td>
<td>0.003</td>
<td>0.004</td>
<td>0.002</td>
<td>0.002</td>
<td>0.002</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iran</td>
<td>0.789</td>
<td>0.804</td>
<td>0.795</td>
<td>0.813</td>
<td>0.887</td>
<td>0.857</td>
<td>0.909</td>
<td>0.965</td>
<td>0.959</td>
<td>0.962</td>
<td>0.971</td>
<td>0.939</td>
<td>0.897</td>
<td>0.853</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>0.777</td>
<td>0.859</td>
<td>0.715</td>
<td>0.883</td>
<td>0.784</td>
<td>0.747</td>
<td>0.873</td>
<td>0.909</td>
<td>0.878</td>
<td>0.893</td>
<td>0.767</td>
<td>0.892</td>
<td>0.975</td>
<td>0.931</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.778</td>
<td>0.761</td>
<td>0.721</td>
<td>0.819</td>
<td>0.722</td>
<td>0.730</td>
<td>0.761</td>
<td>0.722</td>
<td>0.716</td>
<td>0.605</td>
<td>0.703</td>
<td>0.695</td>
<td>0.718</td>
<td>0.655</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S Korea</td>
<td>0.130</td>
<td>0.121</td>
<td>0.093</td>
<td>0.094</td>
<td>0.110</td>
<td>0.116</td>
<td>0.134</td>
<td>0.134</td>
<td>0.129</td>
<td>0.121</td>
<td>0.119</td>
<td>0.123</td>
<td>0.108</td>
<td>0.105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyprus</td>
<td>0.718</td>
<td>0.651</td>
<td>0.635</td>
<td>0.587</td>
<td>0.476</td>
<td>0.603</td>
<td>0.746</td>
<td>0.648</td>
<td>0.648</td>
<td>0.790</td>
<td>0.609</td>
<td>0.724</td>
<td>0.770</td>
<td>0.609</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawaii</td>
<td>0.909</td>
<td>0.650</td>
<td>0.700</td>
<td>0.667</td>
<td>0.517</td>
<td>0.517</td>
<td>0.602</td>
<td>0.742</td>
<td>0.903</td>
<td>0.785</td>
<td>0.814</td>
<td>0.794</td>
<td>0.931</td>
<td>0.912</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worldwide</td>
<td>0.950</td>
<td>0.832</td>
<td>0.896</td>
<td>0.919</td>
<td>0.839</td>
<td>0.898</td>
<td>0.959</td>
<td>0.956</td>
<td>0.941</td>
<td>0.884</td>
<td>0.919</td>
<td>0.963</td>
<td>0.847</td>
<td>0.873</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COVID-19 CONTROL CHART ANALYSIS
Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
  - Example: Last five days (from 3/30/20 to 4/3/20) are all below the control line, which suggests an ‘out-of-control’ pattern for COVID-19 cases in Italy. A good ‘out-of-control’ sign. The linear trend line has a downward slope.
Spain

Control Chart Analysis:
- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
  - Example: Four points (from 3/30/20 to 4/2/20) are above the control line, which suggests an ‘out-of-control’ pattern for COVID-19 cases in Spain (not too good). But, the linear trend line has a downward slope.
Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
  - There is an ‘out-of-control’ pattern in both directions. But, the linear trend line has a downward slope.
Switzerland

Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
  - Example: Four points (from 3/20/20 to 3/24/20) are above the control line, which suggests an ‘out-of-control’ pattern for COVID-19 cases in Switzerland (not good). But, the linear trend line has a downward slope.