

REPORT ON WEEKLY DEATHS IN SOUTH AFRICA

1 JANUARY – 9 JUNE 2020
(WEEK 23)

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UCT Centre
for Actuarial
Research

Warning: The Department of Home Affairs is facing sporadic temporary office closures, particularly in areas that are more affected by COVID-19. This may affect our allocation of a death to a metro area. For example, a death that occurred in the City of Cape Town might have been registered at an office outside of the City because of the temporary closure. Closure may also cause a delay in the processing of the death registration which would result in an underestimate of the deaths in the most recent week.

Data Source

Basic demographic information for all deaths registered on the National Population Register are provided to the SAMRC on a weekly basis. Since the weekly number of deaths has a seasonal trend, historical data from 2018 and 2019 have been used to predict the number of deaths that could be expected during 2020.

The excel forecast function¹ has been used to predict values for each week of 2020 based on a linear annual trend, allowing for a seasonal effect over the year. In addition, 95% prediction intervals have been estimated for the predicted weekly number of deaths for 2020 to give a basis to assess fluctuations.

Graphs of the weekly number of deaths up until epidemiological **week 23** (i.e. the period from **1 January 2020** till **9 June 2020**) based on the data received on 15 June 2020 are shown below. *The figures plot the numbers at the start date of each week.*

Data for the most recent week has been scaled up to account for the lag in processing registrations. Based on previous data, the numbers at the national level have been increased by 5.3%.

It must be noted that the National Population Register includes only deaths of persons with a national ID number. Unregistered deaths as well as the registered deaths of persons without a national ID number are not recorded.

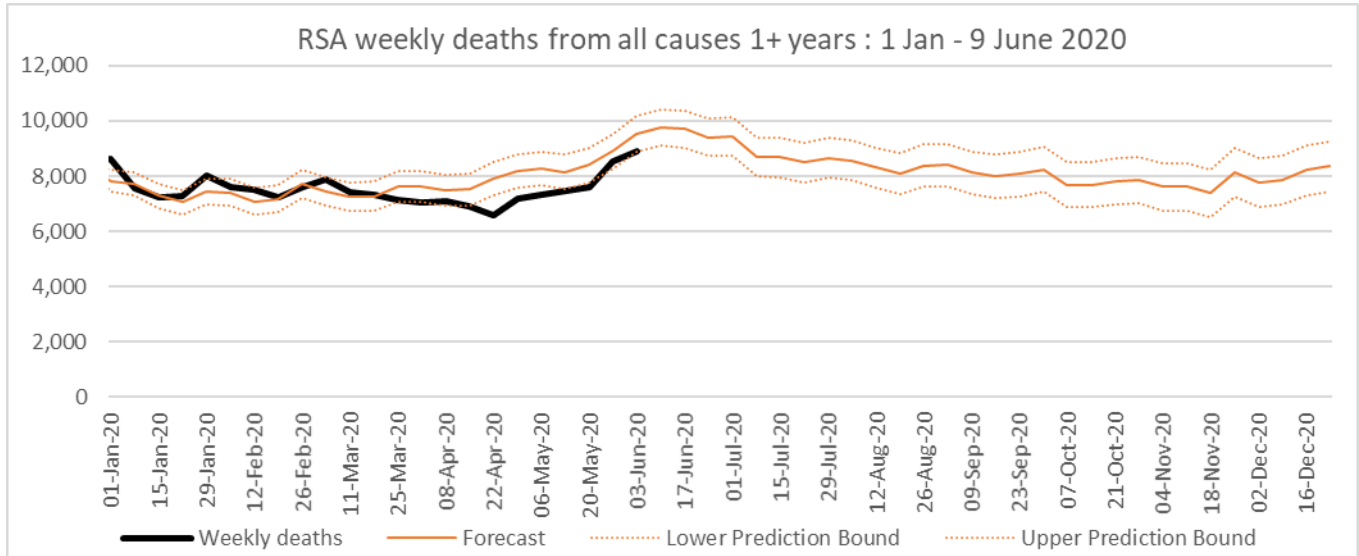
Sub-national statistics have been compiled for the provinces and metros by allocating the deaths according to the Home Affairs office where the death was registered. It is assumed that most of the deaths within an area are registered at an office in the same area. The numbers of deaths from **natural causes** are reported for each of the metros.

Births were not registered by the Department of Home Affairs during lockdown stage 5. This means any that die before the backlog is processed will not be placed on the National Population Register and thus that the deaths of these births will not be captured. **This report presents weekly deaths of persons 1 year and older.** Registered births are again being added to the population register, but either there remains a backlog in processing or a lower proportion of births are being registered since lockdown. Once we have confidence that registration of deaths is back to previous levels we will include deaths under age 1.

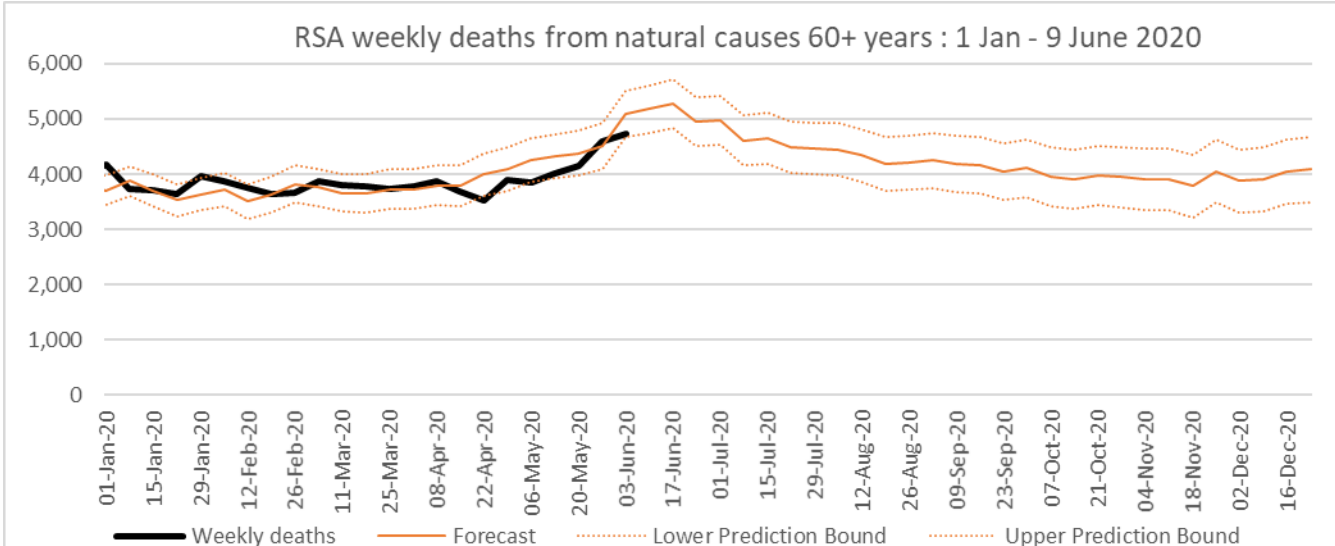
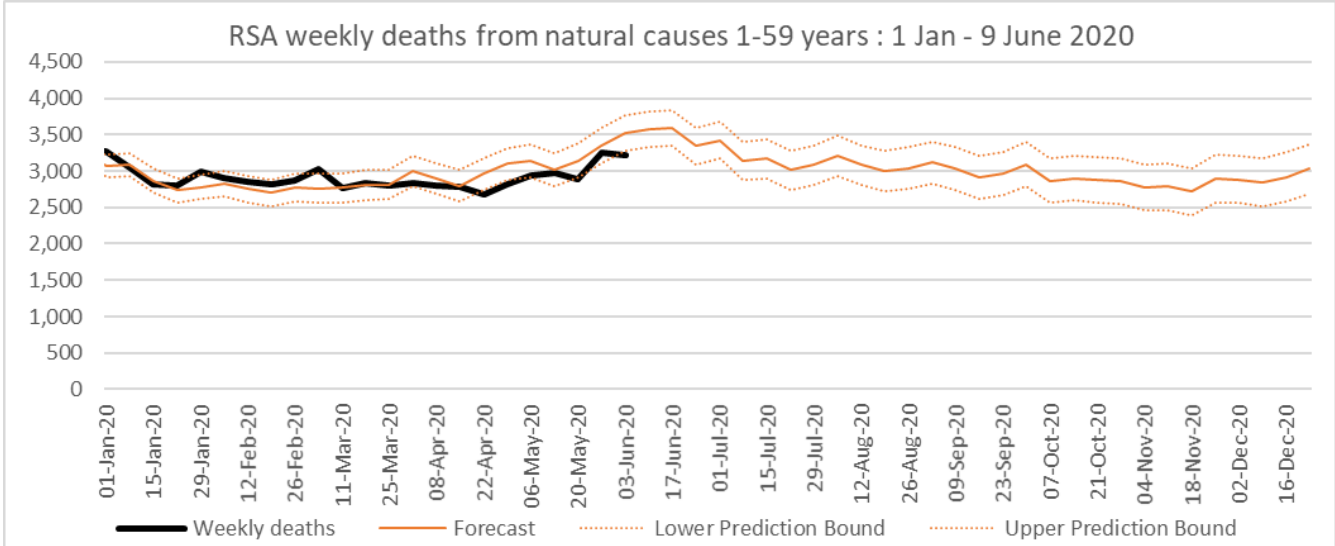
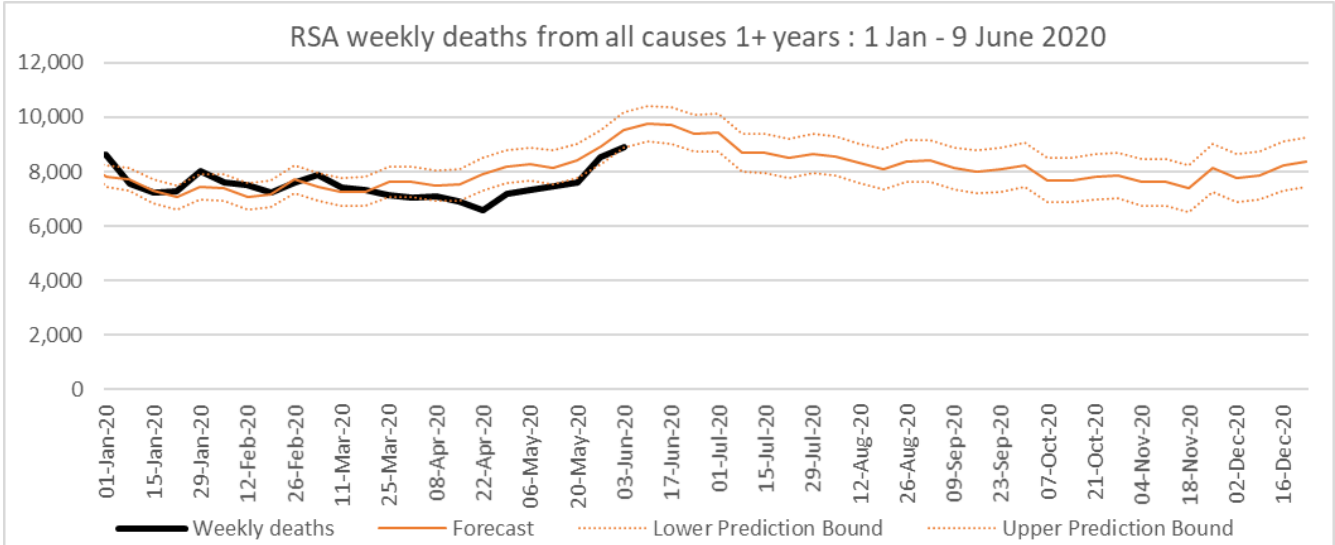
¹ The Excel function implements is the Holt-Winters triple exponential smoothing (the AAA sub-method).

Trends

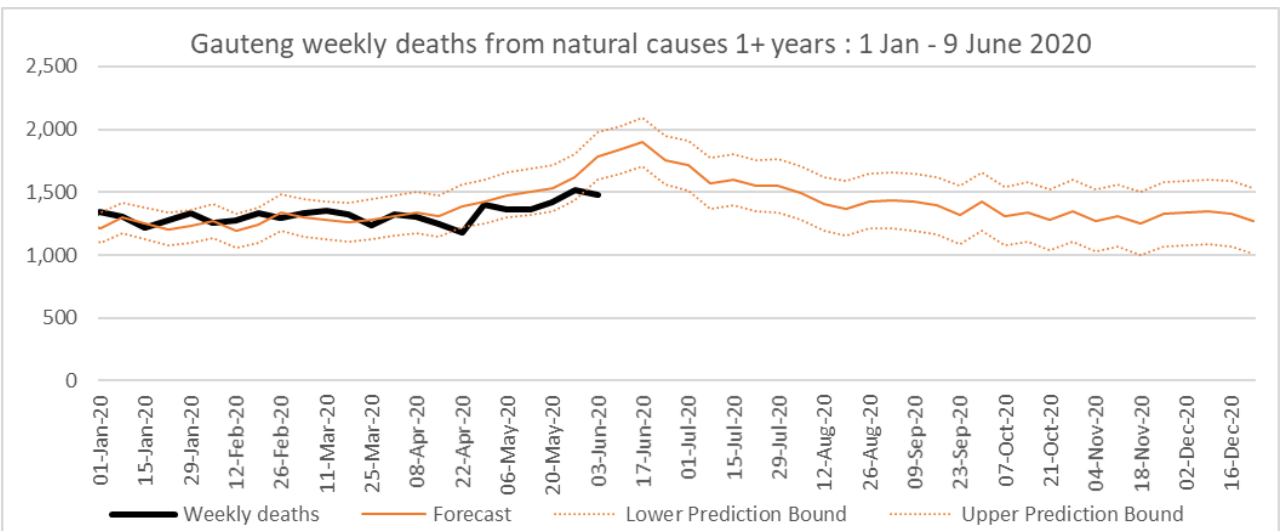
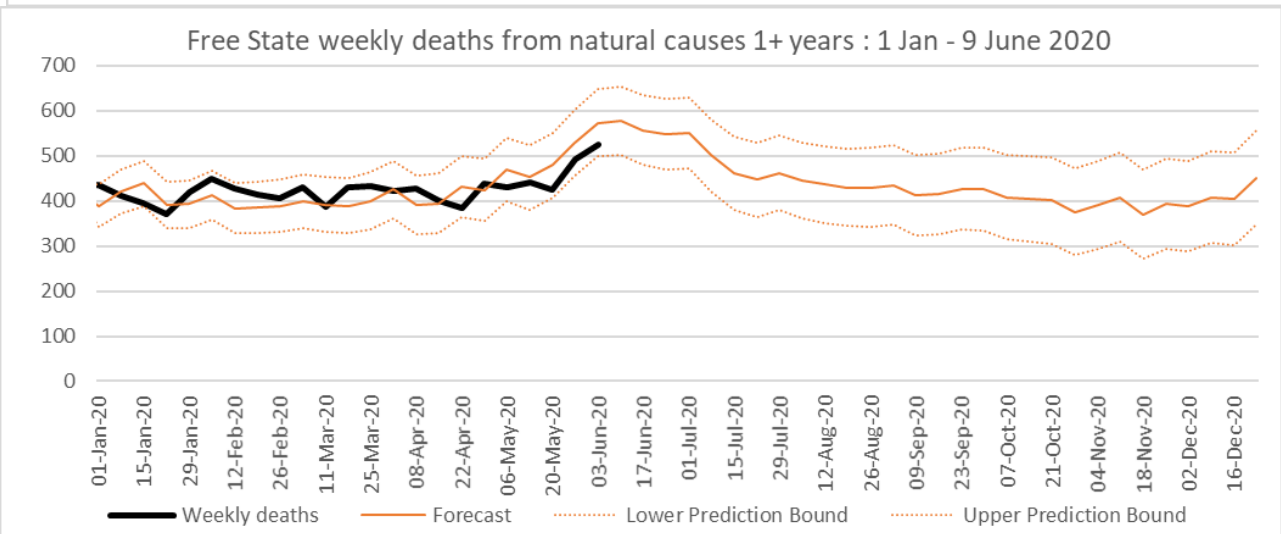
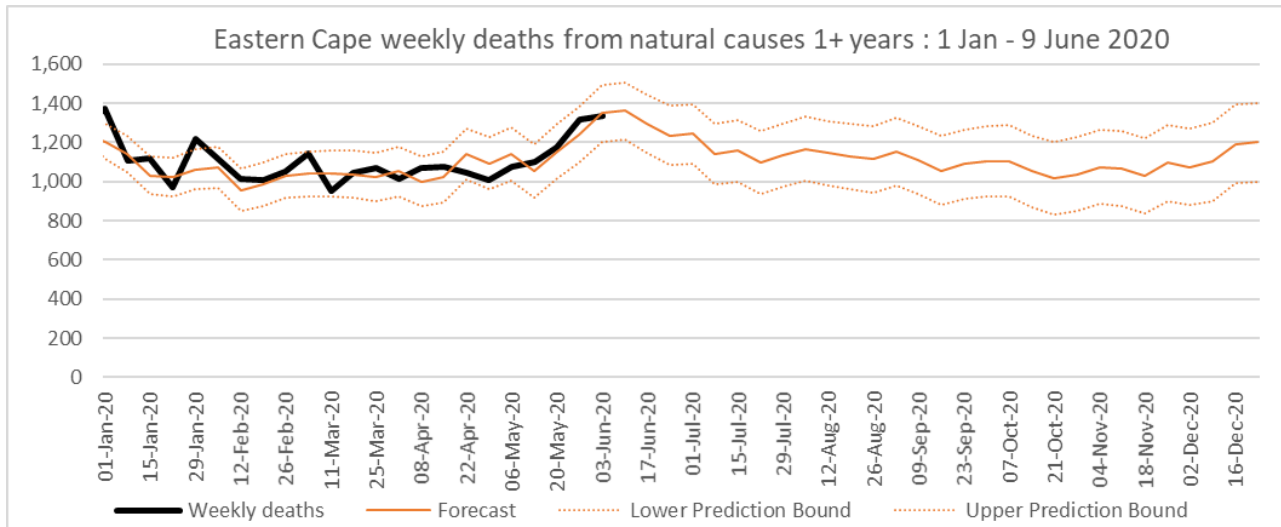
- The national weekly number of deaths from all causes of persons 1+ years of age has increased in the week ending **9 June 2020** but remains lower than the number that would have been expected based on the historical data. This is reflected in the number of deaths from natural causes tracking the trend at a lower prediction bound.
- The observed increase in the recent weeks may understate the actual increase in deaths as it appears that temporary closures of offices may be resulting in delays in processing death registrations. Drops in the number of deaths from natural causes among persons 1+ years of age were experienced in **Johannesburg** and **Tshwane** and appear to have resulted in a drop in **Gauteng** in the week up till **9 June 2020**. Similar declines are observed in **Northern Cape** and **North West**.
- The **City of Cape Town** and **Nelson Mandela Bay** metros experienced increased numbers of natural deaths for persons 1+ years of age and are statistically significantly above the predicted value for the week up till **9 June 2020**. The difference is **251** deaths in **Cape Town** and **49** in **Nelson Mandela Bay**, while the difference for the **Western Cape** province, where the number of deaths from natural causes of persons 1+ years has become statistically significantly above the predicted value in the week up till **9 June 2020**, the difference is **220** deaths.
- The number of deaths from natural causes has tracked the lower prediction bound in the past few weeks but a drop has been observed for persons 1-59 years in the week up till **9 June 2020**. Given some of the provincial trends, it is unlikely that there has been a real drop in deaths.
- The number of deaths from unnatural causes (e.g. road traffic fatalities and homicides) was significantly lower than predicted during lockdown but has increased with the easing of lockdown and by 9 June reverted to the same numbers as expected without lockdown.



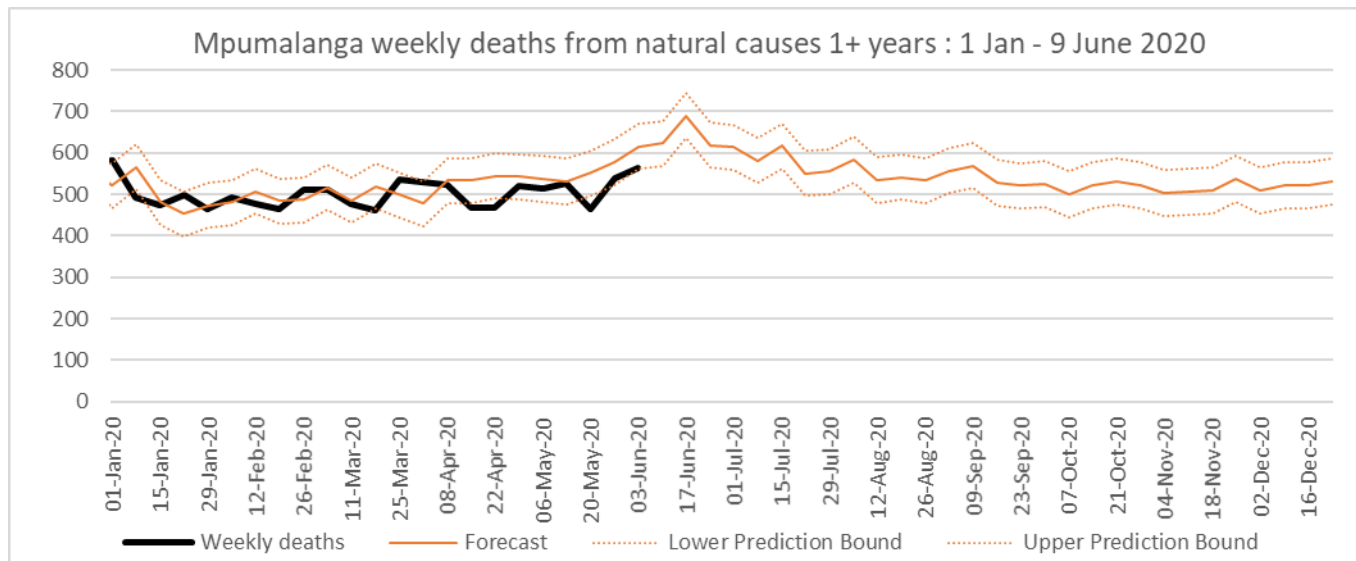
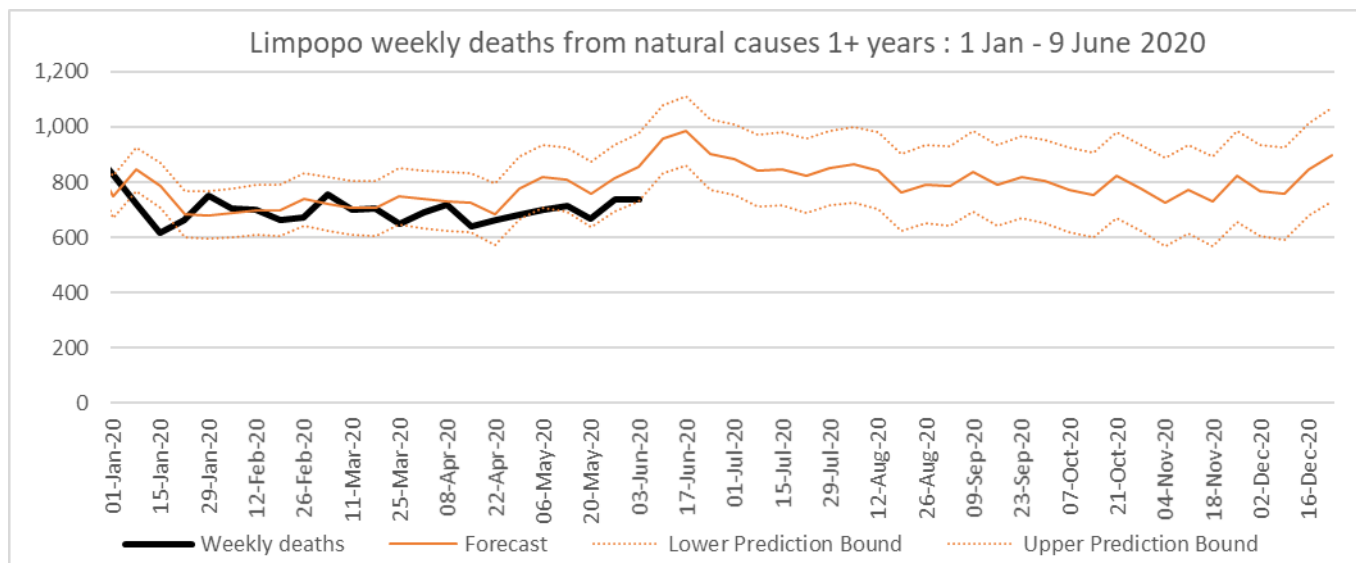
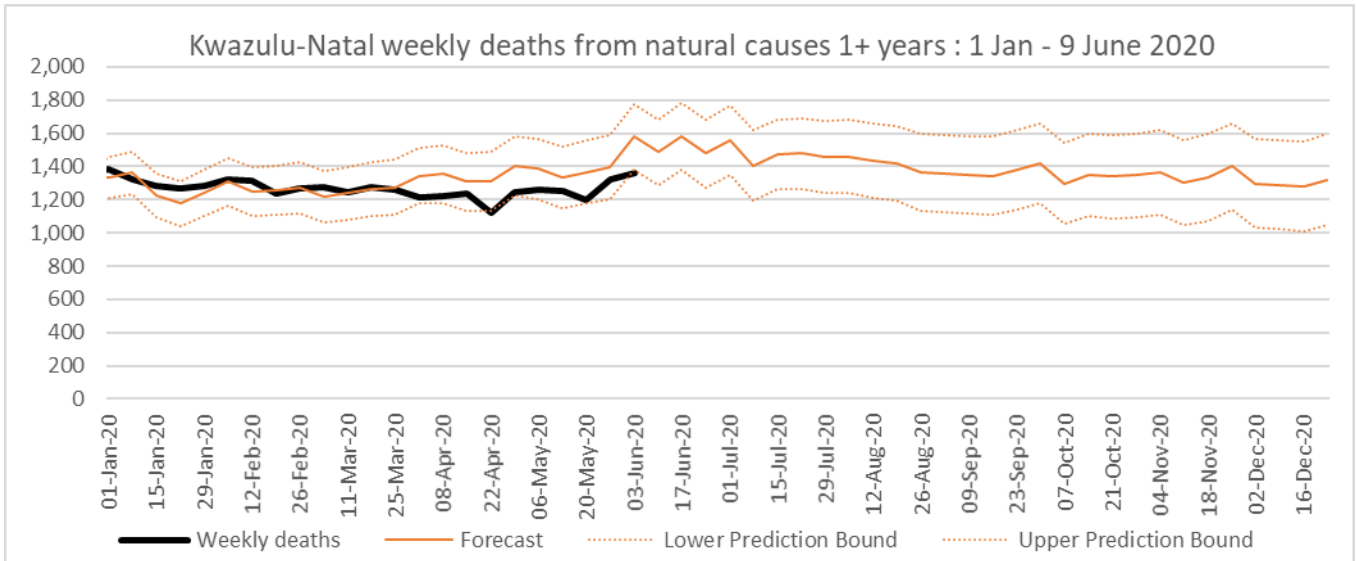
Numbers for the last week has been adjusted for delayed registrations



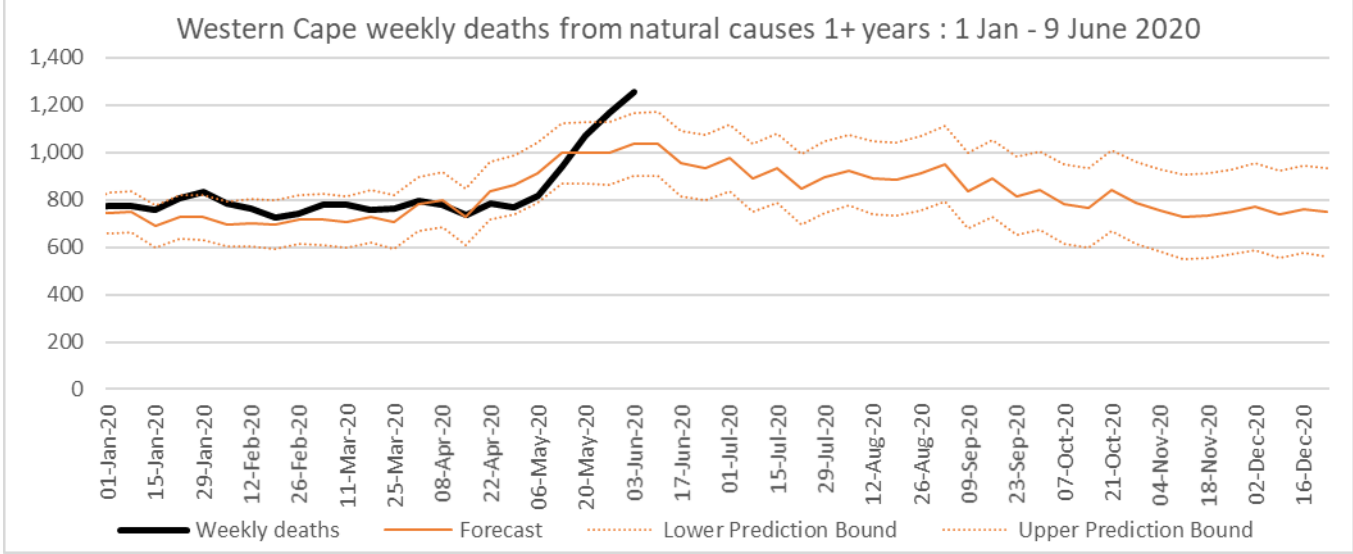
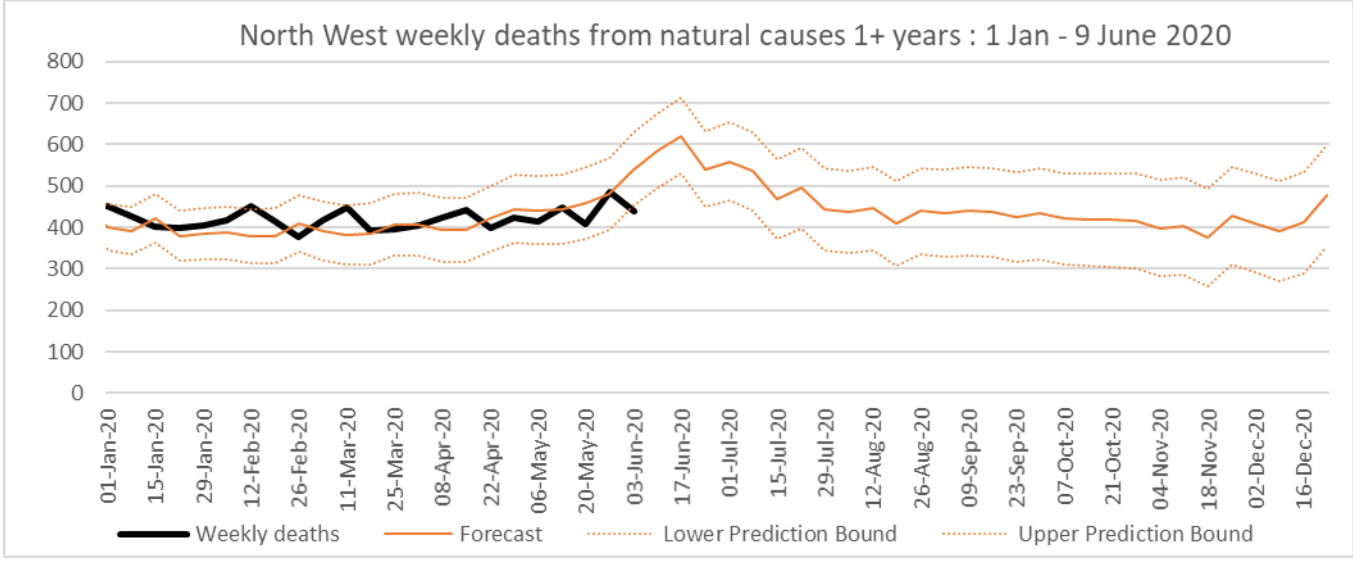
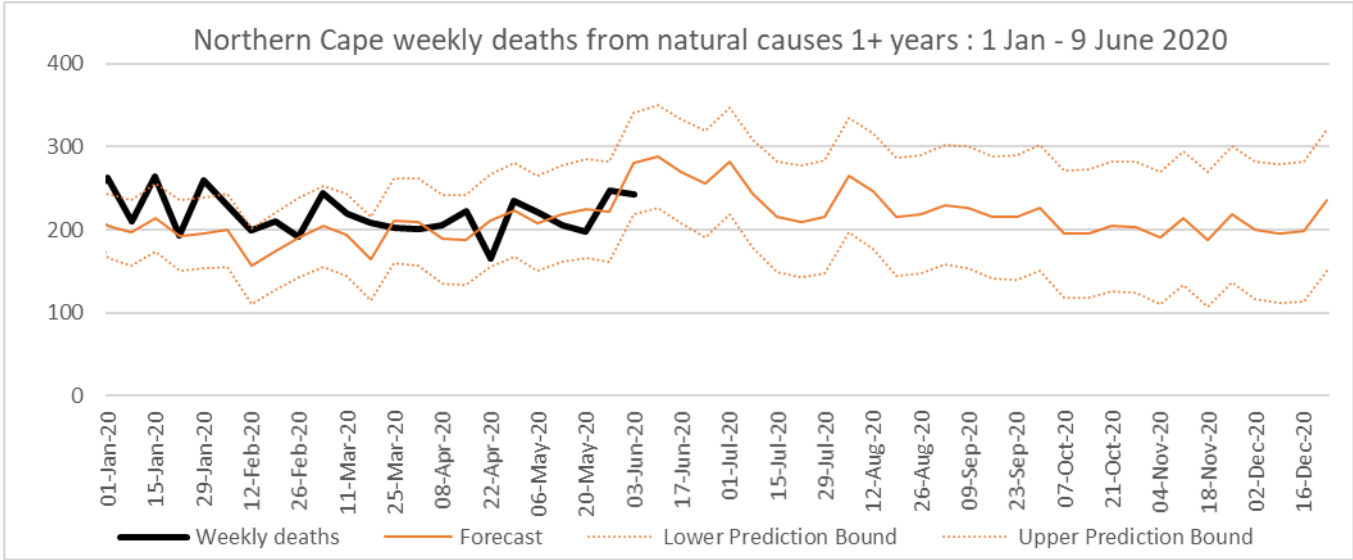
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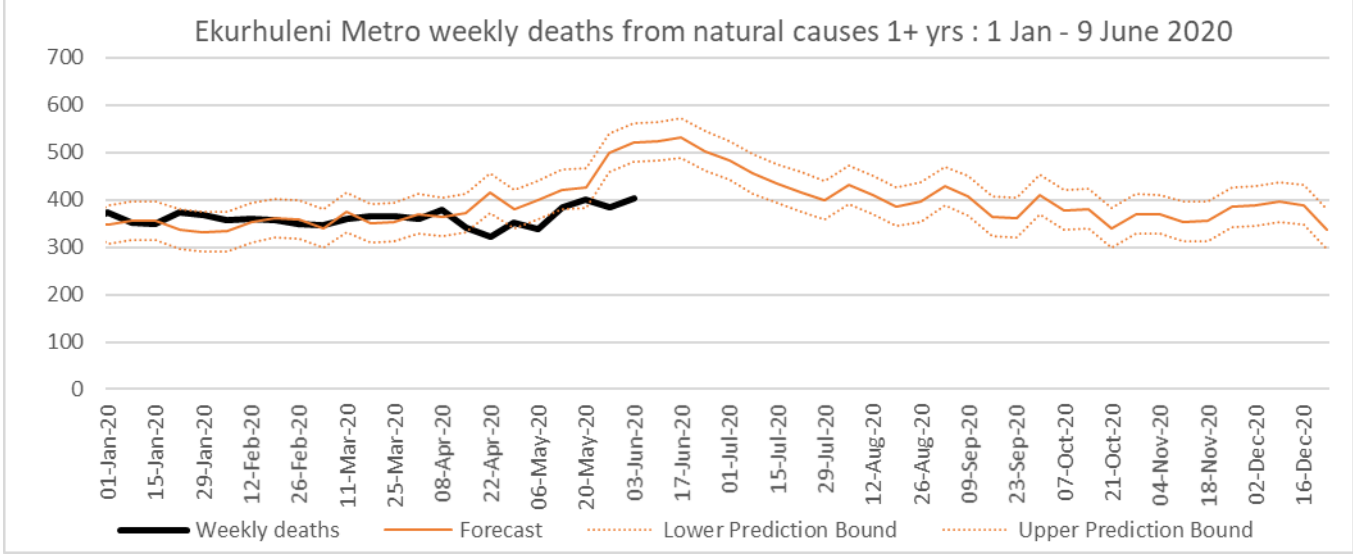
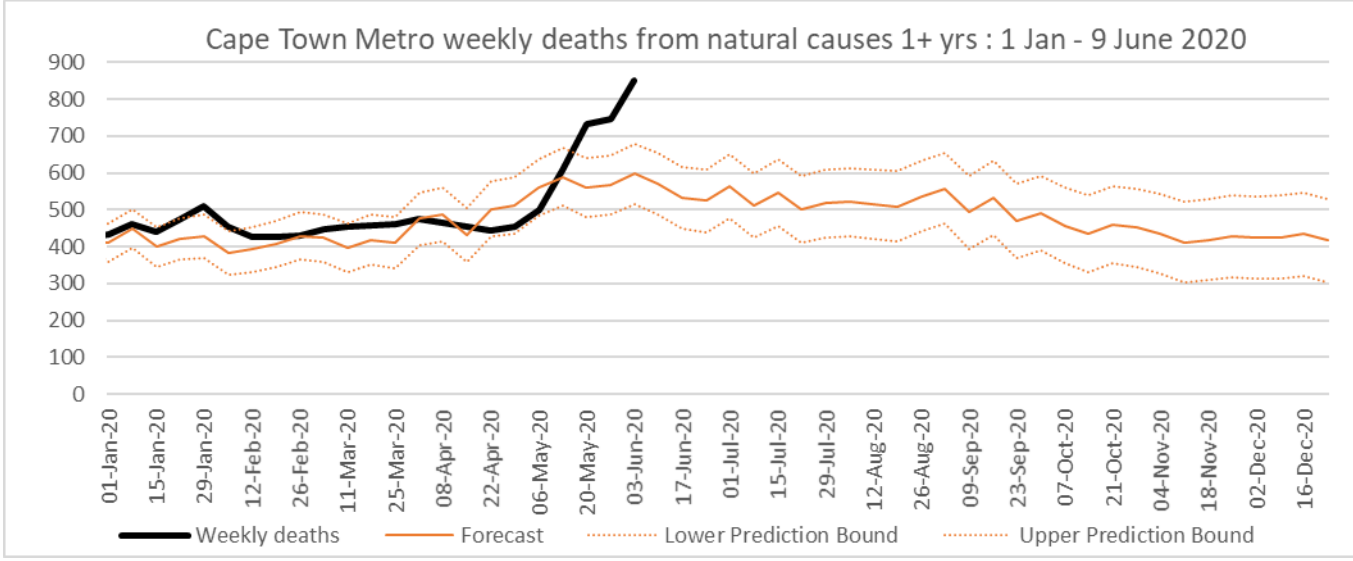
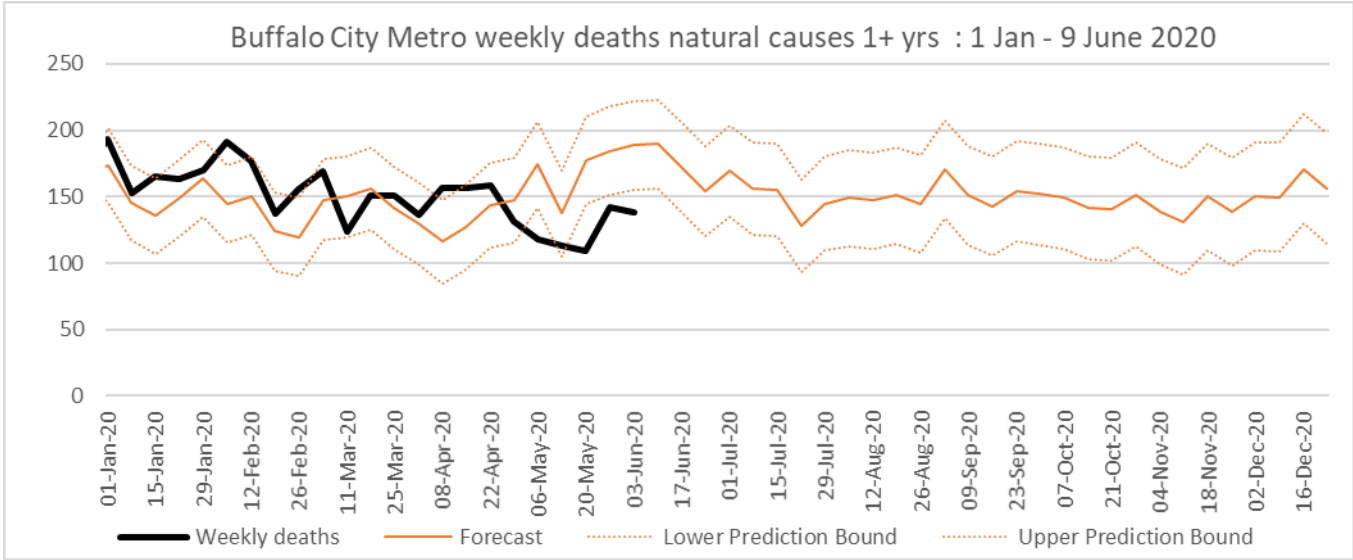
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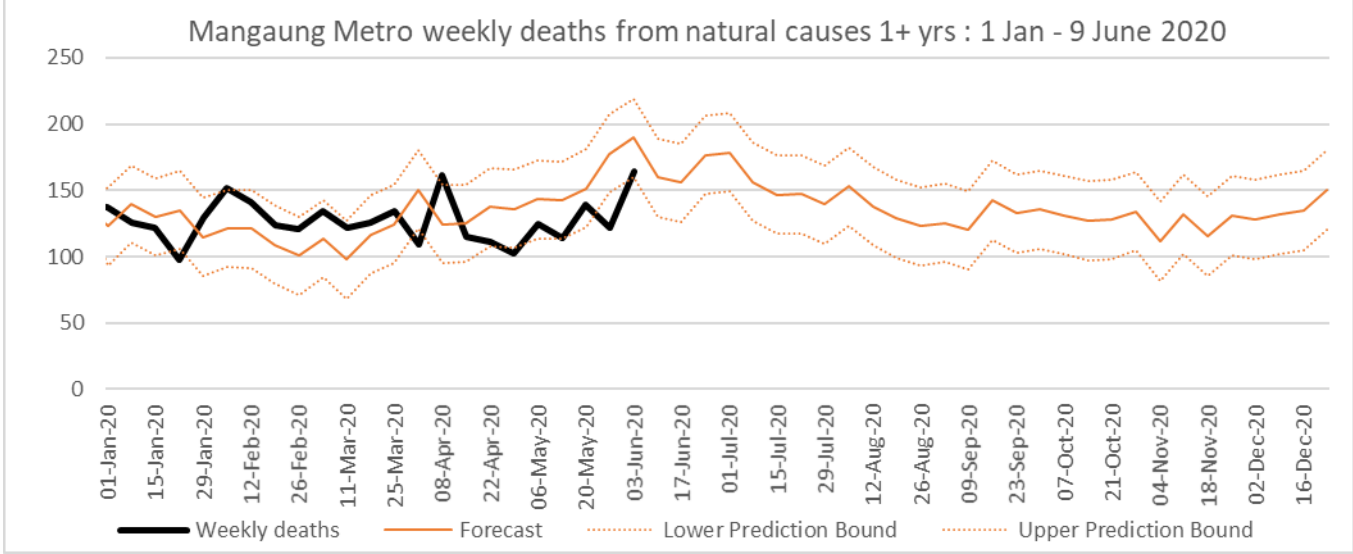
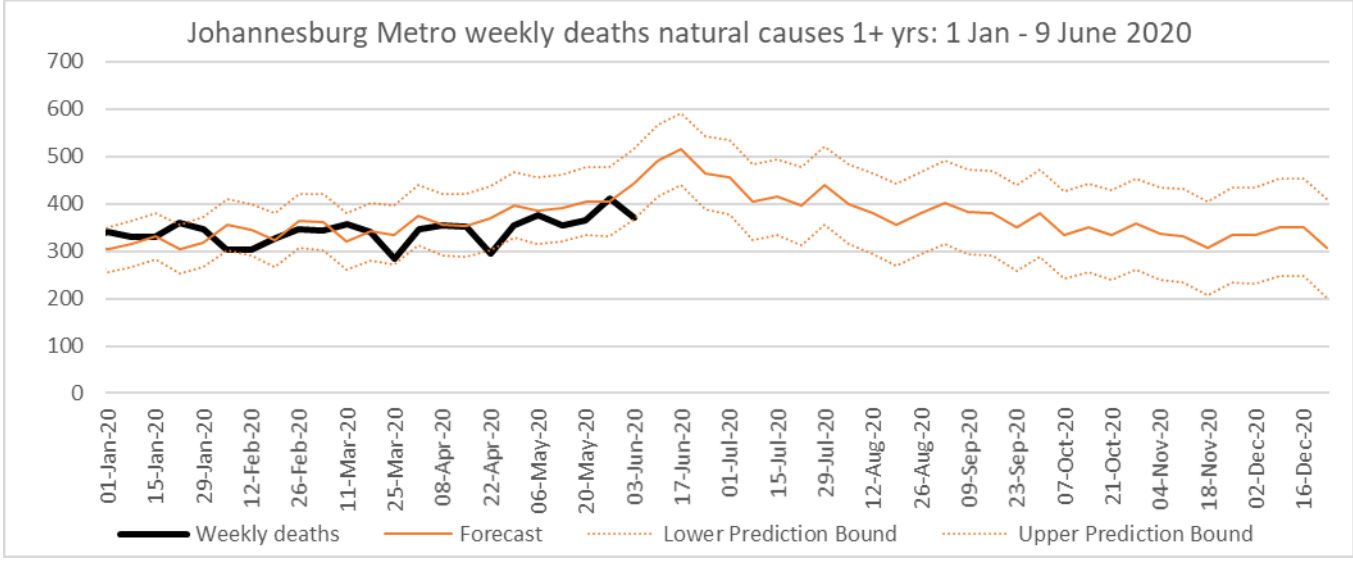
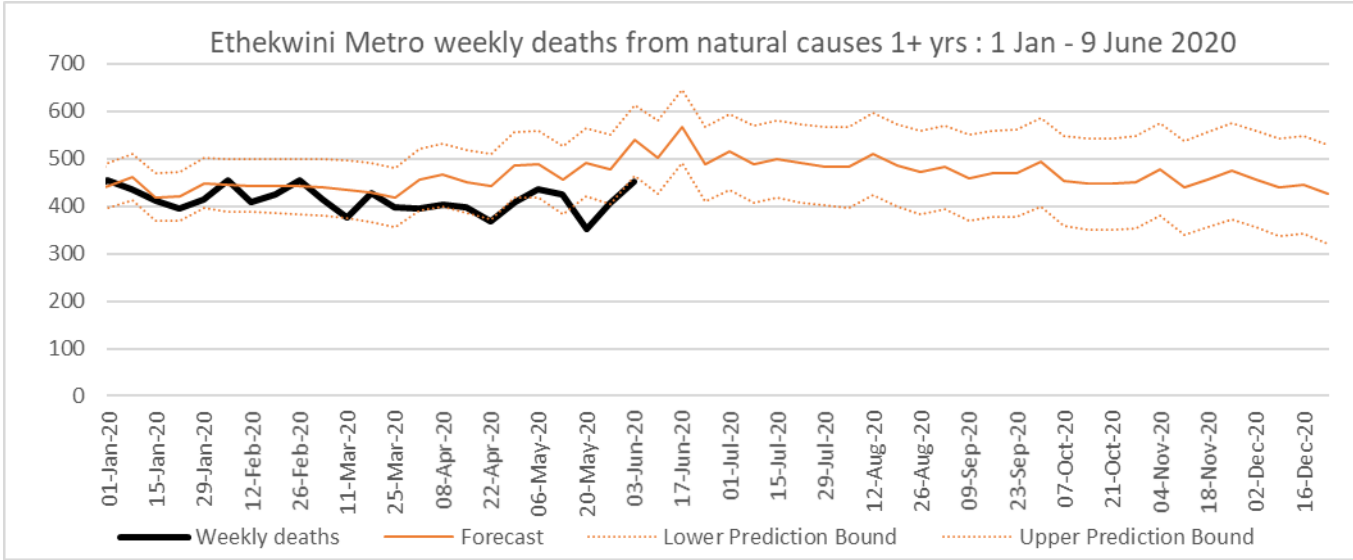
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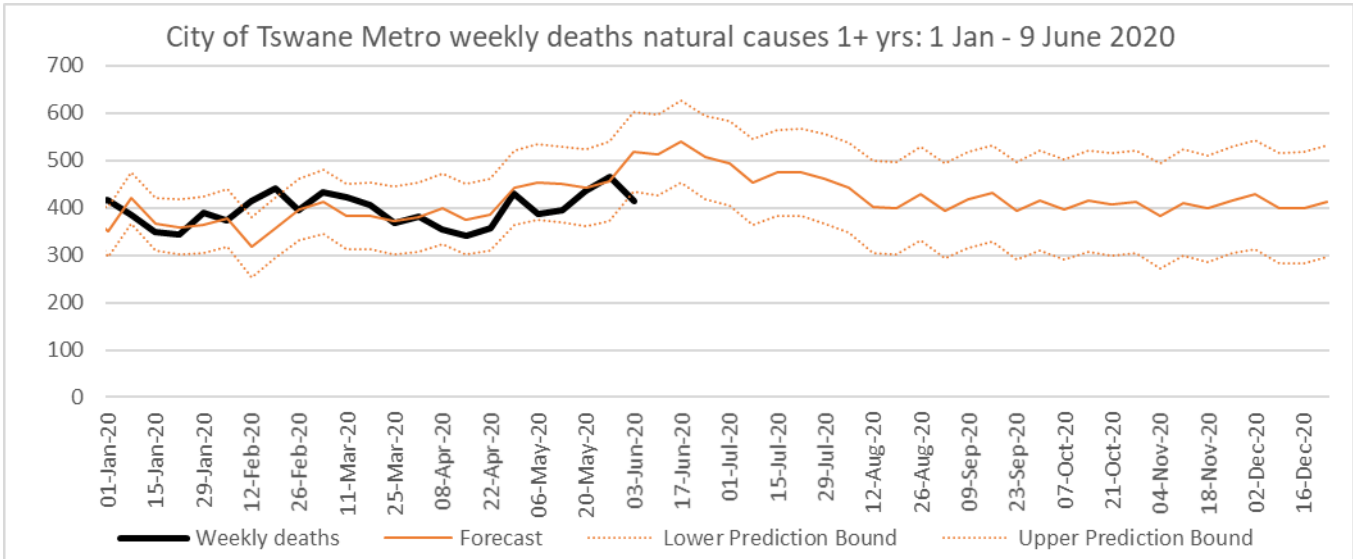
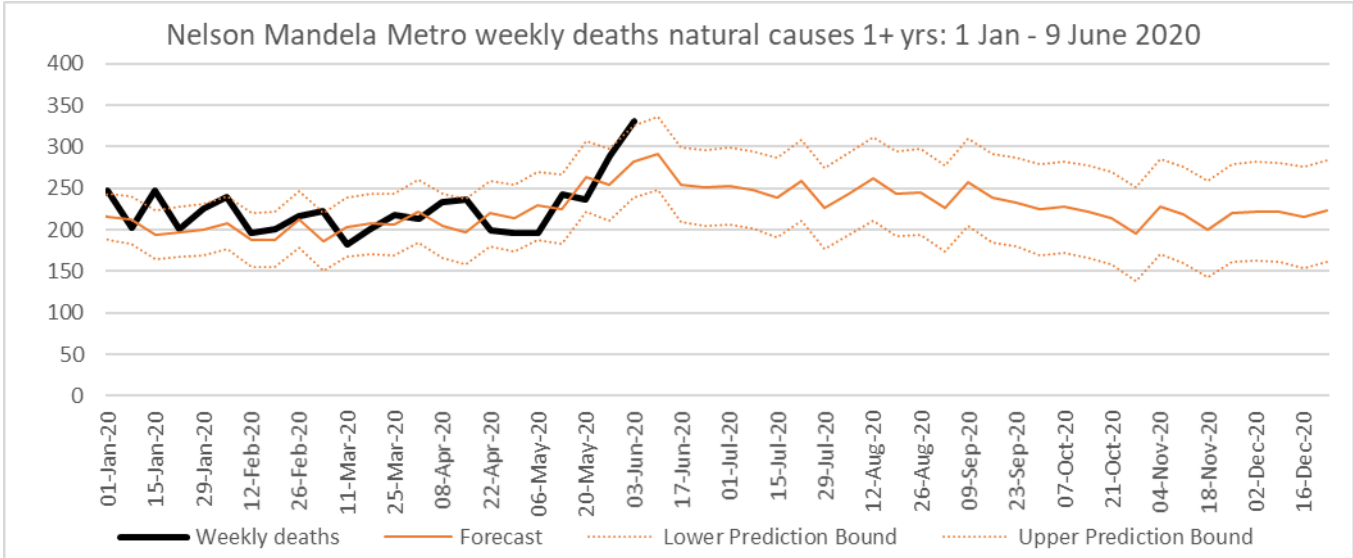
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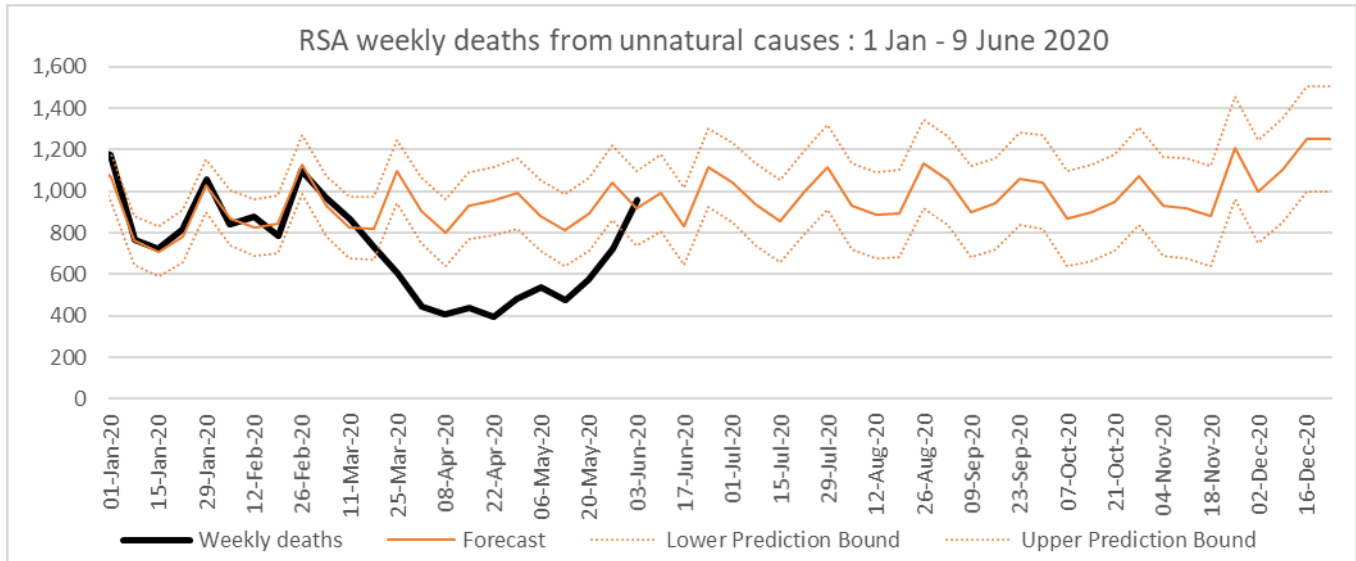
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