

Image credit: [source](#)



Team Nu

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How has the Melbourne lockdown(s)
affected air pollution around the city?

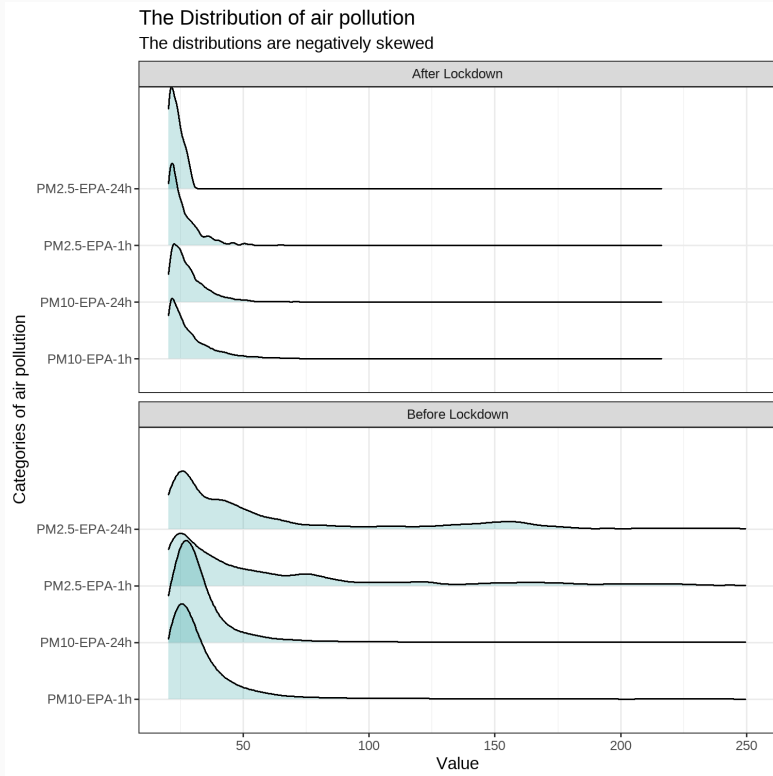
Dataset

The climate sensor data from Melbourne City Council. This data set contains measurements obtained from November 2019 up until now, on things like humidity, temperature, and air quality from different locations around the city.

Based on air quality categories on [EPA AirWatch](#) we took PM2.5 and PM10 as the pollutant with unit measurement of $\mu\text{g}/\text{m}^3$

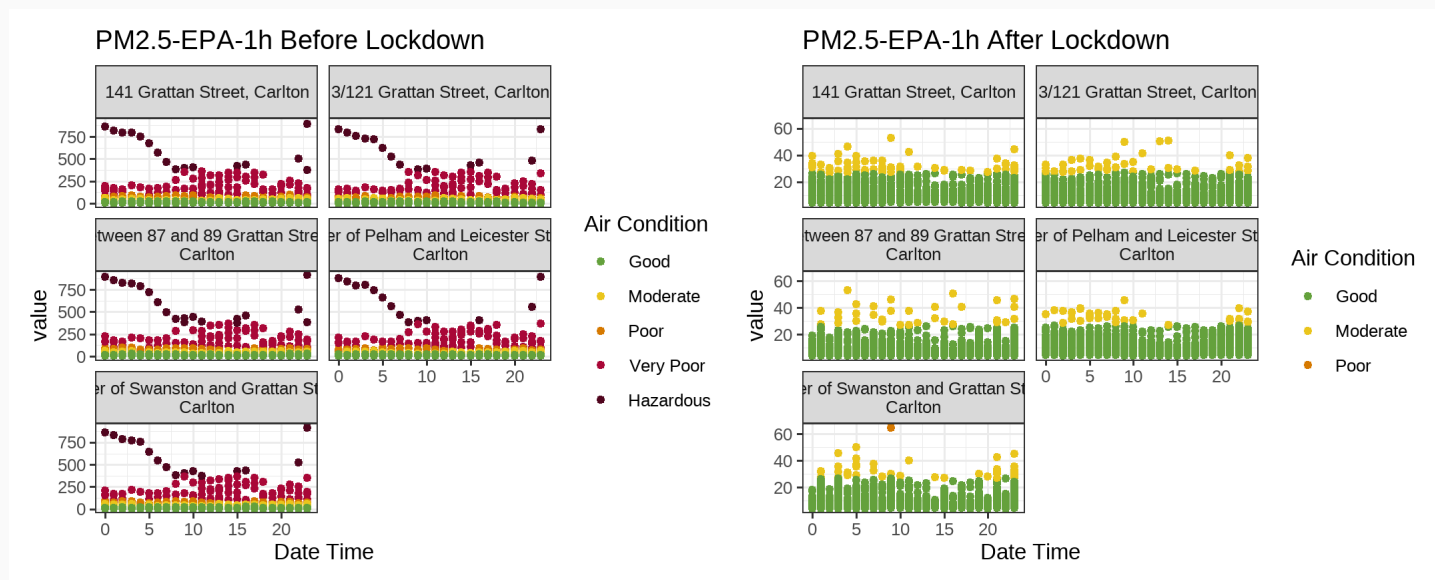
Pollutant	Measurement	Good	Moderate	Poor	VeryPoor	Hazardous
PM10	$\mu\text{g}/\text{m}^3$	< 40	40–80	80–120	120–240	≥ 240
PM2.5	$\mu\text{g}/\text{m}^3$	< 27	27–62	62–97	97–370	≥ 370

Air Pollution Distribution



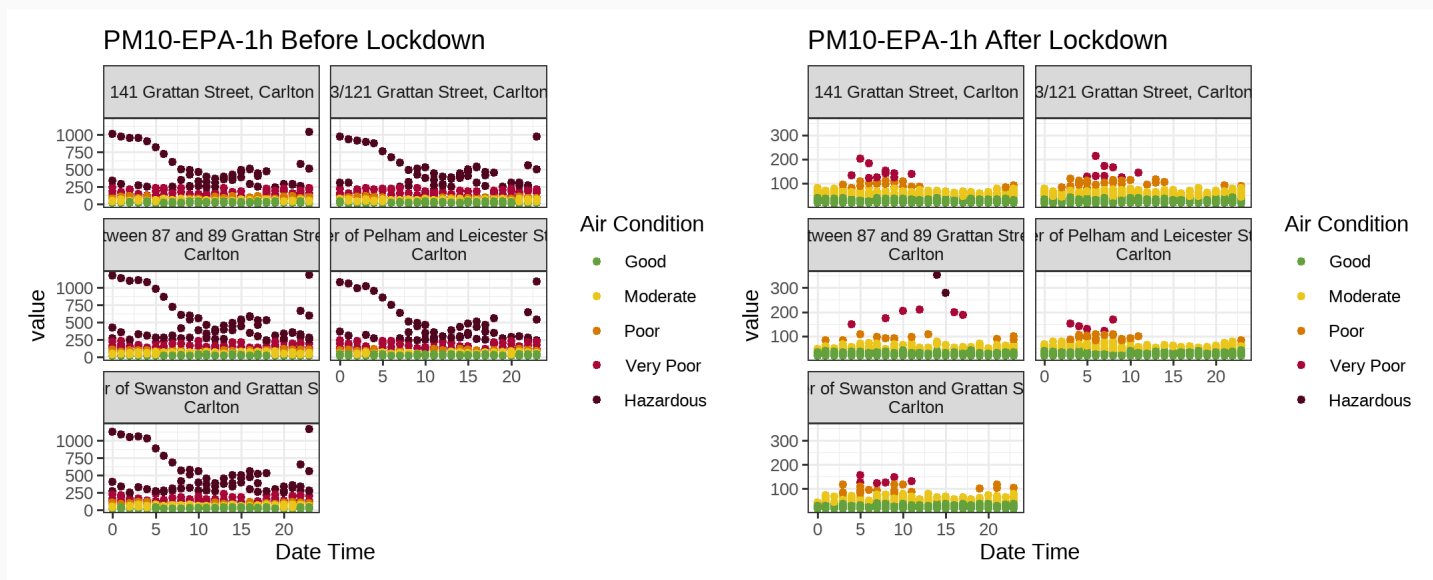
- Both of the plots are right skewed.
- Before the lockdown distribution of air quality tends to have more bigger values
- After lockdown it has smaller values.

Hourly Plot based on PM2.5



- Before the lockdown, the air quality looks bad with a lot of poor and hazardous categories
- A lot of pollutant happen in early hour, it can be activity from the industry or vehicles
- Also, Victoria recently suffered from the bush fire from the end of last year until the beginning of this year that affect the air quality
- Air quality becomes much better after restriction occurs

Hourly Plot based on PM10



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News Article (14 Jan 2020)

ABC NEWS

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BREAKING NEWS

Actor [Johnny Depp](#) has lost his libel case against British tabloid the [Sun](#) over allegations he was a 'wife-beater' < 1/2 >

Melbourne air quality drops to 'hazardous' levels as bushfire smoke lingers over Victoria

Posted Tue 14 Jan 2020 at 3:22am, updated Tue 14 Jan 2020 at 3:10pm



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PLAN FOR A HEATWAVE

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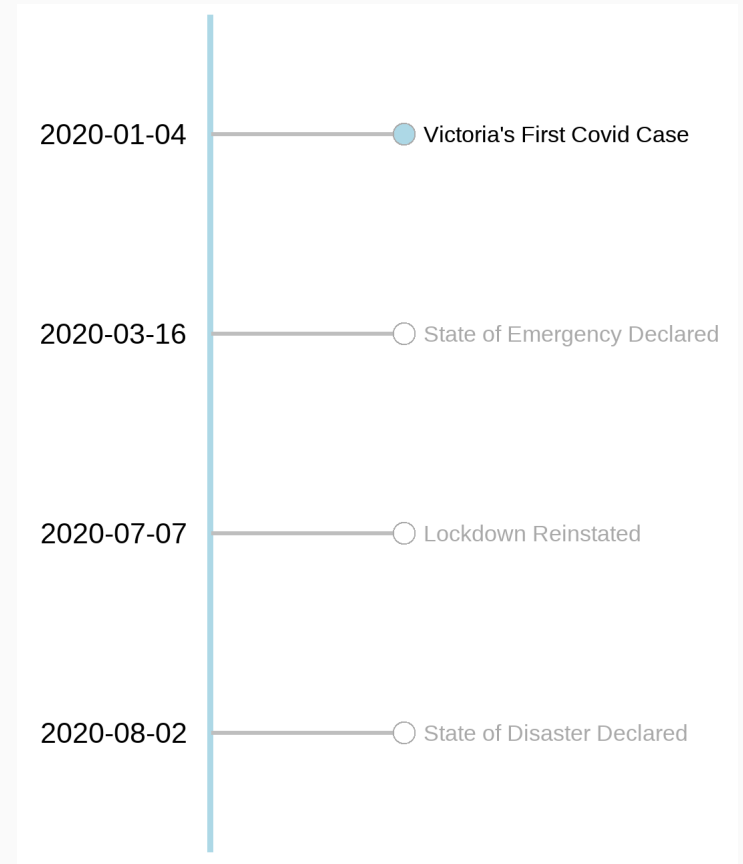
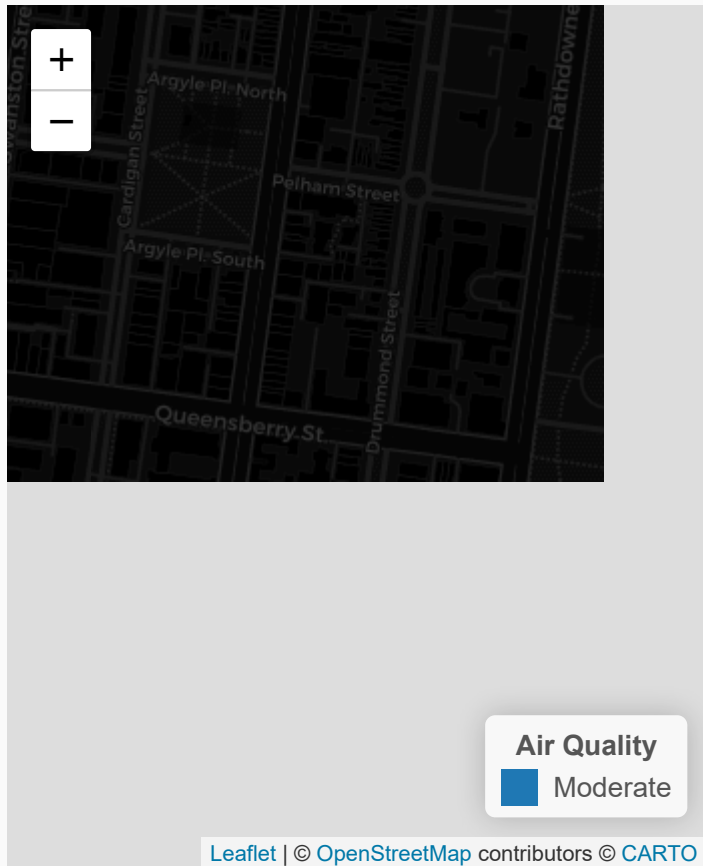
source : <https://www.abc.net.au/news/2020-01-14/melbourne-air-quality-drops-to-hazardous-from-bushfire-smoke/11865178>

Air Quality Daily in 2020

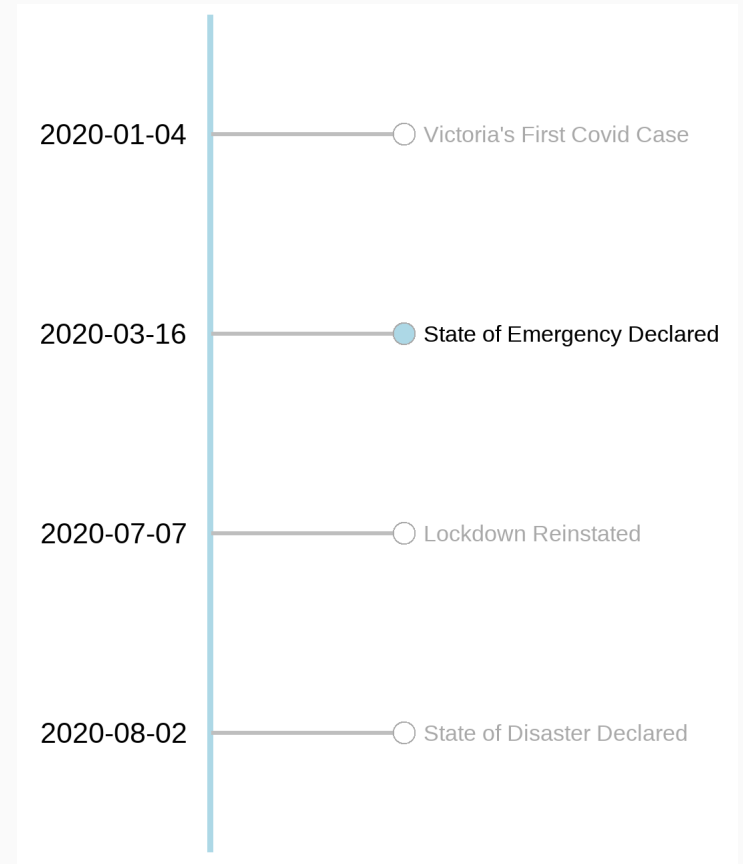
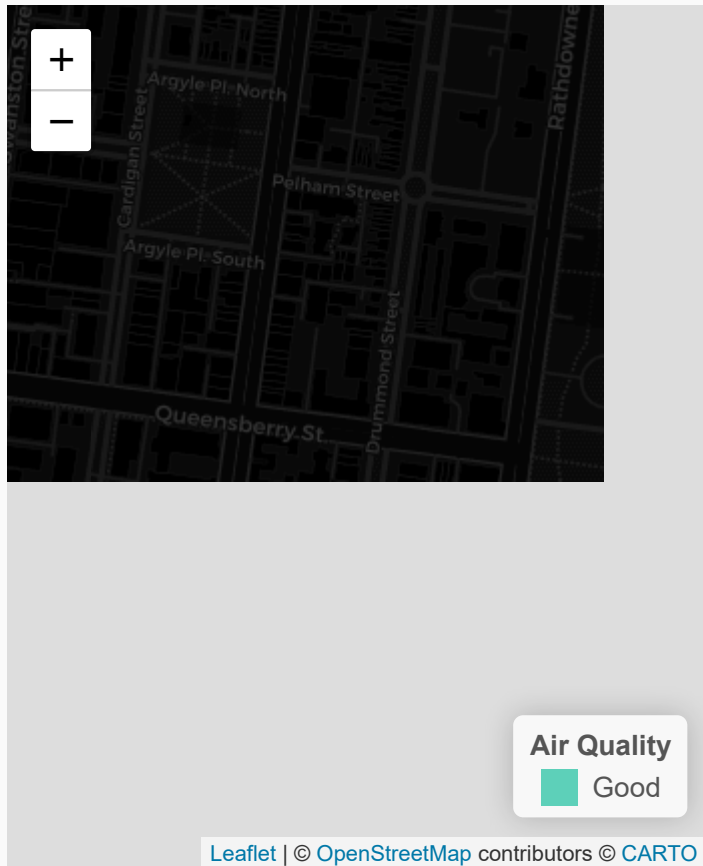


- January has some days with bad air quality (bushfire effect)
- February - October Melbourne mostly have good quality of air (restriction start at March 28th)

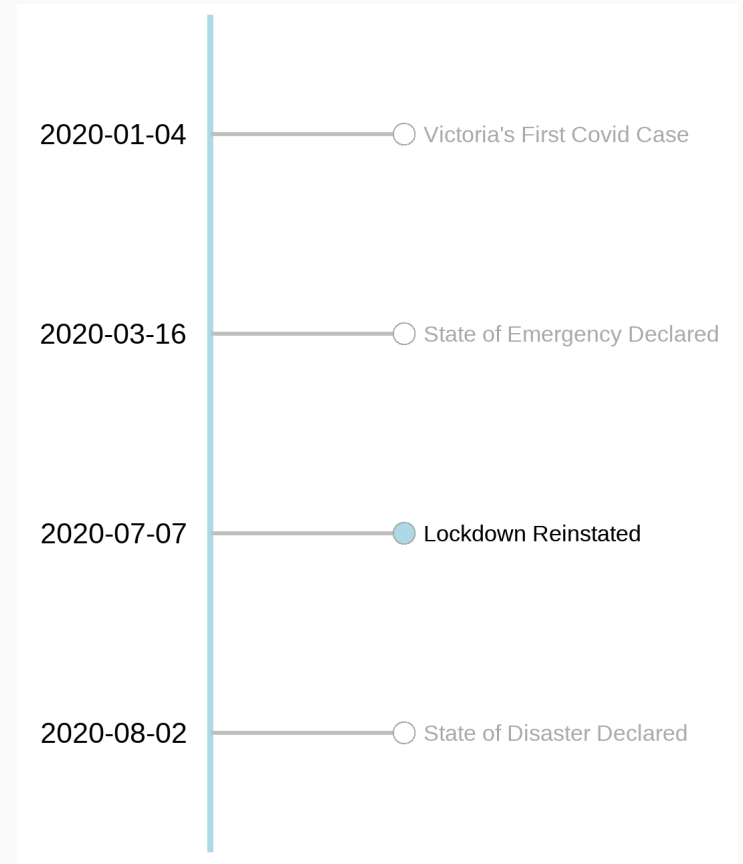
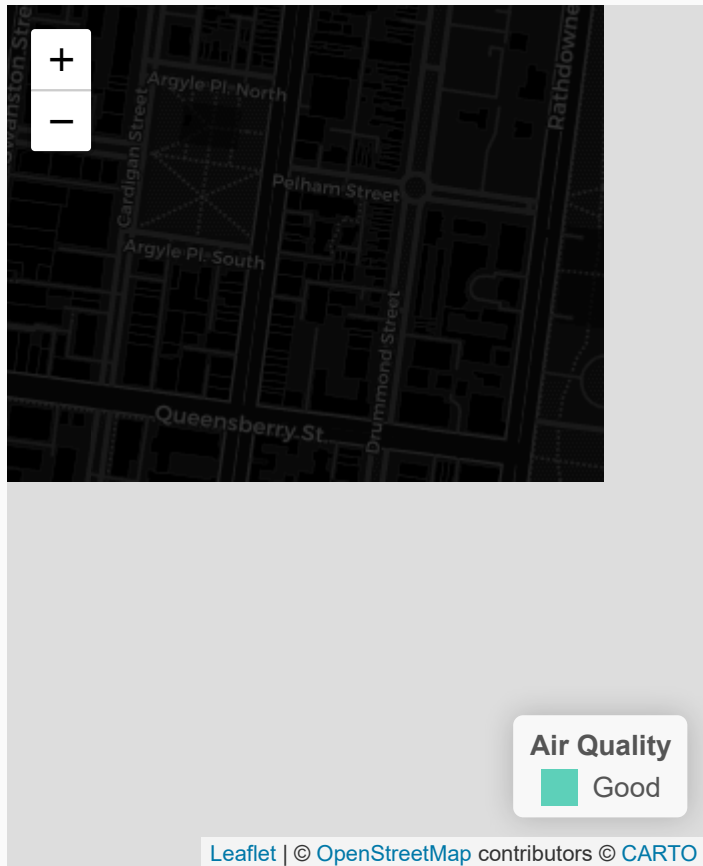
Victoria's First Covid Case



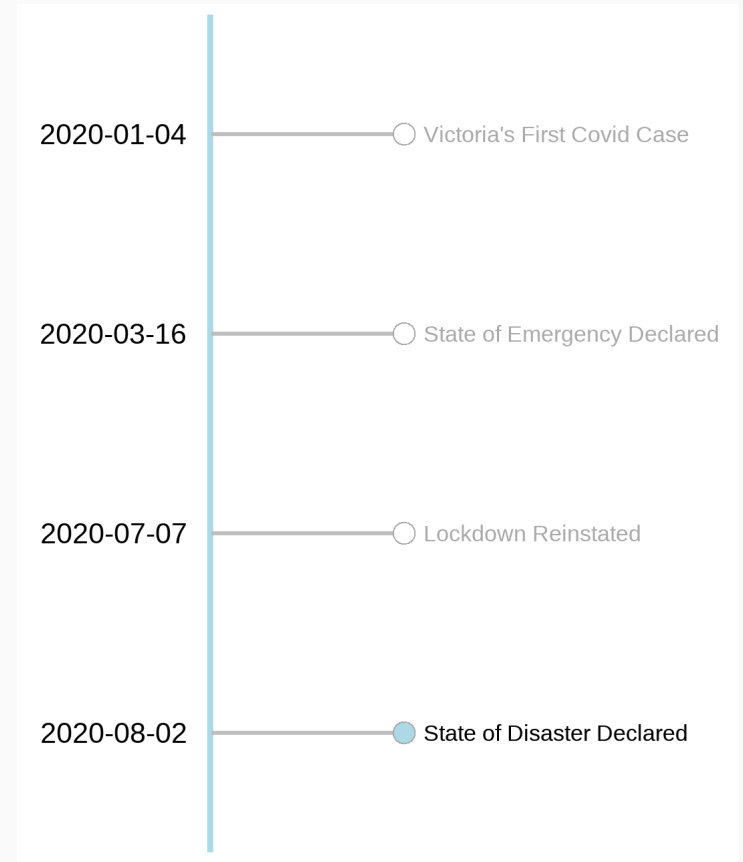
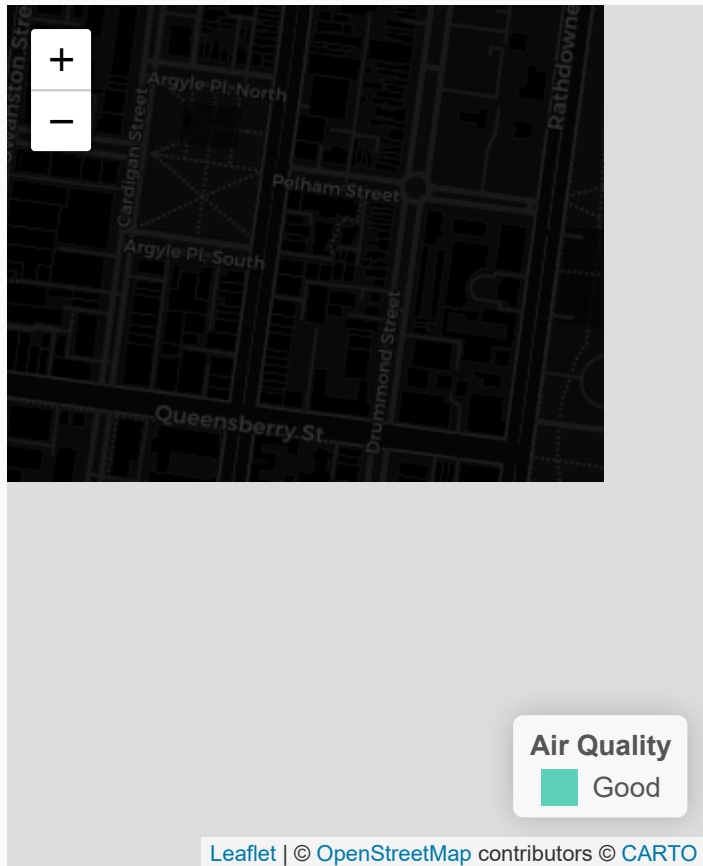
A State of Emergency



Back to Lockdown

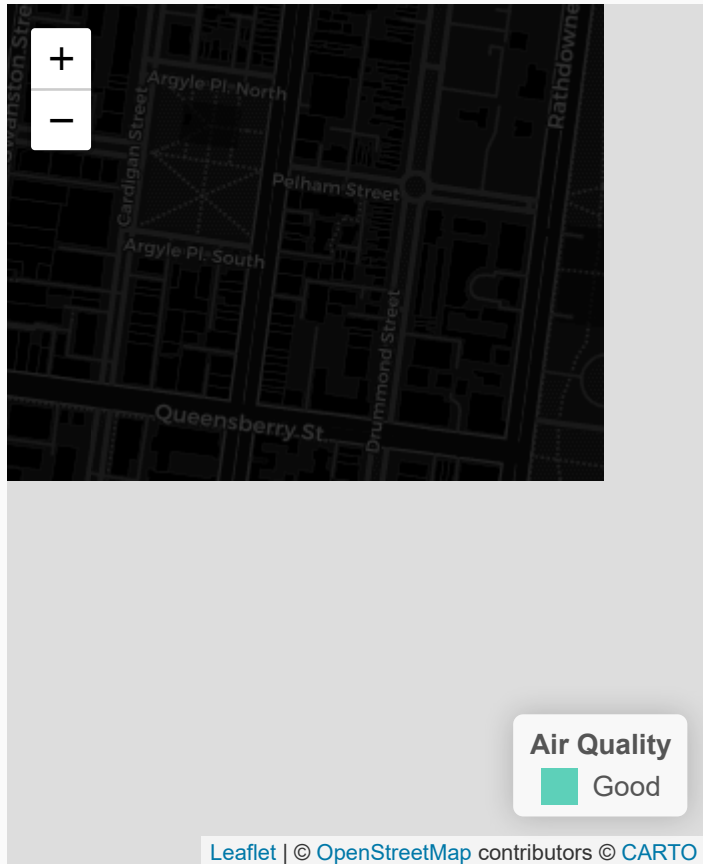


A State of Disaster

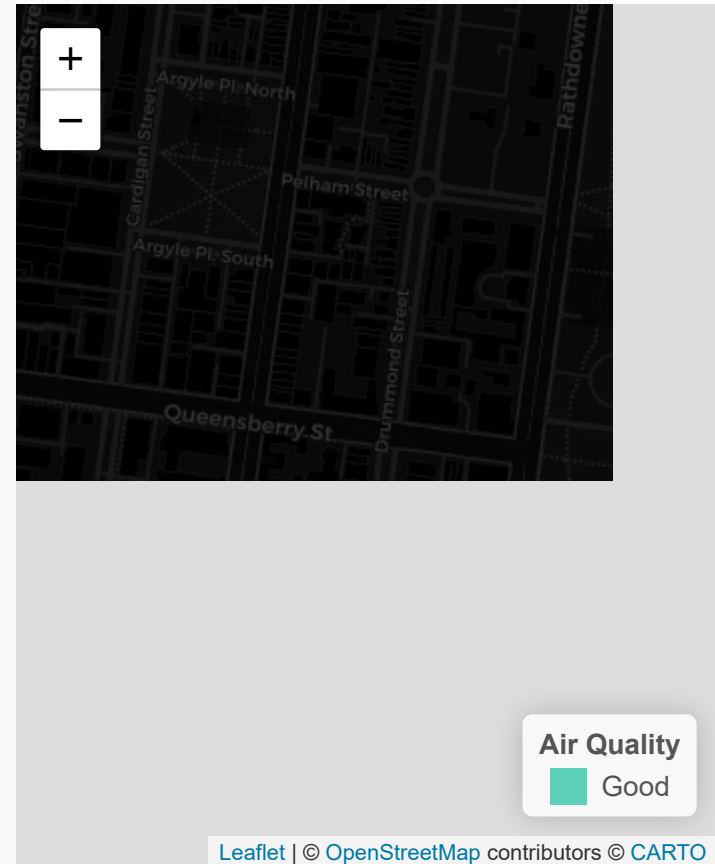


Comparing Between Years

November 2019



October 2020



Conclusion & Key Findings

- 1: In general, Melbourne's air quality is quite good
- 2: There does appear to be an increased number of days with poor air quality pre-lockdown
- 3: However, when aggregated there appears to be little difference in air quality either side of the lockdown