



# Operation Dust Patrol

Upper Hunter Air Quality Advisory Committee  
25 July 2019

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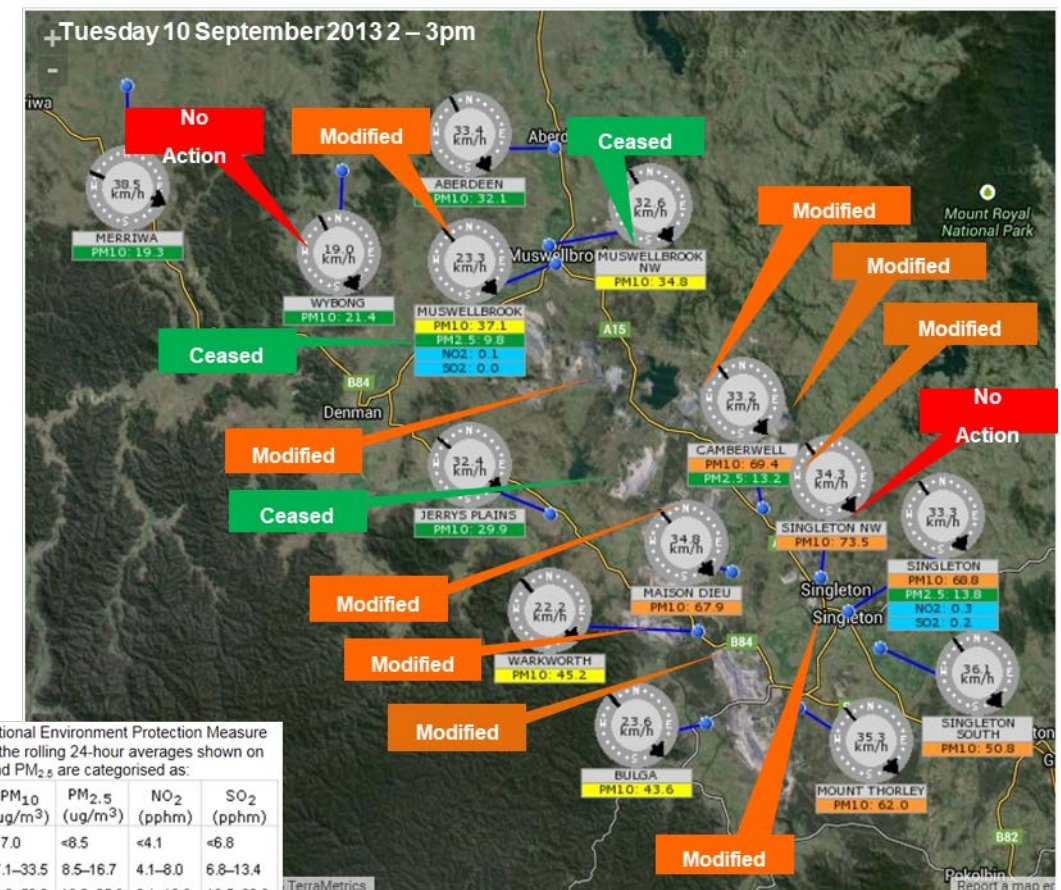
What next?



# Background

## No consistency in mines' response to adverse weather

- Dust Stop program required mines to report how they changed activities in response to adverse weather.
- No consistency in how they defined adverse weather or how they responded.



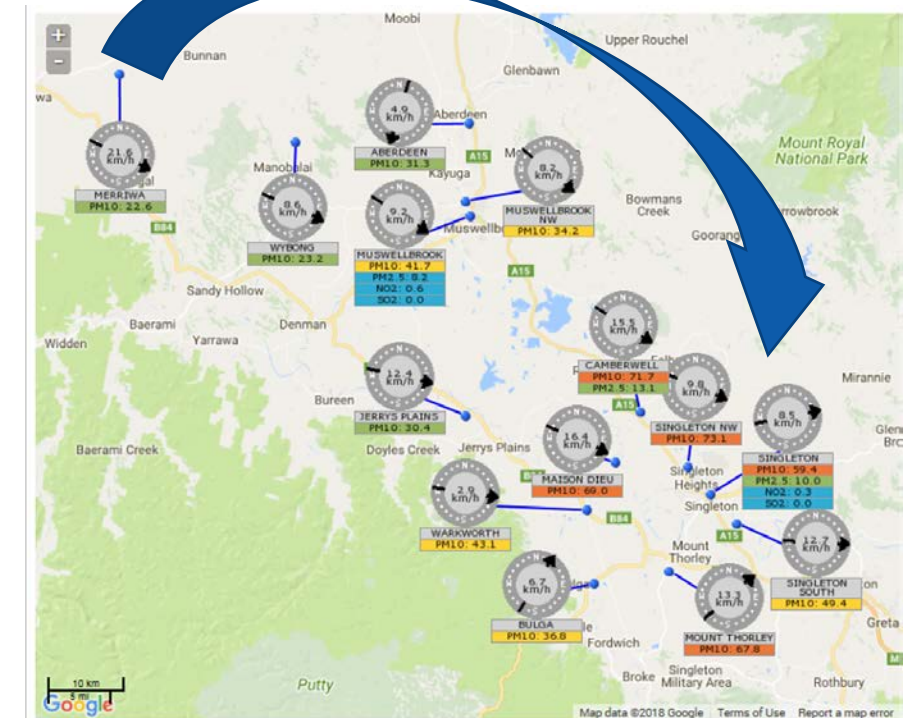
According to the National Environment Protection Measure (NEPM) standards, the rolling 24-hour averages shown on the map for PM<sub>10</sub> and PM<sub>2.5</sub> are categorised as:

	PM <sub>10</sub> (ug/m <sup>3</sup> )	PM <sub>2.5</sub> (ug/m <sup>3</sup> )	NO <sub>2</sub> (pphm)	SO <sub>2</sub> (pphm)
Very good	<17.0	<8.5	<4.1	<6.8
Good	17.1–33.5	8.5–16.7	4.1–8.0	6.8–13.4
Fair	33.6–50.0	16.8–25.0	8.1–12.0	13.5–20.0
Poor	50.1–75.0	25.1–37.5	12.1–18.0	20.1–30.0
Very poor	75.1–100.0	37.6–50.0	18.1–24.0	30.1–40.0
Hazardous	>100.0	>50.0	>24.0	>40.0

# Background

## Model developed to forecast high dust risk

- OEH developed daily dust risk forecast models
- $PM_{10}$  increment from Merriwa to Singleton represents mine dust contribution
- High dust risk is  $>25\mu\text{g}/\text{m}^3$  24-hr increment
- Model tested in Spring 2017



# What was Operation Dust Patrol?

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Inspections of Upper Hunter coal mines on days predicted to be high dust risk

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- 1 Sep 2018 – 28 Feb 2019
- Mines notified that on high risk days EPA expects stringent controls
- Mines received daily dust risk forecasts
- Community notified by EPA tweets

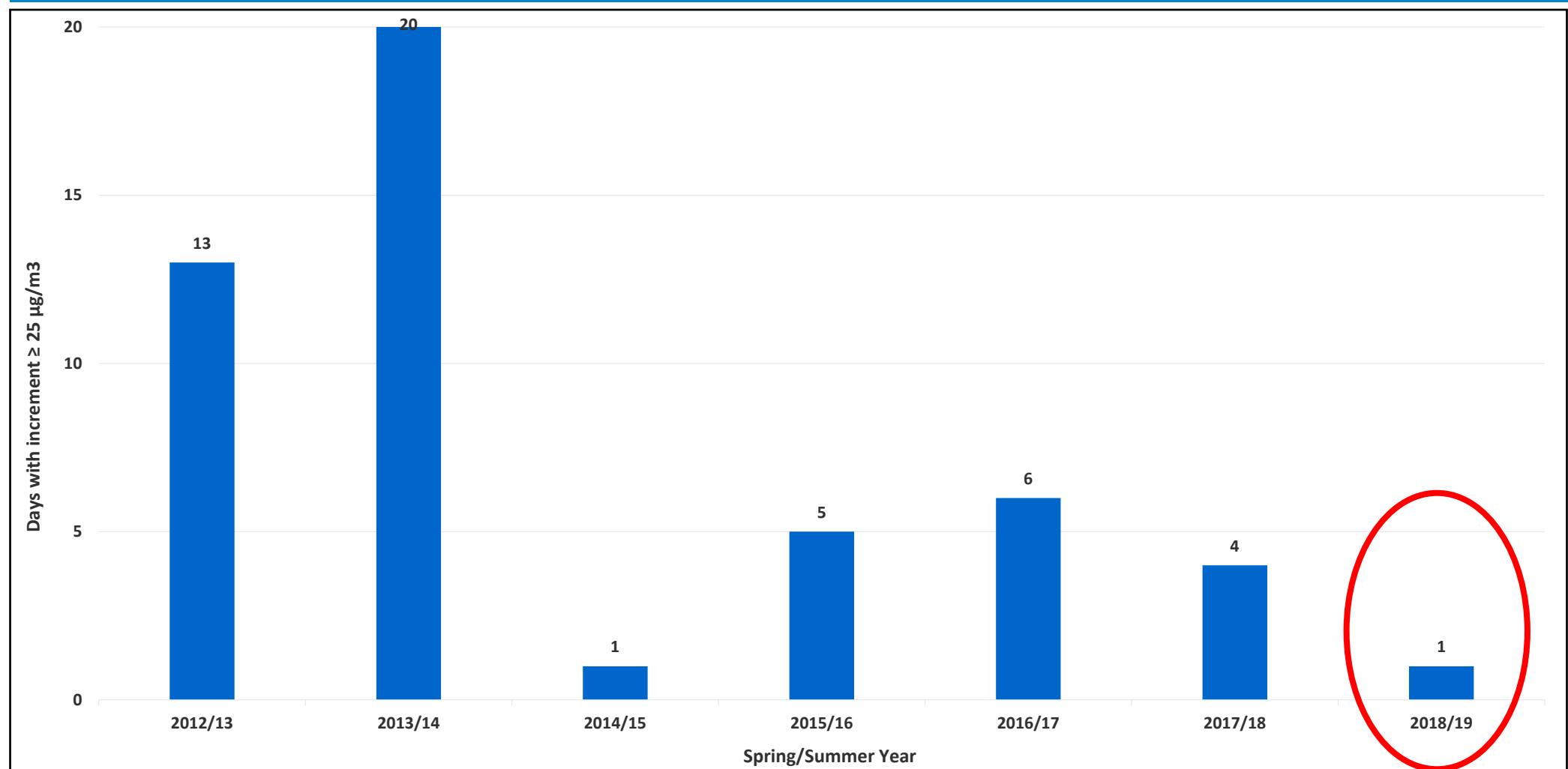
# What were the results?

All 6 predicted high risk days were False Alarms and 1 missed exceedance

Date	Predicted	Actual	Outcome	Merriwa to Singleton PM <sub>10</sub> Increment (µg/m <sup>3</sup> )
13-Sep	High	Low	False Alarm	6
16-Sep	High	Low	False Alarm	6
19-Sep	High	Low	False Alarm	5.9
29-Sep	High	Low	False Alarm	6.1
3-Nov	High	Low	False Alarm	12.4
6-Nov	Low	High	Miss	32.3
1-Feb	High	Low	False Alarm	-4.4

# What were the results?

Compared with similar periods, there were fewer days when more than  $25 \mu\text{g}/\text{m}^3$  of PM10 was emitted between Merriwa and Singleton





# What were the issues?

A coding error resulted in predictions being generally one day late

Date	Dust Patrol		OEH corrected re-run		TOBAN	Merriwa 24hr ave.	Singleton 24hr ave.	Increment
	RS3	RS4	RS3	RS4				
1/09/18	Low	Low	Low	Low		26.6	22.9	-3.7
2/09/18	Low	Low	Low	Low		11.2	16.5	5.3
3/09/18	Low	Low	Low	Low		13.1	10.4	-2.7
4/09/18	Low	Low	Low	Low		7.5	6.3	-1.2
5/09/18	Low	Low	Low	Low		10	8.1	-1.9
6/09/18	Low	Low	Low	Low		9	9.9	0.9
7/09/18	Low	Low	Low	Low		5.9	10.5	4.6
8/09/18	Low	Low	Low	Low		11.5	10.8	-0.7
9/09/18	Low	Low	Low	Low		8.4	18.7	10.3
10/09/18	Low	Low	Low	Low		12.7	24.5	11.8
11/09/18	Low	Low	Low	Low		17.6	16.2	-1.4
12/09/18	Low	Low	HIGH	Low		16.8	27.5	10.7
13/09/18	HIGH	HIGH	Low	Low		27.1	33.1	6
14/09/18	Low	Low	Low	Low		21.7	37.1	15.4
15/09/18	Low	Low	HIGH	HIGH	TOBAN	37.6	42.4	4.8
16/09/18	HIGH	HIGH	Low	Low		19.2	25.2	6
17/09/18	Low	Low	Low	Low		21.7	22.2	0.5
18/09/18	Low	Low	HIGH	HIGH		29.4	36.1	6.7
19/09/18	HIGH	HIGH	Low	Low		31.3	37.2	5.9
20/09/18	Low	Low	Low	Low		16.1	(---)	(---)



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# What were the issues?

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Infringement notice issued to Bengalla Coal mine has elected to have it heard in court

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## What Next?

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EPA is reassessing its approach using a program logic framework

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Likely outcomes:

- increased inspections again during late winter and spring
- improved surveillance techniques
- improved guidance material and regulatory tools
- community education and engagement