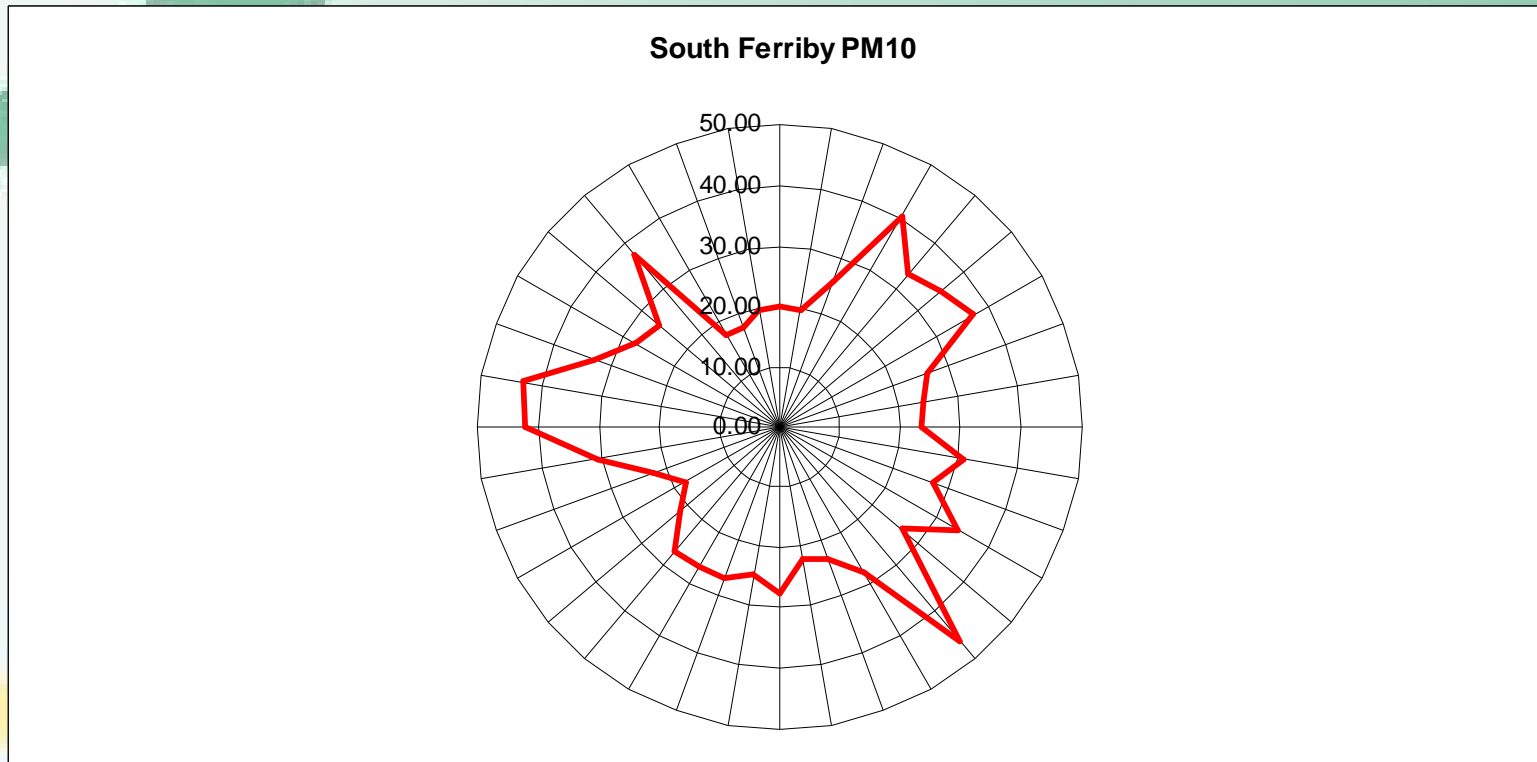
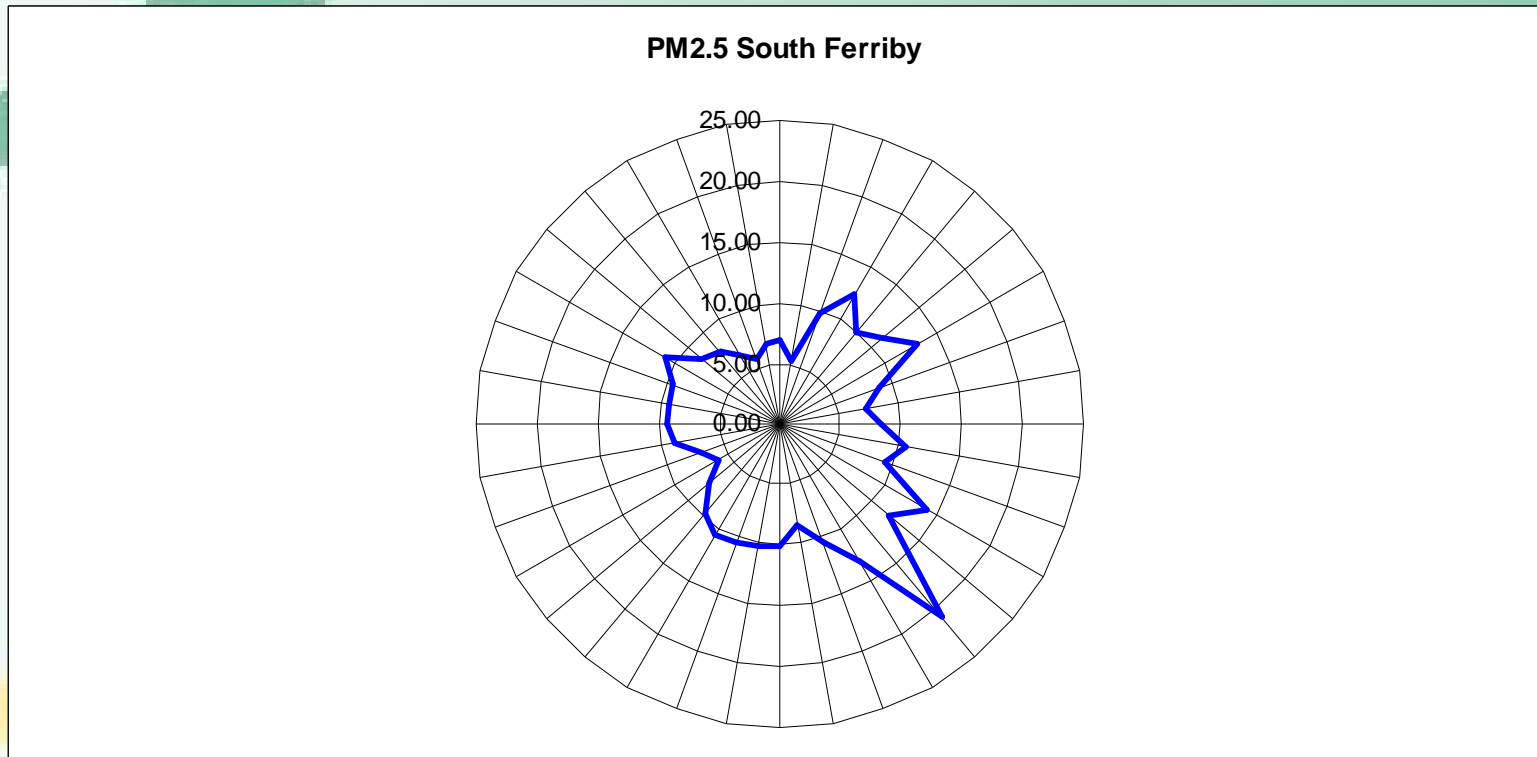




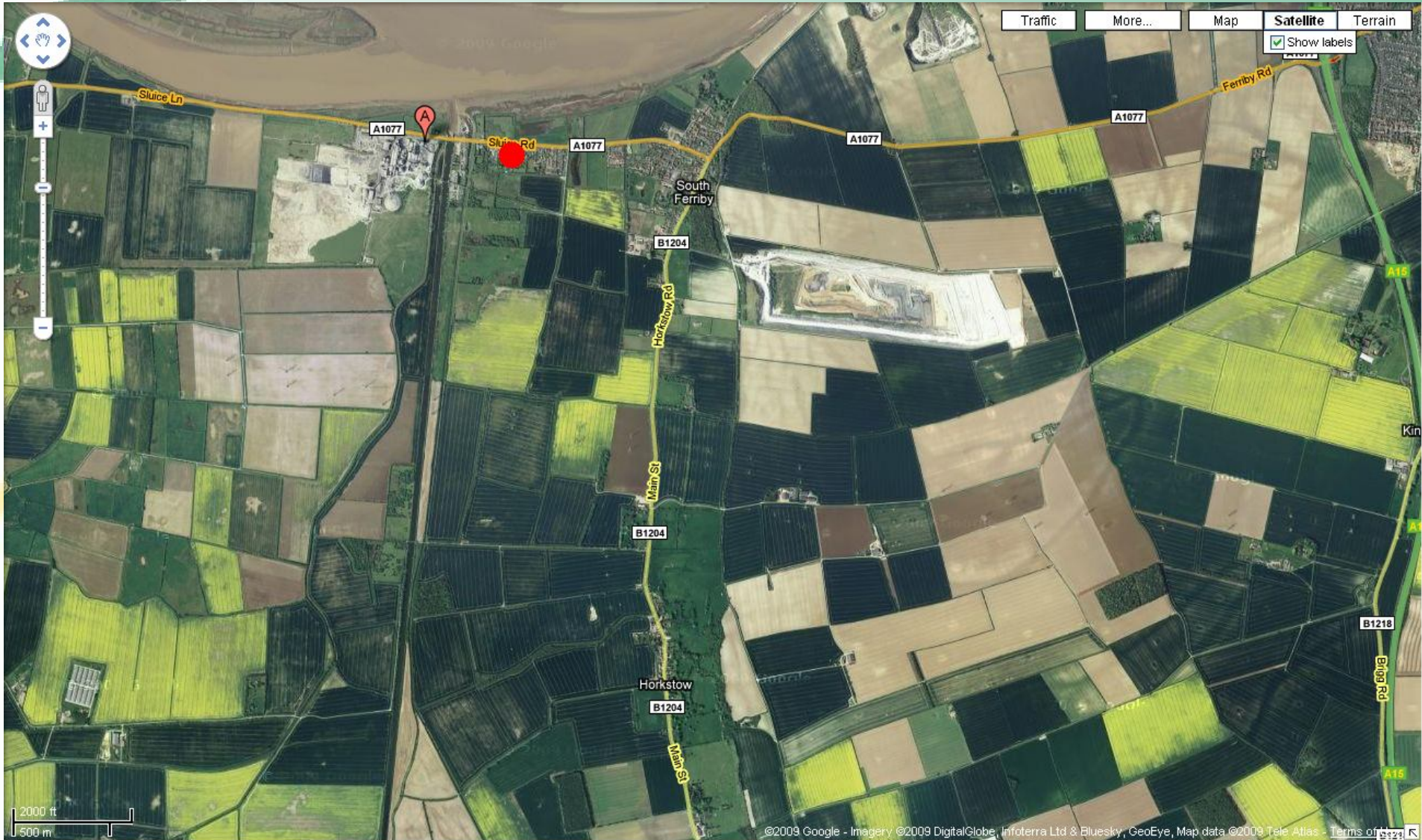
South Ferriby Liaison Committee
Air Quality Report April 2009



- Overall levels remain low. Results to 20/04/2009
- Spikes mirror results in January 2009
- Spikes 30°, 60°, 140°, 270° and 330°
- Wind direction still Rowland Road, Scunthorpe

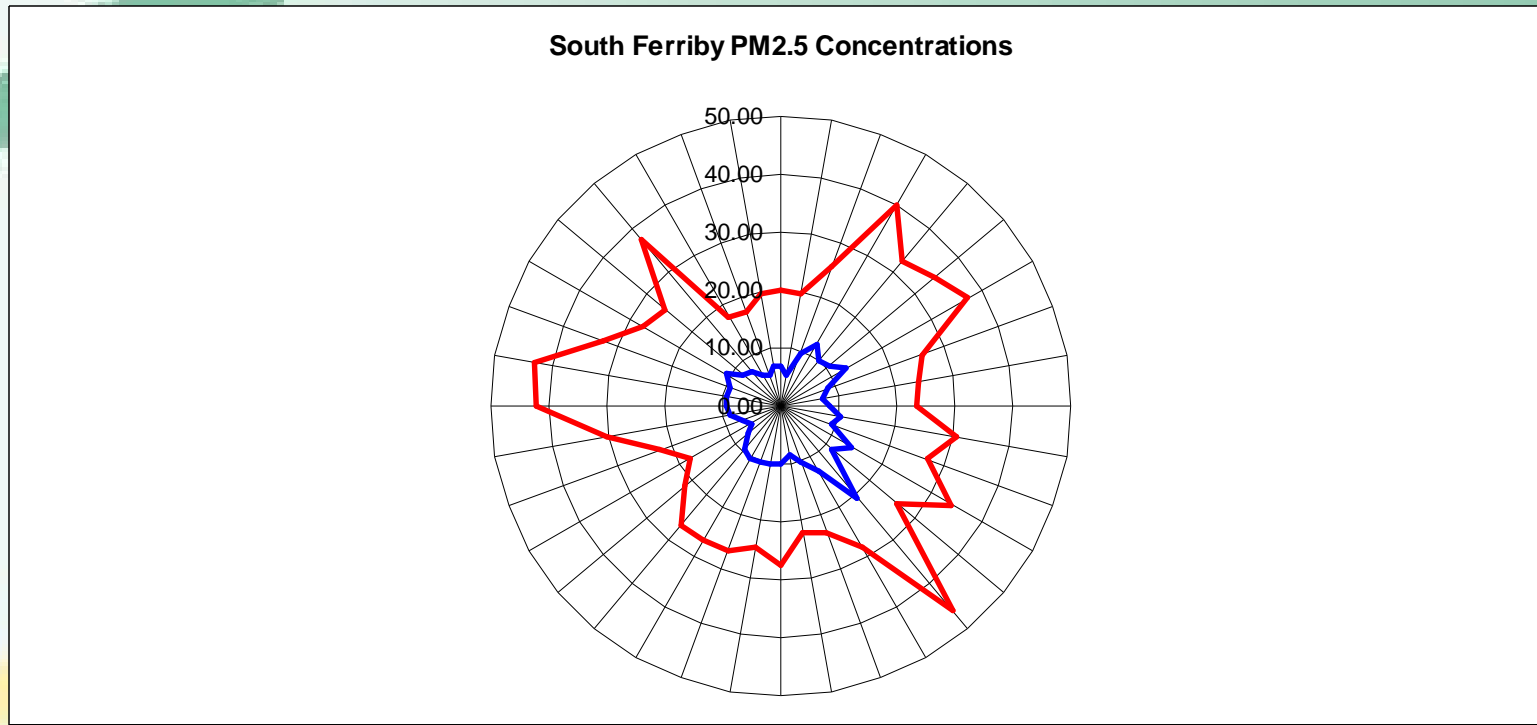


- PM_{2.5} plot mirrors the PM₁₀ showing low levels of particulate
- Pronounced spike at 140°. Most probable explanation being domestic fuel use e.g coal fire, wood burner at local farm.
- Spikes at 30° and 60° again likely to be domestic fuel use in South Ferriby.



Sector	Percentage by Size Fraction			
	PM ₁₀	PM _{2.5}	PM ₁	PM _{0.1}
Domestic Combustion				
Coal	61.90	38.10	31.70	2.40
Smokeless Fuels	73.80	26.20	4.60	1.50
Wood	29.60	70.40	29.60	8.50
Industrial Processes				
Iron & Steel	37.00	63.00	41.10	20.50
Cement & Lime	46.40	53.60	25.00	10.70
Bricks, Glass & Ceramics	26.30	73.70	68.40	34.20
Quarrying	70.90	29.10	8.30	0.00
Construction	69.80	30.20	11.60	0.00
Transport				
Road Transport - Petrol	16.70	83.30	70.00	33.30
Road Transport - Diesel	10.20	89.80	85.00	50.00
Road Transport - Brake/Tyre Wear	44.90	55.10	10.10	7.90
Off Road Vehicles	22.20	77.80	69.40	15.30
Agriculture	43.30	56.70	41.20	17.20

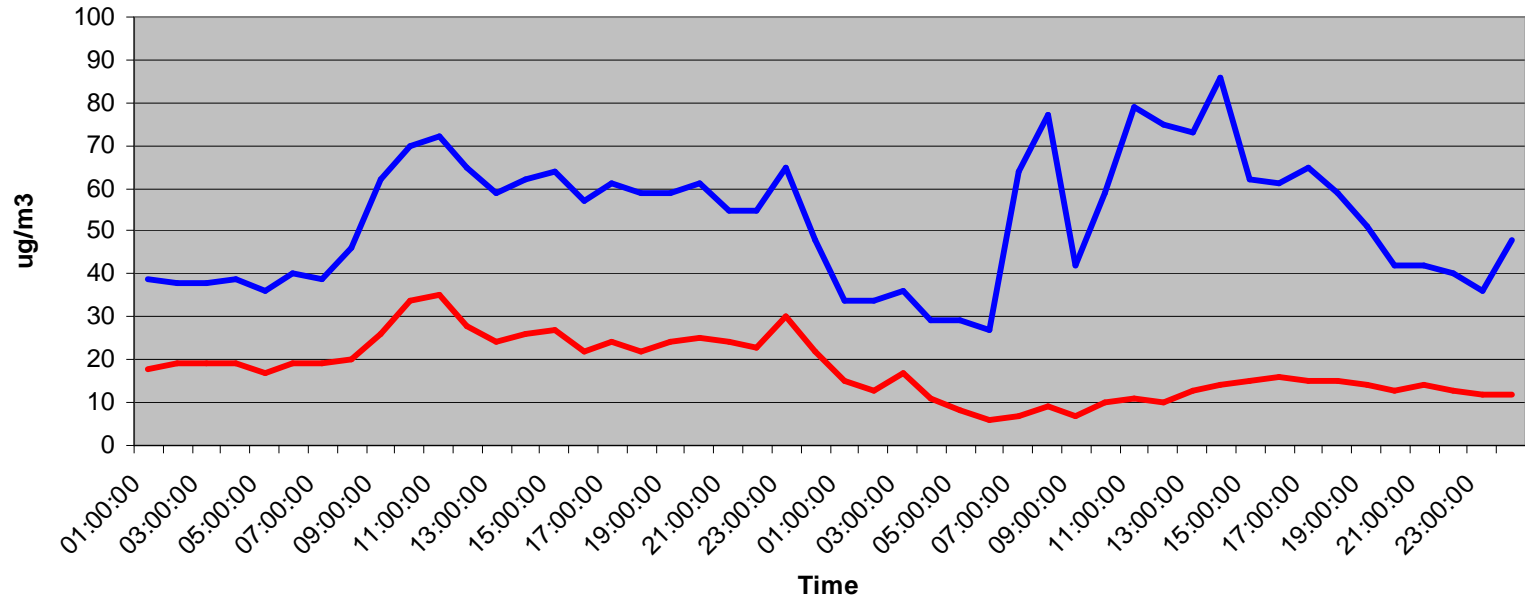
- Research in to the concentrations of PM_{2.5} within PM₁₀ highlights expected levels for individual sectors.
- The likeliest sources in and around South Ferriby include agriculture, cement production, quarrying and domestic combustion e.g coal fires
- Difficult to attribute a fugitive emission to a source due to the constant suspension and settling.
- Pollution roses and the DEFRA guidance of PM_{2.5} concentrations can often lead to the indentification of the source



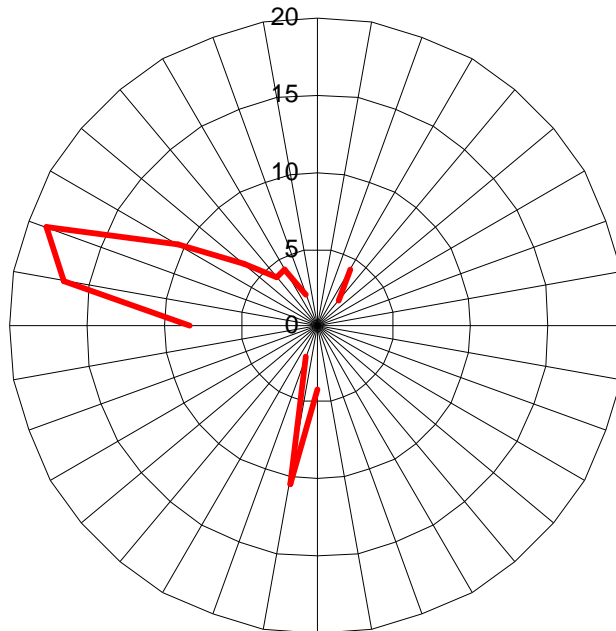
- Concentration plots are inconclusive
- They do not point to a particular source
- Concentrations are similar throughout all wind sectors
- The spike at 140° shows an increased concentration of PM_{2.5}
- Again signature of domestic coal or wood burning

Wind Direction	PM10	PM2.5	% Concentration	Incorporating
0	19.96	6.87	34.42	A1077,
10	19.65	5.29	26.95	A1077
20	25.56	9.82	38.43	A1077
30	40.16	12.24	30.49	A1077
40	32.79	9.87	30.11	A1077, South Ferriby, Surrounding Fields
50	34.84	10.95	31.42	A1077, South Ferriby, Surrounding Fields
60	37.14	13.08	35.21	A1077, South Ferriby, Surrounding Fields
70	25.79	8.71	33.76	A1077, South Ferriby, Surronuding Fields
80	24.11	7.25	30.07	A1077, South Ferriby, Surrounding Fields
90	23.58	8.36	35.48	A1077, South Ferriby, Surrounding Fields
100	30.64	10.53	34.36	CEMEX Quarry, South Ferriby, Surrounding Fields
110	26.97	9.35	34.66	CEMEX Quarry, South Ferriby, Surrounding Fields
120	33.94	13.94	41.07	CEMEX Quarry, South Ferriby, Surrounding Fields
130	26.33	11.67	44.30	Surrounding Fields
140	46.19	20.74	44.91	Surrounding Fields
150	27.98	13.00	46.46	Horkstow, Surrounding Fileds
160	23.15	10.34	44.64	Horkstow, Surrounding Fileds
170	22.28	8.43	37.84	Surrounding Fields
180	27.65	9.99	36.15	Surrounding Fields
190	24.70	10.16	41.15	Surrounding Fields
200	26.70	10.35	38.75	Surrounding Fields
210	26.73	10.60	39.64	Surrounding Fields
220	26.84	9.59	35.75	Surrounding Fields
230	21.64	7.55	34.91	Surrounding Fields
240	18.15	5.80	31.97	CEMEX Landfill, Surrounding Fields
250	22.16	6.87	30.99	CEMEX Main Site & Landfill, Surrounding Fields
260	30.33	8.81	29.06	CEMEX Main Site & Landfill, Surrounding Fields
270	42.18	9.34	22.14	A1077, CEMEX Main Site & Landfill, Surrounding Fields
280	43.02	9.32	21.66	A1077, CEMEX Main Site & Landfill, Surrounding Fields
290	32.60	9.40	28.82	A1077
300	27.43	10.87	39.65	A1077
310	26.01	8.33	32.01	A1077
320	37.39	7.78	20.80	A1077
330	17.83	6.38	35.76	A1077
340	17.31	5.73	33.10	A1077
350	19.70	6.83	34.66	A1077

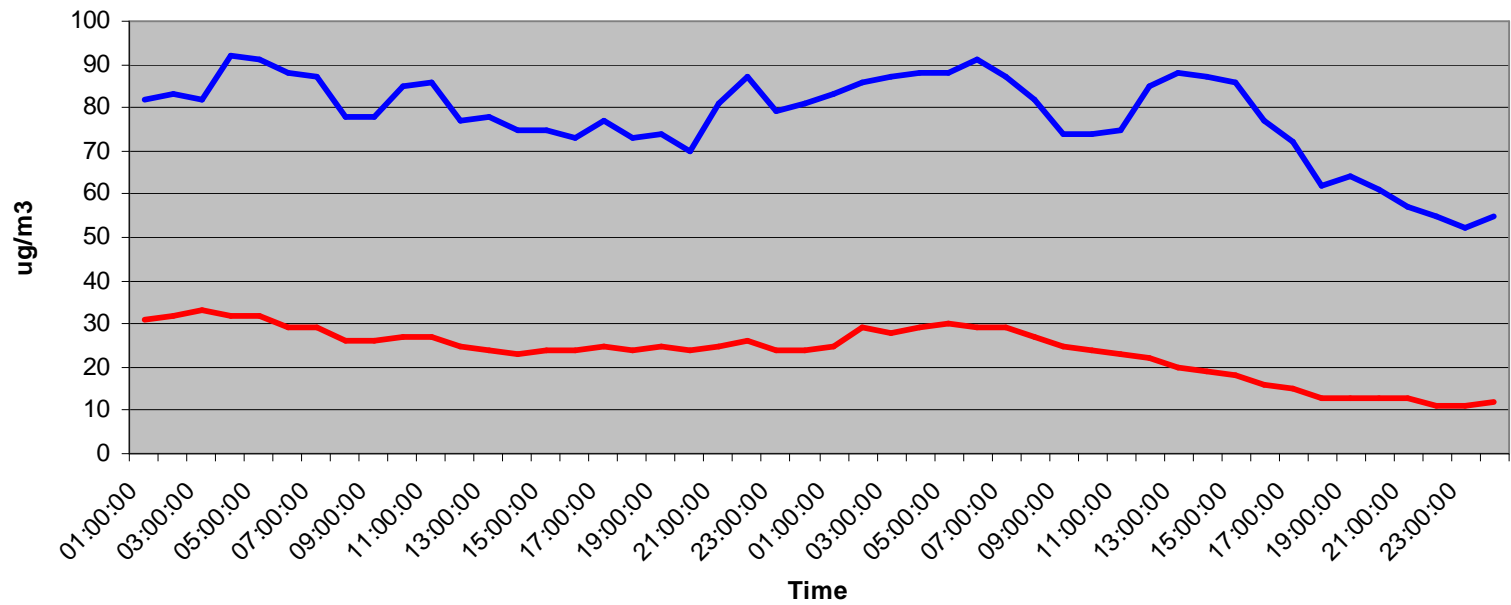
March 21/22 Pollution Episode



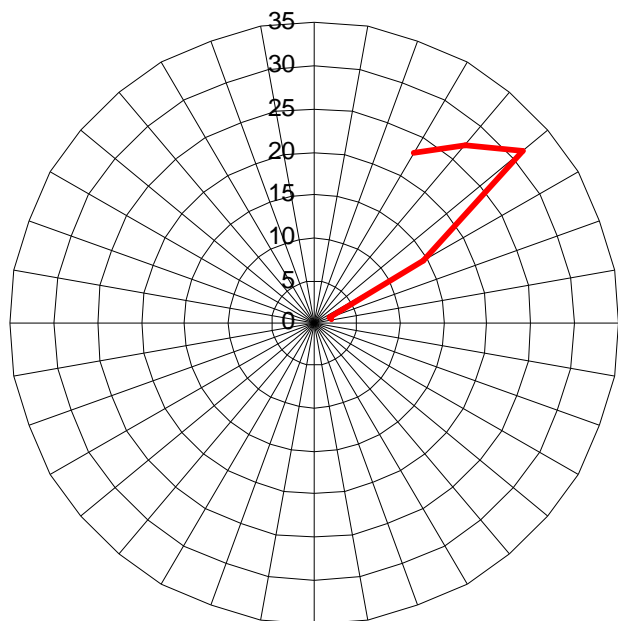
Wind Rose March Episode

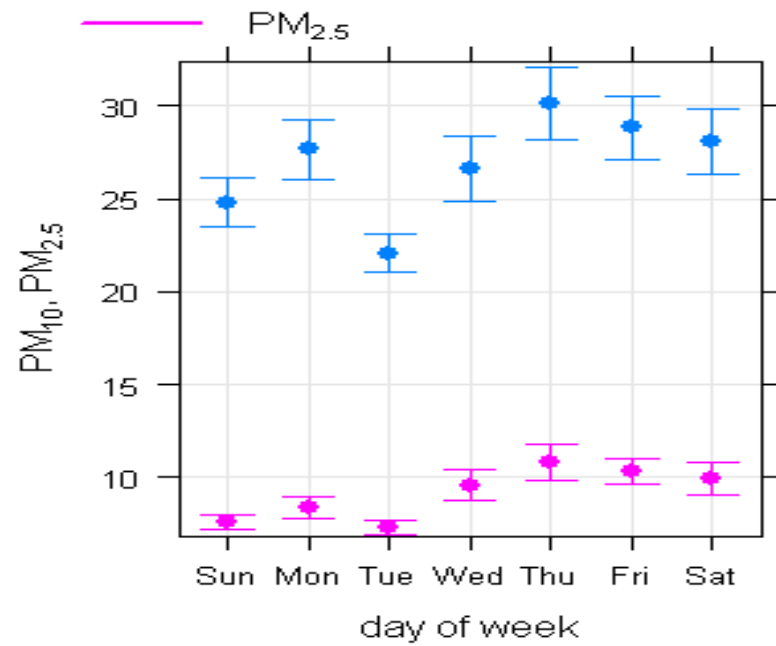
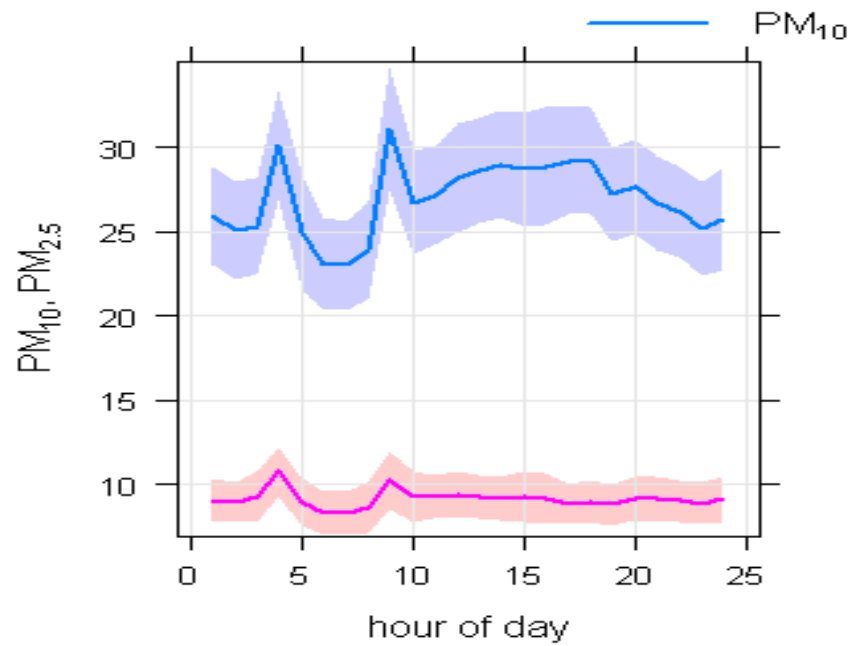
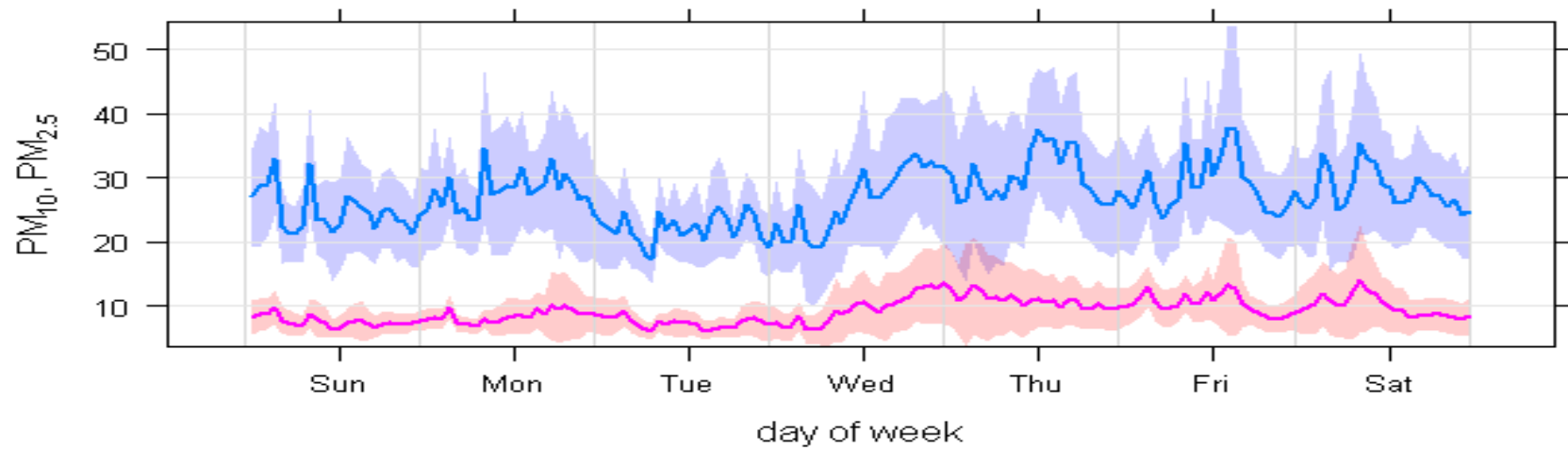


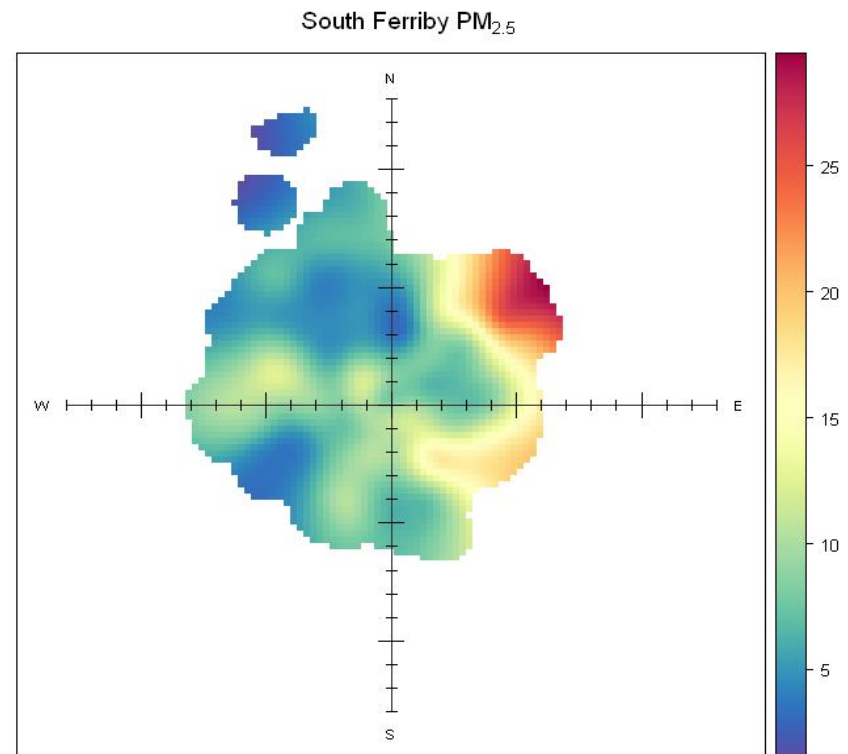
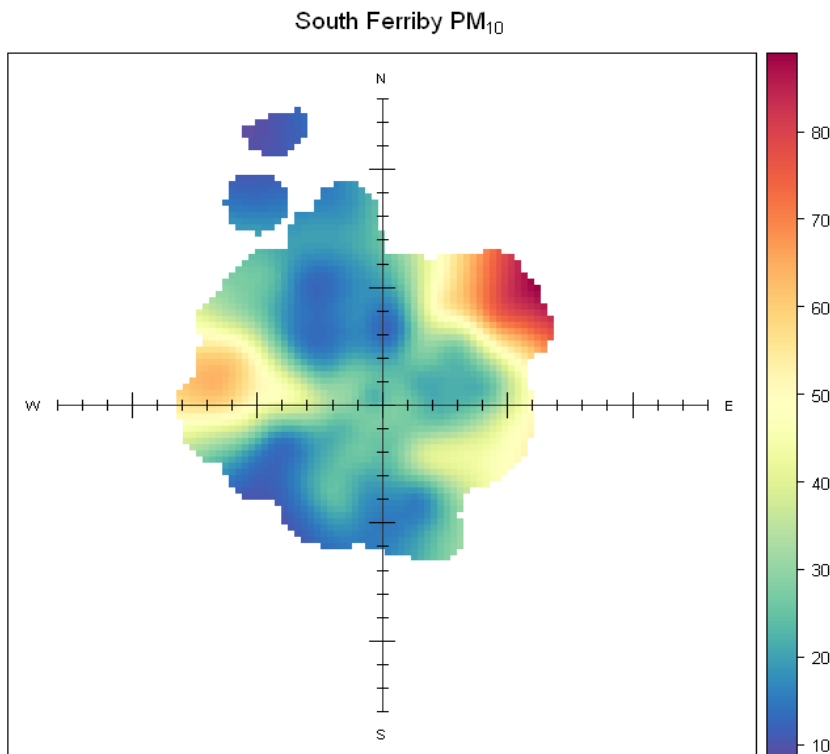
April 16/17 Episode



Wind Rose April Episode







- Hotspots from the west. Potentially Cemex/ Livestock Farming/ Surrounding Fields? Although not mirrored in the PM_{2.5} graph. The coarse fraction suggests that the emission is from a milling or grinding activity, re-suspension from fields, livestock farming etc.
- Hotspot from the North East most probably domestic fuel use due to high PM_{2.5} concentration and frequency.

Pollutant	Air Quality Objective	Result	Compliant
PM ₁₀	50 µg/m ³ not to be exceeded more than 35 times in a year	9	✓
	Annual mean to be less than 40 µg/m ³	26.9 µg/m ³	✓
PM _{2.5}	Annual mean to be less than 25 µg/m ³	9.2 µg/m ³	✓

Pollutant	Air Quality Objective	Result	Compliant
NO ₂	Annual mean to be less than 40 µg/m ³	22 µg/m ³	✓