

Table S1: Correlations between sensor A and sensor B (validated data) within each PurpleAir device unit for the total data set.

Device ID	R ²	Slope	y-intercept
ccc1	0.996	1.003	0.4
ccc2	0.998	0.999	- 0.4
ccc3	0.999	1.032	0.0
ccc4	0.999	1.010	0.2
ccc5	0.999	0.961	- 0.3
ccc6	0.999	1.027	0.1
ccc7	0.993	0.975	- 0.5
ccc8	0.995	1.013	0.8
ccc9	1.000	1.006	- 0.1
ccc11	0.999	1.013	0.1
ccc12	0.986	0.985	-0.2
ccc13	0.999	1.008	0.3
ccc14	0.999	1.044	0.4
ccc15	0.999	1.021	0.2
mtu	0.996	1.029	0.2
ucc	0.998	0.993	1.1

Table S2: PurpleAir devices and periods when co-located at the UCC Air Quality Monitoring Station.

Unit name	Operational dates
Unit 1	Nov '20 – June '21
Unit 2	1 July '21 – 14 July '21
Unit 3	1 July '21 – 14 July '21
Unit 4	1 July '21 – 14 July '21
Unit 5	1 July '21 – 14 July '21

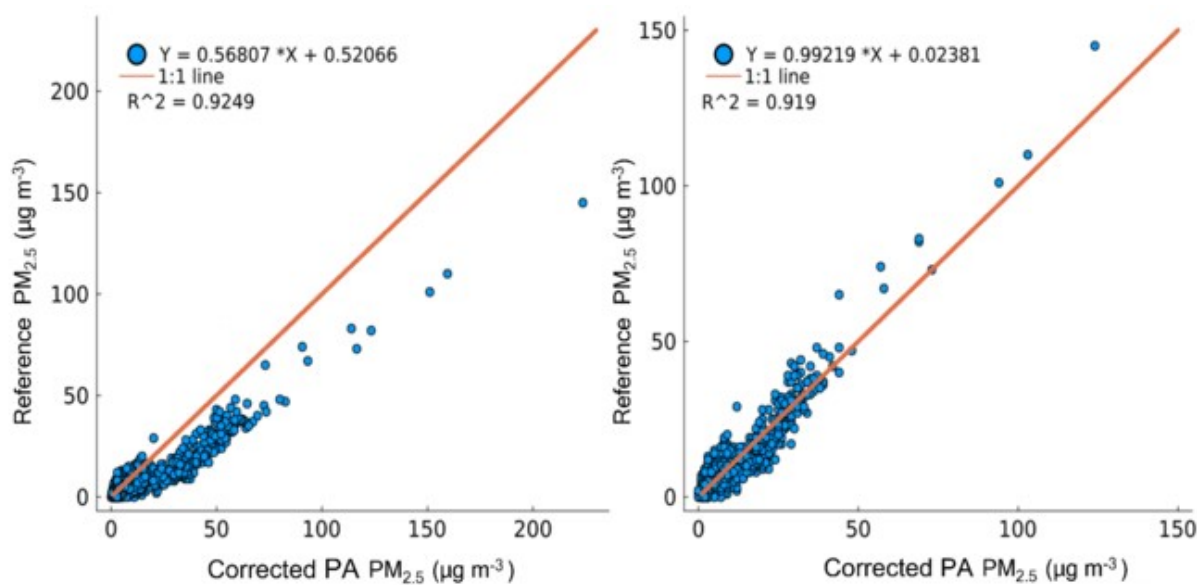


Figure S1: Linear fit of hourly reference test data with uncorrected and corrected Unit 1 data.

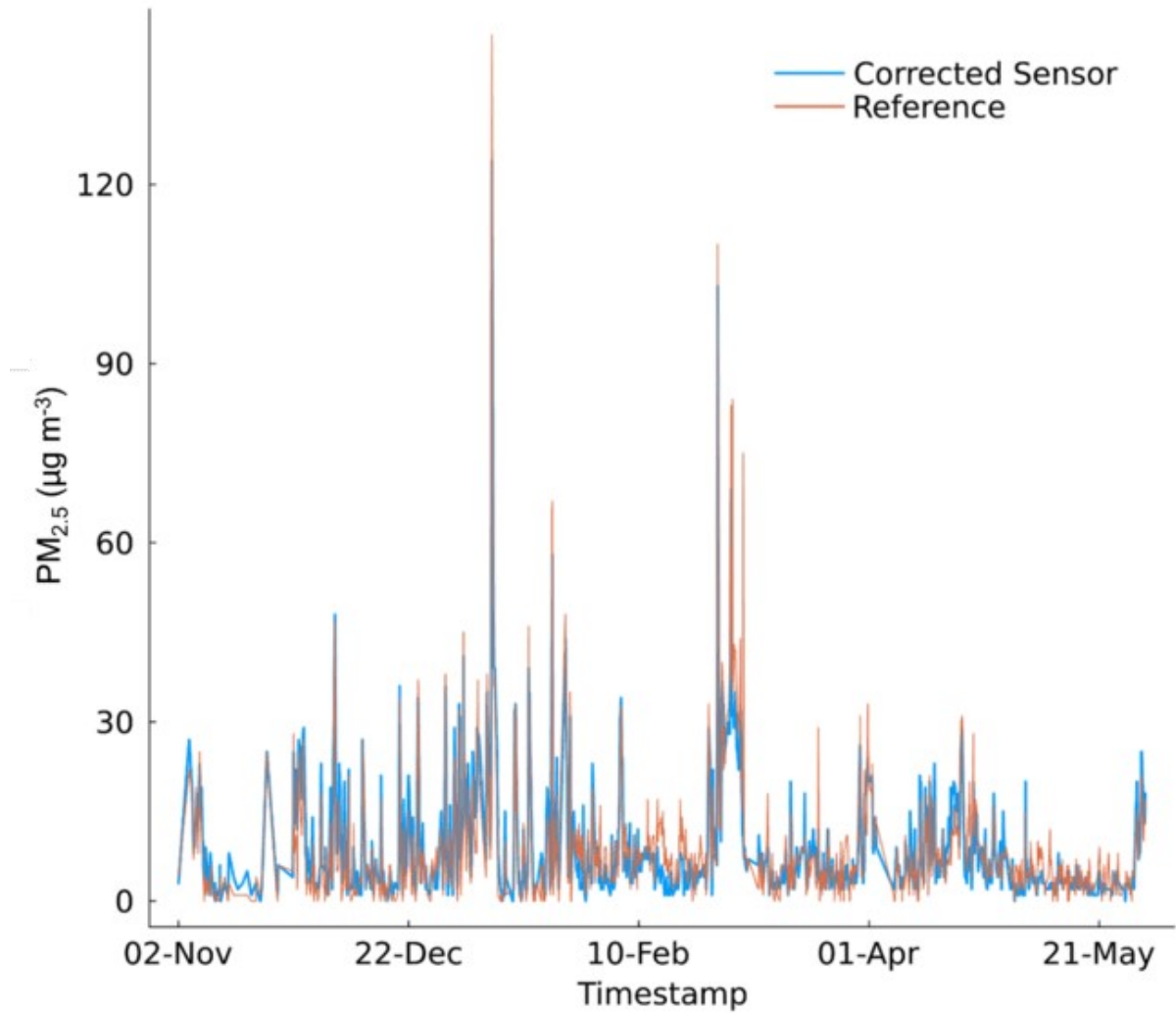


Figure S2: Time series of hourly corrected Unit 1 and hourly reference model testing data.

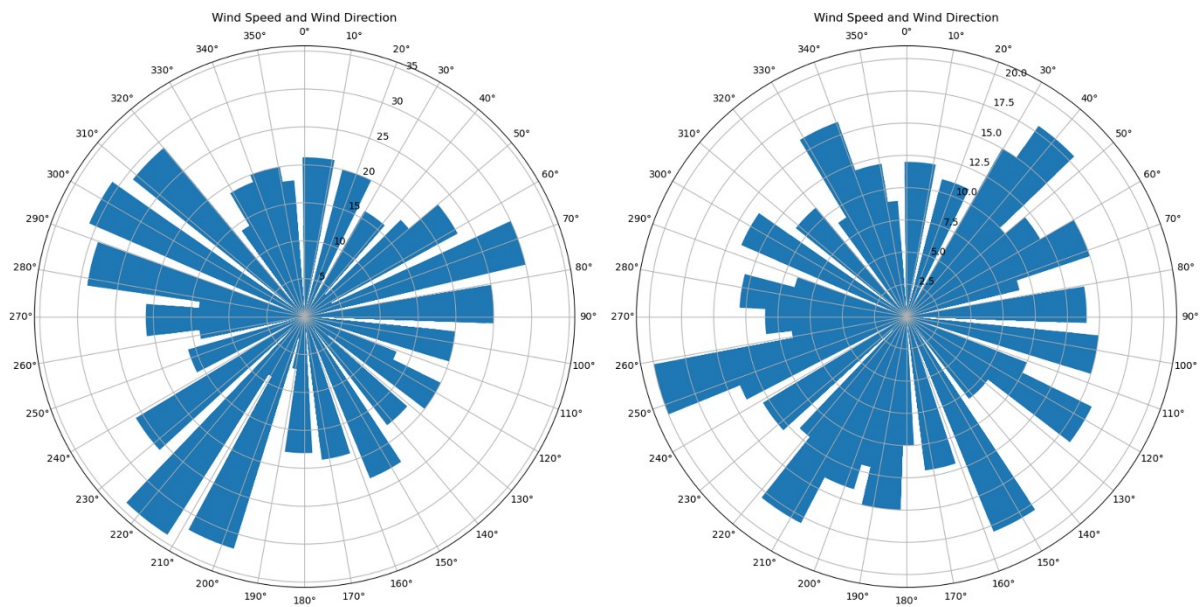
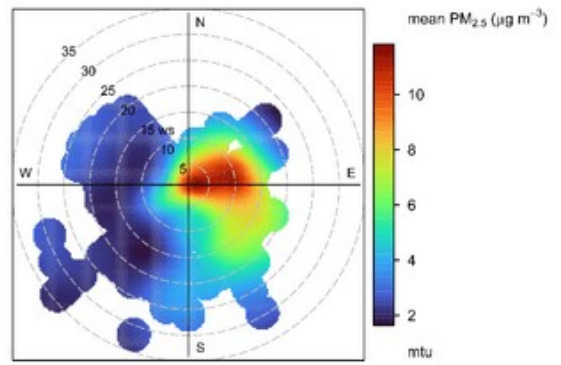
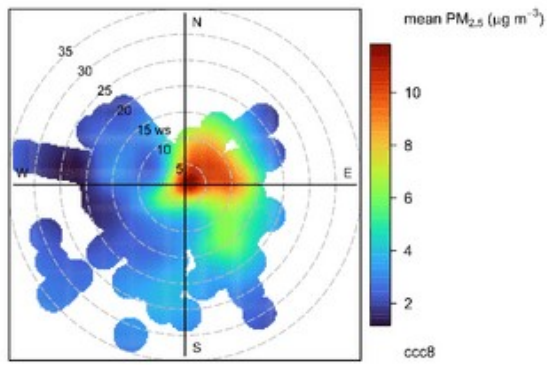
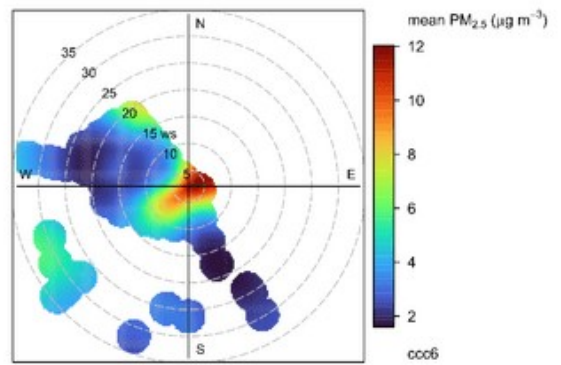
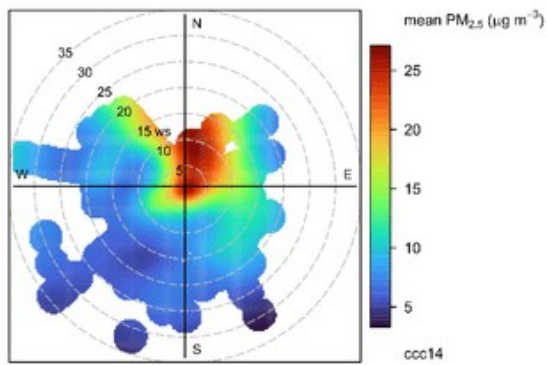


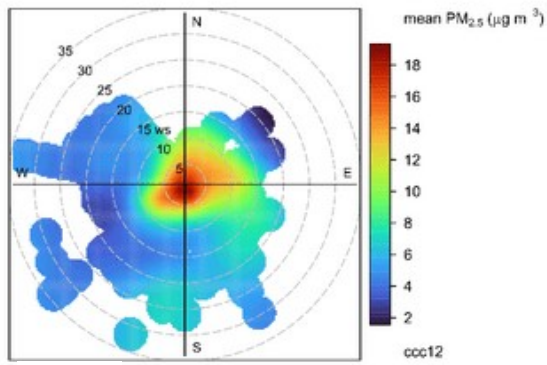
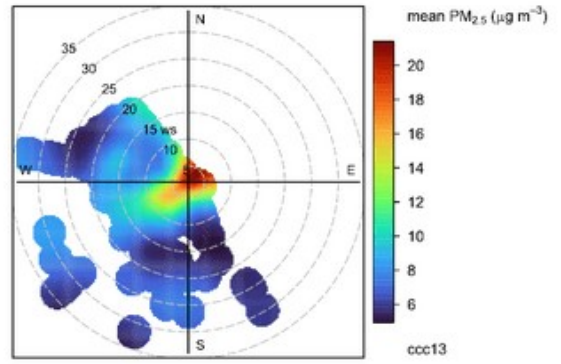
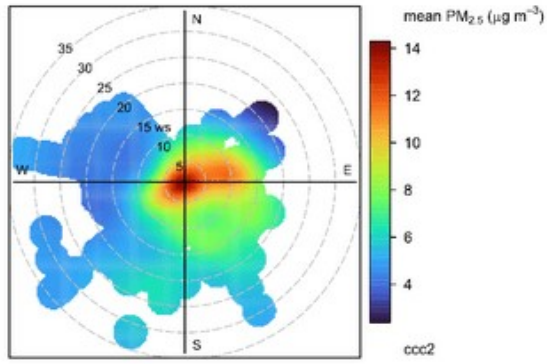
Figure S3: Wind roses showing the recorded wind speeds and direction at Cork City Airport during December 2021 (left) and June 2021 (right).



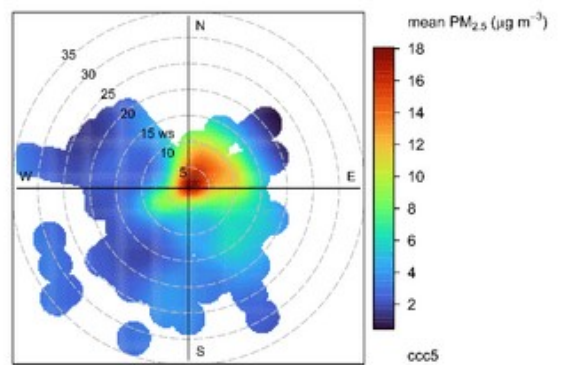
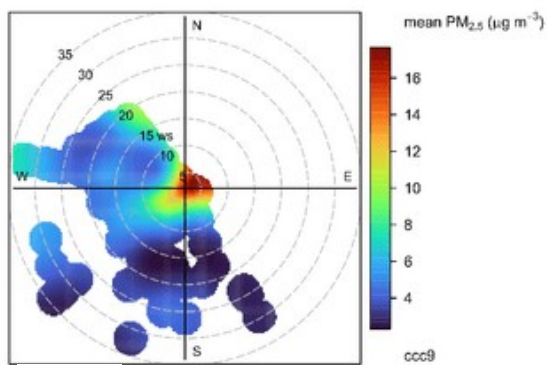
a)



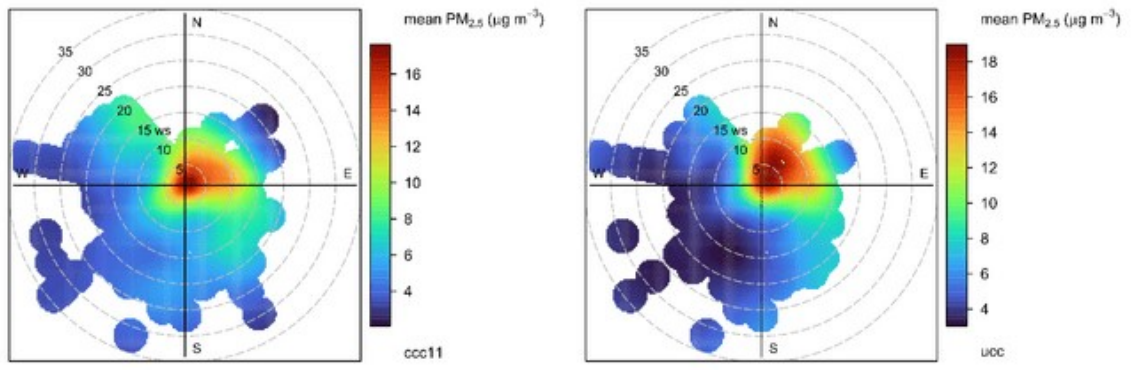
b)



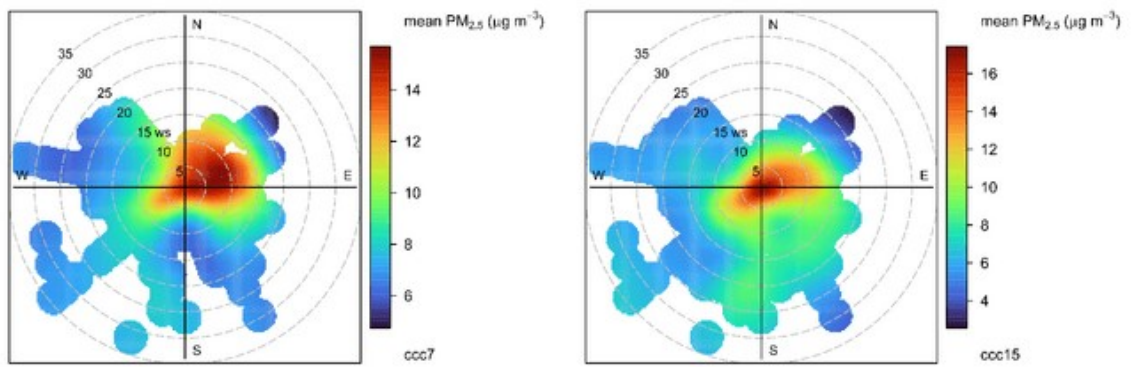
c)



d)



e)



f)

Figure S4: Polar plots for PA devices per location type – a) West, b) North, c) East, d) South, e) City centre, f) Commuter towns