

澳門空氣品質預測

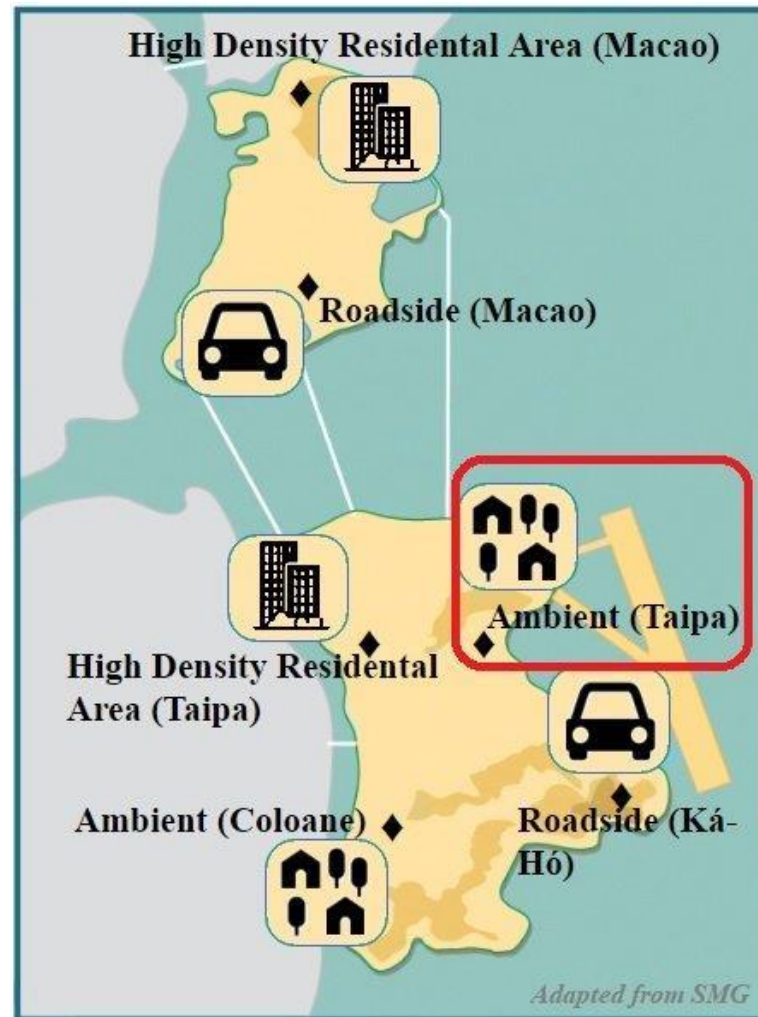
Macao Air Quality Forecast Using Statistical Methods

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Map of Macao Air Quality Monitoring Stations Network



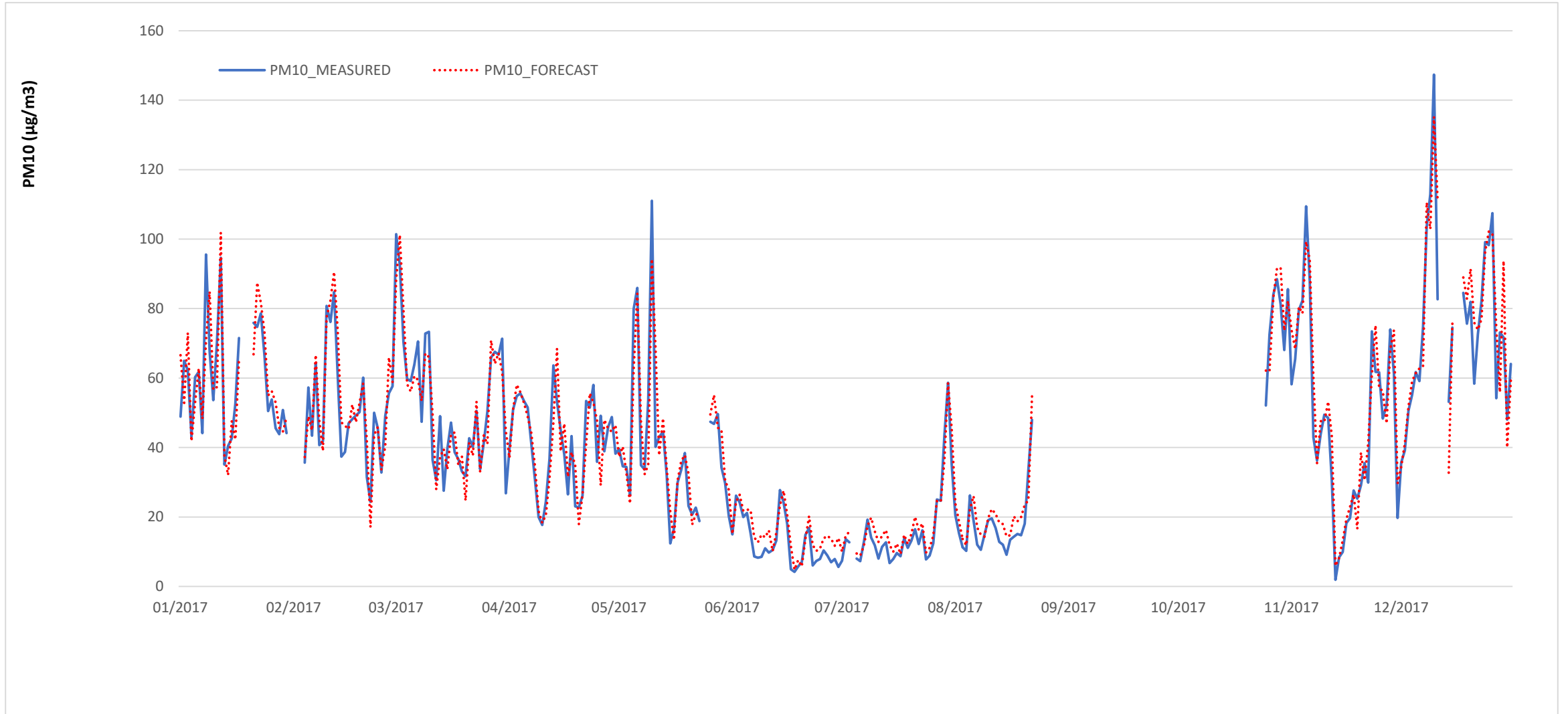
Variables Used To Forecast PM₁₀ and PM_{2.5}

Meteorological Variables	Description (Units)
H_850	Height of geopotential at 850hPa (m)
HRMD	Average relative air humidity (%)
Air Quality Variables	Description (Units)
PM ₁₀ _16D1	Average of the hourly values between 16:00 of yesterday and 15:00 of today for PM ₁₀ (µg/m ³)
PM _{2.5} _16D1	Average of the hourly values between 16:00 of yesterday and 15:00 of today for PM _{2.5} (µg/m ³)

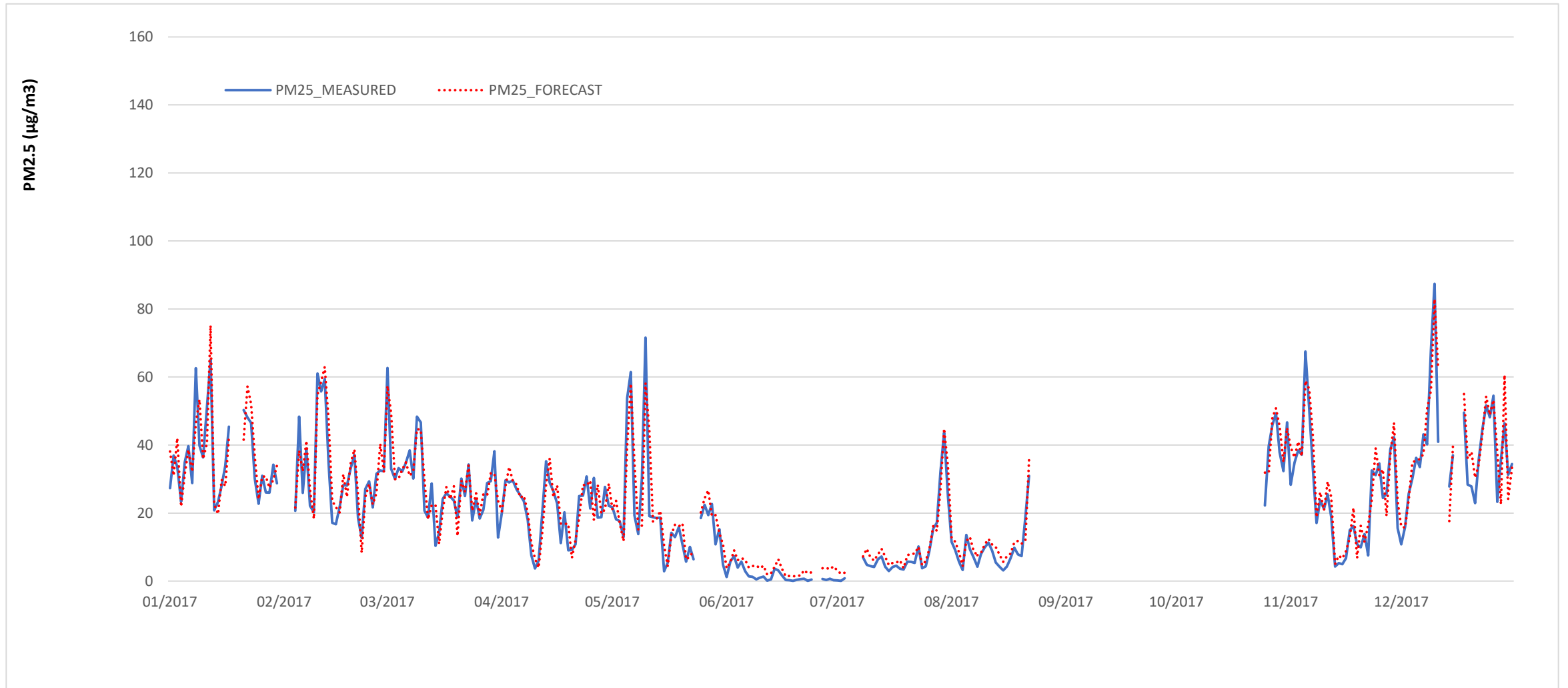
Variables Used in Statistical Models

Station	Dependent variables (daily next day average)	Independent variables used in the best fit multiple regression model
Taipa Ambient	PM10	PM10_16D1, H_850, HRMD
	PM2.5	PM25_16D1, H_850, HRMD

Observed and Predicted PM₁₀ Concentrations Values using MR Models in Taipa Ambient (2017)



Observed and Predicted PM_{2.5} Concentrations Values using MR Models in Taipa Ambient (2017)



Model Performance Indicators

Station	Pollutant	Performance indicators			
		R ²	RMSE (µg/m ³)	MAE (µg/m ³)	BIAS (µg/m ³)
Taipa Ambient	PM10	0.92	6.8	4.5	1.1
	PM2.5	0.89	5.0	3.2	1.1

感謝聆聽

Thank you for listening