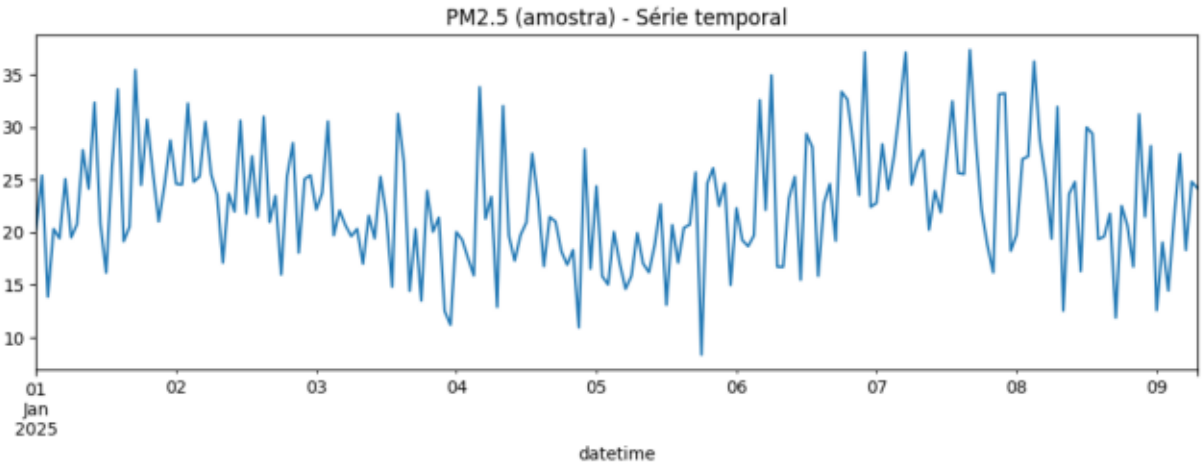
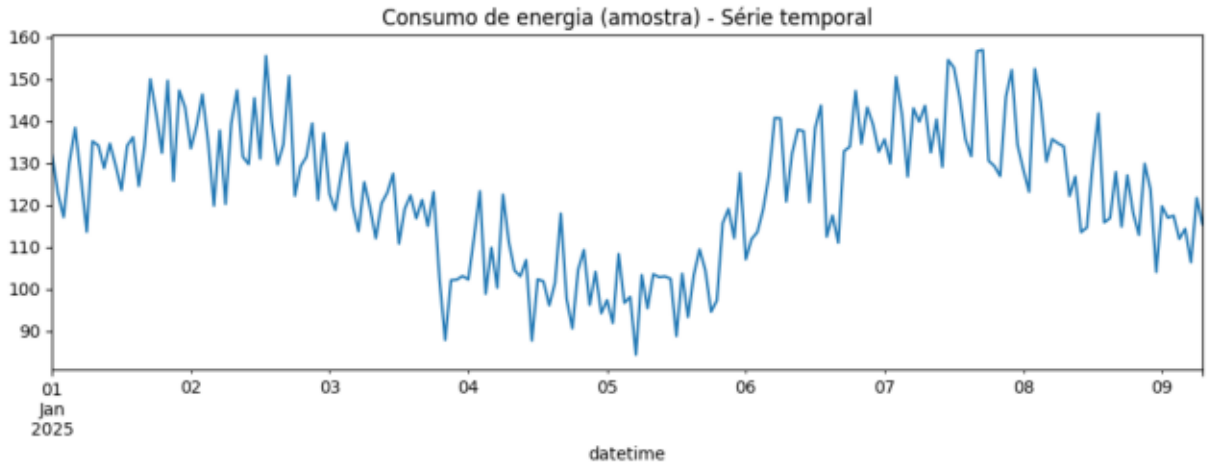
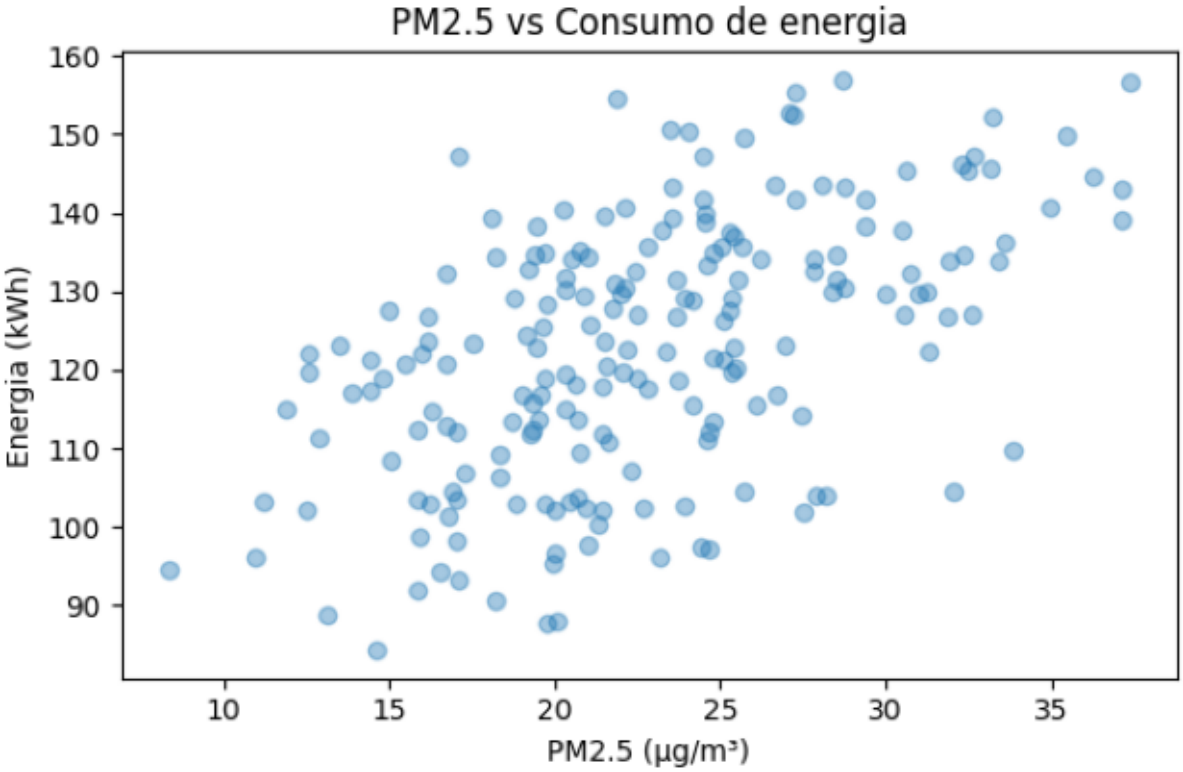
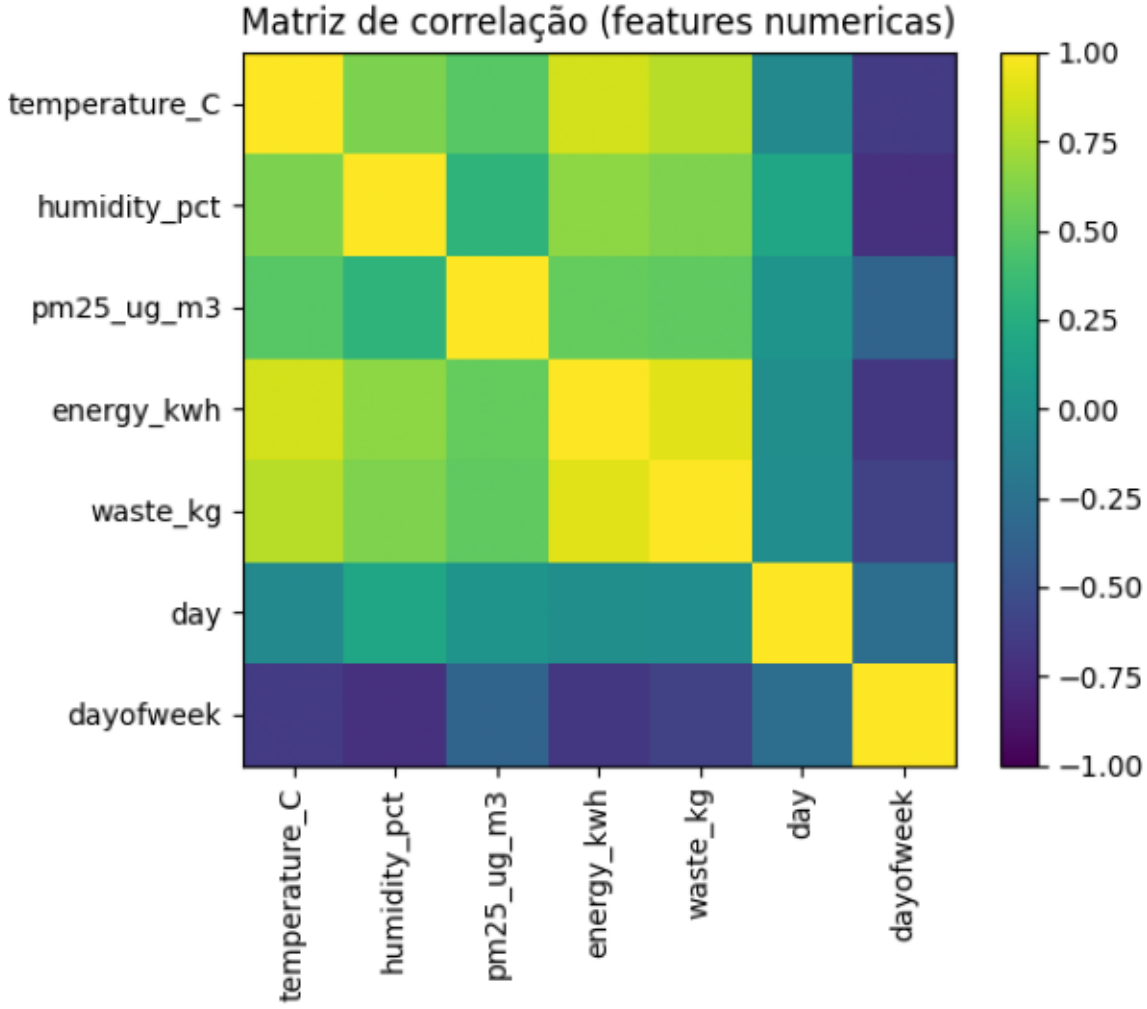
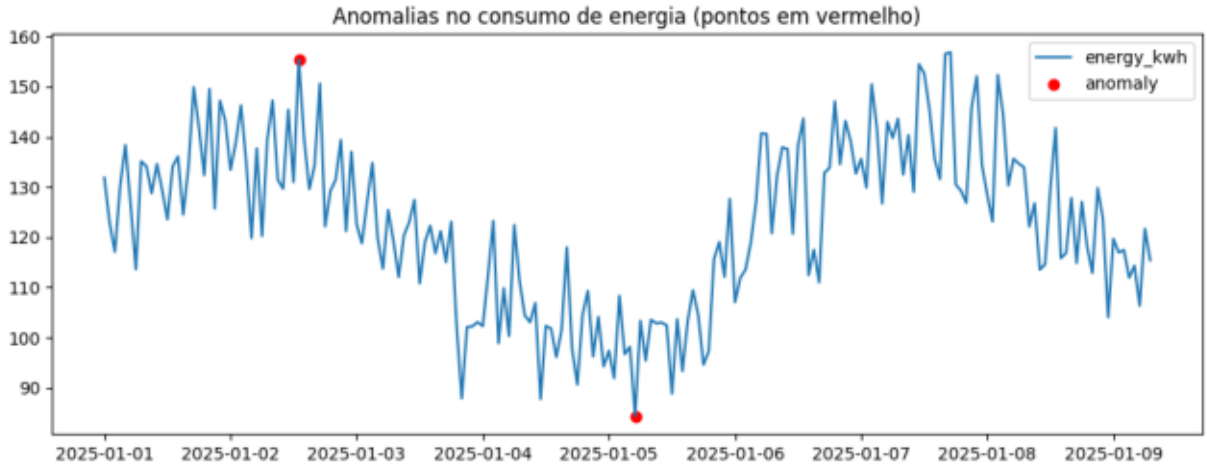
Análise de Dados Ambientais para Soluções Sustentáveis nas Cidades\n\nResu


PM2.5 (amostra) - Série temporal
35
30
25
20
15
10
01
Jan
2025
02
03
04
05
06
07
08
09
datetime


Consumo de energia (amostra) - Série temporal
160
150
140
130
120
110
100
90
01
Jan
2025
02
03
04
05
06
07
08
09
datetime


PM2.5 vs Consumo de energia
Energia (kWh)
160
150
140
130
120
110
100
90
10
15
20
25
30
35
PM2.5 (µg/m³)


Matriz de correlação (features numericas)
temperature_C
humidity_pct
pm25_ug_m3
energy_kwh
waste_kg
day
dayofweek
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00


Anomalias no consumo de energia (pontos em vermelho)
energy_kwh
anomaly
160
150
140
130
120
110
100
90
2025-01-01
2025-01-02
2025-01-03
2025-01-04
2025-01-05
2025-01-06
2025-01-07
2025-01-08
2025-01-09

Matriz de correlação (features numericas):

	temperature_C	humidity_pct	pm25_ug_m3	energy_kwh	waste_kg	day	dayofweek
emperature_C	1.0	0.61	0.48	0.86	0.79	-0.06	-0.65
umidity_pct	0.61	1.0	0.3	0.66	0.61	0.18	-0.71
m25_ug_m3	0.48	0.3	1.0	0.53	0.51	0.04	-0.36
nergy_kwh	0.86	0.66	0.53	1.0	0.91	-0.01	-0.67
aste_kg	0.79	0.61	0.51	0.91	1.0	-0.02	-0.61
ay	-0.06	0.18	0.04	-0.01	-0.02	1.0	-0.28
ayofweek	-0.65	-0.71	-0.36	-0.67	-0.61	-0.28	1.0

Modelo: RandomForestRegressor\nMSE: 82.160\nR2: 0.673\n\nImportância de features:\ntemperatu
humidity_pct   0.083013
pm25_ug_m3   0.065536
dayofweek   0.017552
day   0.010836
water_l   0.000000