atmosphere

SUPPLEMENTARY MATERIALS

Figures A1 and A2 show Time-series of BTEX for both sampling sites. Figures A3 and A4 show descriptive statistics for criteria air pollutants (O_3, NO, NO_2, NOx and CO). Tables A1-A4 show Pearson correlation matrix for measured variables during the whole study period for both sampling sites. Table A5 shows details of the instruments used for meteorological parameters measurements.

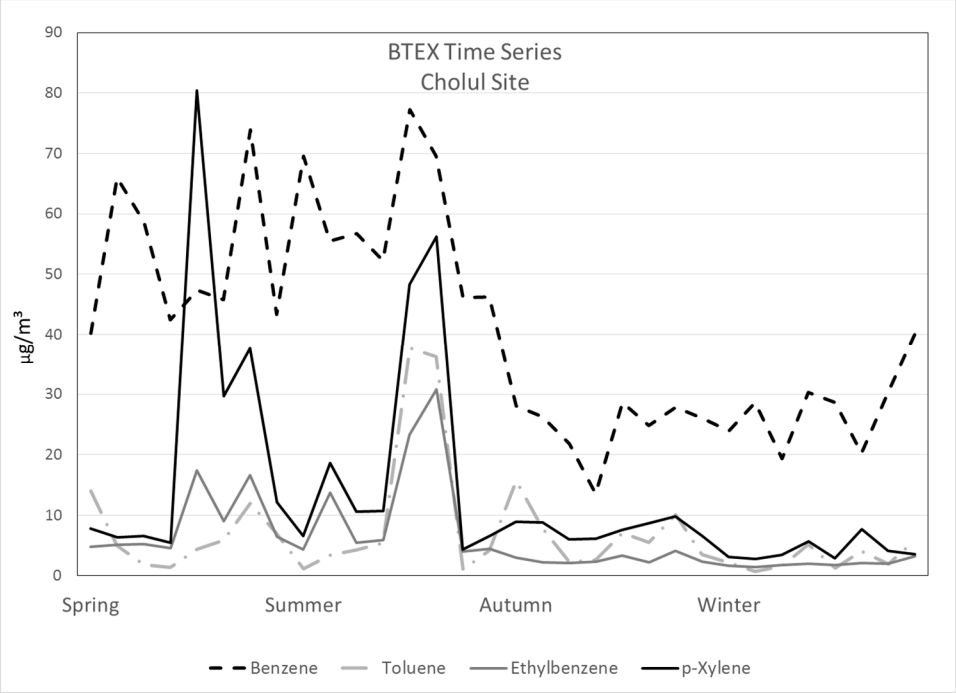

Figure A1. Time series for measured BTEX in Cholul site.

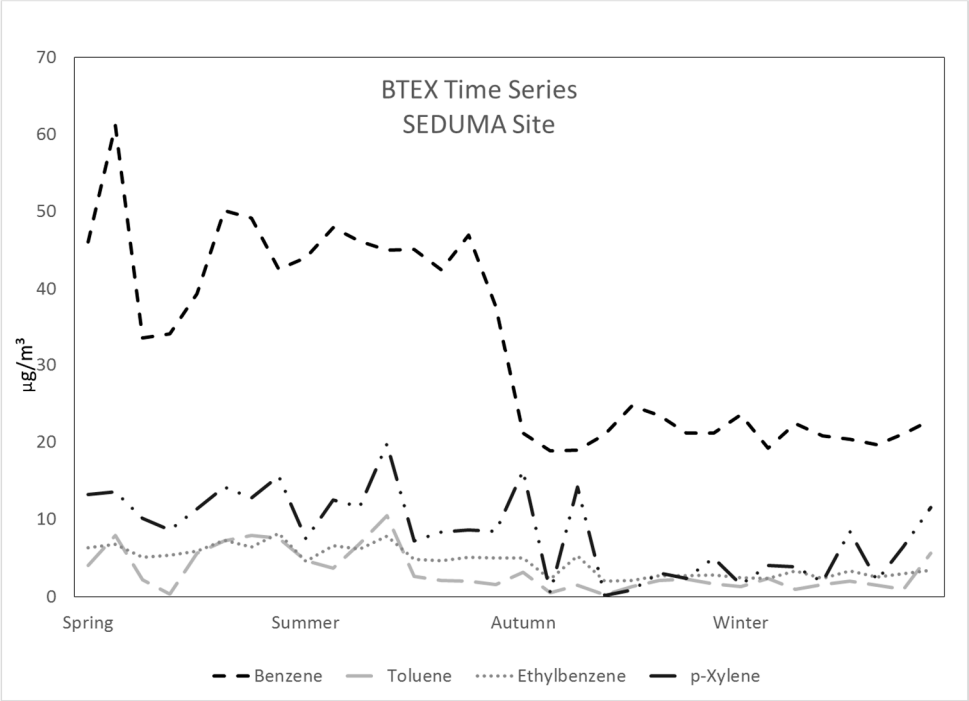

Figure A2. Time series for measured BTEX in SEDUMA site.

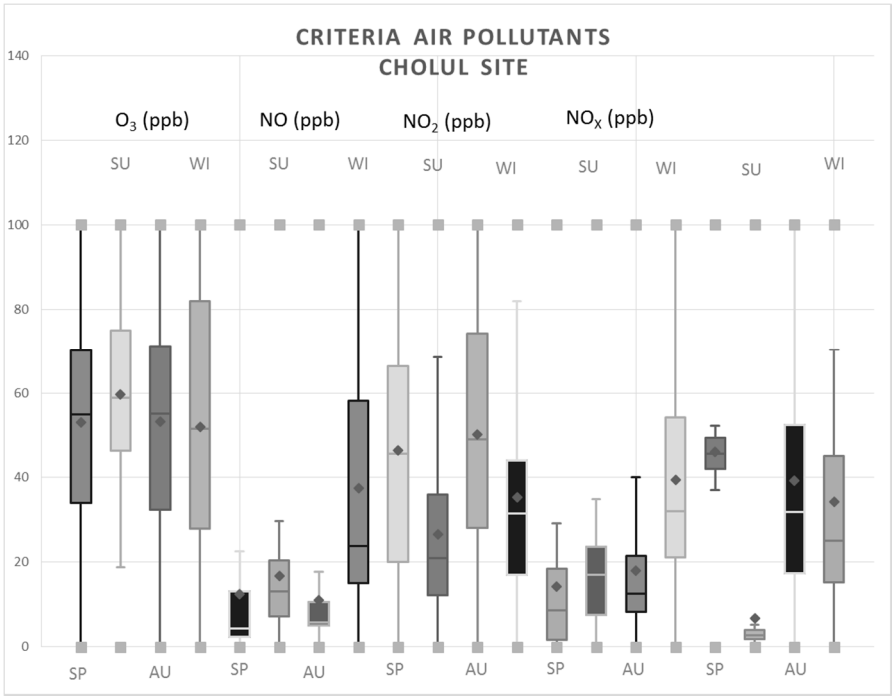

Figure A3. Box plots for measured air criteria pollutants (O_3, NO, NO_2, NOx and CO) in Cholul site.

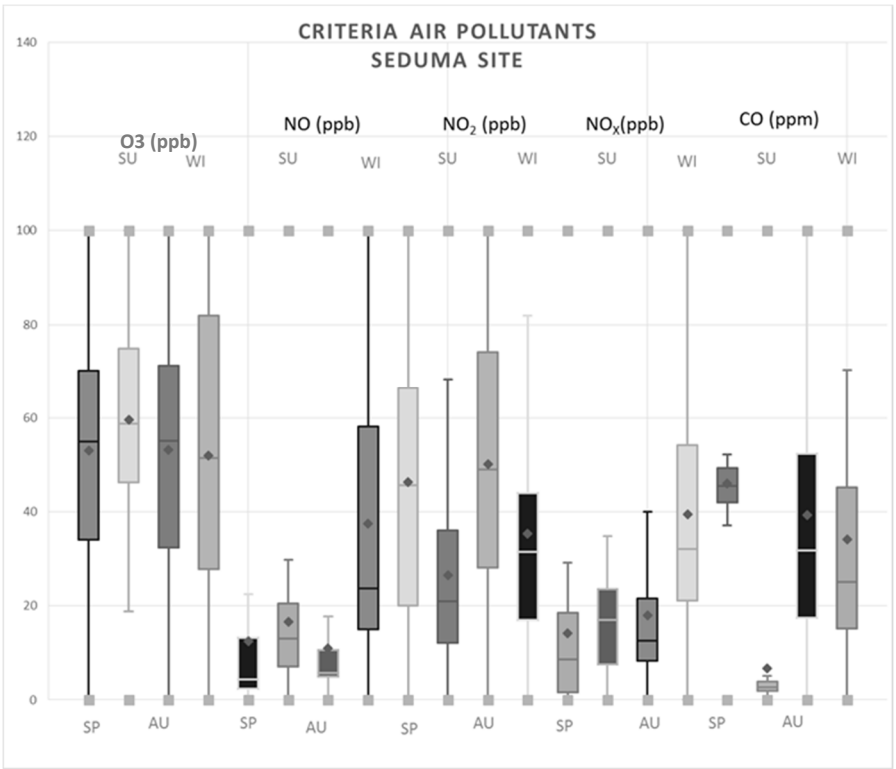

Figure A4. Box plots for measured air criteria pollutants (O_3, NO, NO_2, NOx and CO) in SEDUMA site.

Table A1. Pearson correlation matrix for measured variables during spring for a) Cholul site and b) SEDUMA site

SPRING														
a) CHOLUL SITE														
Variables	CO	NOx	O3	PM2.5	B	T	Ebz	X	WS	WD	RH	Tmp	Prs	SR
CO	**1**	0.11	-0.39	-0.03	0.25	-0.08	0.19	0.12	-0.26	0.16	**0.44**	-0.39	0.08	**-0.41**
NOx	0.11	**1**	**-0.61**	-0.12	-0.25	-0.22	0.17	0.39	-0.32	0.30	0.40	-0.32	-0.15	0.12
O3	-0.39	**-0.61**	**1**	0.23	0.02	0.29	-0.35	**-0.48**	0.06	-0.24	**-0.63**	**0.49**	0.20	0.35
PM2.5	-0.03	-0.12	0.23	**1**	0.08	-0.24	0.14	0.04	0.31	0.12	-0.38	**0.46**	-0.29	0.07
B	0.25	-0.25	0.02	0.08	**1**	0.31	0.24	0.03	-0.003	-0.33	0.02	0.03	0.18	0.13
T	-0.08	-0.22	0.29	-0.24	0.31	**1**	0.23	0.02	-0.26	**-0.41**	-0.007	-0.06	0.40	0.05
Ebz	0.19	0.17	-0.35	0.14	0.24	0.23	**1**	**0.85**	0.02	0.04	0.14	0.001	-0.12	-0.22
X	0.12	0.39	**-0.48**	0.04	0.03	0.02	**0.85**	**1**	-0.12	-0.02	0.17	0.009	-0.24	-0.09
WS	-0.26	-0.32	0.06	0.31	-0.003	-0.26	0.02	-0.12	**1**	0.22	-0.40	**0.43**	**-0.51**	**-0.44**
WD	0.16	0.30	-0.24	0.12	-0.33	**-0.41**	0.04	-0.02	0.22	**1**	0.26	-0.21	-0.27	-0.29
RH	**0.44**	0.40	**-0.63**	-0.39	0.02	-0.007	0.14	0.17	-0.40	0.26	**1**	**-0.96**	**0.43**	-0.11
Tmp	-0.39	-0.32	**0.49**	**0.46**	0.03	-0.06	0.001	0.009	**0.43**	-0.21	**-0.96**	**1**	**-0.57**	0.08
Prs	0.09	-0.15	0.20	-0.29	0.18	0.40	-0.12	-0.24	**-0.51**	-0.27	**0.43**	**-0.57**	**1**	0.35
SR	**-0.41**	0.12	0.35	0.07	0.13	0.05	-0.22	-0.09	**-0.44**	-0.30	-0.11	0.08	0.35	**1**
b) SEDUMA SITE														
Variables	CO	NOX	O3	PM2.5	B	T	Ebz	X	WS	WD	RH	Tmp	Prs	SR
CO	**1**	-0.03	0.16	-0.25	0.11	0.20	0.16	0.19	0.25	-0.14	0.20	-0.19	0.30	**-0.47**
NOX	-0.03	**1**	**-0.54**	-0.30	-0.32	0.01	-0.09	-0.19	0.24	-0.04	**0.47**	-0.40	0.11	0.04
O3	0.16	**-0.54**	**1**	0.19	0.26	0.04	0.22	0.33	-0.16	0.16	**-0.48**	0.33	0.14	0.133
PM2.5	-0.25	-0.30	0.19	**1**	-0.28	-0.32	**-0.42**	-0.36	-0.38	0.33	-0.33	**0.41**	-0.35	0.034
B	0.11	-0.32	0.26	-0.28	**1**	**0.64**	**0.47**	**0.52**	0.26	-0.39	**-0.44**	**0.41**	0.18	0.32
T	0.20	0.01	0.04	-0.32	**0.64**	**1**	**0.72**	**0.83**	0.19	**-0.44**	-0.16	0.14	0.23	0.007
Ebz	0.16	-0.09	0.22	**-0.42**	**0.47**	**0.72**	**1**	**0.83**	0.12	**-0.42**	-0.09	0.03	0.37	0.052
X	0.19	-0.19	0.33	-0.36	**0.52**	**0.83**	**0.83**	**1**	0.10	**-0.41**	-0.25	0.16	0.25	-0.13
WS	0.25	0.24	-0.16	-0.38	0.26	0.19	0.12	0.10	**1**	-0.14	0.34	-0.30	**0.52**	0.130
WD	-0.14	-0.04	0.16	0.33	-0.39	**-0.44**	**-0.42**	**-0.41**	-0.14	**1**	0.11	-0.08	-0.28	0.150
RH	0.20	**0.47**	**-0.48**	-0.33	**-0.44**	-0.16	-0.09	-0.25	0.34	0.11	**1**	**-0.96**	**0.47**	-0.36
Tmp	-0.19	-0.40	0.33	**0.41**	**0.41**	0.14	0.03	0.16	-0.30	-0.08	**-0.96**	**1**	**-0.58**	0.36
Prs	0.23	0.11	0.14	-0.35	0.18	0.23	0.37	0.25	**0.52**	-0.28	**0.47**	**-0.58**	**1**	0.06
SR	**-0.47**	0.04	0.13	0.03	0.32	0.007	0.05	-0.13	0.13	0.15	-0.36	0.36	0.06	**1**

Bold letters indicate that the correlation coefficients are different from zero with a level of significance of alfa=0.05. B: benzene; T: toluene; Ebz: ethylbenzene; X: p-xylene; WS: wind speed; WD: wind direction; Tmp: temperature; Prs: barometric pressure; RH: relative humidity; SR: solar radiation

Table A2. Pearson correlation matrix for measured variables during summer for a) Cholul site and b) SEDUMA site

SUMMER														
a) CHOLUL SITE														
Variables	**CO**	**NOX**	**O3**	**PM2.5**	**B**	**T**	**Ebz**	**X**	**WS**	**WD**	**RH**	**Tmp**	**Prs**	**SR**
CO	**1**	**0.88**	**-0.55**	-0.26	-0.04	-0.14	-0.12	-0.14	-0.12	0.33	0.17	-0.20	0.40	-0.001
NOX	**0.88**	**1**	**-0.71**	-0.13	0.16	-0.04	-0.02	0.005	-0.22	0.37	0.29	-0.31	**0.57**	-0.15
O3	**-0.55**	**-0.71**	**1**	0.07	-0.24	-0.33	-0.20	-0.35	0.12	-0.36	-0.24	0.25	**-0.49**	0.28
PM2.5	-0.26	-0.13	0.07	**1**	**0.76**	**0.60**	**0.41**	**0.55**	**0.67**	0.02	-0.24	0.18	-0.13	-0.098
B	-0.04	0.16	-0.24	**0.76**	**1**	**0.76**	**0.52**	**0.72**	**0.42**	0.15	-0.04	0.028	0.25	-0.10
T	-0.14	-0.04	-0.33	**0.60**	**0.76**	**1**	**0.76**	**0.95**	0.35	-0.02	-0.16	0.14	0.06	-0.15
Ebz	-0.12	-0.02	-0.20	**0.41**	**0.52**	**0.76**	**1**	**0.85**	0.11	-0.15	-0.03	0.04	0.096	-0.05
X	-0.14	0.005	-0.35	**0.55**	**0.72**	**0.95**	**0.85**	**1**	0.28	-0.16	-0.095	0.07	0.09	-0.23
WS	-0.12	-0.22	0.12	**0.67**	**0.42**	0.35	0.11	0.28	**1**	-0.16	-0.22	0.15	-0.25	-0.07
WD	0.33	0.37	-0.36	0.02	0.15	-0.02	-0.15	-0.16	-0.16	**1**	0.14	-0.07	**0.54**	0.35
RH	0.17	0.29	-0.24	-0.24	-0.04	-0.16	-0.03	-0.095	-0.22	0.14	**1**	**-0.98**	**0.64**	**-0.58**
Tmp	-0.20	-0.31	0.25	0.18	0.02	0.14	0.04	0.07	0.15	-0.07	**-0.98**	**1**	**-0.58**	**0.68**
Prs	0.39	**0.57**	**-0.49**	-0.13	0.25	0.06	0.10	0.09	-0.25	**0.54**	**0.64**	**-0.58**	**1**	-0.05
SR	-0.001	-0.15	0.28	-0.098	-0.104	-0.145	-0.046	-0.225	-0.070	0.351	**-0.58**	**0.68**	-0.048	**1**
b) SEDUMA SITE														
Variables	**CO**	**NOX**	**O3**	**PM2.5**	**B**	**T**	**Ebz**	**X**	**WS**	**WD**	**RH**	**Tmp**	**Prs**	**SR**
CO	**1**	**0.88**	**-0.55**	-0.26	-0.35	**0.43**	-0.04	0.05	-0.12	0.33	0.17	-0.20	0.40	-0.001
NOX	**0.88**	**1**	**-0.71**	-0.13	-0.21	**0.49**	0.05	0.11	-0.22	0.37	0.29	-0.31	**0.57**	-0.15
O3	**-0.55**	**-0.71**	**1**	0.07	0.35	-0.289	0.04	-0.028	0.12	-0.36	-0.24	0.25	**-0.49**	0.28
PM2.5	-0.26	-0.13	0.07	**1**	0.169	-0.313	-0.33	-0.35	**0.67**	0.02	-0.24	0.18	-0.13	-0.098
B	-0.35	-0.21	0.35	0.17	**1**	-0.20	-0.23	-0.30	-0.03	-0.31	-0.20	0.24	-0.06	0.21
T	**0.43**	**0.49**	-0.29	-0.31	-0.20	**1**	**0.66**	**0.78**	-0.28	0.06	0.002	-0.05	0.097	-0.10
Ebz	-0.04	0.05	0.04	-0.33	-0.23	**0.66**	**1**	**0.96**	-0.36	-0.002	-0.03	0.03	-0.003	-0.06
X	0.05	0.11	-0.028	-0.35	-0.30	**0.78**	**0.96**	**1**	-0.32	-0.006	0.02	-0.04	0.02	-0.10
WS	-0.12	-0.22	0.12	**0.67**	-0.03	-0.28	-0.36	-0.32	**1**	-0.16	-0.22	0.15	-0.25	-0.07
WD	0.33	0.37	-0.36	0.02	-0.31	0.06	-0.002	-0.006	-0.16	**1**	0.14	-0.07	**0.54**	0.35
RH	0.17	0.29	-0.24	-0.24	-0.20	0.002	-0.03	0.02	-0.22	0.14	**1**	**-0.98**	**0.64**	**-0.58**
Tmp	-0.20	-0.31	0.25	0.18	0.24	-0.05	0.04	-0.04	0.15	-0.07	**-0.93**	**1**	**-0.58**	**0.68**
Prs	0.39	**0.57**	**-0.49**	-0.13	-0.06	0.097	-0.003	0.02	-0.25	**0.54**	**0.64**	**-0.58**	**1**	-0.05
SR	-0.001	-0.15	0.28	-0.09	0.21	-0.10	-0.06	-0.10	-0.07	0.35	**-0.58**	**0.68**	-0.05	**1**

Bold letters indicate that the correlation coefficients are different from zero with a level of significance of alfa=0.05. B: benzene; T: toluene; Ebz: ethylbenzene; X: p-xylene; WS: wind speed; WD: wind direction; Tmp: temperature; Prs: barometric pressure; RH: relative humidity; SR: solar radiation

Table A3. Pearson correlation matrix for measured variables during autumn for a) Cholul site and b) SEDUMA site

AUTUMN													
a) CHOLUL SITE													
Variables	**CO**	**NOX**	**O3**	**B**	**T**	**Ebz**	**X**	**WS**	**WD**	**RH**	**Tmp**	**Prs**	**SR**
CO	**1**	-0.09	**-0.73**	0.39	0.07	0.01	0.02	-0.18	-0.14	**0.71**	**-0.63**	**0.53**	-0.20
NOX	-0.09	**1**	0.24	-0.07	-0.12	-0.29	-0.06	-0.28	-0.24	-0.08	0.03	0.05	-0.05
O3	**-0.73**	0.24	**1**	-0.34	-0.18	-0.14	-0.19	0.097	-0.03	**-0.59**	**0.44**	-0.21	**0.40**
B	0.39	-0.07	-0.34	**1**	**0.54**	**0.45**	**0.47**	-0.16	-0.07	-0.001	0.11	-0.03	0.20
T	0.07	-0.12	-0.18	**0.54**	**1**	**0.52**	**0.64**	-0.26	-0.14	-0.16	0.31	-0.39	0.11
Ebz	0.01	-0.29	-0.14	**0.45**	**0.52**	**1**	**0.60**	-0.11	-0.11	-0.20	0.27	-0.33	0.16
X	0.02	-0.06	-0.19	**0.47**	**0.64**	**0.60**	**1**	-0.10	-0.17	-0.20	0.36	**-0.52**	-0.08
WS	-0.18	-0.28	0.097	-0.16	-0.26	-0.11	-0.10	**1**	**0.67**	0.24	-0.27	0.09	**-0.51**
WD	-0.14	-0.24	-0.03	-0.07	-0.14	-0.11	-0.17	**0.67**	**1**	0.17	-0.17	0.10	-0.38
RH	**0.71**	-0.08	**-0.59**	-0.001	-0.16	-0.20	-0.20	0.24	0.17	**1**	**-0.96**	**0.70**	**-0.63**
Tmp	**-0.63**	0.03	**0.44**	0.11	0.31	0.27	0.36	-0.27	-0.17	**-0.96**	**1**	**-0.77**	**0.60**
Prs	**0.53**	0.05	-0.21	-0.03	-0.39	-0.33	**-0.52**	0.09	0.10	**0.69**	**-0.77**	**1**	-0.17
SR	-0.20	-0.05	**0.40**	0.20	0.11	0.16	-0.08	**-0.51**	-0.38	**-0.63**	**0.60**	-0.17	**1**
b) SEDUMA SITE													
Variables	**CO**	**NOX**	**O3**	**B**	**T**	**Ebz**	**X**	**WS**	**WD**	**RH**	**Tmp**	**Prs**	**SR**
CO	**1**	-0.09	**-0.73**	-0.13	0.16	0.09	0.12	-0.18	-0.14	**0.71**	**-0.63**	**0.53**	-0.20
NOX	-0.09	**1**	0.24	0.09	-0.25	-0.16	-0.15	-0.28	-0.24	-0.08	0.03	0.05	-0.05
O3	**-0.73**	0.24	**1**	-0.06	-0.15	0.02	-0.002	0.097	-0.03	**-0.59**	**0.436**	-0.21	**0.40**
B	-0.13	0.09	-0.06	**1**	0.07	-0.15	-0.13	-0.20	-0.15	-0.35	0.34	-0.39	0.16
T	0.16	-0.25	-0.15	0.07	**1**	0.39	**0.41**	0.096	0.05	-0.01	0.11	-0.14	-0.07
Ebz	0.09	-0.16	0.023	-0.1	0.39	**1**	**0.97**	0.12	0.26	0.19	-0.20	0.16	-0.19
X	0.12	-0.15	-0.002	-0.13	**0.41**	**0.97**	**1**	0.11	0.22	0.21	-0.20	0.16	-0.16
WS	-0.18	-0.28	0.097	-0.20	0.09	0.12	0.11	**1**	**0.67**	0.24	-0.27	0.09	**-0.51**
WD	-0.14	-0.24	-0.03	-0.15	0.05	0.26	0.22	**0.67**	**1**	0.17	-0.17	0.10	-0.38
RH	**0.71**	-0.08	**-0.59**	-0.35	-0.01	0.19	0.21	0.24	0.17	**1**	**-0.96**	**0.69**	**-0.63**
Tmp	**-0.63**	0.03	**0.44**	0.34	0.109	-0.20	-0.20	-0.27	-0.17	**-0.96**	**1**	**-0.77**	**0.60**
Prs	**0.53**	0.05	-0.21	-0.39	-0.14	0.16	0.16	0.09	0.10	**0.69**	**-0.77**	**1**	-0.17
SR	-0.20	-0.05	**0.40**	0.16	-0.07	-0.19	-0.16	**-0.51**	-0.38	**-0.63**	**0.60**	-0.17	**1**

Bold letters indicate that the correlation coefficients are different from zero with a level of significance of alfa=0.05. B: benzene; T: toluene; Ebz: ethylbenzene; X: p-xylene; WS: wind speed; WD: wind direction; Tmp: temperature; Prs: barometric pressure; RH: relative humidity; SR: solar radiation

Table A4. Pearson correlation matrix for measured variables during winter for a) Cholul site and b) SEDUMA site

WINTER													
a) CHOLUL SITE													
Variables	**CO**	**NOX**	**O3**	**B**	**T**	**Ebz**	**X**	**WS**	**WD**	**RH**	**Tmp**	**Prs**	**SR**
CO	**1**	**0.94**	**-0.85**	**0.50**	**0.45**	**0.51**	0.08	**-0.77**	-0.29	**0.51**	-0.10	-0.15	-0.34
NOX	**0.94**	**1**	**-0.78**	0.30	**0.52**	0.32	0.21	**-0.75**	-0.36	0.30	-0.05	-0.15	-0.23
O3	**-0.85**	**-0.78**	**1**	-0.31	-0.14	-0.24	0.18	**0.65**	0.031	**-0.58**	0.03	0.34	0.37
B	**0. 50**	0.30	-0.31	**1**	0.31	**0.68**	-0.12	-0.32	-0.04	0.33	-0.02	0.03	-0.09
T	**0.45**	**0.52**	-0.14	0.31	**1**	0.35	**0.54**	**-0.40**	-0.32	0.02	-0.095	0.18	-0.08
Ebz	**0.51**	0.32	-0.24	**0.68**	0.35	**1**	0.02	-0.31	-0.15	0.28	-0.08	0.05	-0.21
X	0.08	0.21	0.18	-0.12	**0.54**	0.02	**1**	-0.20	-0.16	-0.30	0.04	0.08	0.14
WS	**-0.77**	**-0.75**	**0.66**	-0.32	**-0.40**	-0.31	-0.20	**1**	0.31	-0.28	0.007	0.05	0.06
WD	-0.29	-0.36	0.03	-0.04	-0.32	-0.15	-0.16	0.31	**1**	0.18	-0.10	-0.05	**-0.42**
RH	**0.51**	0.30	**-0.58**	0.33	0.02	0.28	-0.30	-0.28	0.18	**1**	**-0.64**	0.23	**-0.64**
Tmp	-0.10	-0.05	0.03	-0.02	-0.095	-0.08	0.04	0.007	-0.10	**-0.64**	**1**	**-0.82**	**0.54**
Prs	-0.15	-0.15	0.34	0.03	0.18	0.05	0.08	0.05	-0.05	0.23	**-0.82**	**1**	-0.26
SR	-0.34	-0.23	0.37	-0.09	-0.08	-0.21	0.14	0.06	**-0.42**	**-0.64**	**0.54**	-0.26	**1**
B) SEDUMA SITE													
Variables	**CO**	**NOX**	**O3**	**B**	**T**	**Ebz**	**X**	**WS**	**WD**	**RH**	**Tmp**	**Prs**	**SR**
CO	**1**	**0.94**	**-0.85**	0.12	0.364	-0.042	0.212	**-0.767**	-0.29	**0.51**	-0.10	-0.15	-0.34
NOX	**0.94**	**1**	**-0.78**	0.22	0.24	-0.061	0.101	**-0.754**	-0.36	0.30	-0.05	-0.15	-0.23
O3	**-0.85**	**-0.78**	**1**	-0.08	-0.311	0.222	-0.010	**0.653**	0.03	**-0.58**	0.03	0.34	0.37
B	0.12	0.22	-0.08	**1**	0.110	0.31	0.230	-0.141	**-0.46**	-0.26	0.25	-0.08	0.36
T	0.36	0.24	-0.31	0.110	**1**	0.071	0.30	-0.311	-0.20	**0.55**	-0.30	0.14	-0.17
Ebz	-0.04	-0.06	0.22	0.31	0.071	**1**	**0.783**	0.03	0.13	0.002	-0.06	0.21	-0.06
X	0.21	0.10	-0.01	0.230	0.30	**0.783**	**1**	-0.08	0.02	0.25	-0.03	0.09	-0.19
WS	**-0.77**	**-0.75**	**0.65**	-0.141	-0.311	0.03	-0.08	**1**	0.31	-0.28	0.007	0.05	0.06
WD	-0.29	-0.36	0.03	**-0.46**	-0.204	0.13	0.024	0.311	**1**	0.18	-0.10	-0.05	**-0.42**
RH	**0.51**	0.30	**-0.58**	-0.256	**0.55**	0.002	0.245	-0.28	0.18	**1**	**-0.64**	0.23	**-0.64**
Tmp	-0.10	-0.05	0.03	0.25	-0.30	-0.06	-0.032	0.007	-0.10	**-0.64**	**1**	**-0.82**	**0.54**
Prs	-0.15	-0.15	0.34	-0.078	0.141	0.21	0.090	0.05	-0.05	0.23	**-0.82**	**1**	-0.26
SR	-0.34	-0.23	0.37	0.36	-0.170	-0.062	-0.194	0.06	**-0.42**	**-0.64**	**0.54**	-0.26	**1**

Bold letters indicate that the correlation coefficients are different from zero with a level of significance of alfa=0.05. B: benzene; T: toluene; Ebz: ethylbenzene; X: p-xylene; WS: wind speed; WD: wind direction; Tmp: temperature; Prs: barometric pressure; RH: relative humidity; SR: solar radiation

Table A5. Details of the Meteorological Stations used in the study.

Portable meteorological stations, model Davis Vantage Pro II				
Parameter	**Resolution Instrument**	**Operation Range**	**Accuracy**	**Uncertainty**
Relative Humidity	1%	0-100%	± 3%	± 3%
Solar radiation	1 W/m²	0-1800 W/m²	± 5%	± 5%
Temperature	1°C	-40°C a +65°C	± 0.5%	± 0.5%
Wind direction	1°	0-360°	± 3°	± 3°
Wind speed	0.1 m/s	0.5-89 m/s	± 5%	± 5%