

Air Quality Trends in Europe : 2000-2021

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INERIS

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1 Austria

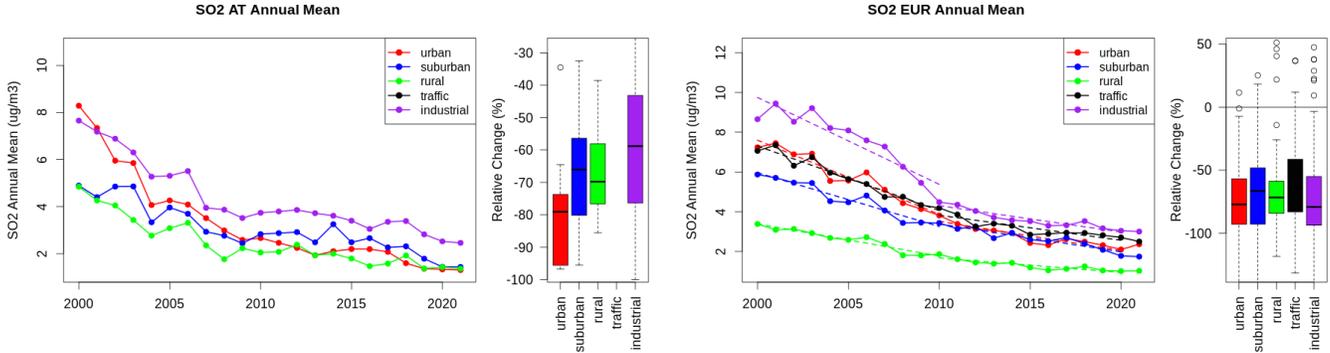


Figure A2.1: Time series of the Austria (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Austria and in Europe.

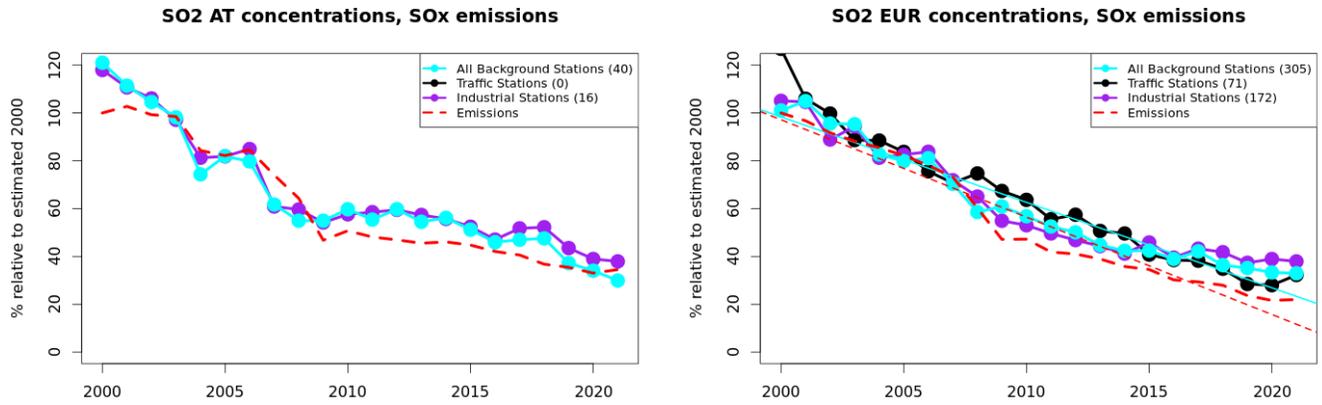


Figure A2.2: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

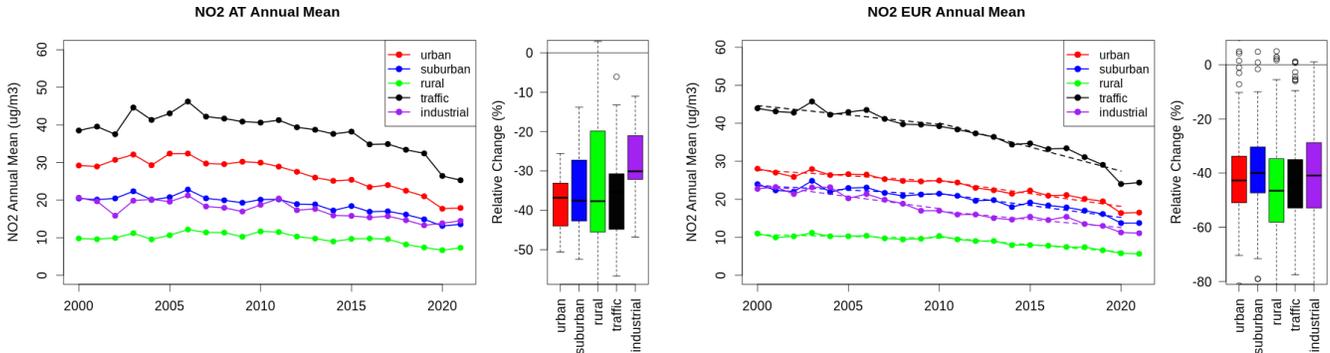


Figure A2.3: Time series of the Austria (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Austria and in Europe.

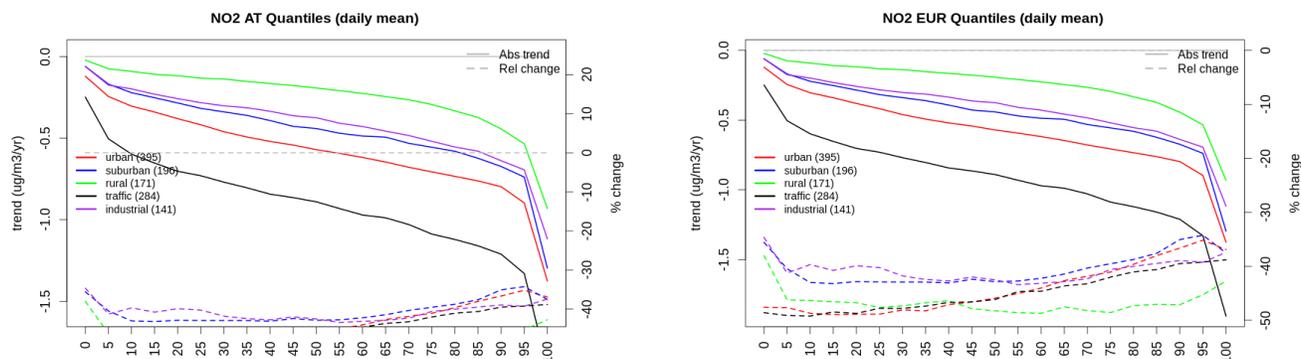


Figure A2.4: For NO₂ in Austria (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

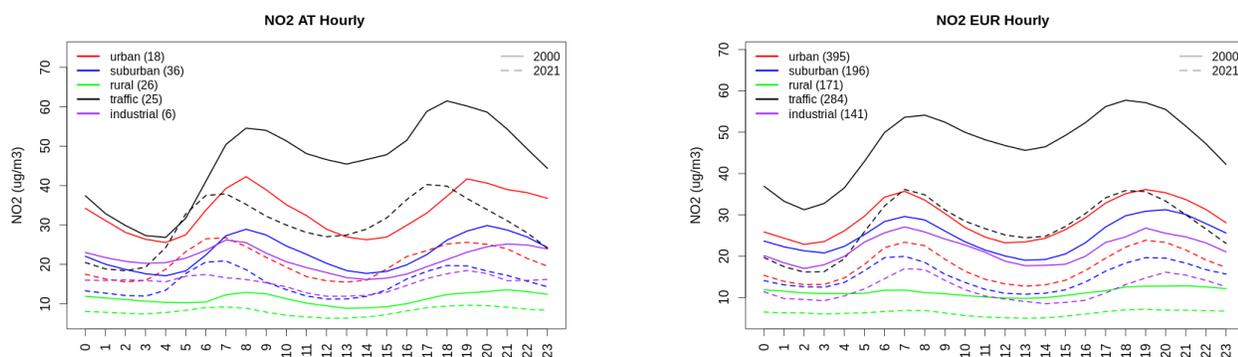


Figure A2.5: Diurnal cycle of daily mean NO₂ for Austria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

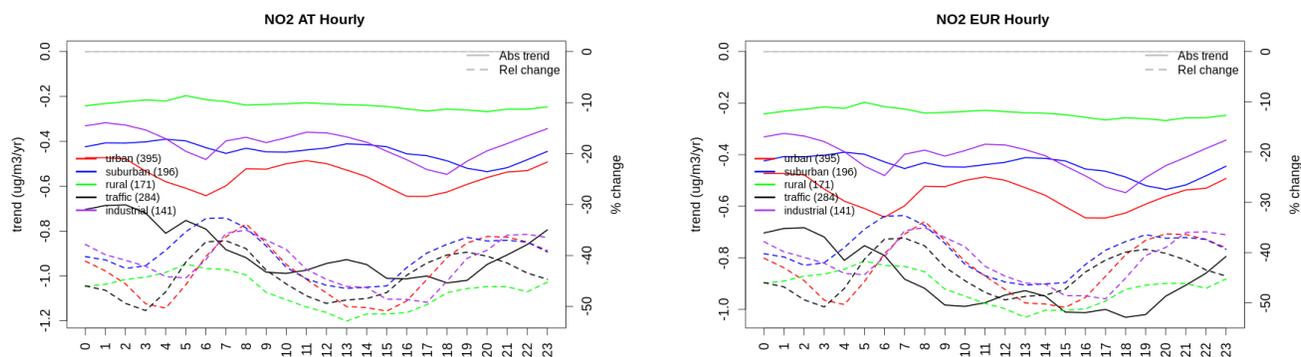


Figure A2.6: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Austria (left) and Europe (right) of NO₂ at various station type.

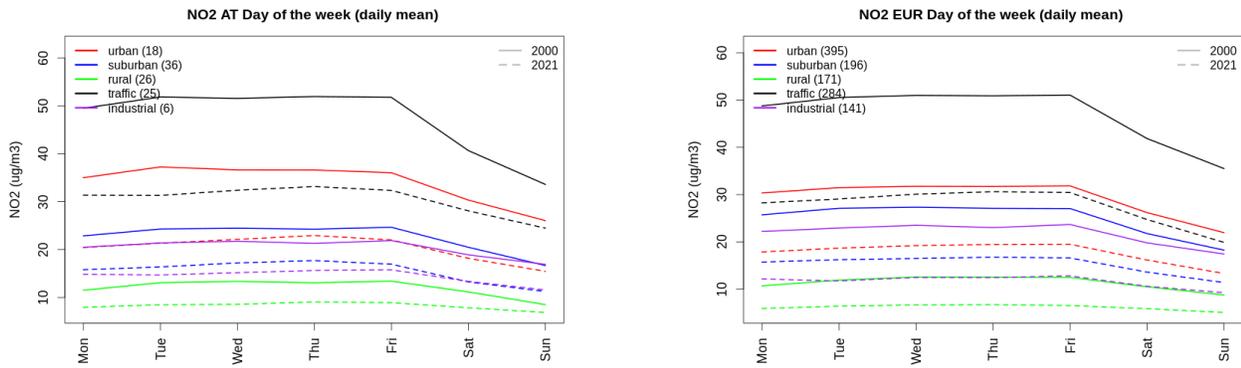


Figure A2.7: Weekly cycle of daily mean NO2 for Austria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

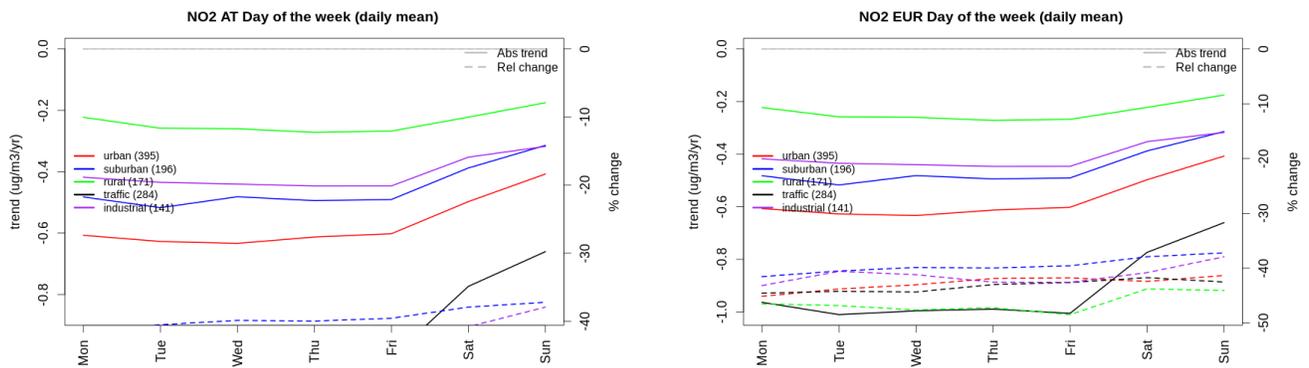


Figure A2.8: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Austria (left) and Europe (right) of NO2 at various station type.

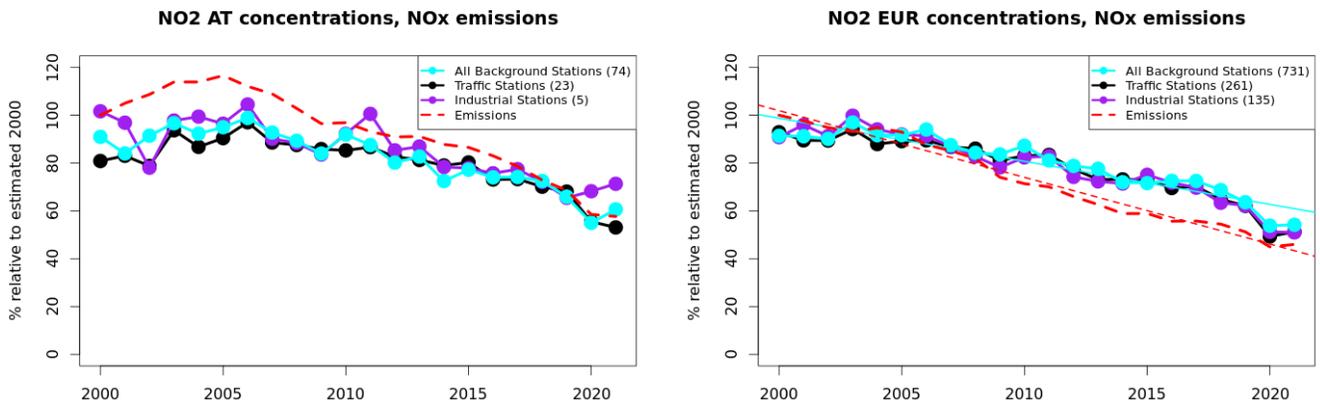


Figure A2.9: Time series of 2000-2021 (left) and European (right) median NO2 observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NOx emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

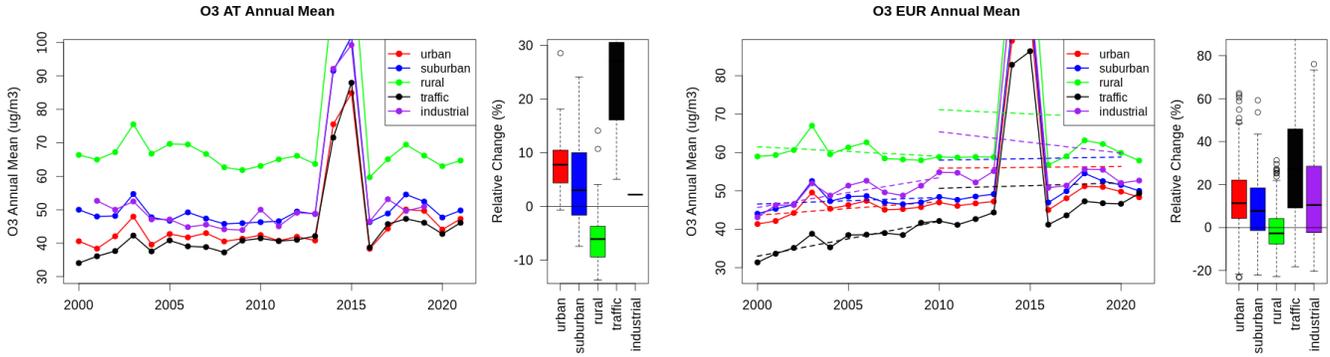


Figure A2.10: Time series of the Austria (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Austria and in Europe.

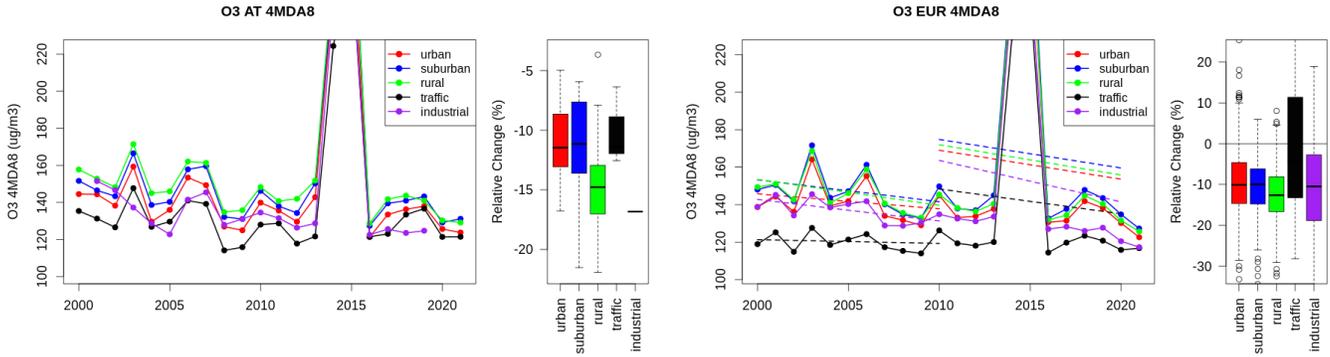


Figure A2.11: Time series of the Austria (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Austria and in Europe.

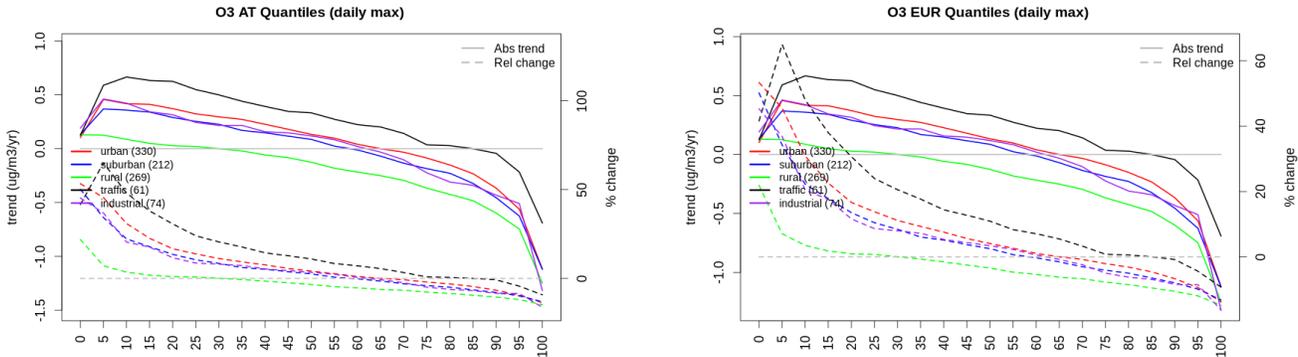


Figure A2.12: For ozone in Austria (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

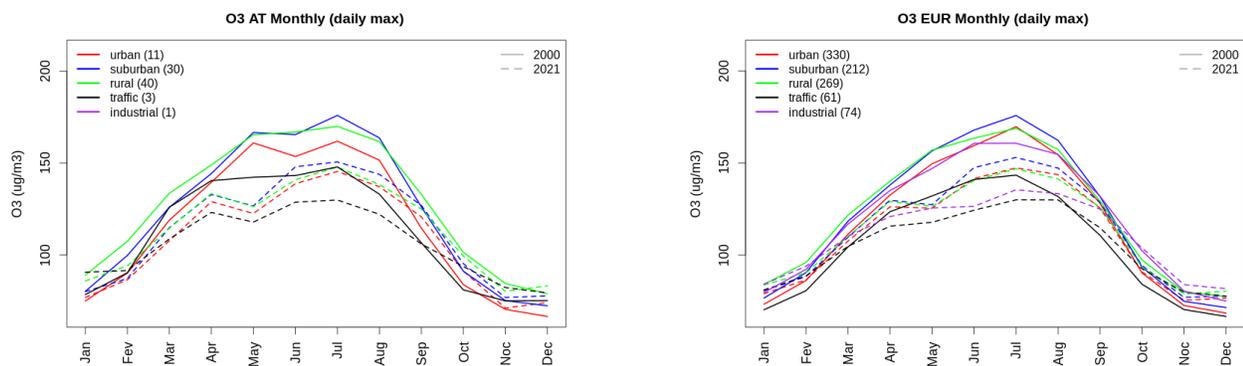


Figure A2.13: Monthly cycle of daily max ozone for Austria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

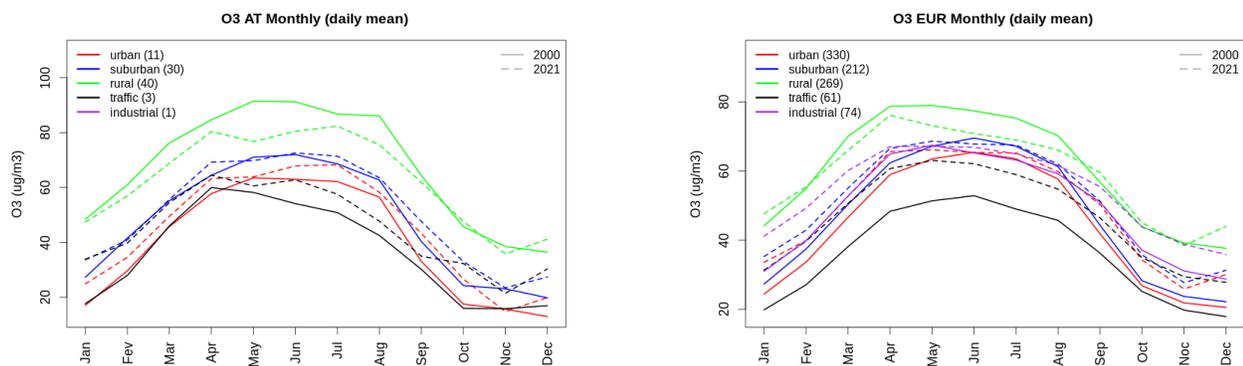


Figure A2.14: Monthly cycle of daily mean ozone for Austria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

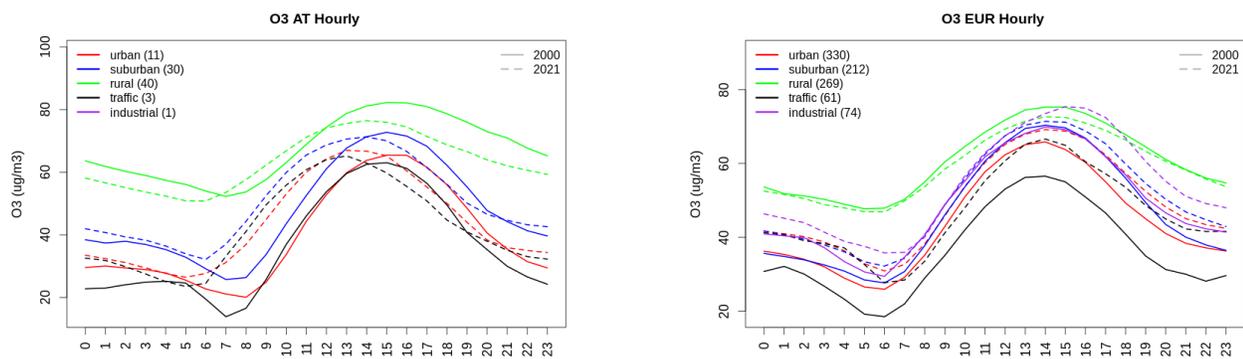


Figure A2.15: Diurnal cycle of daily mean ozone for Austria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

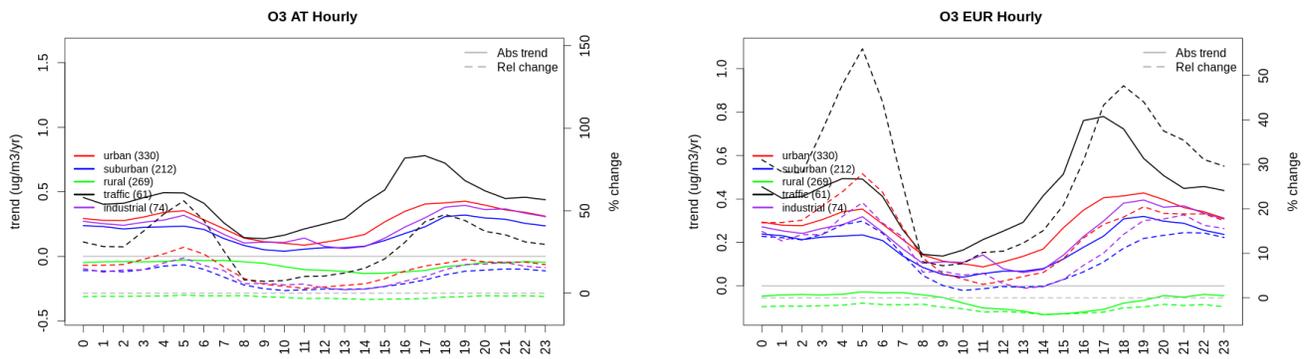


Figure A2.16: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Austria (left) and Europe (right) of ozone at various station type.

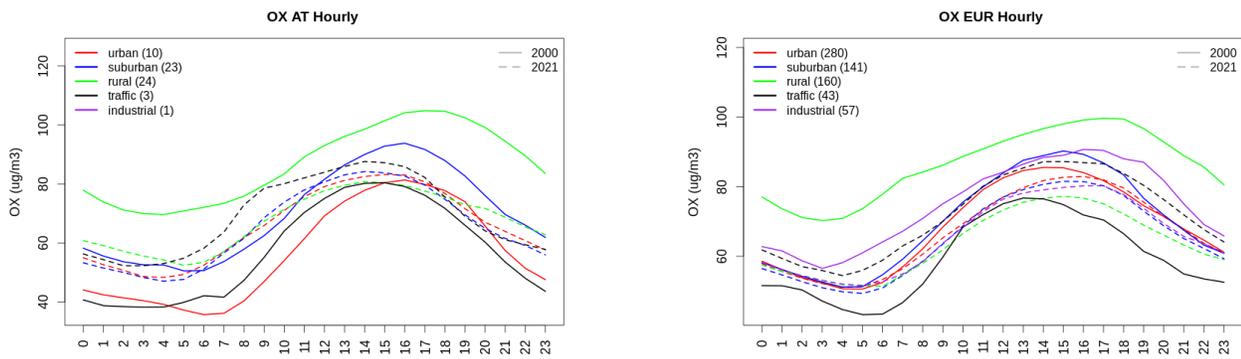


Figure A2.17: Diurnal cycle of daily mean OX (as NO₂+O₃) for Austria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

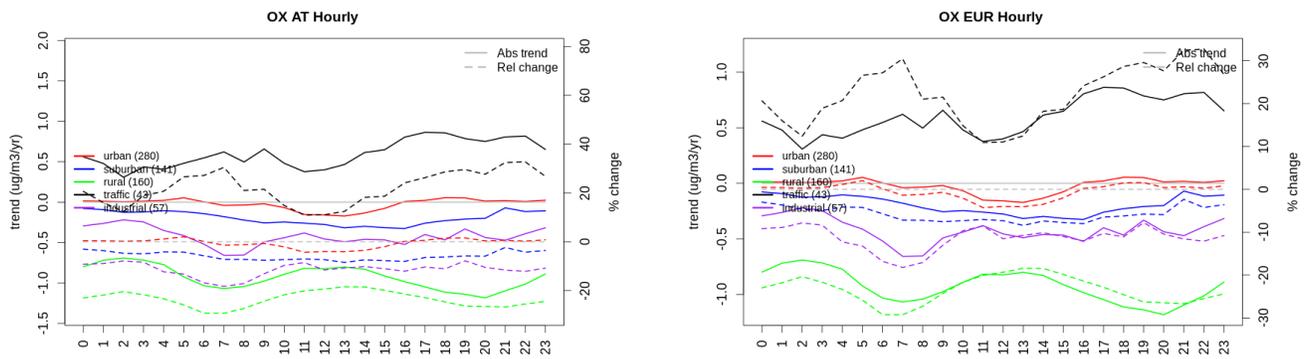


Figure A2.18: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Austria (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

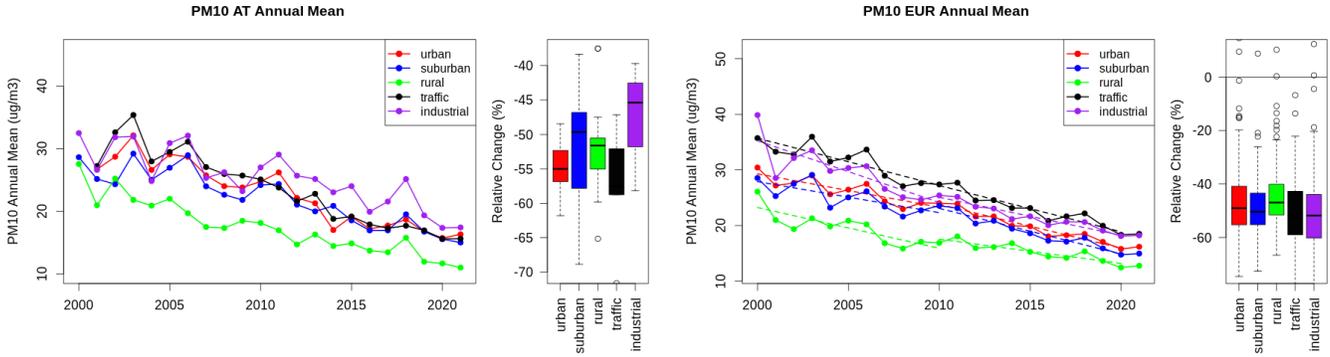


Figure A2.19: Time series of the Austria (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Austria and in Europe.

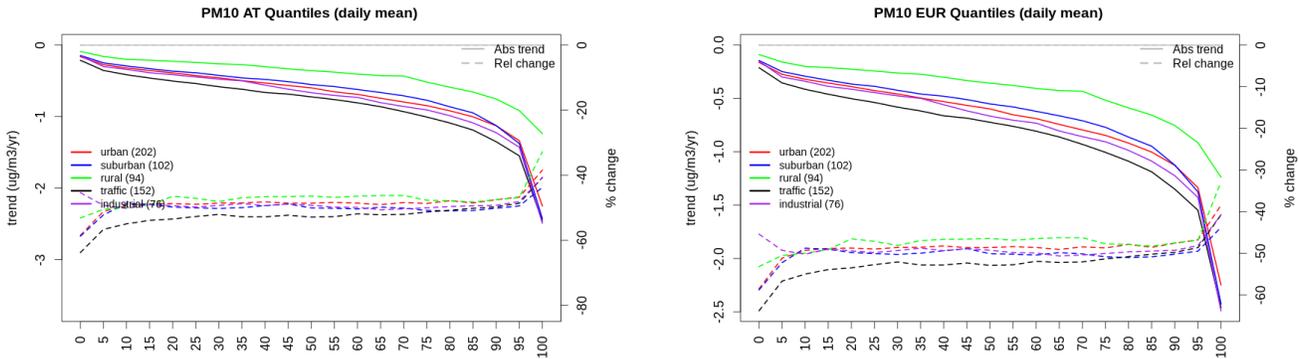


Figure A2.20: For PM10 in Austria (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

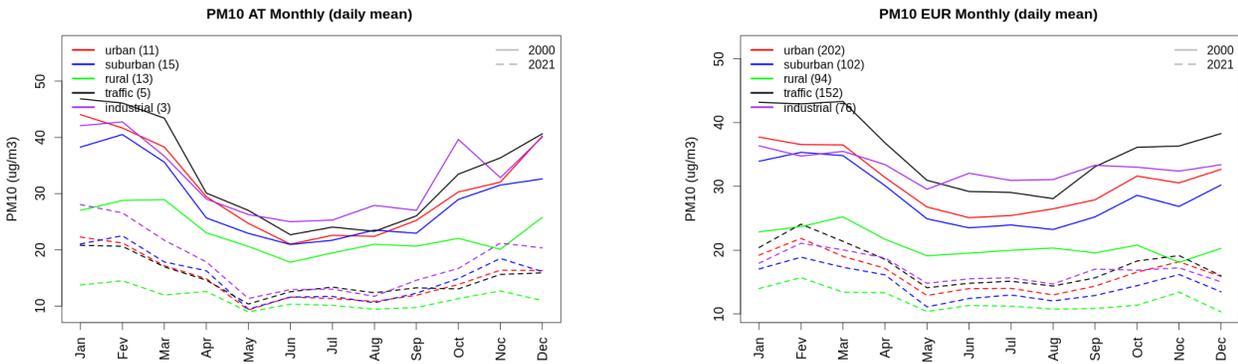


Figure A2.21: Monthly cycle of daily mean PM10 for Austria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

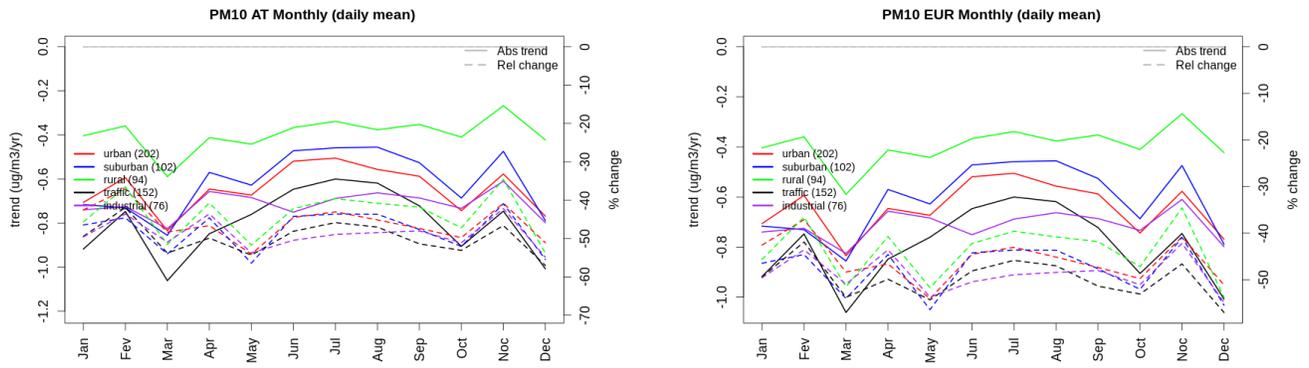


Figure A2.22: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Austria (left) and Europe (right) of PM10 at various station type.

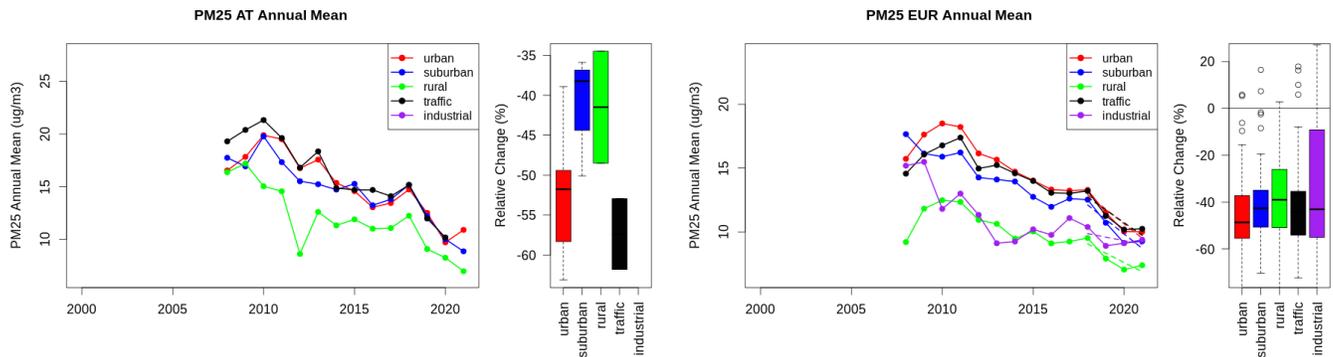


Figure A2.23: Time series of the Austria (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Austria and in Europe.

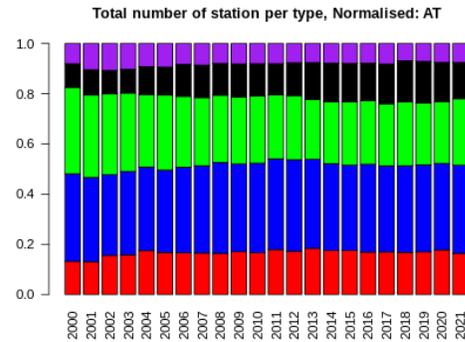
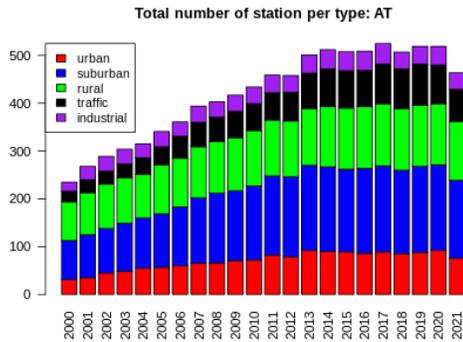
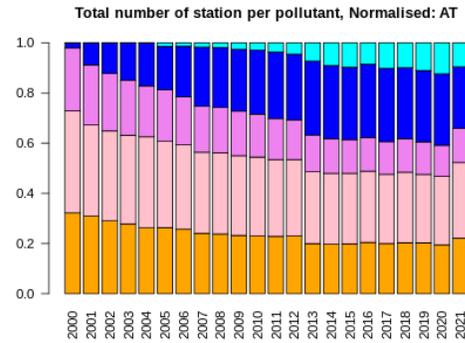
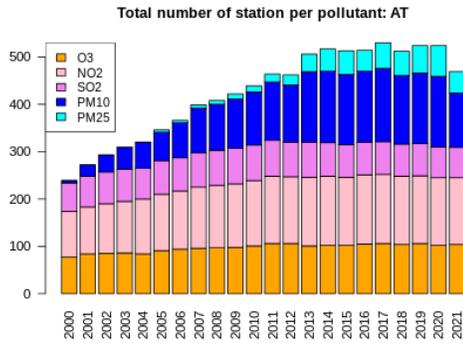
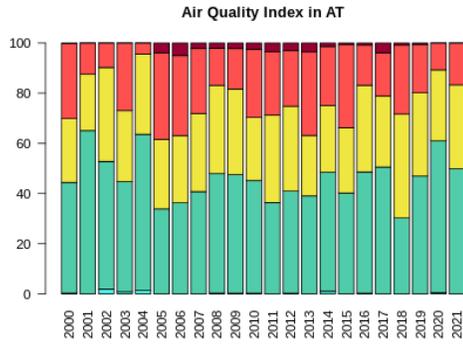


Figure A2.24: For Austria: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

2 Belgium

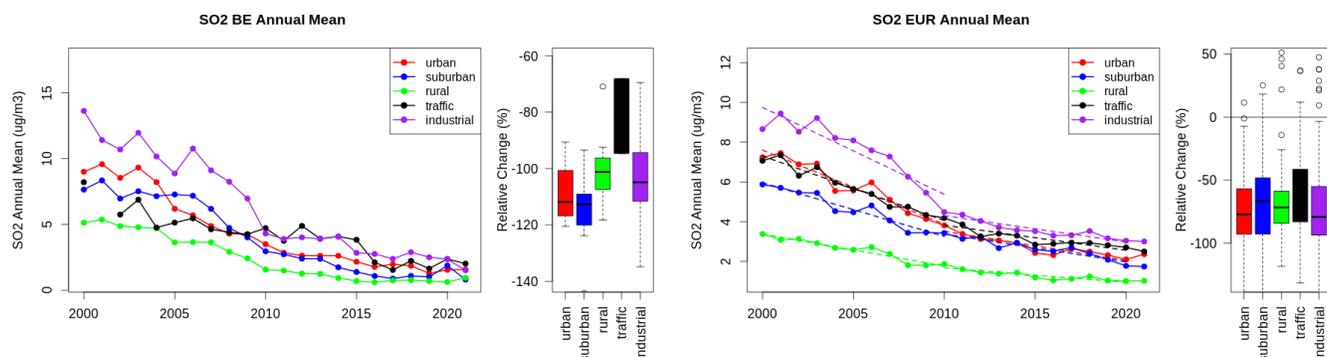


Figure A2.25: Time series of the Belgium (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Belgium and in Europe.

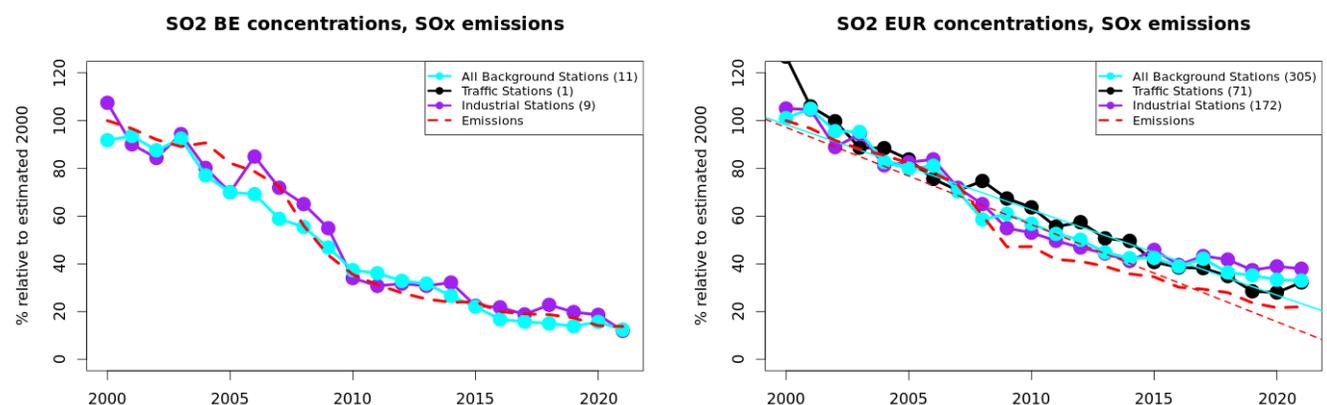


Figure A2.26: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

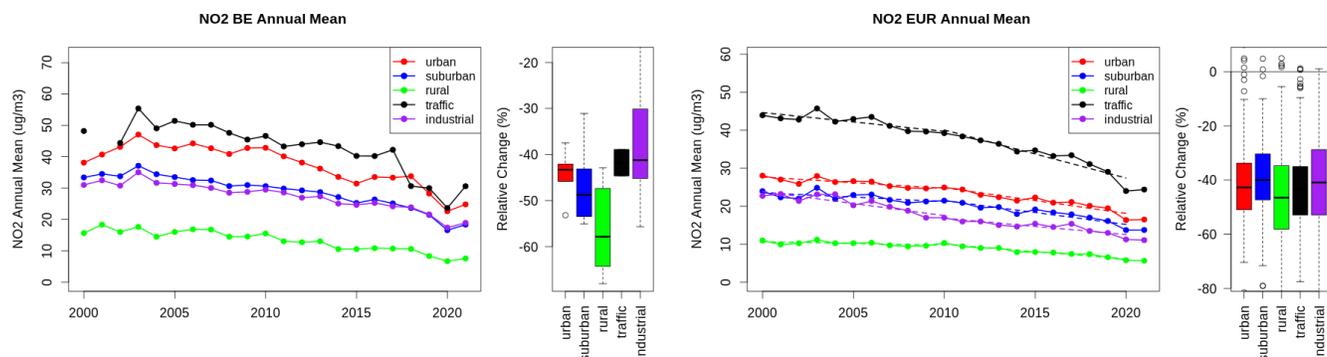


Figure A2.27: Time series of the Belgium (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Belgium and in Europe.

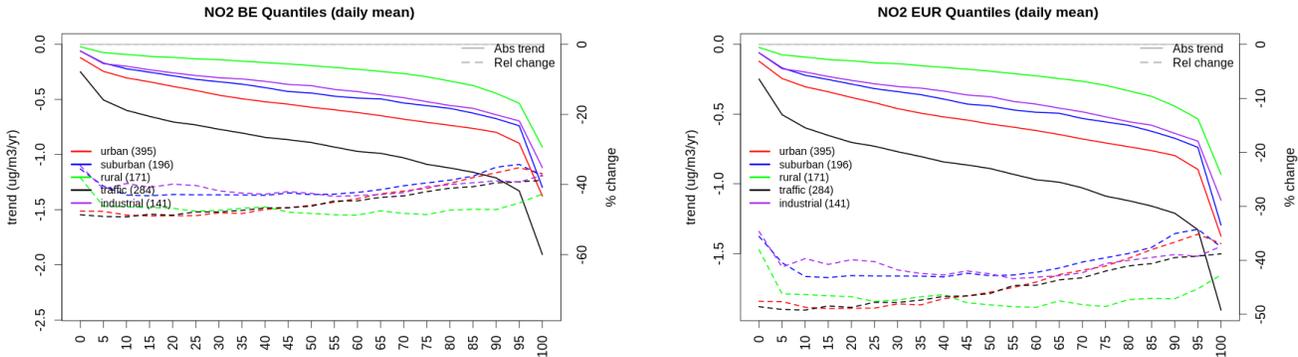


Figure A2.28: For NO₂ in Belgium (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

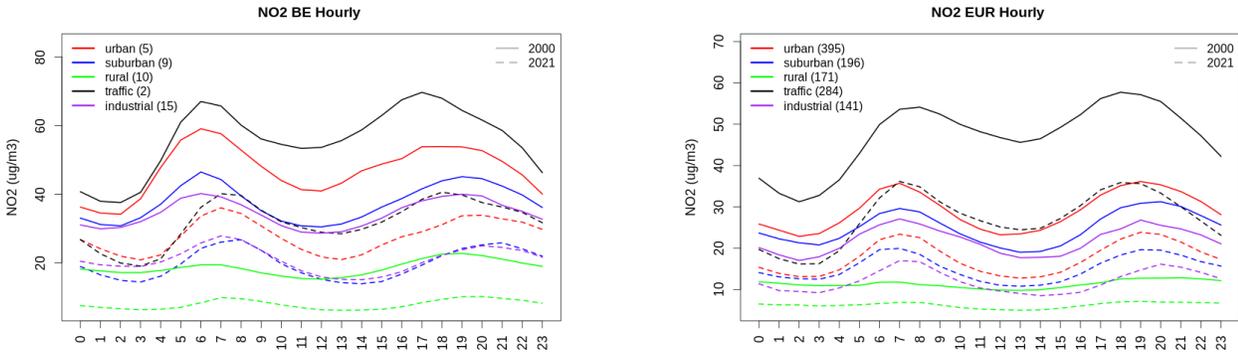


Figure A2.29: Diurnal cycle of daily mean NO₂ for Belgium (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

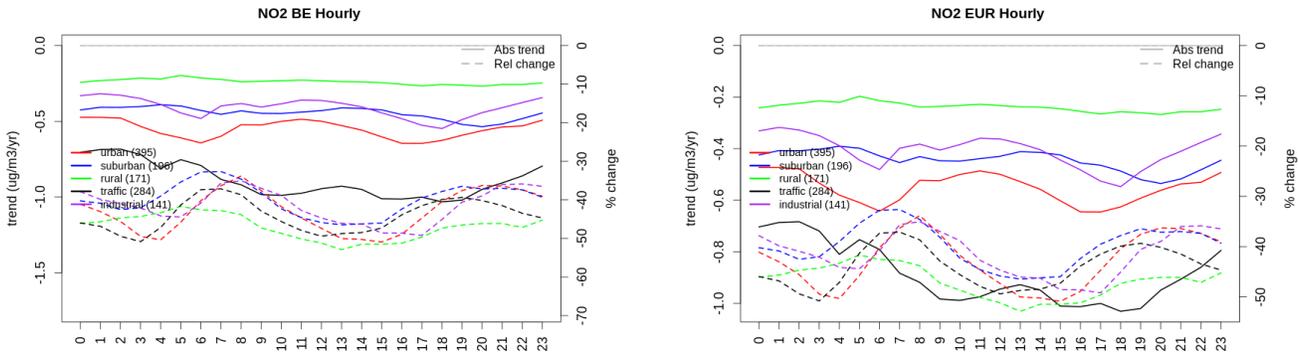


Figure A2.30: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Belgium (left) and Europe (right) of NO₂ at various station type.

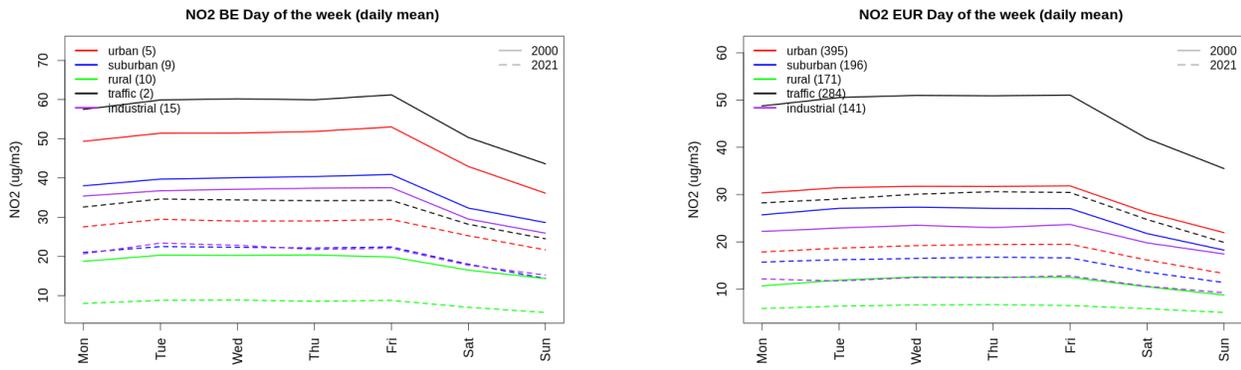


Figure A2.31: Weekly cycle of daily mean NO2 for Belgium (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

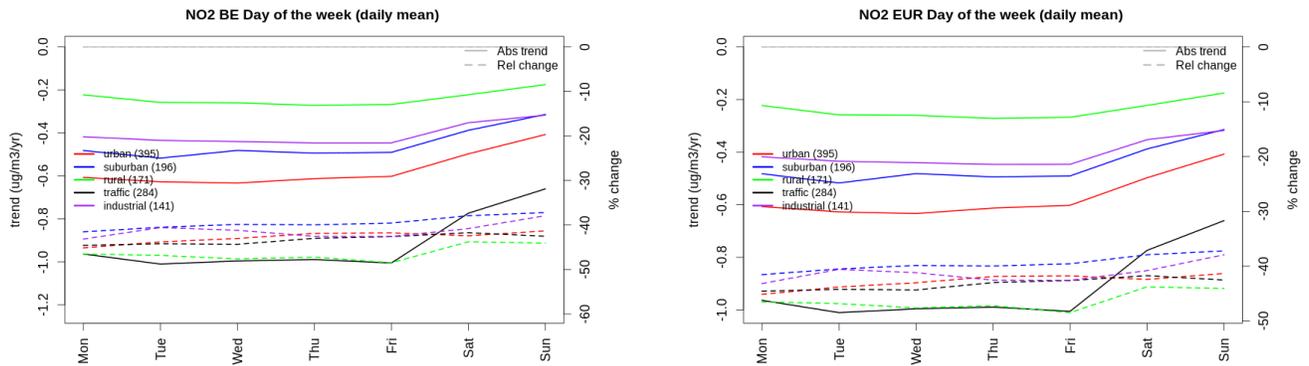


Figure A2.32: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Belgium (left) and Europe (right) of NO2 at various station type.

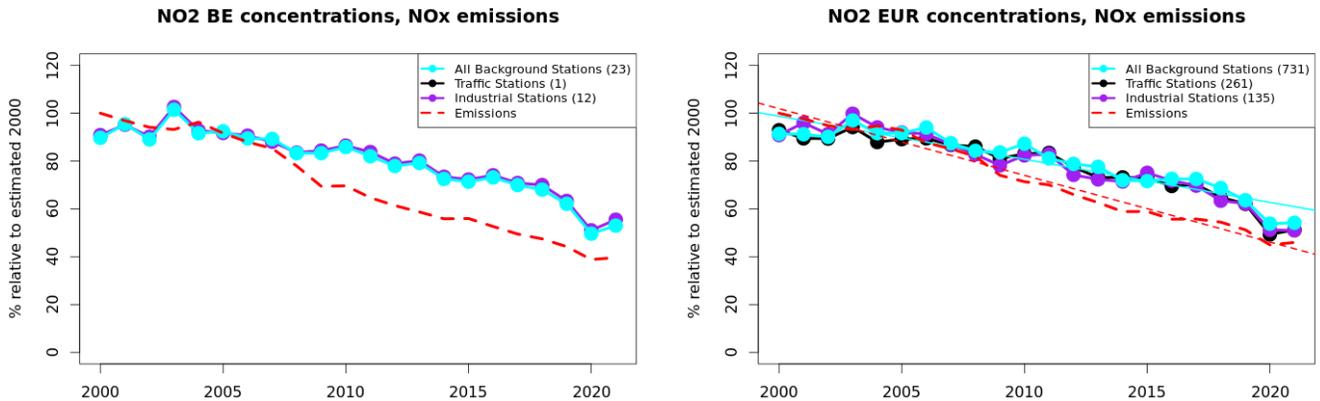


Figure A2.33: Time series of 2000-2021 (left) and European (right) median NO2 observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NOx emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

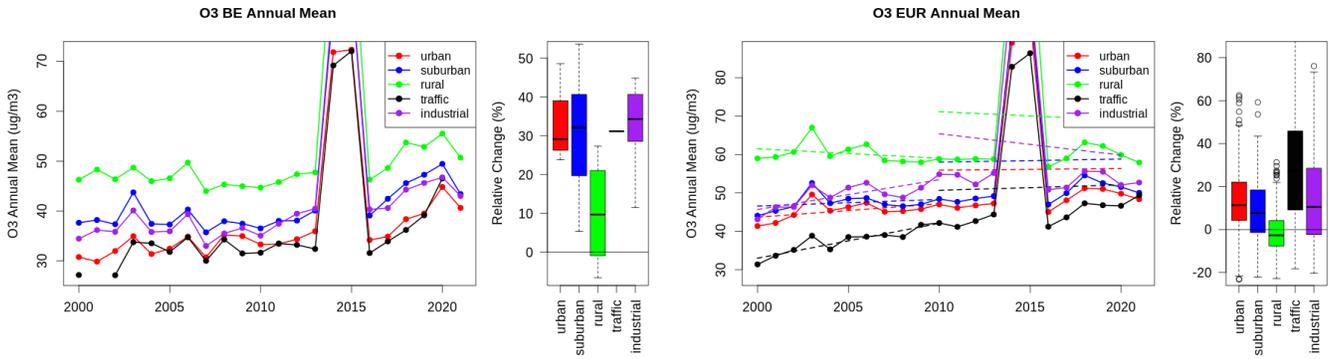


Figure A2.34: Time series of the Belgium (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Belgium and in Europe.

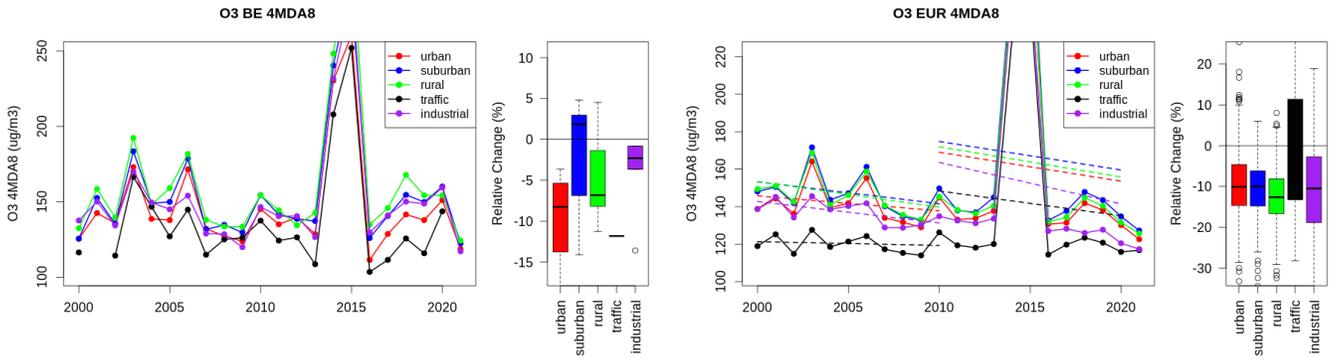


Figure A2.35: Time series of the Belgium (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Belgium and in Europe.

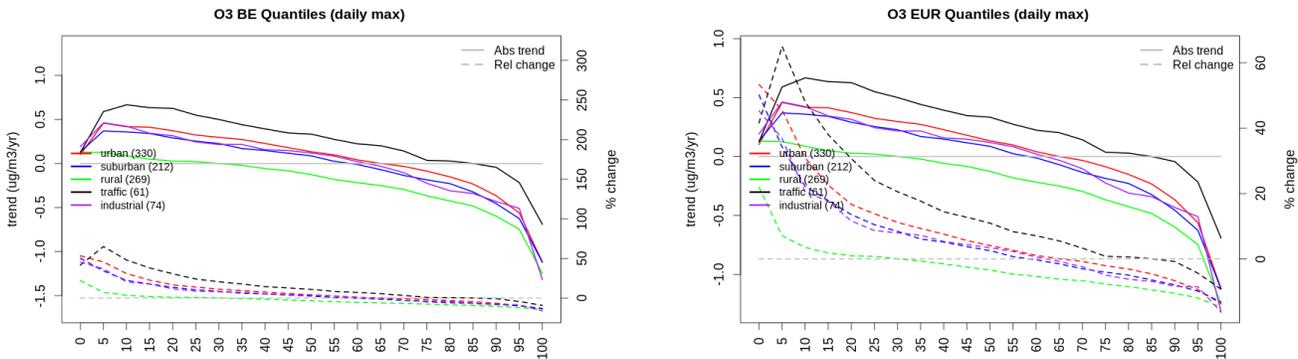


Figure A2.36: For ozone in Belgium (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

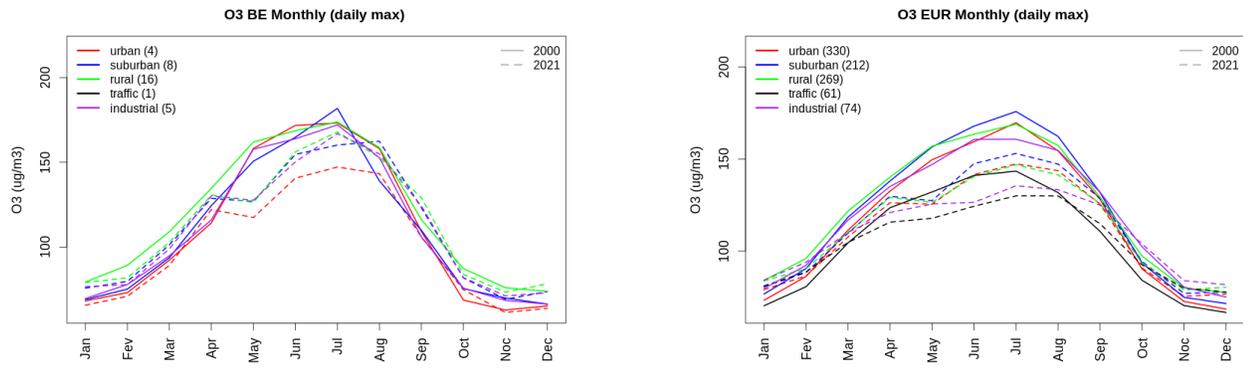


Figure A2.37: Monthly cycle of daily max ozone for Belgium (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

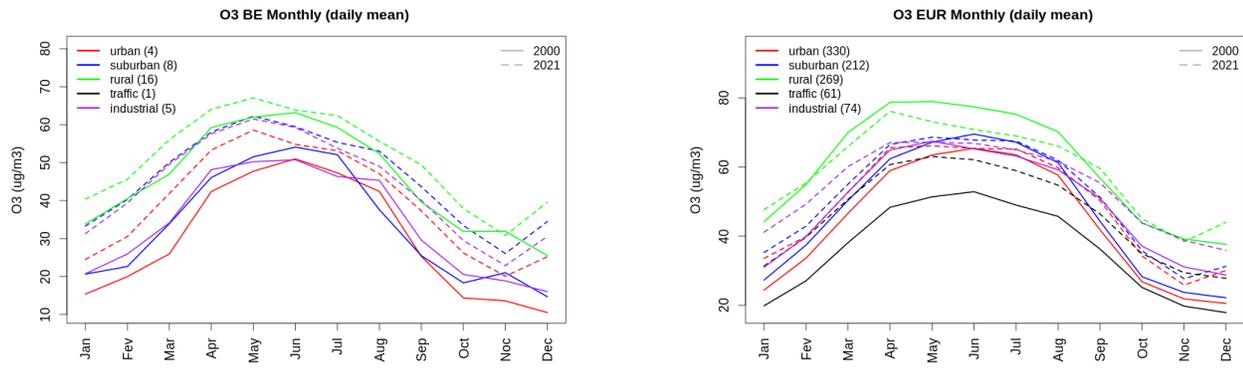


Figure A2.38: Monthly cycle of daily mean ozone for Belgium (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

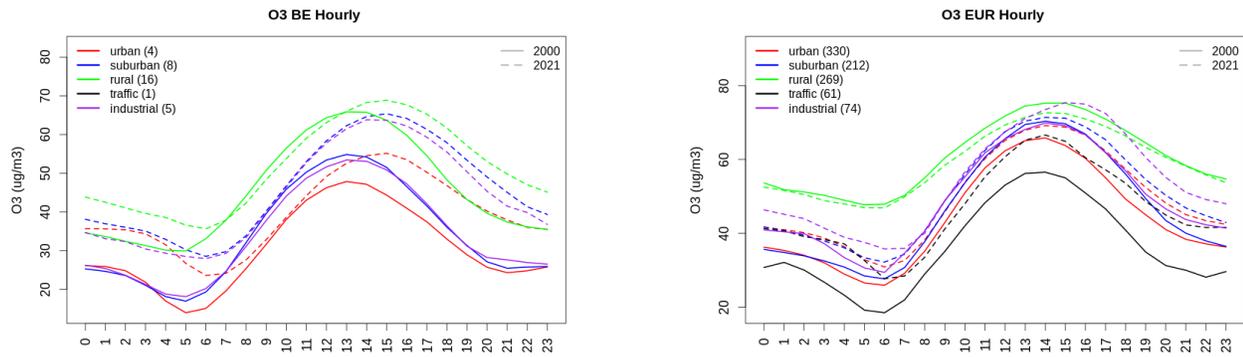


Figure A2.39: Diurnal cycle of daily mean ozone for Belgium (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

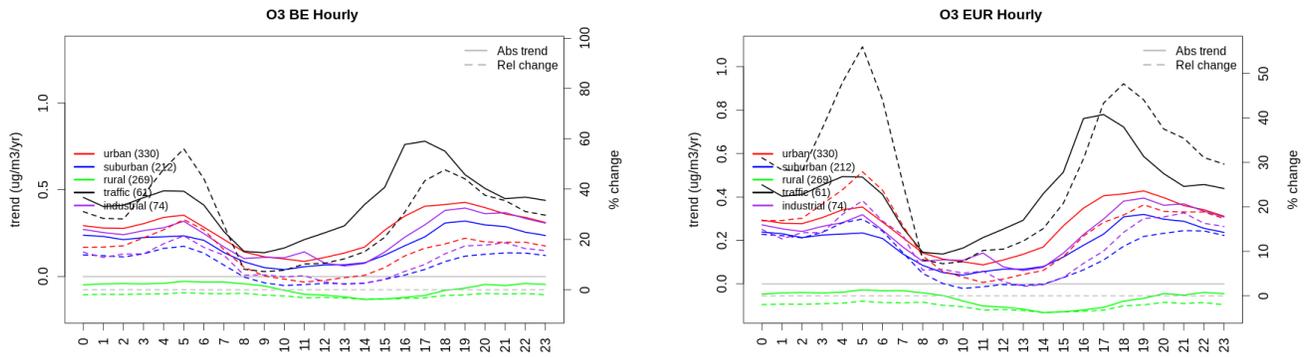


Figure A2.40: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Belgium (left) and Europe (right) of ozone at various station type.

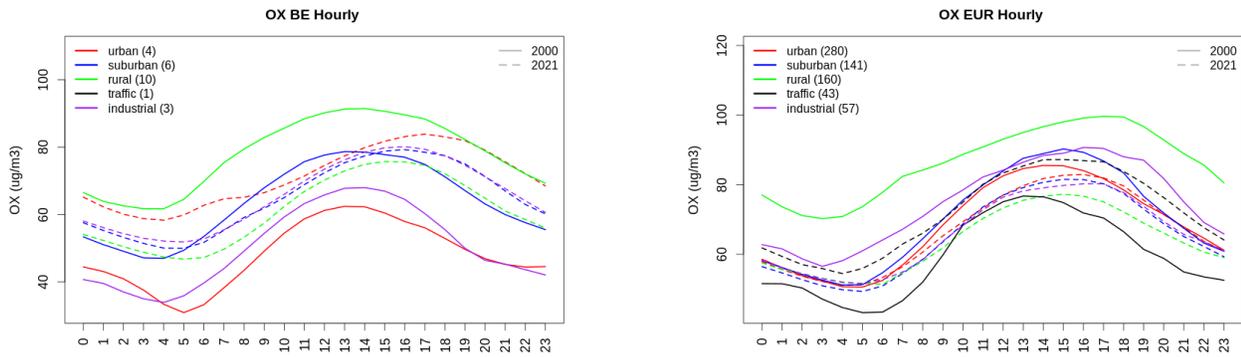


Figure A2.41: Diurnal cycle of daily mean OX (as NO₂+O₃) for Belgium (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

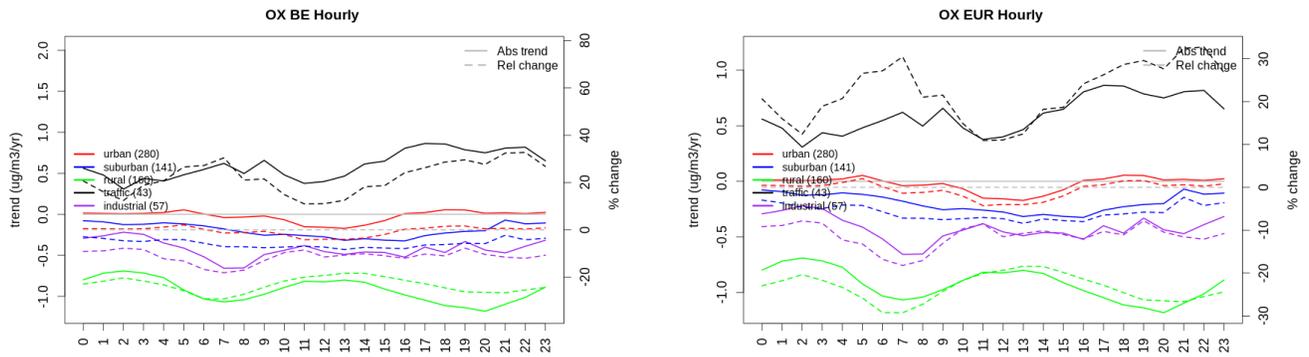


Figure A2.42: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Belgium (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

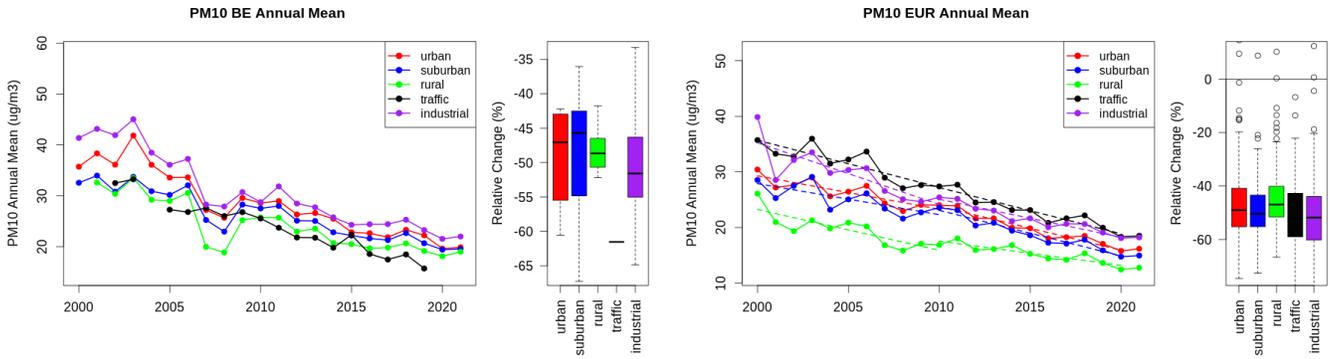


Figure A2.43: Time series of the Belgium (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Belgium and in Europe.

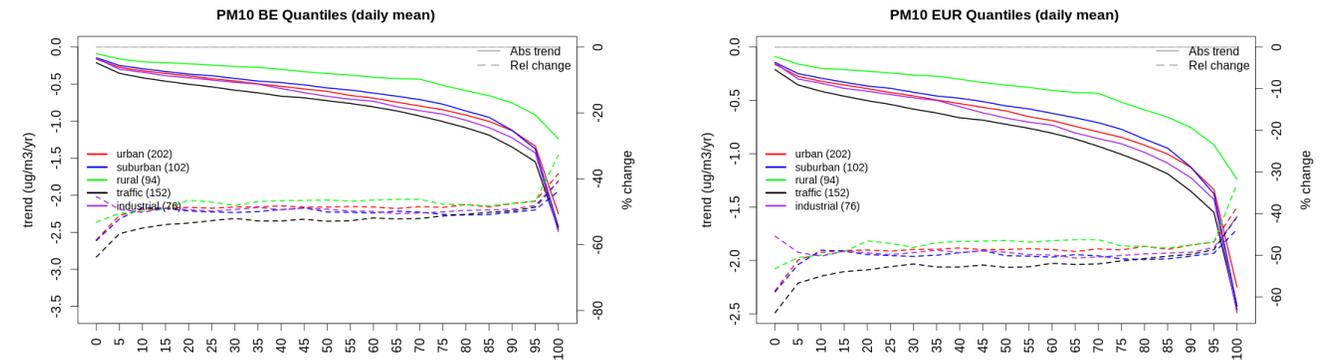


Figure A2.44: For PM10 in Belgium (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

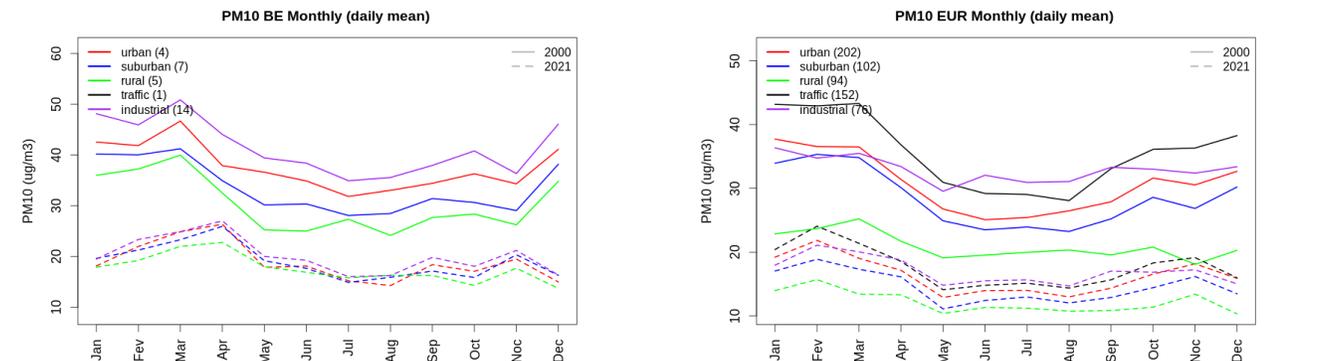


Figure A2.45: Monthly cycle of daily mean PM10 for Belgium (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

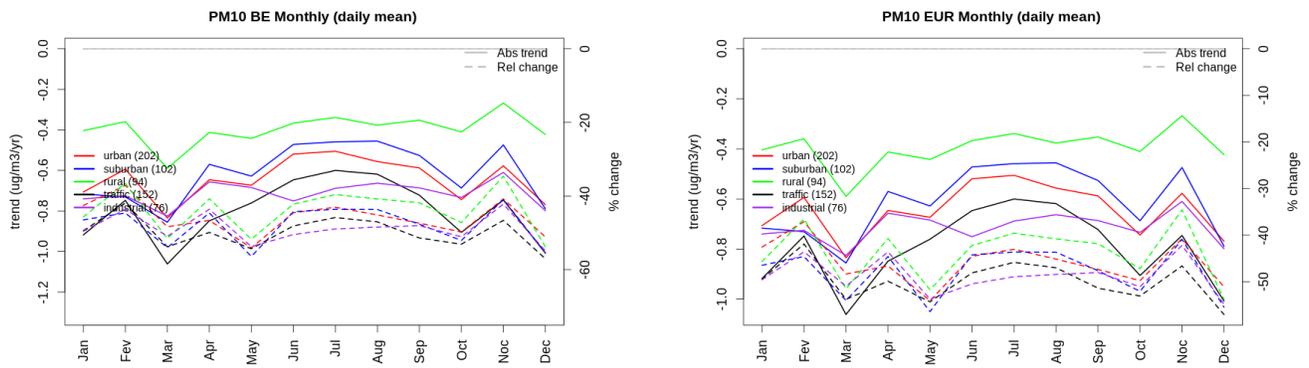


Figure A2.46: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Belgium (left) and Europe (right) of PM10 at various station type.

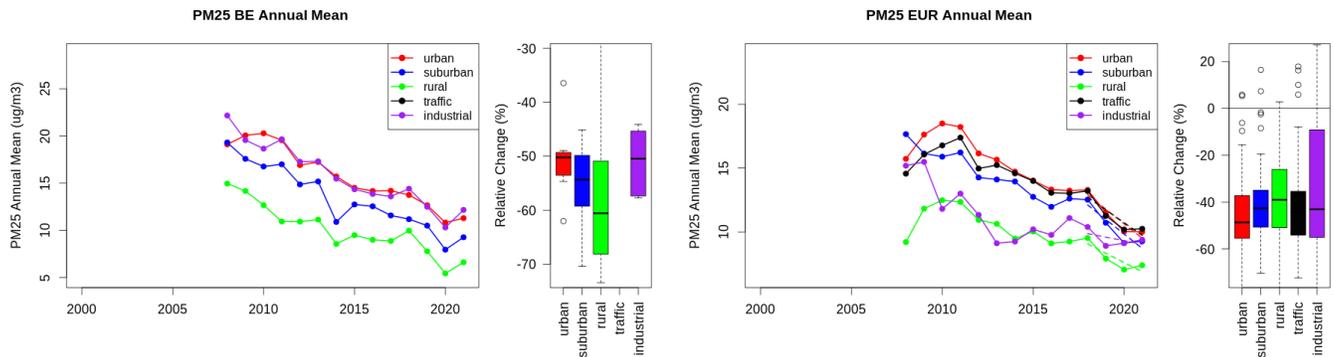


Figure A2.47: Time series of the Belgium (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Belgium and in Europe.

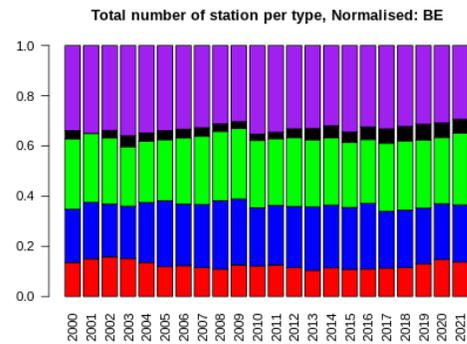
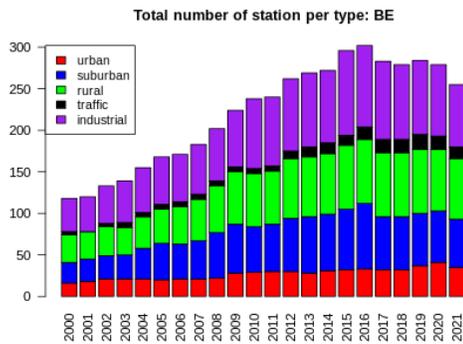
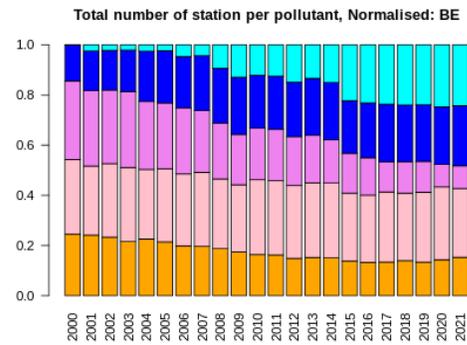
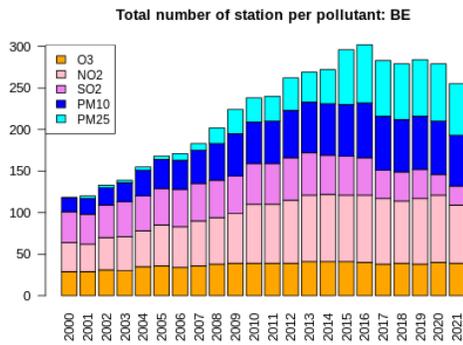
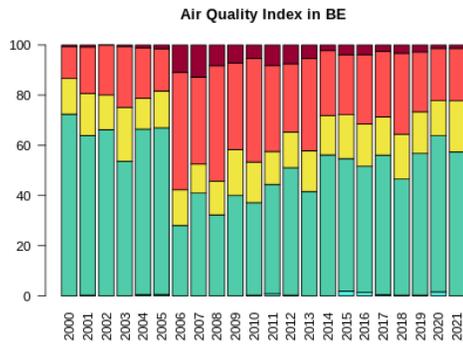


Figure A2.48: For Belgium: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

3 Bulgaria

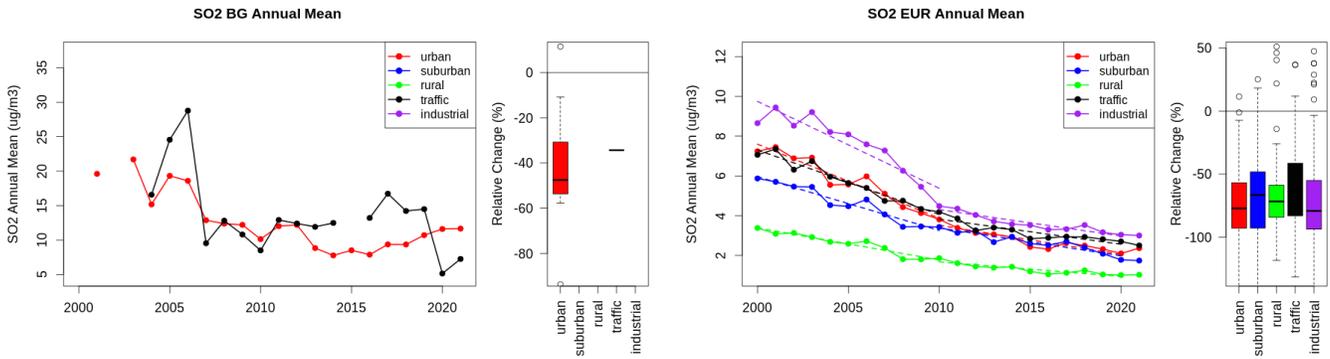


Figure A2.49: Time series of the Bulgaria (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Bulgaria and in Europe.

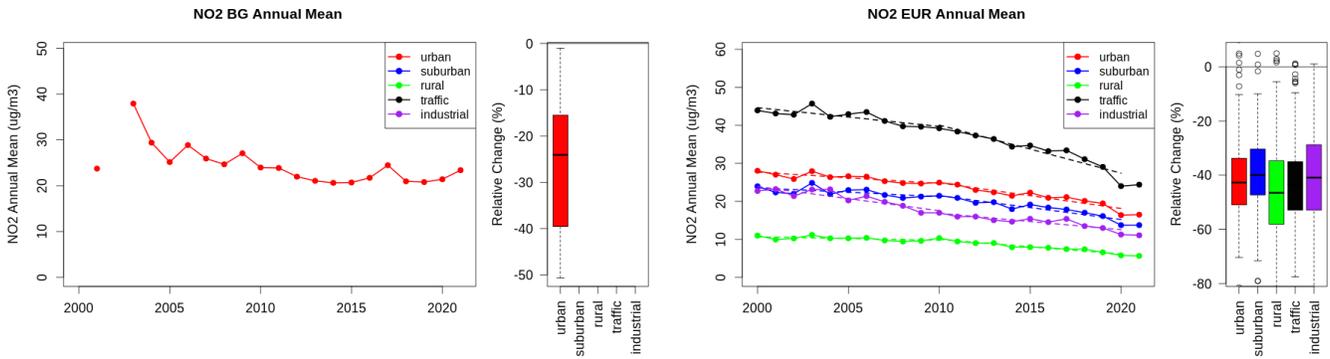


Figure A2.50: Time series of the Bulgaria (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Bulgaria and in Europe.

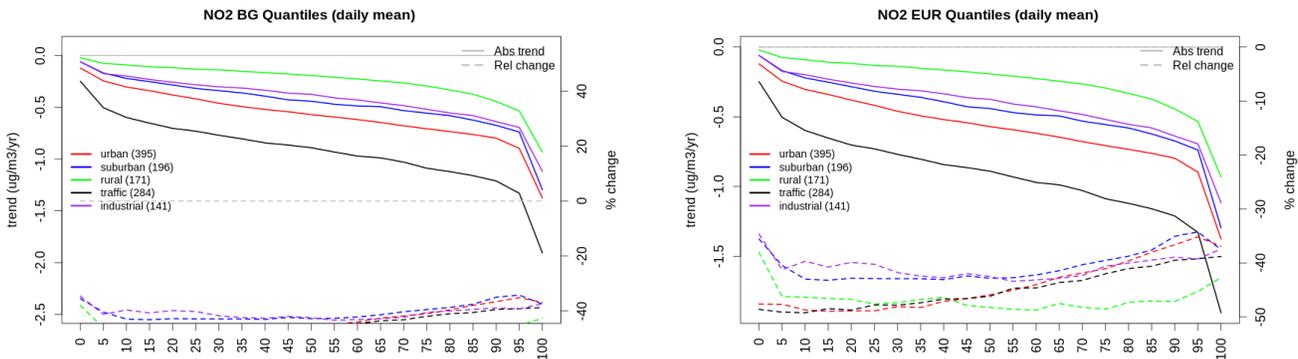


Figure A2.51: For NO₂ in Bulgaria (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

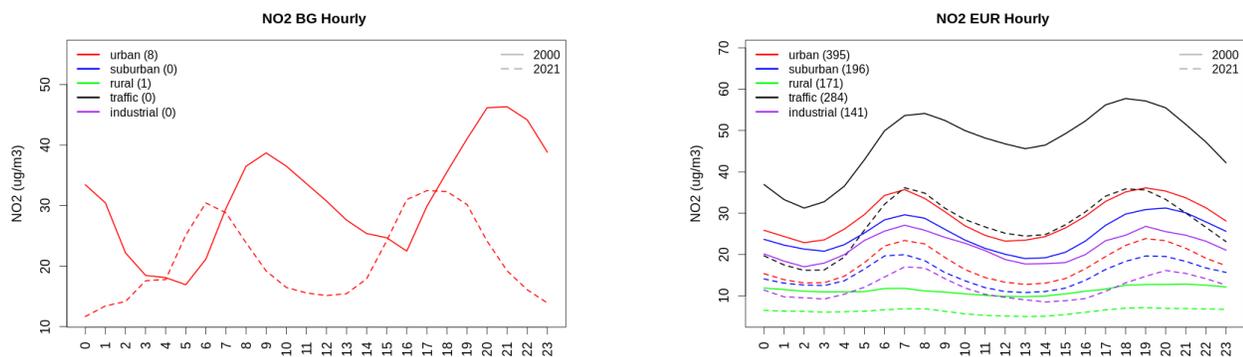


Figure A2.52: Diurnal cycle of daily mean NO2 for Bulgaria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

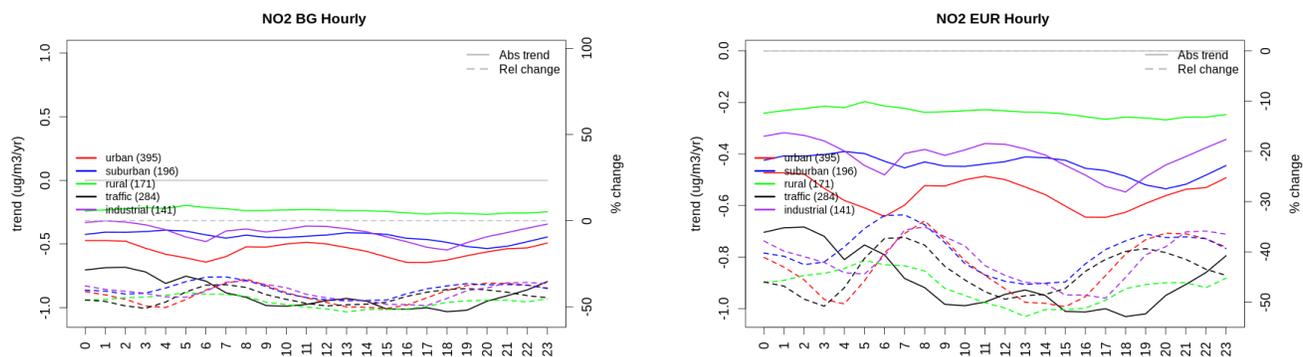


Figure A2.53: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Bulgaria (left) and Europe (right) of NO2 at various station type.

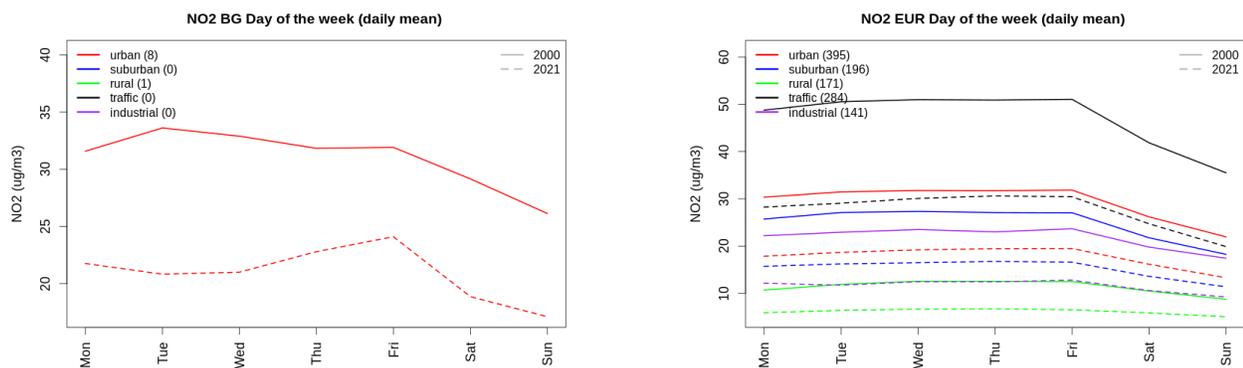


Figure A2.54: Weekly cycle of daily mean NO2 for Bulgaria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

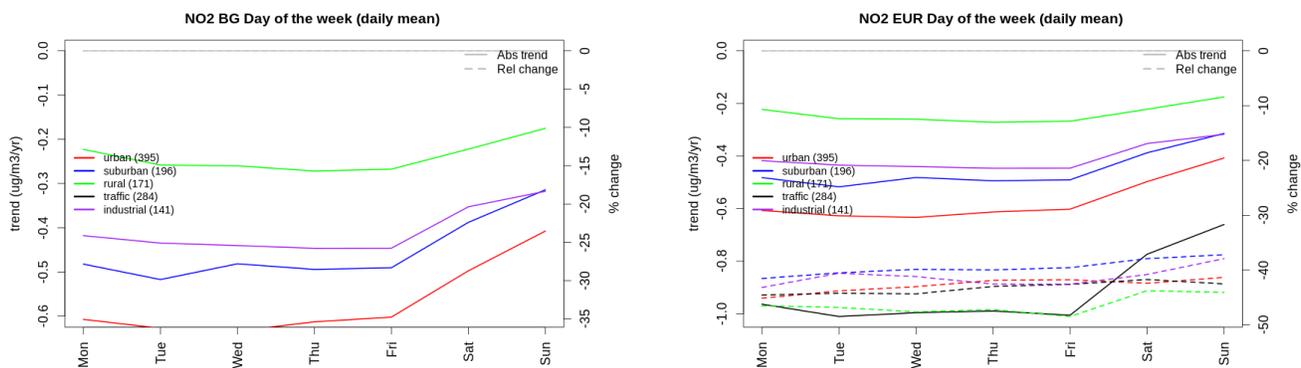


Figure A2.55: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Bulgaria (left) and Europe (right) of NO₂ at various station type.

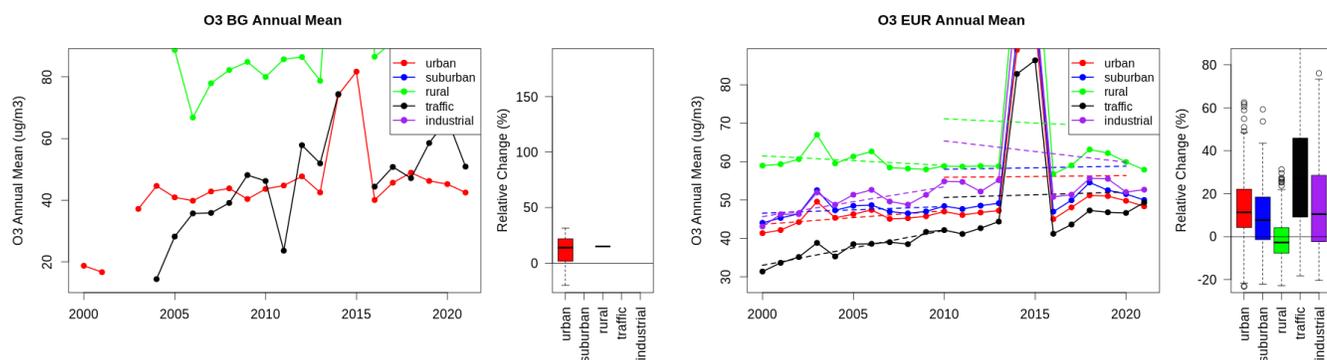


Figure A2.56: Time series of the Bulgaria (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Bulgaria and in Europe.

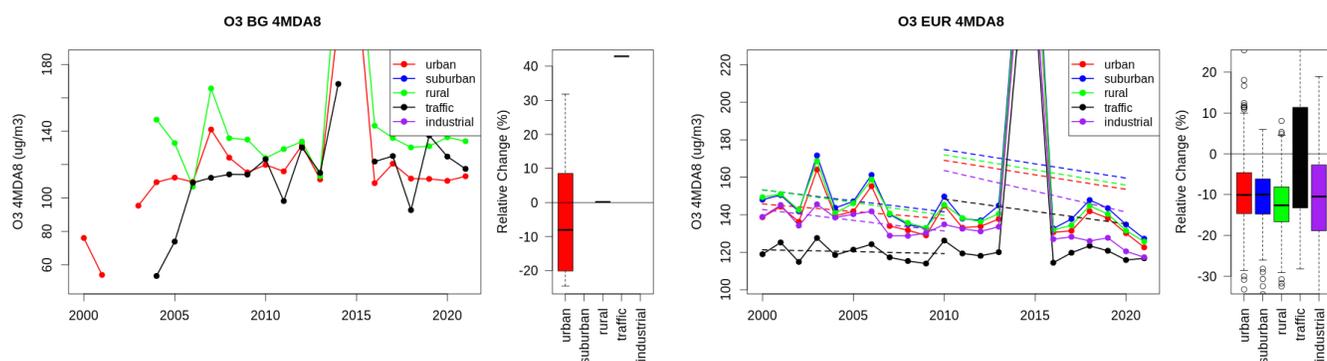


Figure A2.57: Time series of the Bulgaria (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Bulgaria and in Europe.

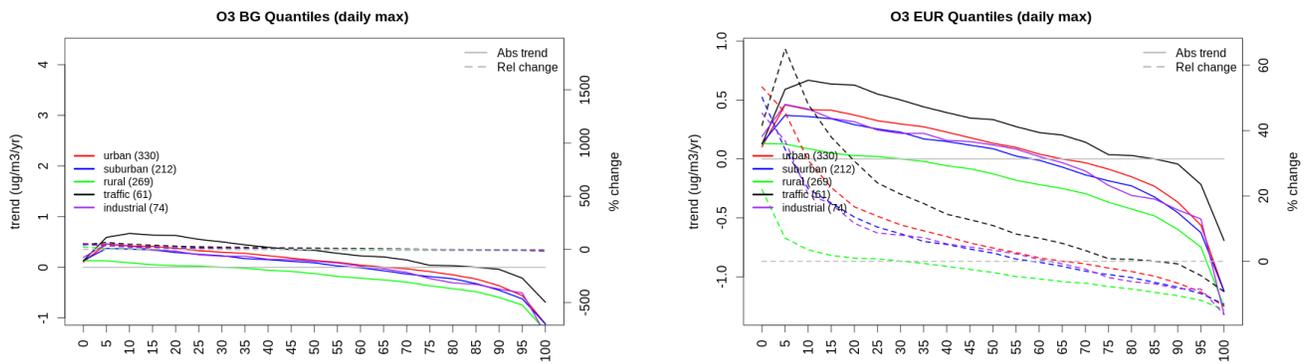


Figure A2.58: For ozone in Bulgaria (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

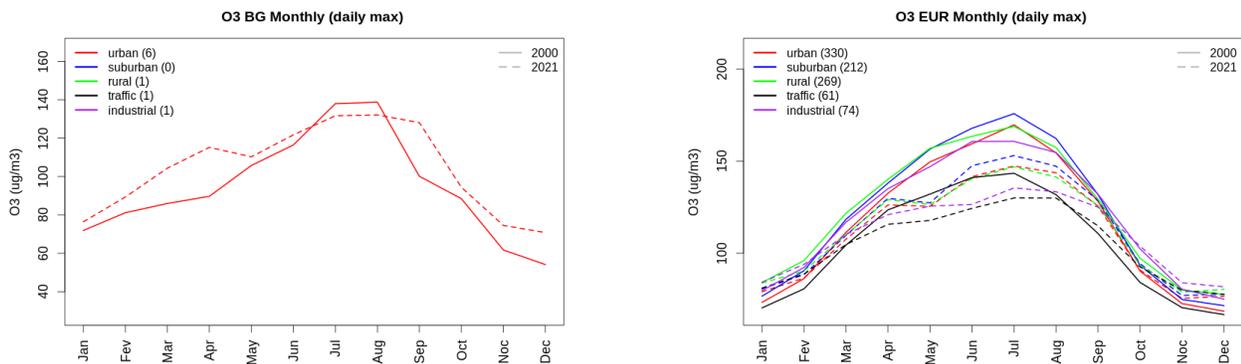


Figure A2.59: Monthly cycle of daily max ozone for Bulgaria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

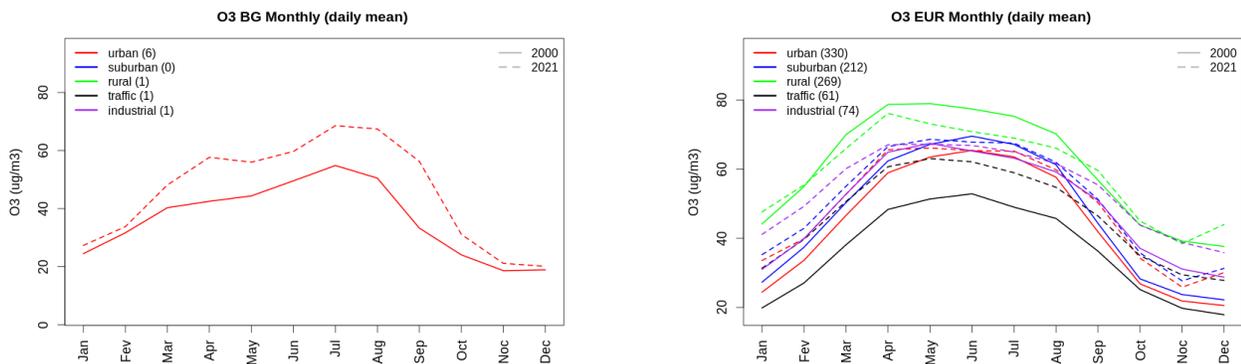


Figure A2.60: Monthly cycle of daily mean ozone for Bulgaria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

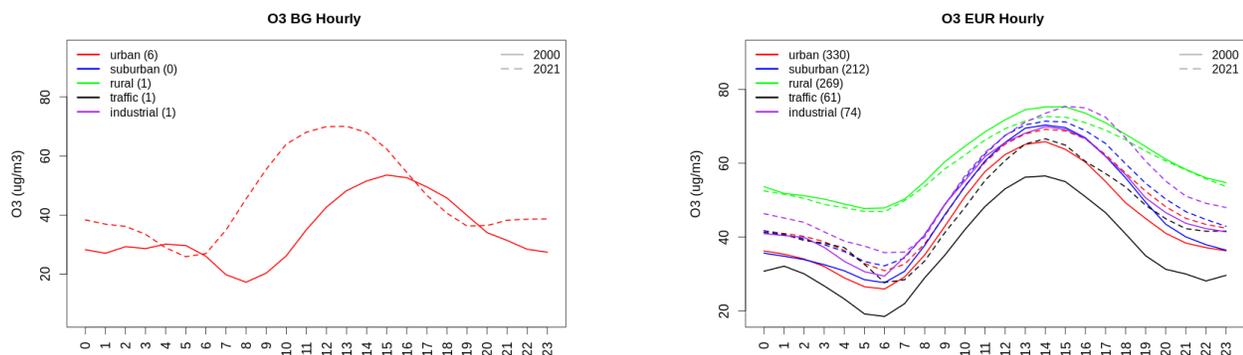


Figure A2.61: Diurnal cycle of daily mean ozone for Bulgaria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

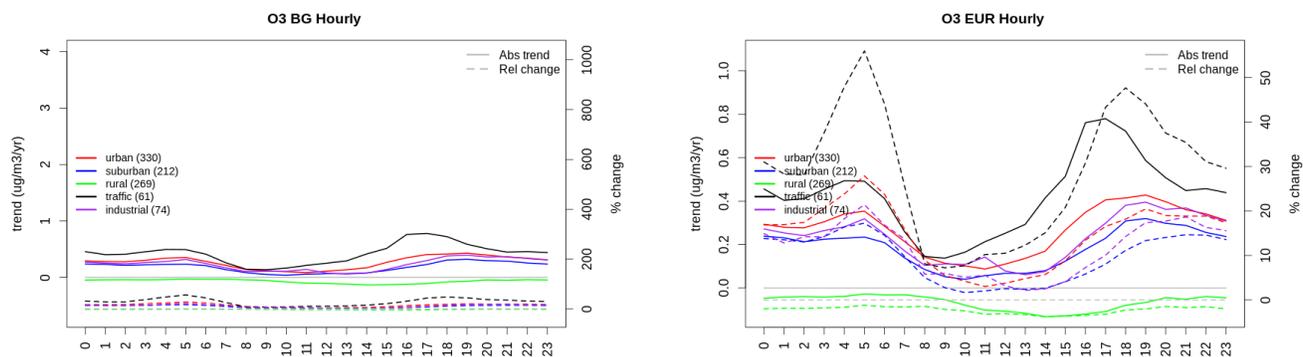


Figure A2.62: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Bulgaria (left) and Europe (right) of ozone at various station type.

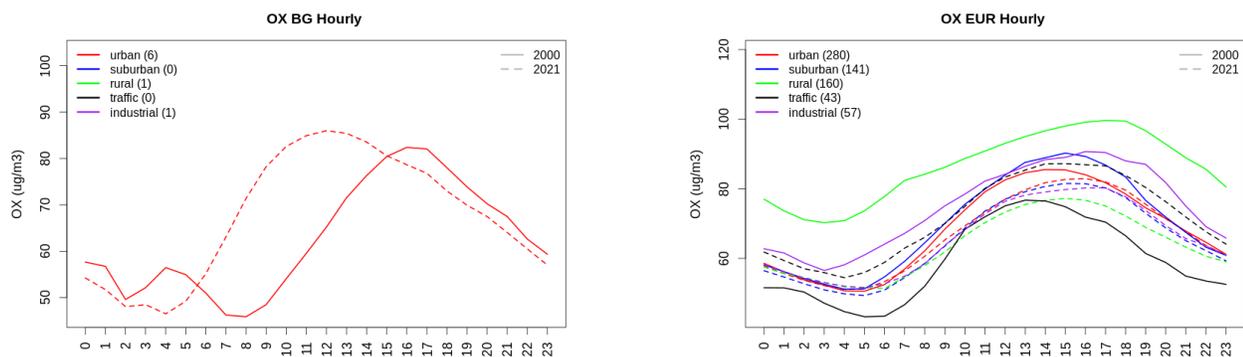


Figure A2.63: Diurnal cycle of daily mean OX (as NO2+O3) for Bulgaria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

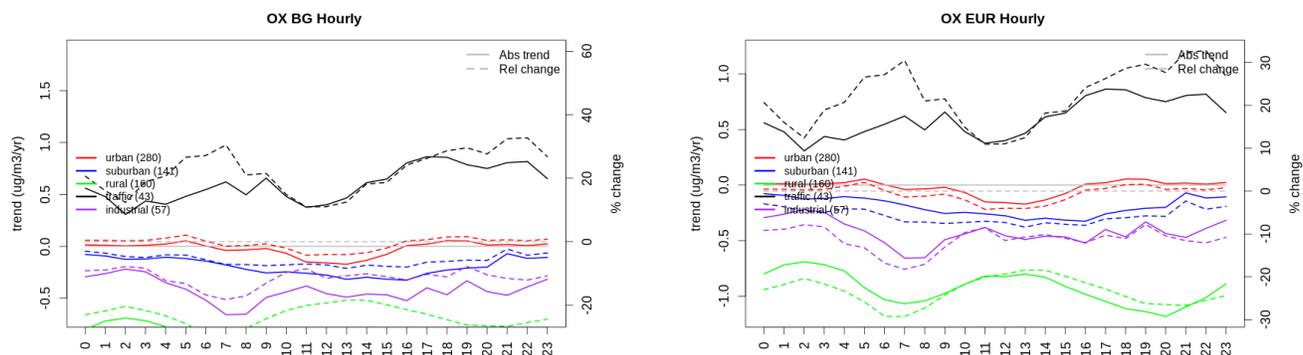


Figure A2.64: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Bulgaria (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

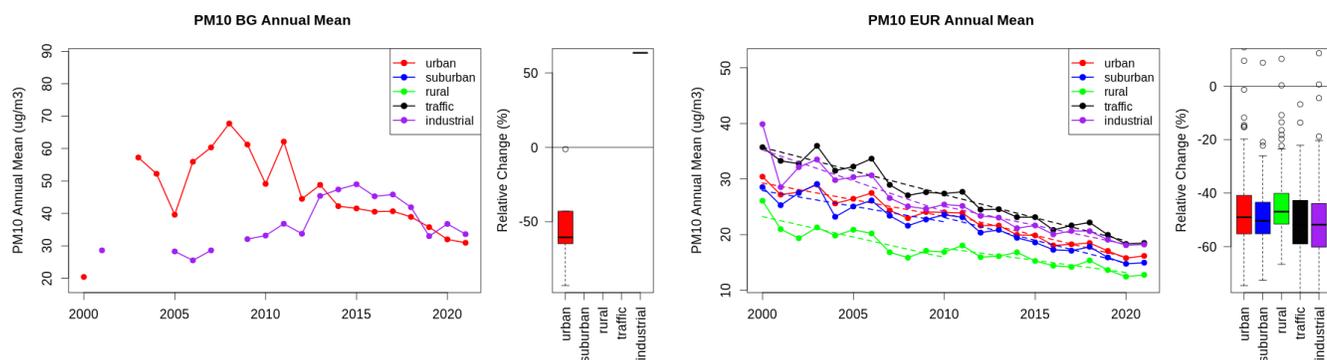


Figure A2.65: Time series of the Bulgaria (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Bulgaria and in Europe.

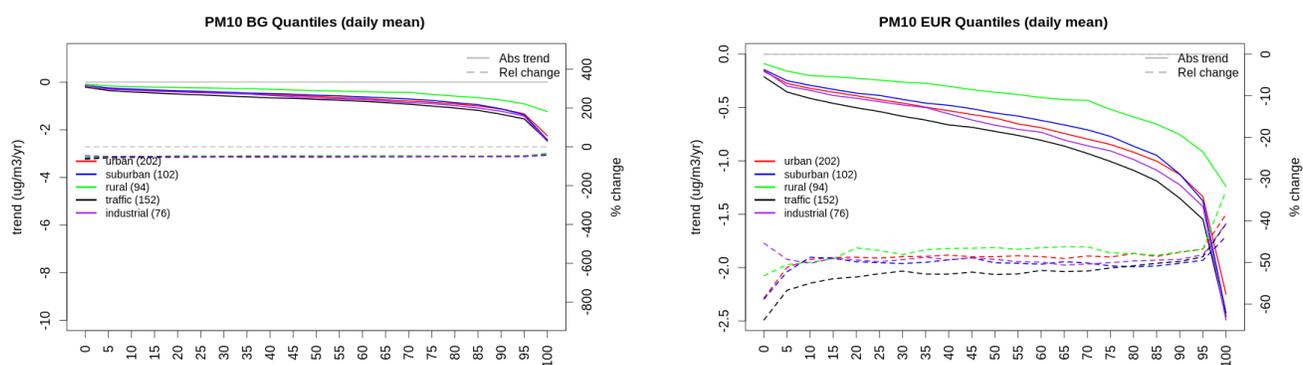


Figure A2.66: For PM₁₀ in Bulgaria (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

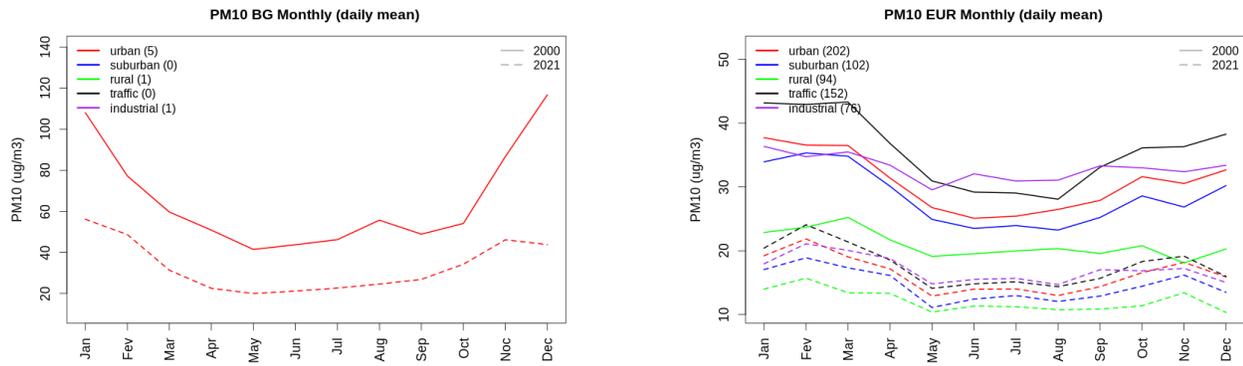


Figure A2.67: Monthly cycle of daily mean PM10 for Bulgaria (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

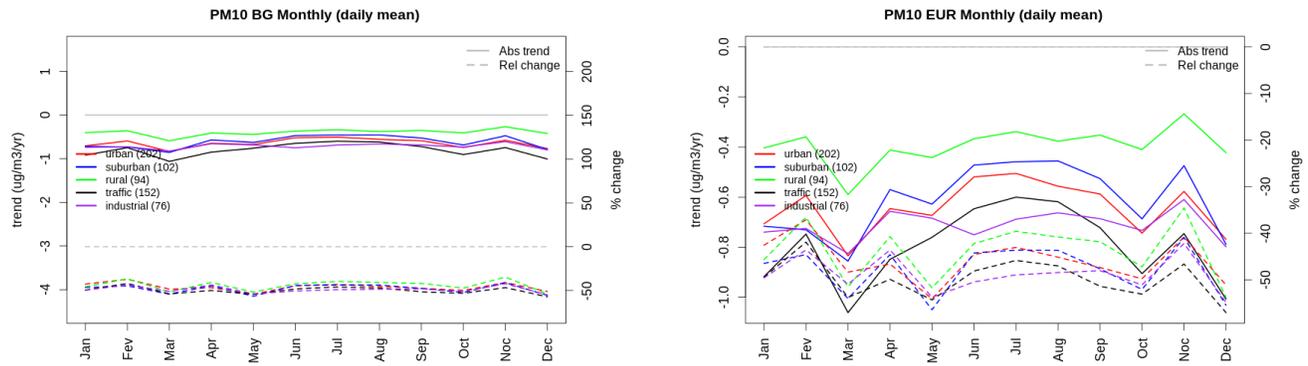


Figure A2.68: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Bulgaria (left) and Europe (right) of PM10 at various station type.

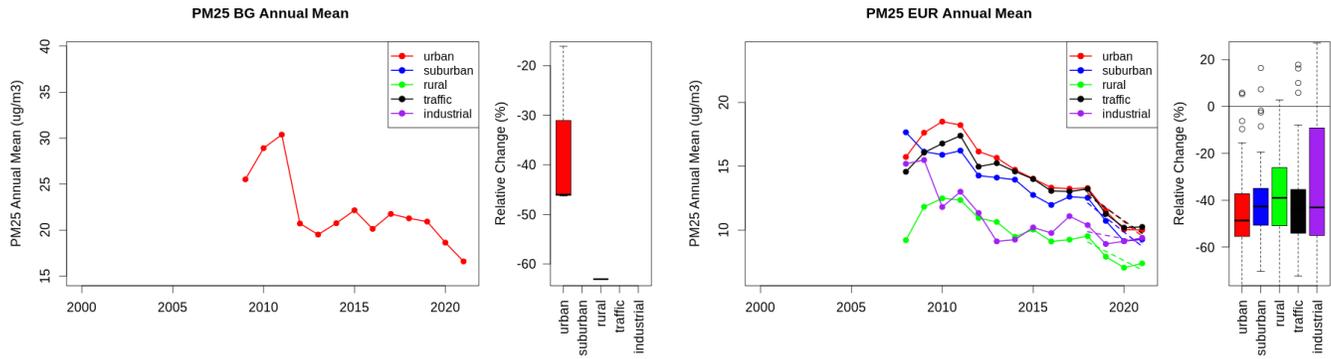


Figure A2.69: Time series of the Bulgaria (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Bulgaria and in Europe.

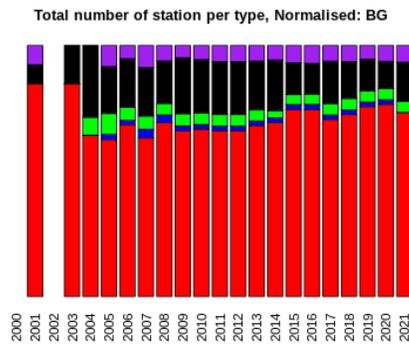
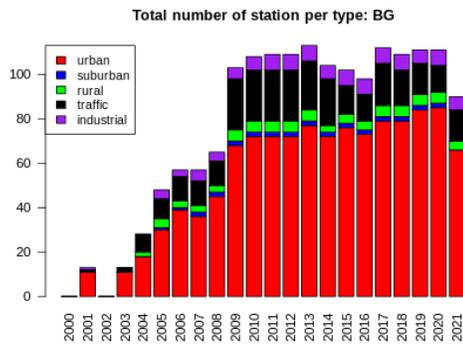
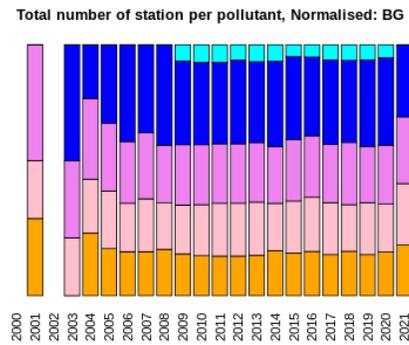
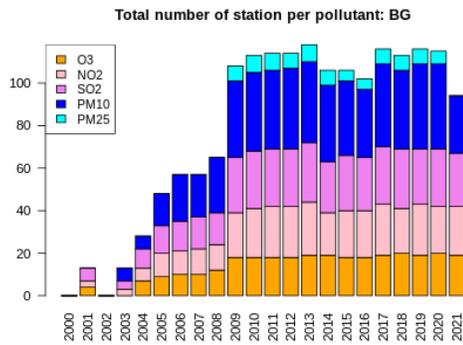
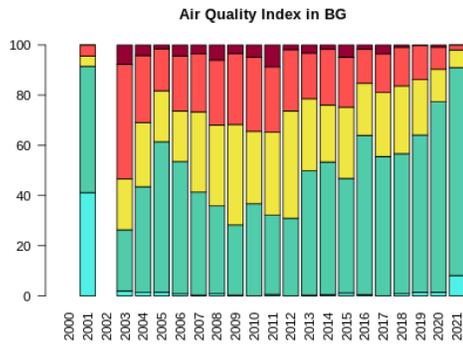


Figure A2.70: For Bulgaria: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

4 Switzerland

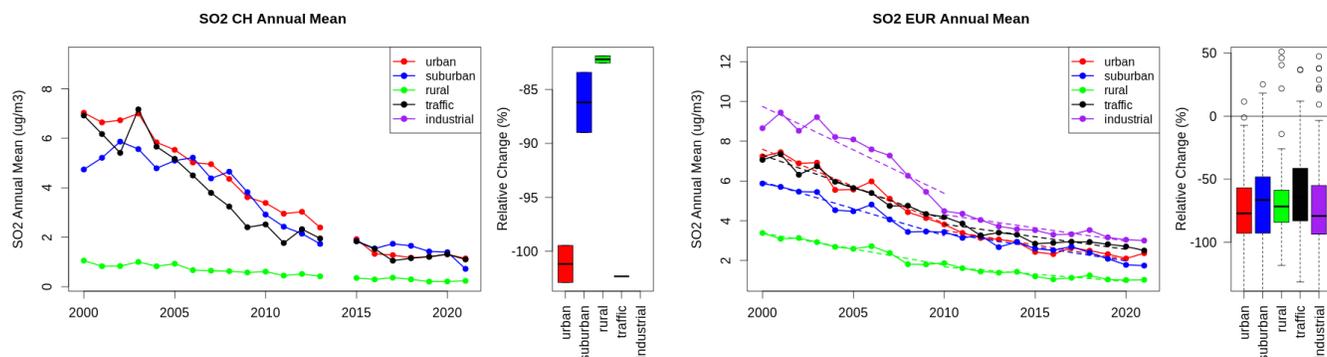


Figure A2.71: Time series of the Switzerland (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Switzerland and in Europe.

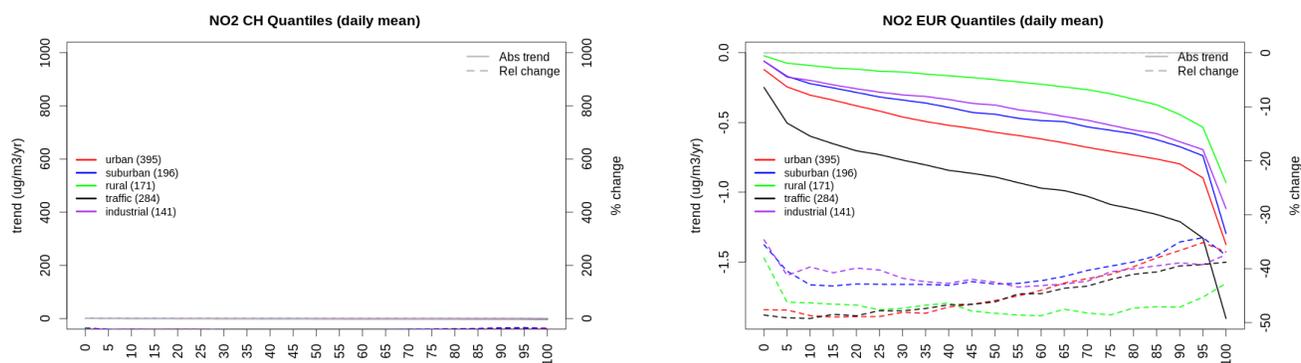


Figure A2.72: For NO₂ in Switzerland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

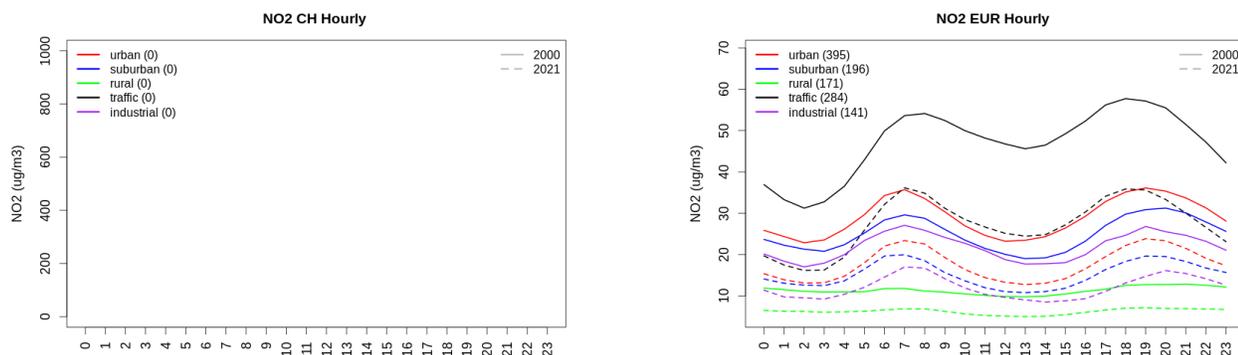


Figure A2.73: Diurnal cycle of daily mean NO₂ for Switzerland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

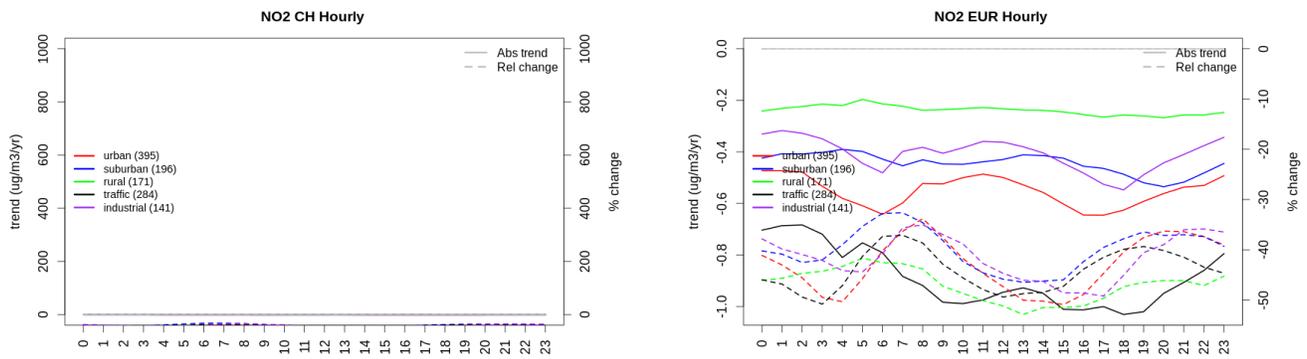


Figure A2.74: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Switzerland (left) and Europe (right) of NO2 at various station type.

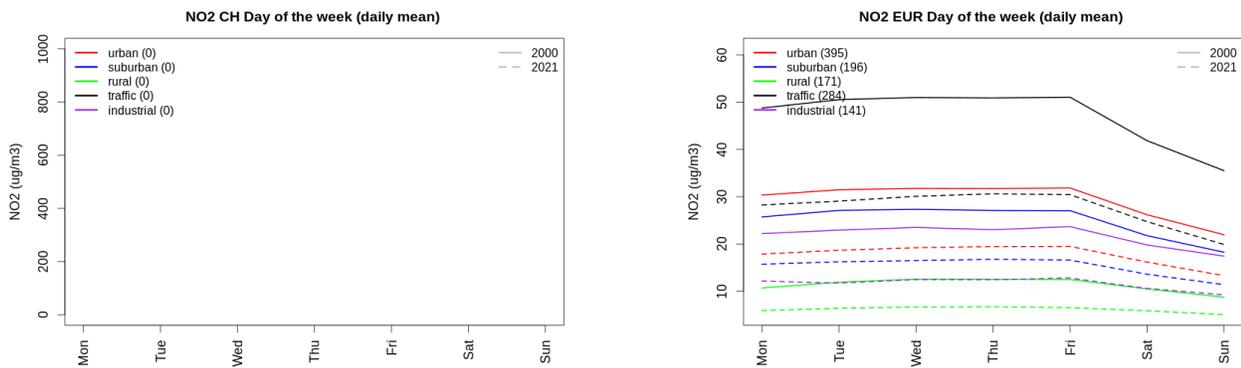


Figure A2.75: Weekly cycle of daily mean NO2 for Switzerland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

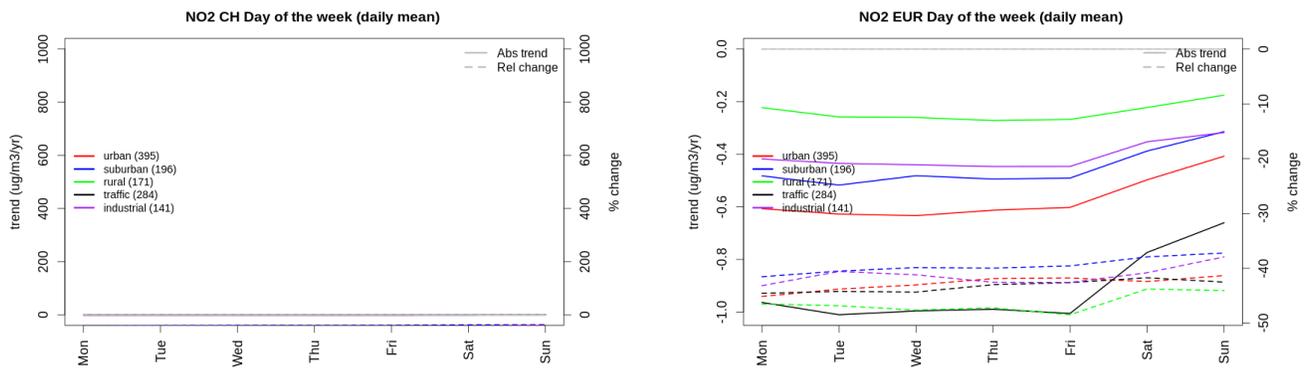


Figure A2.76: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Switzerland (left) and Europe (right) of NO2 at various station type.

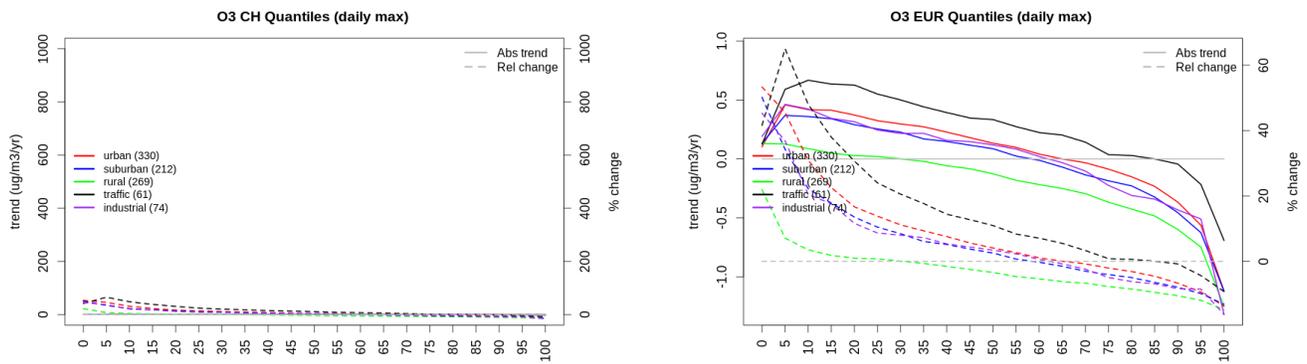


Figure A2.77: For ozone in Switzerland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

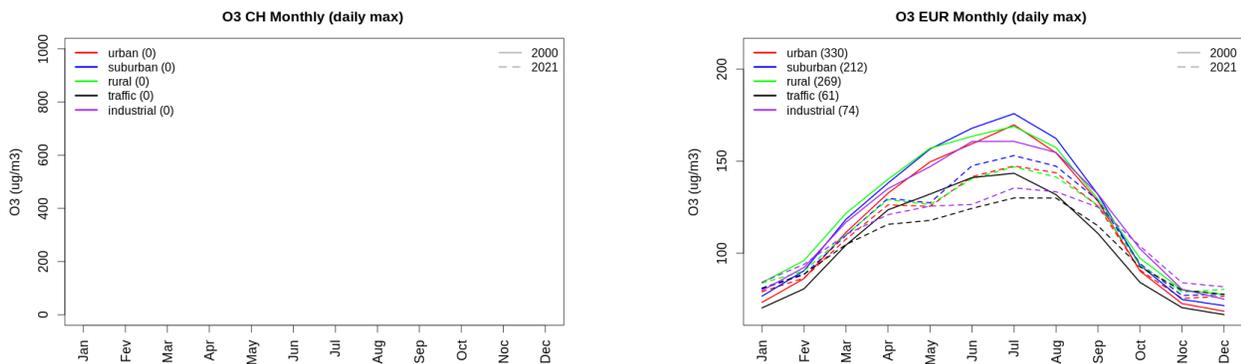


Figure A2.78: Monthly cycle of daily max ozone for Switzerland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

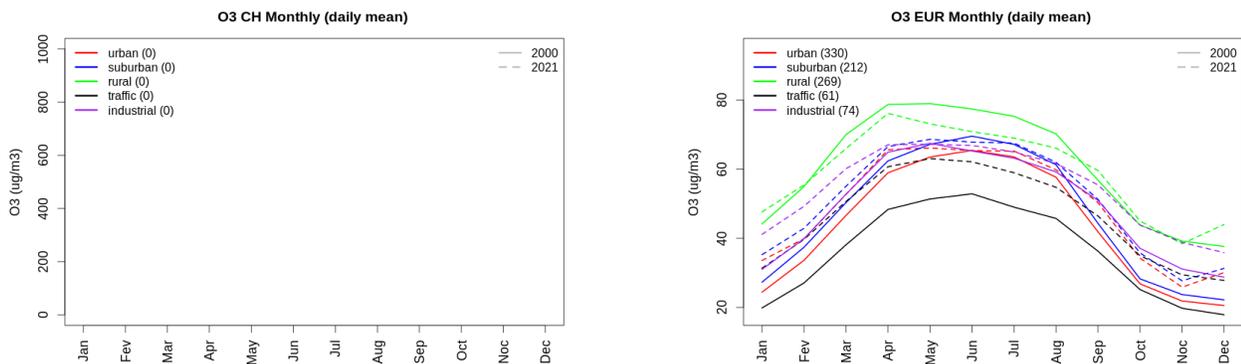


Figure A2.79: Monthly cycle of daily mean ozone for Switzerland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

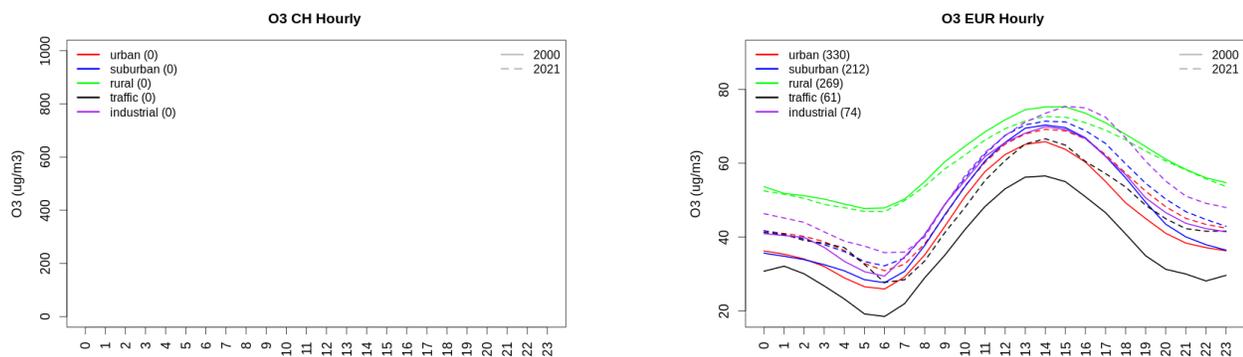


Figure A2.80: Diurnal cycle of daily mean ozone for Switzerland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

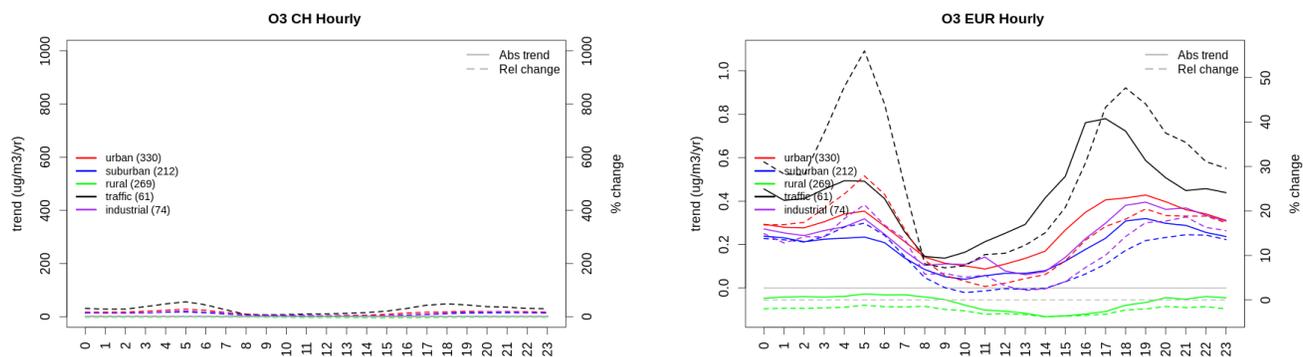


Figure A2.81: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Switzerland (left) and Europe (right) of ozone at various station type.

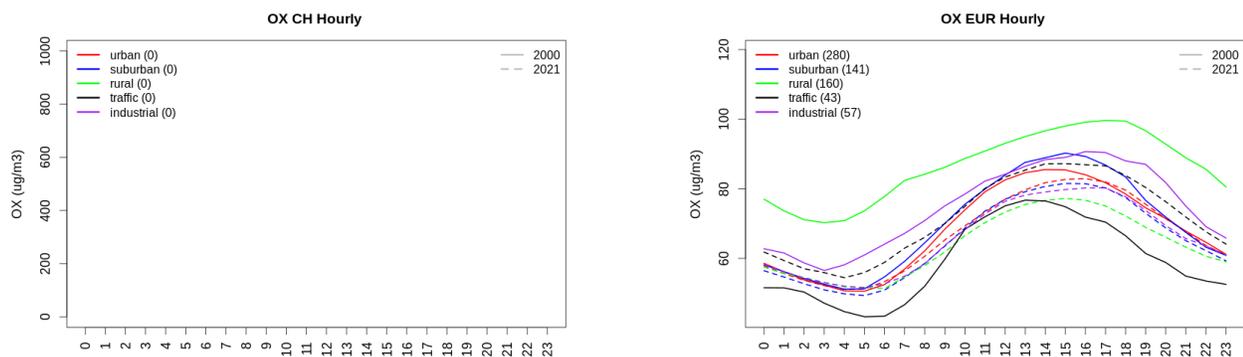


Figure A2.82: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Switzerland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

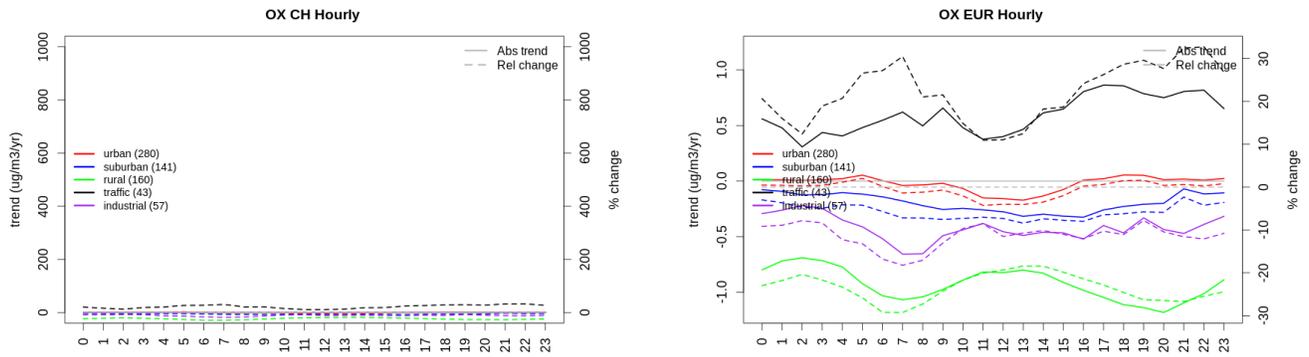


Figure A2.83: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Switzerland (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

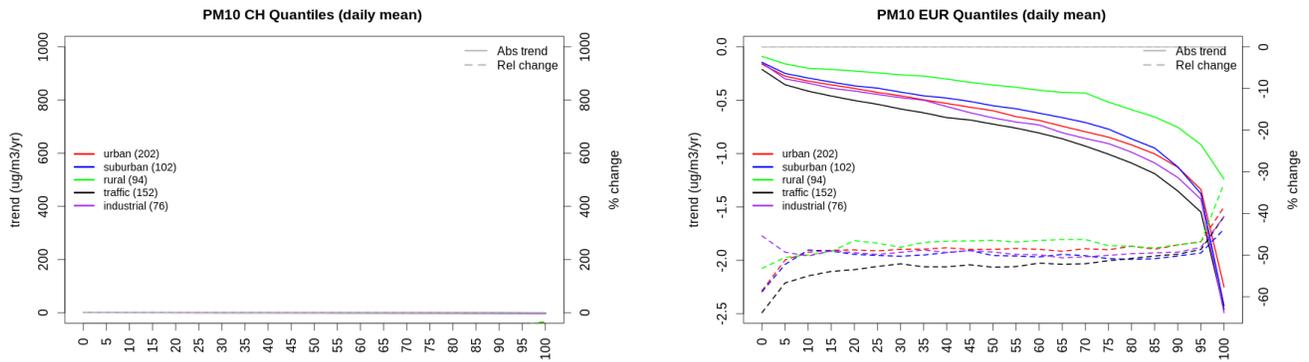


Figure A2.84: For PM₁₀ in Switzerland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

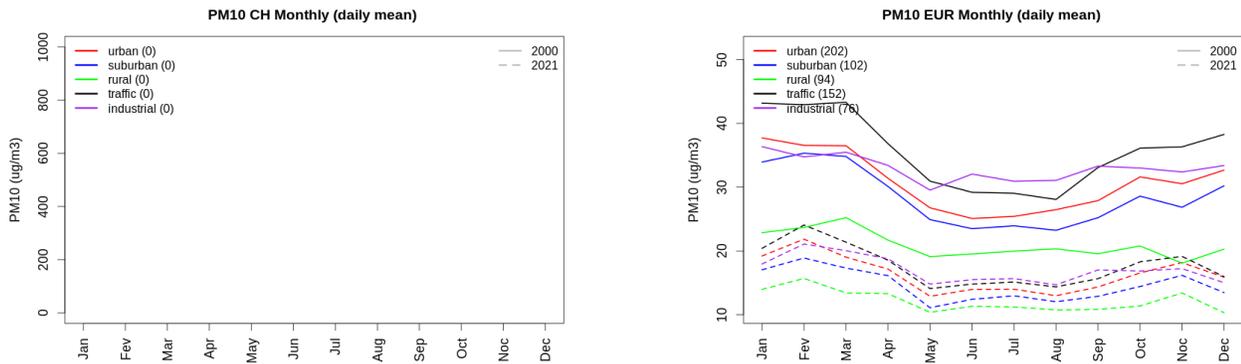


Figure A2.85: Monthly cycle of daily mean PM₁₀ for Switzerland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines)

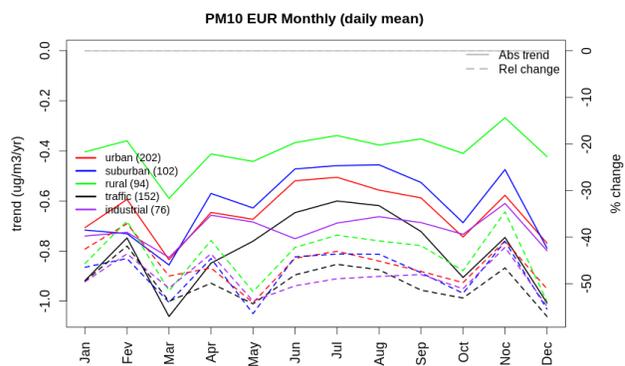
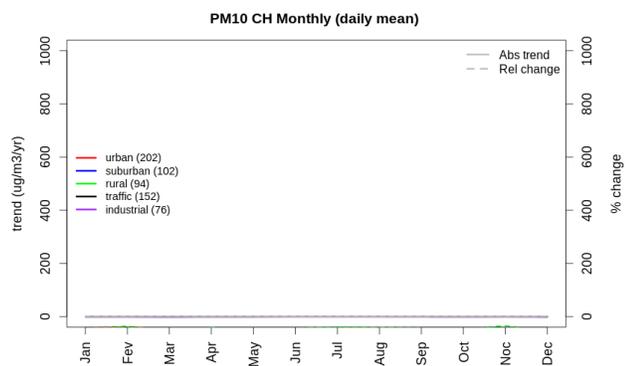


Figure A2.86: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Switzerland (left) and Europe (right) of PM10 at various station type.

5 Czechia

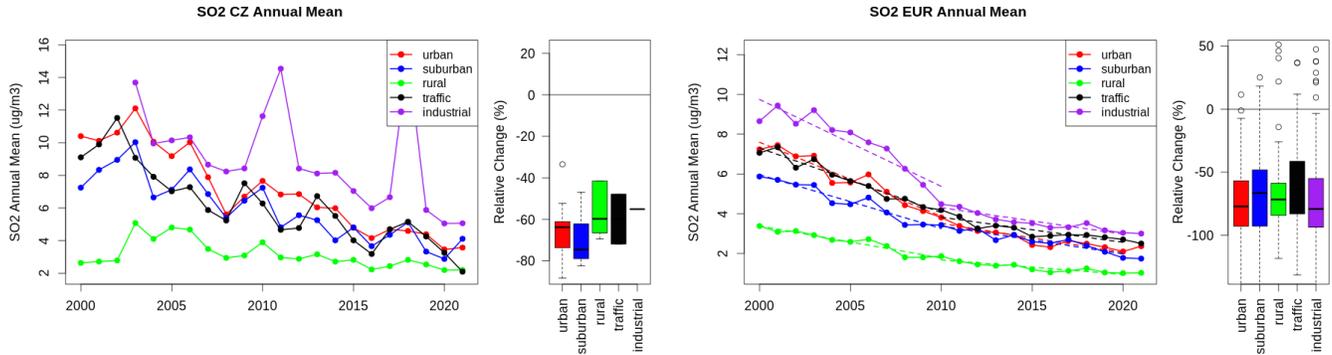


Figure A2.87: Time series of the Czechia (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Czechia and in Europe.

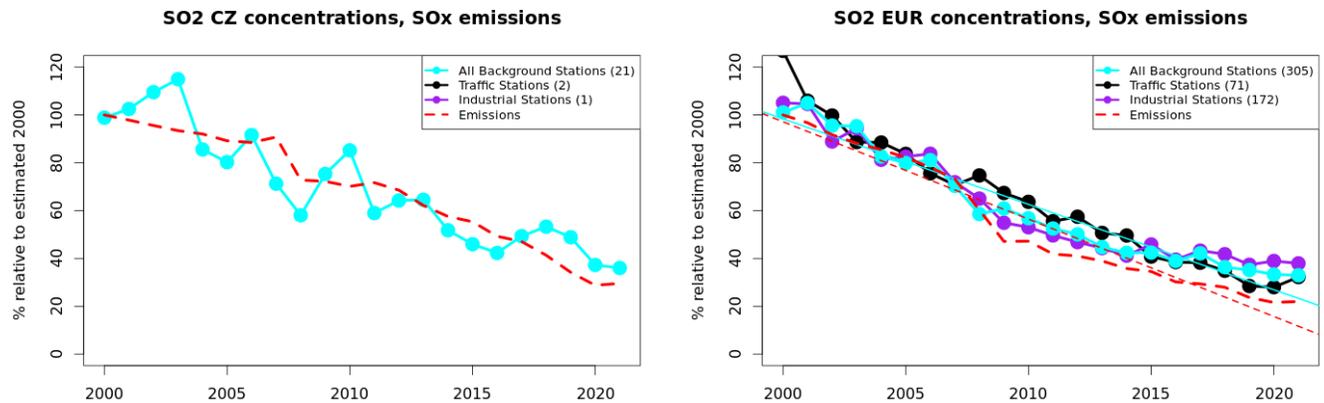


Figure A2.88: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

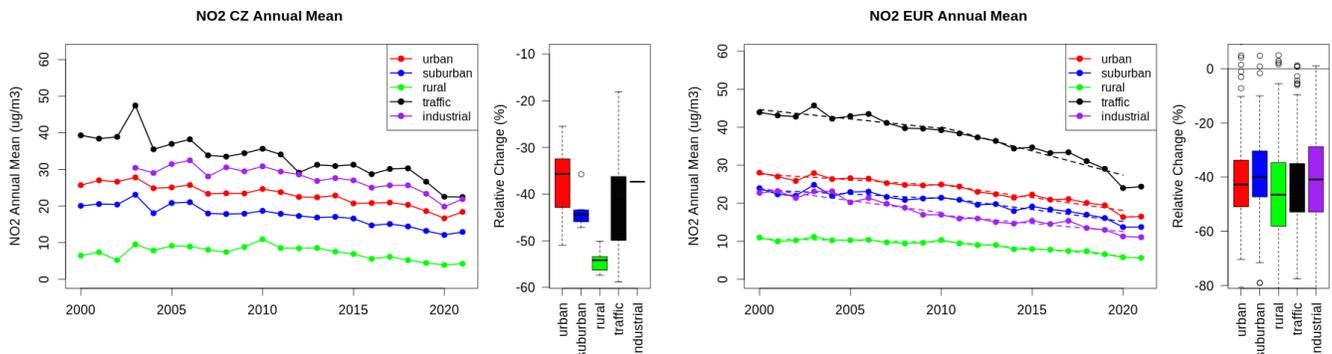


Figure A2.89: Time series of the Czechia (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Czechia and in Europe.

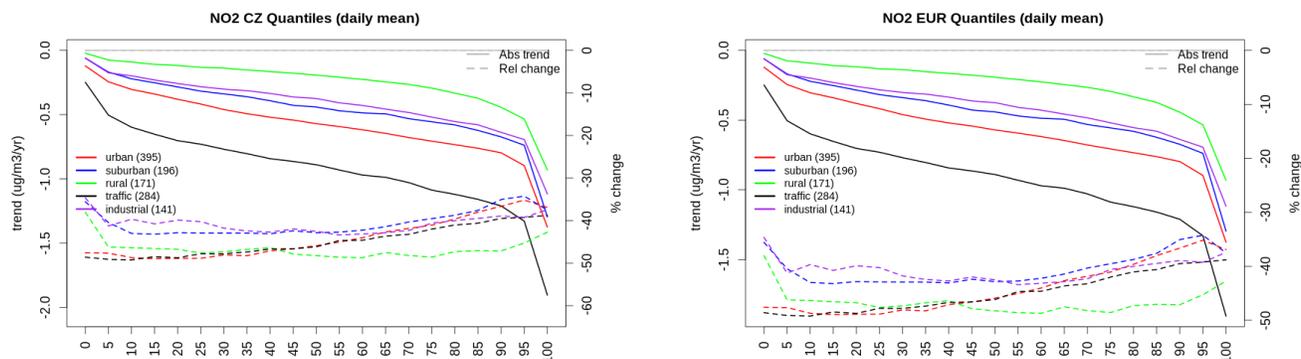


Figure A2.90: For NO₂ in Czechia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

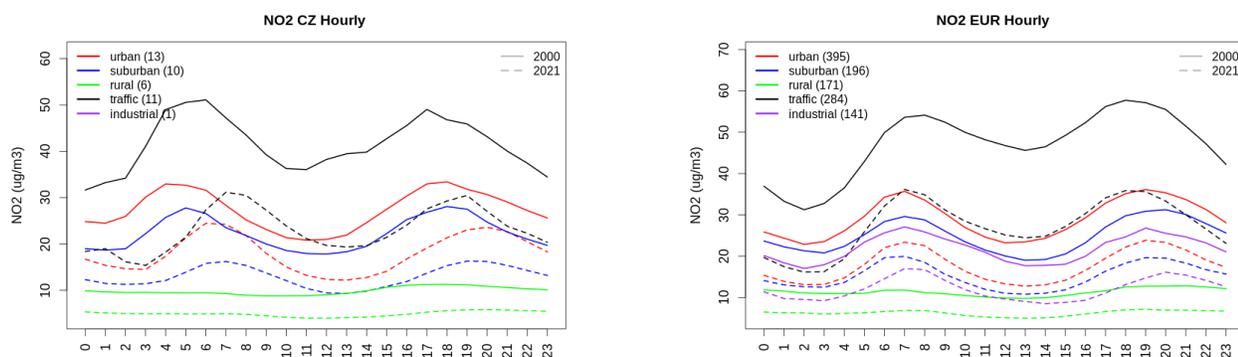


Figure A2.91: Diurnal cycle of daily mean NO₂ for Czechia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

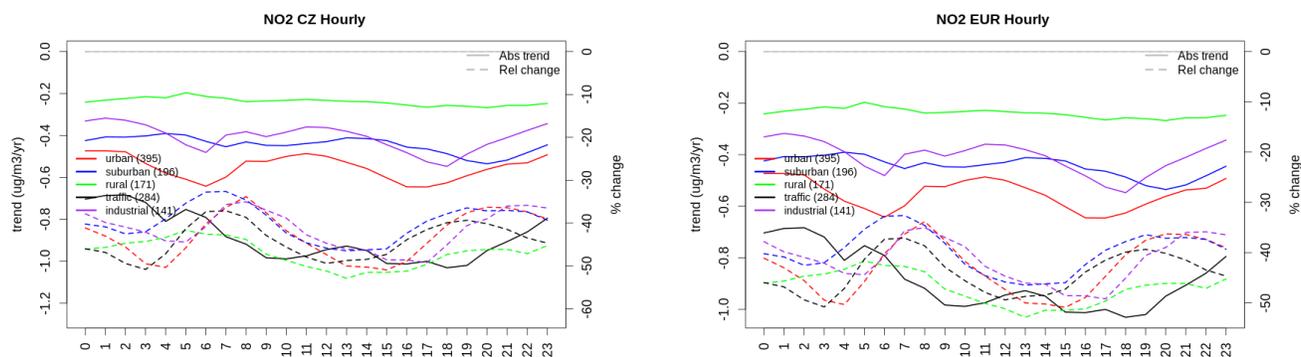


Figure A2.92: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Czechia (left) and Europe (right) of NO₂ at various station type.

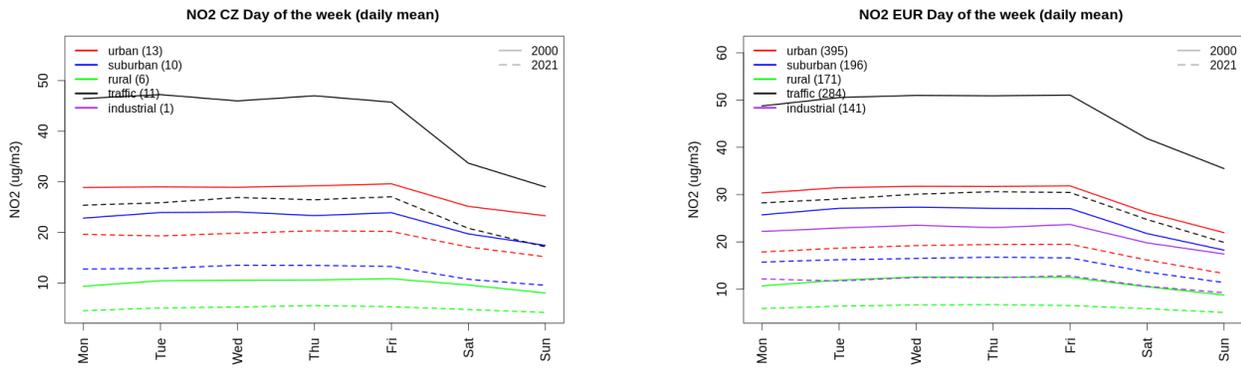


Figure A2.93: Weekly cycle of daily mean NO₂ for Czechia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

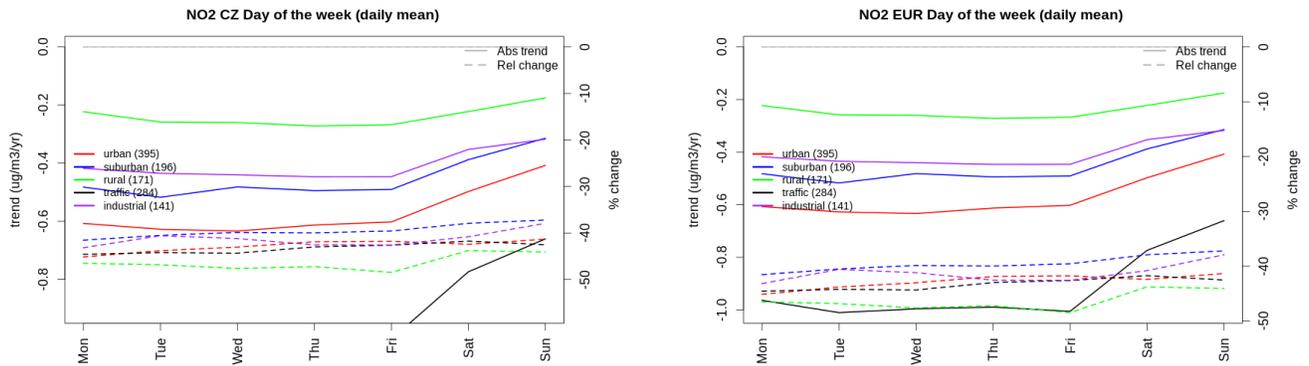


Figure A2.94: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Czechia (left) and Europe (right) of NO₂ at various station type.

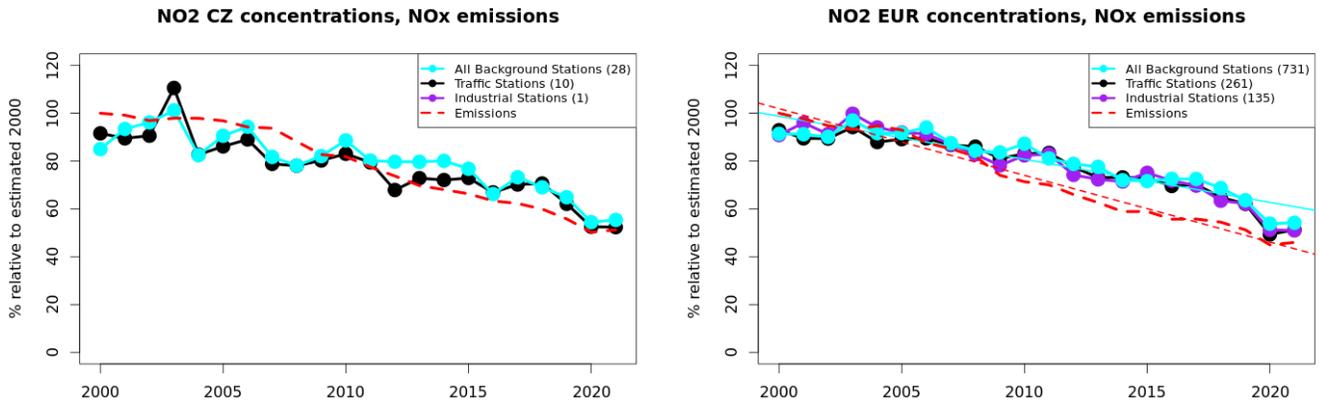


Figure A2.95: Time series of 2000-2021 (left) and European (right) median NO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

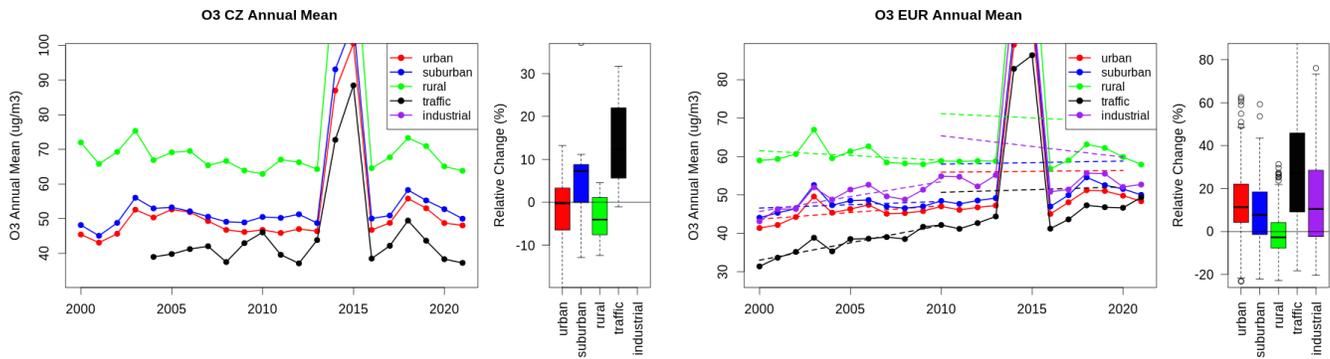


Figure A2.96: Time series of the Czechia (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Czechia and in Europe.

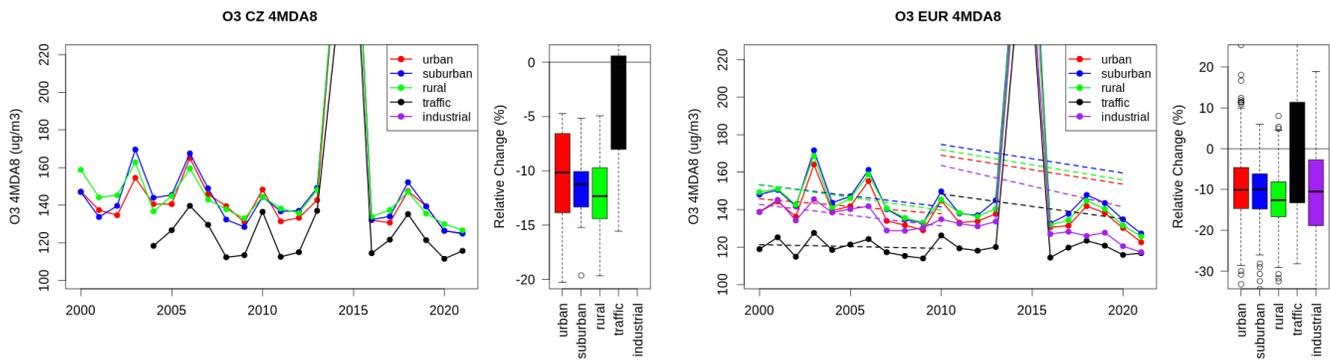


Figure A2.97: Time series of the Czechia (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Czechia and in Europe.

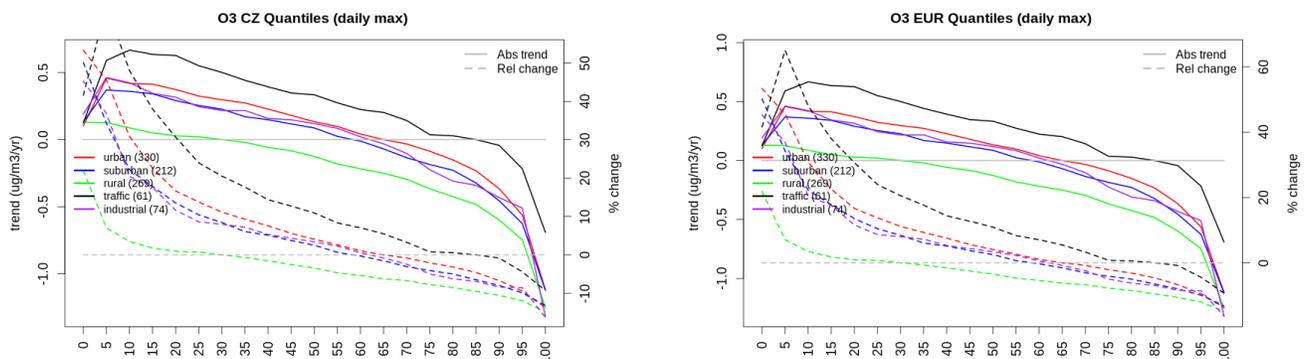


Figure A2.98: For ozone in Czechia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

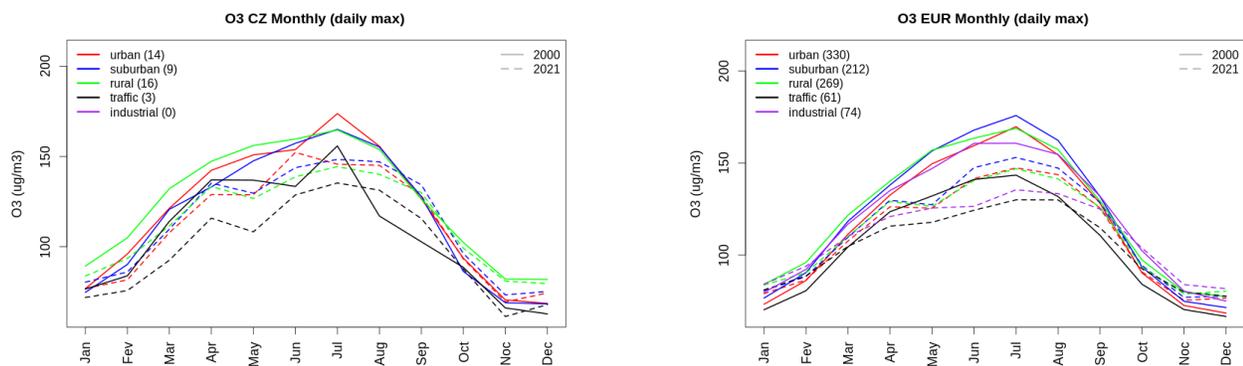


Figure A2.99: Monthly cycle of daily max ozone for Czechia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

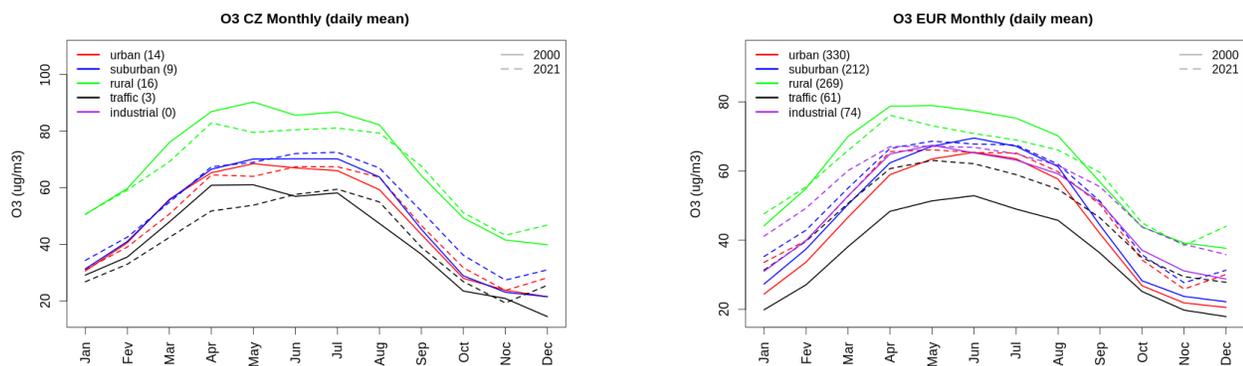


Figure A2.100: Monthly cycle of daily mean ozone for Czechia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

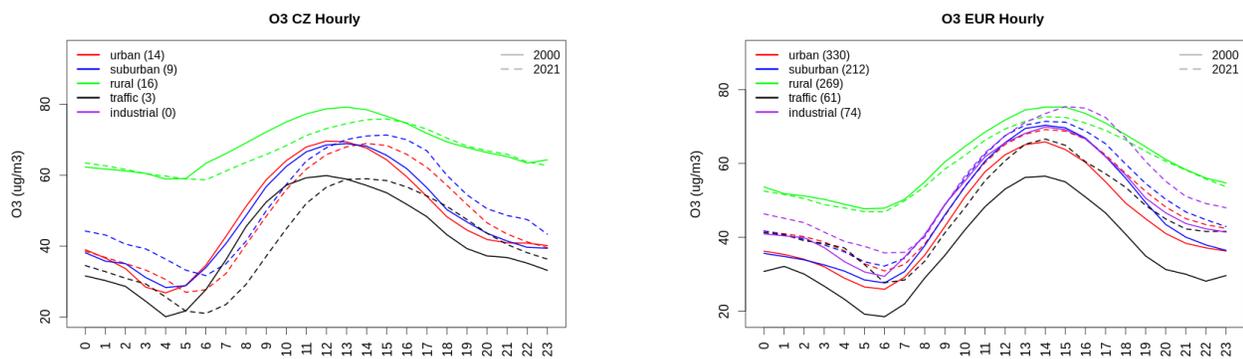


Figure A2.101: Diurnal cycle of daily mean ozone for Czechia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

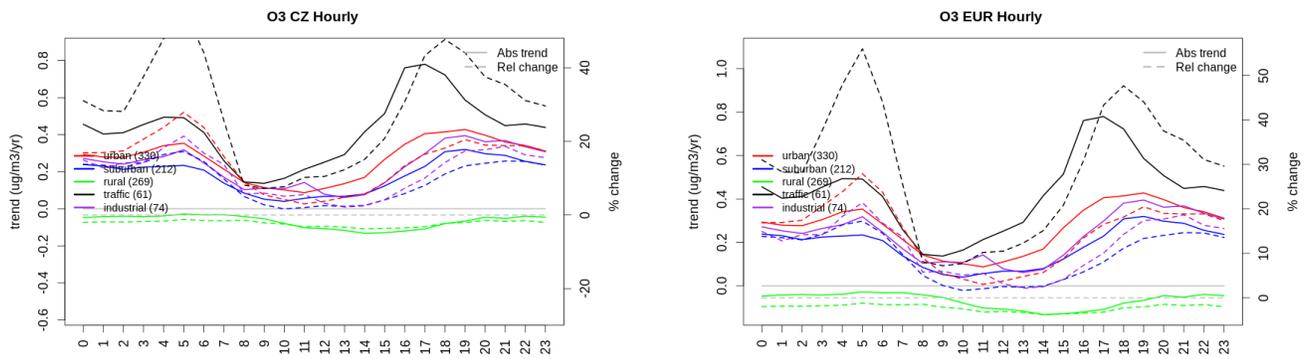


Figure A2.102: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Czechia (left) and Europe (right) of ozone at various station type.

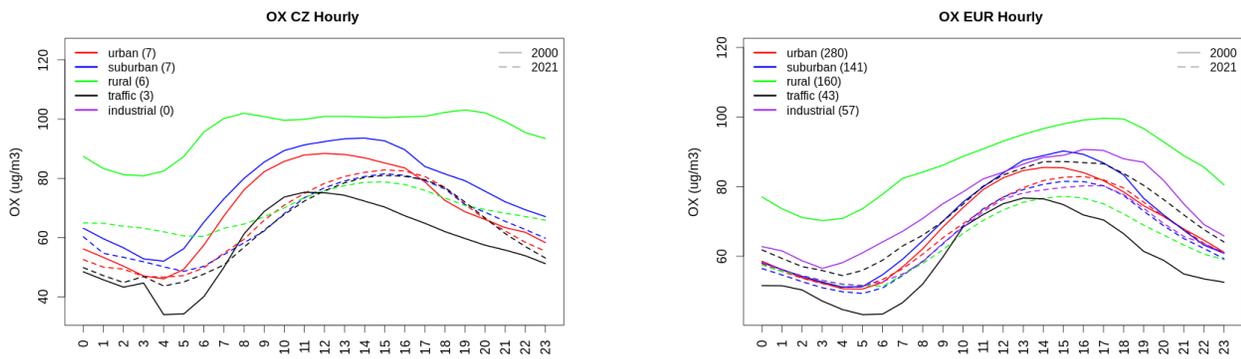


Figure A2.103: Diurnal cycle of daily mean OX (as NO₂+O₃) for Czechia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

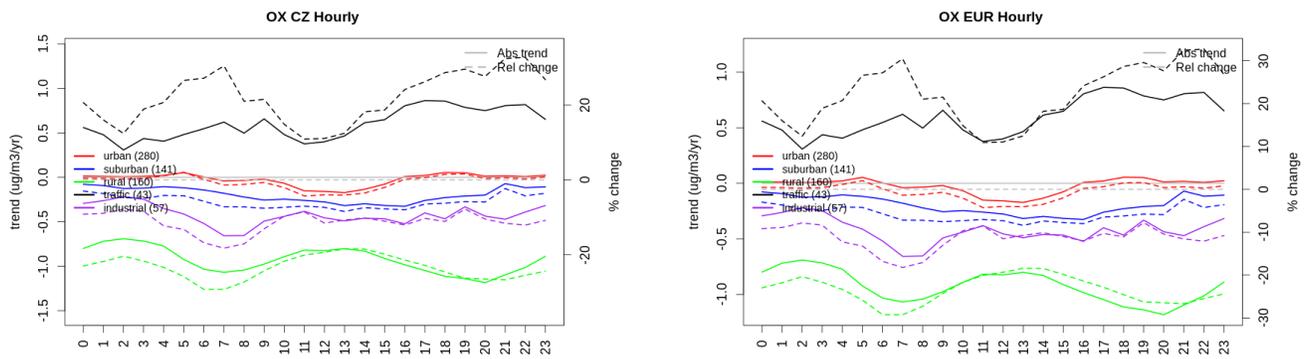


Figure A2.104: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Czechia (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

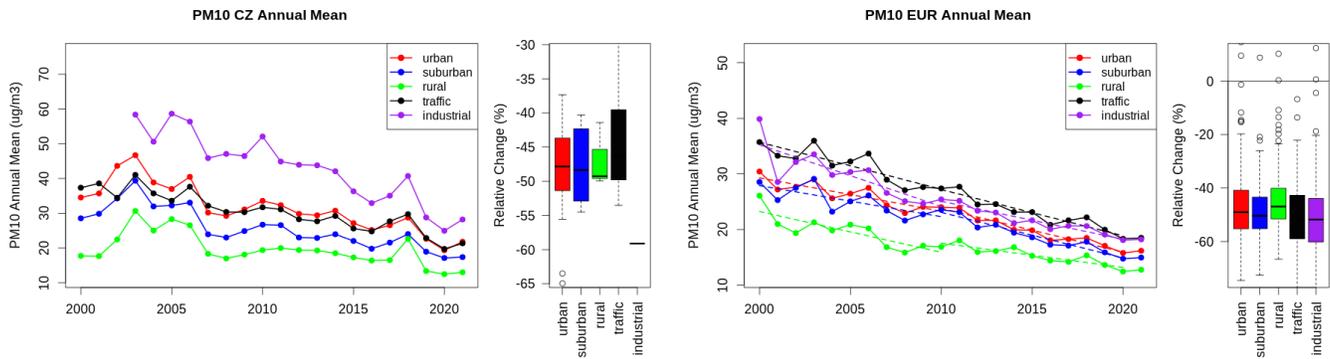


Figure A2.105: Time series of the Czechia (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Czechia and in Europe.

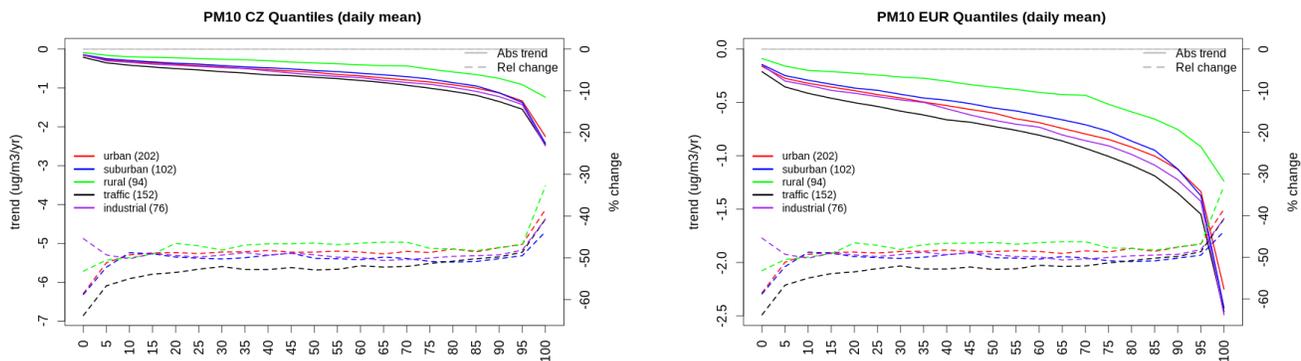


Figure A2.106: For PM10 in Czechia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

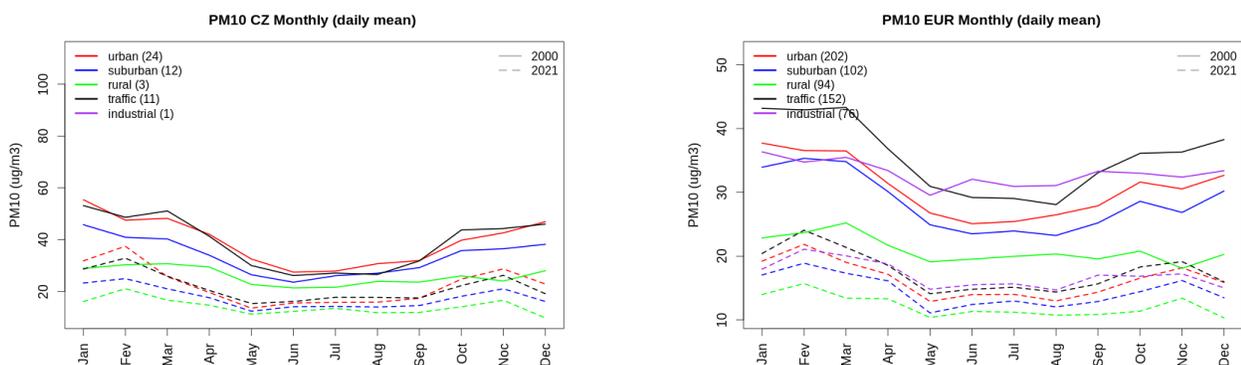


Figure A2.107: Monthly cycle of daily mean PM10 for Czechia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

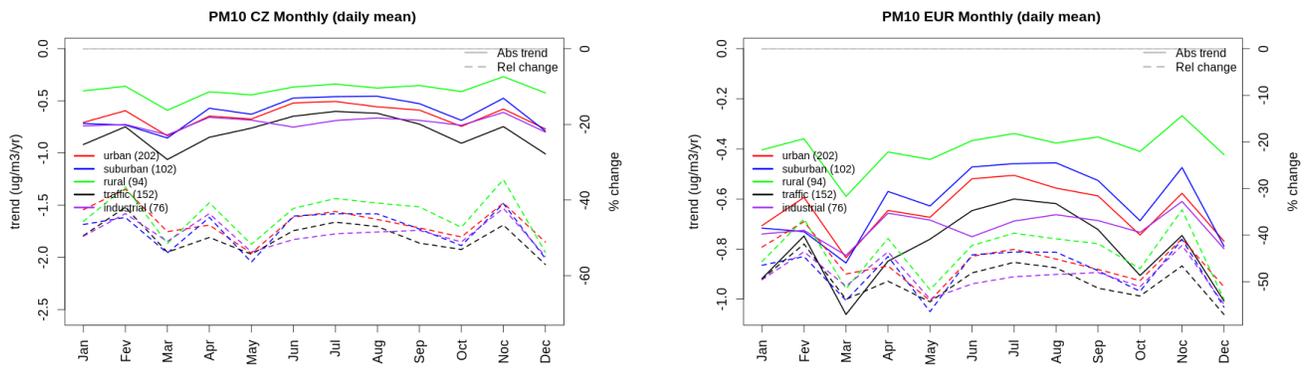


Figure A2.108: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Czechia (left) and Europe (right) of PM10 at various station type.

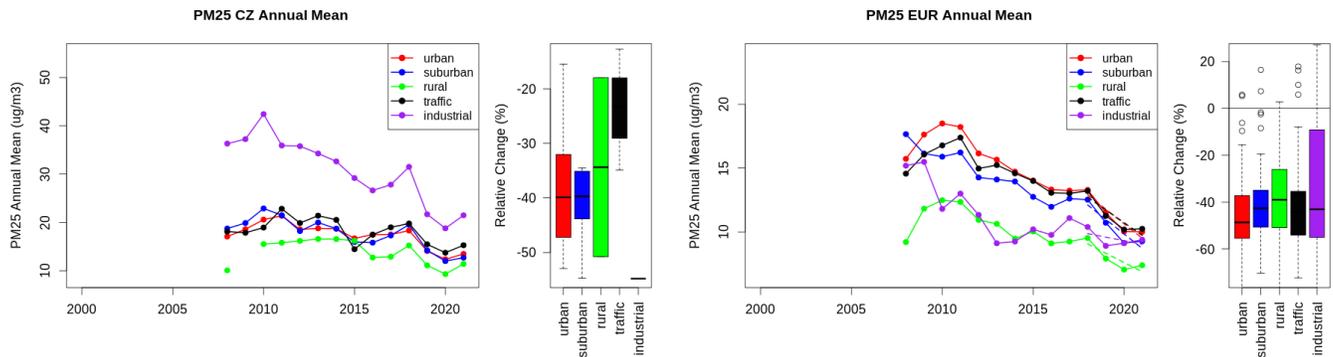


Figure A2.109: Time series of the Czechia (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Czechia and in Europe.

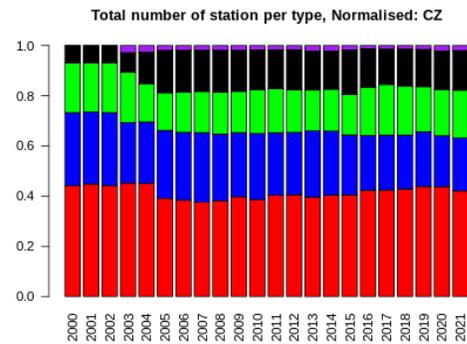
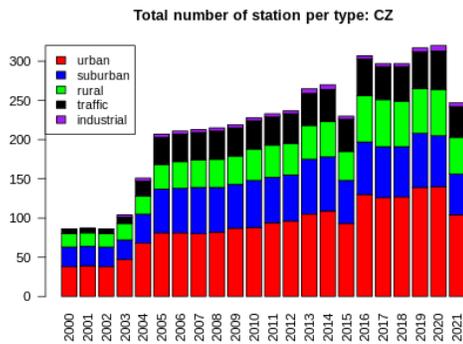
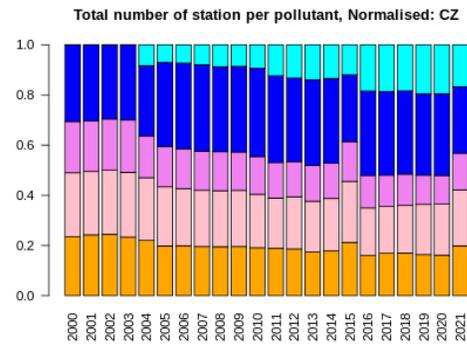
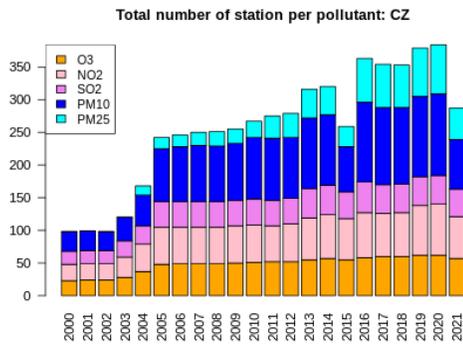
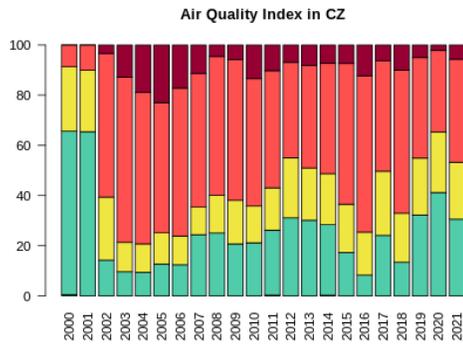


Figure A2.110: For Czechia: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

6 Germany

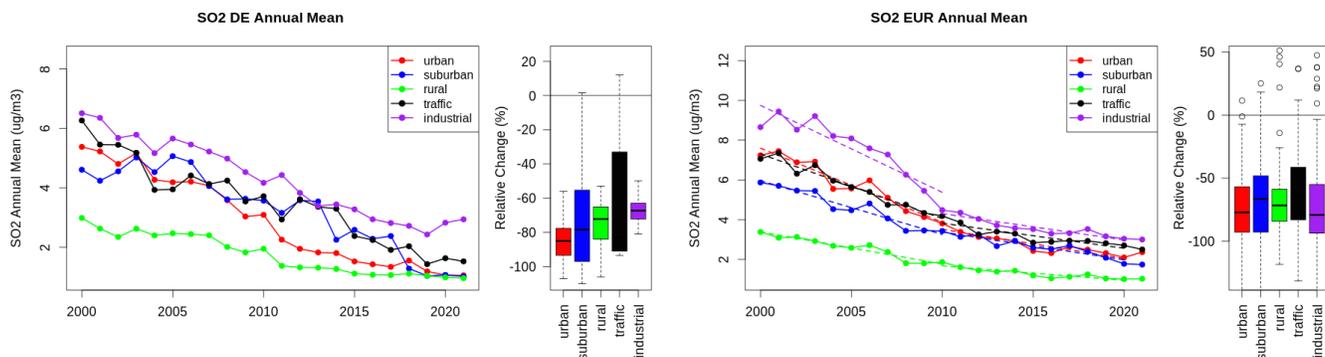


Figure A2.111: Time series of the Germany (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Germany and in Europe.

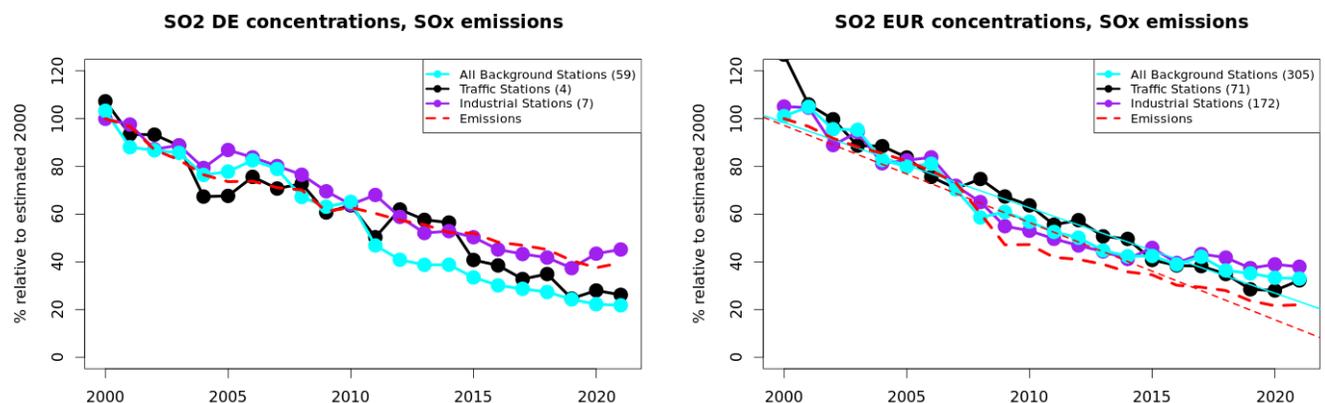


Figure A2.112: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

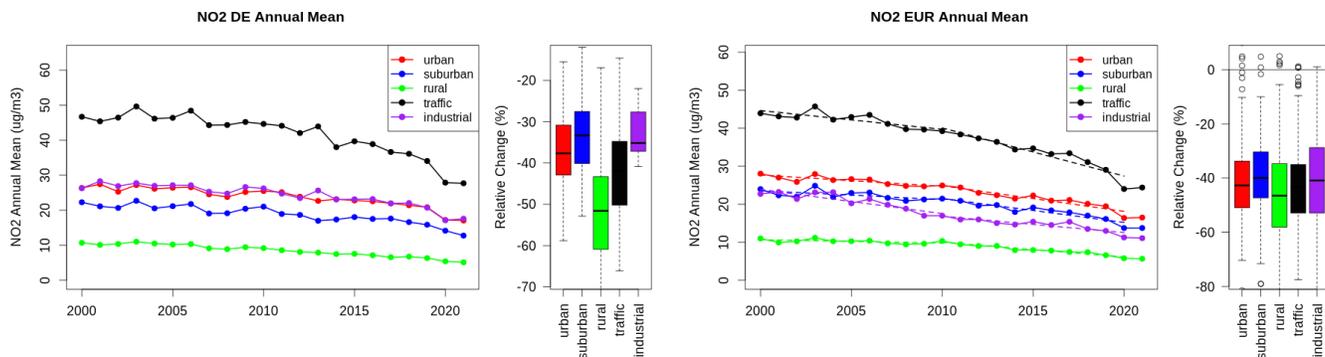


Figure A2.113: Time series of the Germany (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Germany and in Europe.

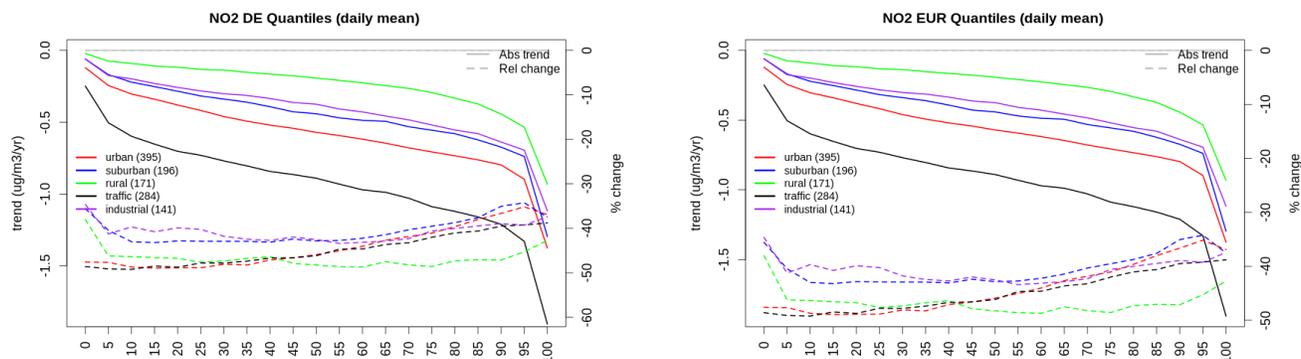


Figure A2.114: For NO₂ in Germany (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

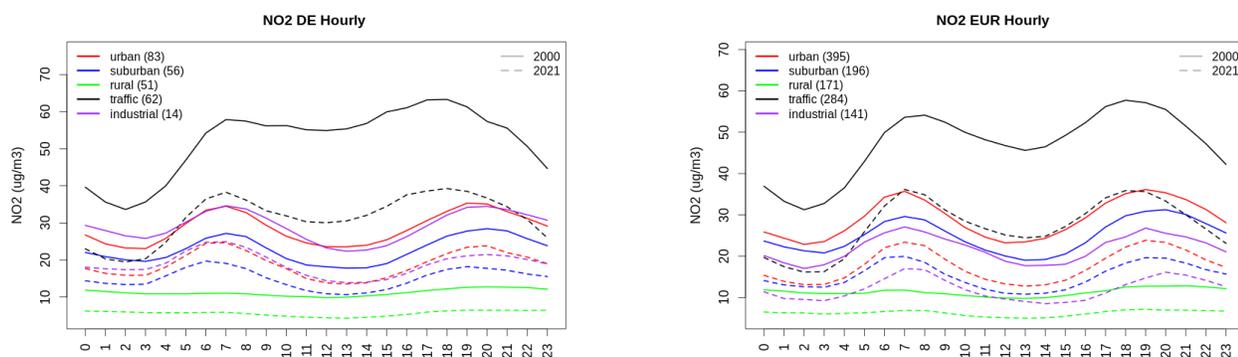


Figure A2.115: Diurnal cycle of daily mean NO₂ for Germany (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

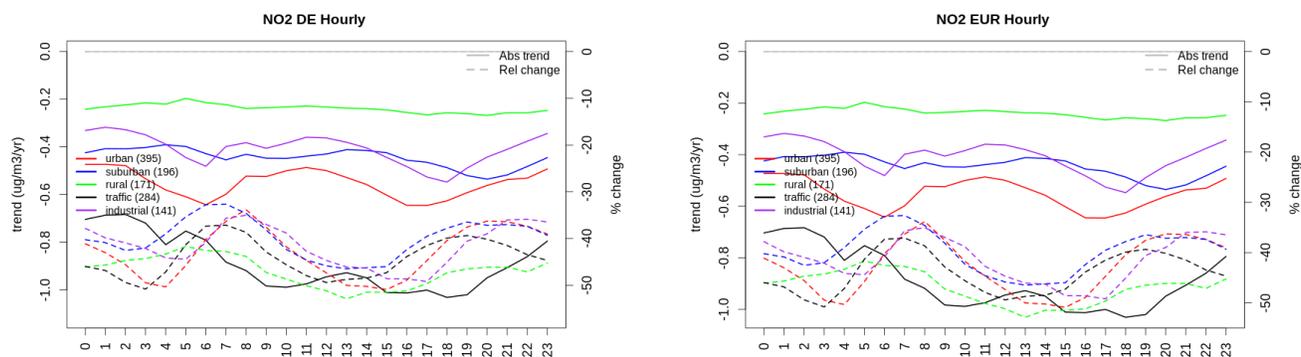


Figure A2.116: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Germany (left) and Europe (right) of NO₂ at various station type.

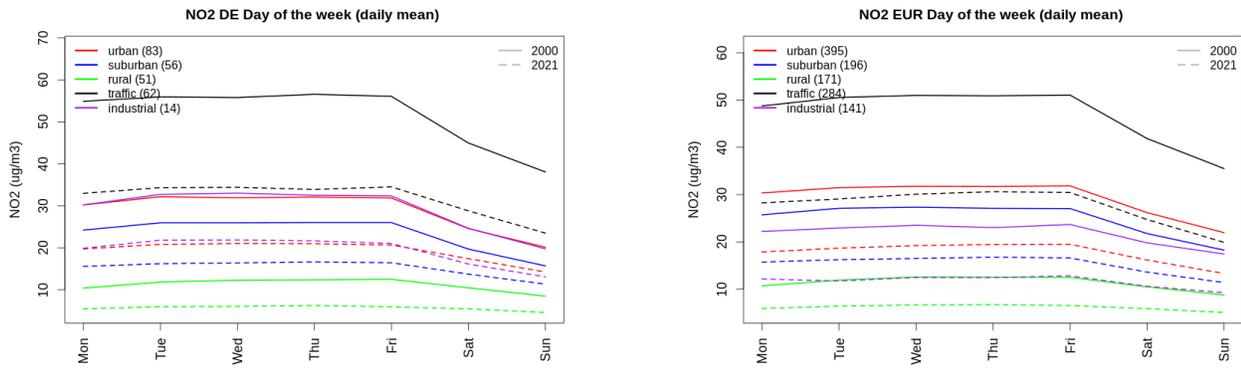


Figure A2.117: Weekly cycle of daily mean NO2 for Germany (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines)

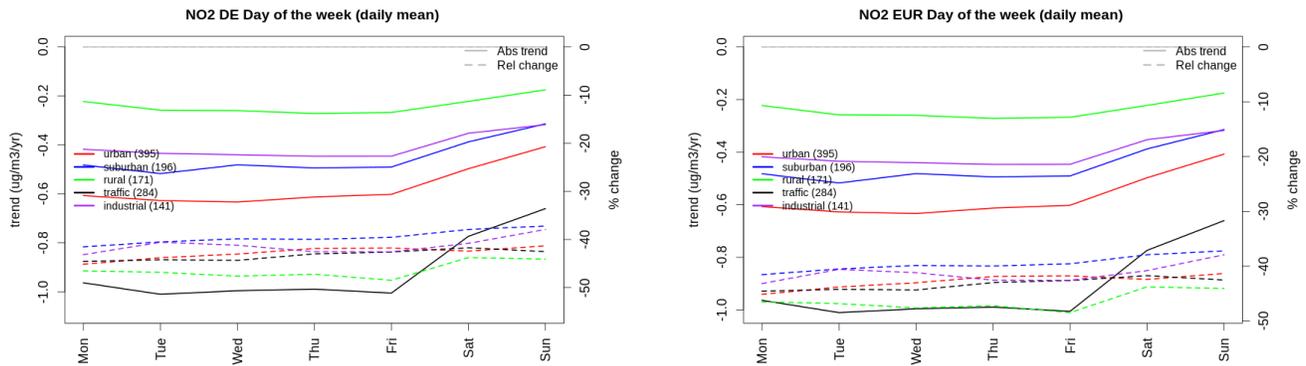


Figure A2.118: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Germany (left) and Europe (right) of NO2 at various station type.

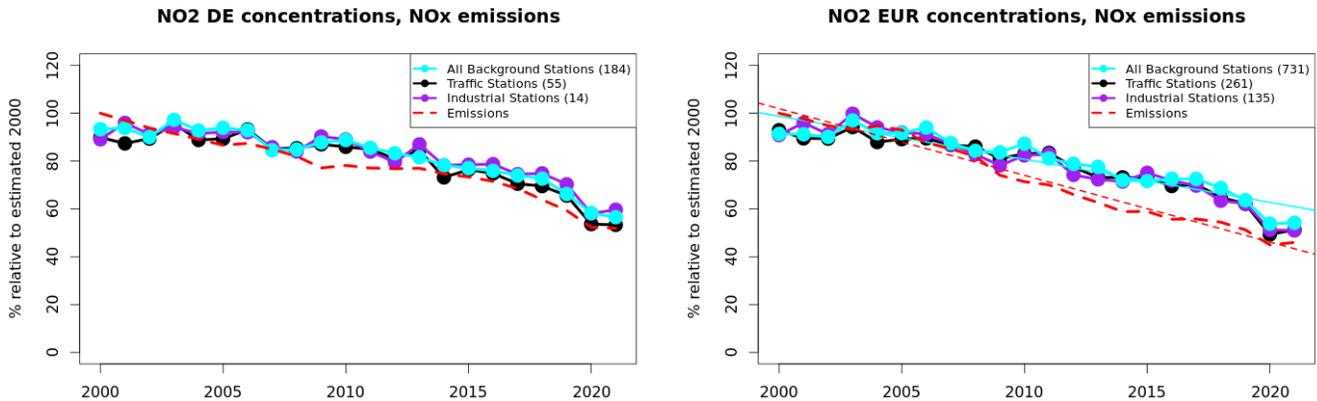


Figure A2.119: Time series of 2000-2021 (left) and European (right) median NO2 observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NOx emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

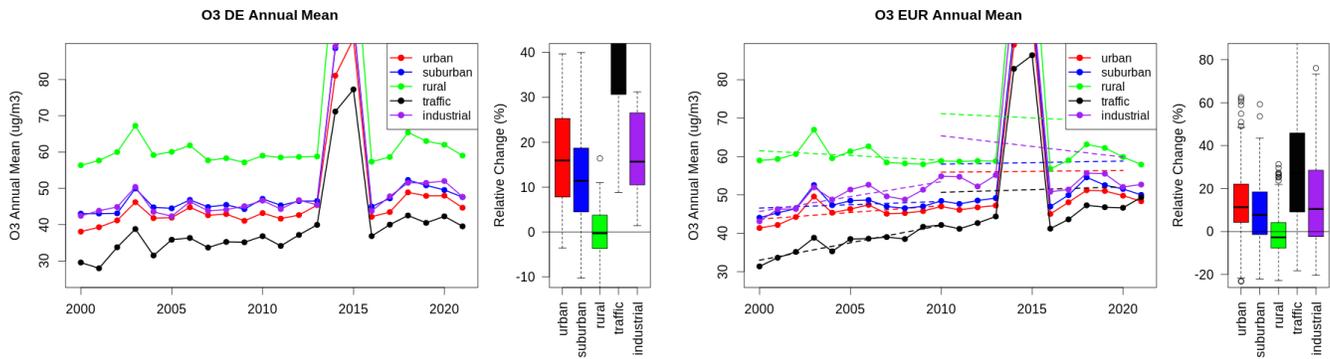


Figure A2.120: Time series of the Germany (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Germany and in Europe.

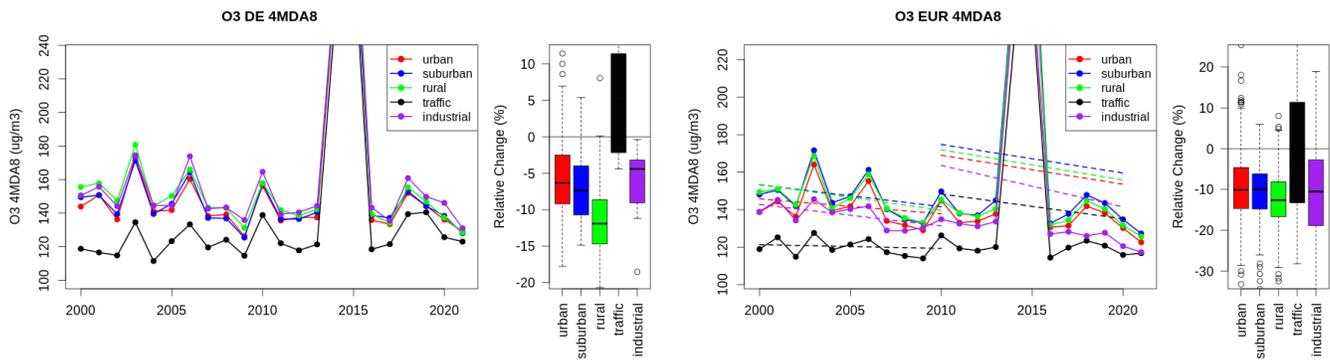


Figure A2.121: Time series of the Germany (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Germany and in Europe.

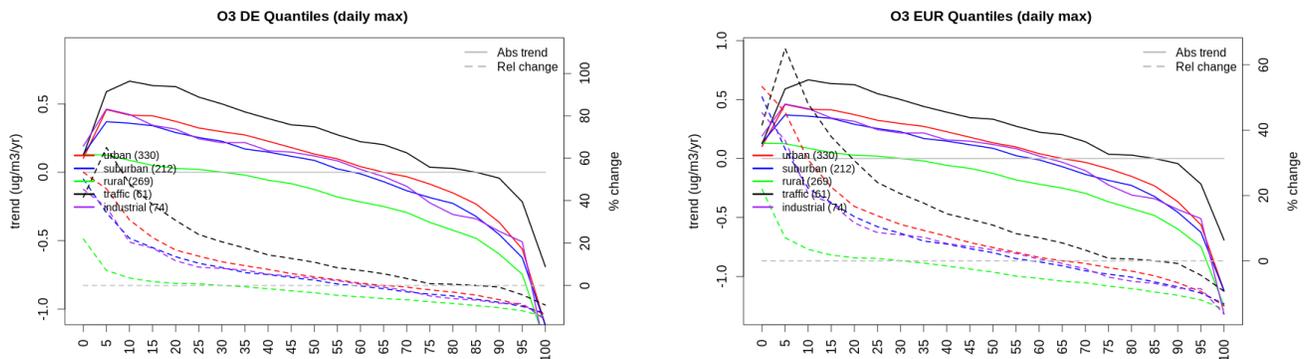


Figure A2.122: For ozone in Germany (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

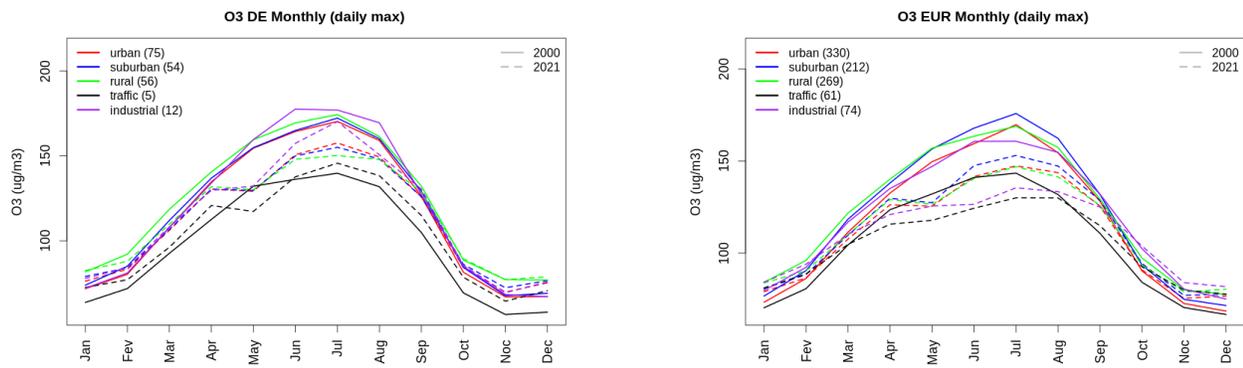


Figure A2.123: Monthly cycle of daily max ozone for Germany (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

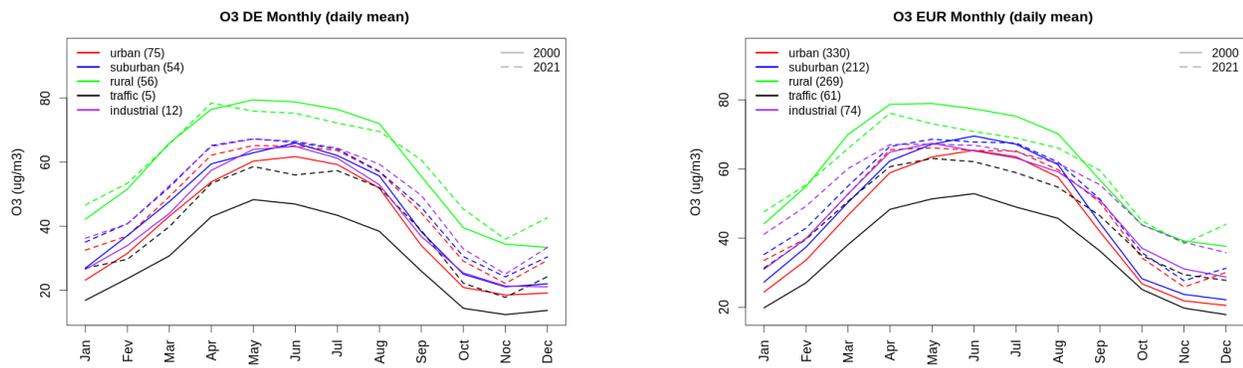


Figure A2.124: Monthly cycle of daily mean ozone for Germany (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

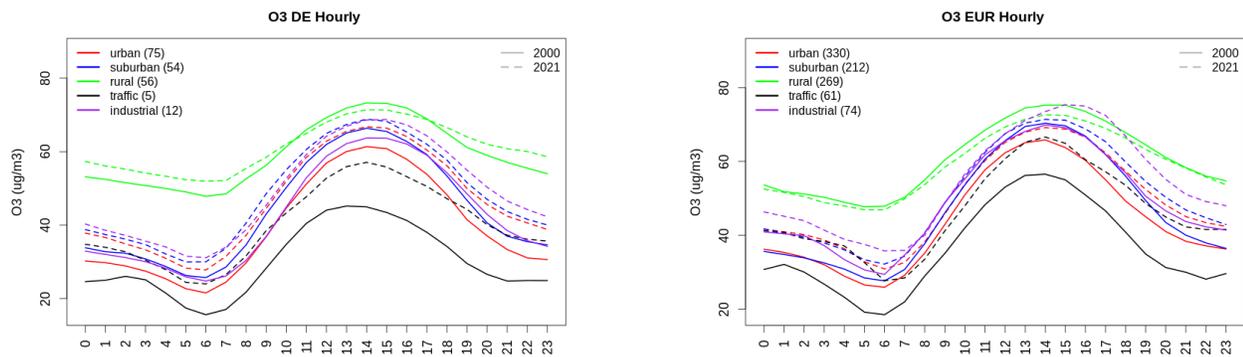


Figure A2.125: Diurnal cycle of daily mean ozone for Germany (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

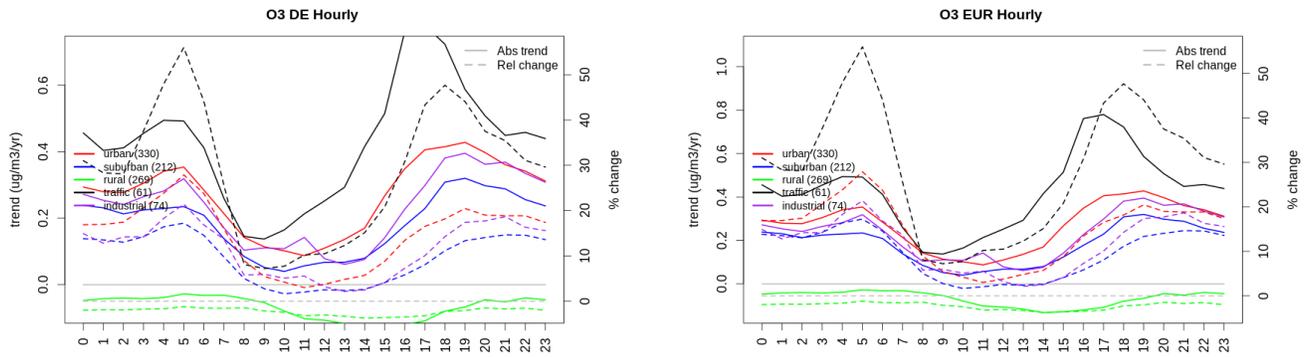


Figure A2.126: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Germany (left) and Europe (right) of ozone at various station type.

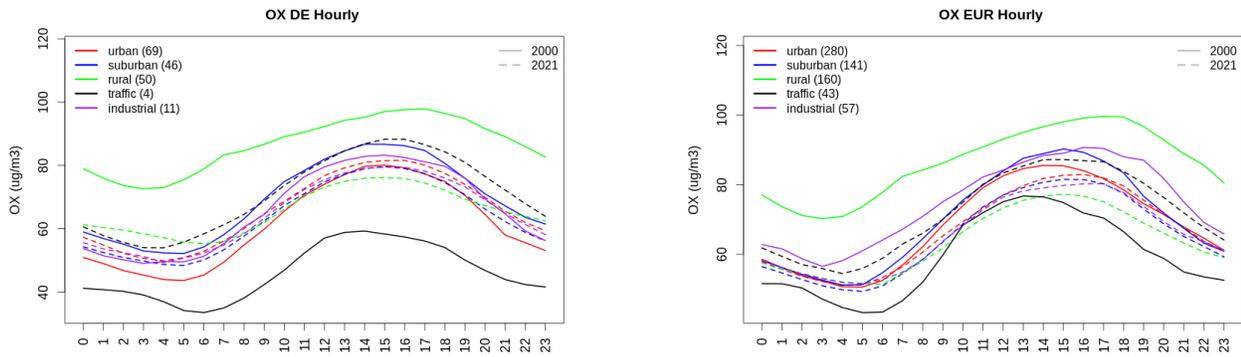


Figure A2.127: Diurnal cycle of daily mean OX (as NO₂+O₃) for Germany (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

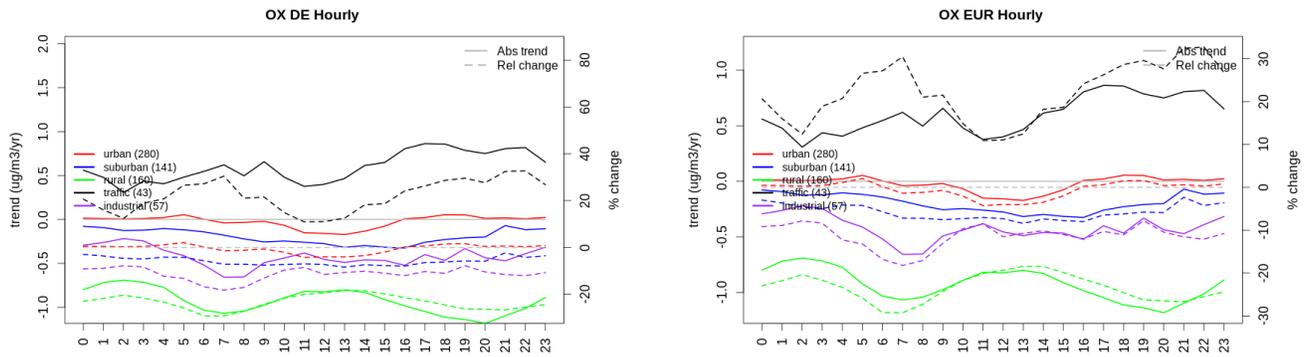


Figure A2.128: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Germany (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

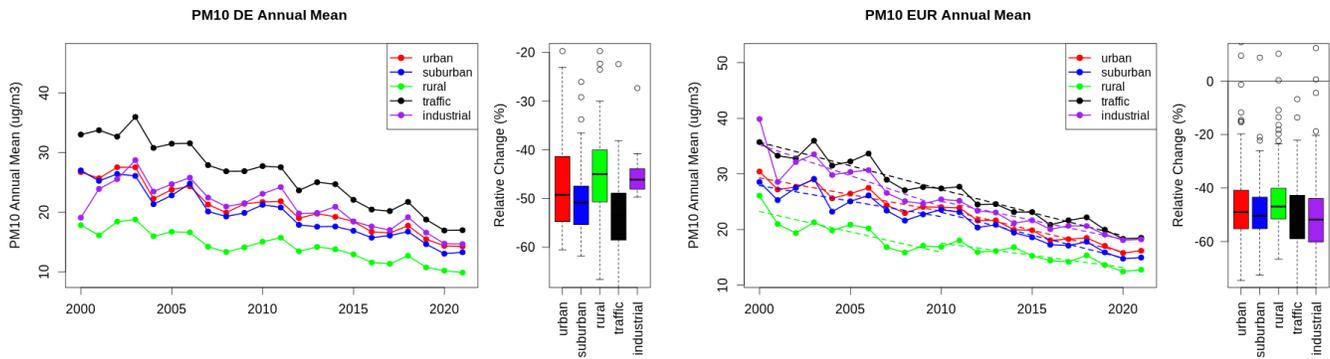


Figure A2.129: Time series of the Germany (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Germany and in Europe.

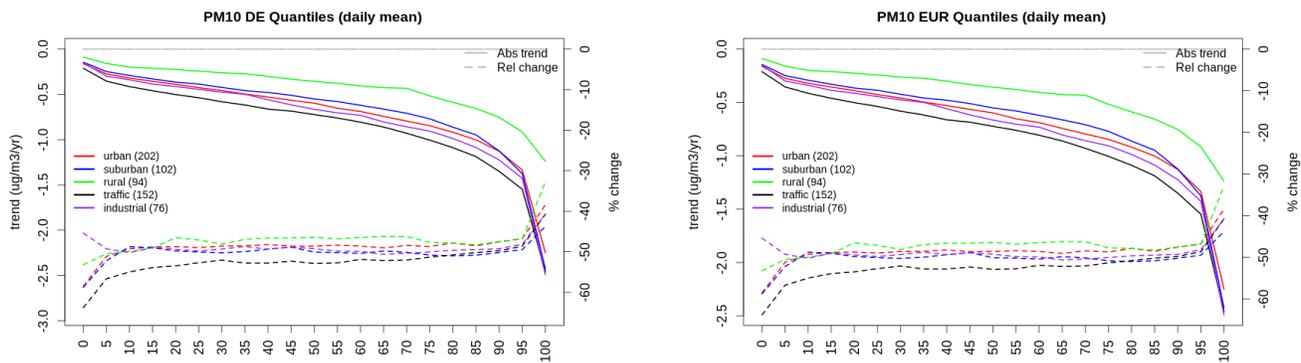


Figure A2.130: For PM10 in Germany (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

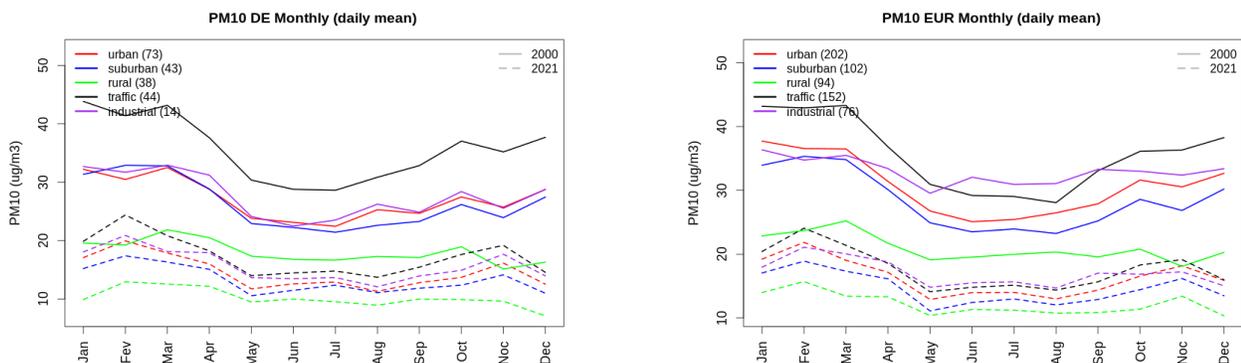


Figure A2.131: Monthly cycle of daily mean PM10 for Germany (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

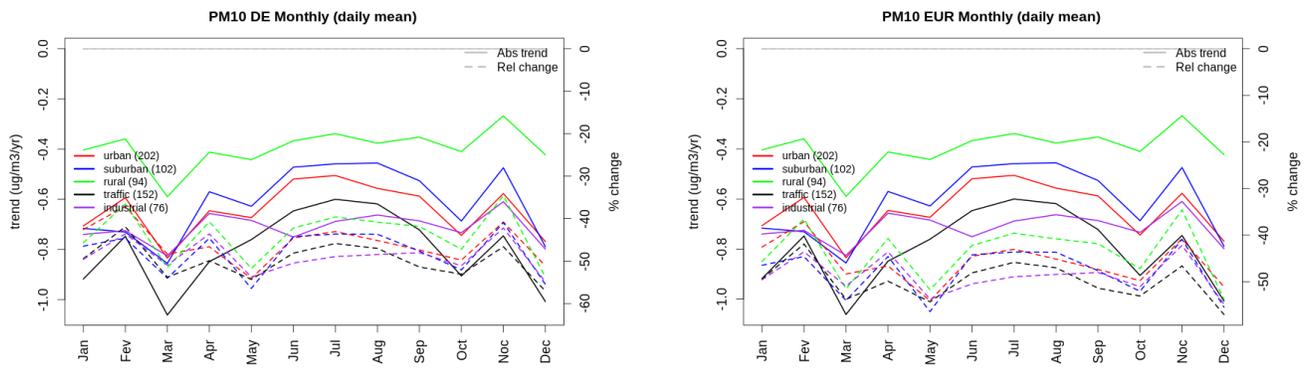


Figure A2.132: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Germany (left) and Europe (right) of PM10 at various station type.

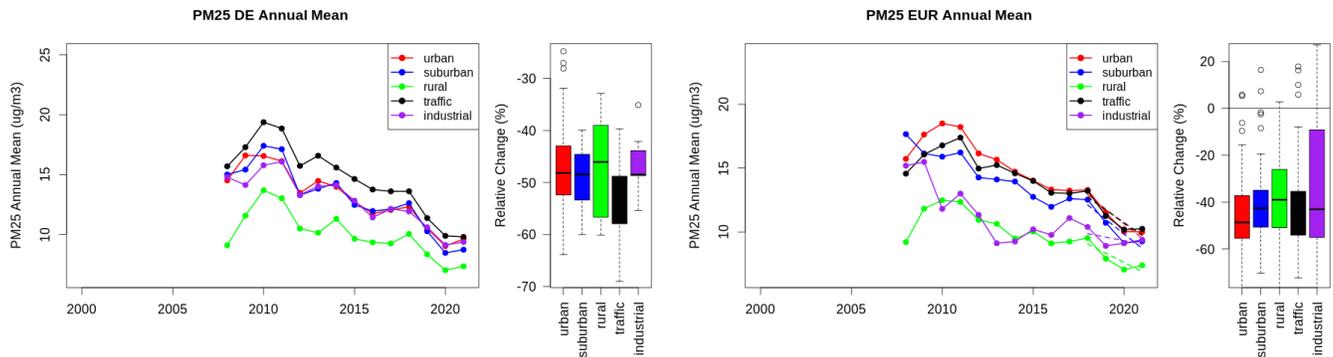


Figure A2.133: Time series of the Germany (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Germany and in Europe.

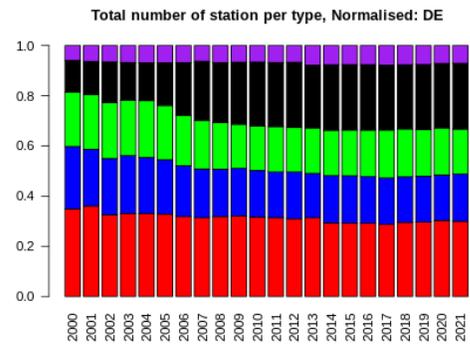
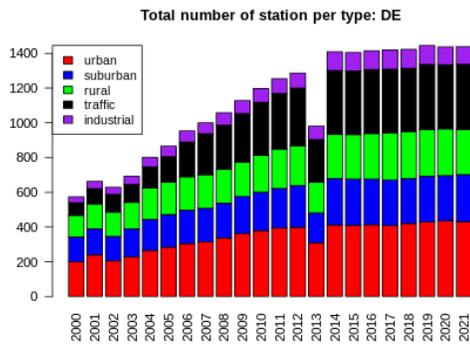
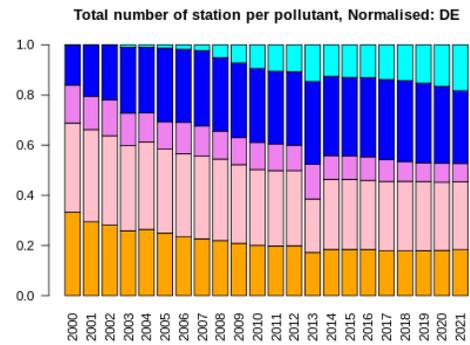
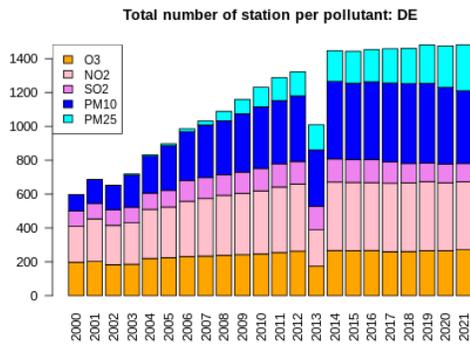
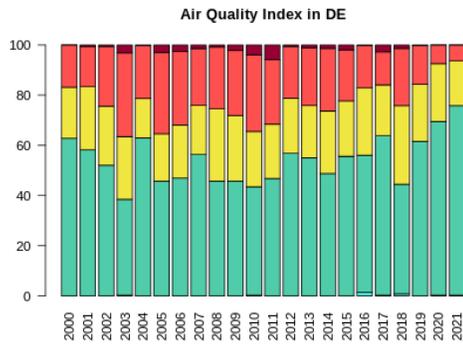


Figure A2.134: For Germany: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

7 Denmark

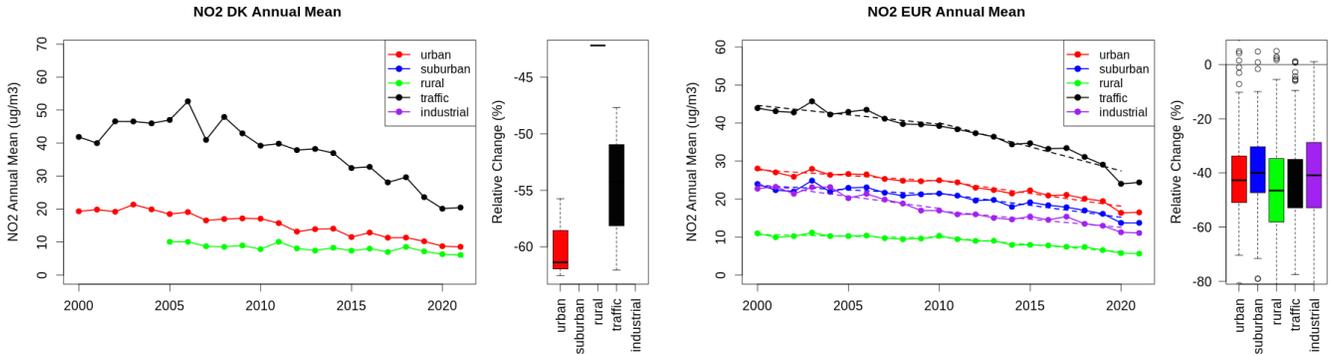


Figure A2.135: Time series of the Denmark (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Denmark and in Europe.

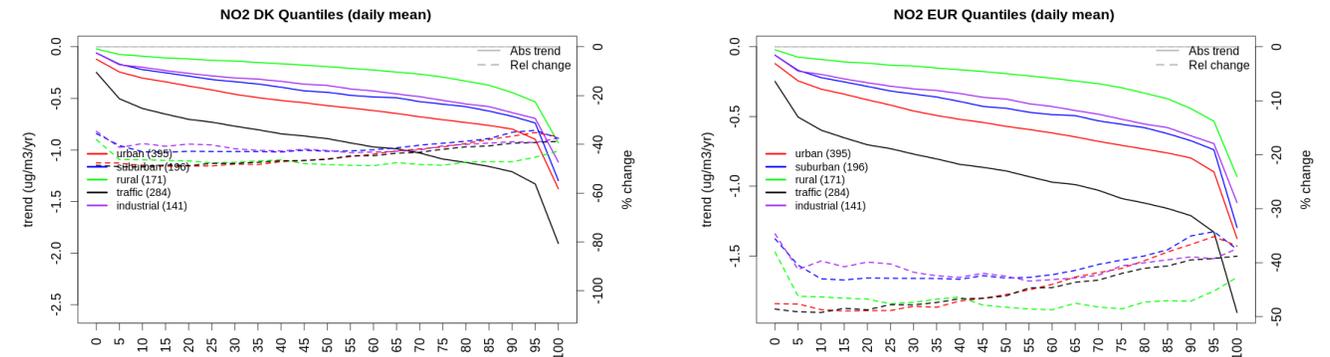


Figure A2.136: For NO₂ in Denmark (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

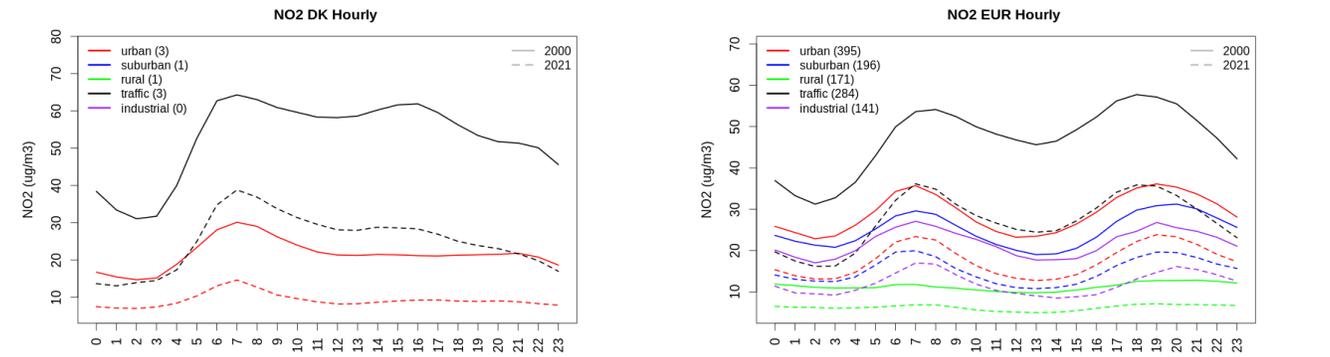


Figure A2.137: Diurnal cycle of daily mean NO₂ for Denmark (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines)

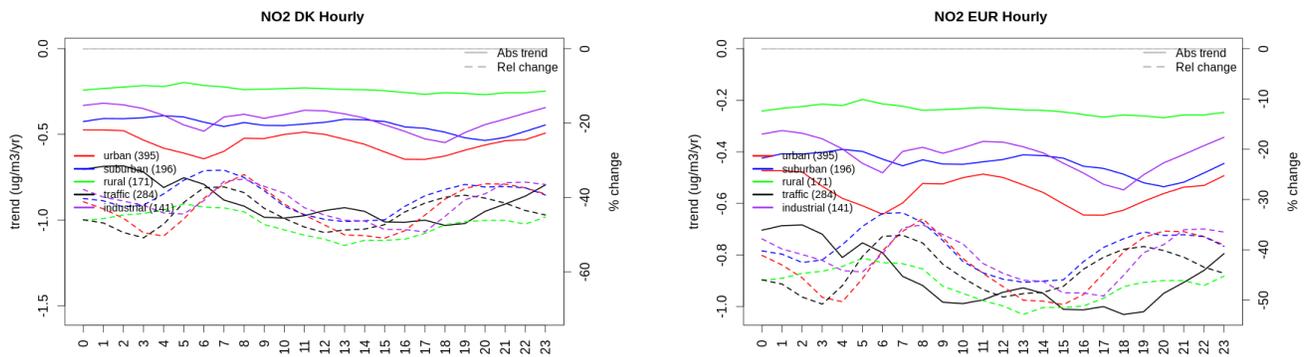


Figure A2.138: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Denmark (left) and Europe (right) of NO₂ at various station type.

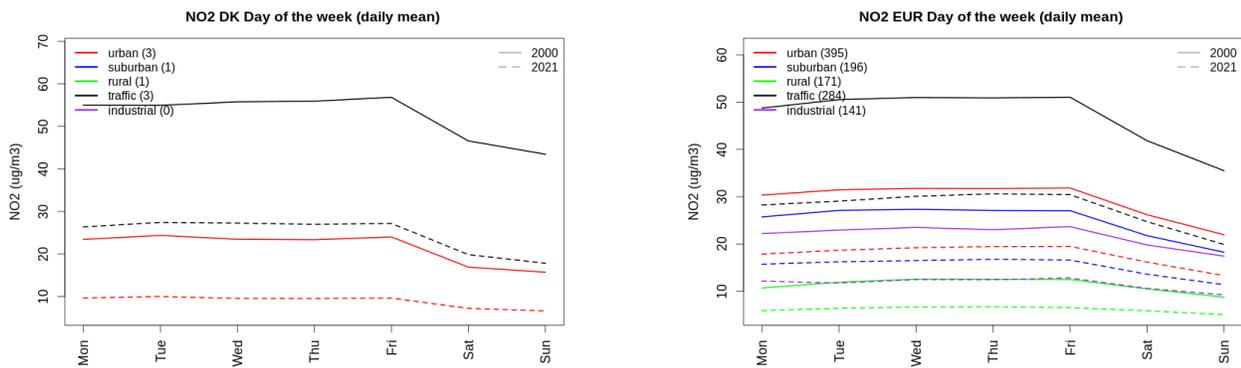


Figure A2.139: Weekly cycle of daily mean NO₂ for Denmark (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

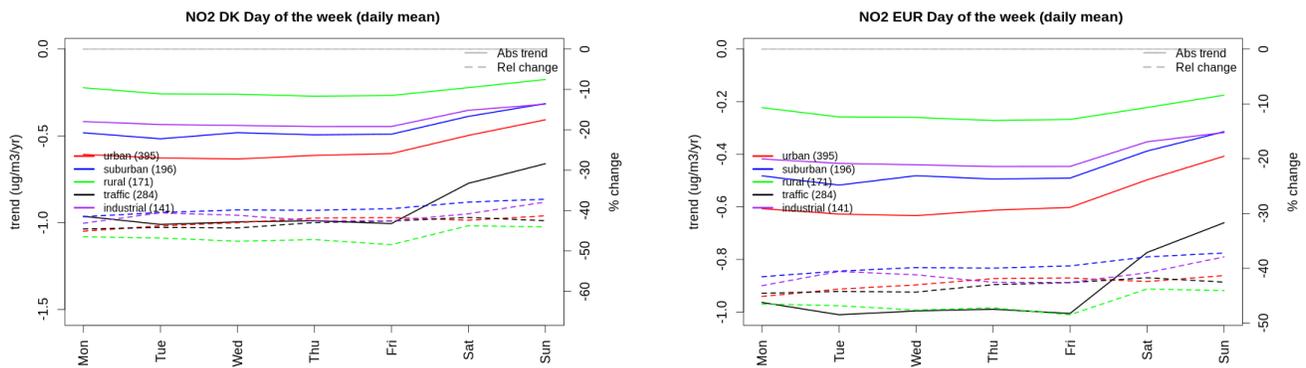


Figure A2.140: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Denmark (left) and Europe (right) of NO₂ at various station type.

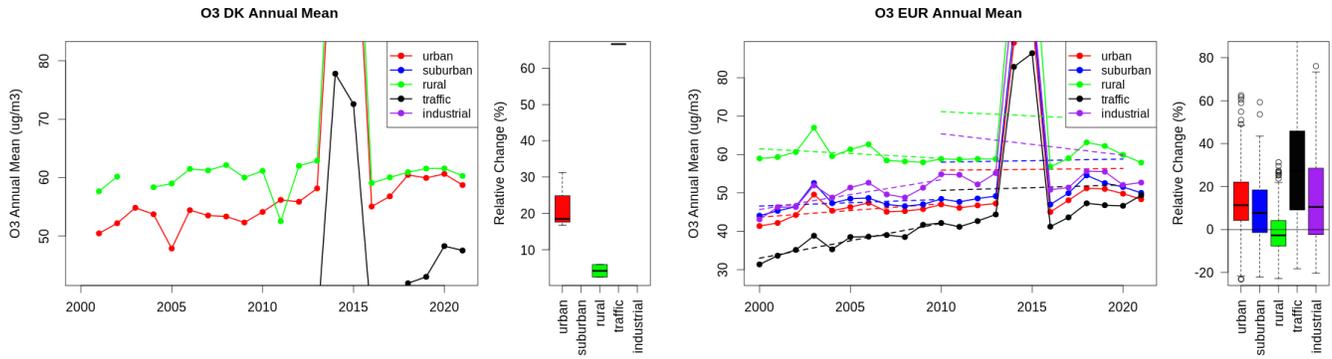


Figure A2.141: Time series of the Denmark (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Denmark and in Europe.

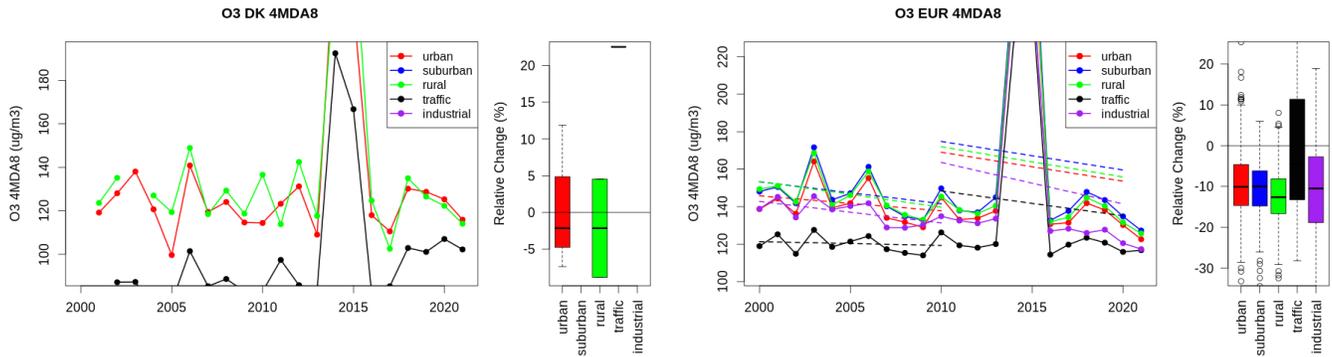


Figure A2.142: Time series of the Denmark (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Denmark and in Europe.

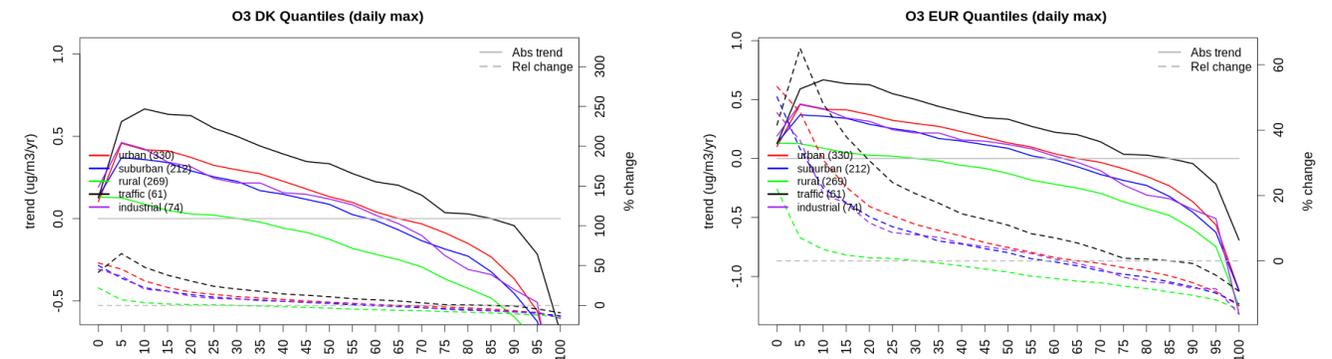


Figure A2.143: For ozone in Denmark (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

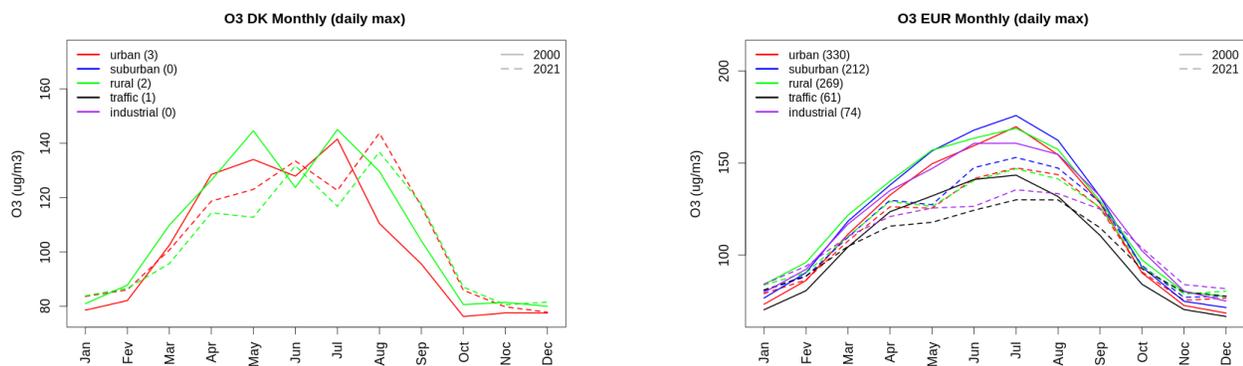


Figure A2.144: Monthly cycle of daily max ozone for Denmark (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

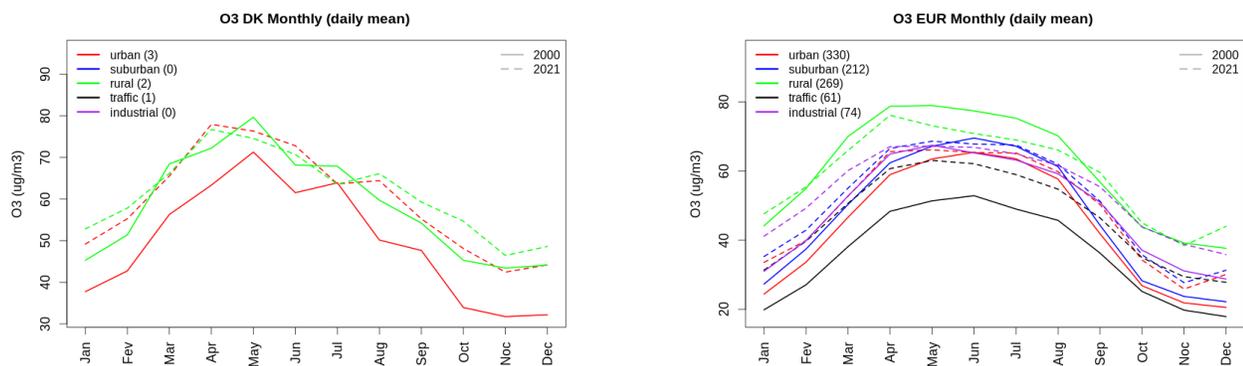


Figure A2.145: Monthly cycle of daily mean ozone for Denmark (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

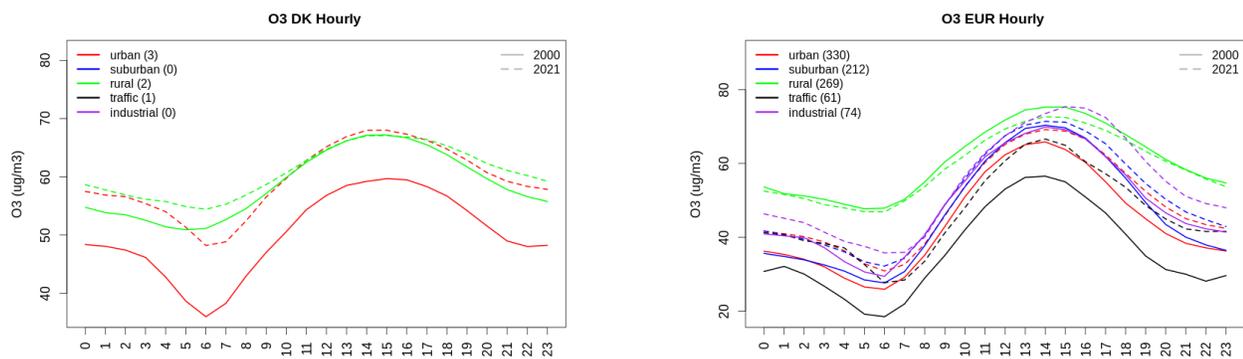


Figure A2.146: Diurnal cycle of daily mean ozone for Denmark (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

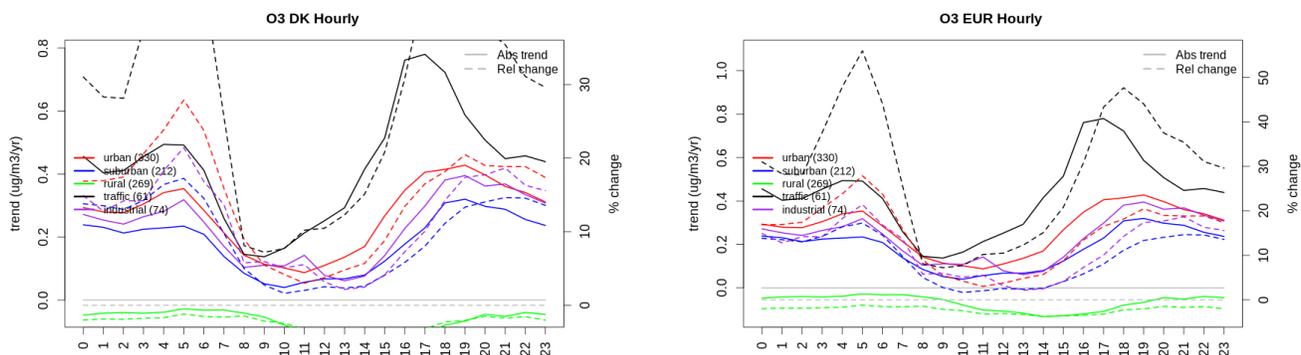


Figure A2.147: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Denmark (left) and Europe (right) of ozone at various station type.

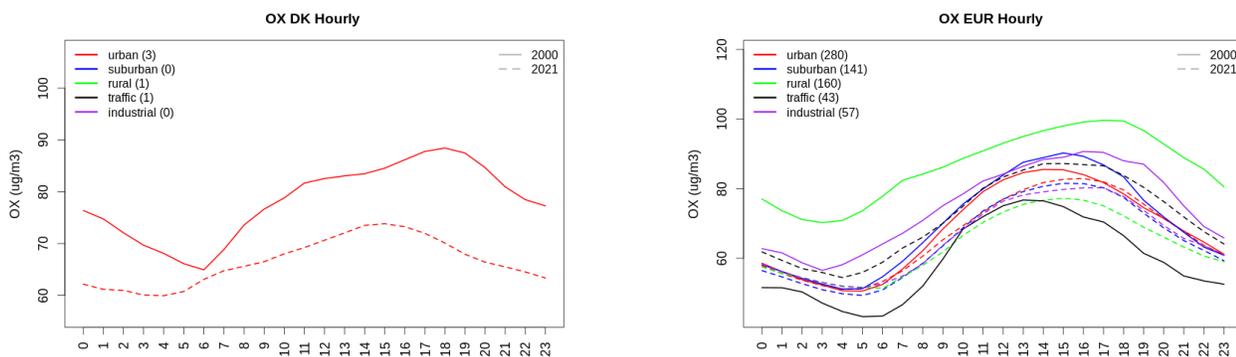


Figure A2.148: Diurnal cycle of daily mean OX (as NO₂+O₃) for Denmark (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

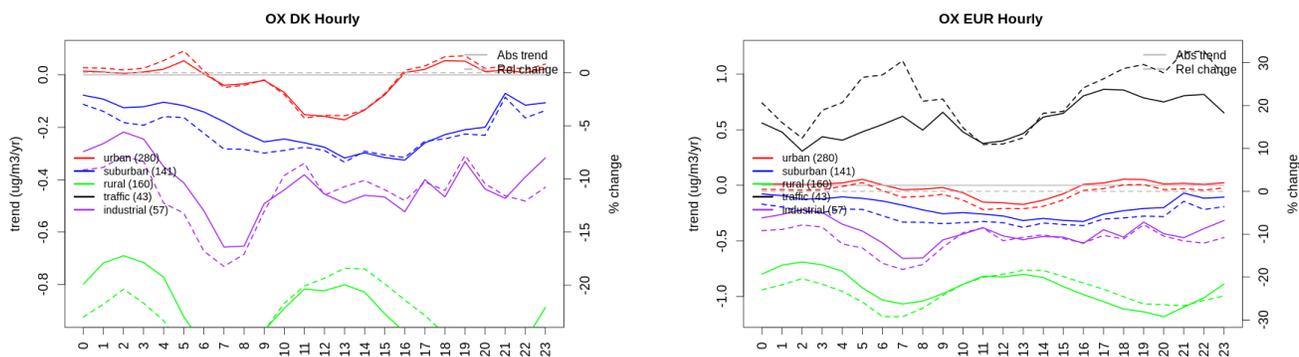


Figure A2.149: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Denmark (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

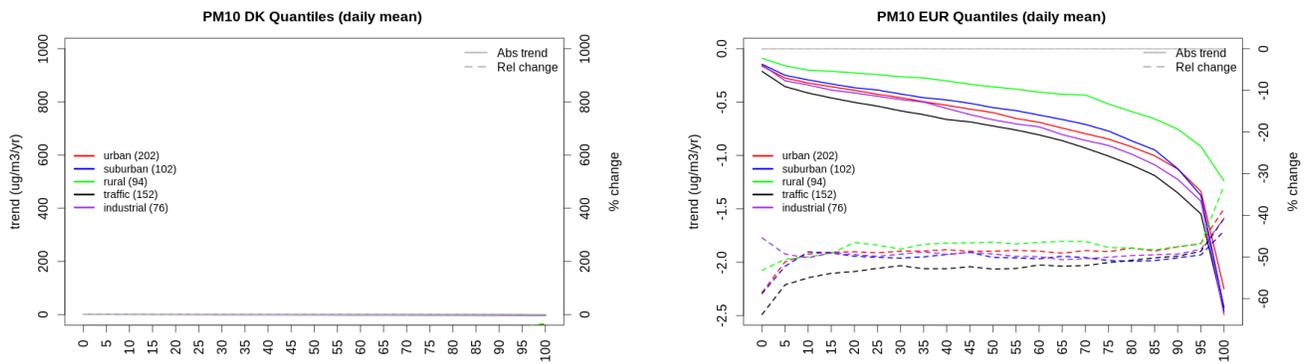


Figure A2.150: For PM10 in Denmark (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

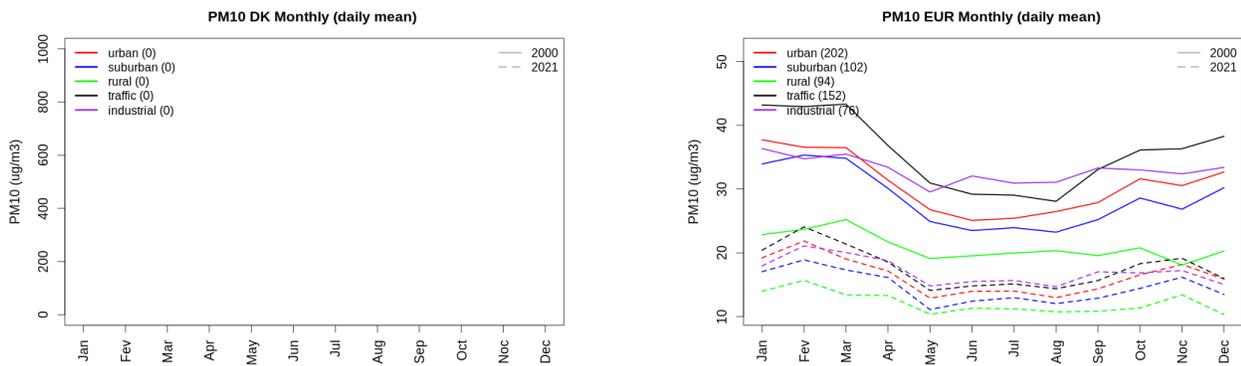


Figure A2.151: Monthly cycle of daily mean PM10 for Denmark (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

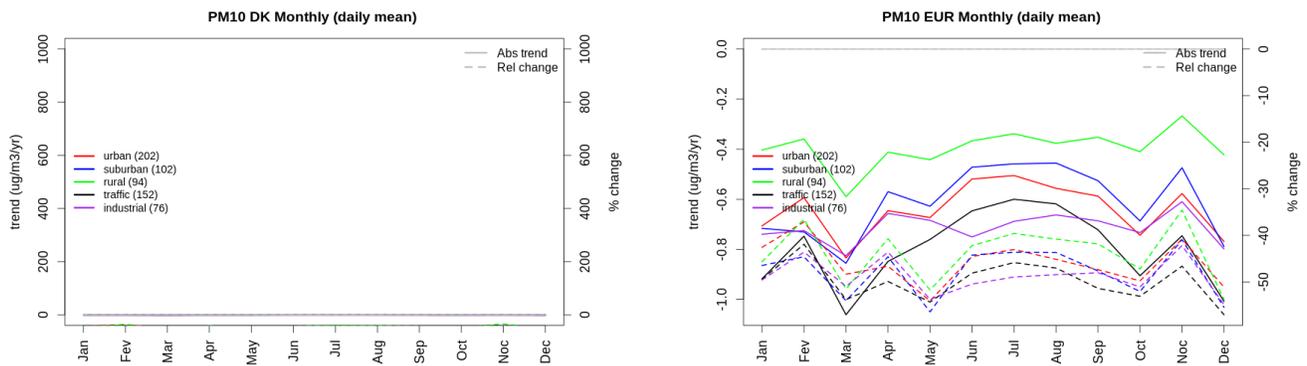


Figure A2.152: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Denmark (left) and Europe (right) of PM10 at various station type.

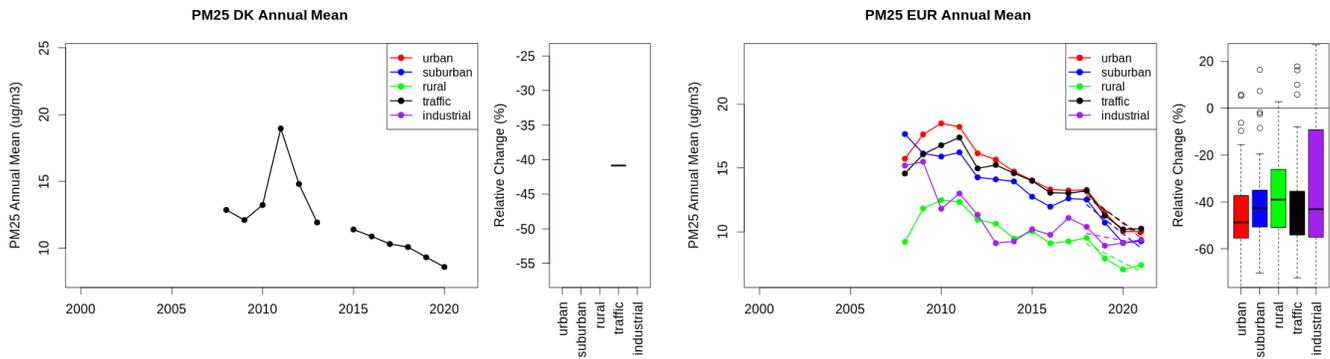


Figure A2.153: Time series of the Denmark (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Denmark and in Europe.

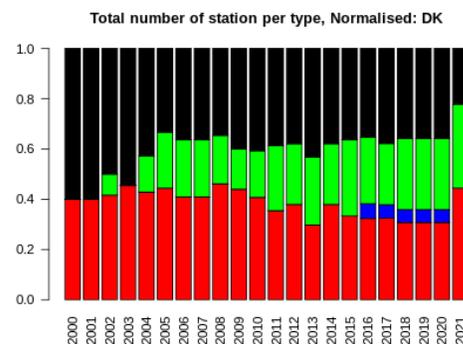
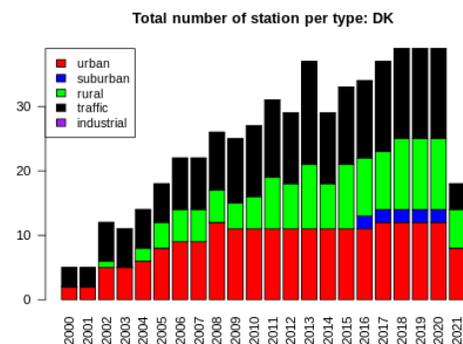
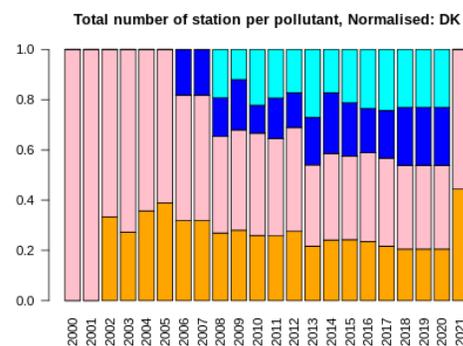
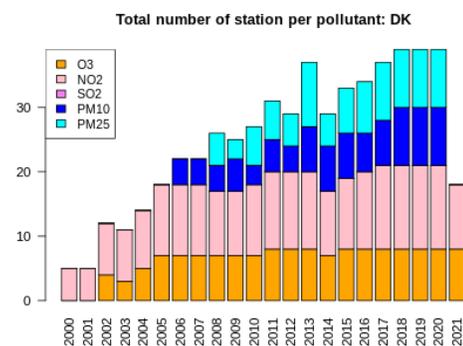
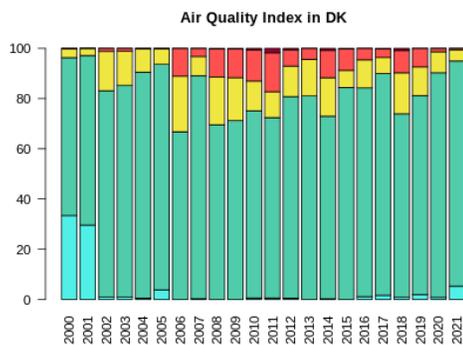


Figure A2.154: For Denmark: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

8 Estonia

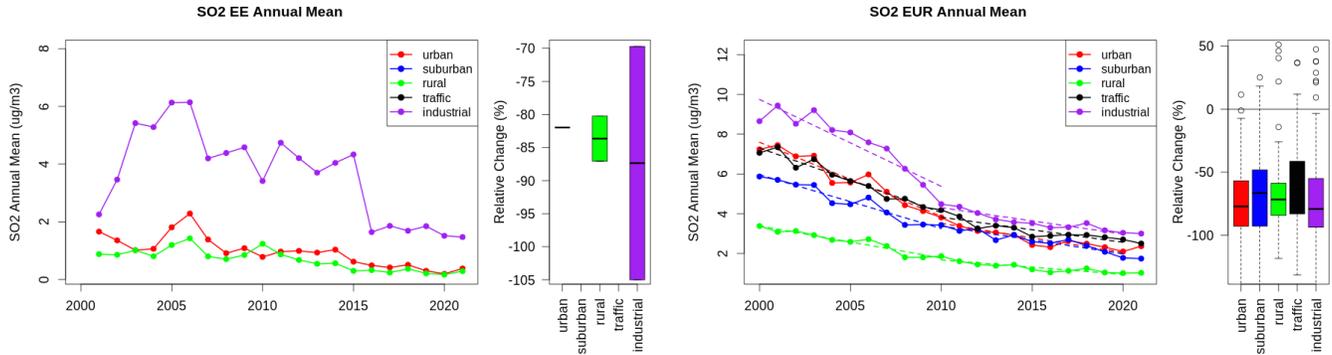


Figure A2.155: Time series of the Estonia (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Estonia and in Europe.

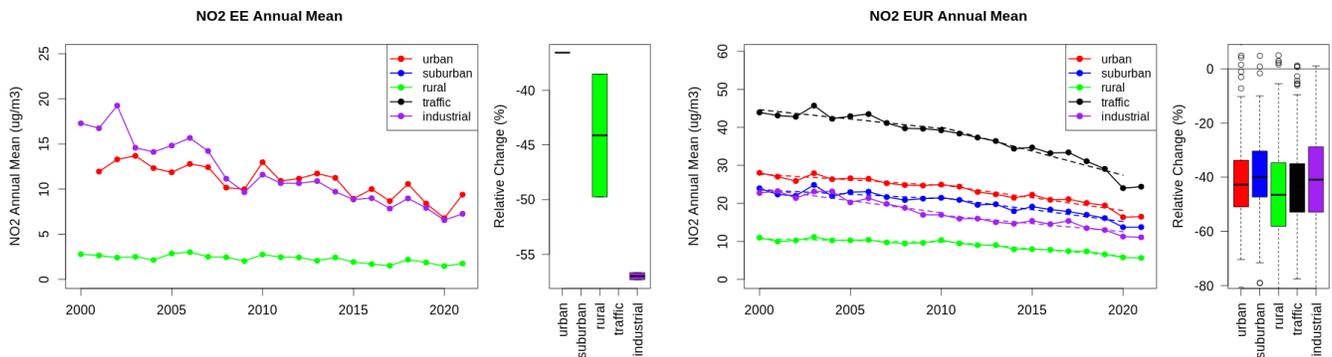


Figure A2.156: Time series of the Estonia (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Estonia and in Europe.

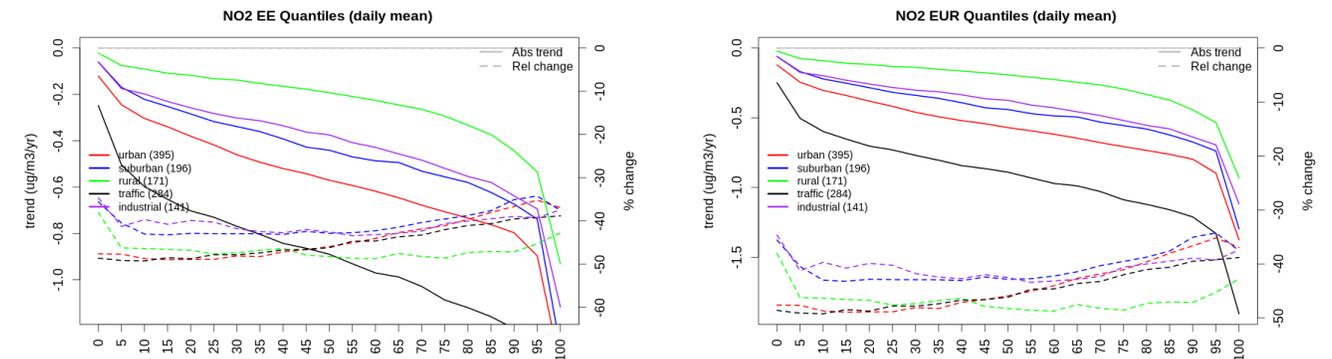


Figure A2.157: For NO₂ in Estonia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

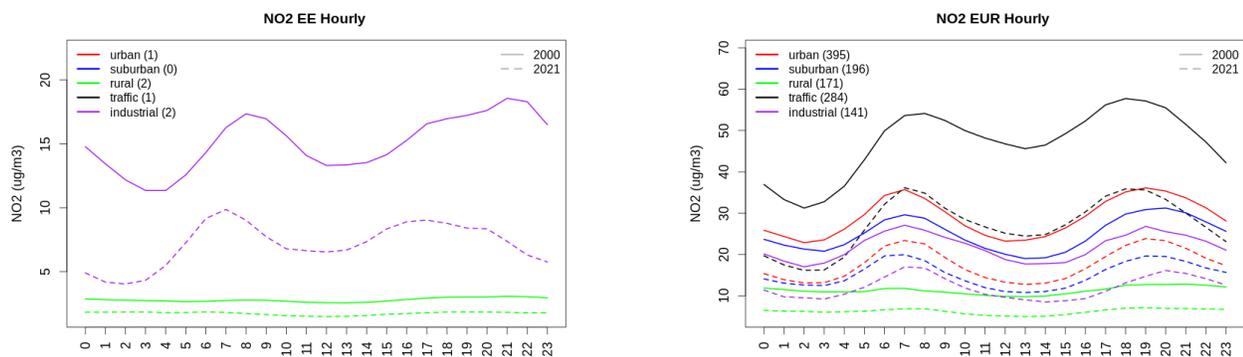


Figure A2.158: Diurnal cycle of daily mean NO2 for Estonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

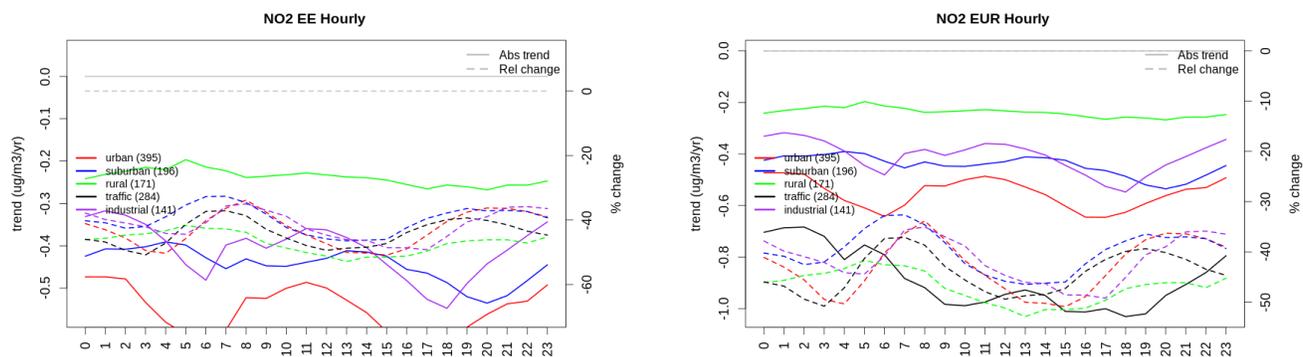


Figure A2.159: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Estonia (left) and Europe (right) of NO2 at various station type.

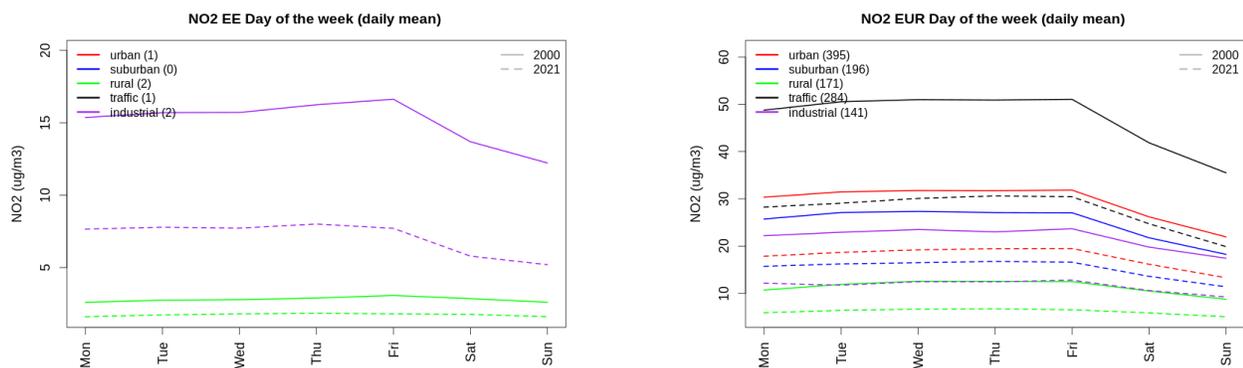


Figure A2.160: Weekly cycle of daily mean NO2 for Estonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

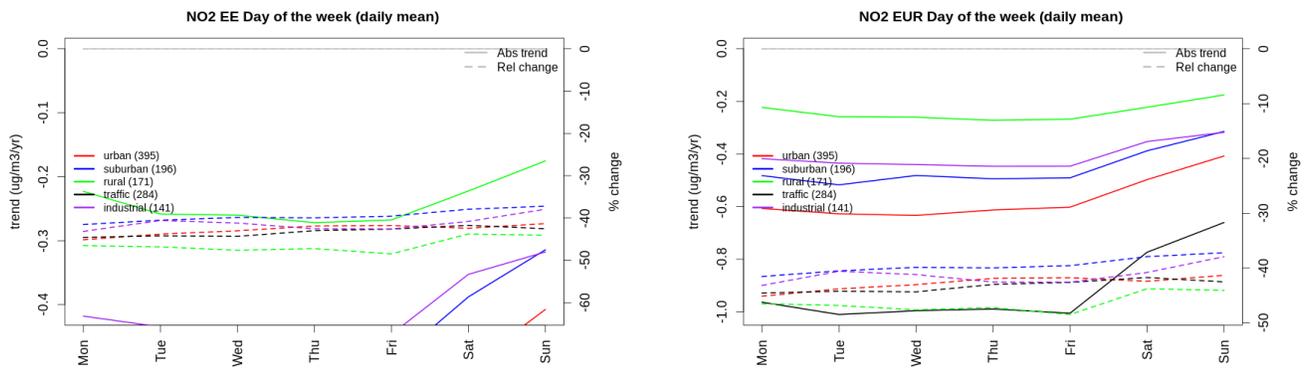


Figure A2.161: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Estonia (left) and Europe (right) of NO₂ at various station type.

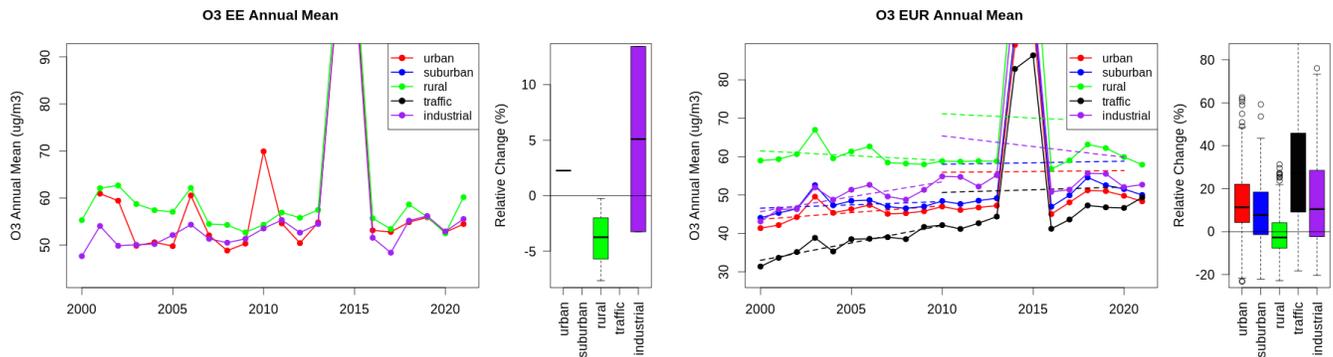


Figure A2.162: Time series of the Estonia (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Estonia and in Europe.

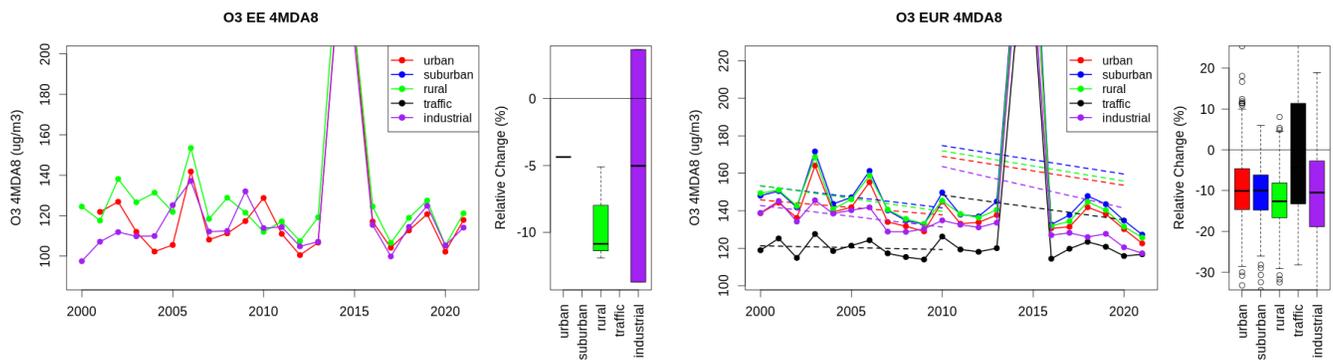


Figure A2.163: Time series of the Estonia (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Estonia and in Europe.

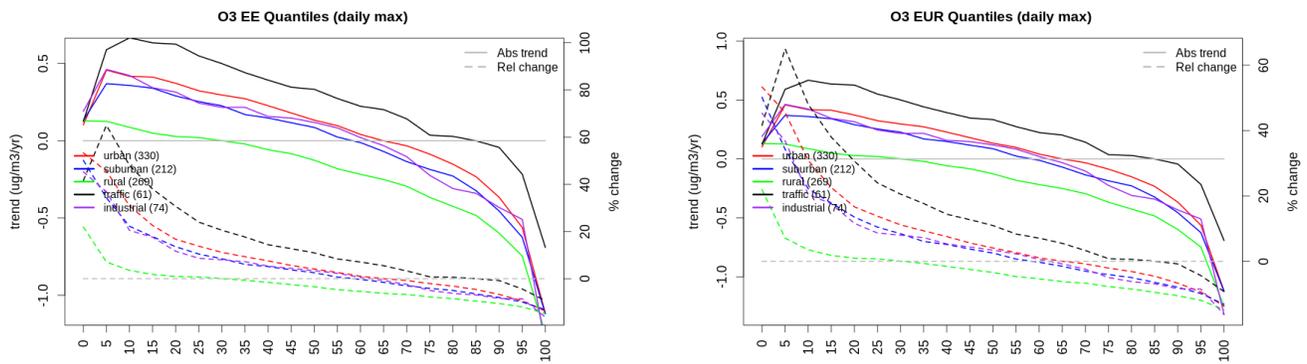


Figure A2.164: For ozone in Estonia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

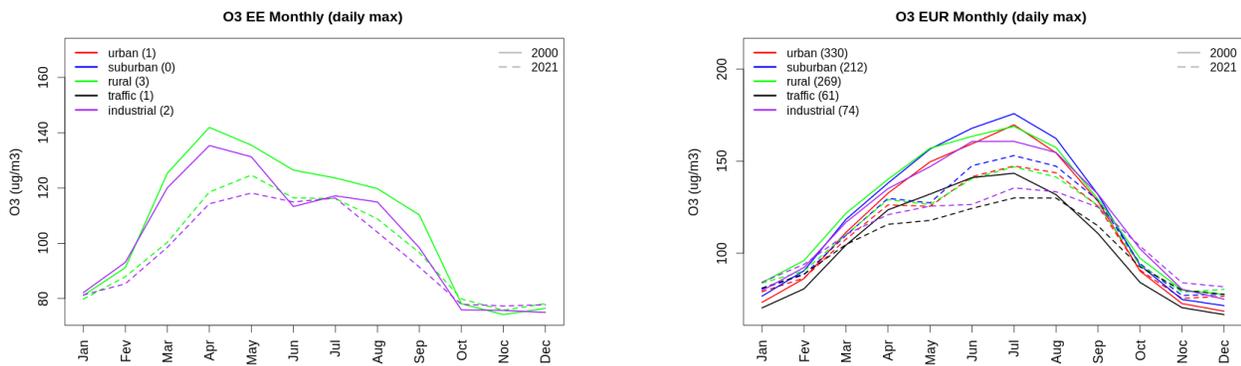


Figure A2.165: Monthly cycle of daily max ozone for Estonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

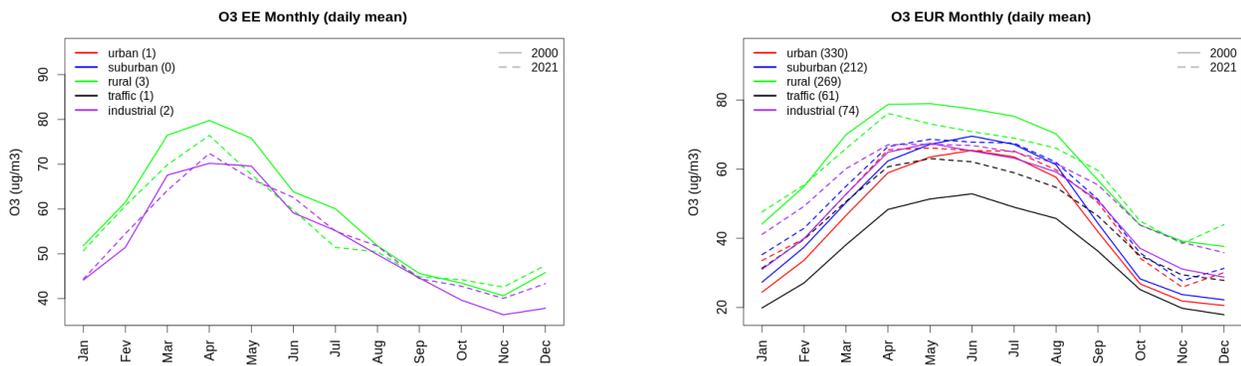


Figure A2.166: Monthly cycle of daily mean ozone for Estonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

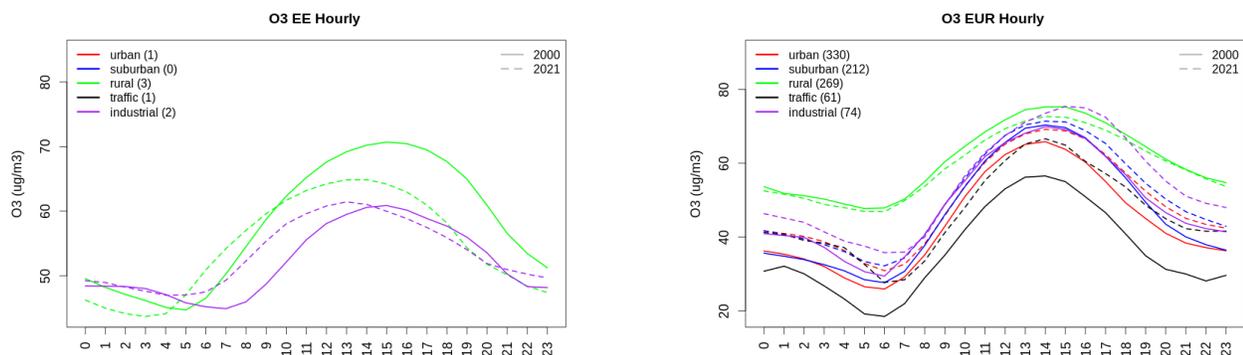


Figure A2.167: Diurnal cycle of daily mean ozone for Estonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

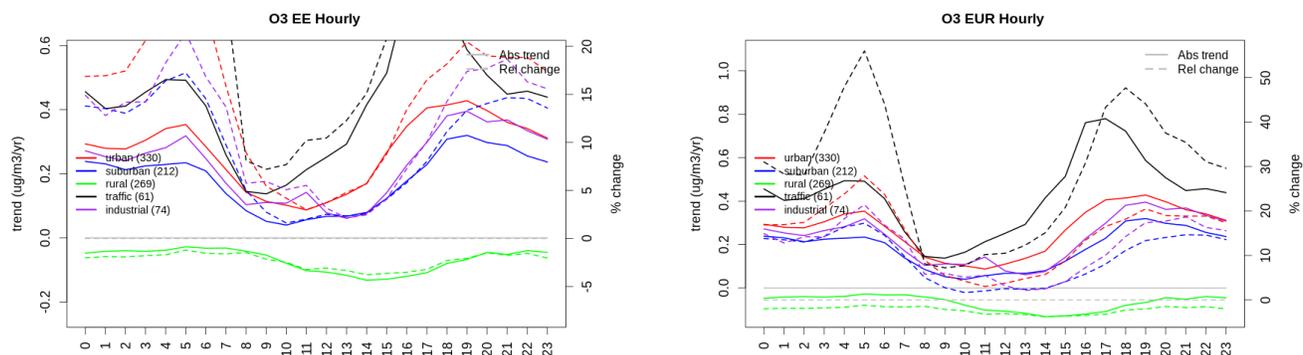


Figure A2.168: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Estonia (left) and Europe (right) of ozone at various station type.

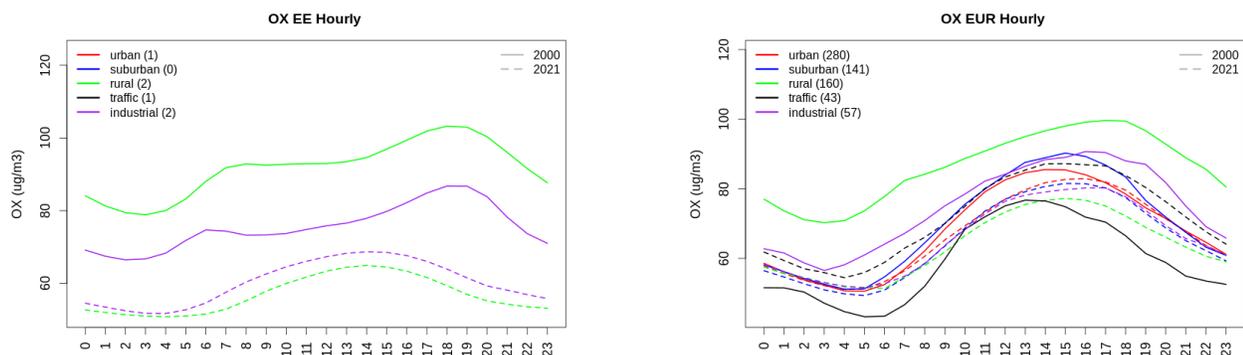


Figure A2.169: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Estonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

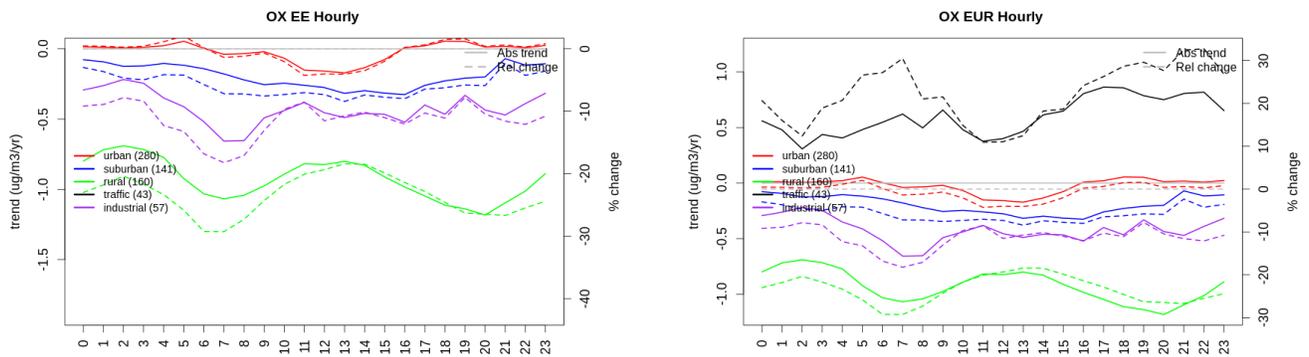


Figure A2.170: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Estonia (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

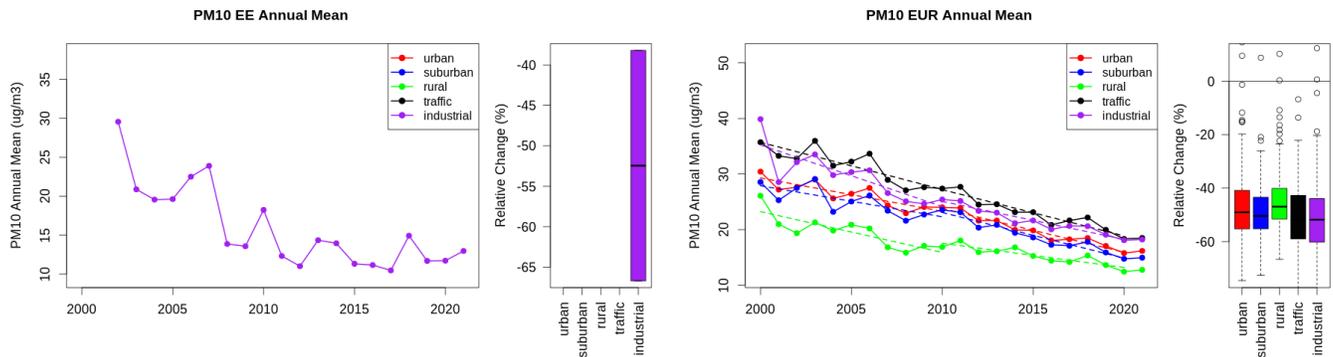


Figure A2.171: Time series of the Estonia (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Estonia and in Europe.

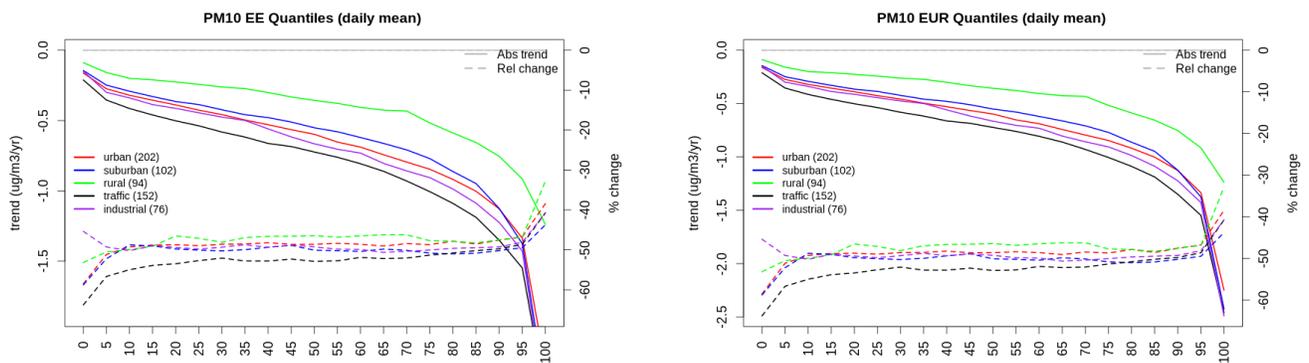


Figure A2.172: For PM₁₀ in Estonia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

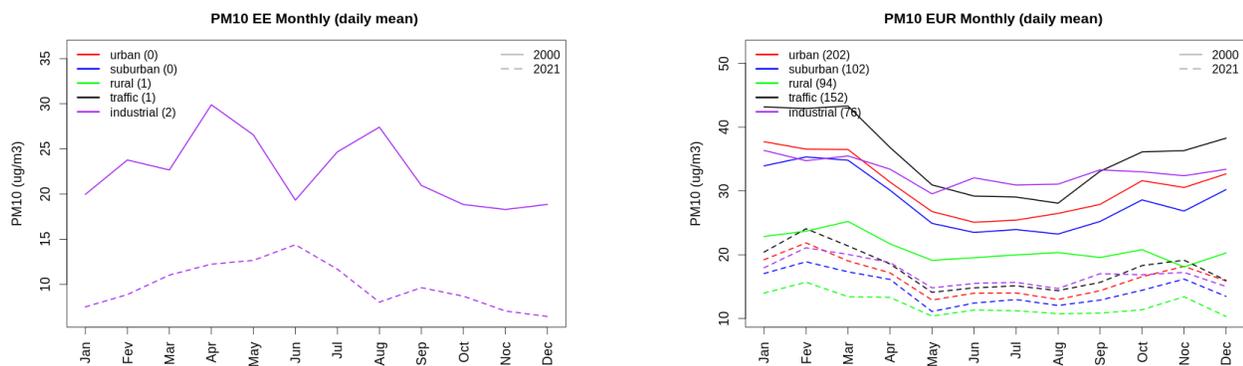


Figure A2.173: Monthly cycle of daily mean PM10 for Estonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

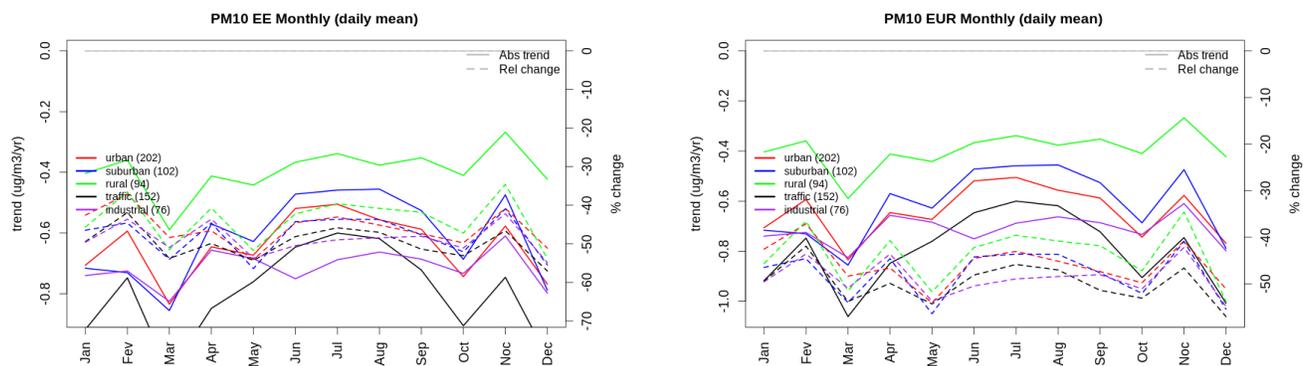


Figure A2.174: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Estonia (left) and Europe (right) of PM10 at various station type.

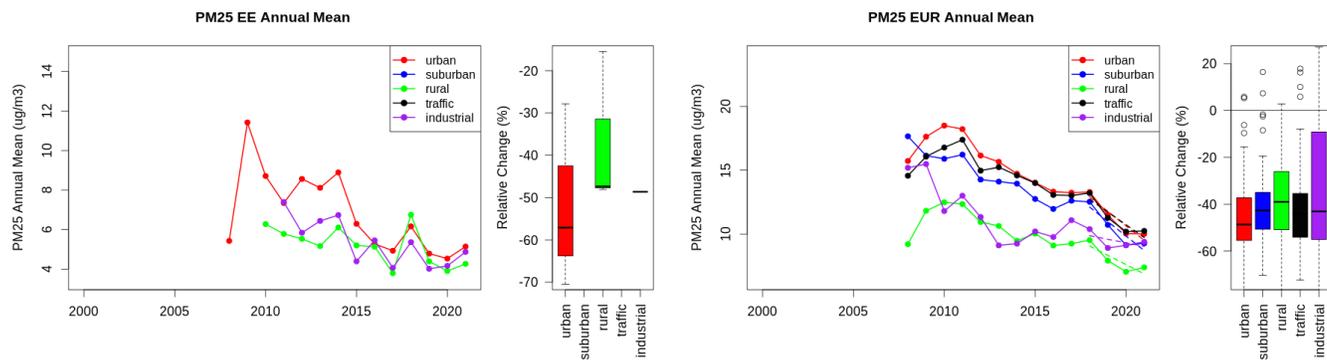


Figure A2.175: Time series of the Estonia (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Estonia and in Europe.

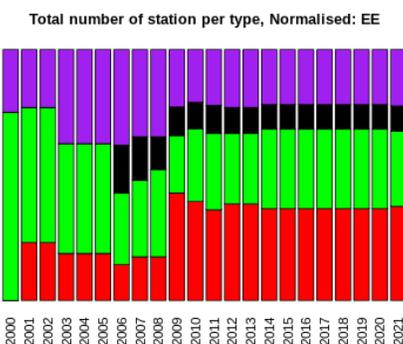
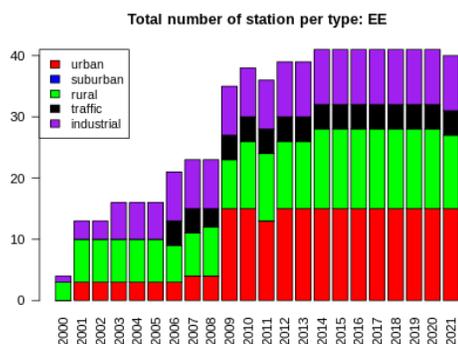
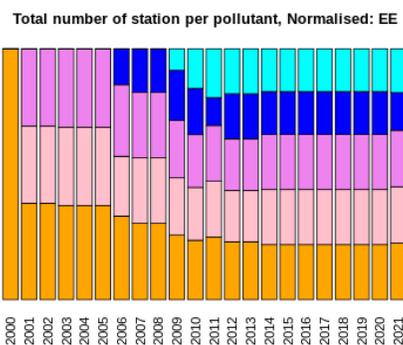
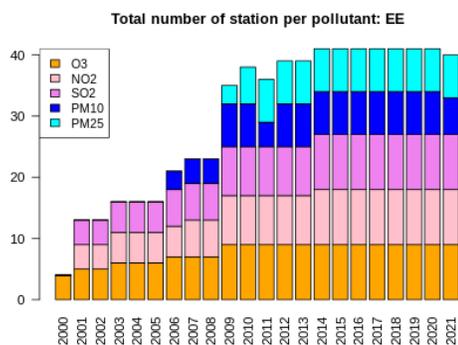
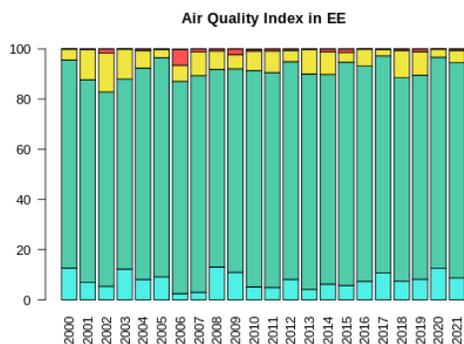


Figure A2.176: For Estonia: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

9 Spain

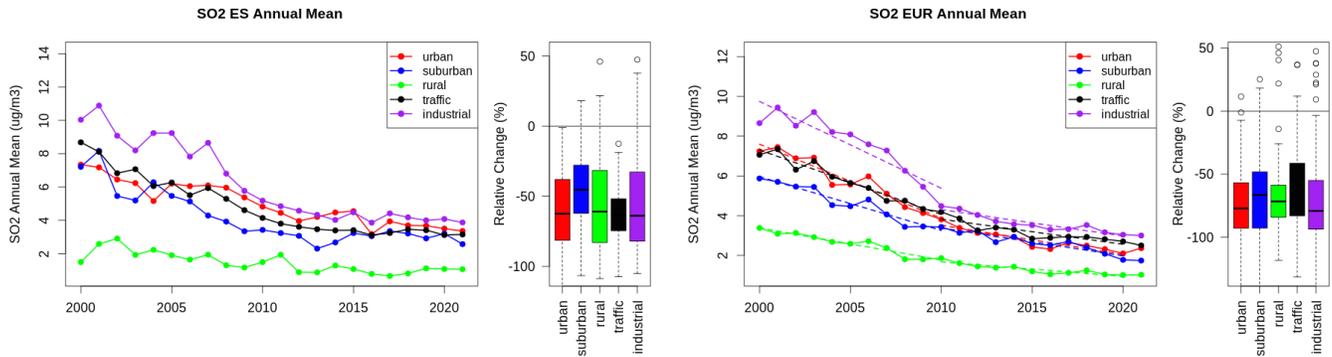


Figure A2.177: Time series of the Spain (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Spain and in Europe.

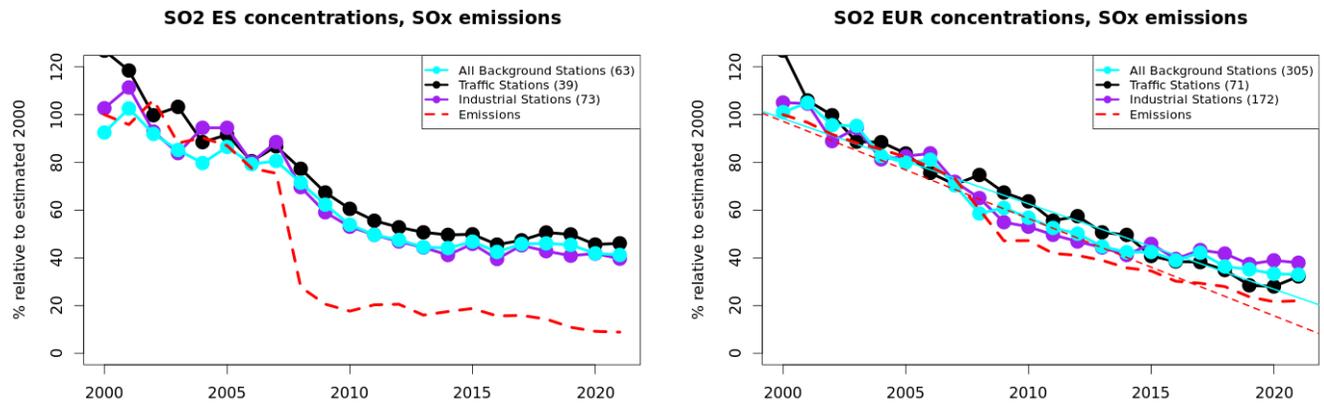


Figure A2.178: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

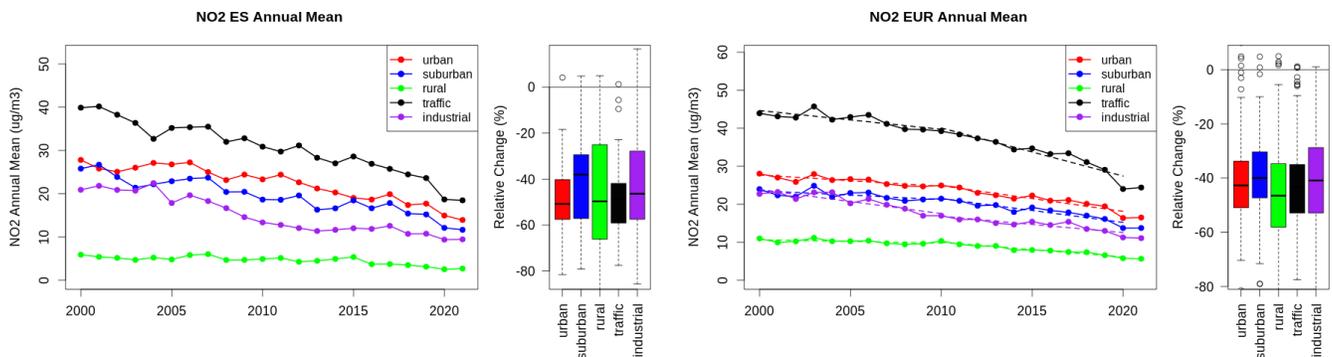


Figure A2.179: Time series of the Spain (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Spain and in Europe.

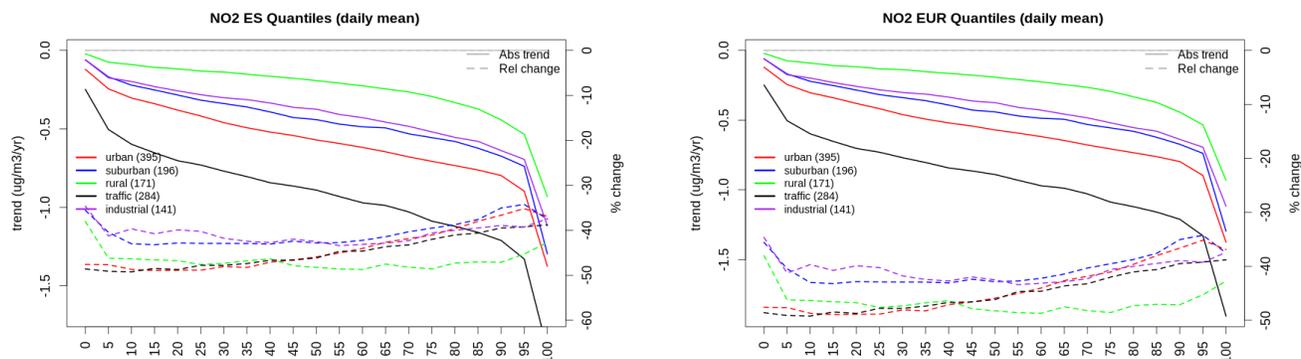


Figure A2.180: For NO₂ in Spain (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

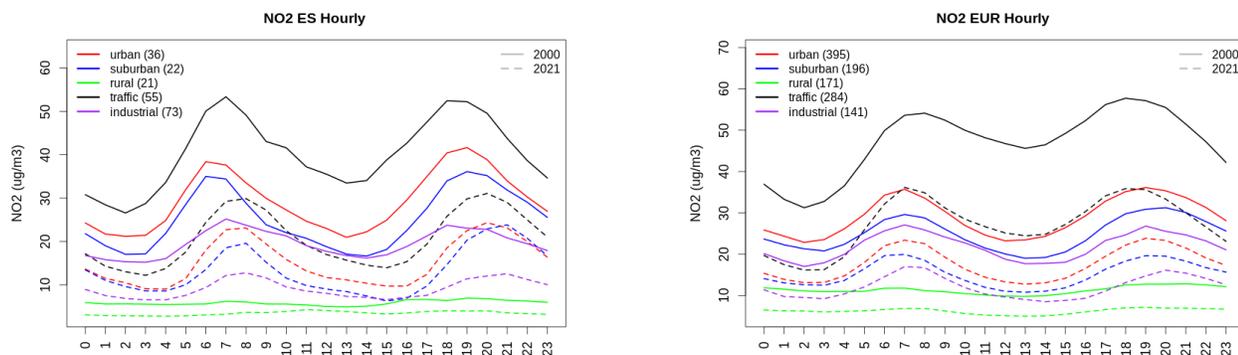


Figure A2.181: Diurnal cycle of daily mean NO₂ for Spain (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

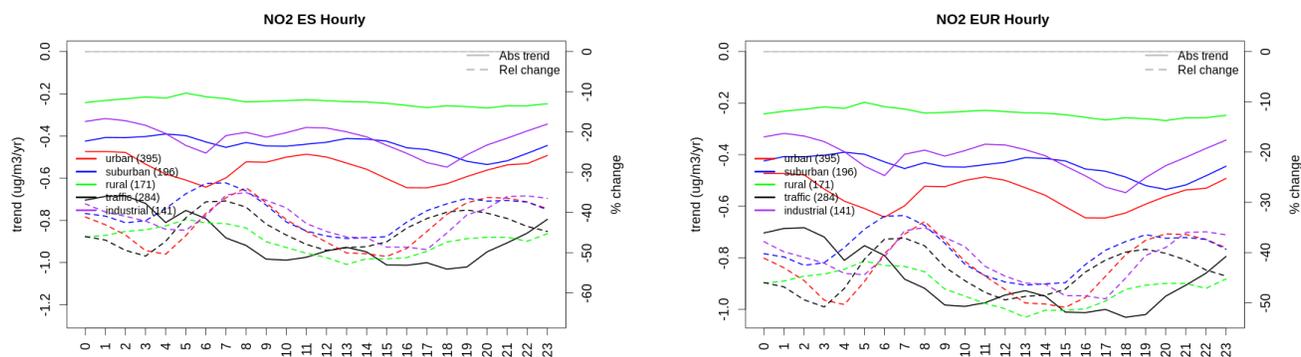


Figure A2.182: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Spain (left) and Europe (right) of NO₂ at various station type.

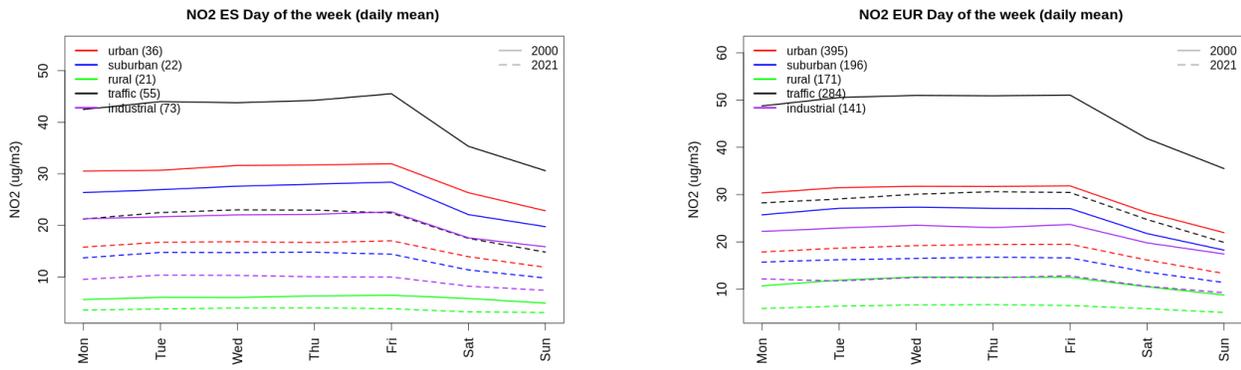


Figure A2.183: Weekly cycle of daily mean NO₂ for Spain (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

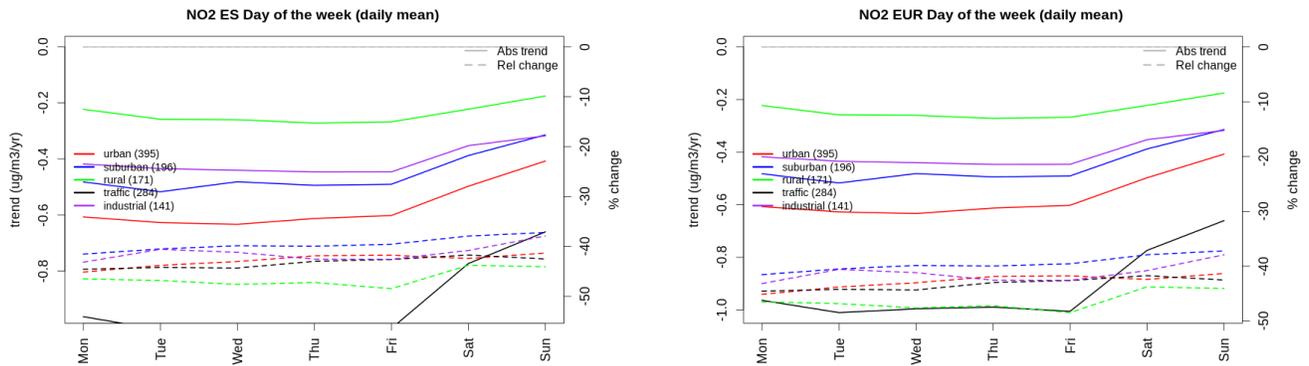


Figure A2.184: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Spain (left) and Europe (right) of NO₂ at various station type.

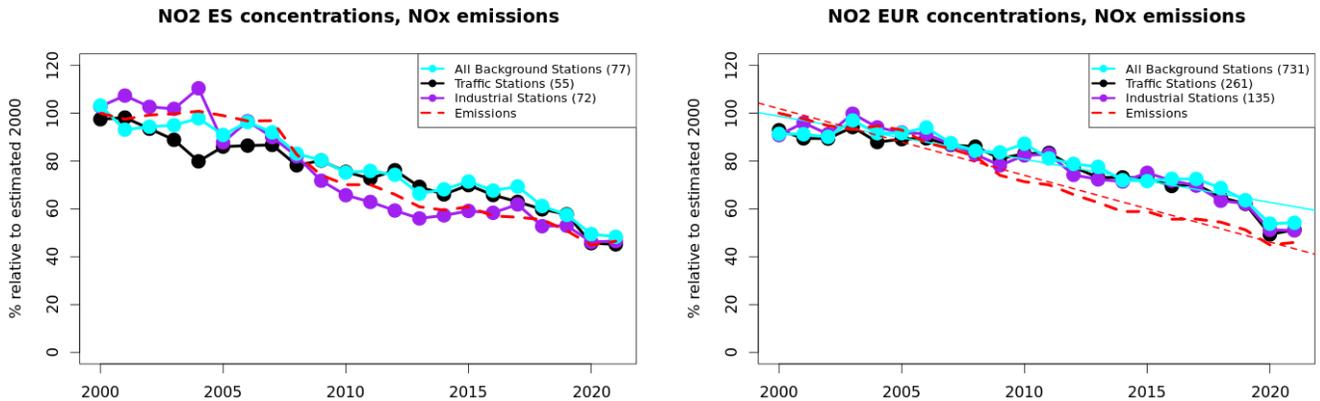


Figure A2.185: Time series of 2000-2021 (left) and European (right) median NO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

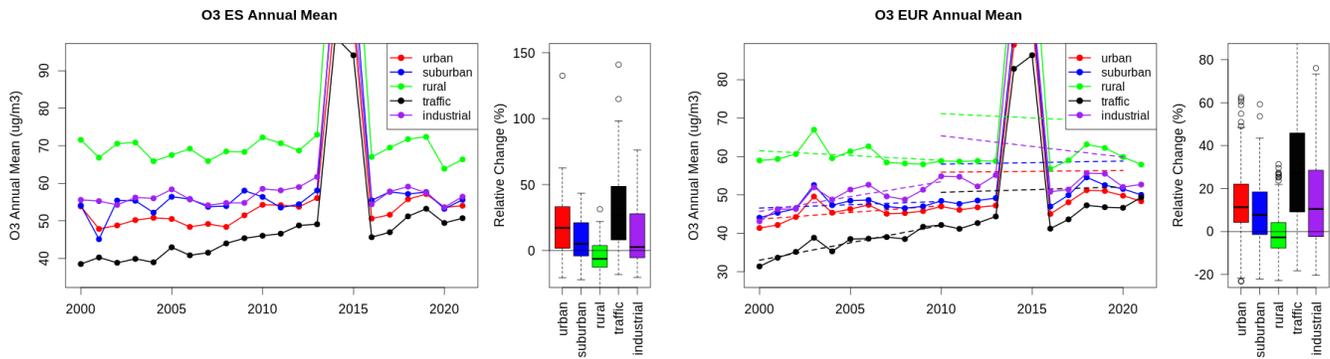


Figure A2.186: Time series of the Spain (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Spain and in Europe.

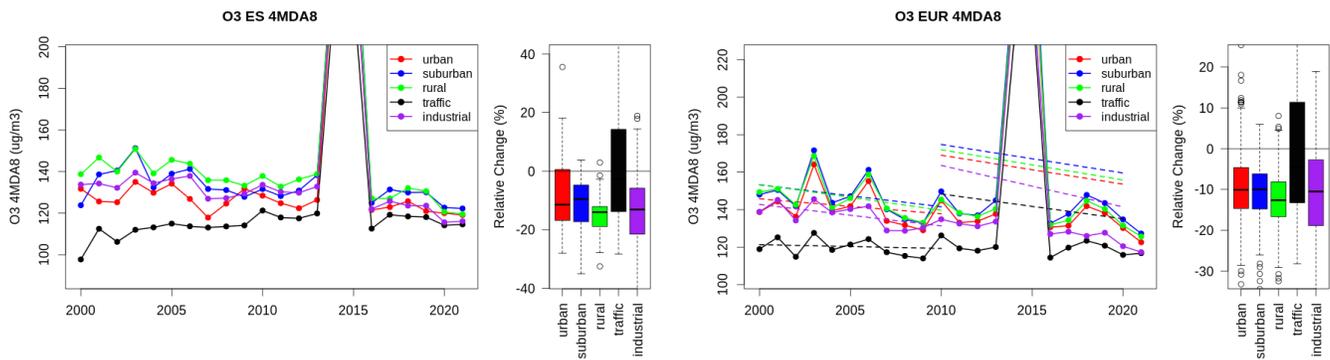


Figure A2.187: Time series of the Spain (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Spain and in Europe.

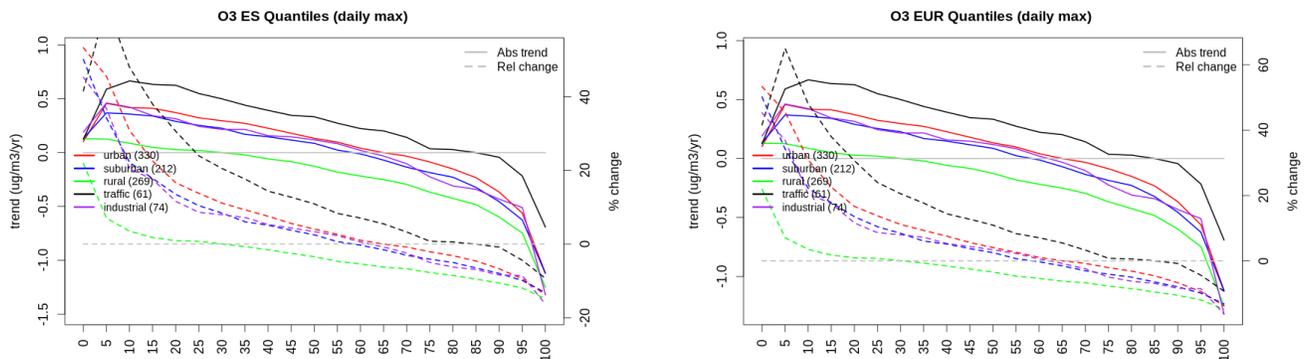


Figure A2.188: For ozone in Spain (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

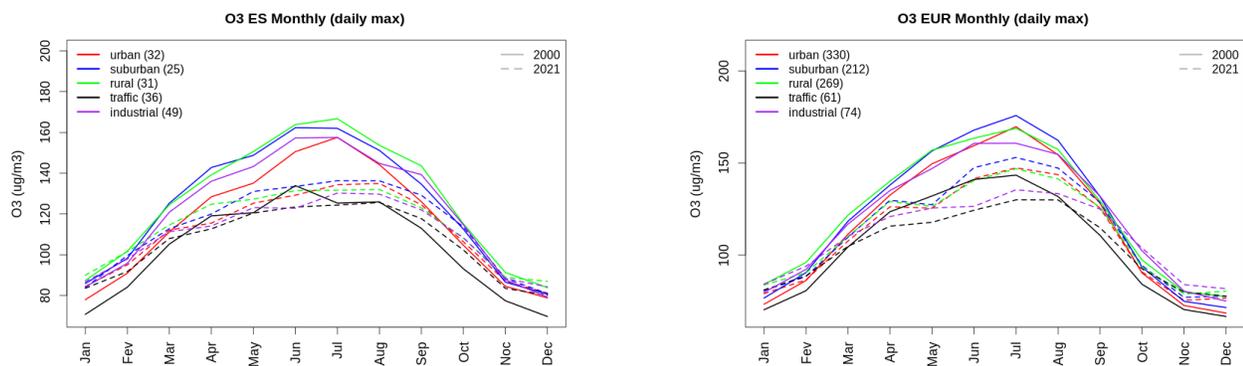


Figure A2.189: Monthly cycle of daily max ozone for Spain (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

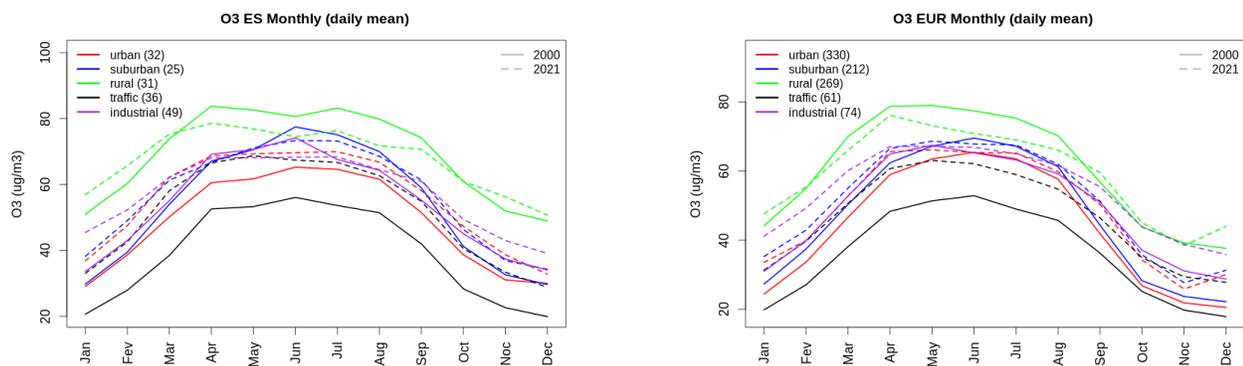


Figure A2.190: Monthly cycle of daily mean ozone for Spain (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

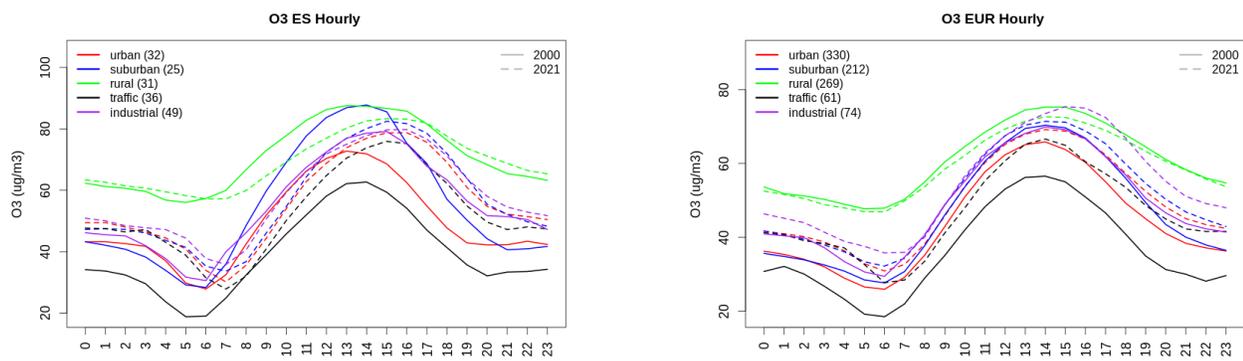


Figure A2.191: Diurnal cycle of daily mean ozone for Spain (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

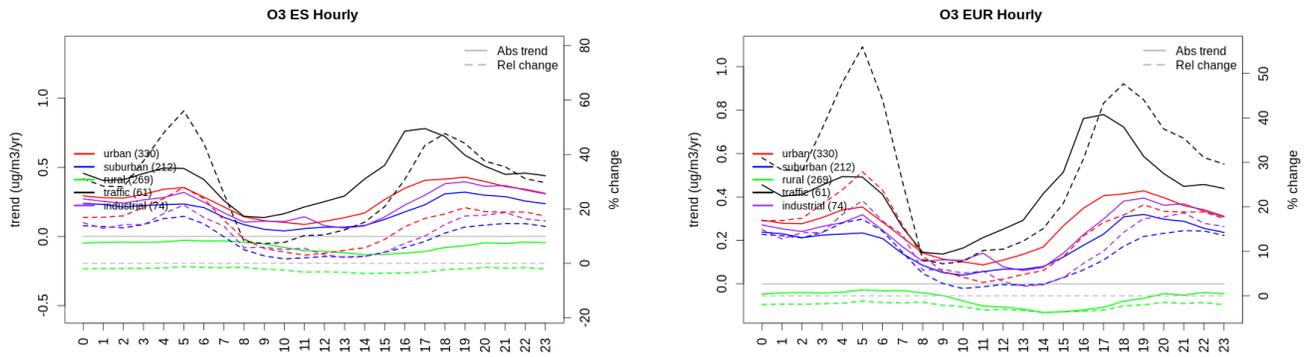


Figure A2.192: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Spain (left) and Europe (right) of ozone at various station type.

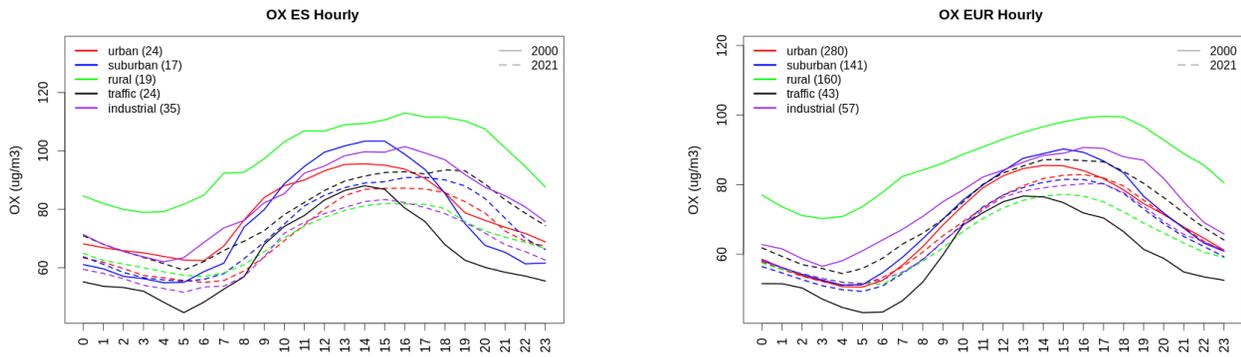


Figure A2.193: Diurnal cycle of daily mean OX (as NO₂+O₃) for Spain (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

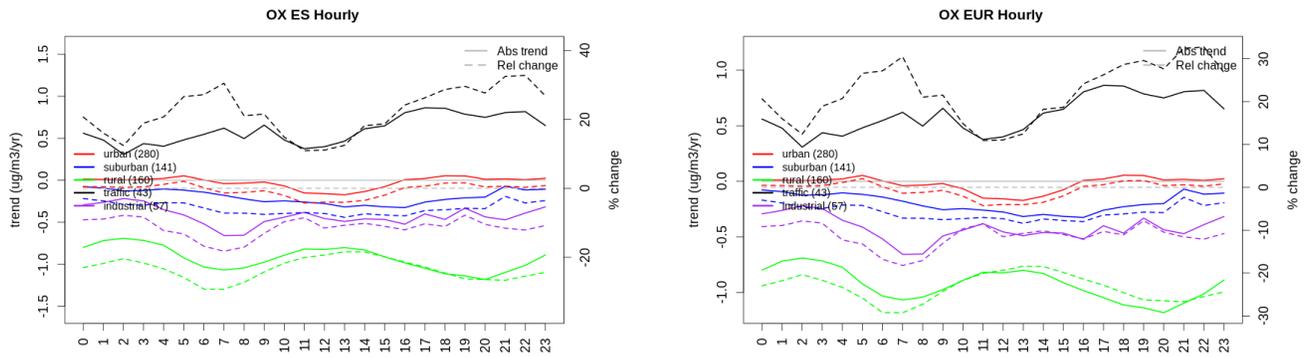


Figure A2.194: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Spain (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

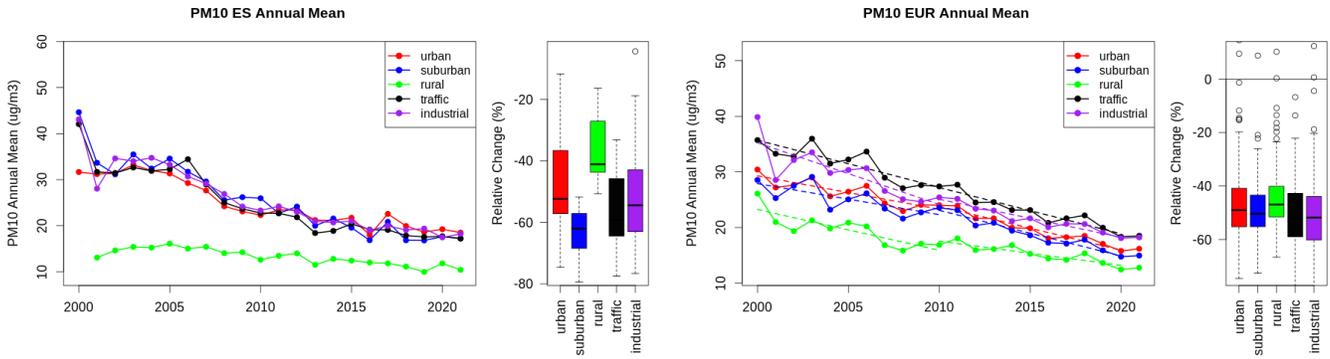


Figure A2.195: Time series of the Spain (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Spain and in Europe.

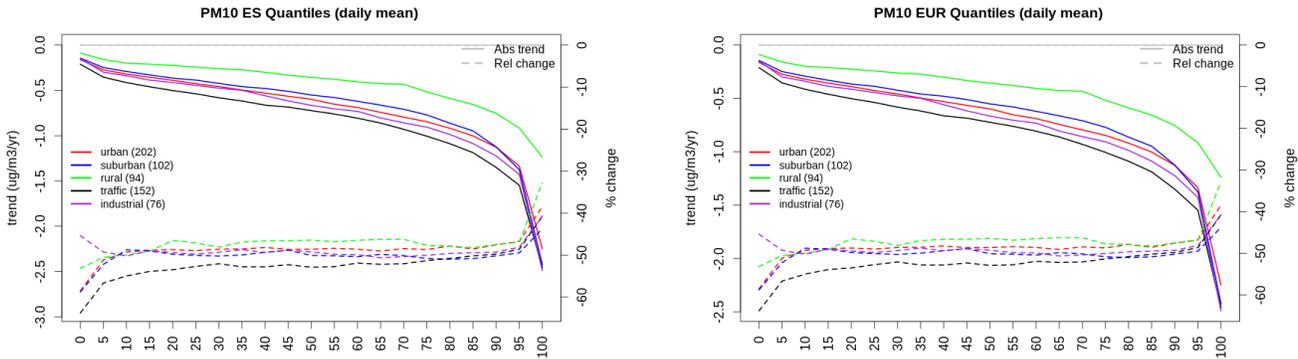


Figure A2.196: For PM10 in Spain (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

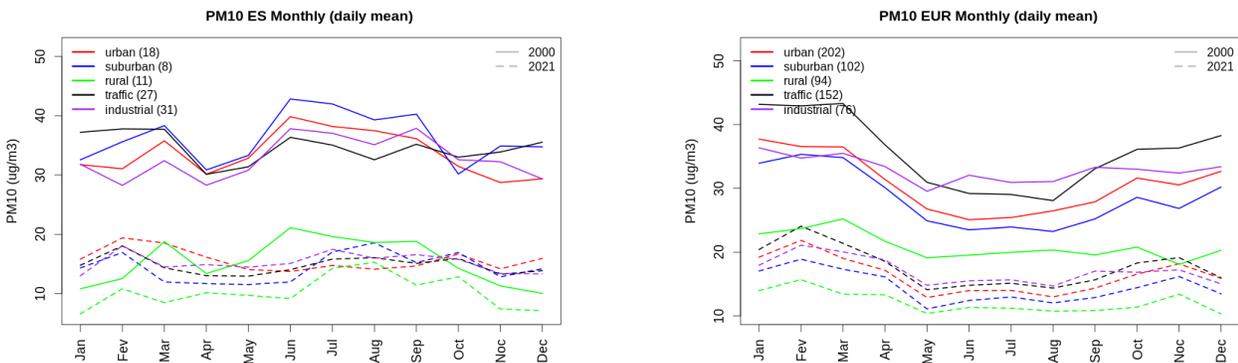


Figure A2.197: Monthly cycle of daily mean PM10 for Spain (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

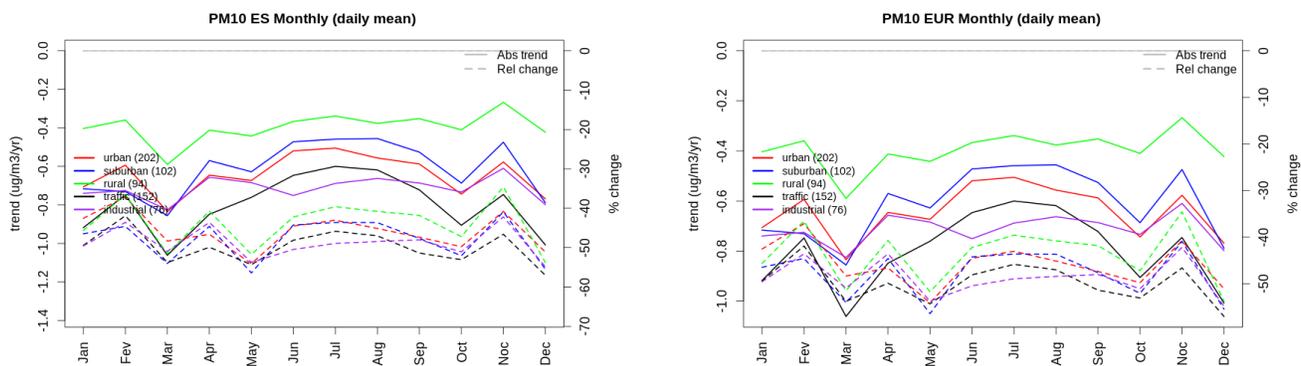


Figure A2.198: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Spain (left) and Europe (right) of PM10 at various station type.

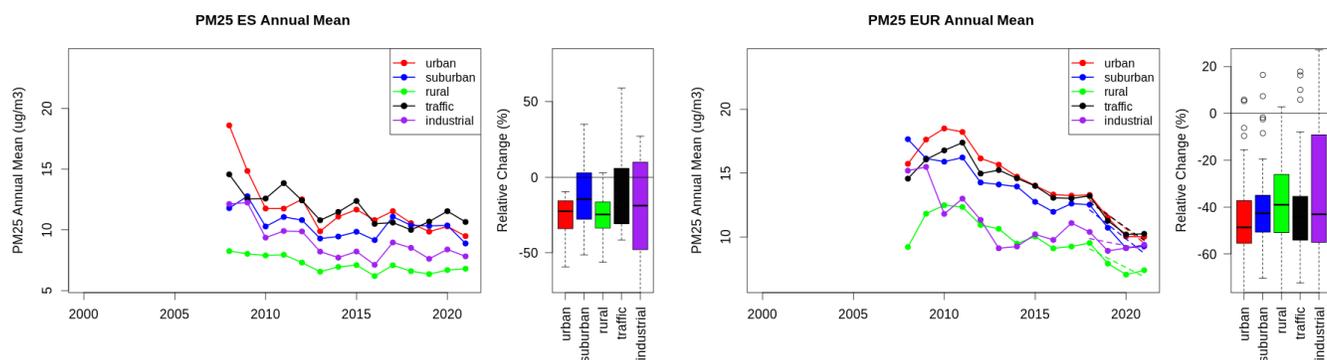


Figure A2.199: Time series of the Spain (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Spain and in Europe.

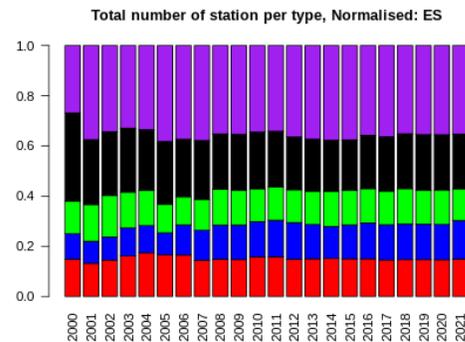
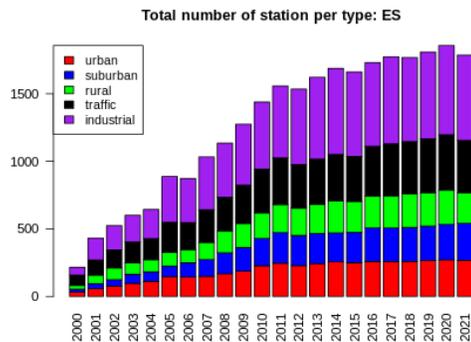
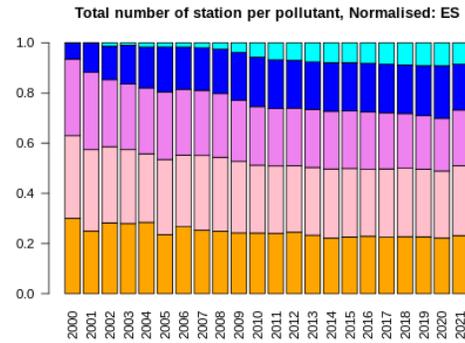
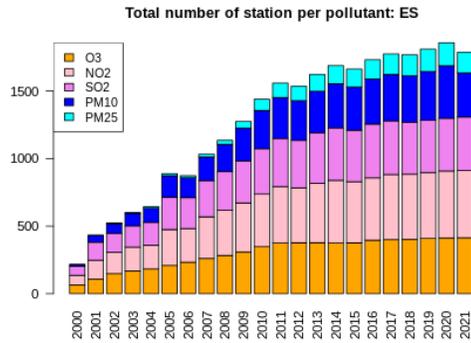
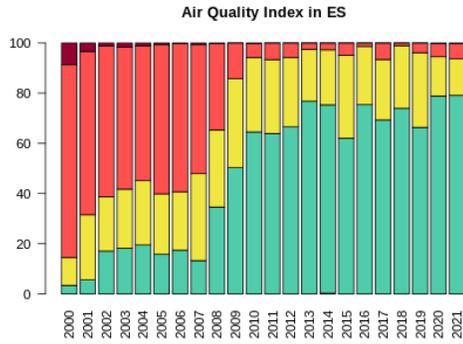


Figure A2.200: For Spain: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

10 Finland

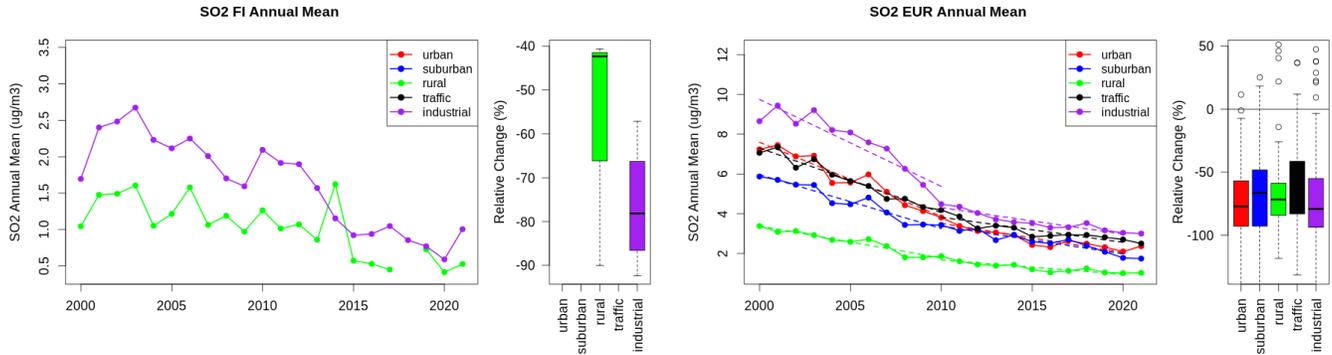


Figure A2.201: Time series of the Finland (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Finland and in Europe.

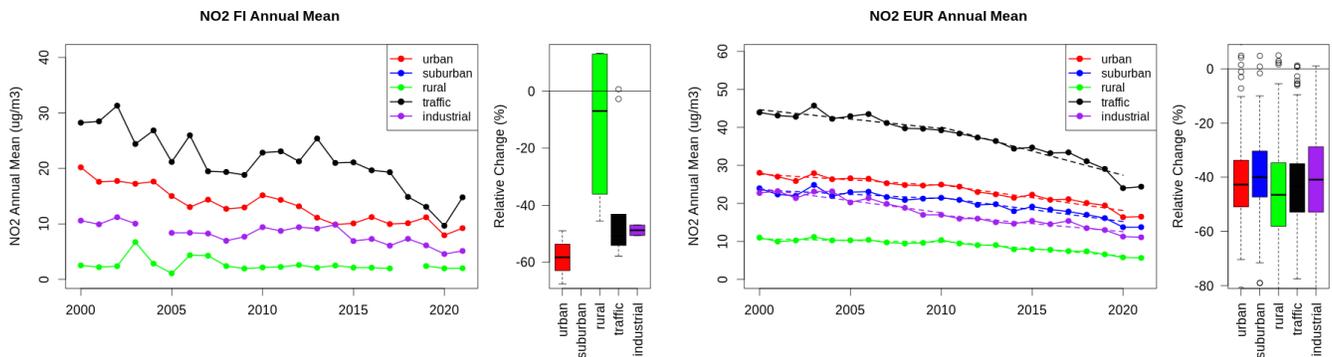


Figure A2.202: Time series of the Finland (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Finland and in Europe.

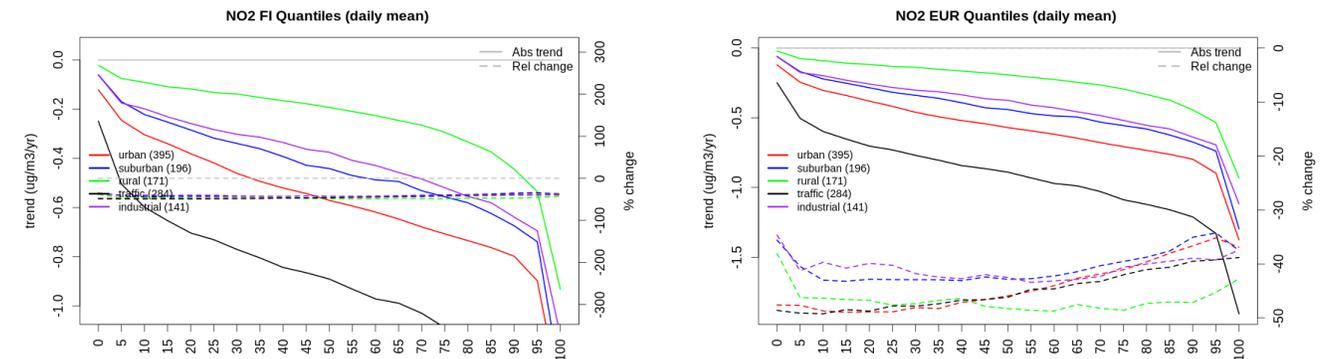


Figure A2.203: For NO₂ in Finland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

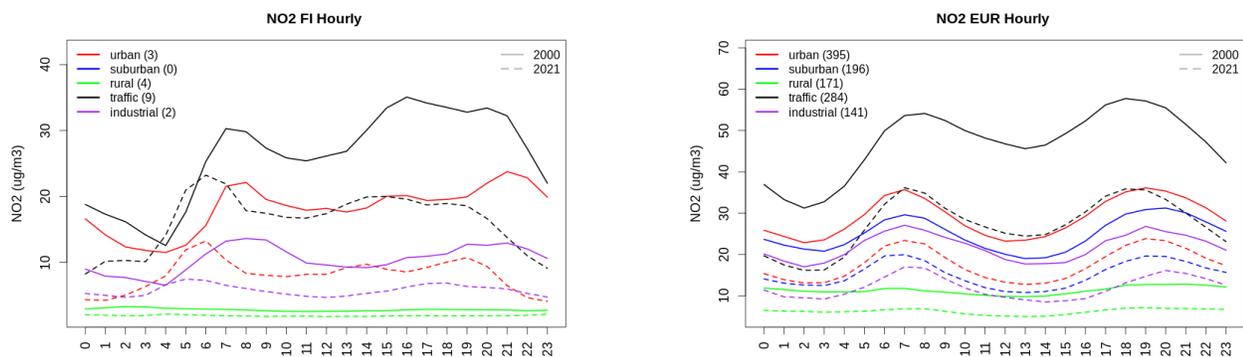


Figure A2.204: Diurnal cycle of daily mean NO2 for Finland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

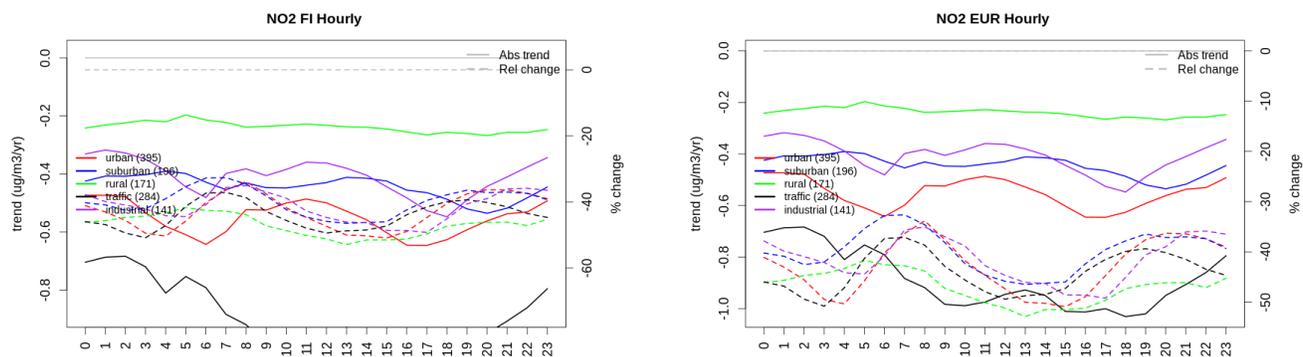


Figure A2.205: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Finland (left) and Europe (right) of NO2 at various station type.

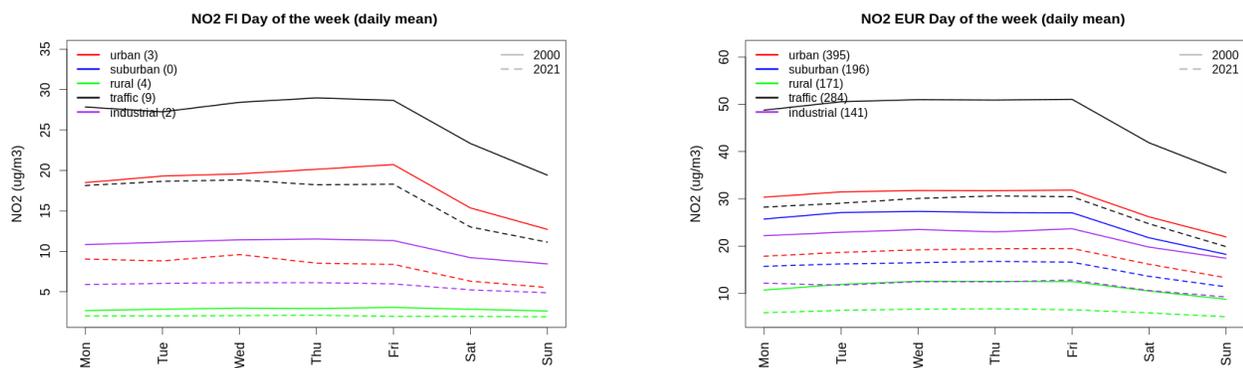


Figure A2.206: Weekly cycle of daily mean NO2 for Finland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

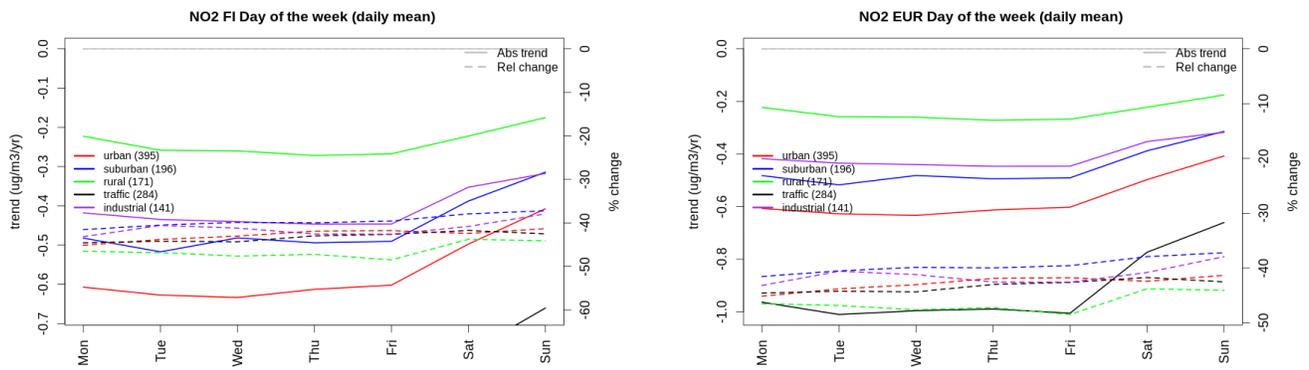


Figure A2.207: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Finland (left) and Europe (right) of NO₂ at various station type.

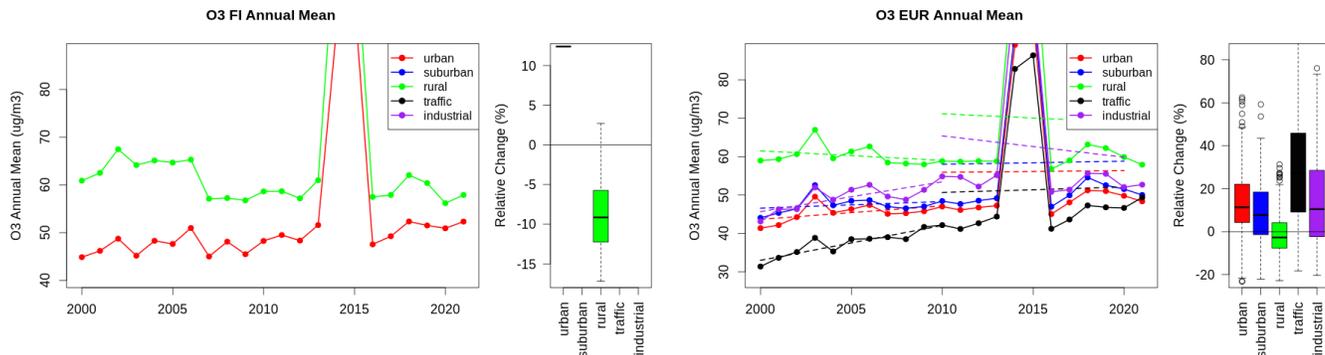


Figure A2.208: Time series of the Finland (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Finland and in Europe.

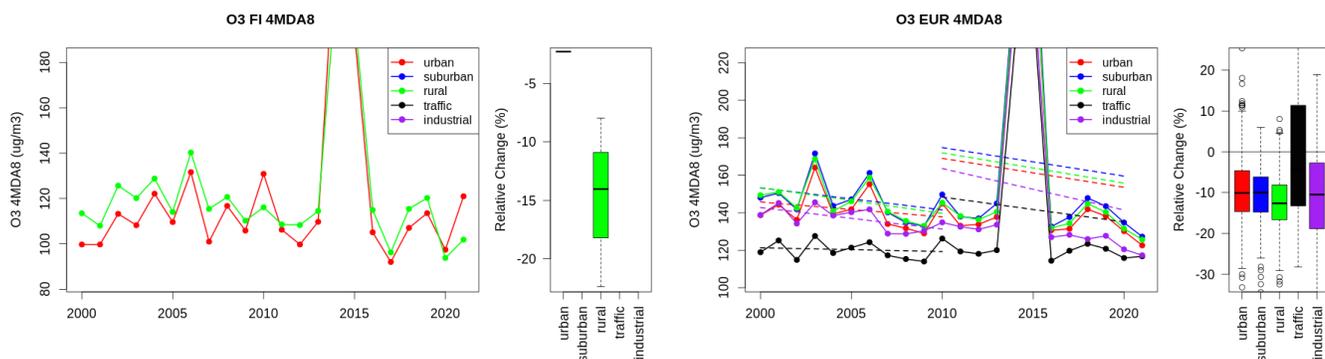


Figure A2.209: Time series of the Finland (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Finland and in Europe.

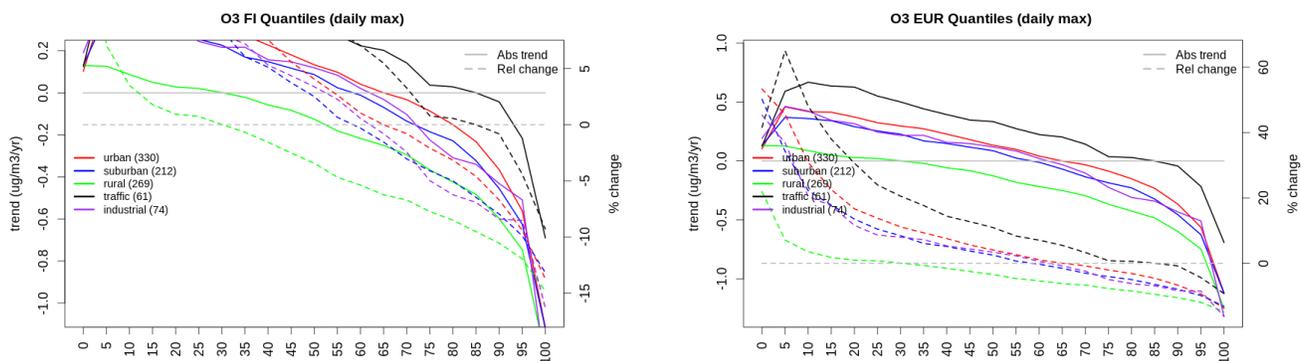


Figure A2.210: For ozone in Finland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

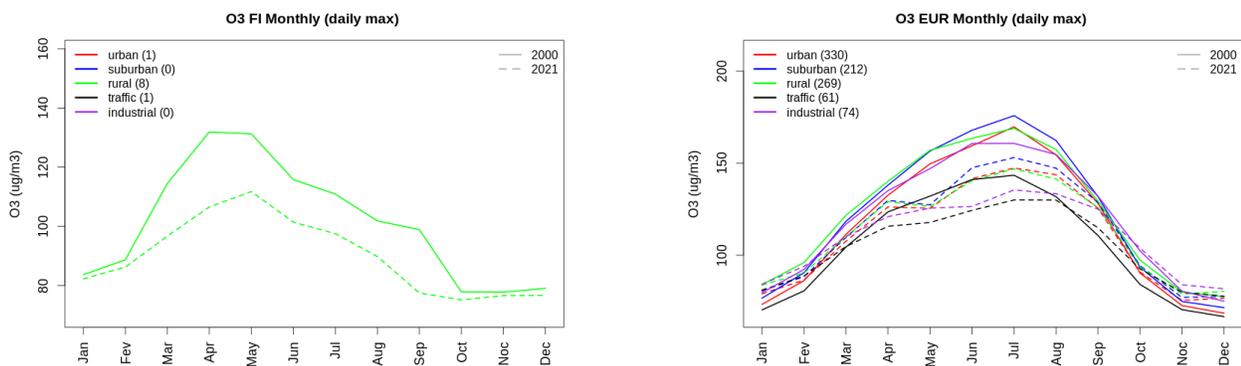


Figure A2.211: Monthly cycle of daily max ozone for Finland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

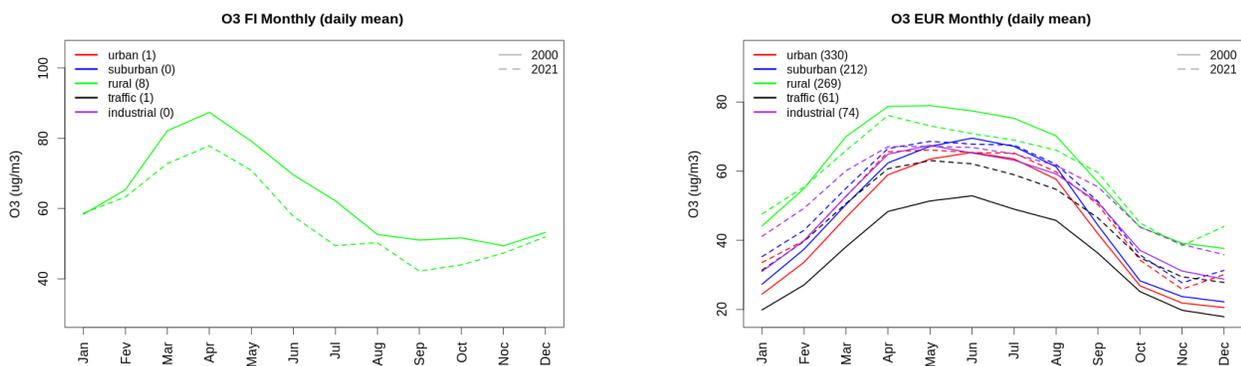


Figure A2.212: Monthly cycle of daily mean ozone for Finland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

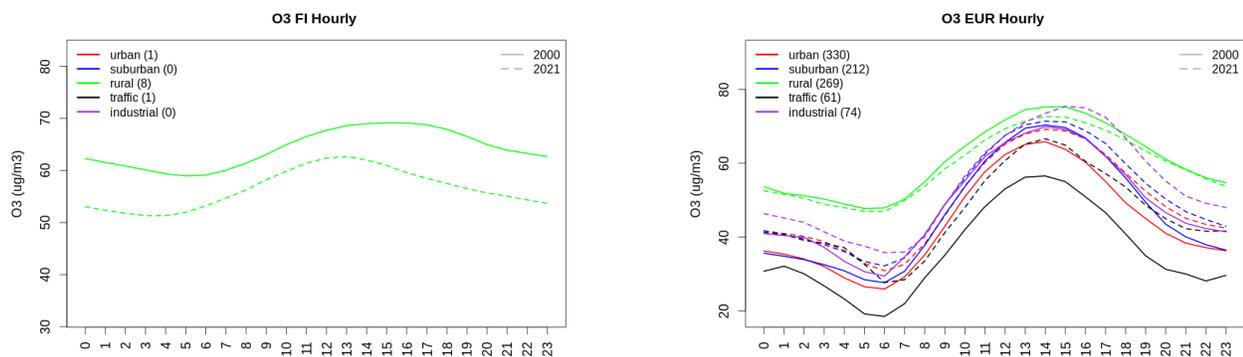


Figure A2.213: Diurnal cycle of daily mean ozone for Finland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

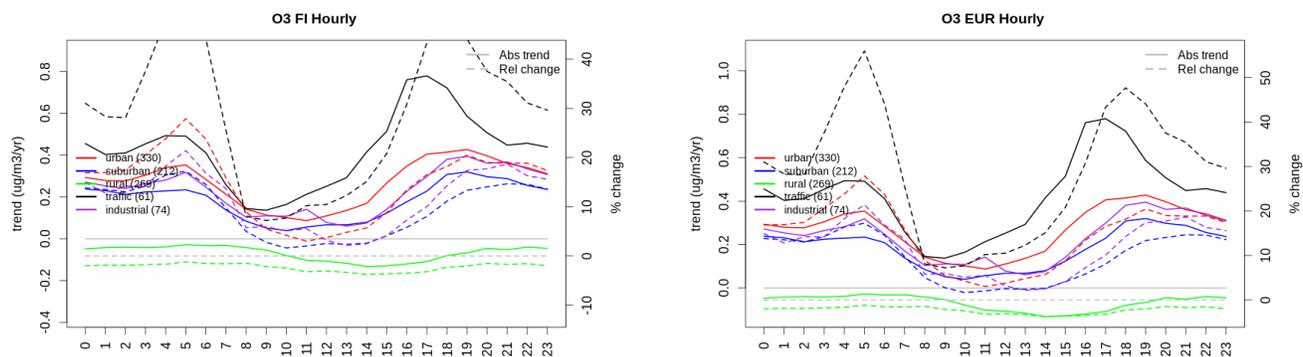


Figure A2.214: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Finland (left) and Europe (right) of ozone at various station type.

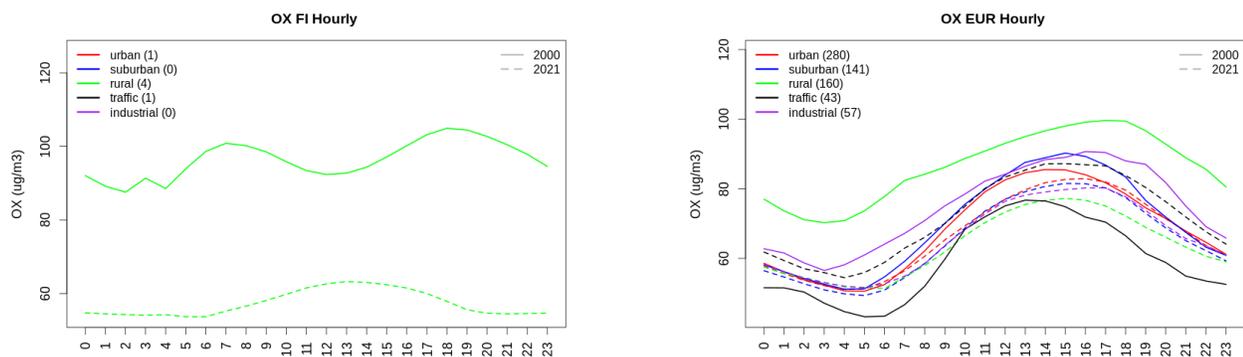


Figure A2.215: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Finland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

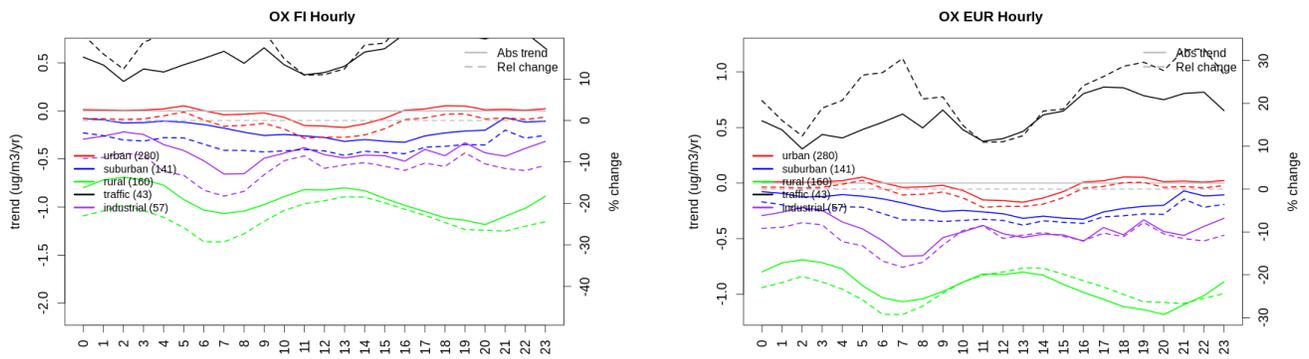


Figure A2.216: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Finland (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

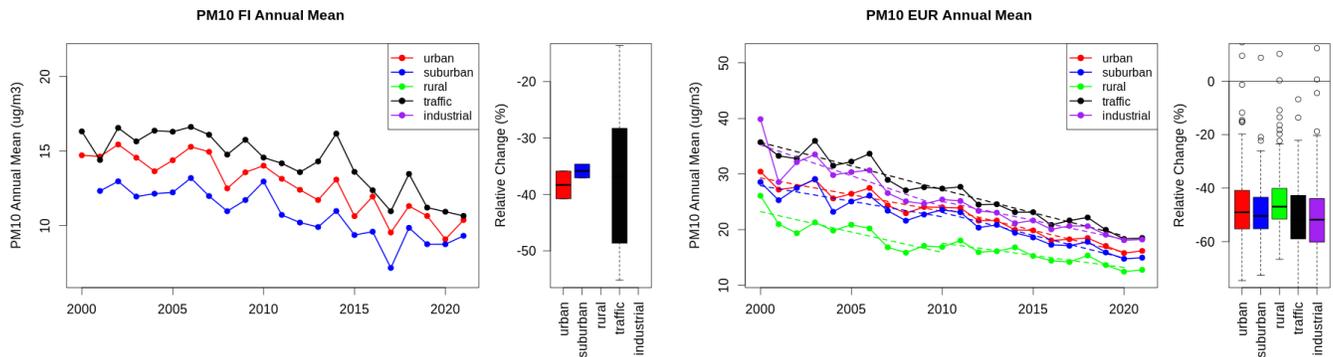


Figure A2.217: Time series of the Finland (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Finland and in Europe.

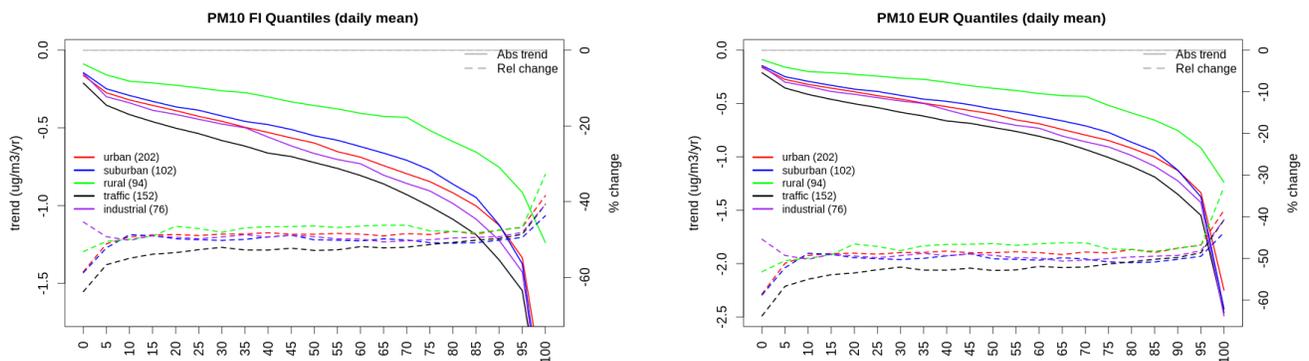


Figure A2.218: For PM₁₀ in Finland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

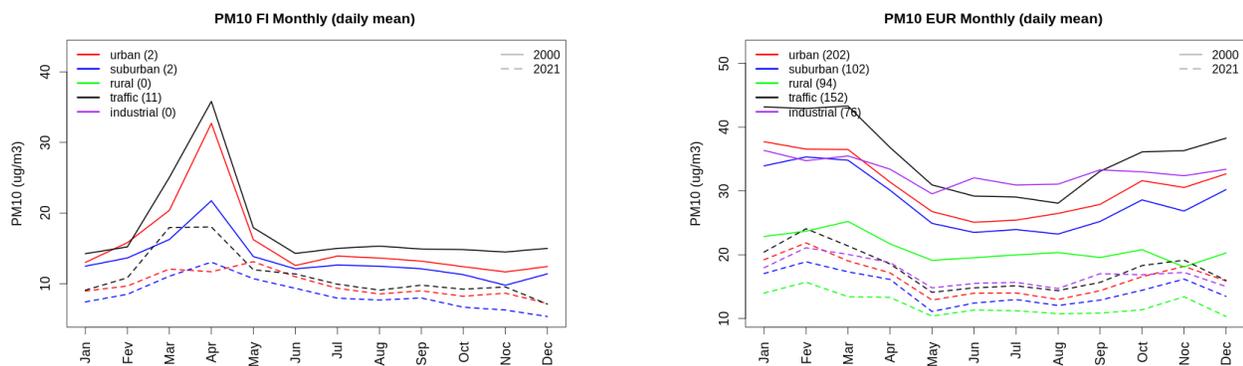


Figure A2.219: Monthly cycle of daily mean PM10 for Finland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

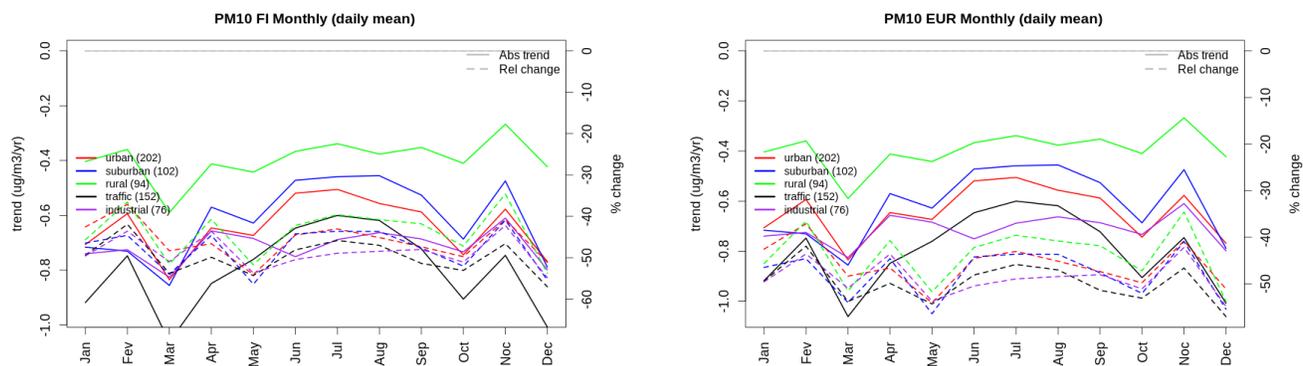


Figure A2.220: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Finland (left) and Europe (right) of PM10 at various station type.

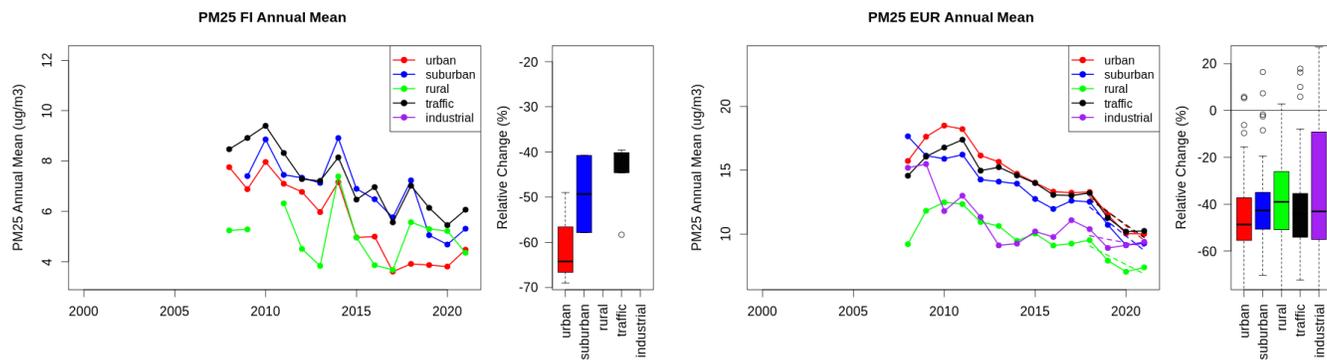


Figure A2.221: Time series of the Finland (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Finland and in Europe.

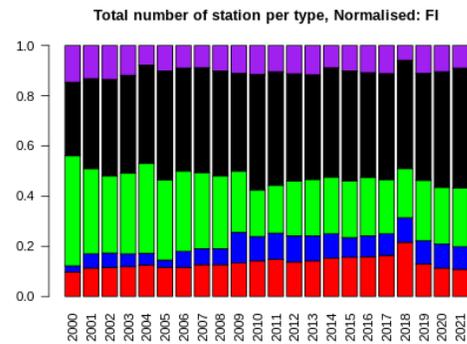
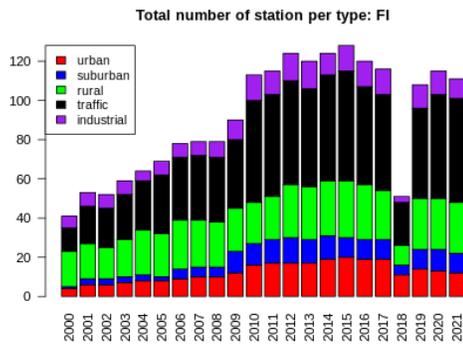
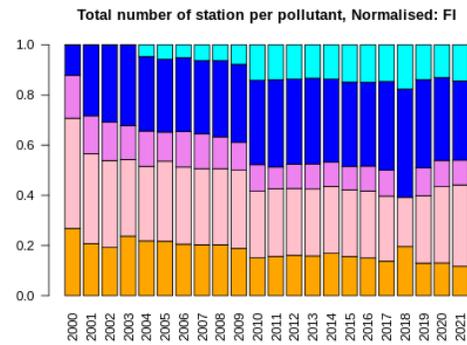
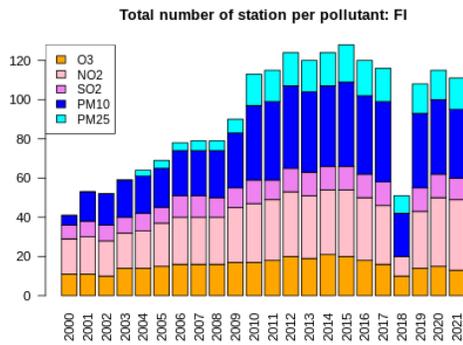
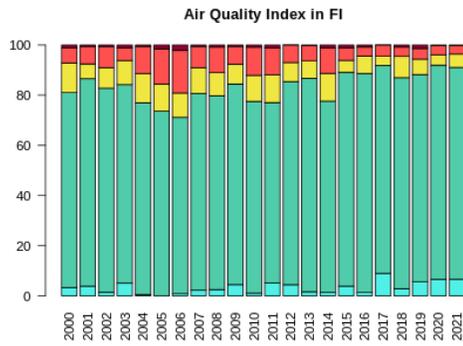


Figure A2.222: For Finland: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

11 France

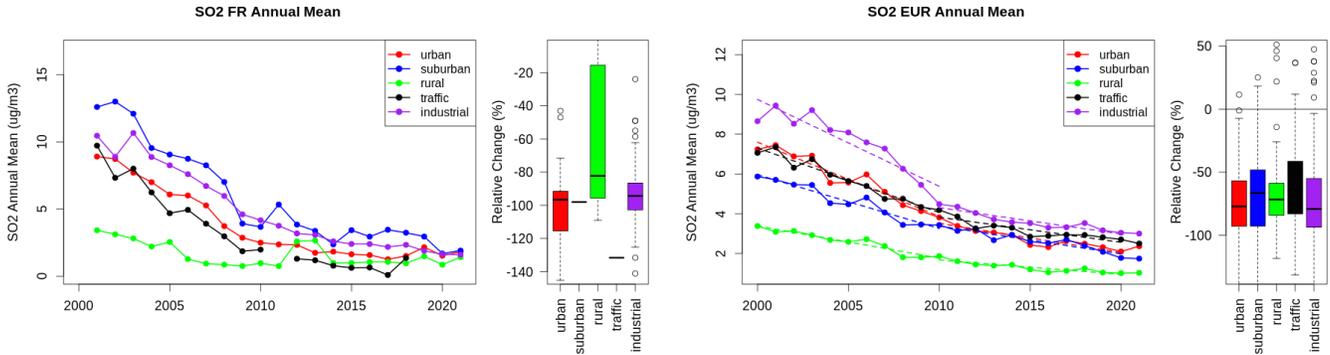


Figure A2.223: Time series of the France (left) and European-wide composite (median) of annual mean SO₂ ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in France and in Europe.

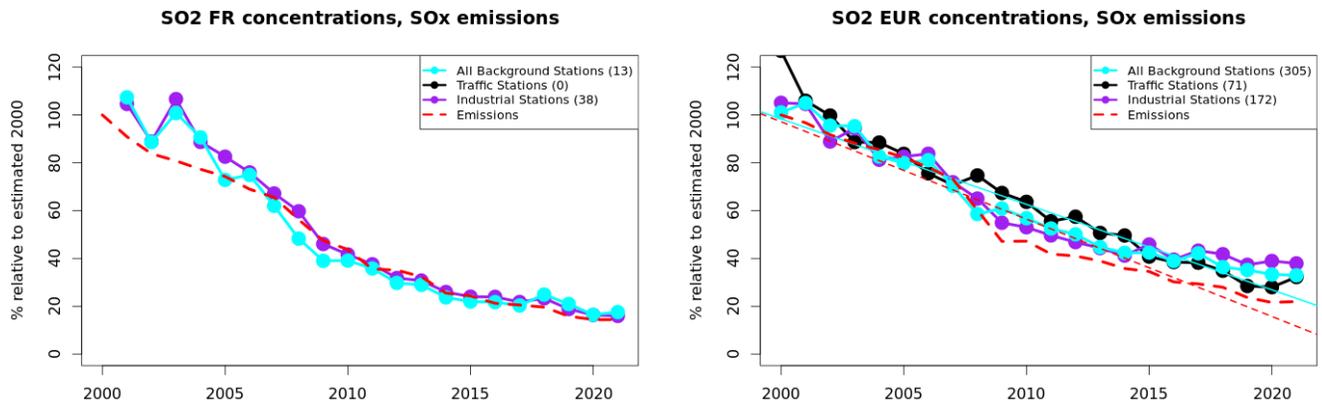


Figure A2.224: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

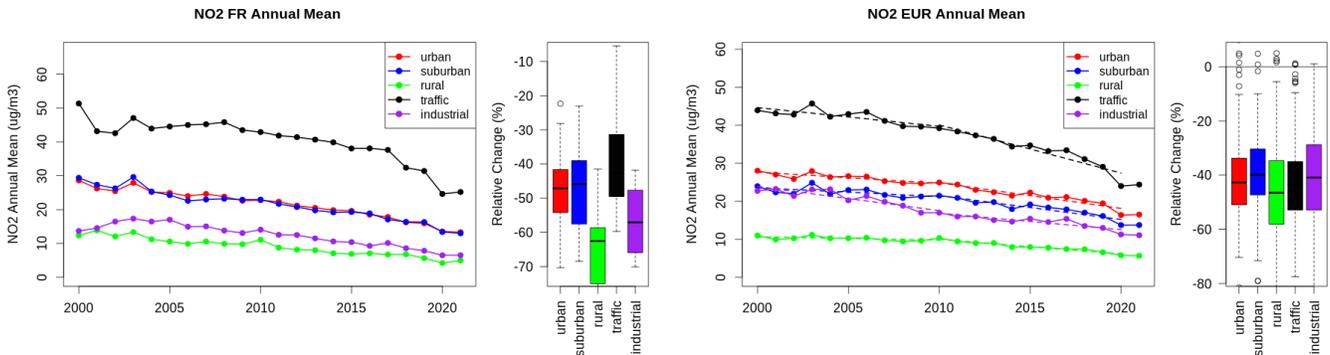


Figure A2.225: Time series of the France (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in France and in Europe.

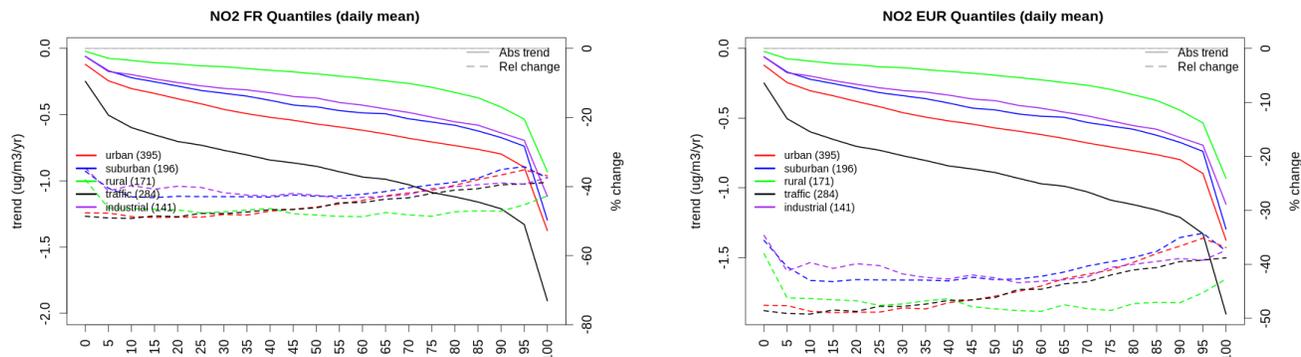


Figure A2.226: For NO₂ in France (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

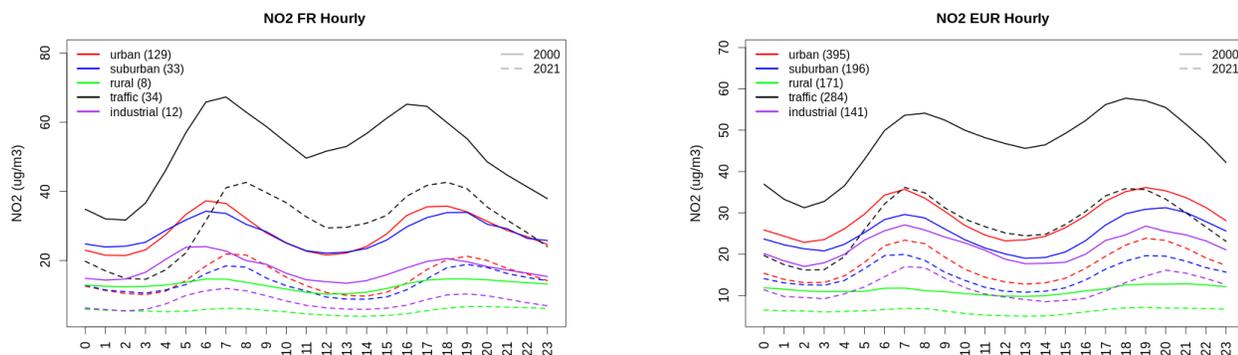


Figure A2.227: Diurnal cycle of daily mean NO₂ for France (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

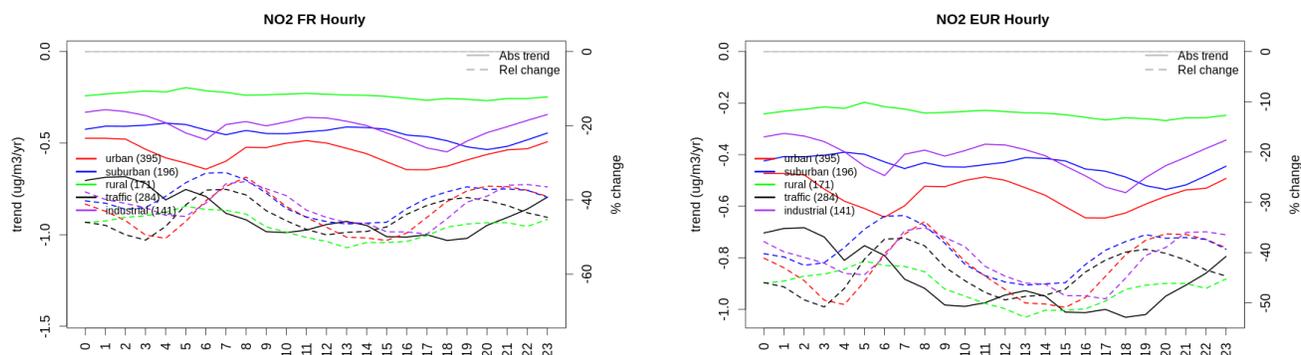


Figure A2.228: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for France (left) and Europe (right) of NO₂ at various station type.

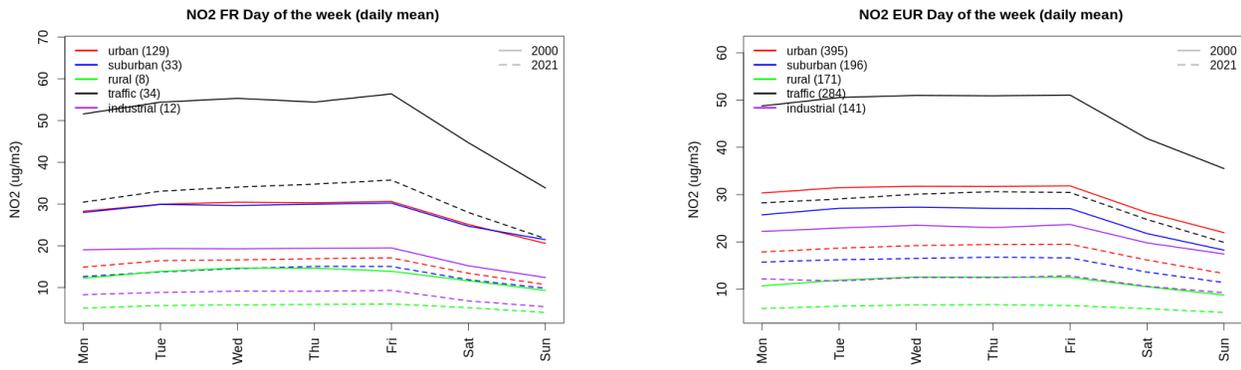


Figure A2.229: Weekly cycle of daily mean NO₂ for France (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

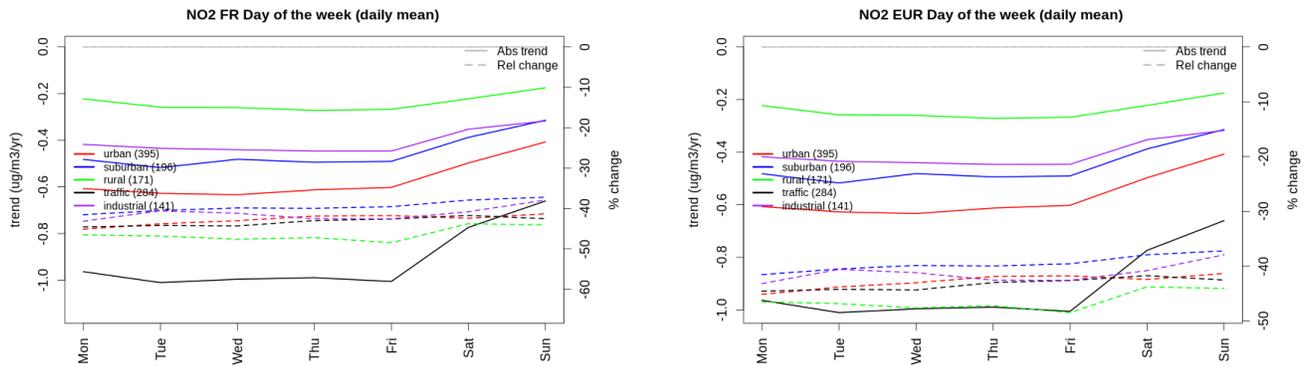


Figure A2.230: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for France (left) and Europe (right) of NO₂ at various station type.

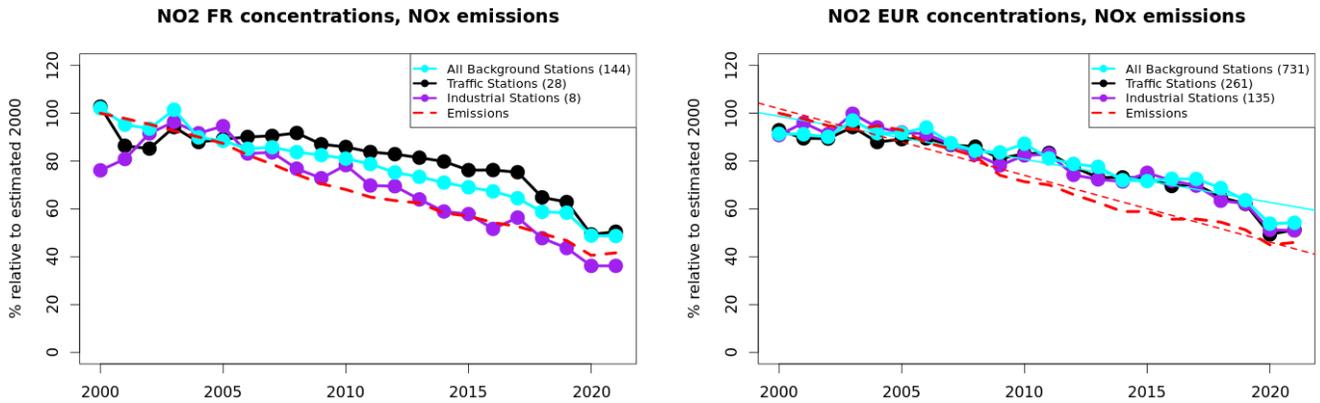


Figure A2.231: Time series of 2000-2021 (left) and European (right) median NO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

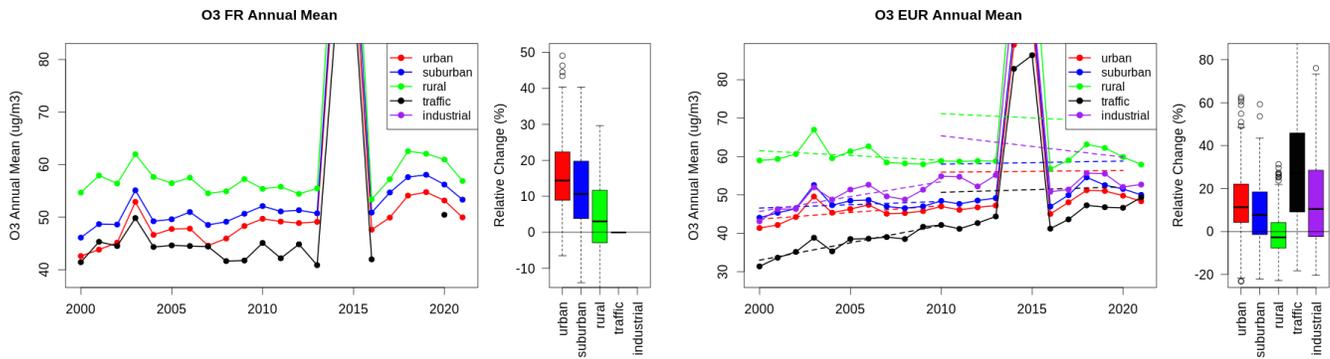


Figure A2.232: Time series of the France (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in France and in Europe.

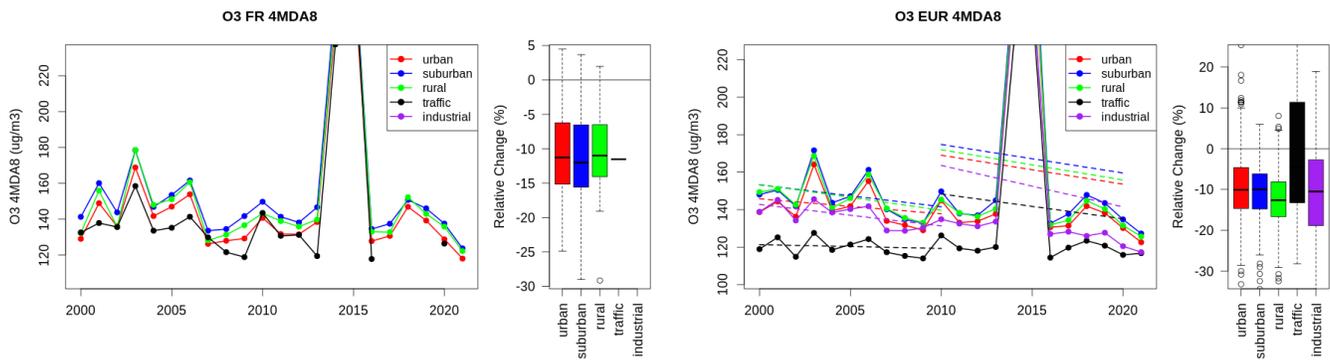


Figure A2.233: Time series of the France (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in France and in Europe.

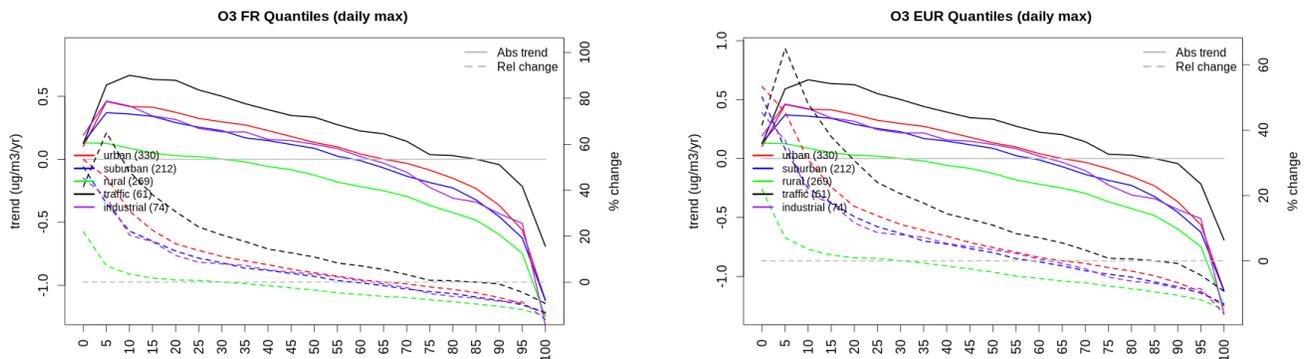


Figure A2.234: For ozone in France (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

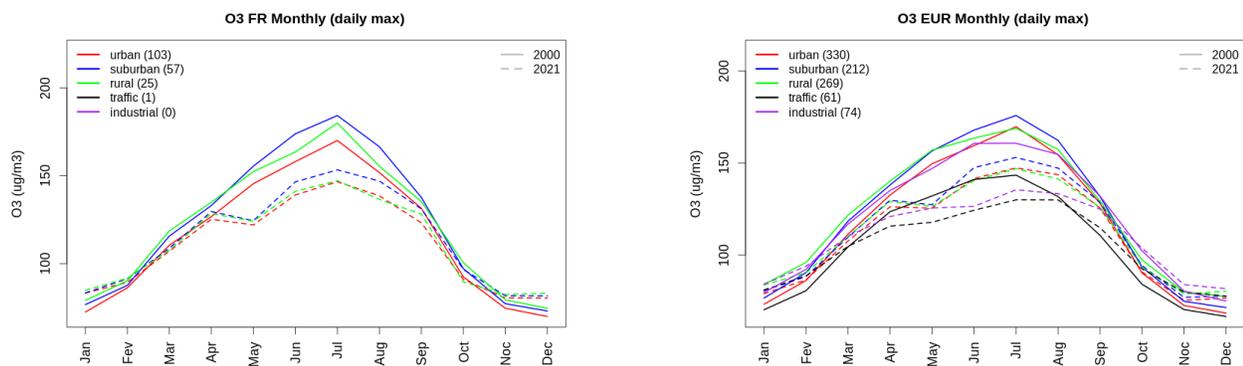


Figure A2.235: Monthly cycle of daily max ozone for France (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

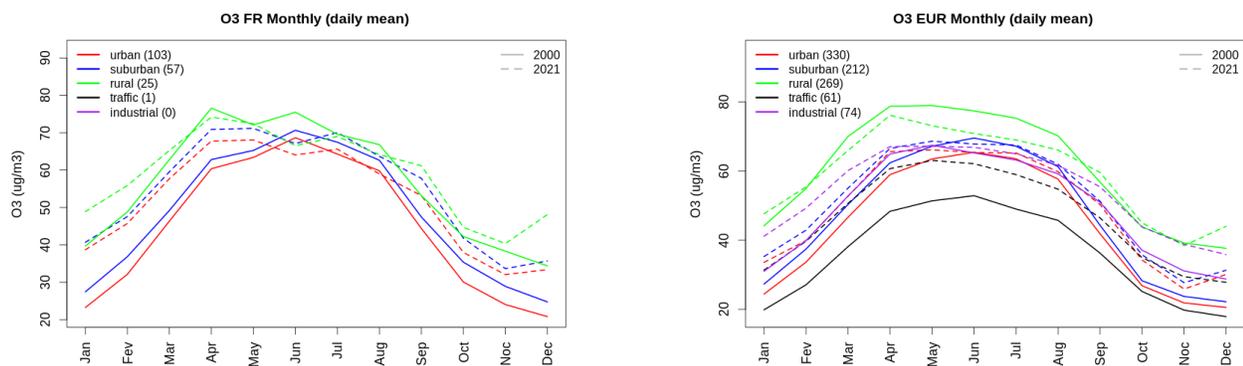


Figure A2.236: Monthly cycle of daily mean ozone for France (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

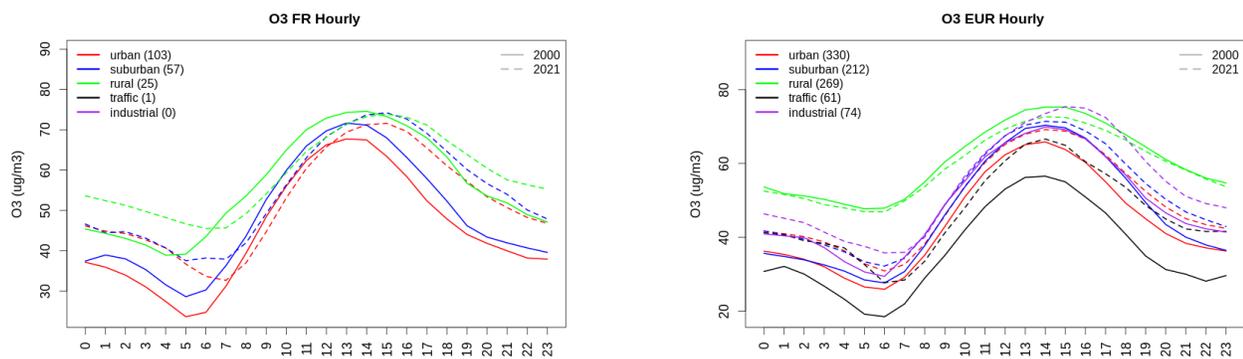


Figure A2.237: Diurnal cycle of daily mean ozone for France (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

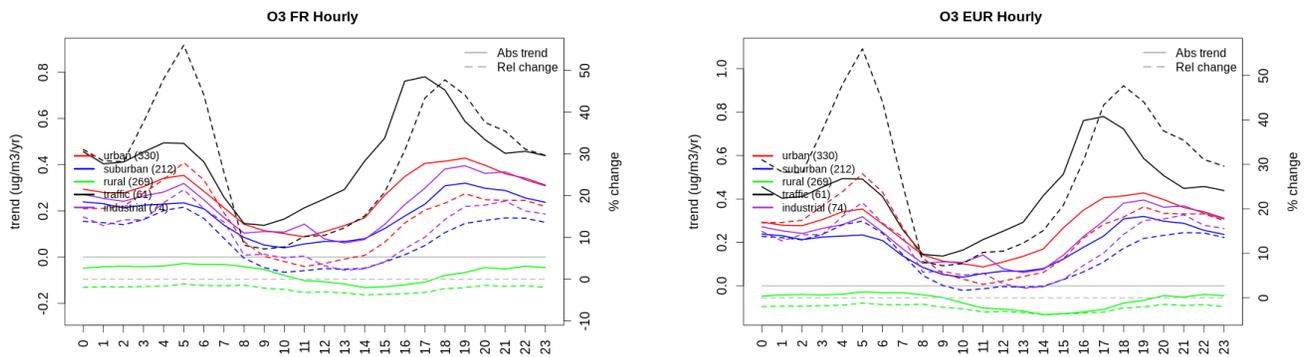


Figure A2.238: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for France (left) and Europe (right) of ozone at various station type.

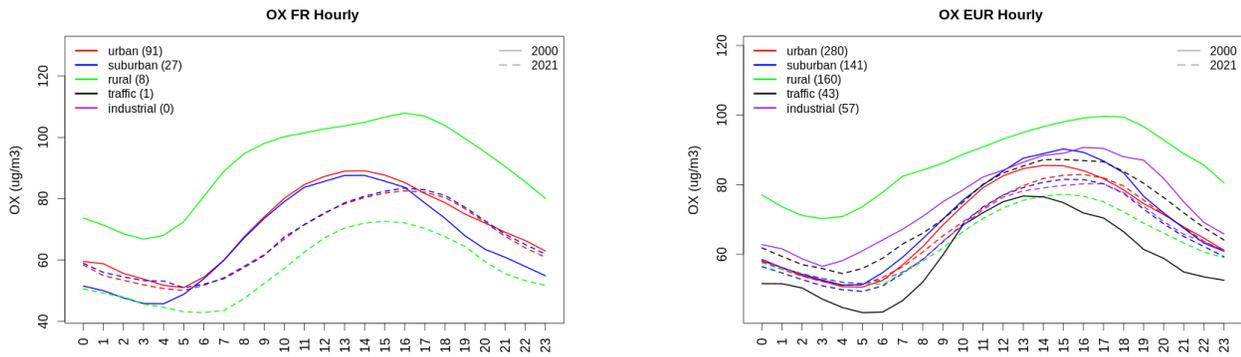


Figure A2.239: Diurnal cycle of daily mean OX (as NO₂+O₃) for France (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

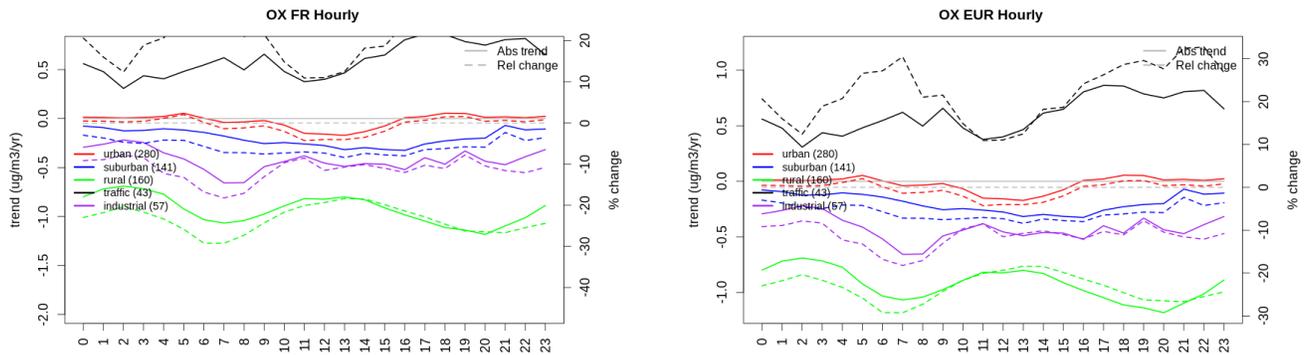


Figure A2.240: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for France (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

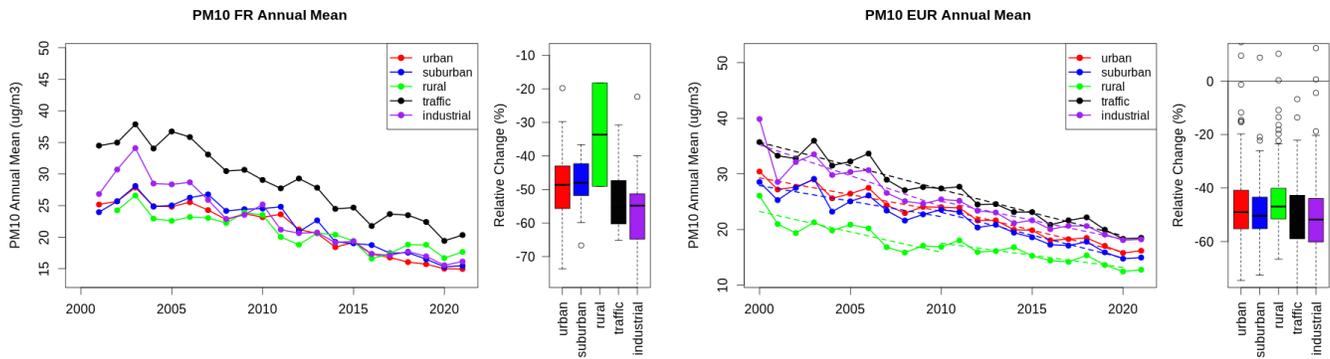


Figure A2.241: Time series of the France (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in France and in Europe.

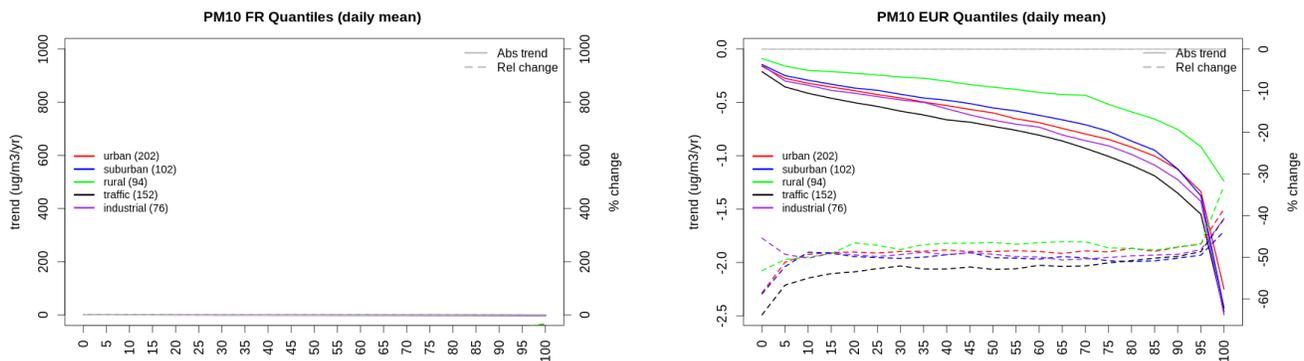


Figure A2.242: For PM10 in France (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

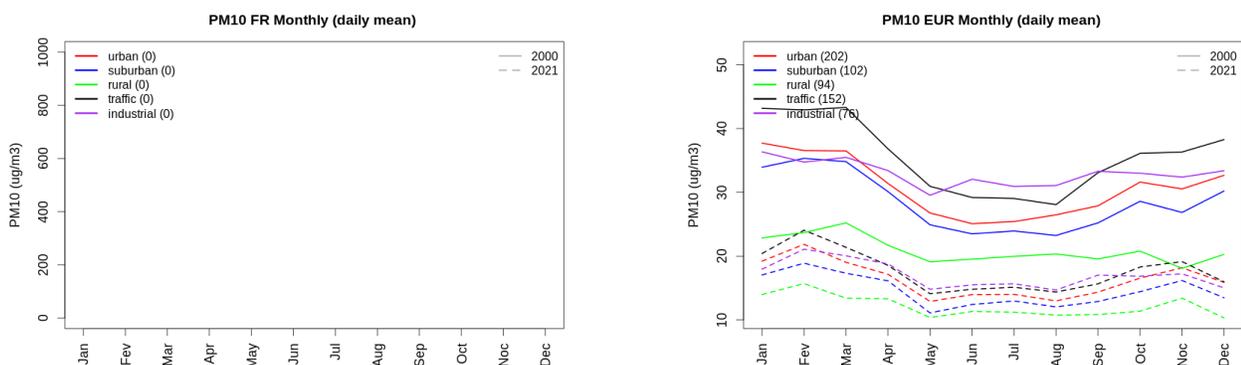


Figure A2.243: Monthly cycle of daily mean PM10 for France (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

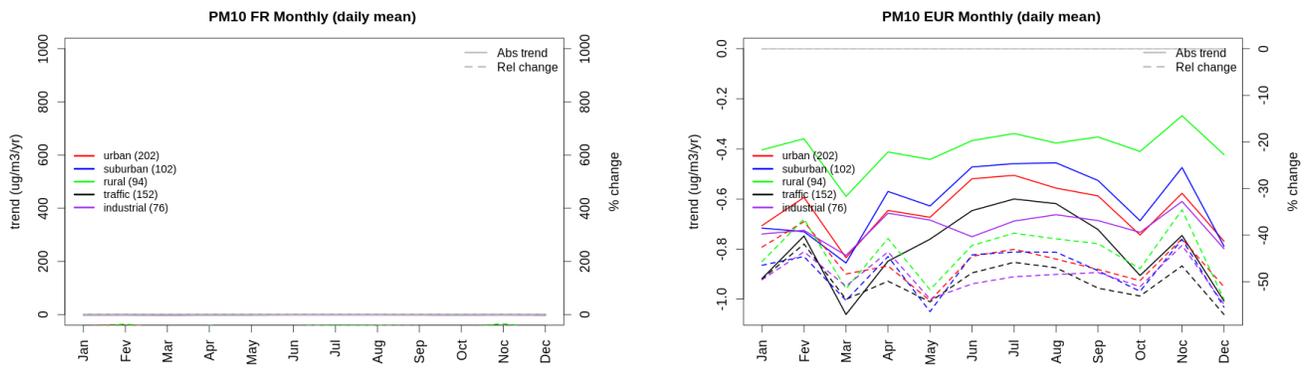


Figure A2.244: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for France (left) and Europe (right) of PM10 at various station type.

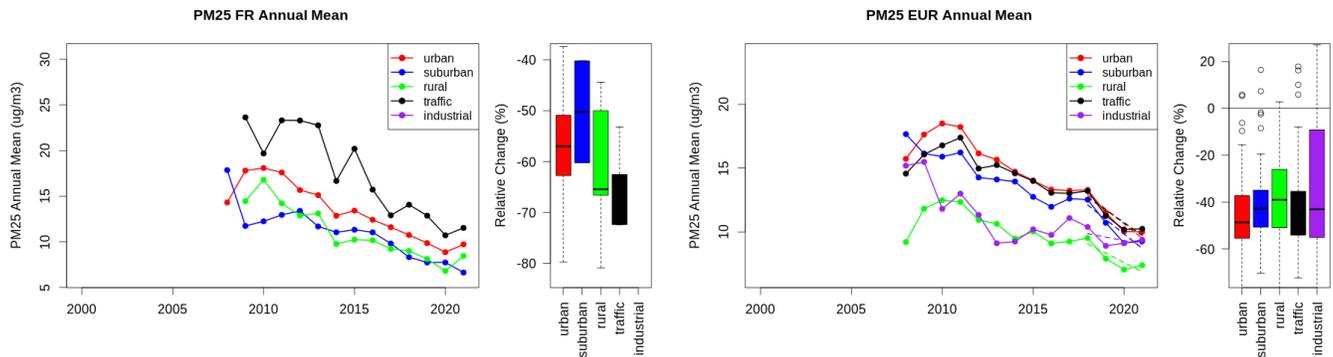


Figure A2.245: Time series of the France (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in France and in Europe.

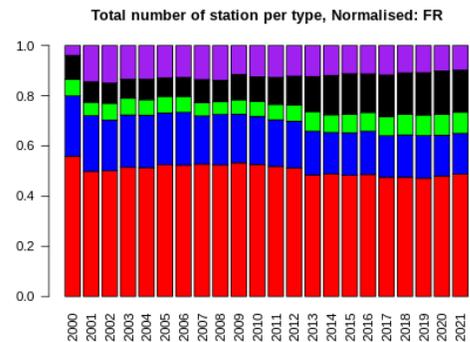
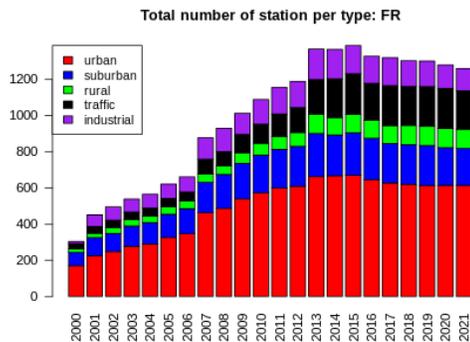
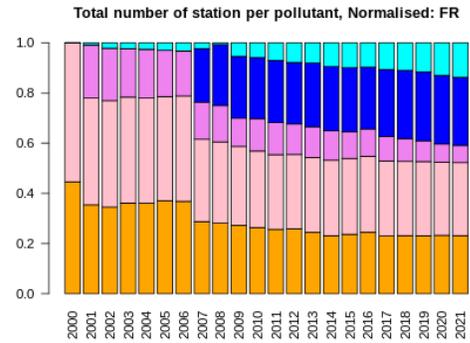
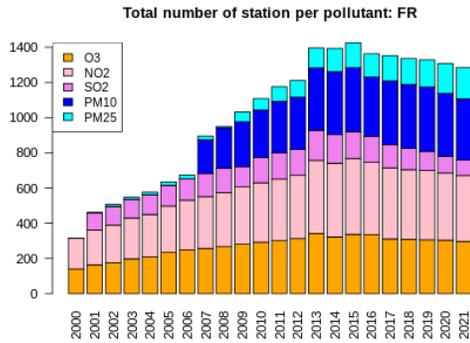
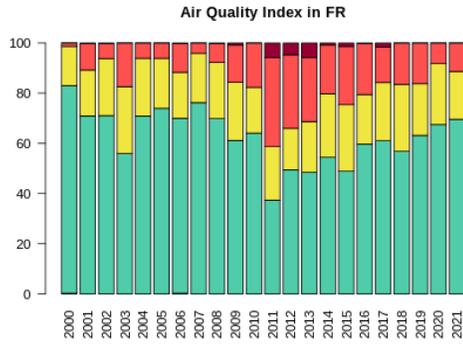


Figure A2.246: For France: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

12 Greece

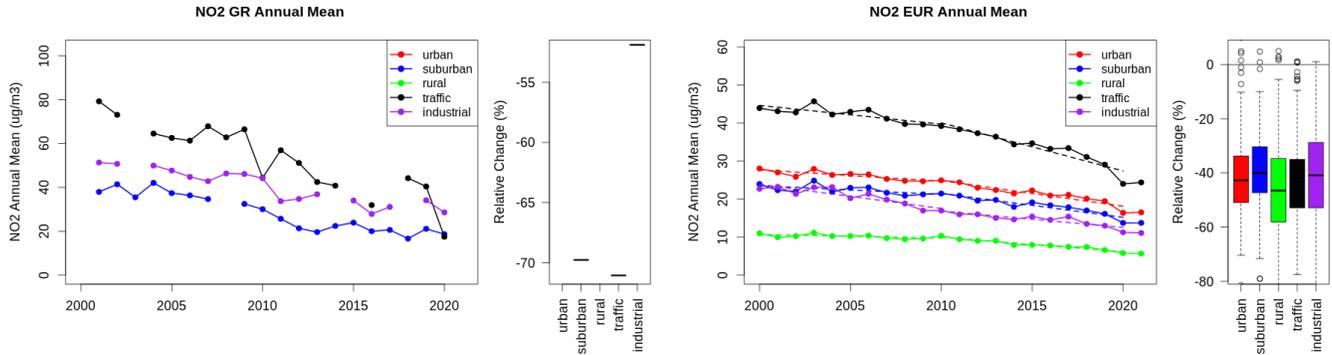


Figure A2.247: Time series of the Greece (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Greece and in Europe.

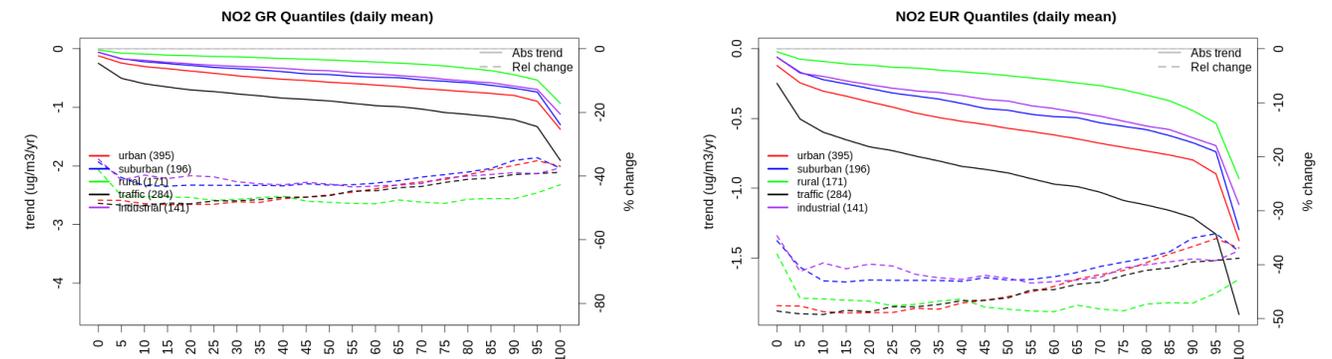


Figure A2.248: For NO₂ in Greece (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

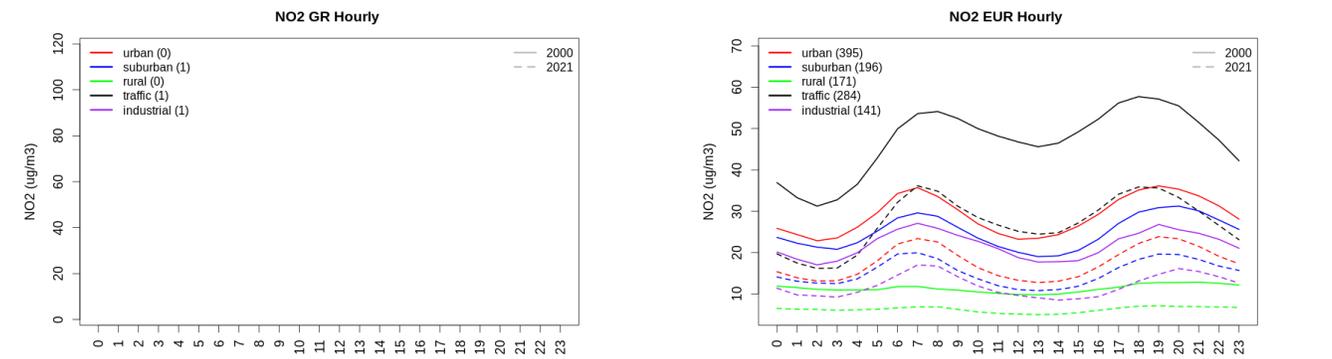


Figure A2.249: Diurnal cycle of daily mean NO₂ for Greece (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

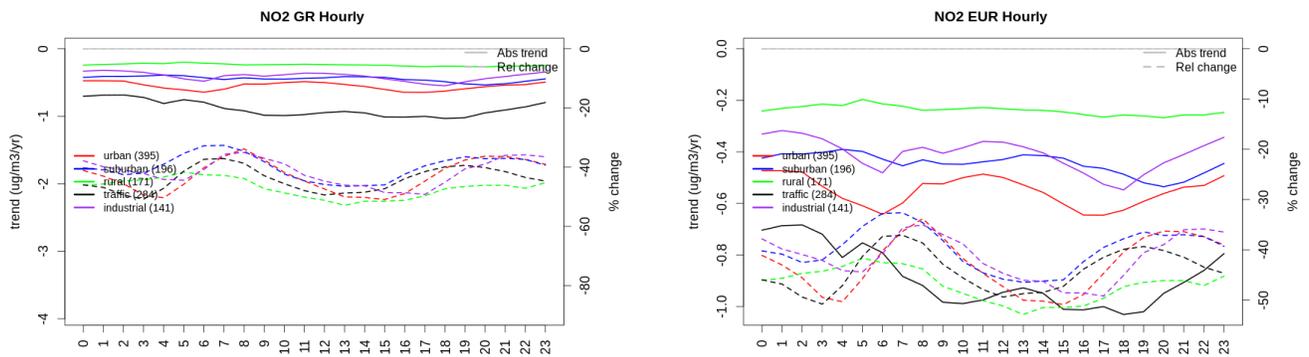


Figure A2.250: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Greece (left) and Europe (right) of NO₂ at various station type.

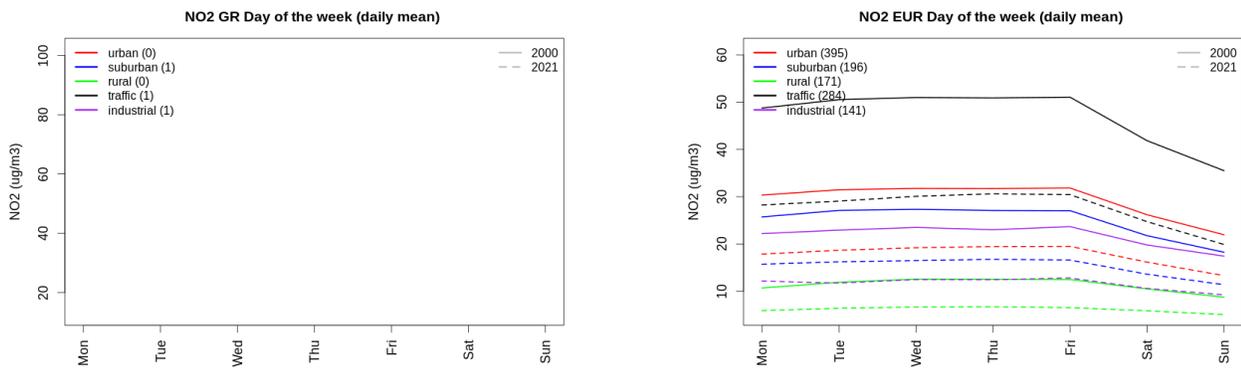


Figure A2.251: Weekly cycle of daily mean NO₂ for Greece (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

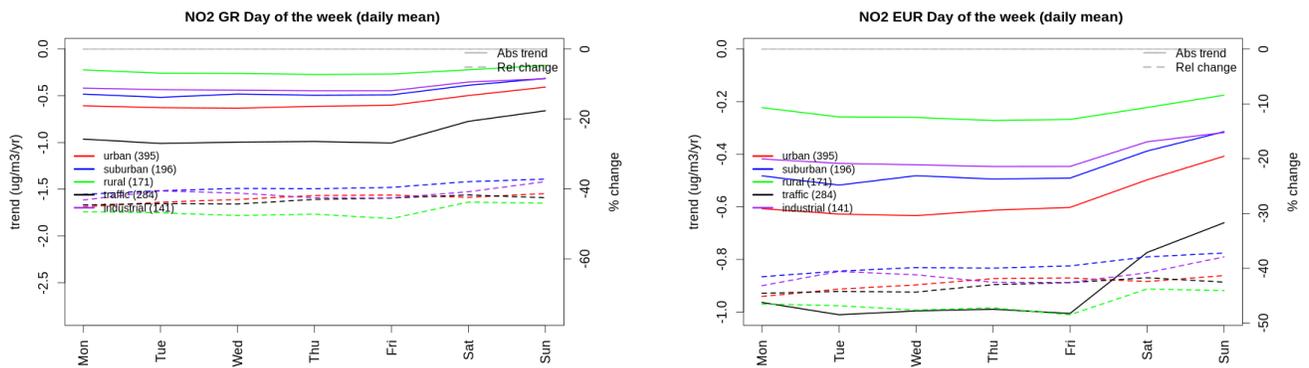


Figure A2.252: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Greece (left) and Europe (right) of NO₂ at various station type.

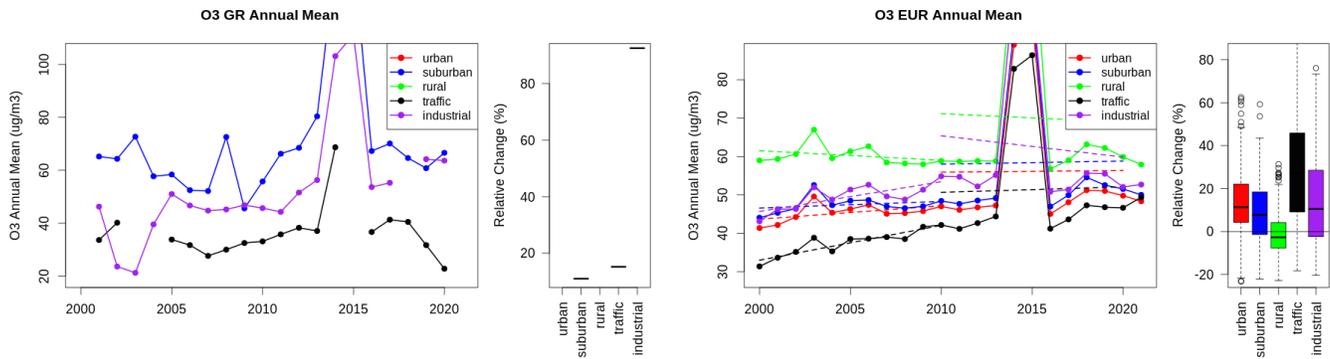


Figure A2.253: Time series of the Greece (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Greece and in Europe.

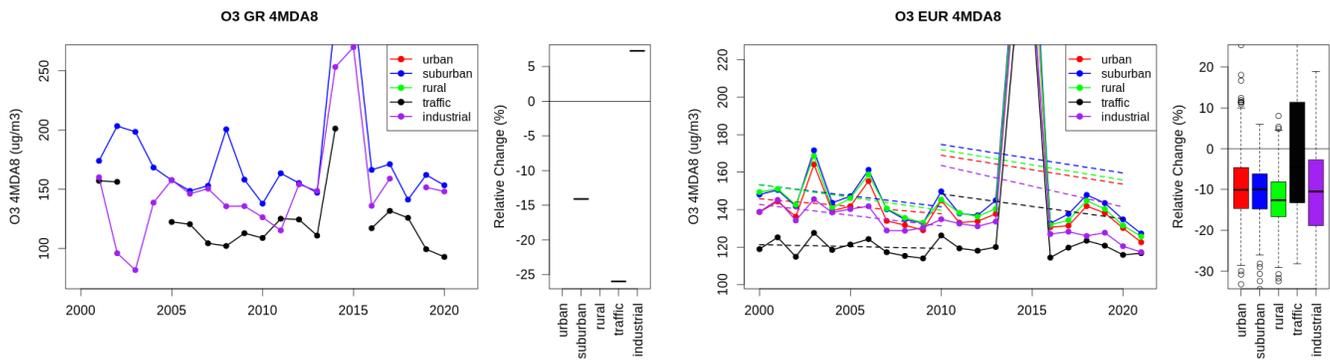


Figure A2.254: Time series of the Greece (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Greece and in Europe.

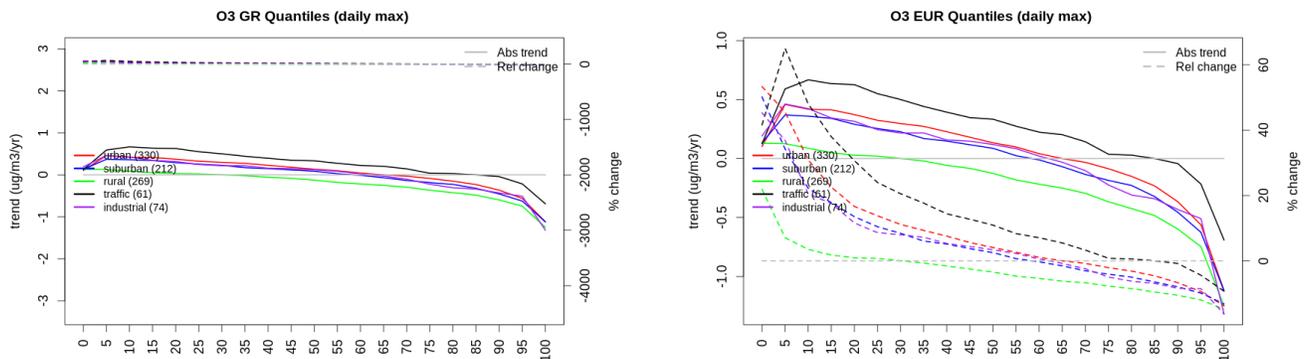


Figure A2.255: For ozone in Greece (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

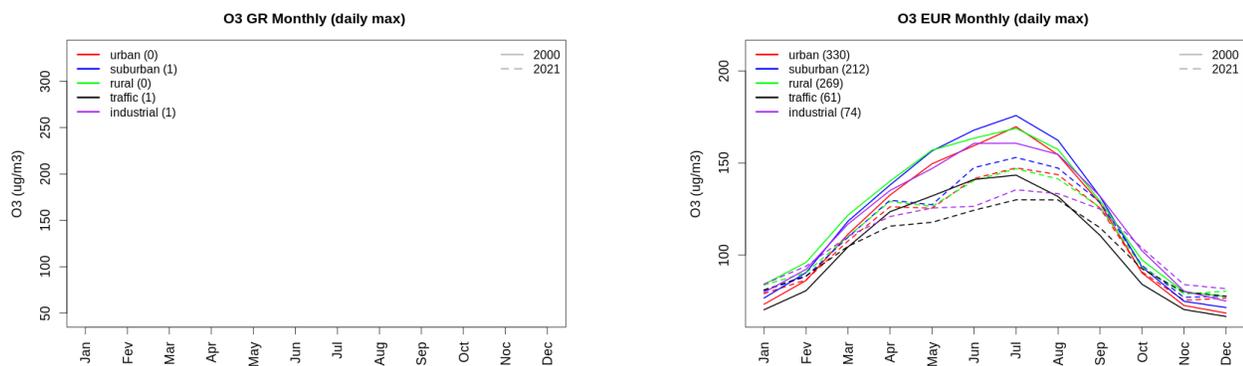


Figure A2.256: Monthly cycle of daily max ozone for Greece (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

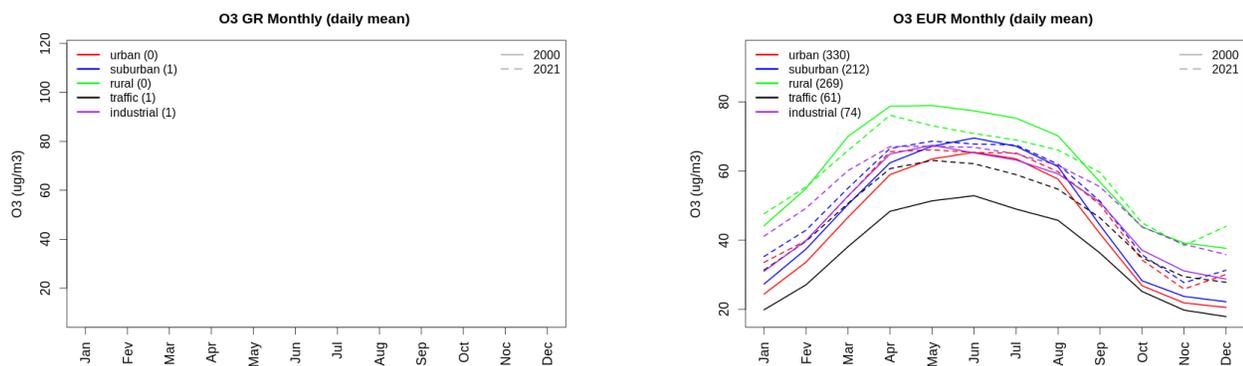


Figure A2.257: Monthly cycle of daily mean ozone for Greece (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

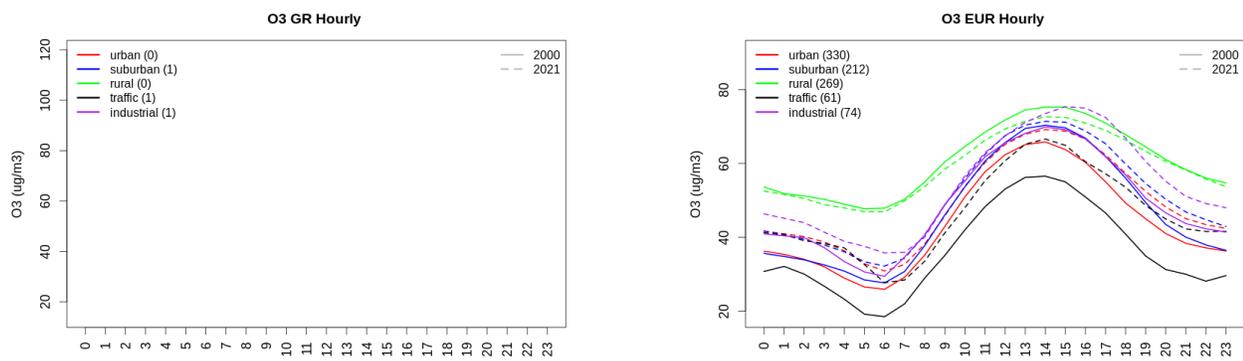


Figure A2.258: Diurnal cycle of daily mean ozone for Greece (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

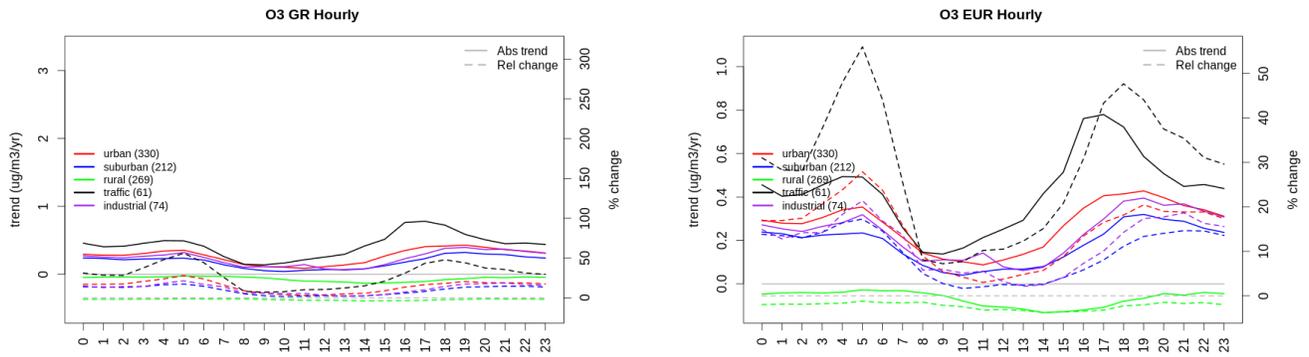


Figure A2.259: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Greece (left) and Europe (right) of ozone at various station type.

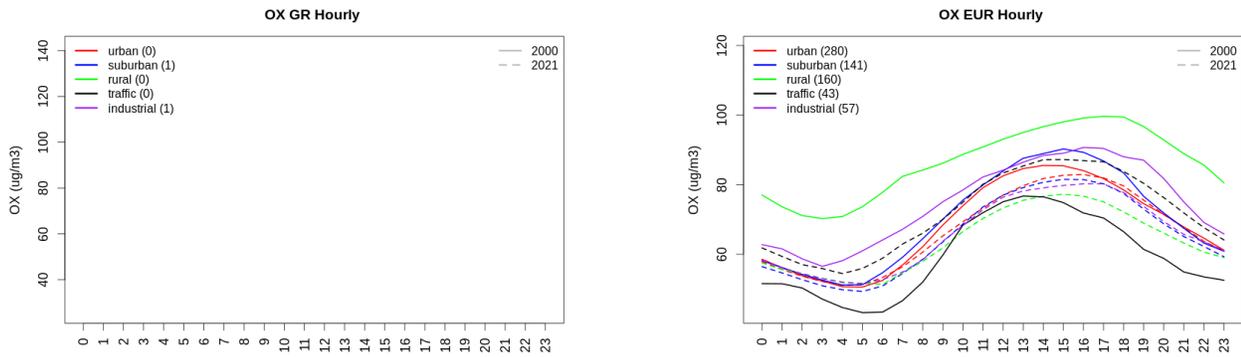


Figure A2.260: Diurnal cycle of daily mean OX (as NO₂+O₃) for Greece (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

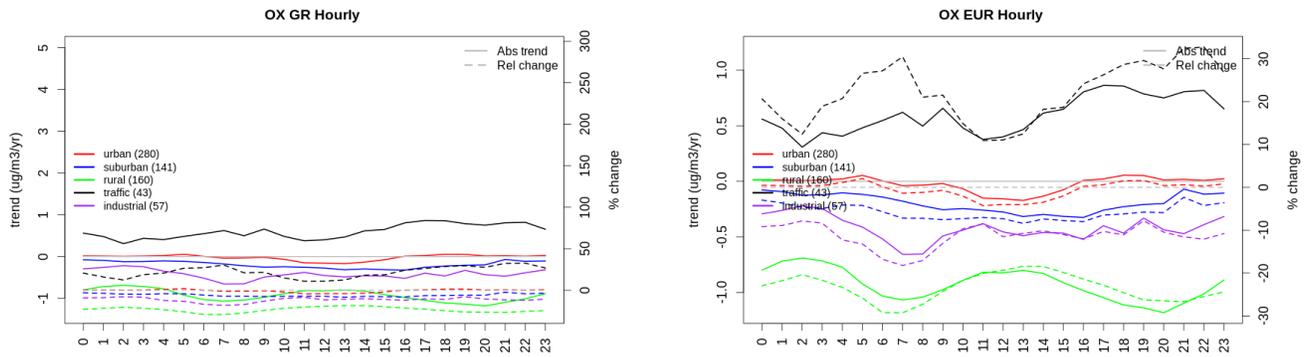


Figure A2.261: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Greece (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

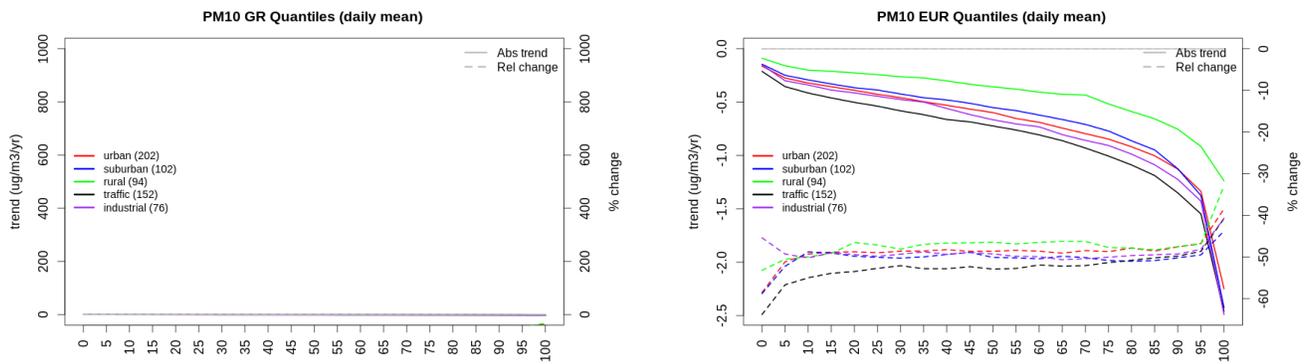


Figure A2.262: For PM10 in Greece (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

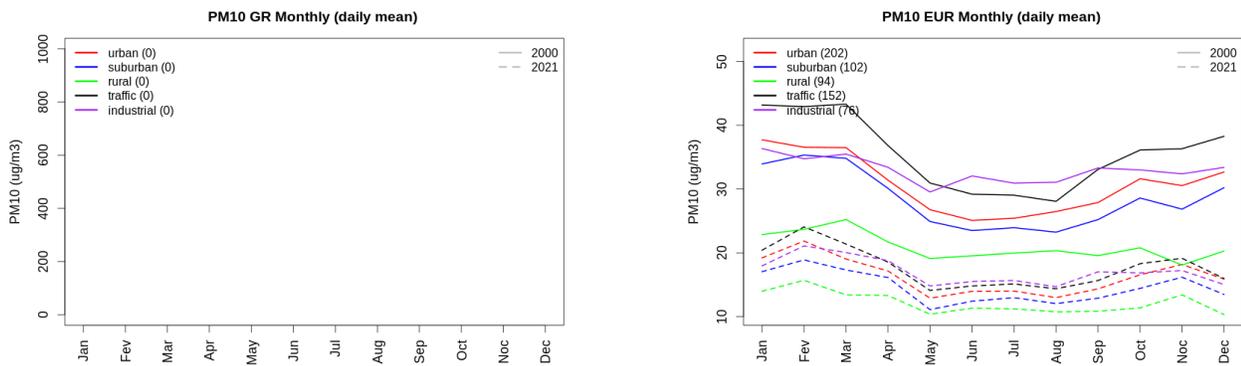


Figure A2.263: Monthly cycle of daily mean PM10 for Greece (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

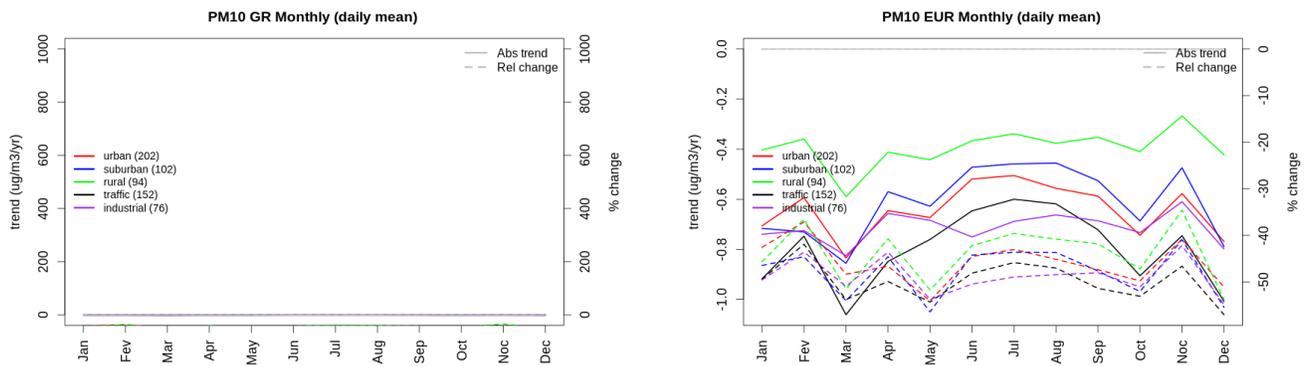


Figure A2.264: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Greece (left) and Europe (right) of PM10 at various station type.

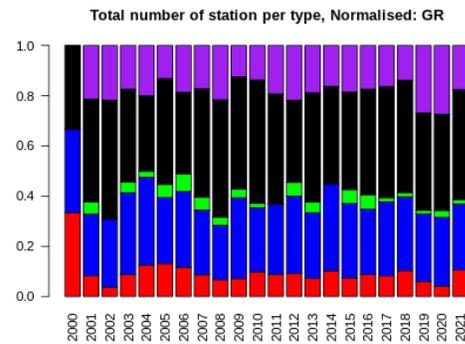
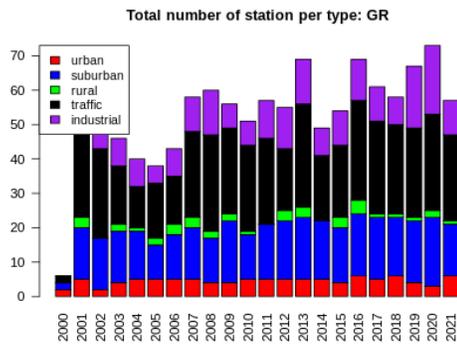
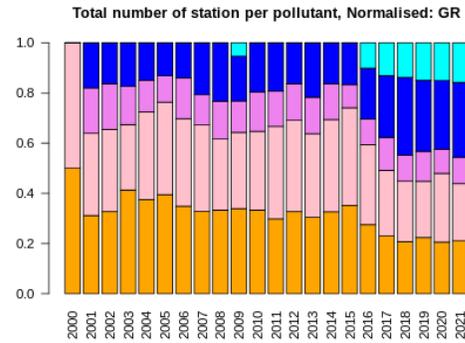
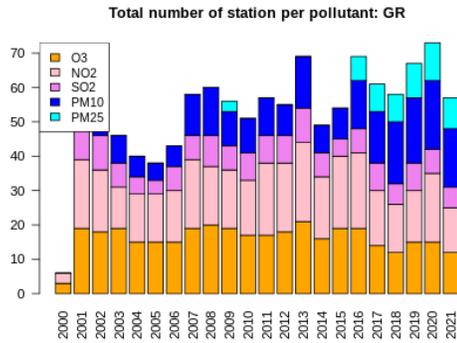
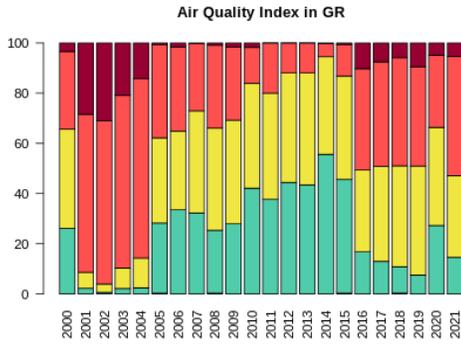


Figure A2.265: For Greece: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

13 Croatia

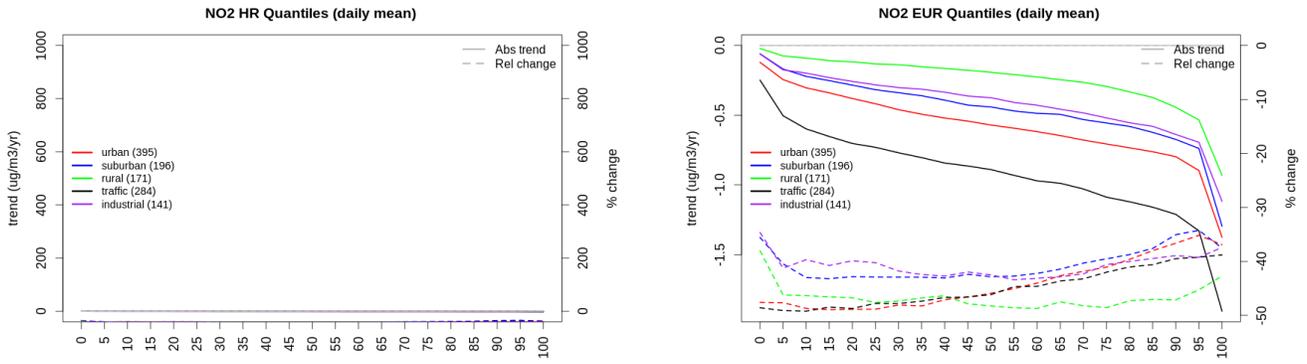


Figure A2.266: For NO₂ in Croatia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

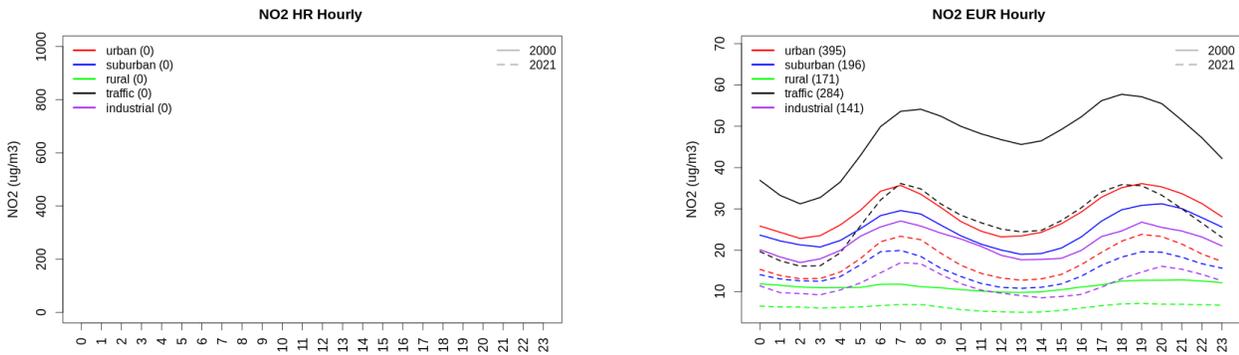


Figure A2.267: Diurnal cycle of daily mean NO₂ for Croatia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

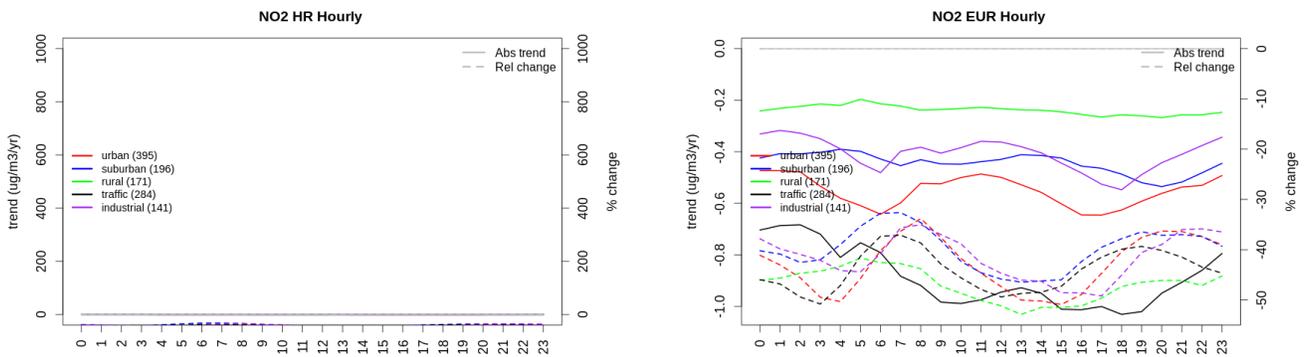


Figure A2.268: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Croatia (left) and Europe (right) of NO₂ at various station type.

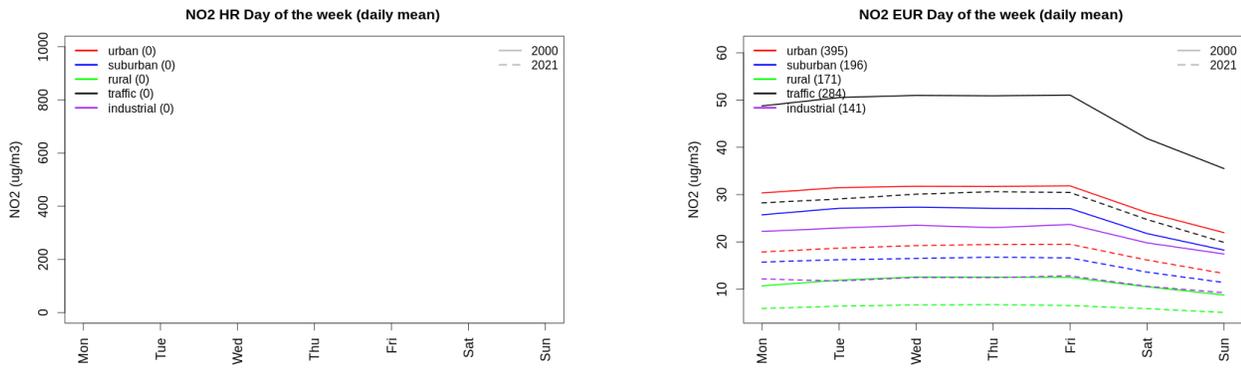


Figure A2.269: Weekly cycle of daily mean NO2 for Croatia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

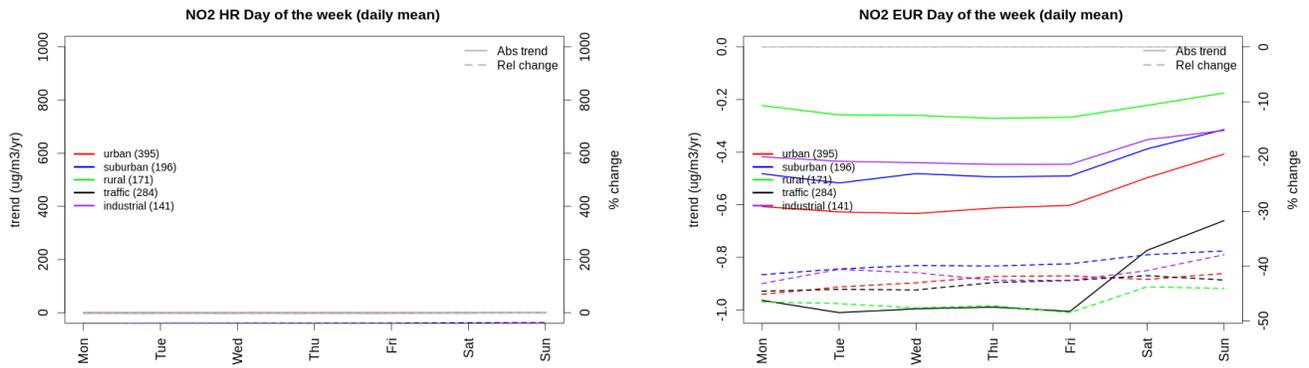


Figure A2.270: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Croatia (left) and Europe (right) of NO2 at various station type.

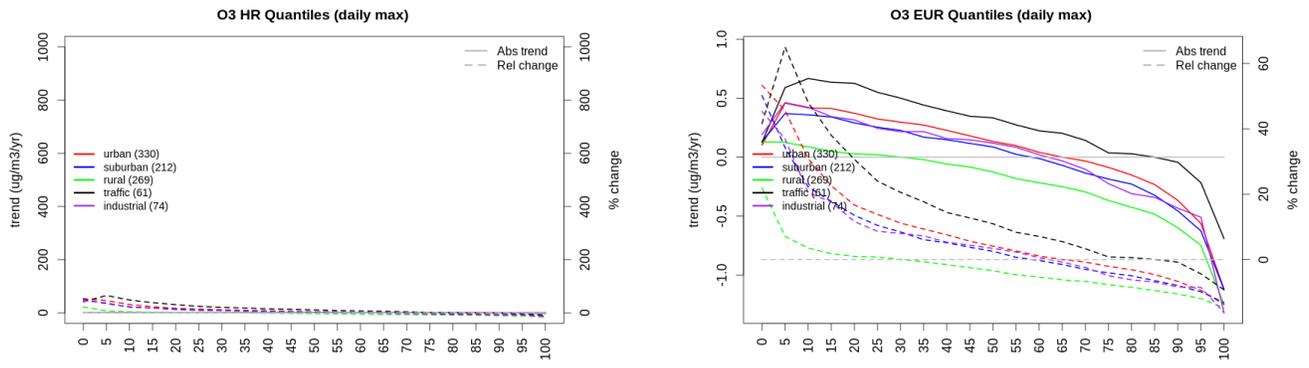


Figure A2.271: For ozone in Croatia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

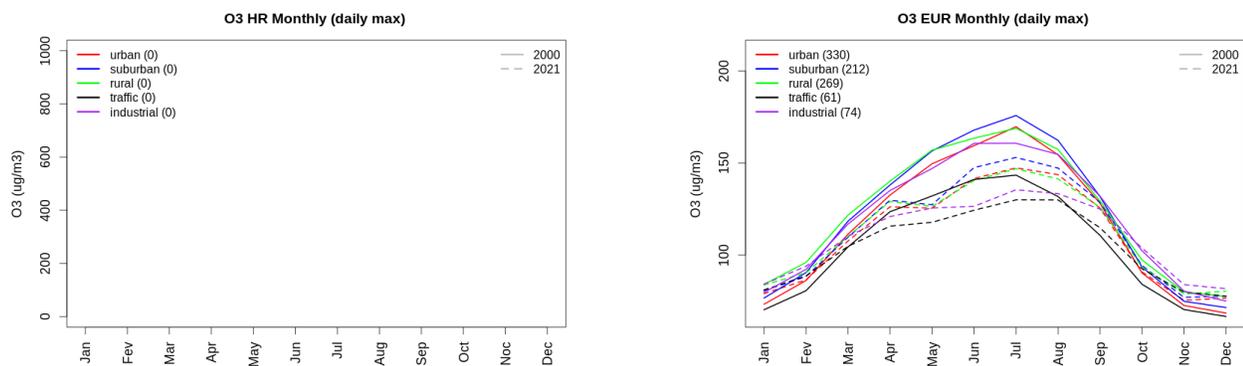


Figure A2.272: Monthly cycle of daily max ozone for Croatia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

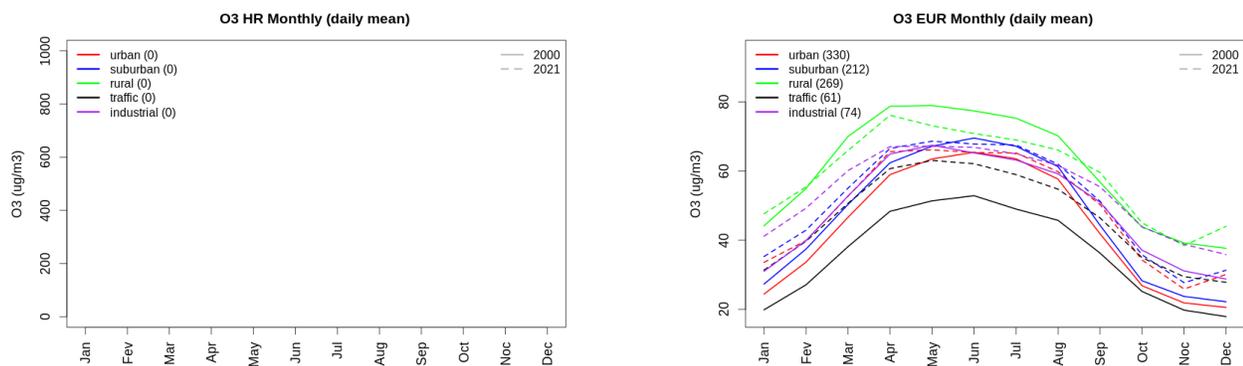


Figure A2.273: Monthly cycle of daily mean ozone for Croatia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

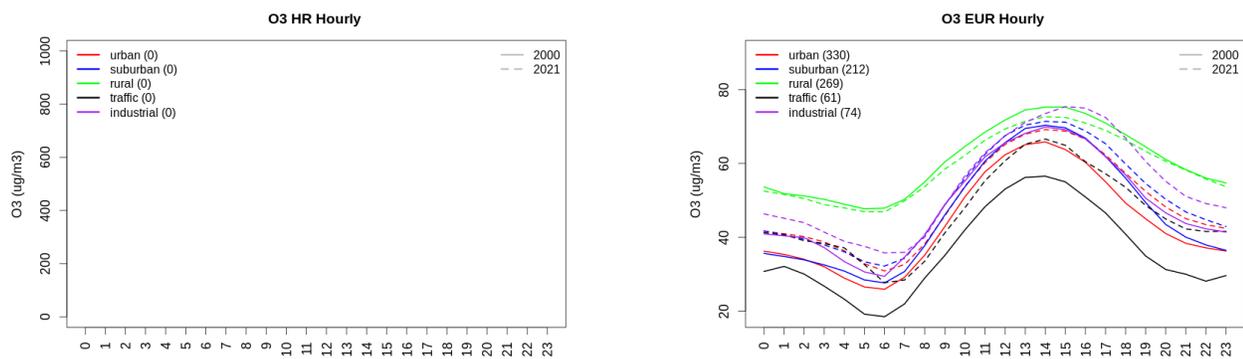


Figure A2.274: Diurnal cycle of daily mean ozone for Croatia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

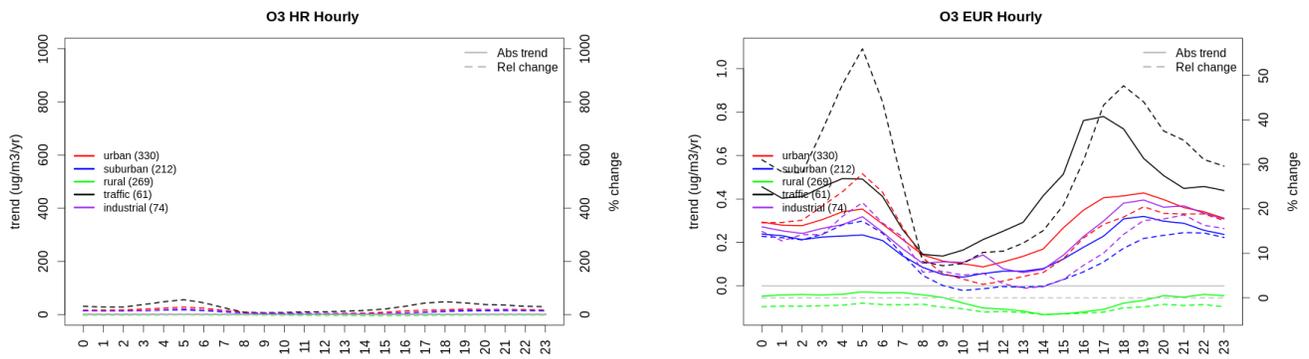


Figure A2.275: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Croatia (left) and Europe (right) of ozone at various station type.

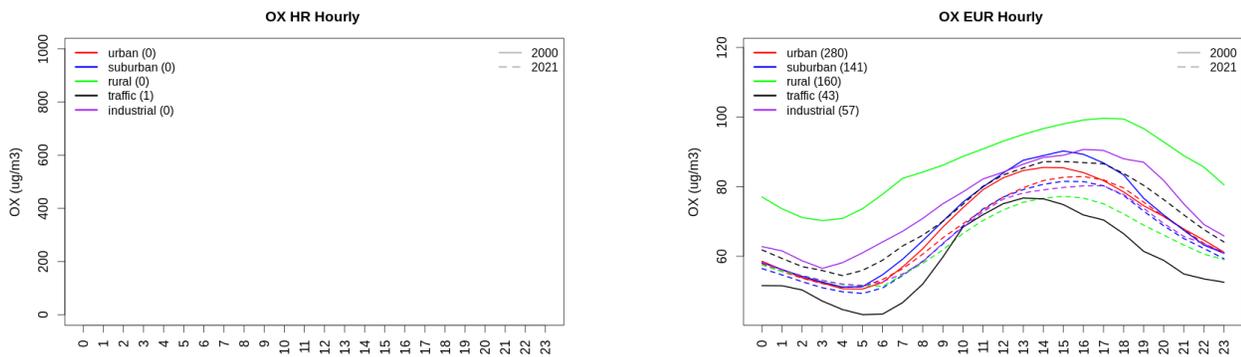


Figure A2.276: Diurnal cycle of daily mean OX (as NO₂+O₃) for Croatia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

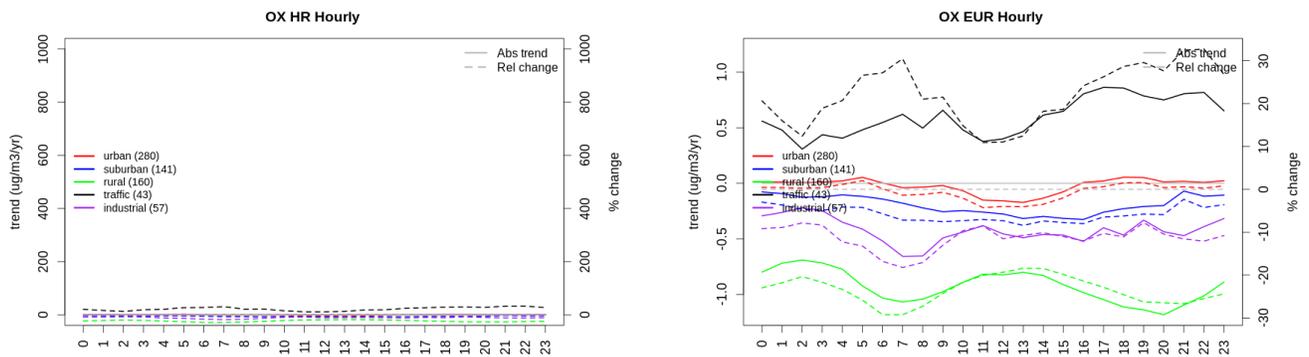


Figure A2.277: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Croatia (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

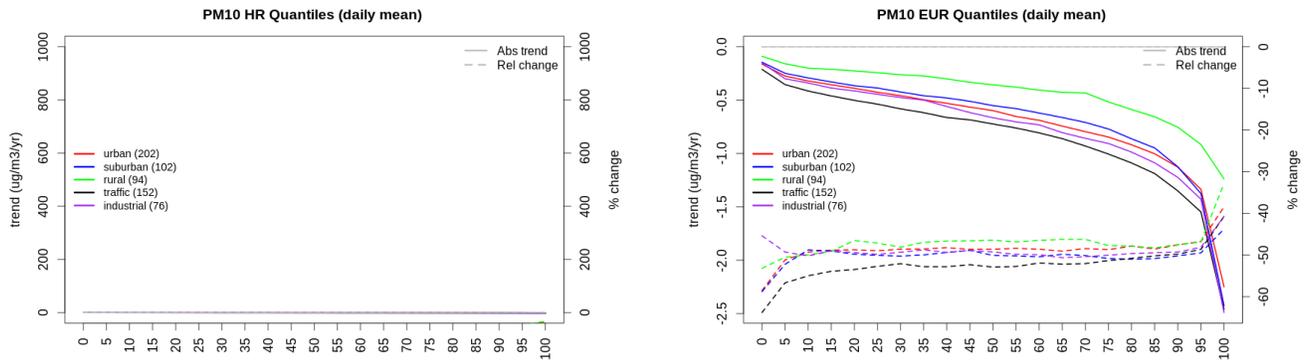


Figure A2.278: For PM10 in Croatia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

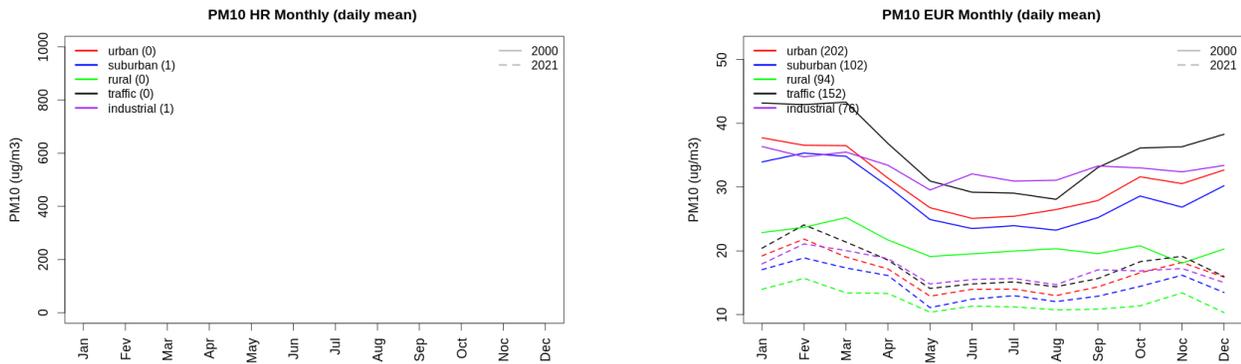


Figure A2.279: Monthly cycle of daily mean PM10 for Croatia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

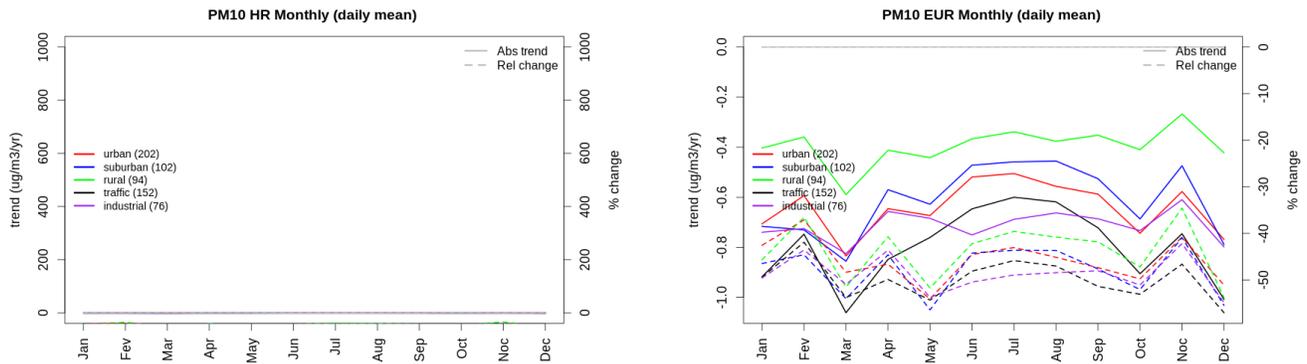


Figure A2.280: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Croatia (left) and Europe (right) of PM10 at various station type.

14 Hungary

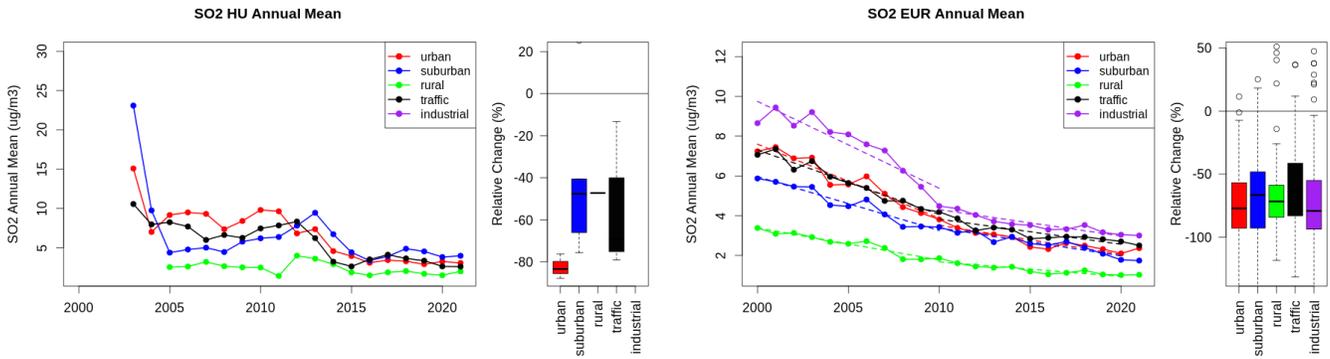


Figure A2.281: Time series of the Hungary (left) and European-wide composite (median) of annual mean SO2 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Hungary and in Europe.

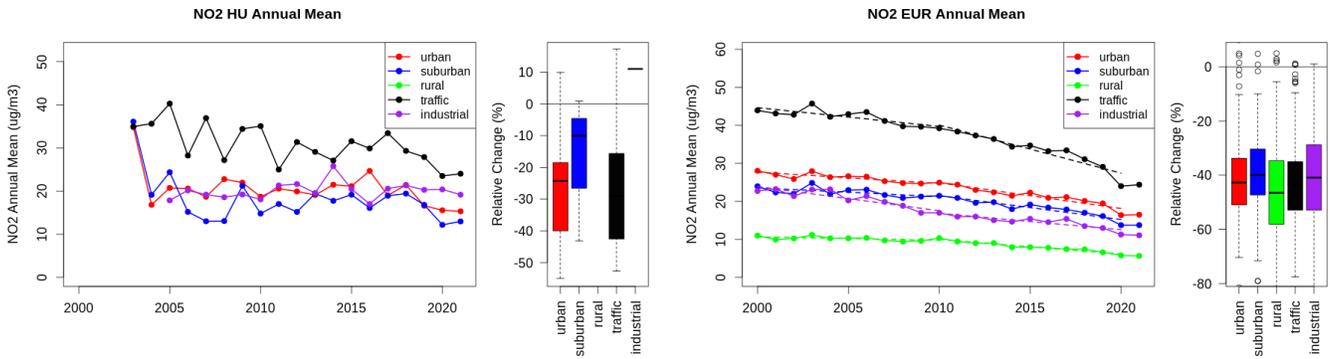


Figure A2.282: Time series of the Hungary (left) and European-wide composite (median) of annual mean NO2 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Hungary and in Europe.

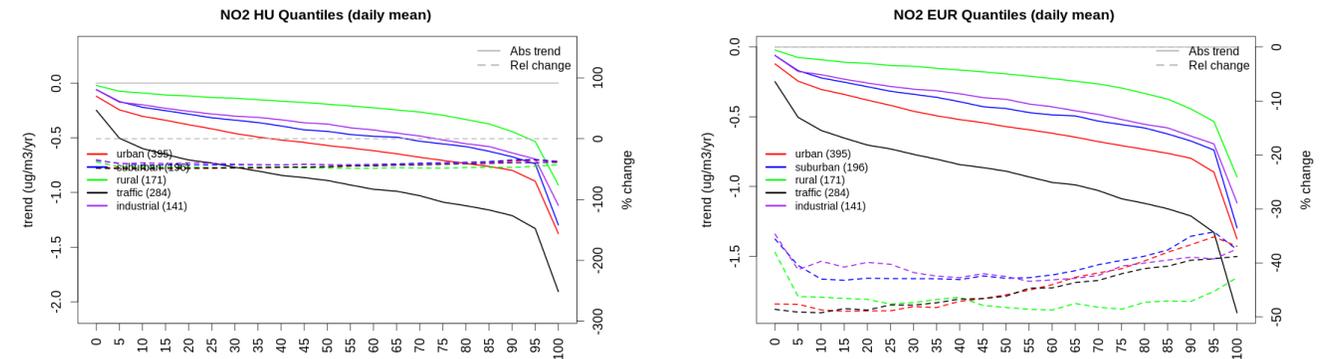


Figure A2.283: For NO2 in Hungary (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

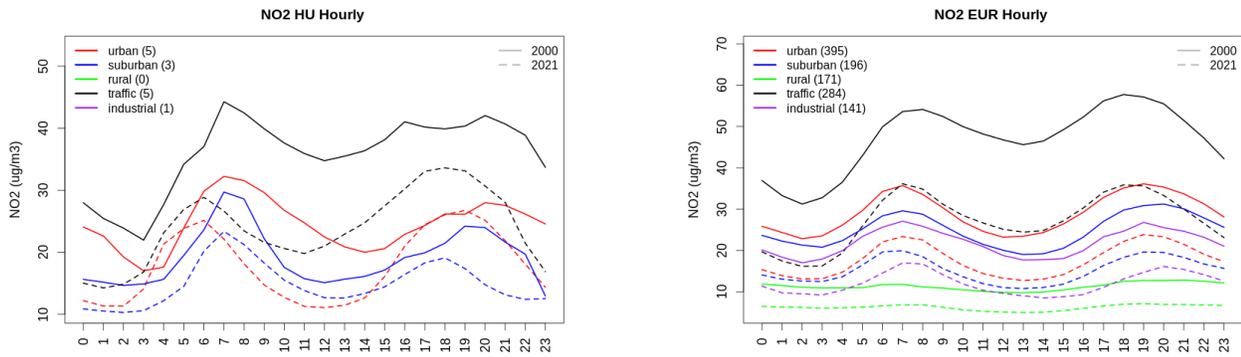


Figure A2.284: Diurnal cycle of daily mean NO₂ for Hungary (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

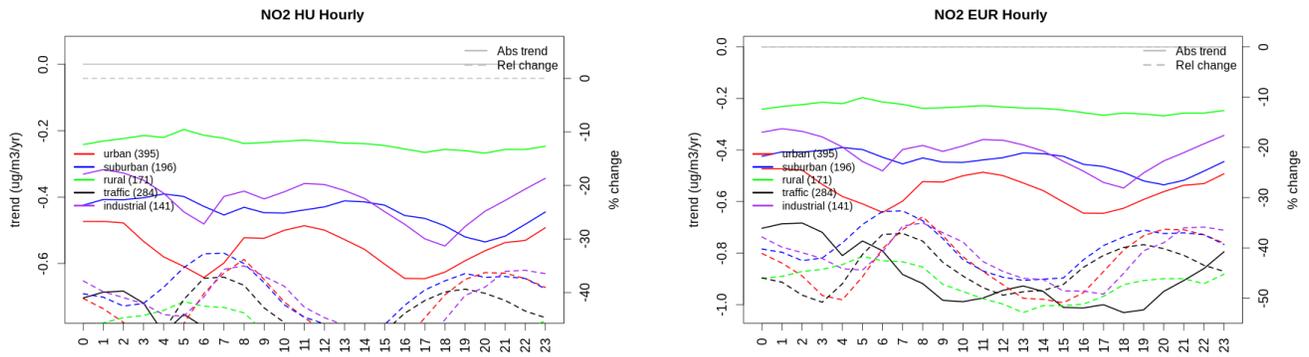


Figure A2.285: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Hungary (left) and Europe (right) of NO₂ at various station type.

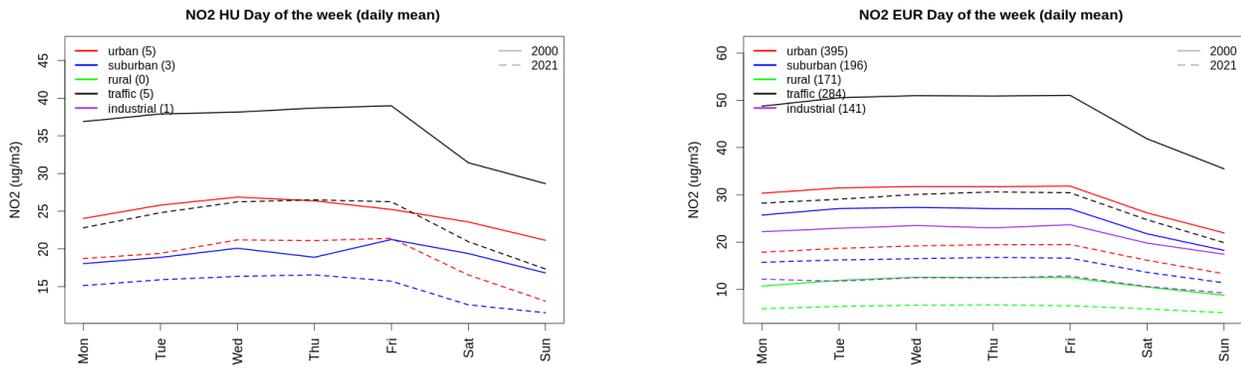


Figure A2.286: Weekly cycle of daily mean NO₂ for Hungary (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

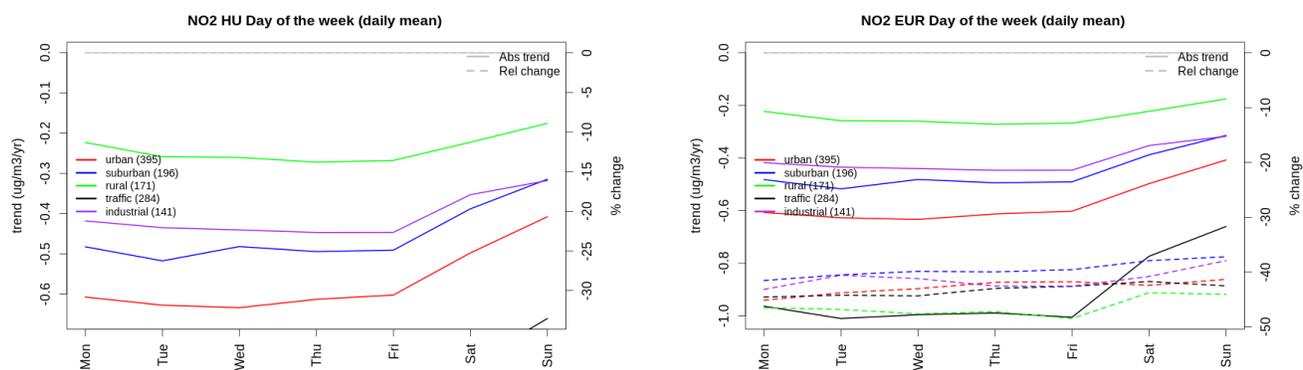


Figure A2.287: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Hungary (left) and Europe (right) of NO₂ at various station type.

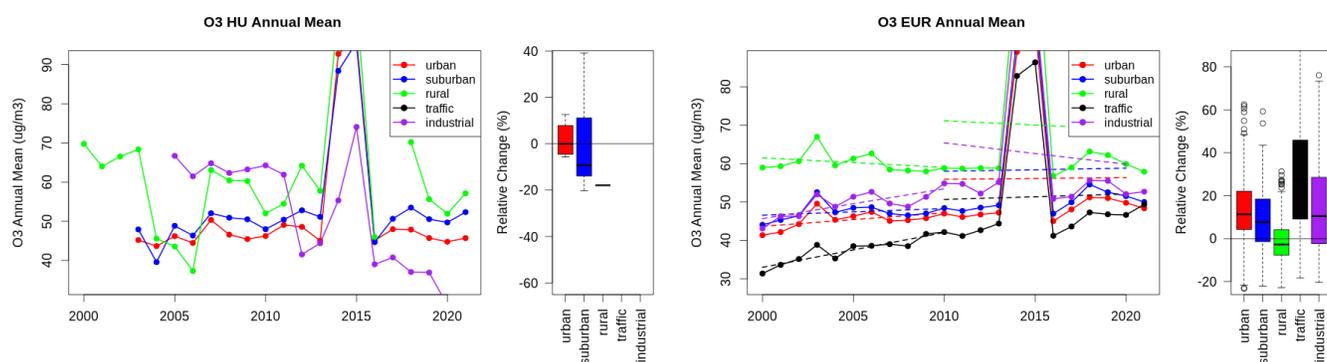


Figure A2.288: Time series of the Hungary (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Hungary and in Europe.

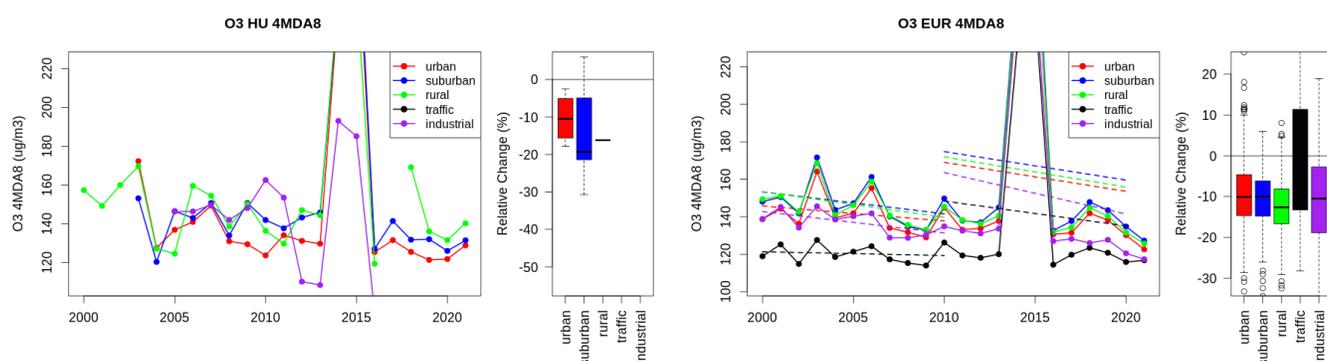


Figure A2.289: Time series of the Hungary (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Hungary and in Europe.

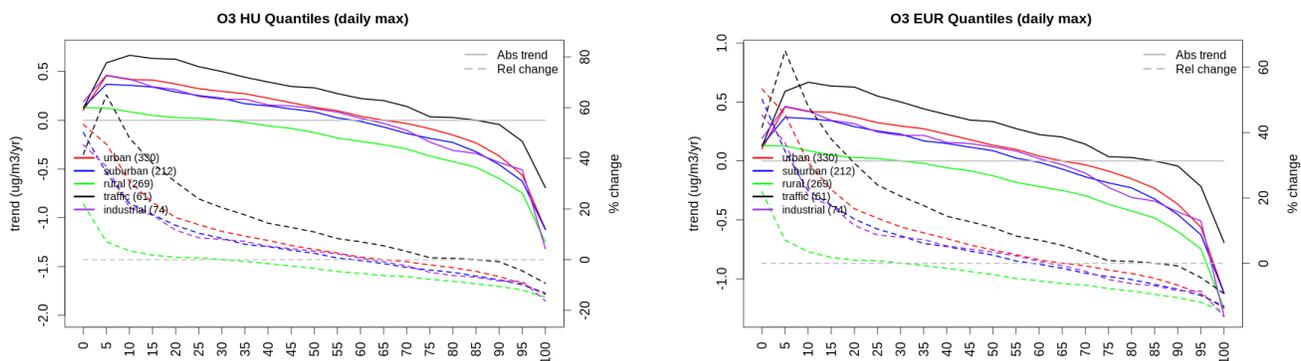


Figure A2.290: For ozone in Hungary (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

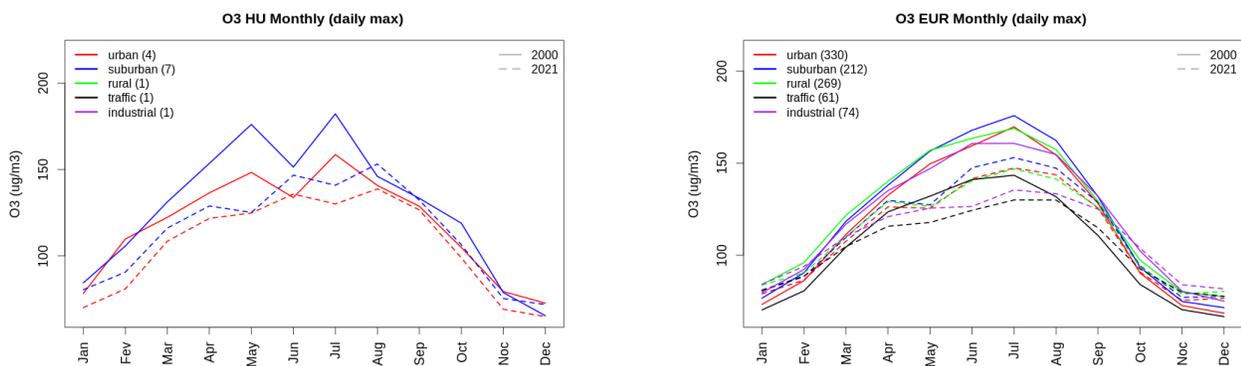


Figure A2.291: Monthly cycle of daily max ozone for Hungary (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

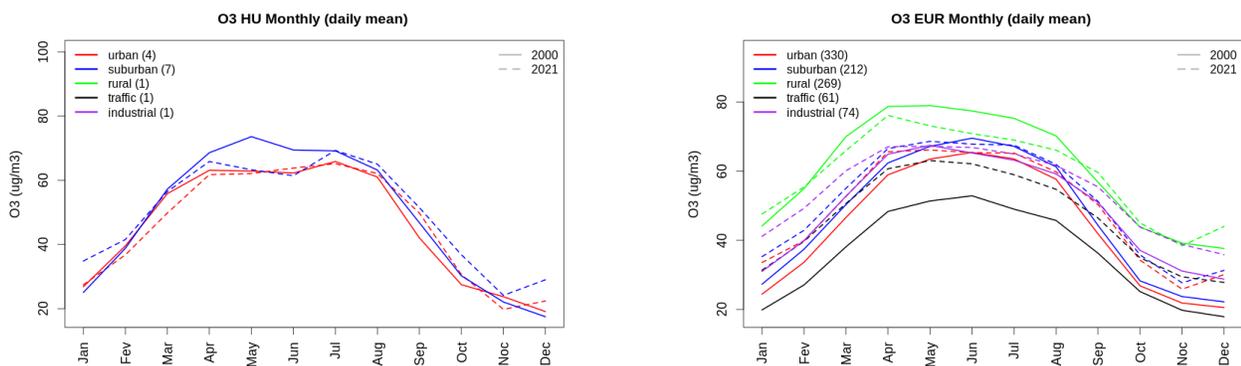


Figure A2.292: Monthly cycle of daily mean ozone for Hungary (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

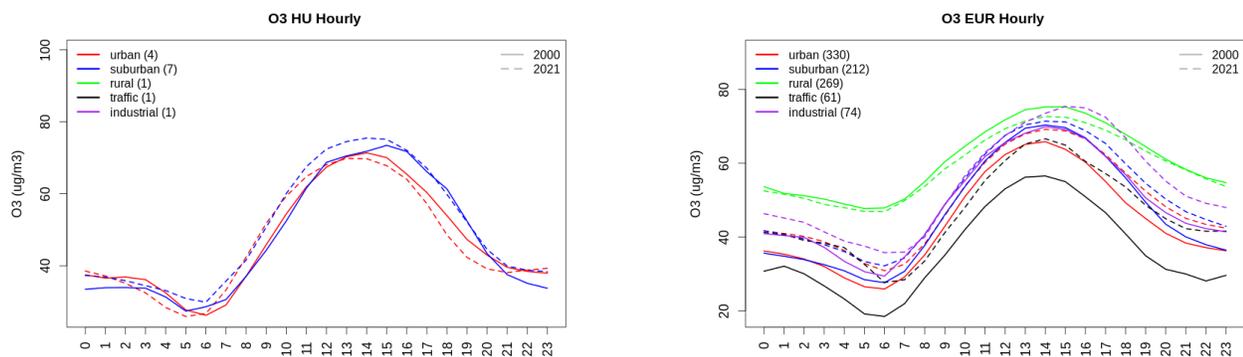


Figure A2.293: Diurnal cycle of daily mean ozone for Hungary (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

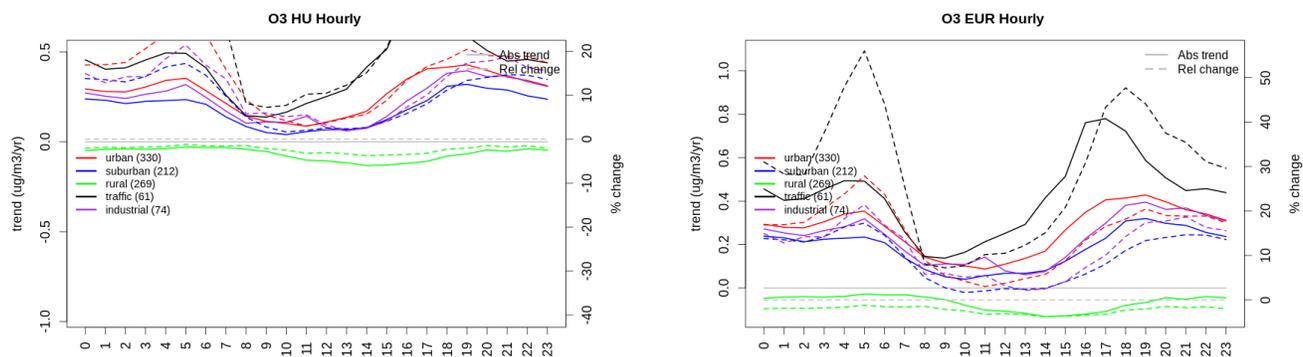


Figure A2.294: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Hungary (left) and Europe (right) of ozone at various station type.

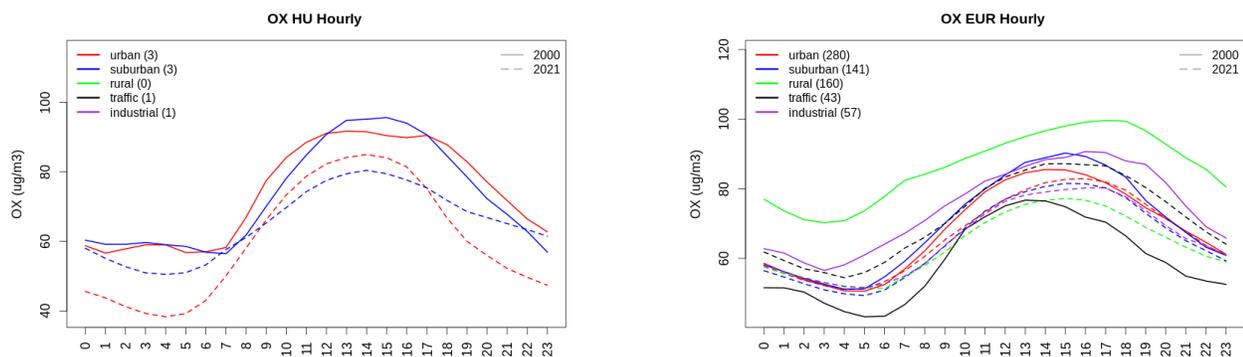


Figure A2.295: Diurnal cycle of daily mean OX (as NO₂+O₃) for Hungary (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

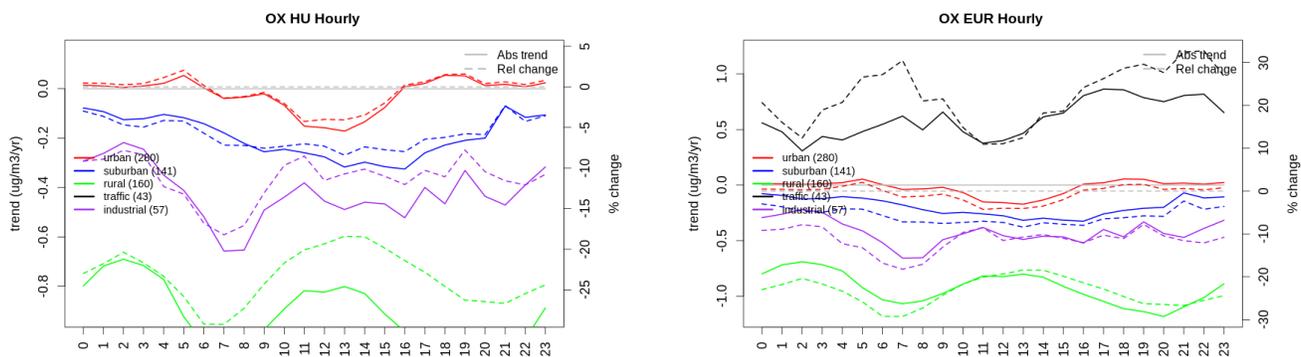


Figure A2.296: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Hungary (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

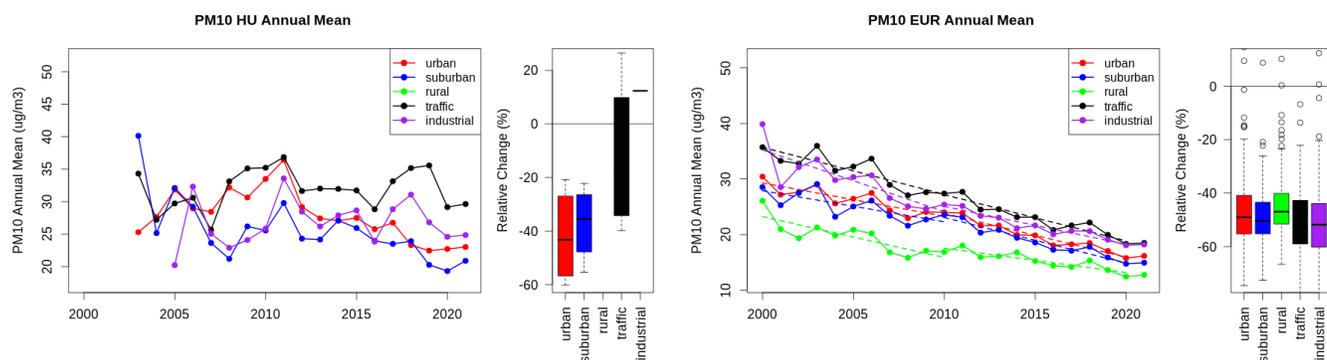


Figure A2.297: Time series of the Hungary (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Hungary and in Europe.

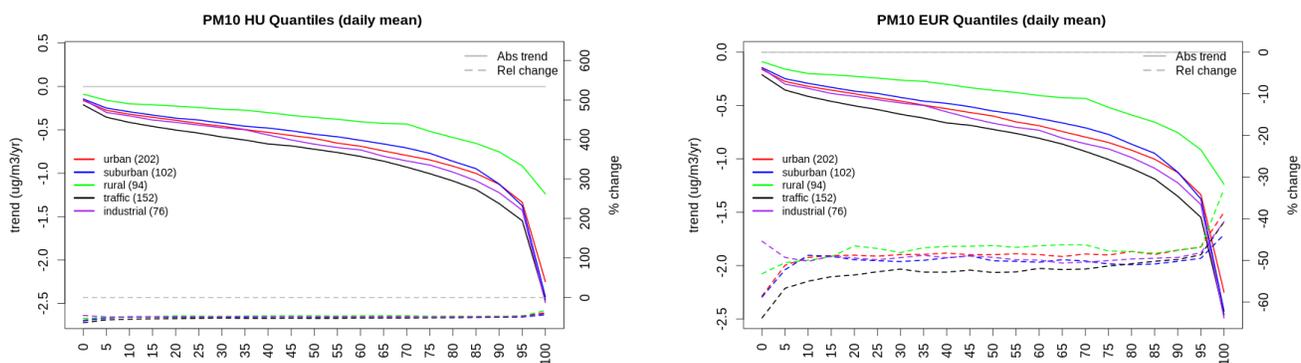


Figure A2.298: For PM₁₀ in Hungary (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

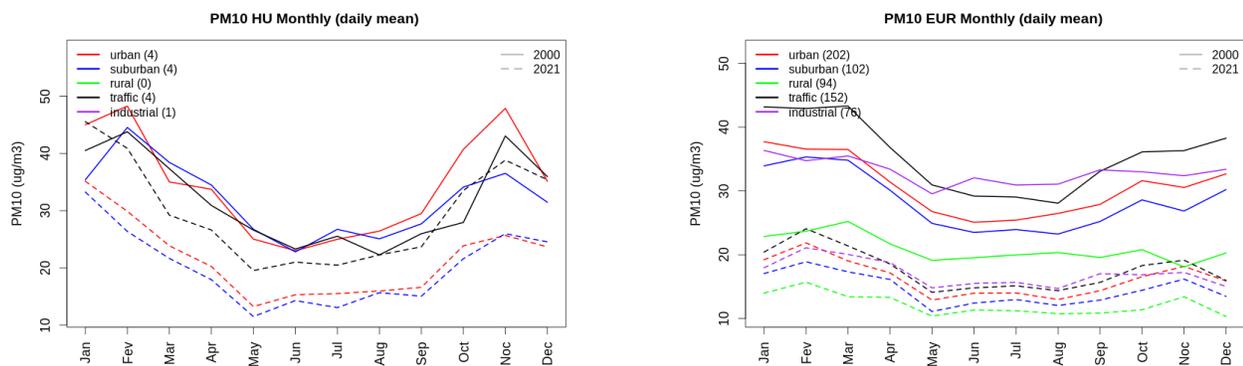


Figure A2.299: Monthly cycle of daily mean PM10 for Hungary (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

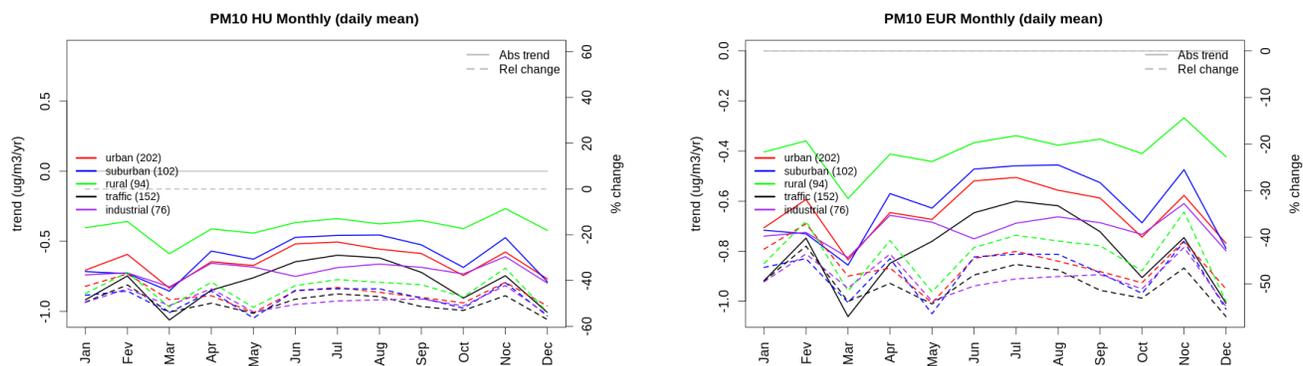


Figure A2.300: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Hungary (left) and Europe (right) of PM10 at various station type.

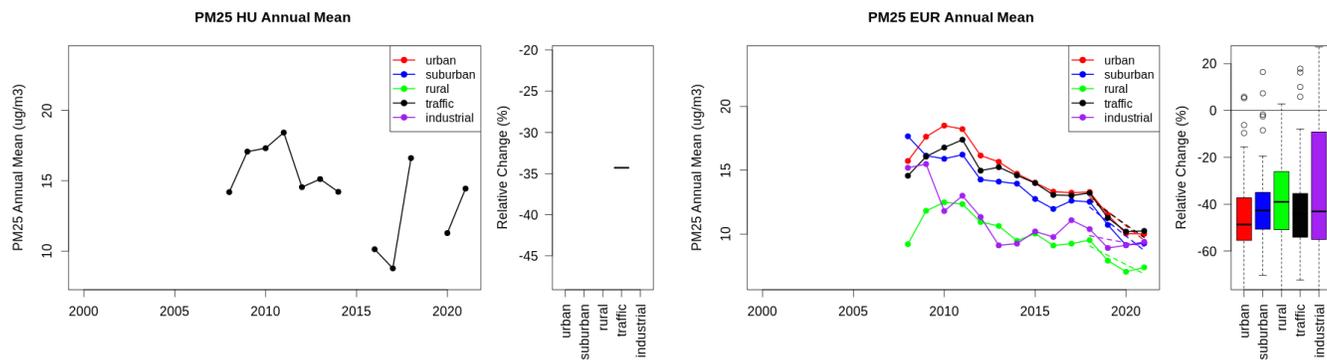


Figure A2.301: Time series of the Hungary (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Hungary and in Europe.

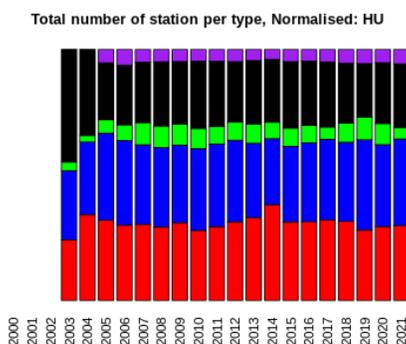
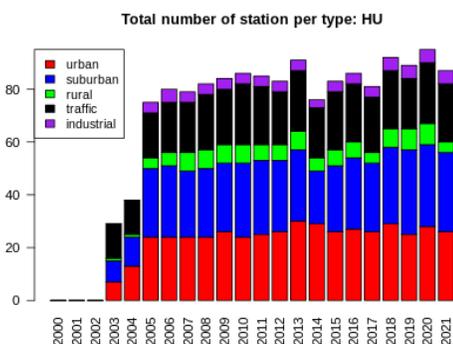
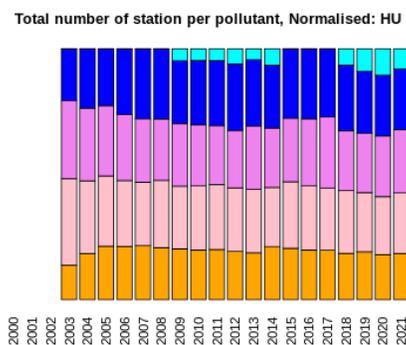
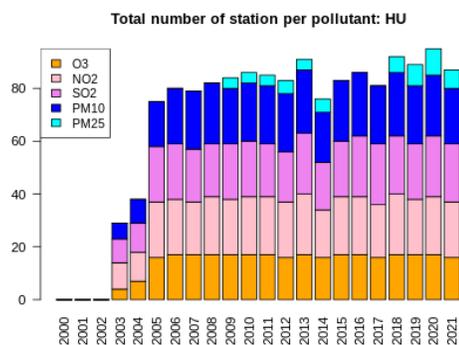
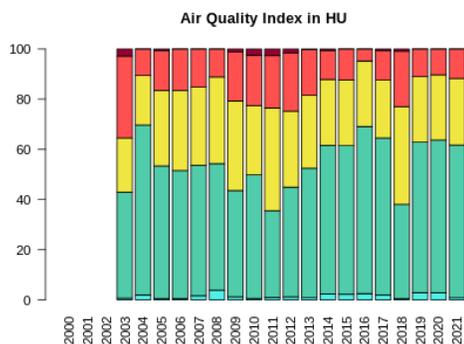


Figure A2.302: For Hungary: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

15 Ireland

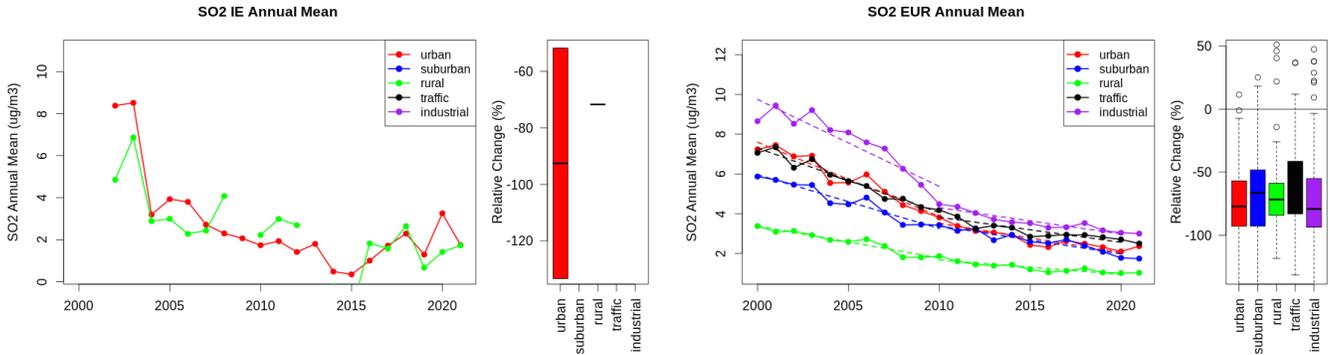


Figure A2.303: Time series of the Ireland (left) and European-wide composite (median) of annual mean SO2 (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Ireland and in Europe.

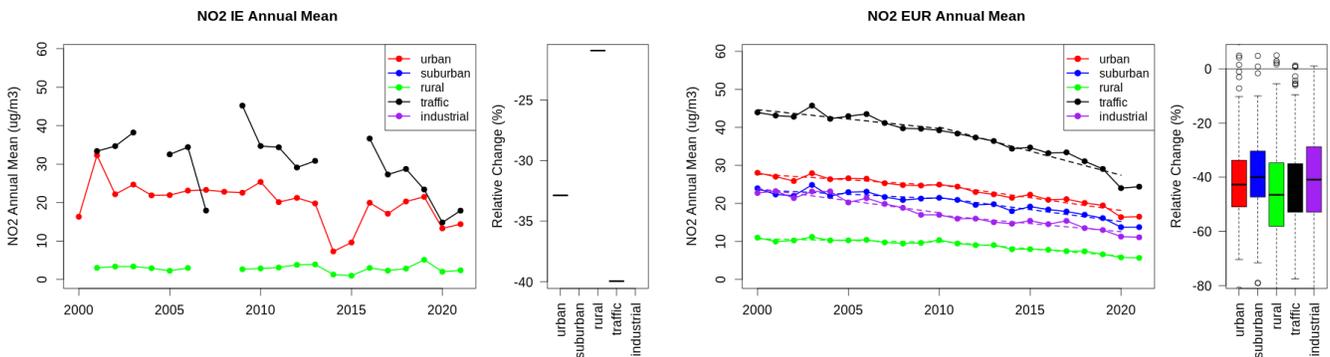


Figure A2.304: Time series of the Ireland (left) and European-wide composite (median) of annual mean NO2 (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Ireland and in Europe.

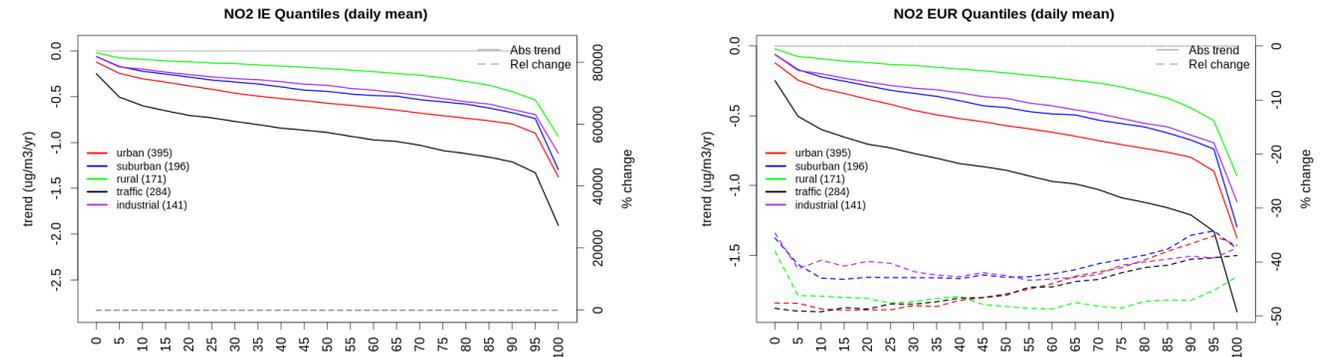


Figure A2.305: For NO2 in Ireland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

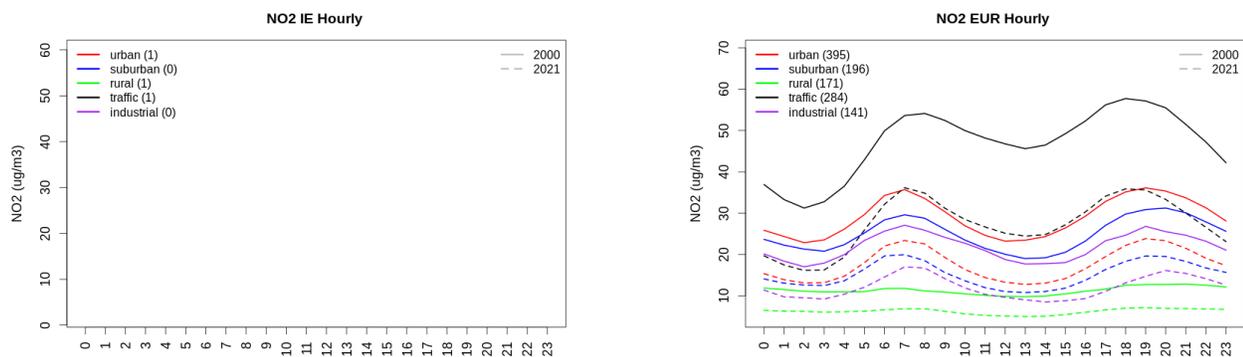


Figure A2.306: Diurnal cycle of daily mean NO2 for Ireland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

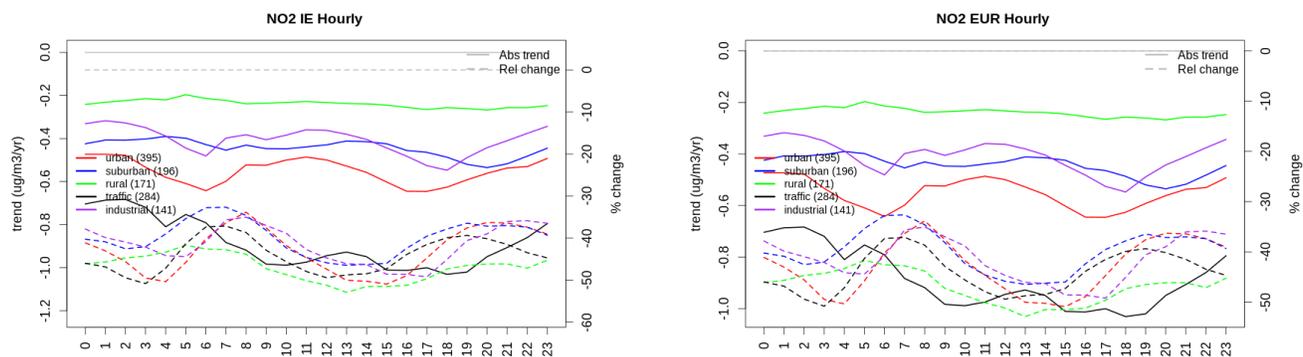


Figure A2.307: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Ireland (left) and Europe (right) of NO2 at various station type.

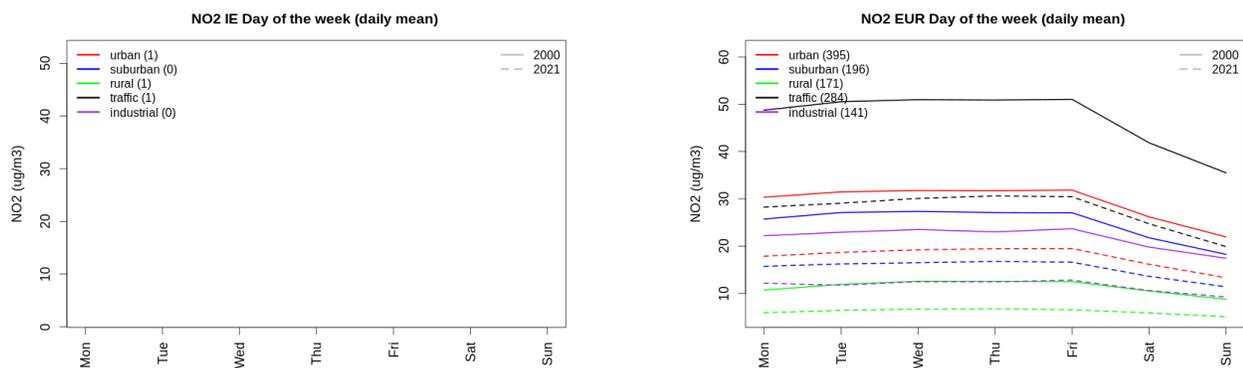


Figure A2.308: Weekly cycle of daily mean NO2 for Ireland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

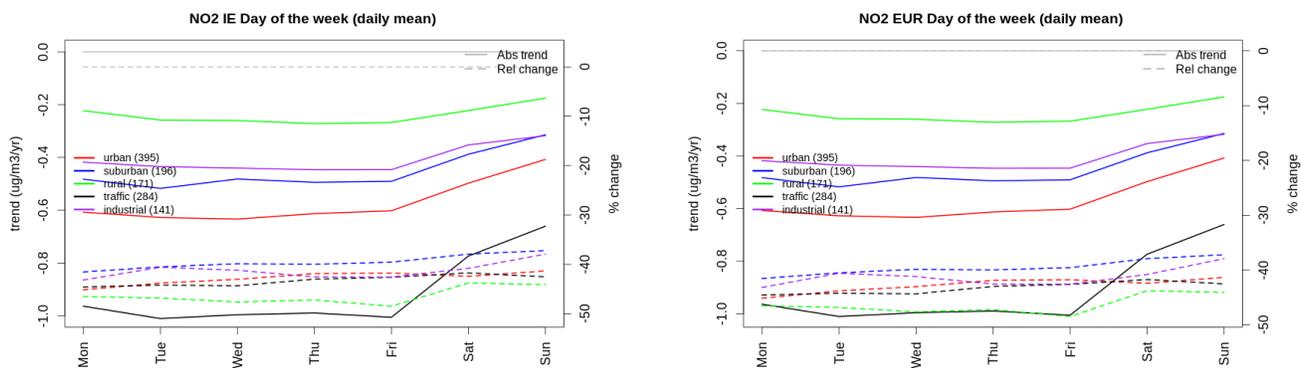


Figure A2.309: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Ireland (left) and Europe (right) of NO₂ at various station type.

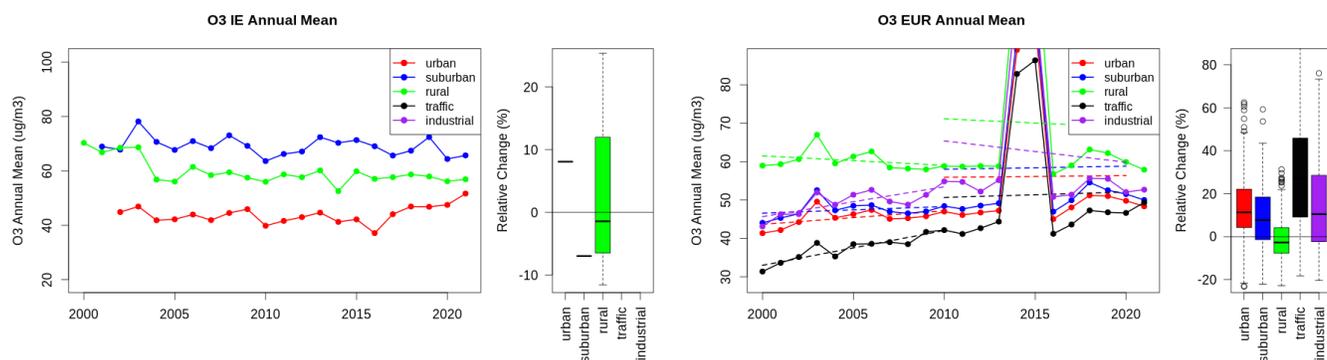


Figure A2.310: Time series of the Ireland (left) and European-wide composite (median) of annual mean ozone (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Ireland and in Europe.

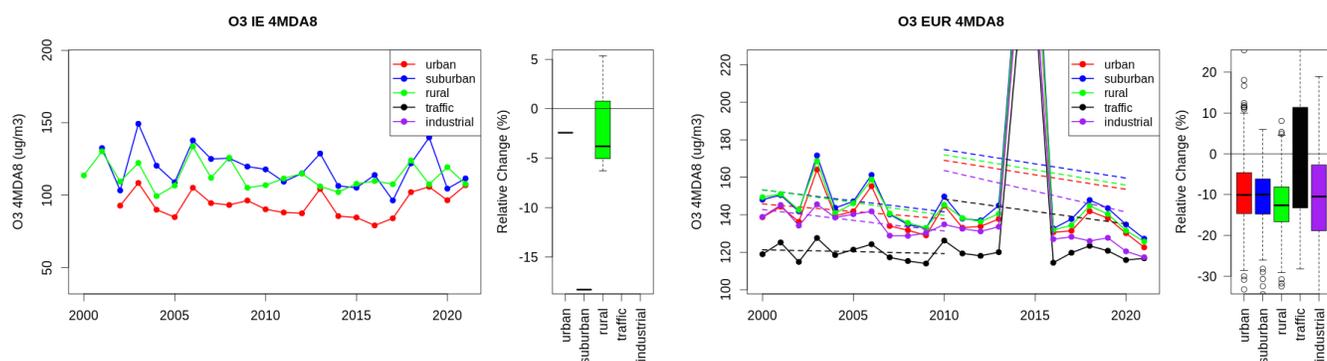


Figure A2.311: Time series of the Ireland (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Ireland and in Europe.

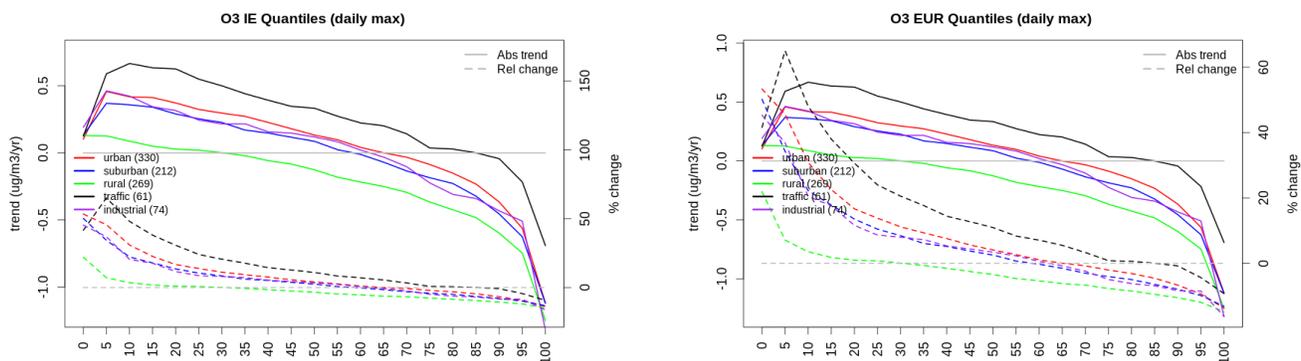


Figure A2.312: For ozone in Ireland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

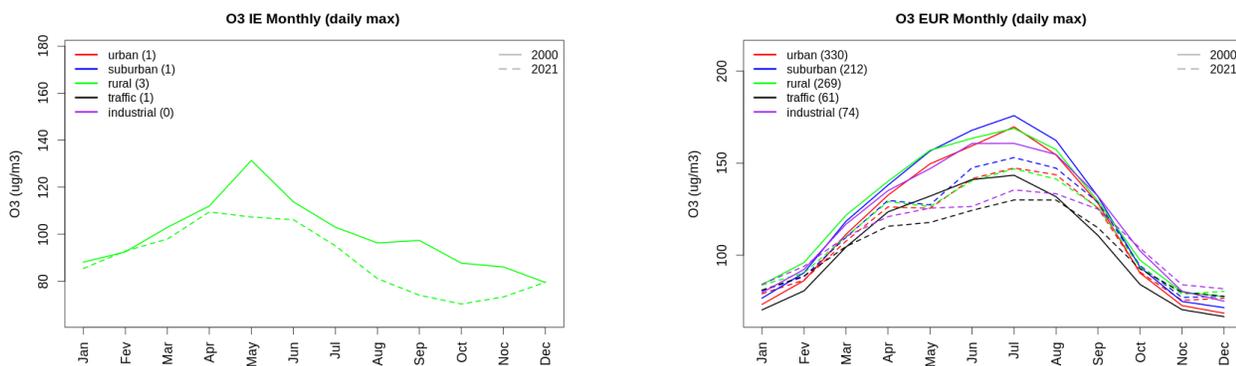


Figure A2.313: Monthly cycle of daily max ozone for Ireland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

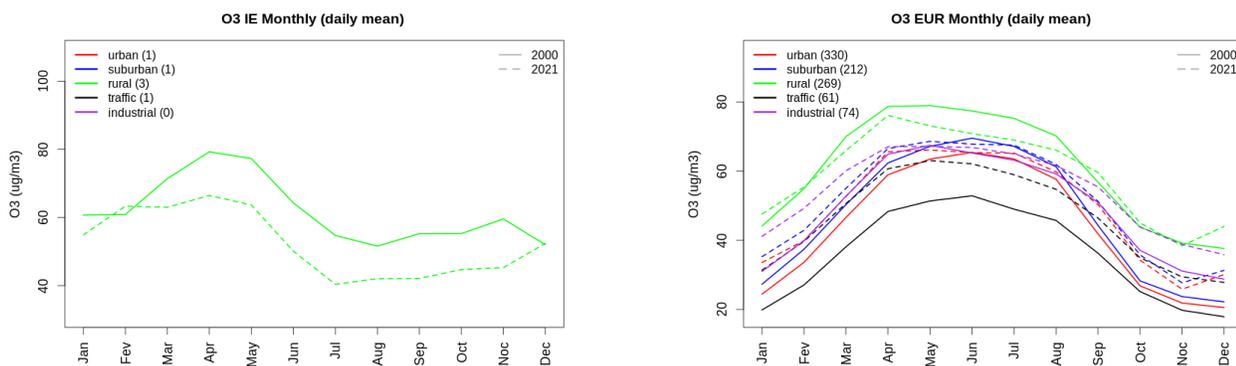


Figure A2.314: Monthly cycle of daily mean ozone for Ireland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

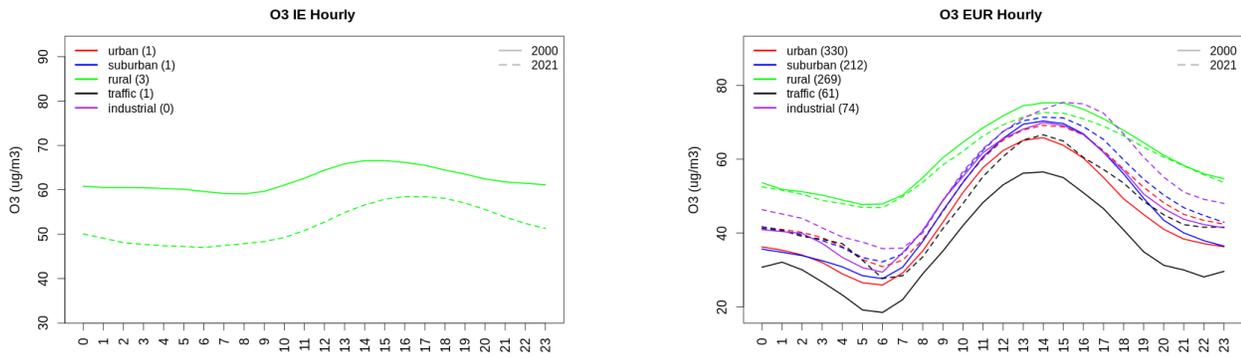


Figure A2.315: Diurnal cycle of daily mean ozone for Ireland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

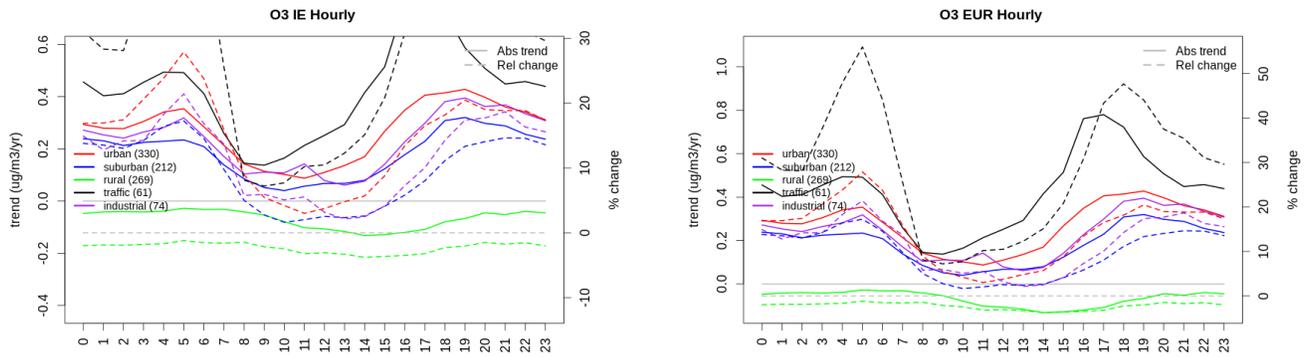


Figure A2.316: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Ireland (left) and Europe (right) of ozone at various station type.

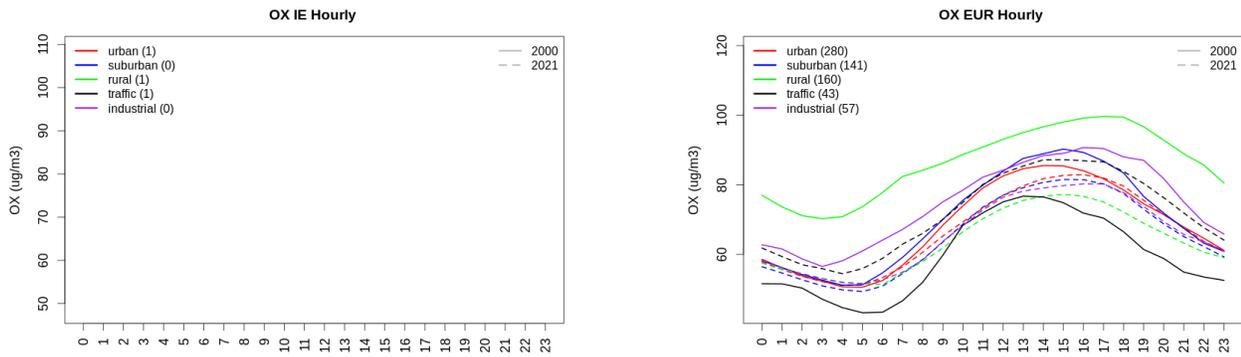


Figure A2.317: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Ireland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

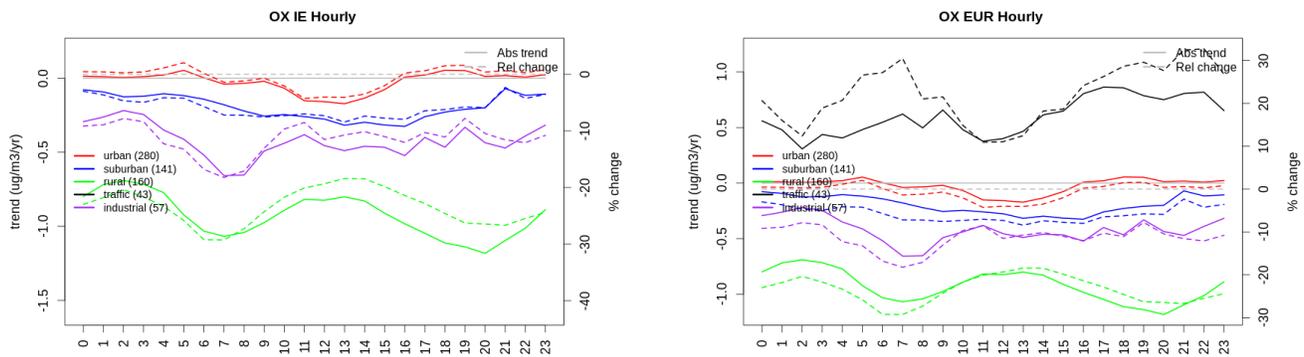


Figure A2.318: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Ireland (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

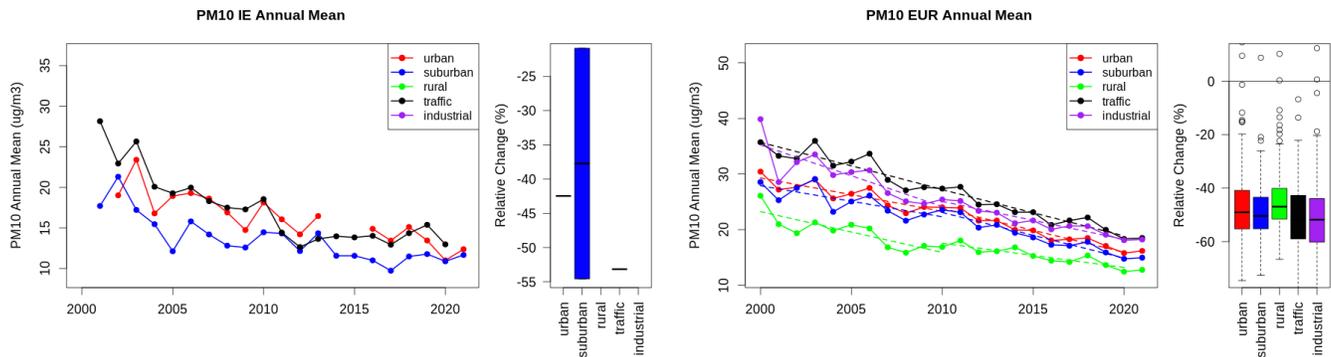


Figure A2.319: Time series of the Ireland (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Ireland and in Europe.

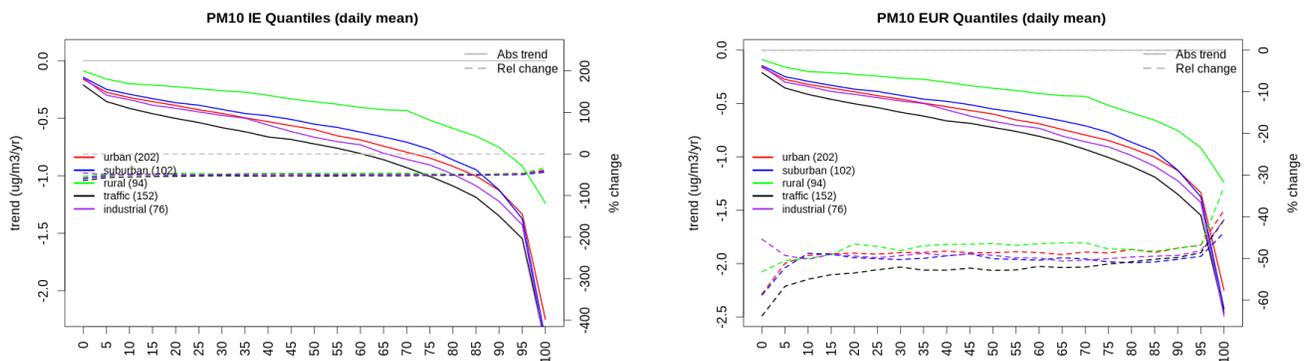


Figure A2.320: For PM₁₀ in Ireland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

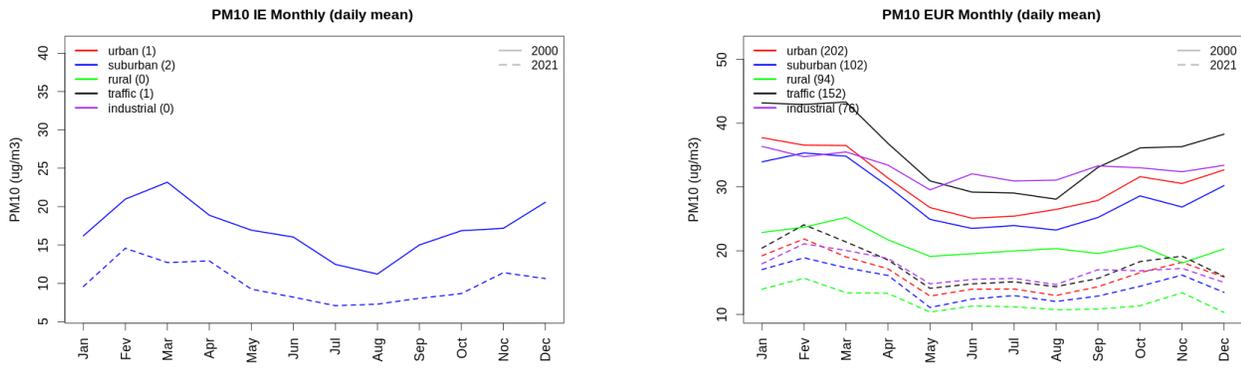


Figure A2.321: Monthly cycle of daily mean PM10 for Ireland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

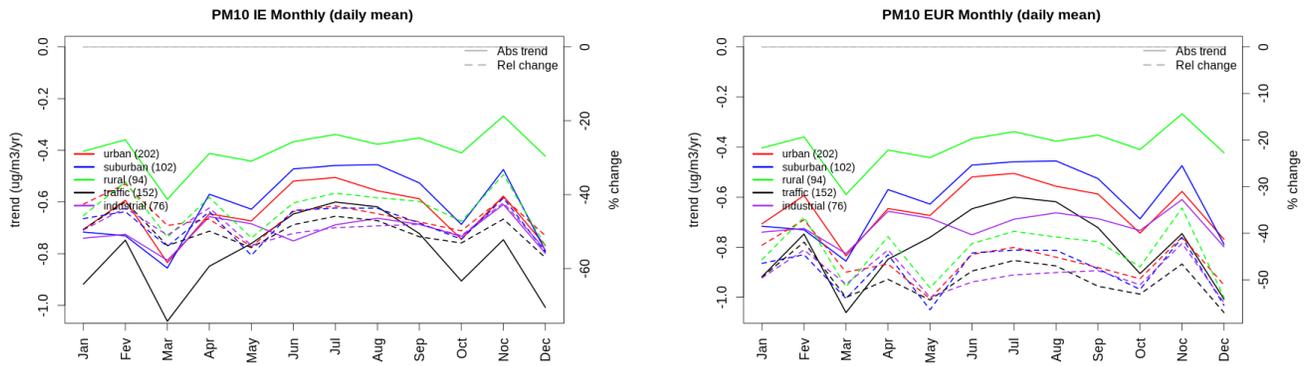


Figure A2.322: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Ireland (left) and Europe (right) of PM10 at various station type.

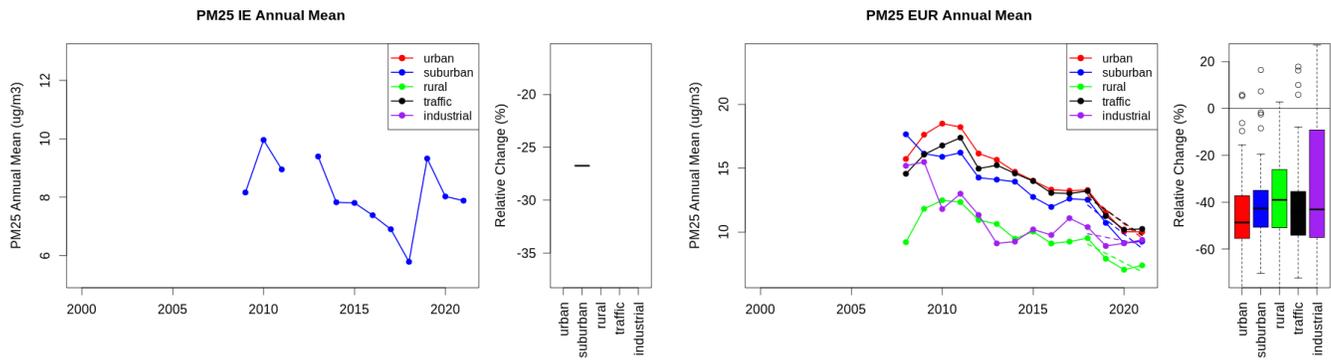


Figure A2.323: Time series of the Ireland (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Ireland and in Europe.

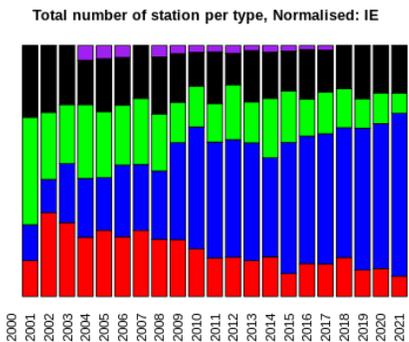
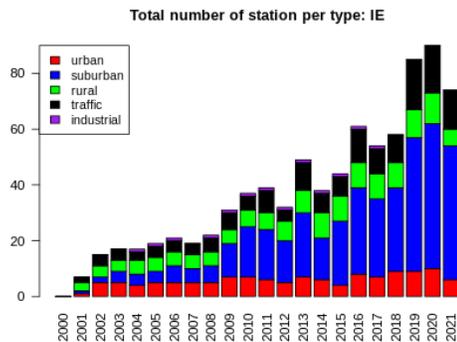
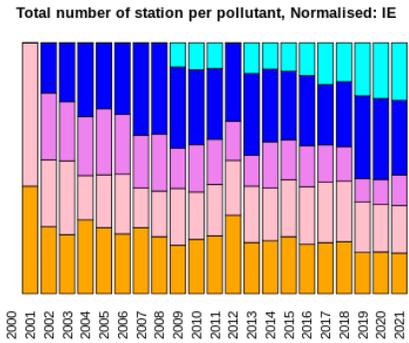
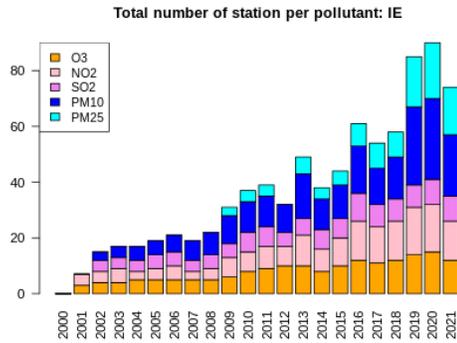
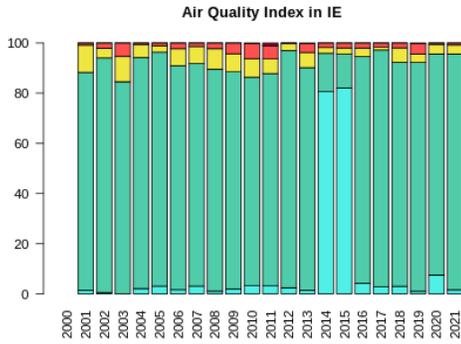


Figure A2.324: For Ireland: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

16 Italy

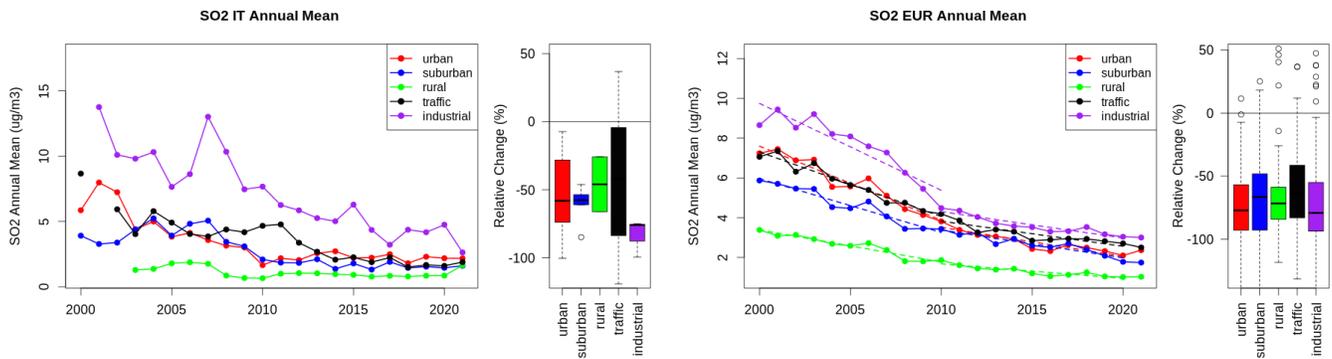


Figure A2.325: Time series of the Italy (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Italy and in Europe.

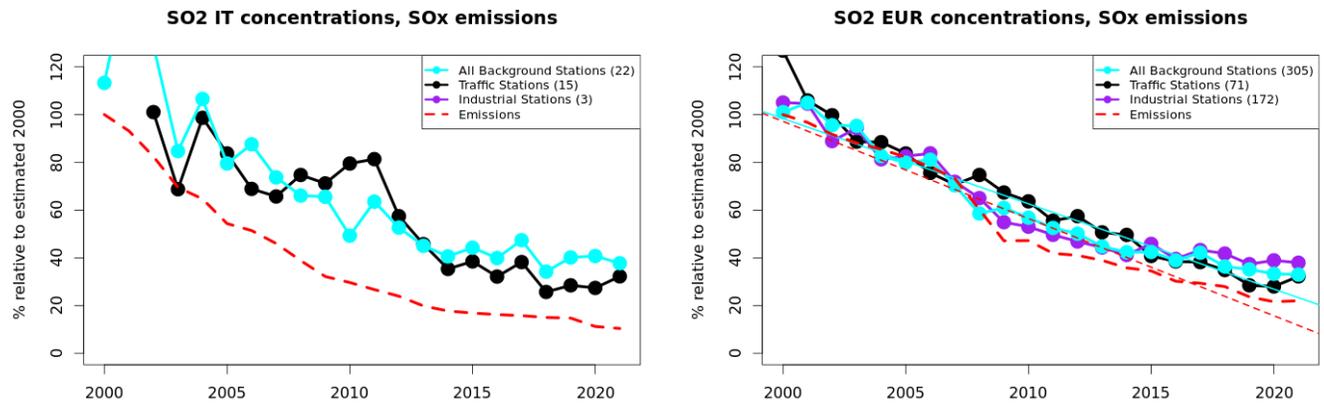


Figure A2.326: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

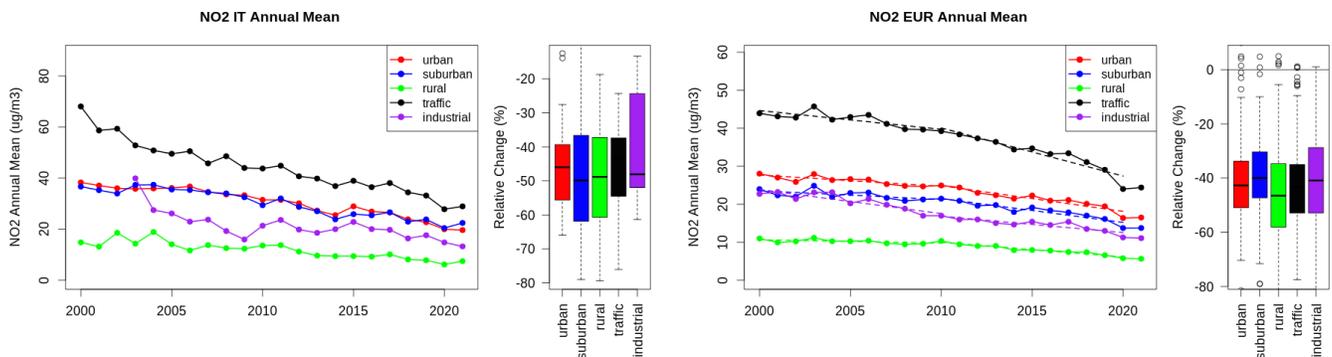


Figure A2.327: Time series of the Italy (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Italy and in Europe.

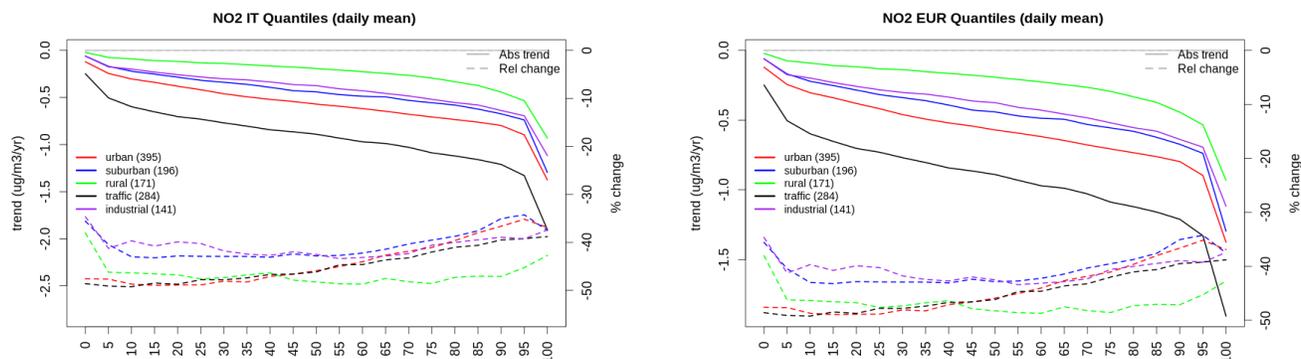


Figure A2.328: For NO₂ in Italy (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

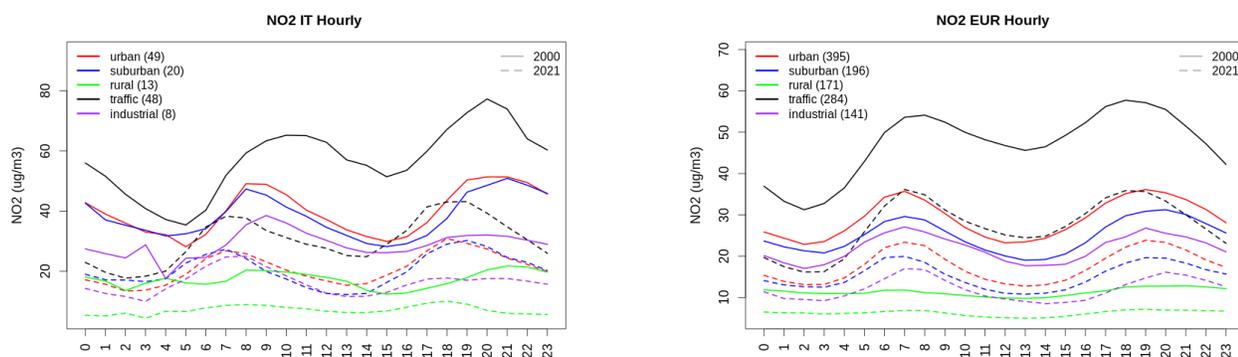


Figure A2.329: Diurnal cycle of daily mean NO₂ for Italy (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

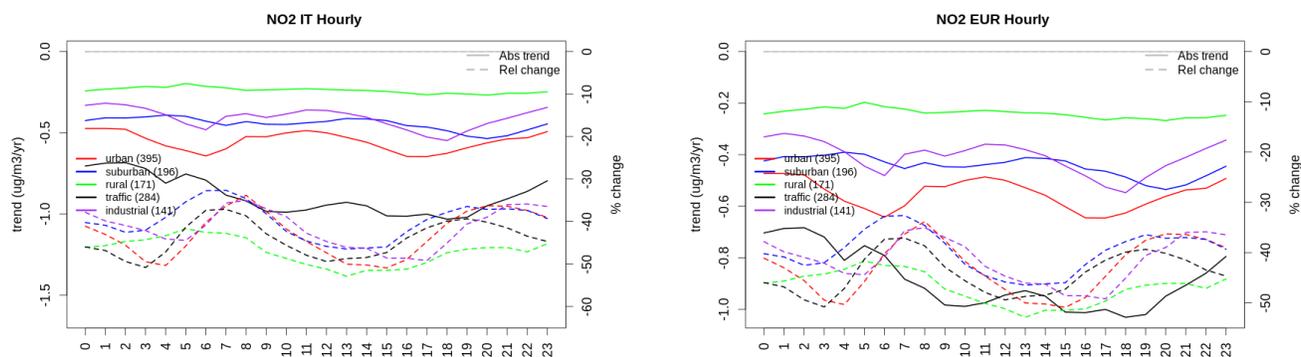


Figure A2.330: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Italy (left) and Europe (right) of NO₂ at various station type.

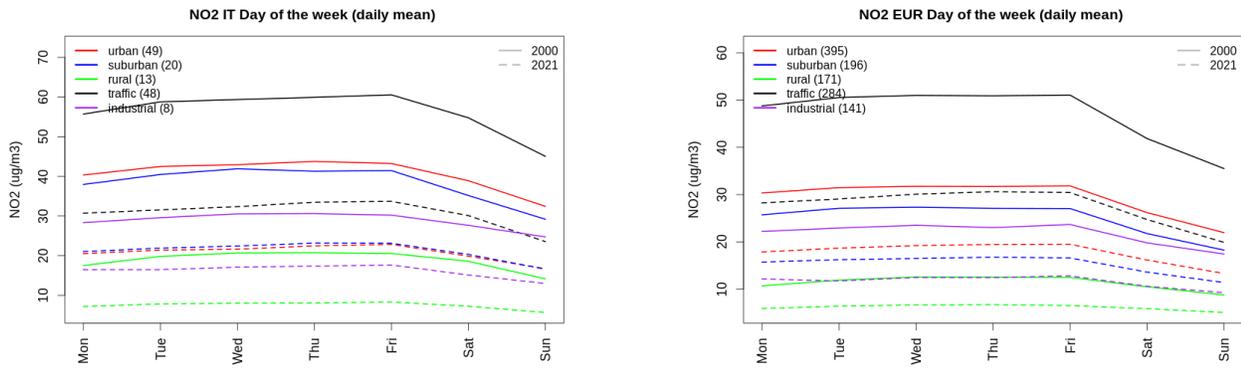


Figure A2.331: Weekly cycle of daily mean NO2 for Italy (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

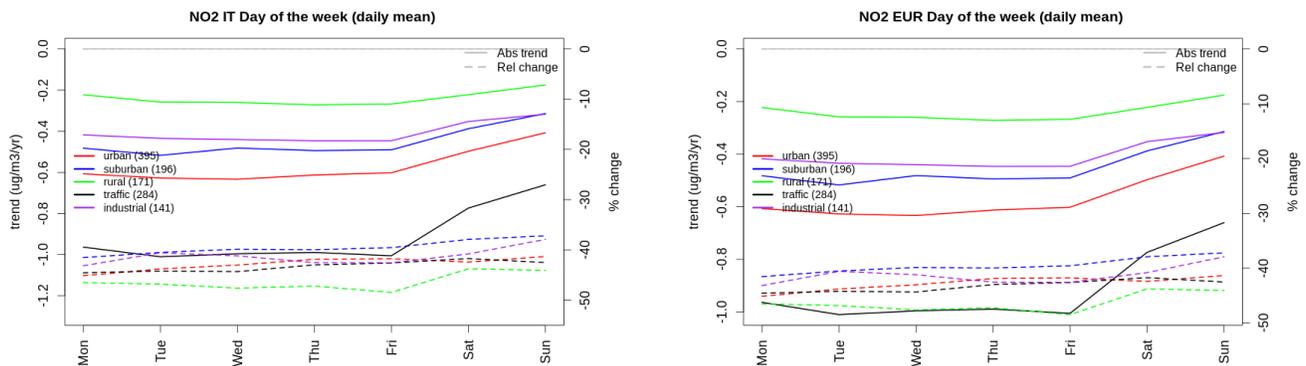


Figure A2.332: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Italy (left) and Europe (right) of NO2 at various station type.

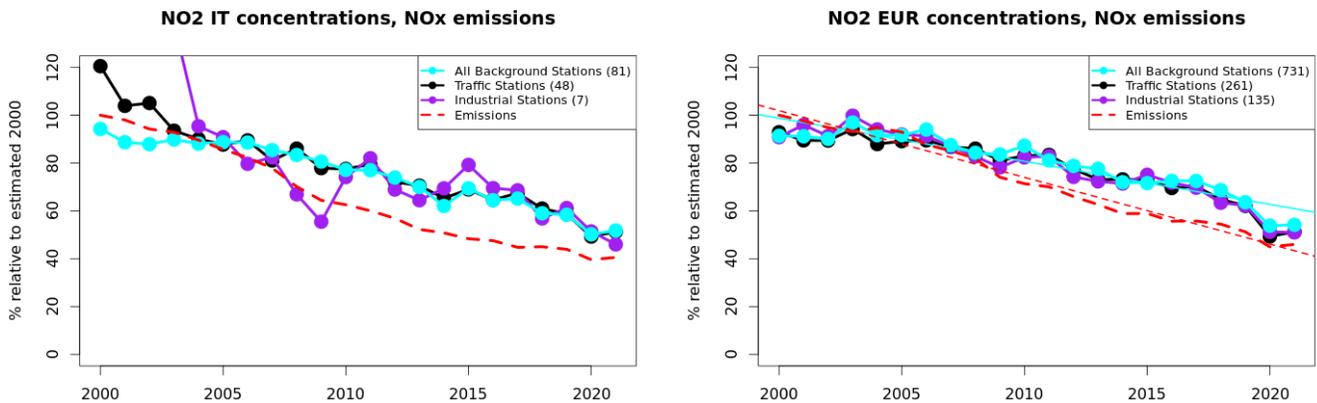


Figure A2.333: Time series of 2000-2021 (left) and European (right) median NO2 observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NOx emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

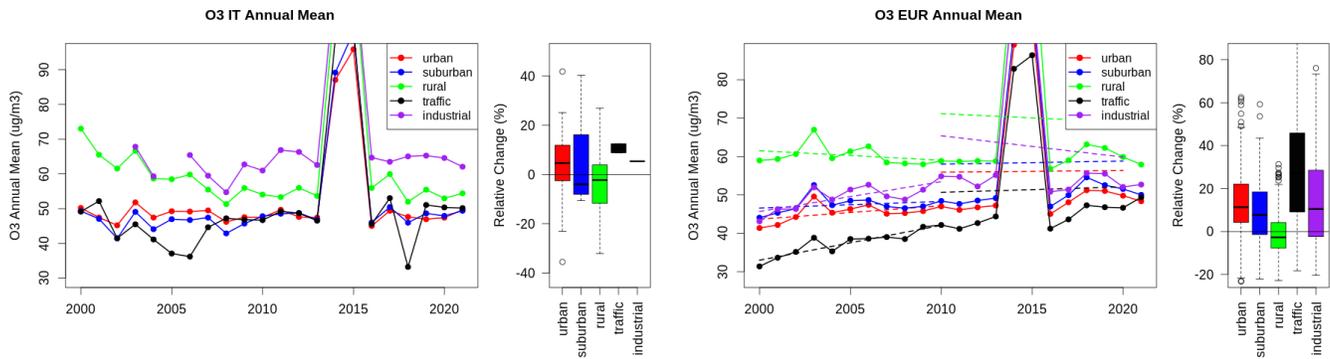


Figure A2.334: Time series of the Italy (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Italy and in Europe.

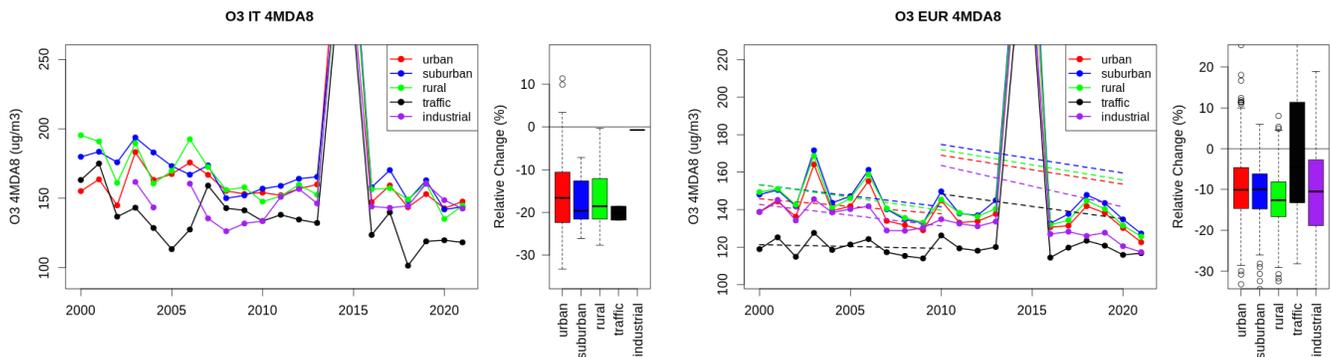


Figure A2.335: Time series of the Italy (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Italy and in Europe.

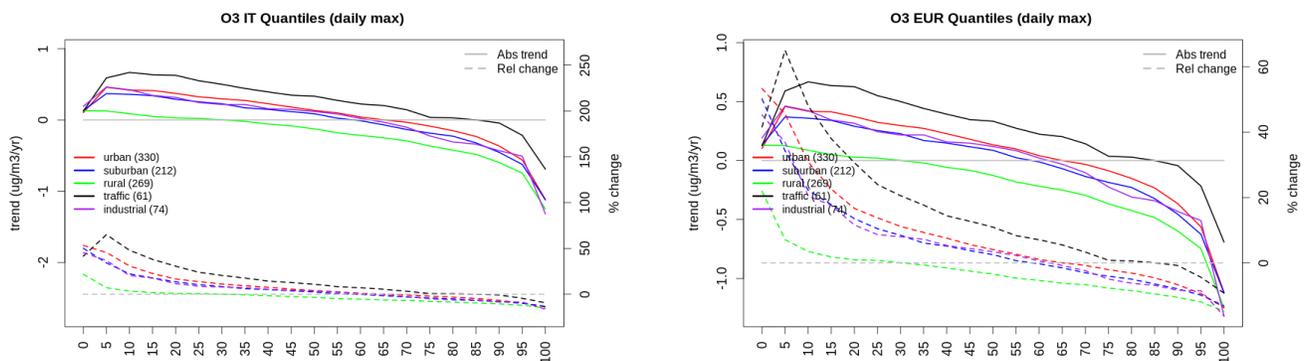


Figure A2.336: For ozone in Italy (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

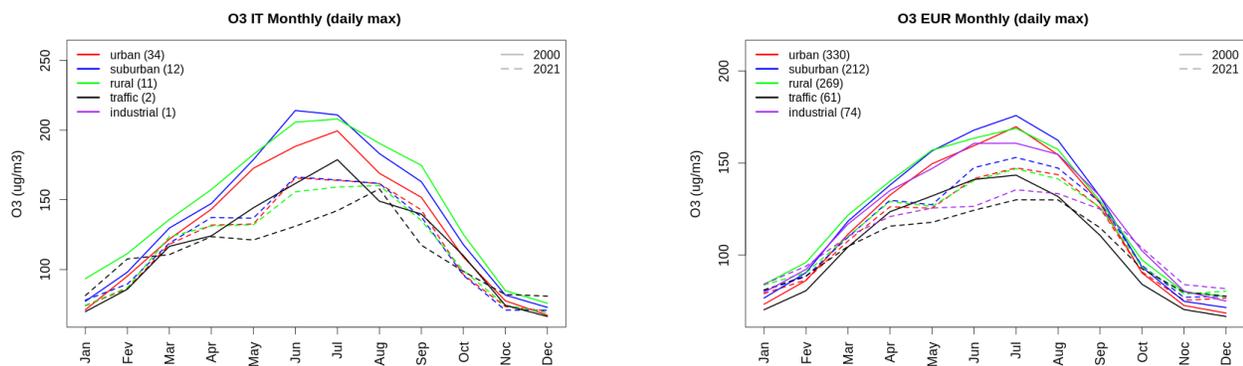


Figure A2.337: Monthly cycle of daily max ozone for Italy (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

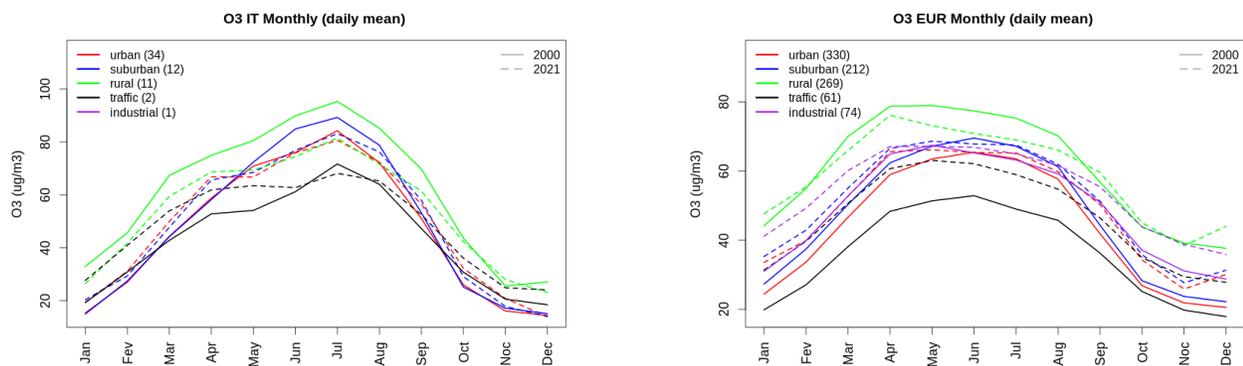


Figure A2.338: Monthly cycle of daily mean ozone for Italy (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

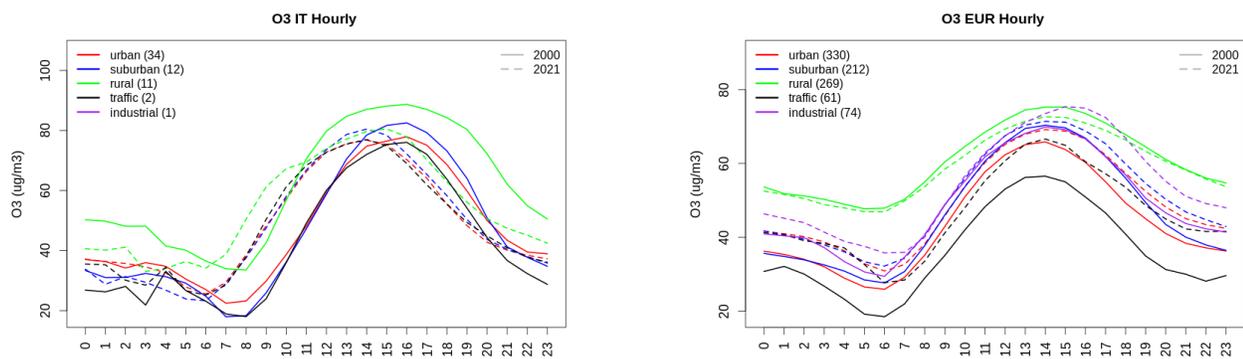


Figure A2.339: Diurnal cycle of daily mean ozone for Italy (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

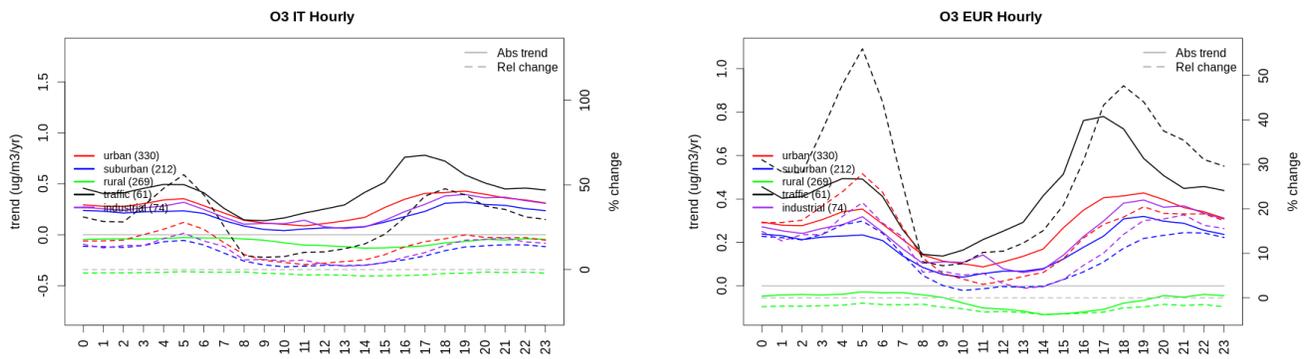


Figure A2.340: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Italy (left) and Europe (right) of ozone at various station type.

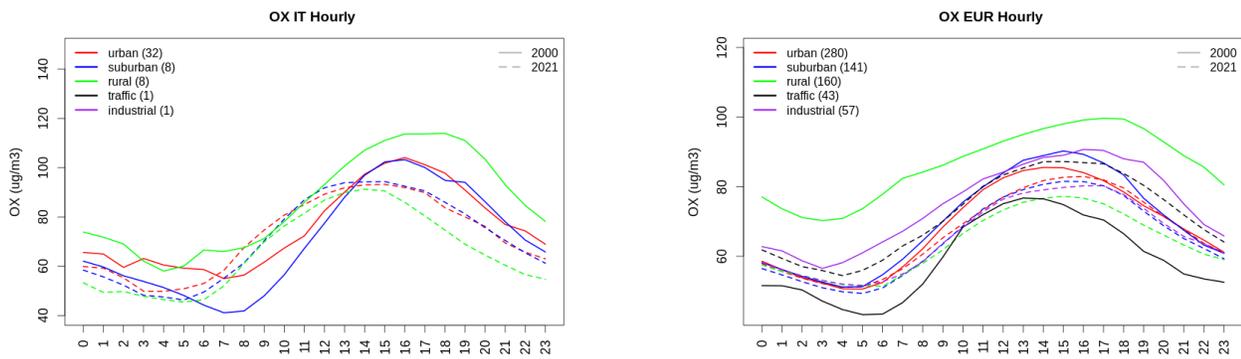


Figure A2.341: Diurnal cycle of daily mean OX (as NO₂+O₃) for Italy (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

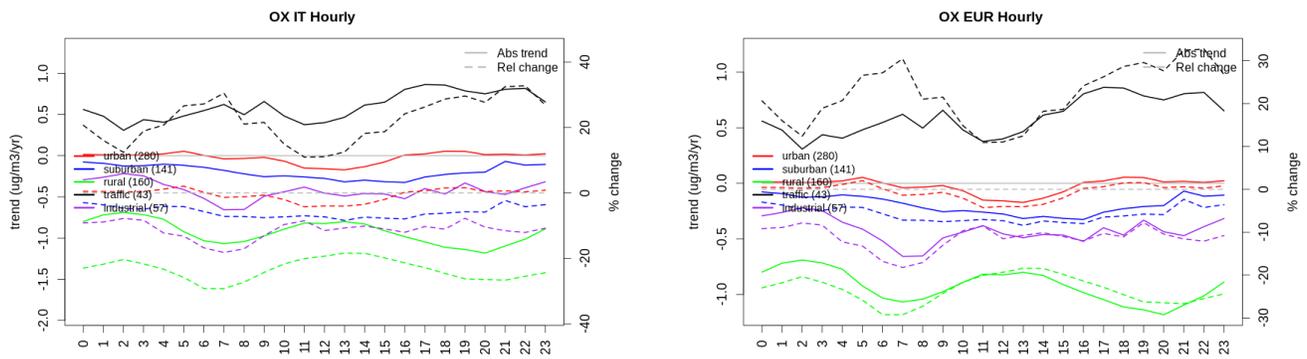


Figure A2.342: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Italy (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

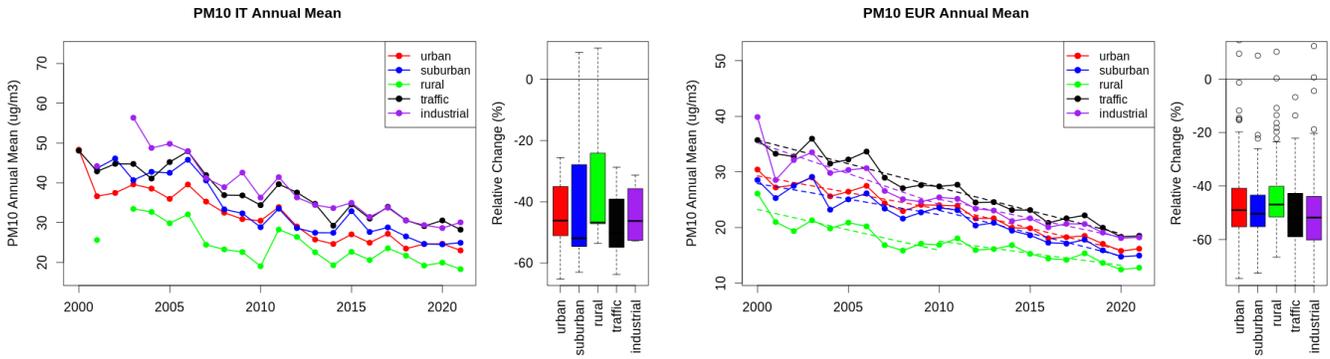


Figure A2.343: Time series of the Italy (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Italy and in Europe.

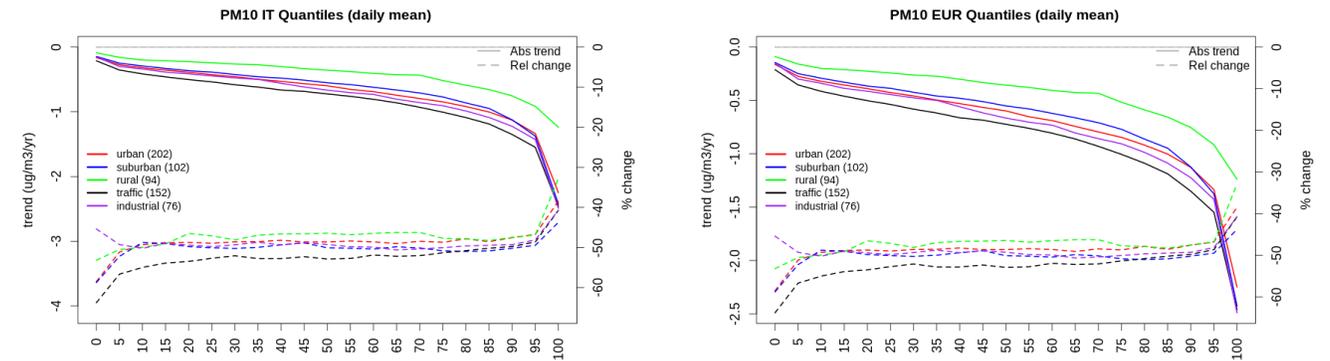


Figure A2.344: For PM10 in Italy (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

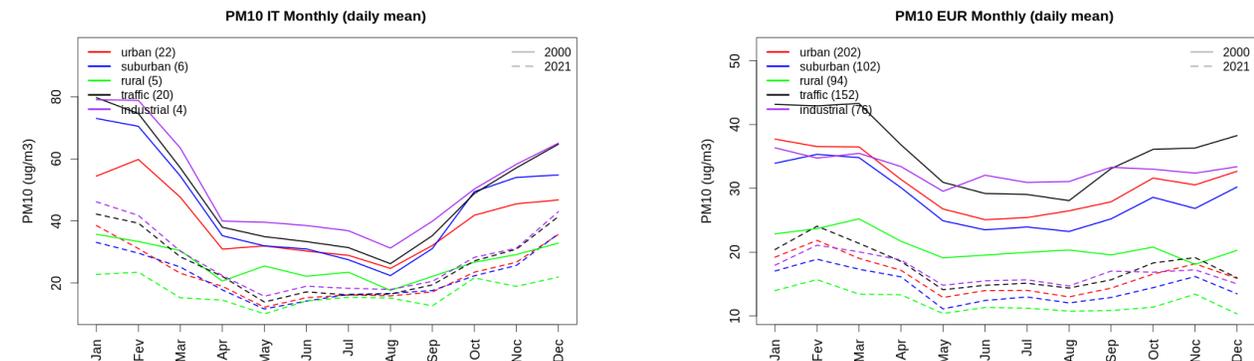


Figure A2.345: Monthly cycle of daily mean PM10 for Italy (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

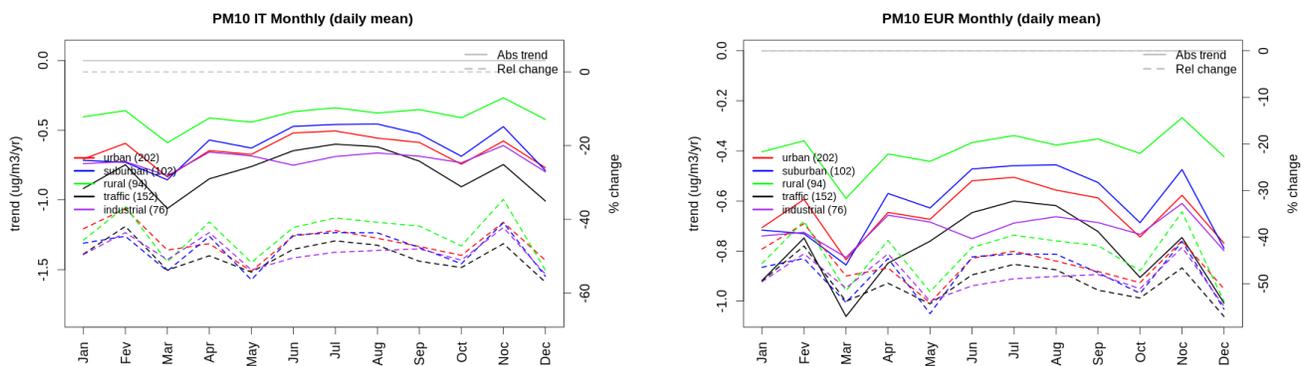


Figure A2.346: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Italy (left) and Europe (right) of PM10 at various station type.

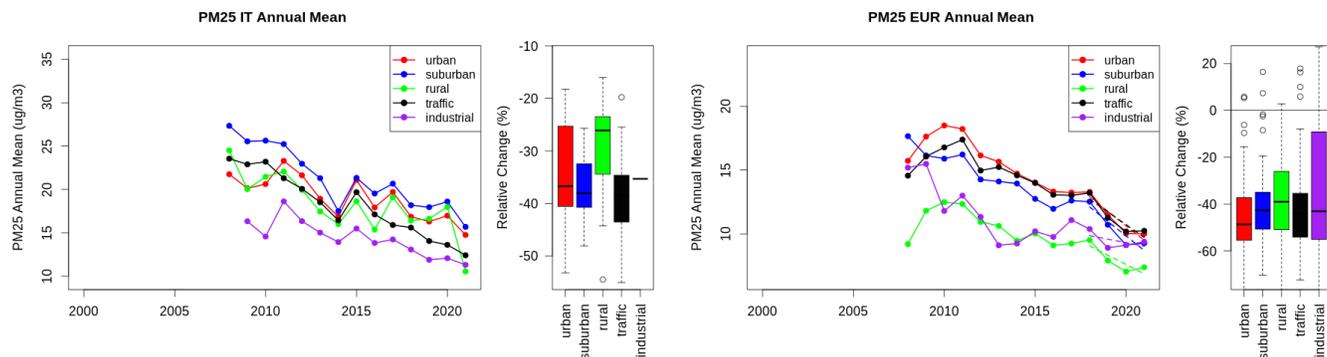


Figure A2.347: Time series of the Italy (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Italy and in Europe.

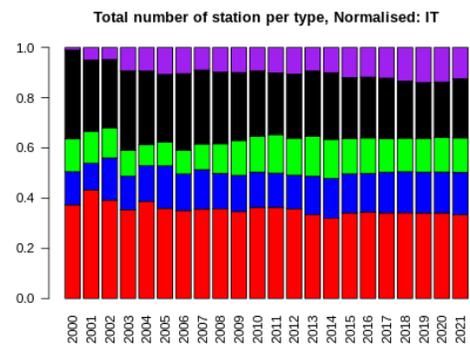
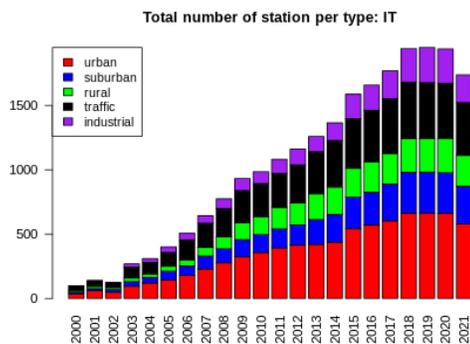
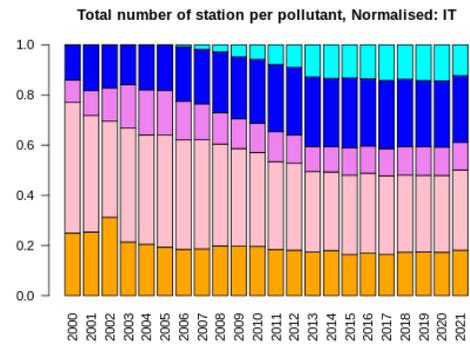
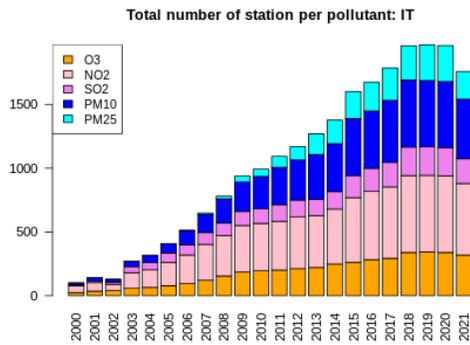
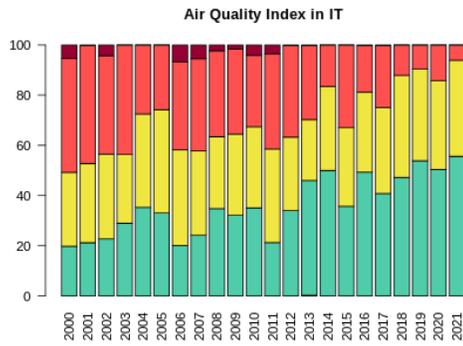


Figure A2.348: For Italy: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

17 Lithuania

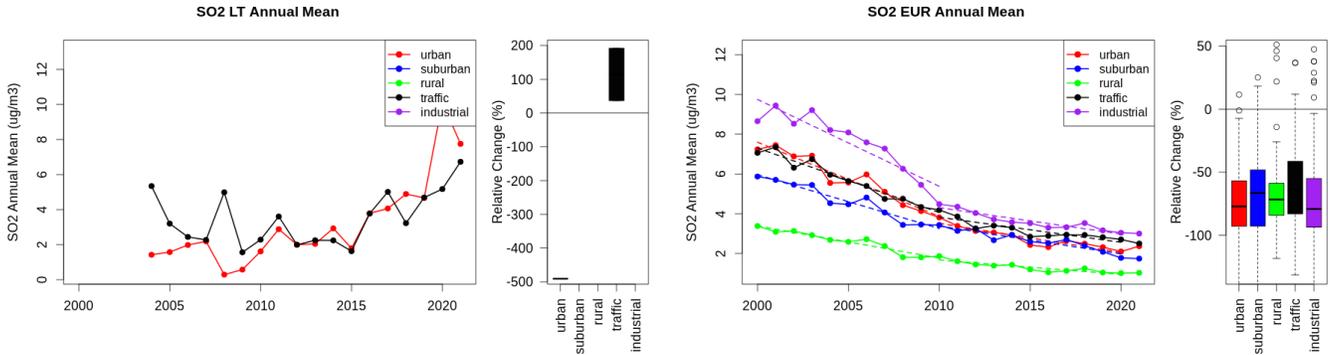


Figure A2.349: Time series of the Lithuania (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Lithuania and in Europe.

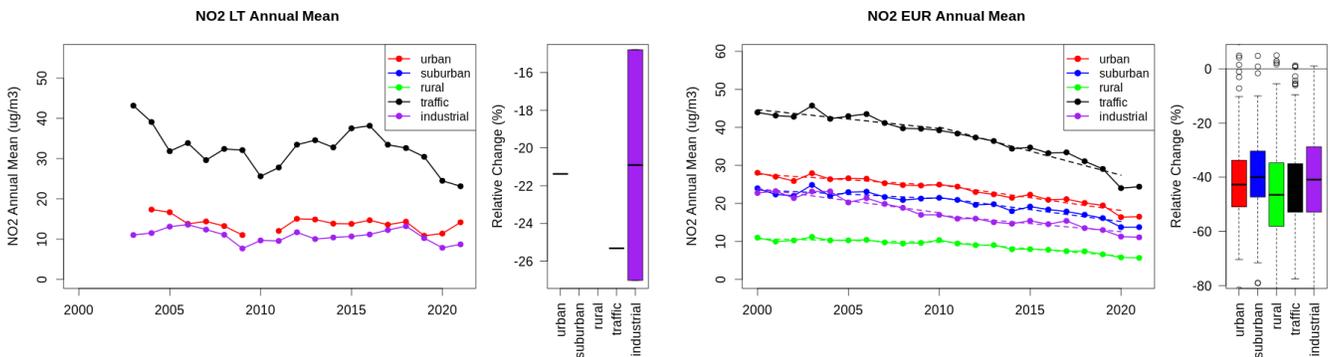


Figure A2.350: Time series of the Lithuania (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Lithuania and in Europe.

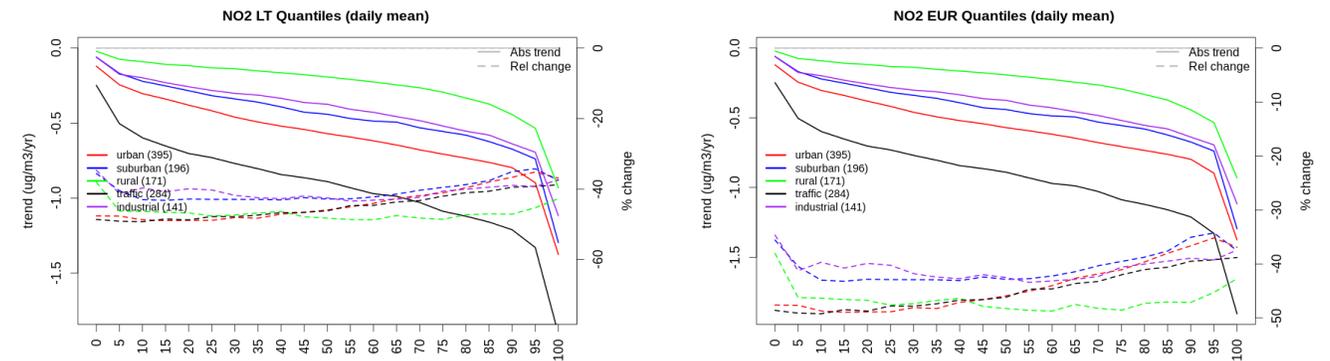


Figure A2.351: For NO₂ in Lithuania (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

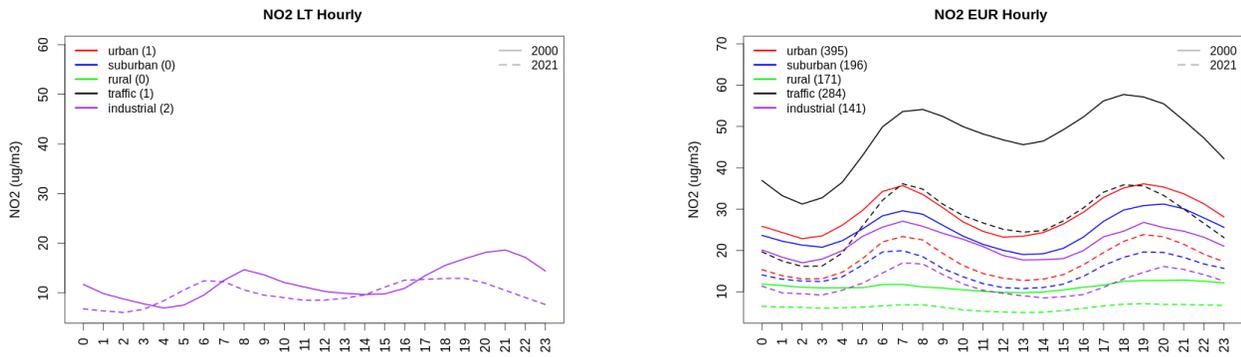


Figure A2.352: Diurnal cycle of daily mean NO2 for Lithuania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

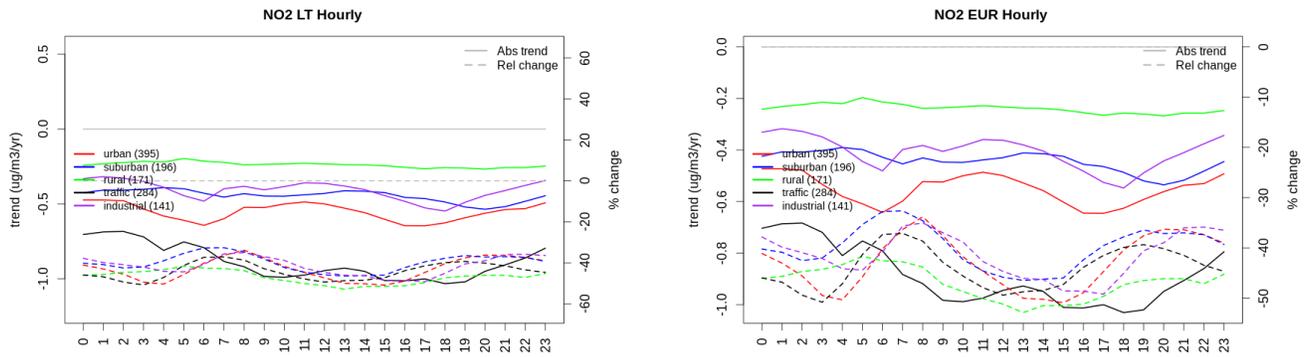


Figure A2.353: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Lithuania (left) and Europe (right) of NO2 at various station type.

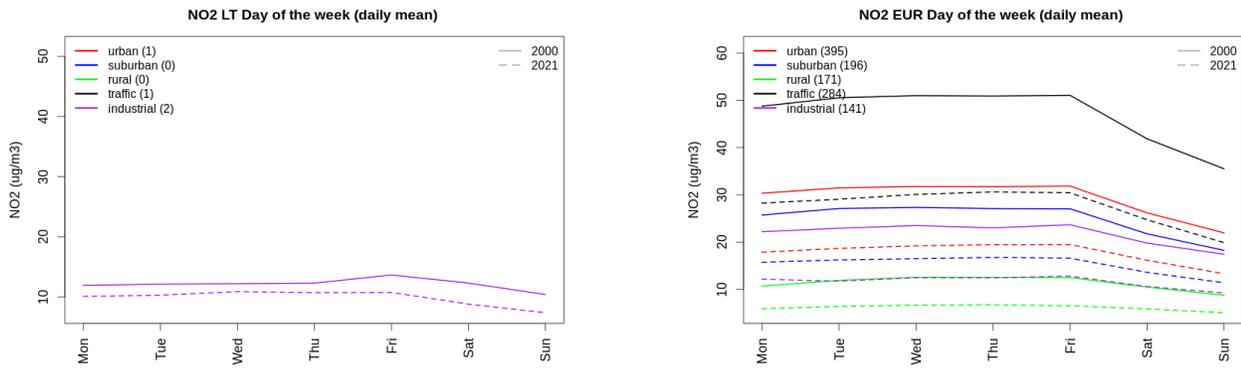


Figure A2.354: Weekly cycle of daily mean NO2 for Lithuania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

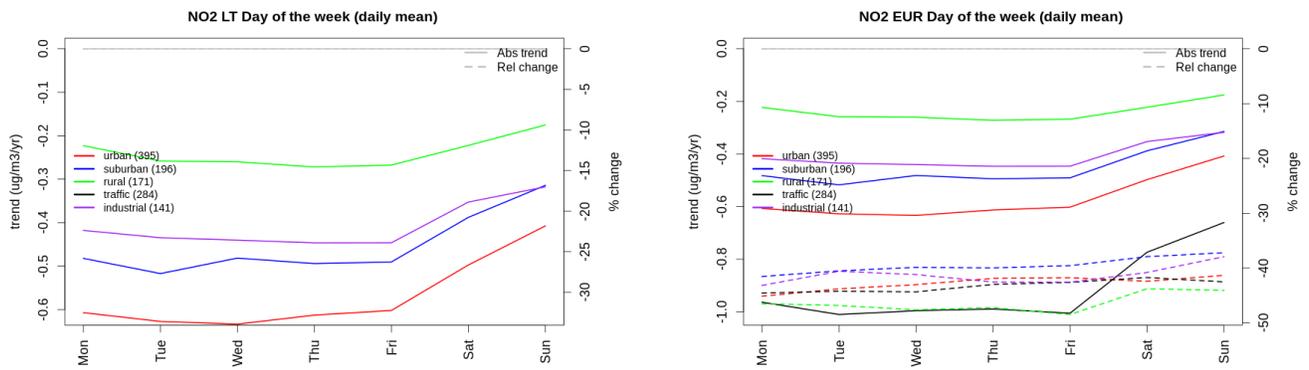


Figure A2.355: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Lithuania (left) and Europe (right) of NO₂ at various station type.

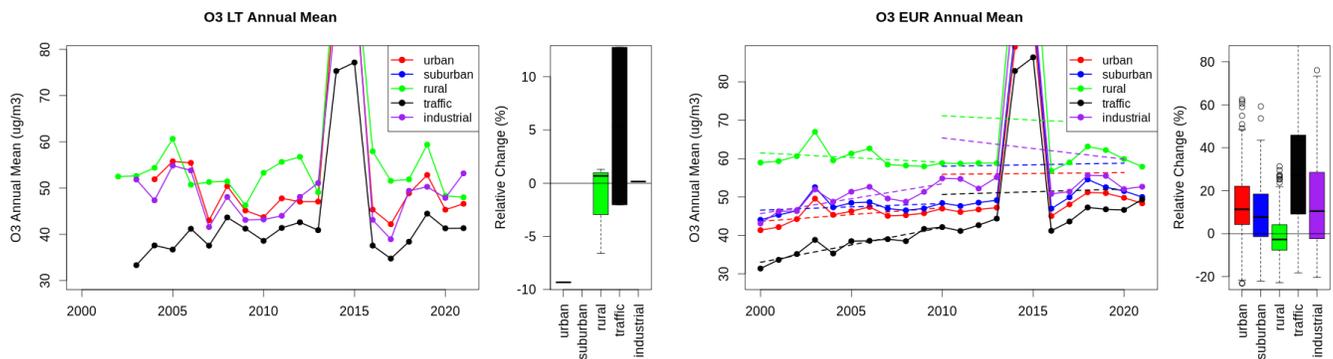


Figure A2.356: Time series of the Lithuania (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Lithuania and in Europe.

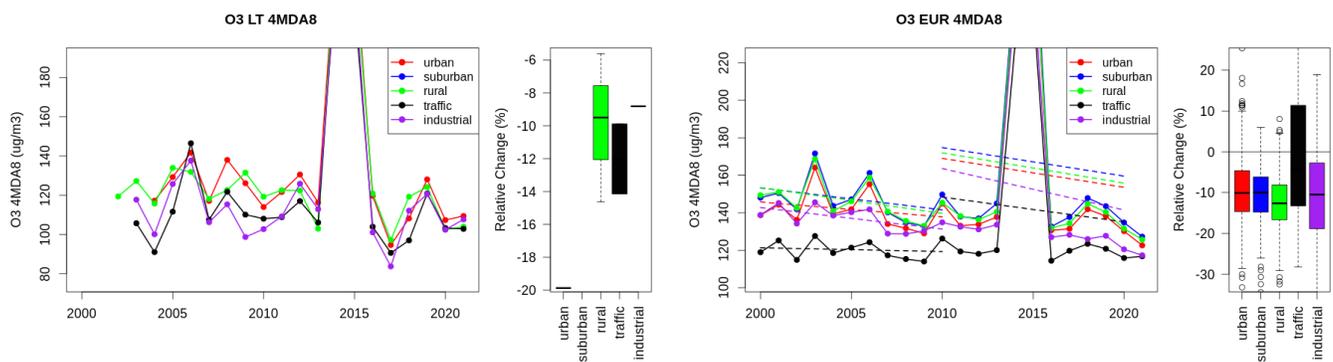


Figure A2.357: Time series of the Lithuania (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Lithuania and in Europe.

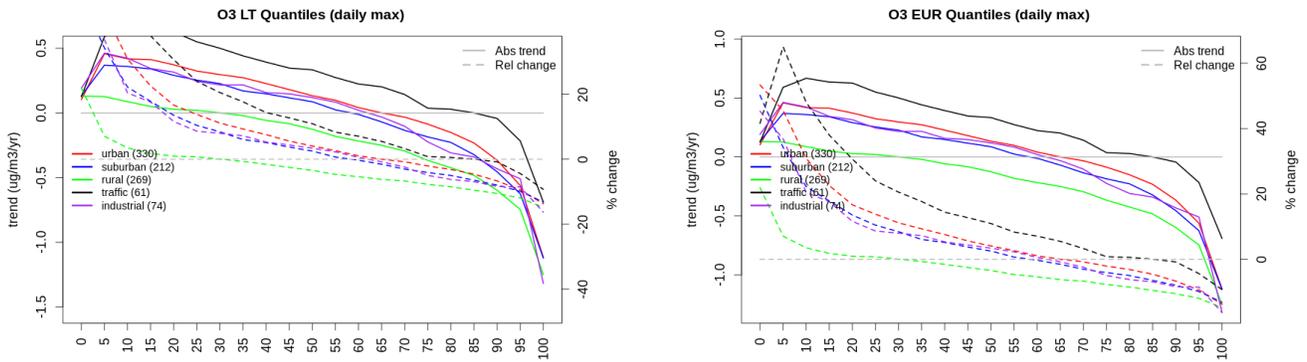


Figure A2.358: For ozone in Lithuania (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

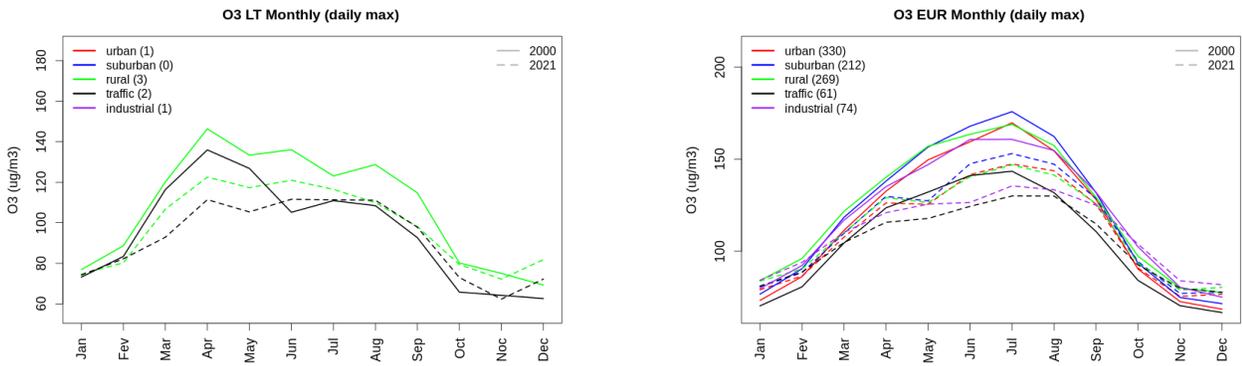


Figure A2.359: Monthly cycle of daily max ozone for Lithuania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

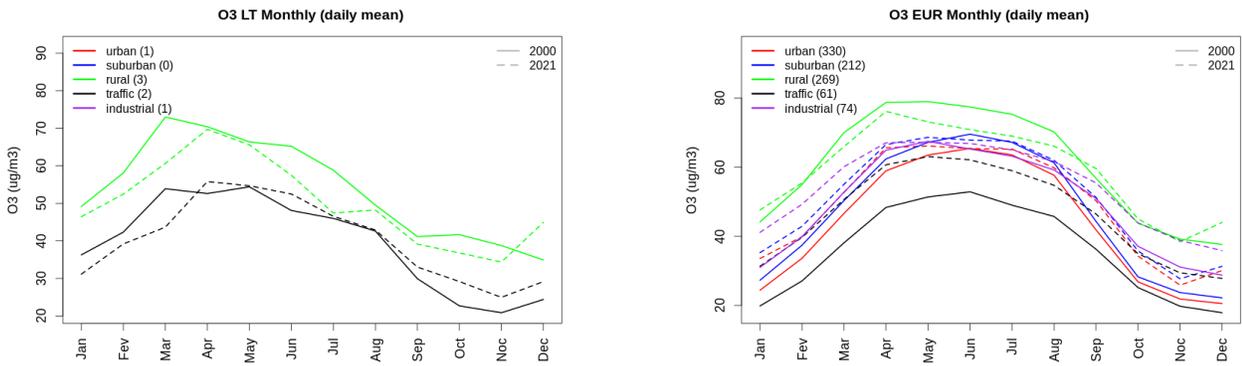


Figure A2.360: Monthly cycle of daily mean ozone for Lithuania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

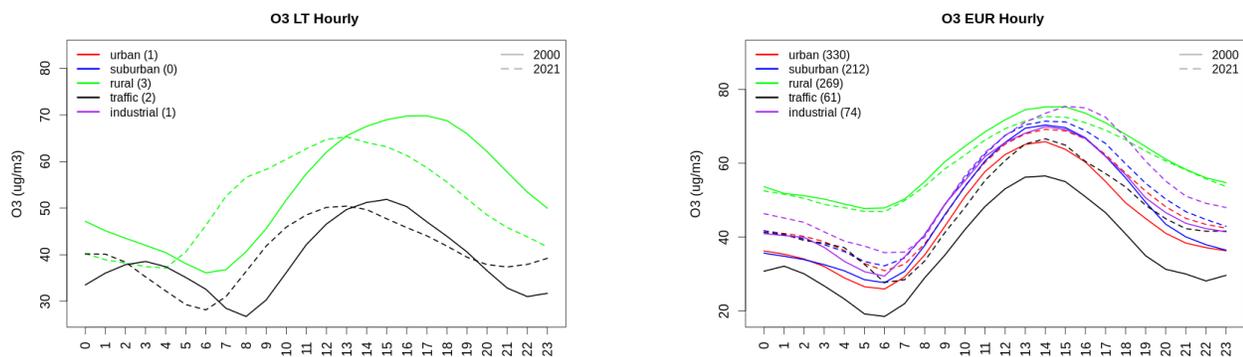


Figure A2.361: Diurnal cycle of daily mean ozone for Lithuania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

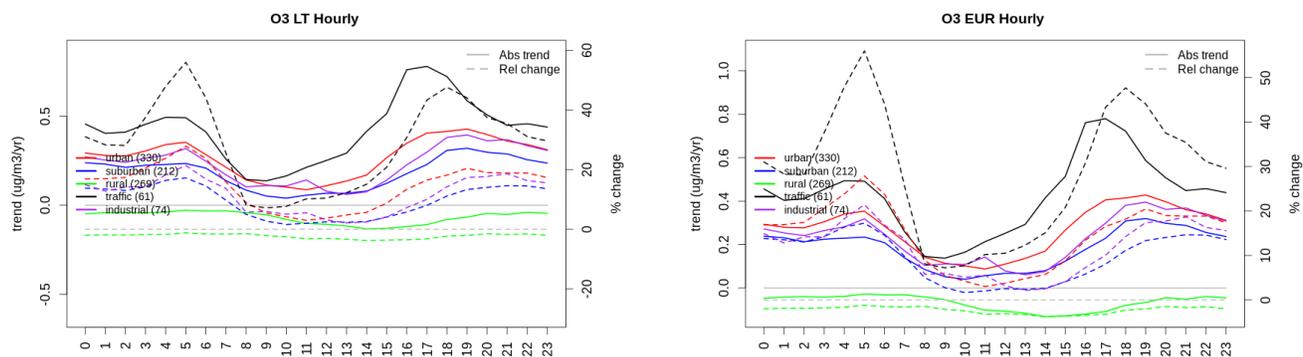


Figure A2.362: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Lithuania (left) and Europe (right) of ozone at various station type.

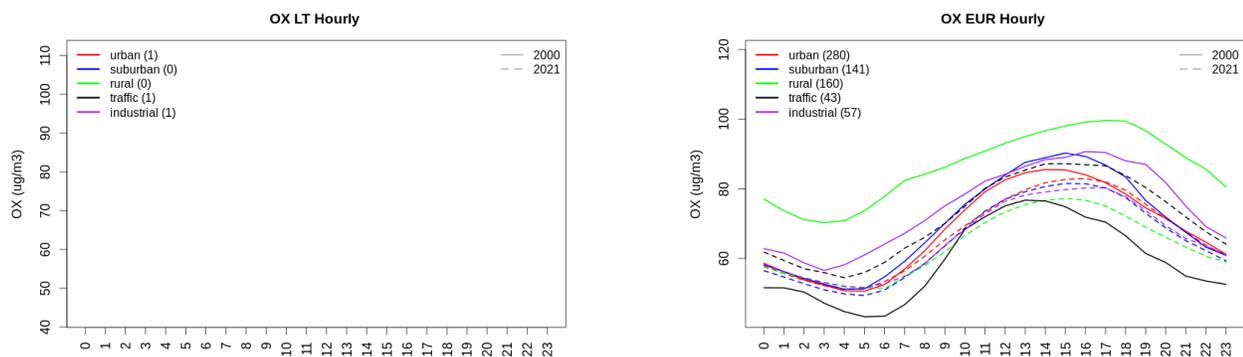


Figure A2.363: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Lithuania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

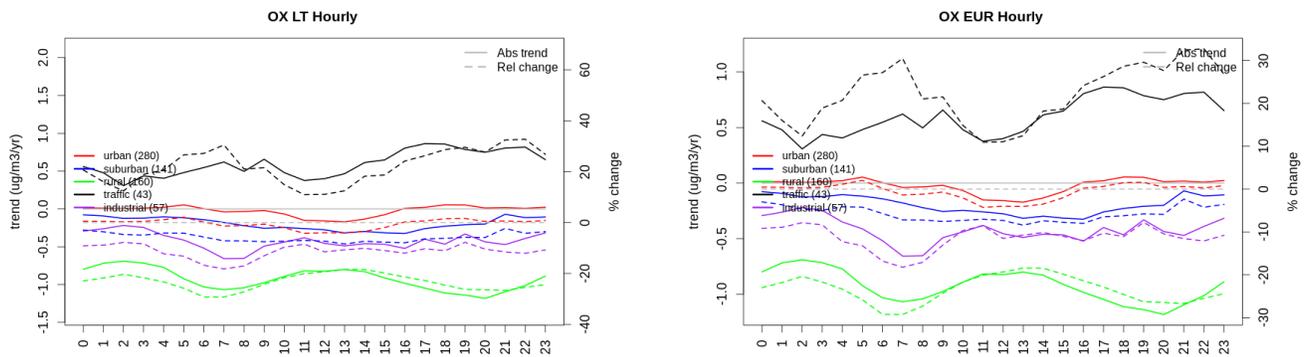


Figure A2.364: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Lithuania (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

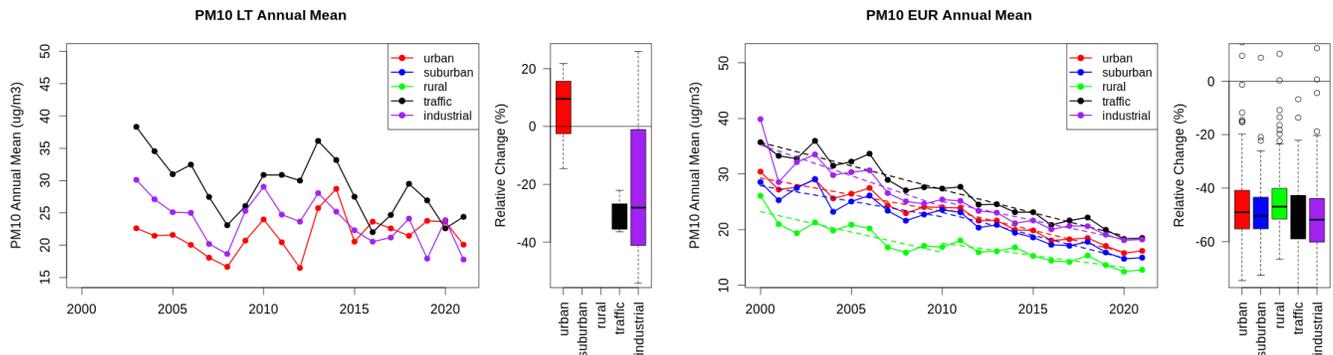


Figure A2.365: Time series of the Lithuania (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Lithuania and in Europe.

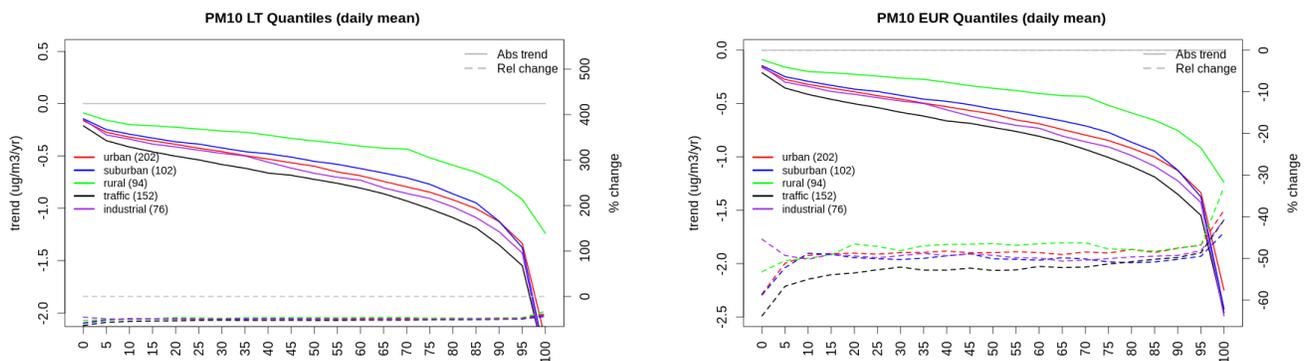


Figure A2.366: For PM₁₀ in Lithuania (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

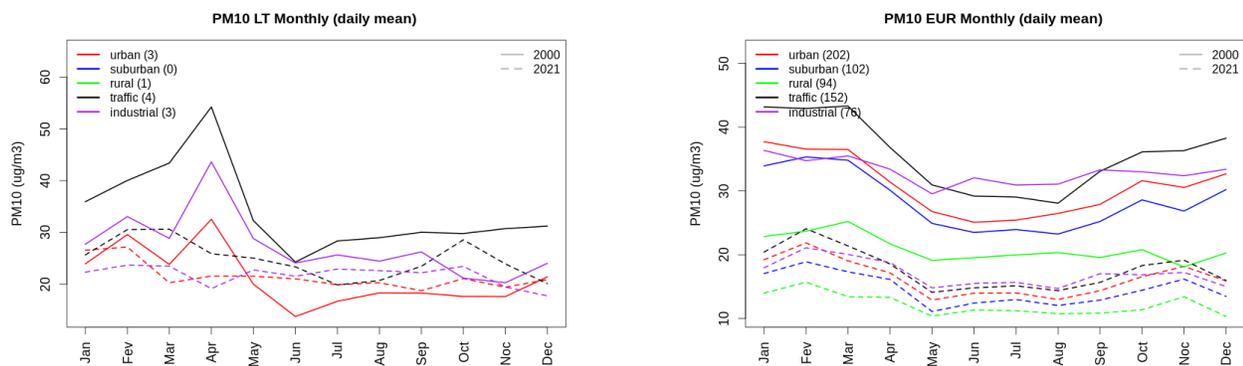


Figure A2.367: Monthly cycle of daily mean PM10 for Lithuania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

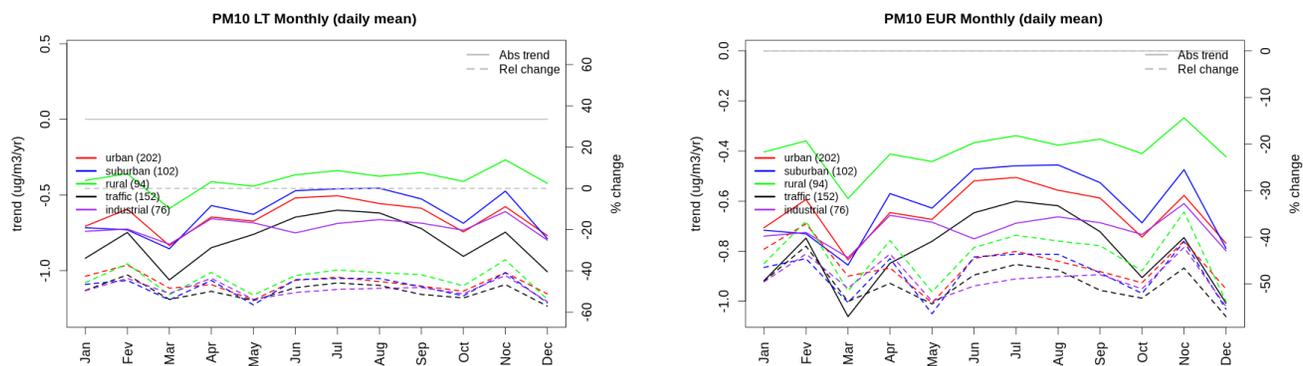


Figure A2.368: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Lithuania (left) and Europe (right) of PM10 at various station type.

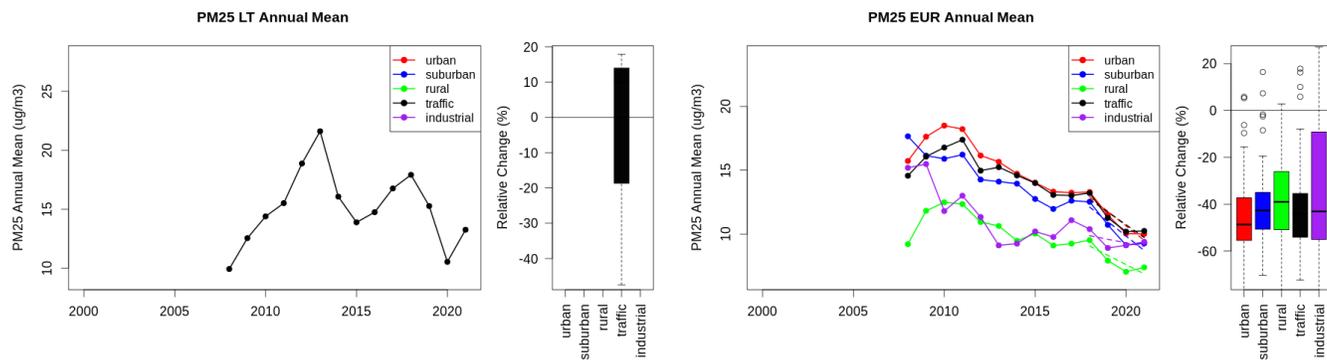


Figure A2.369: Time series of the Lithuania (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Lithuania and in Europe.

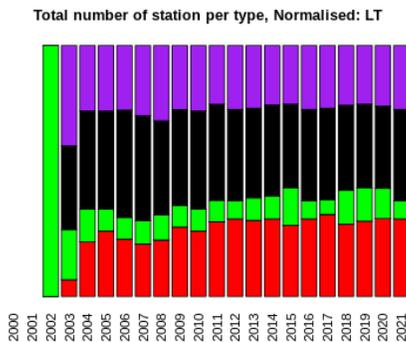
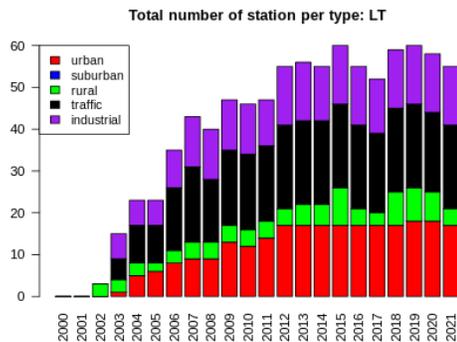
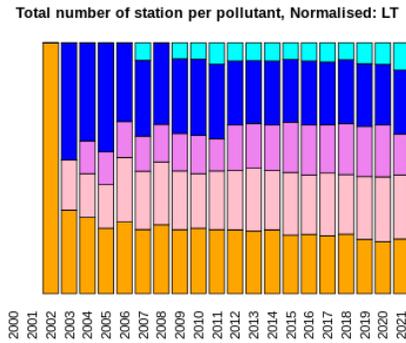
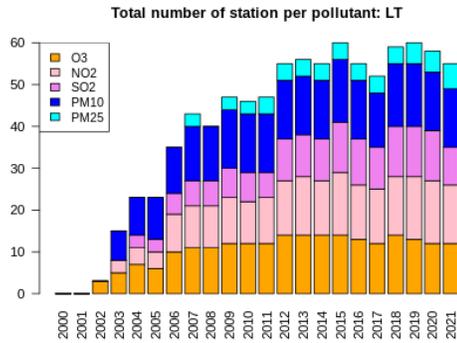
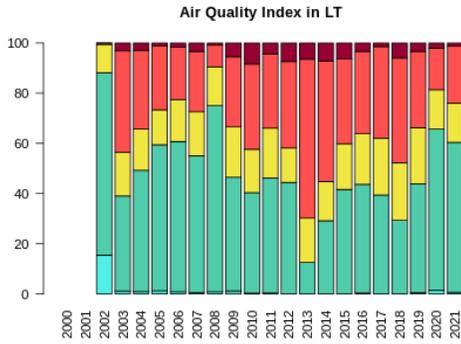


Figure A2.370: For Lithuania: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

18 Luxembourg

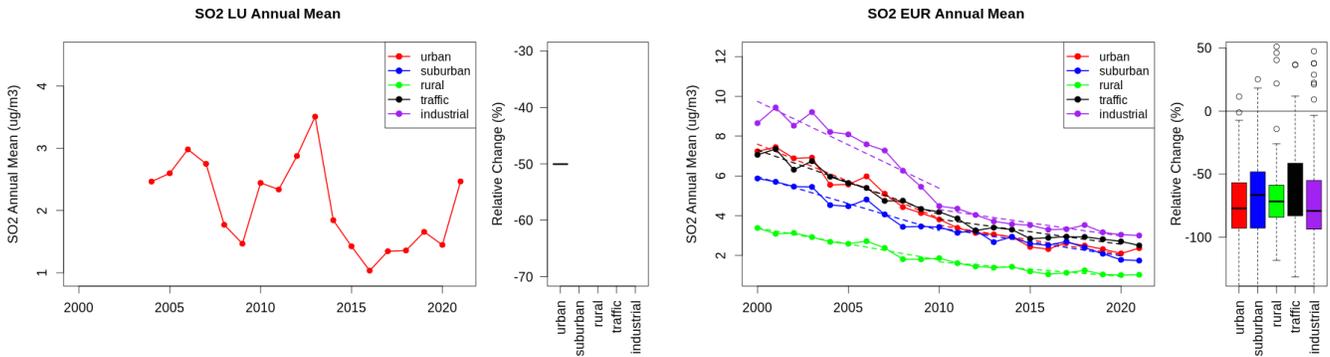


Figure A2.371: Time series of the Luxembourg (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Luxembourg and in Europe.

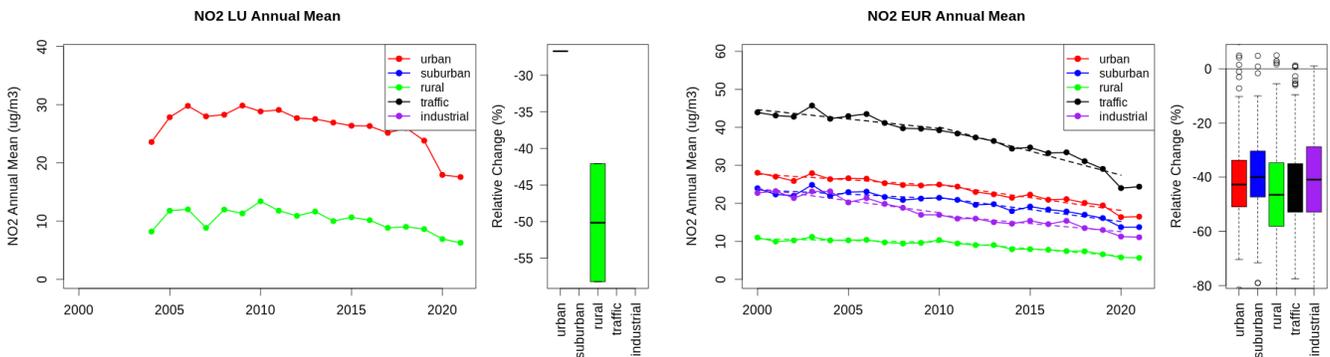


Figure A2.372: Time series of the Luxembourg (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Luxembourg and in Europe.

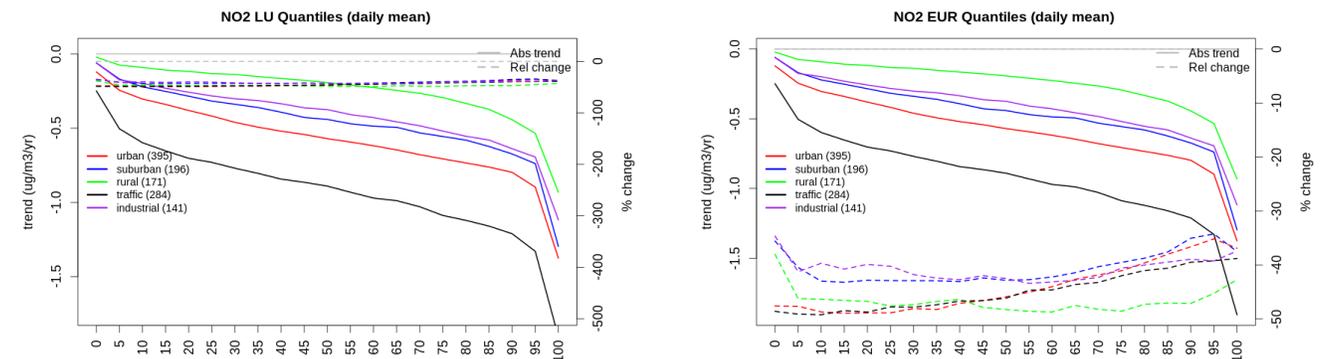


Figure A2.373: For NO₂ in Luxembourg (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

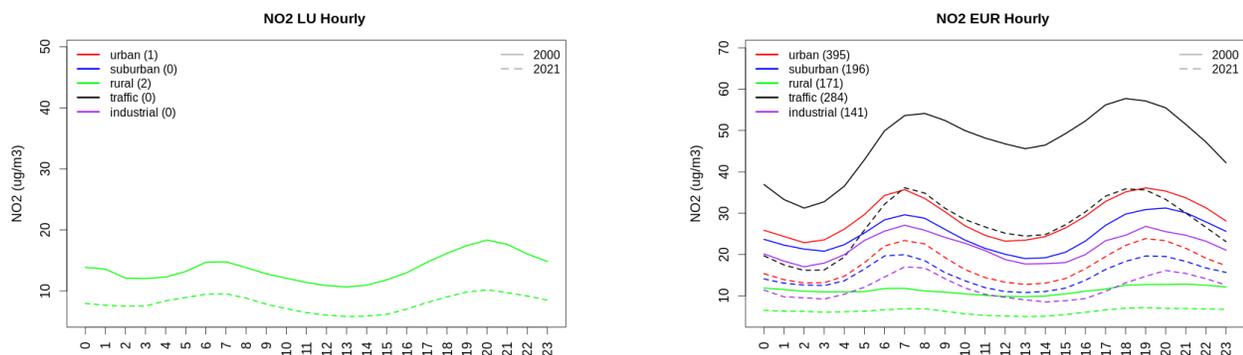


Figure A2.374: Diurnal cycle of daily mean NO2 for Luxembourg (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

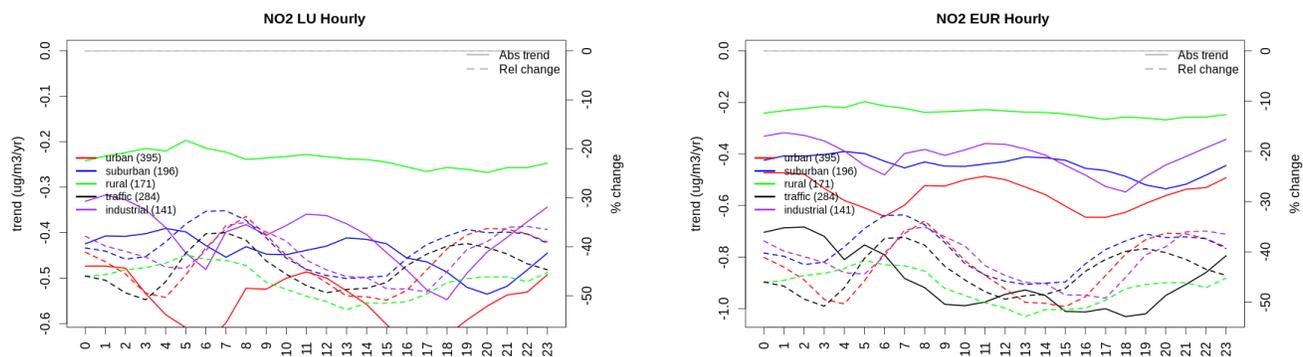


Figure A2.375: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Luxembourg (left) and Europe (right) of NO2 at various station type.

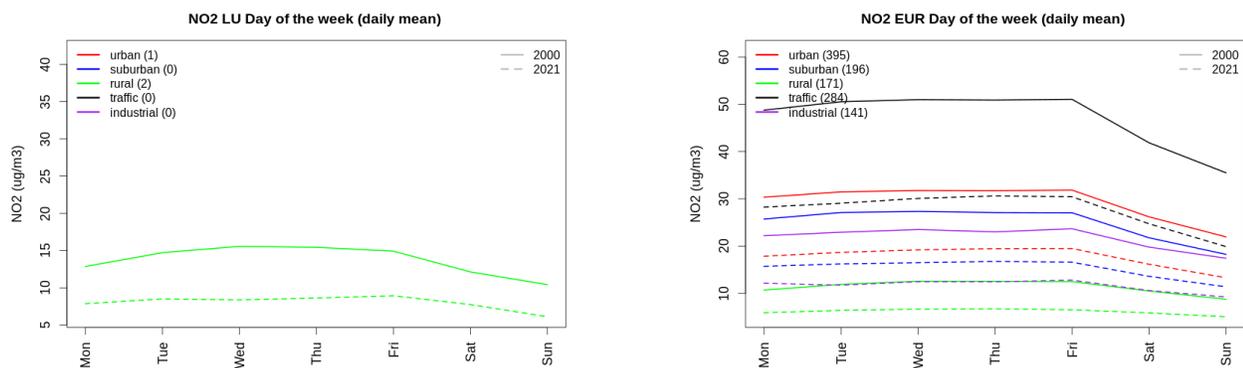


Figure A2.376: Weekly cycle of daily mean NO2 for Luxembourg (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

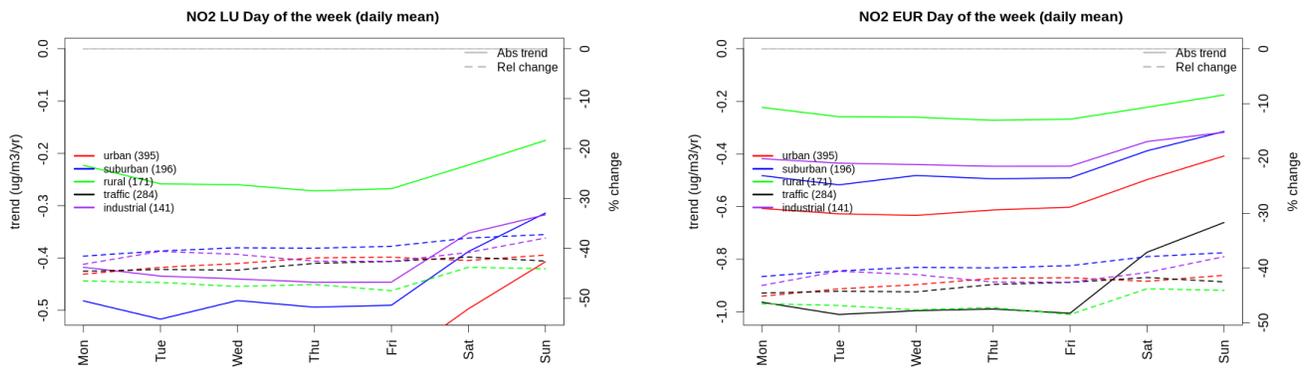


Figure A2.377: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Luxembourg (left) and Europe (right) of NO₂ at various station type.

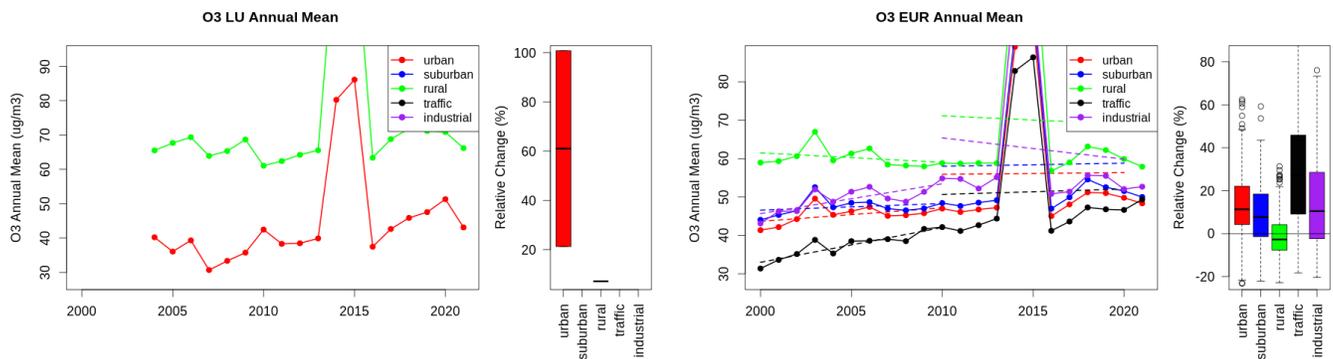


Figure A2.378: Time series of the Luxembourg (left) and European-wide composite (median) of annual mean ozone (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Luxembourg and in Europe.

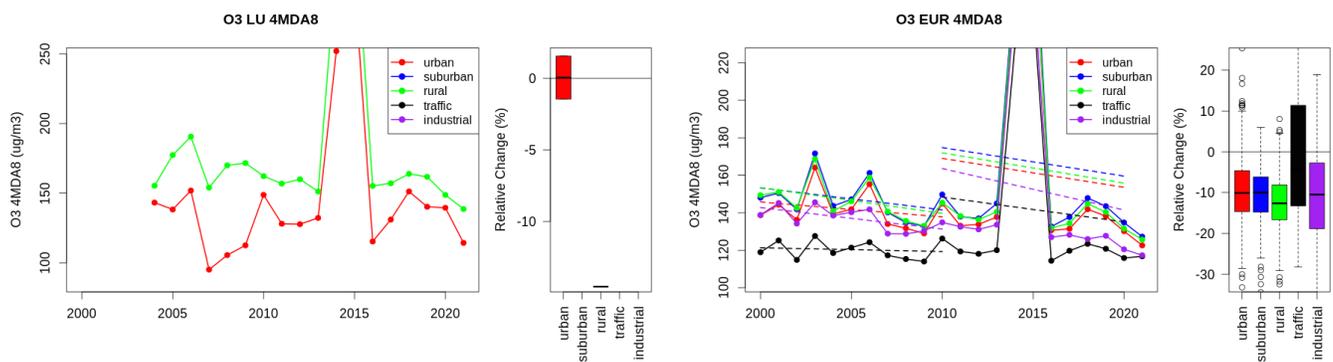


Figure A2.379: Time series of the Luxembourg (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Luxembourg and in Europe.

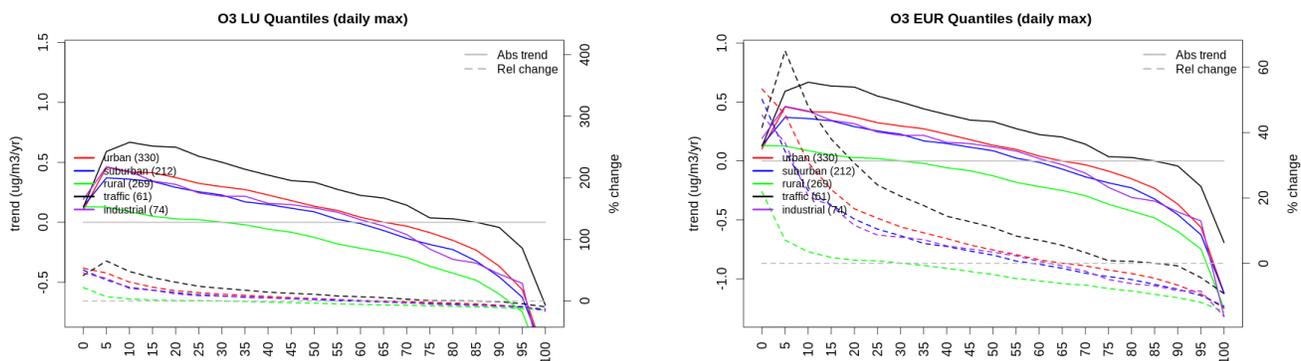


Figure A2.380: For ozone in Luxembourg (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

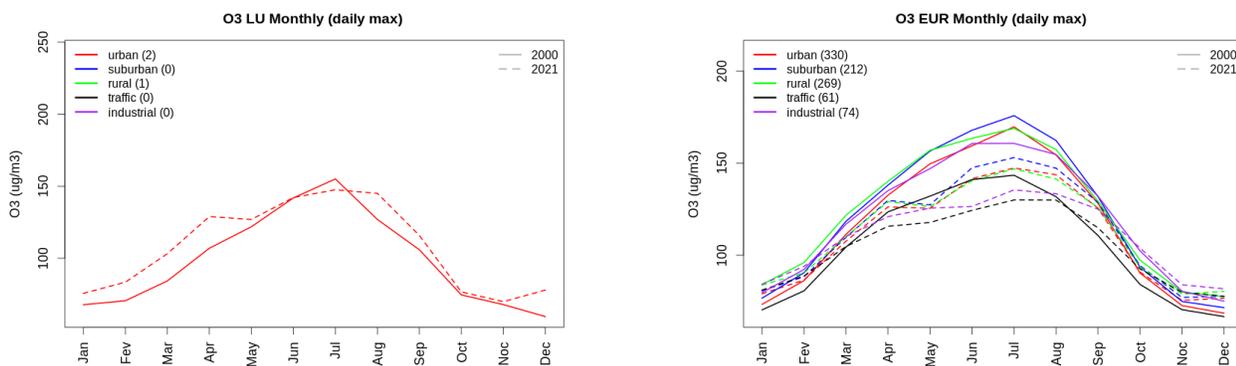


Figure A2.381: Monthly cycle of daily max ozone for Luxembourg (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

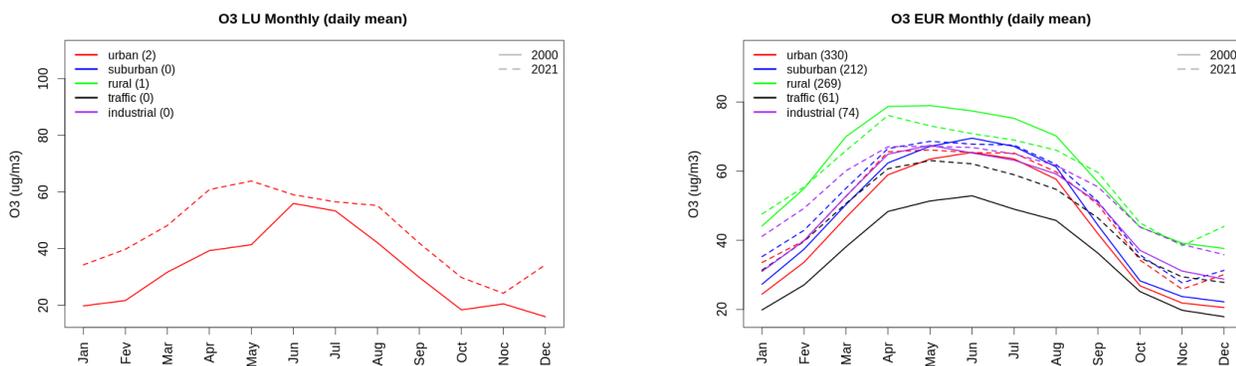


Figure A2.382: Monthly cycle of daily mean ozone for Luxembourg (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

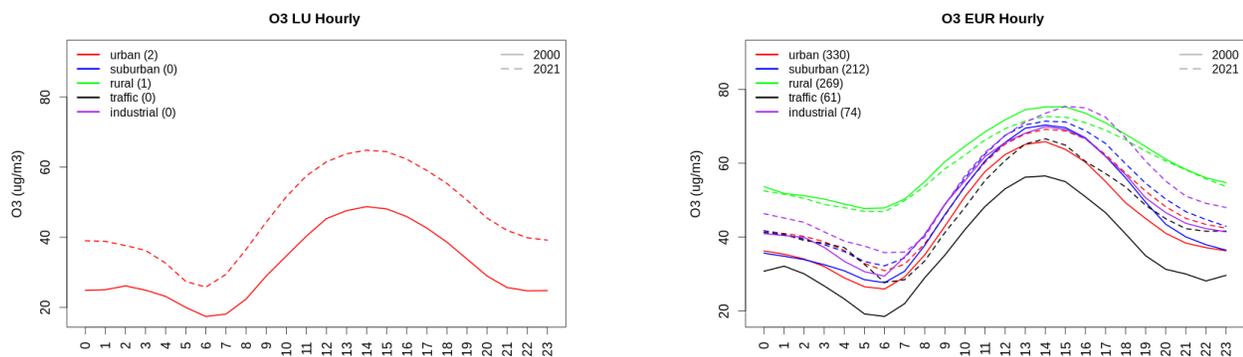


Figure A2.383: Diurnal cycle of daily mean ozone for Luxembourg (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

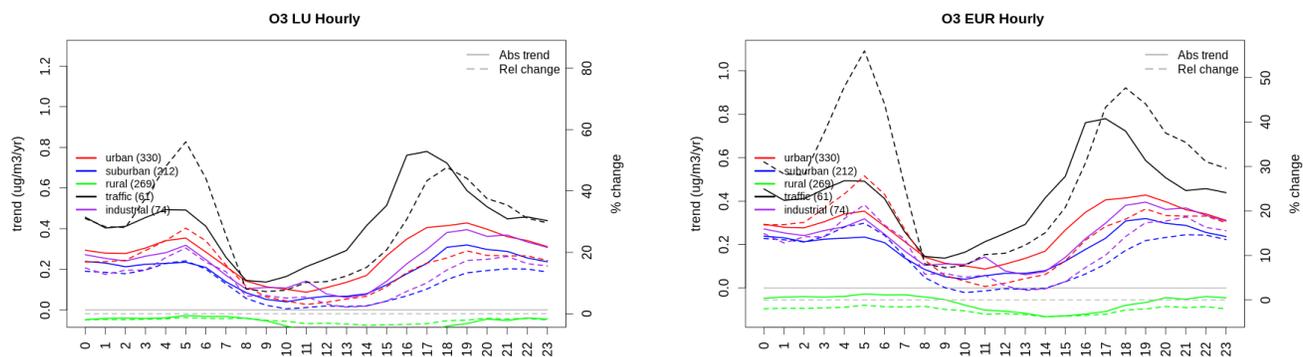


Figure A2.384: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Luxembourg (left) and Europe (right) of ozone at various station type.

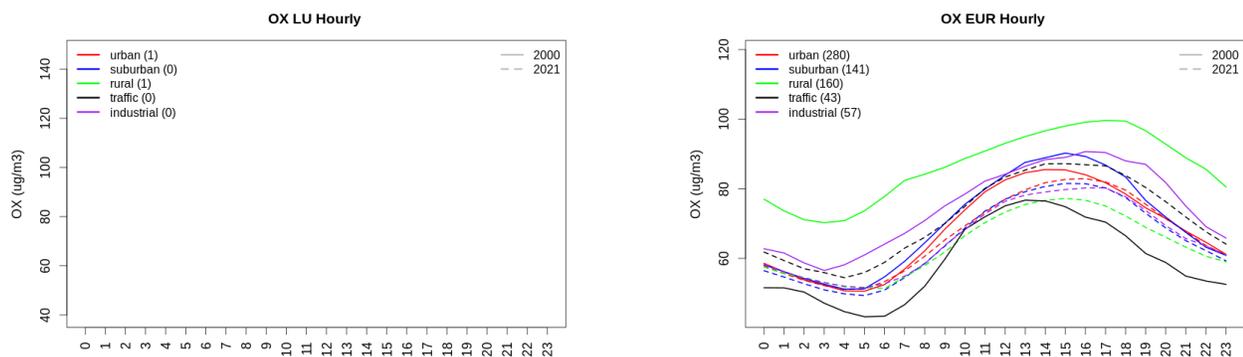


Figure A2.385: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Luxembourg (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

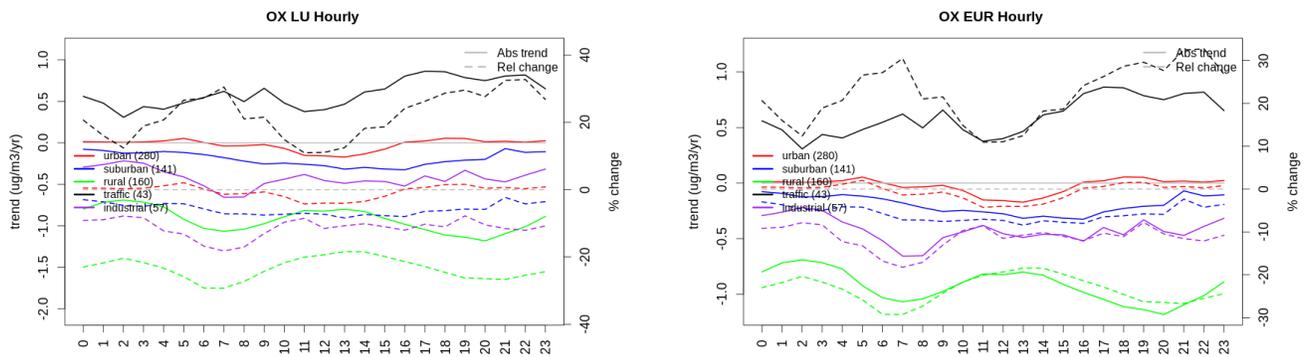


Figure A2.386: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Luxembourg (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

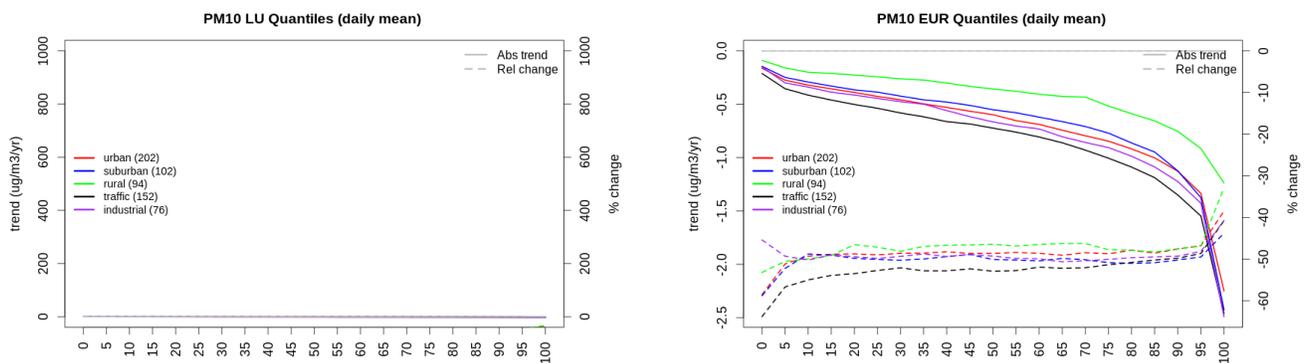


Figure A2.387: For PM₁₀ in Luxembourg (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

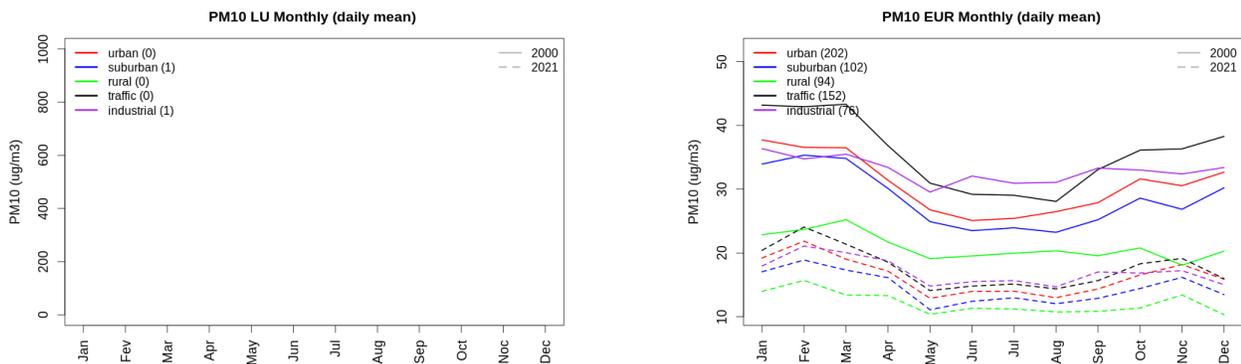


Figure A2.388: Monthly cycle of daily mean PM₁₀ for Luxembourg (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

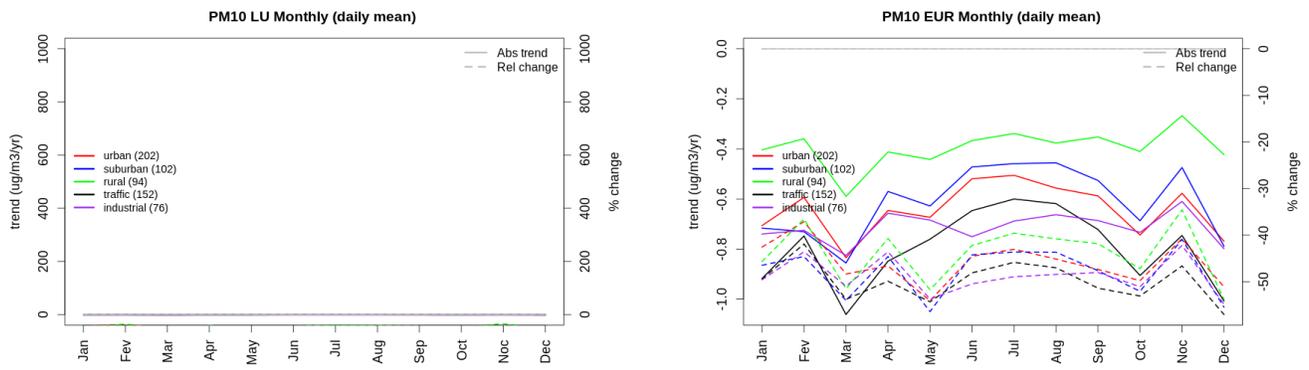


Figure A2.389: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Luxembourg (left) and Europe (right) of PM10 at various station type.

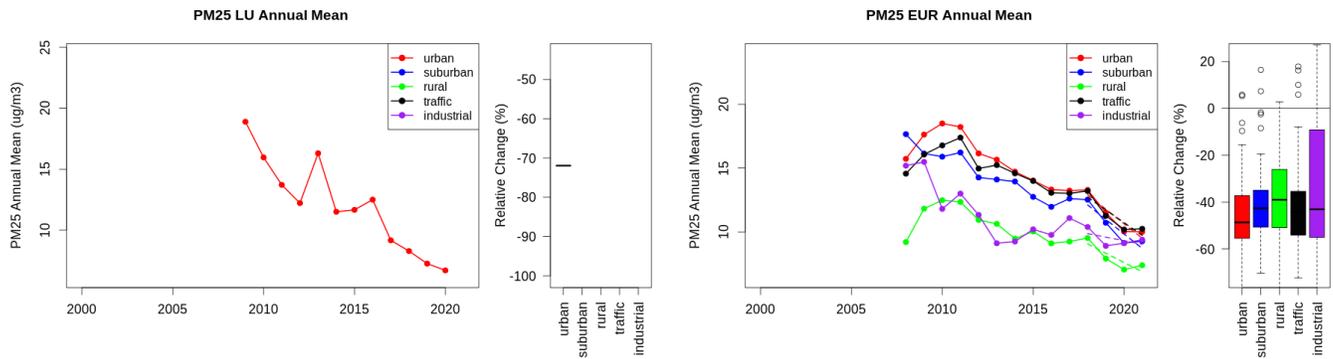


Figure A2.390: Time series of the Luxembourg (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Luxembourg and in Europe.

19 Republic of North Macedonia

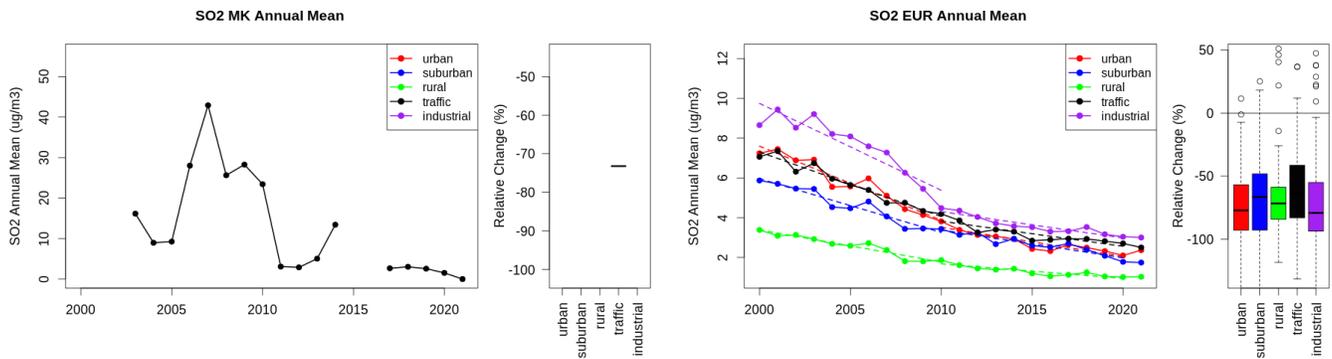


Figure A2.391: Time series of the Republic of North Macedonia (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Republic of North Macedonia and in Europe.

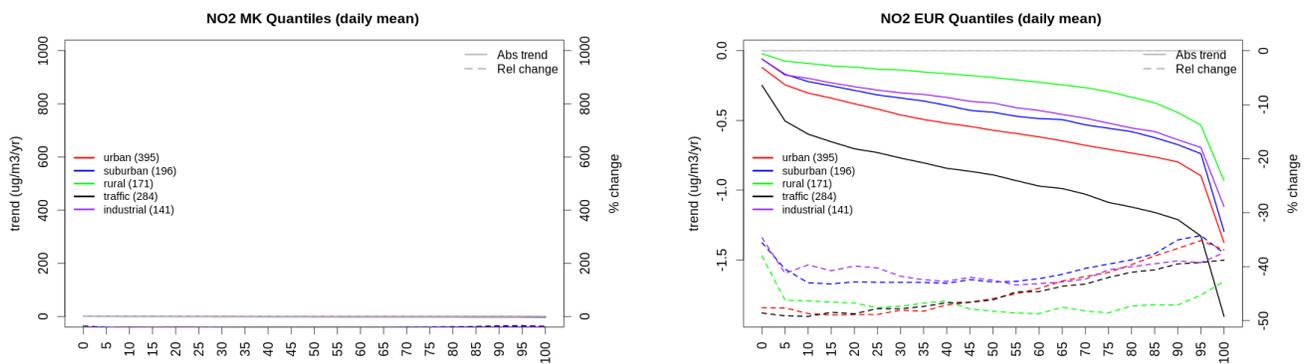


Figure A2.392: For NO₂ in Republic of North Macedonia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of the daily means.

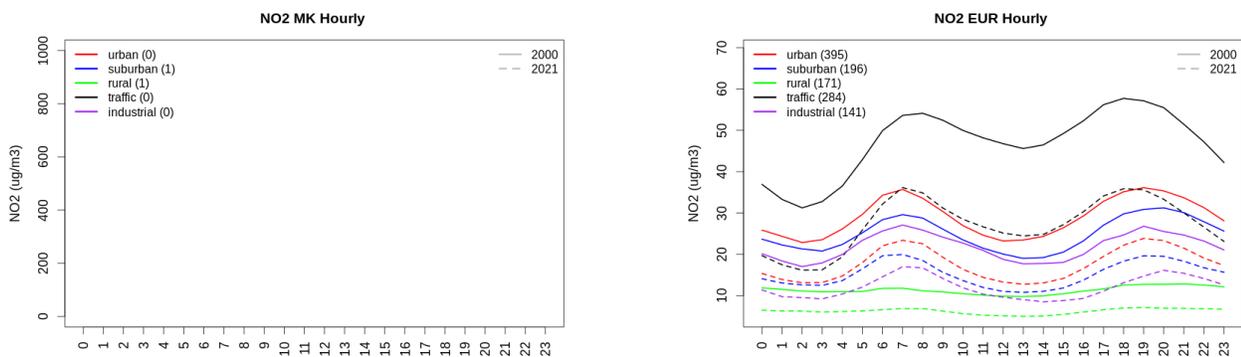


Figure A2.393: Diurnal cycle of daily mean NO₂ for Republic of North Macedonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

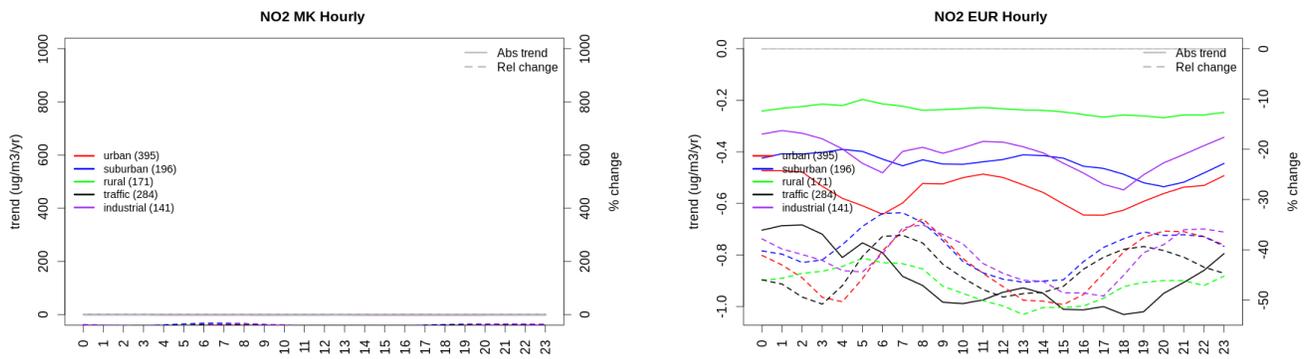


Figure A2.394: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Republic of North Macedonia (left) and Europe (right) of NO2 at various station type.

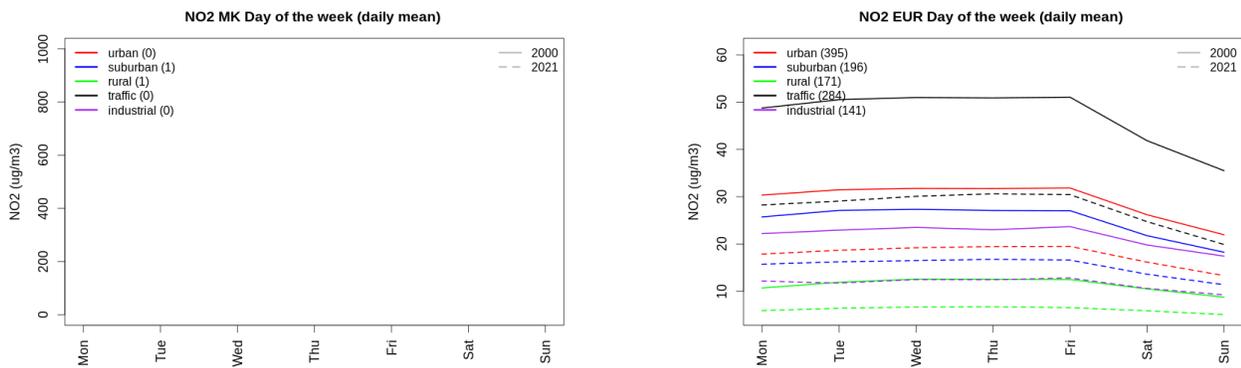


Figure A2.395: Weekly cycle of daily mean NO2 for Republic of North Macedonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines).

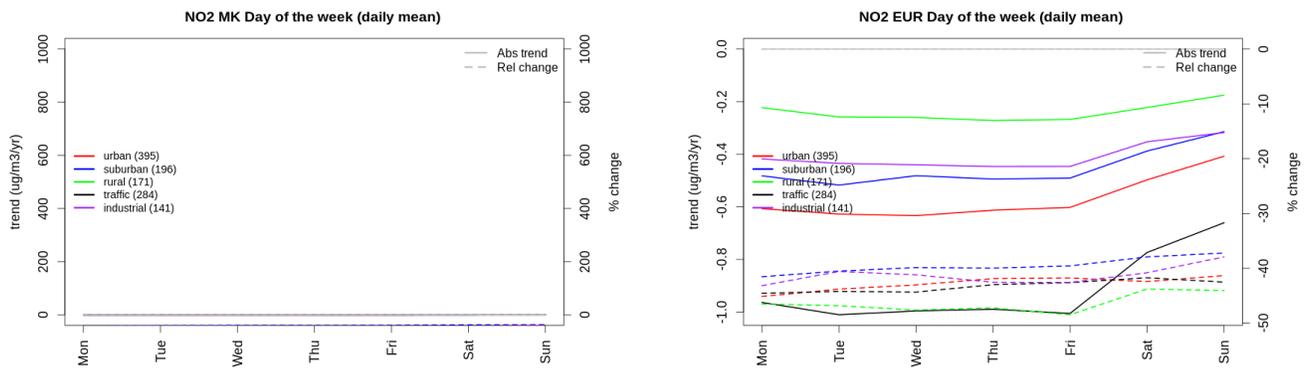


Figure A2.396: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Republic of North Macedonia (left) and Europe (right) of NO2 at various station type.

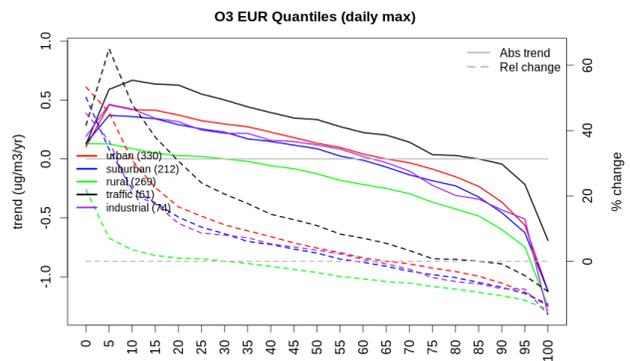
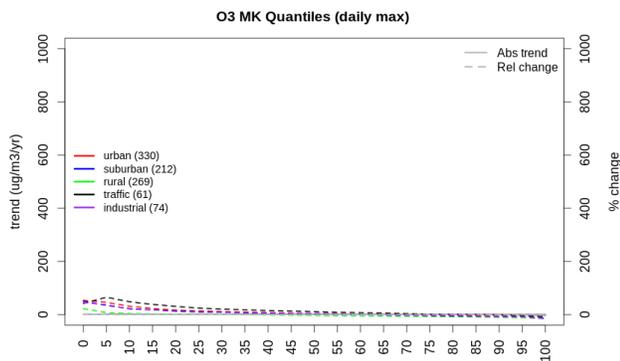


Figure A2.397: For ozone in Republic of North Macedonia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

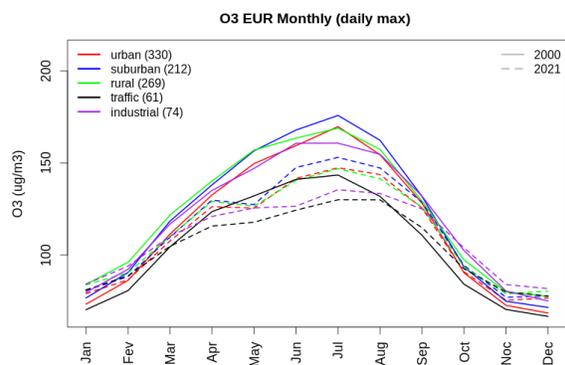
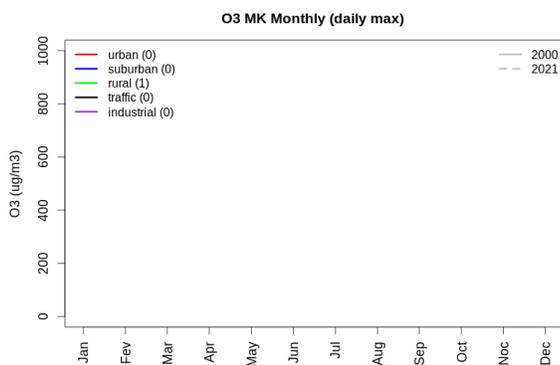


Figure A2.398: Monthly cycle of daily max ozone for Republic of North Macedonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

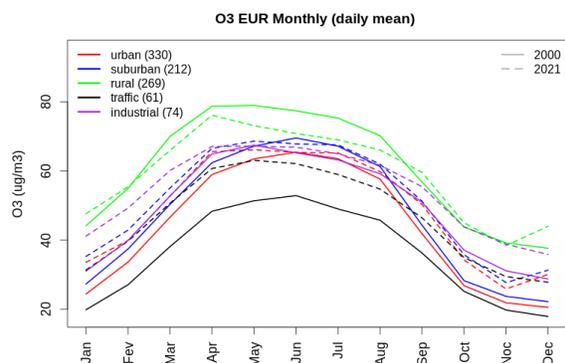
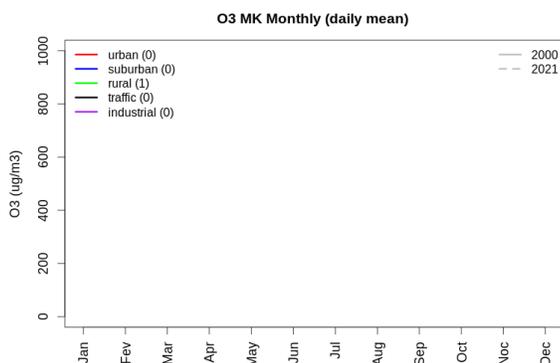


Figure A2.399: Monthly cycle of daily mean ozone for Republic of North Macedonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

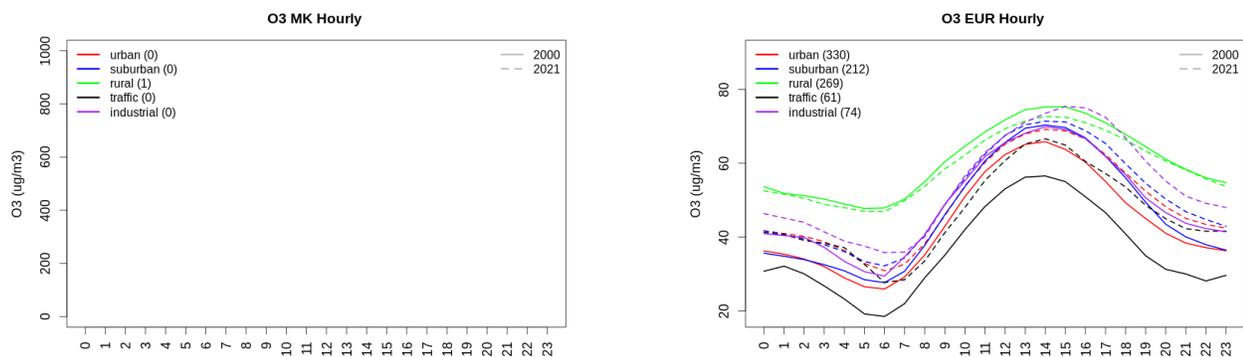


Figure A2.400: Diurnal cycle of daily mean ozone for Republic of North Macedonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

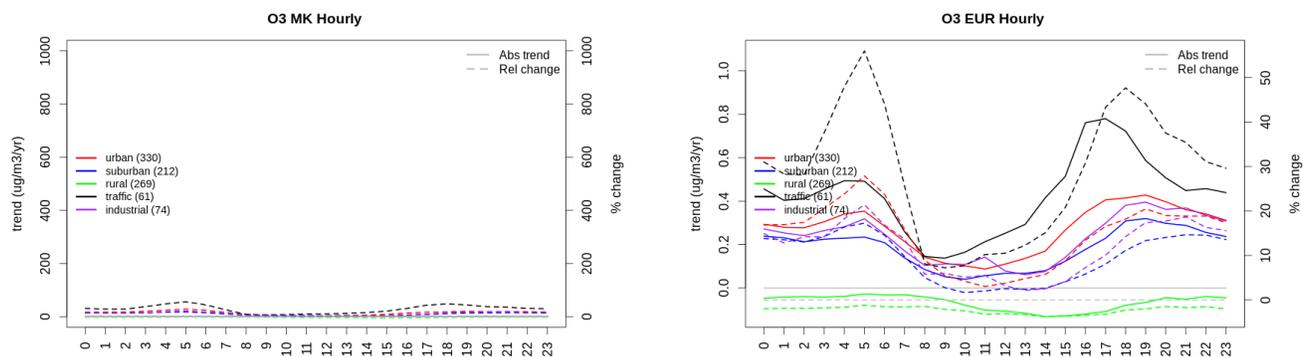


Figure A2.401: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Republic of North Macedonia (left) and Europe (right) of ozone at various station type.

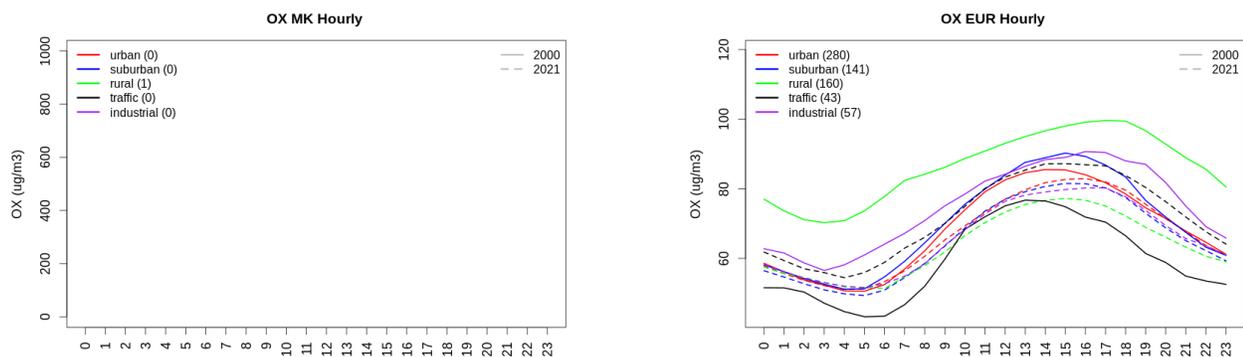


Figure A2.402: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Republic of North Macedonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

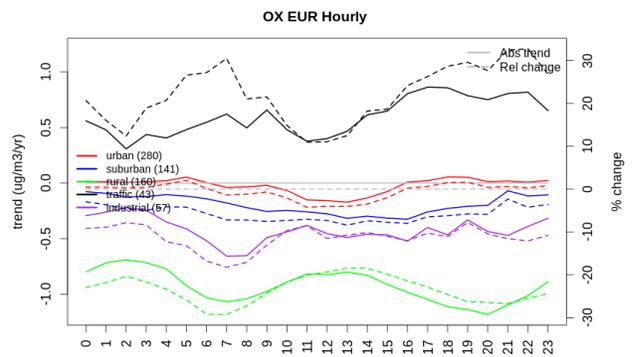
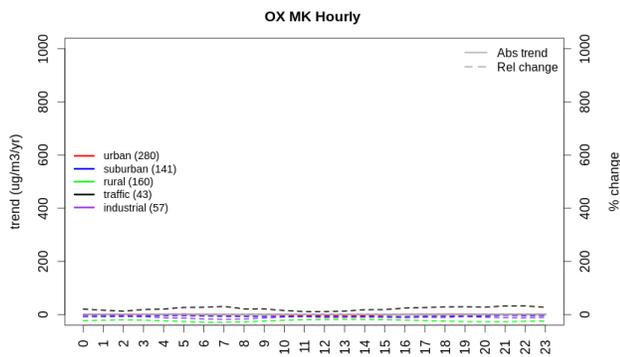


Figure A2.403: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Republic of North Macedonia (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

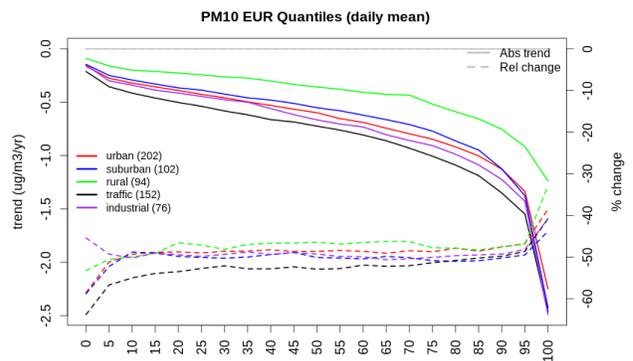
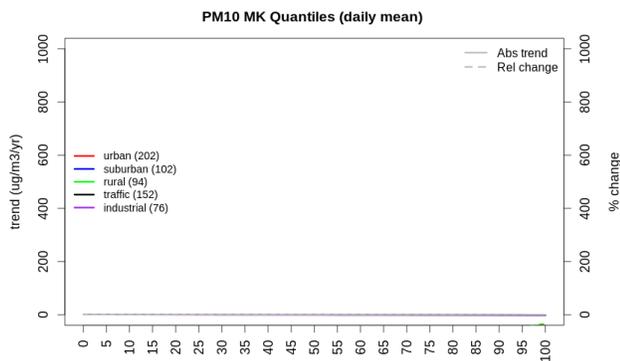


Figure A2.404: For PM₁₀ in Republic of North Macedonia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

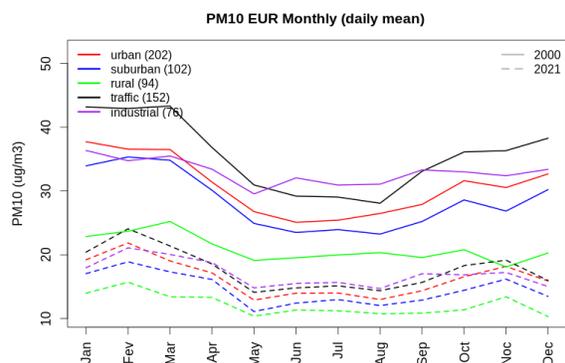
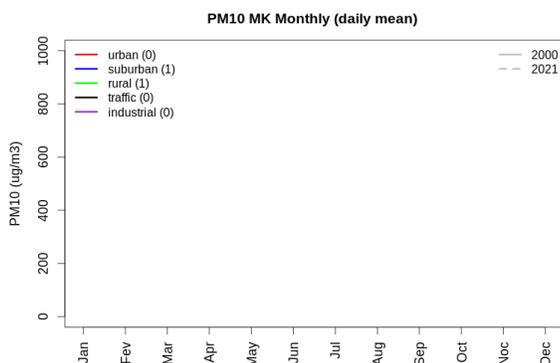


Figure A2.405: Monthly cycle of daily mean PM₁₀ for Republic of North Macedonia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

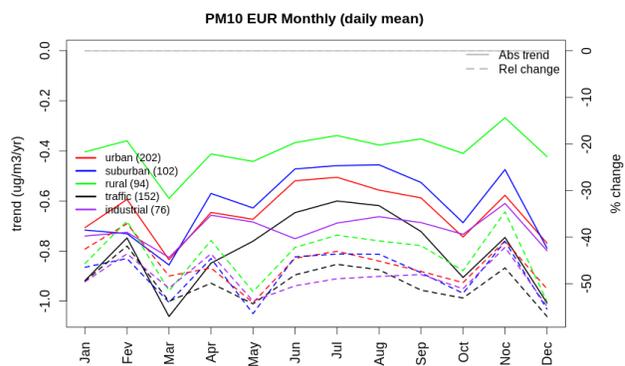
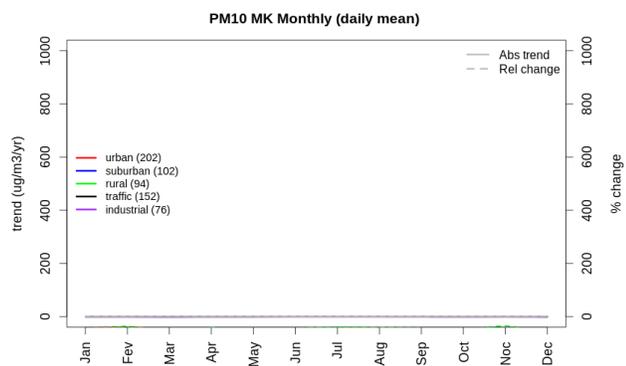


Figure A2.406: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Republic of North Macedonia (left) and Europe (right) of PM10 at various station type.

20 Netherlands

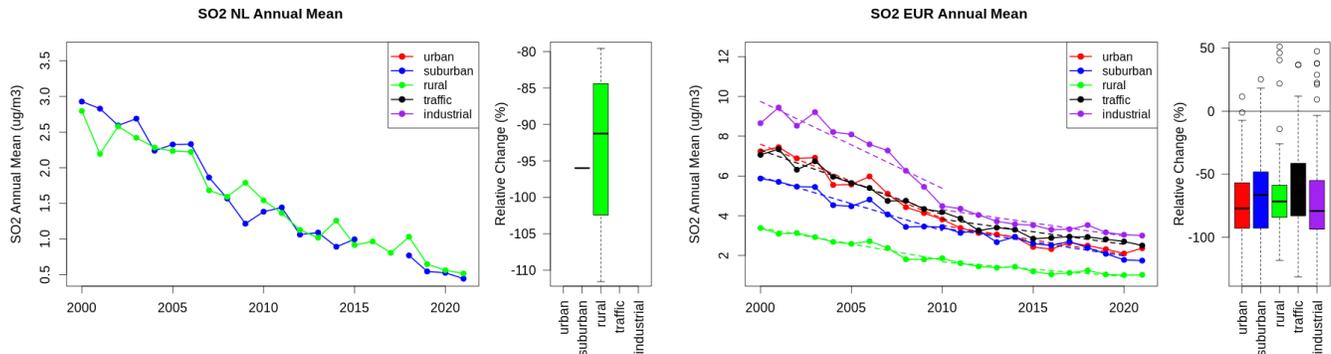


Figure A2.407: Time series of the Netherlands (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Netherlands and in Europe.

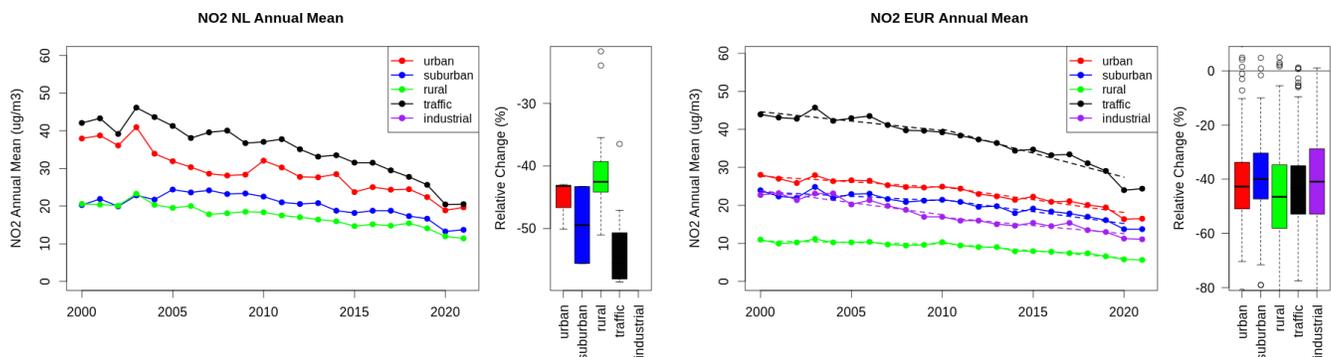


Figure A2.408: Time series of the Netherlands (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Netherlands and in Europe.

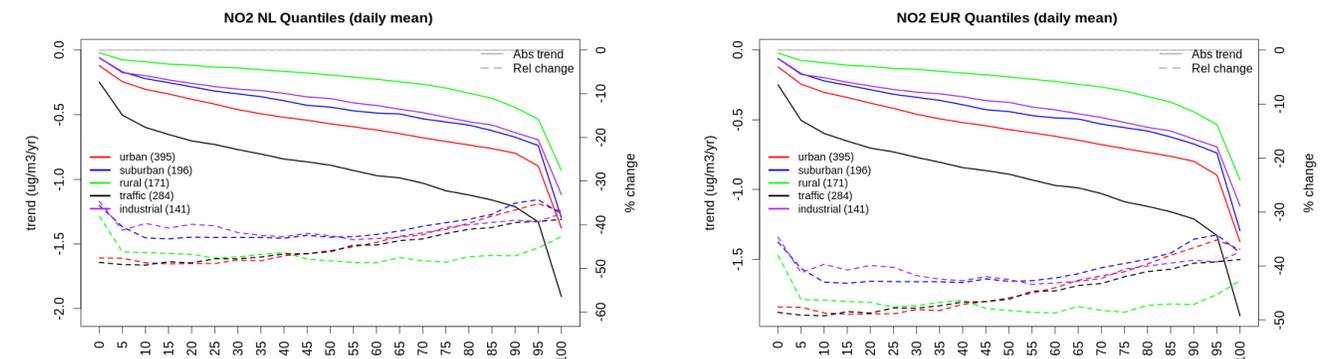


Figure A2.409: For NO₂ in Netherlands (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

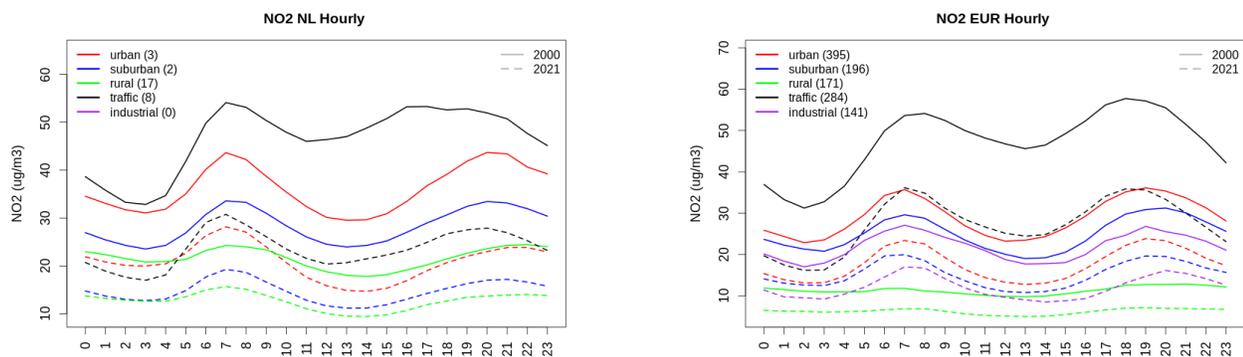


Figure A2.410: Diurnal cycle of daily mean NO₂ for Netherlands (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

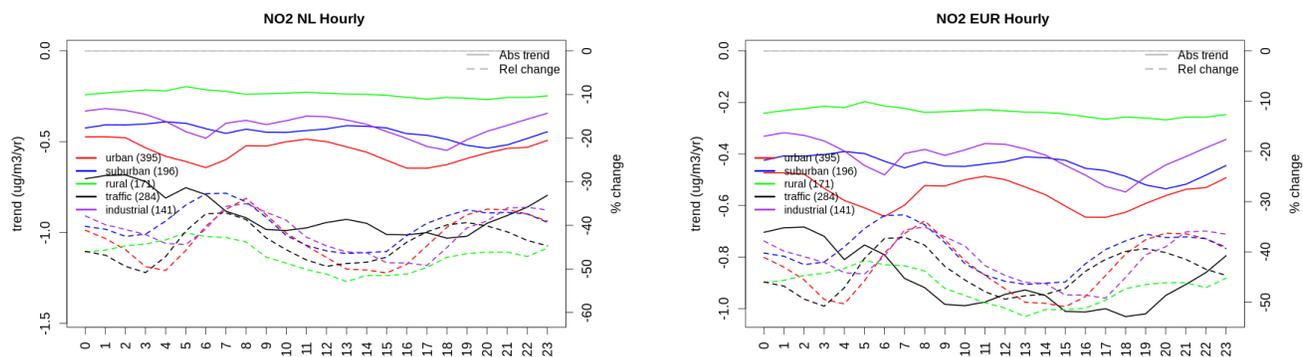


Figure A2.411: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Netherlands (left) and Europe (right) of NO₂ at various station type.

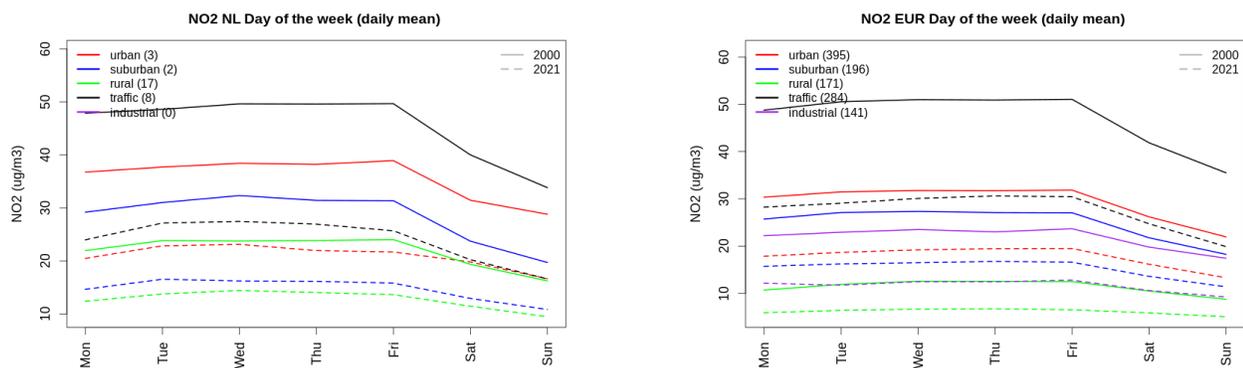


Figure A2.412: Weekly cycle of daily mean NO₂ for Netherlands (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

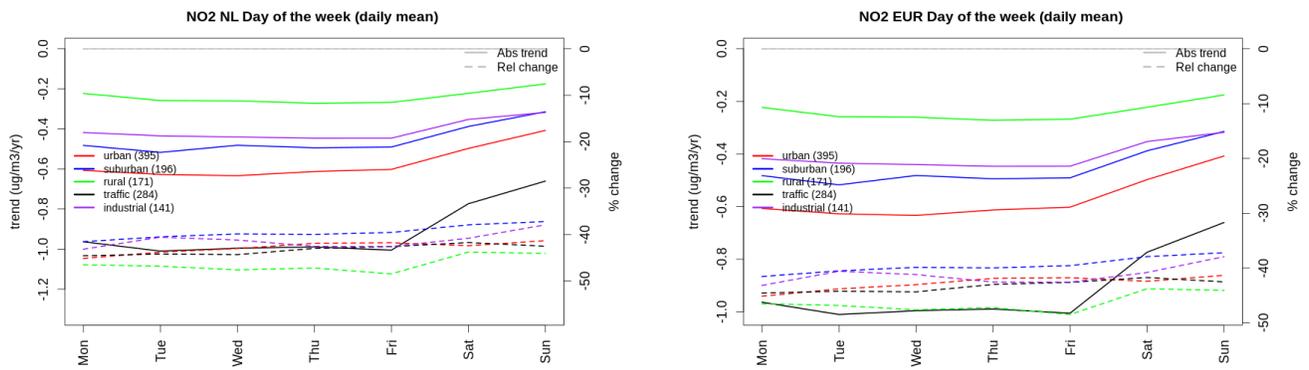


Figure A2.413: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Netherlands (left) and Europe (right) of NO₂ at various station type.

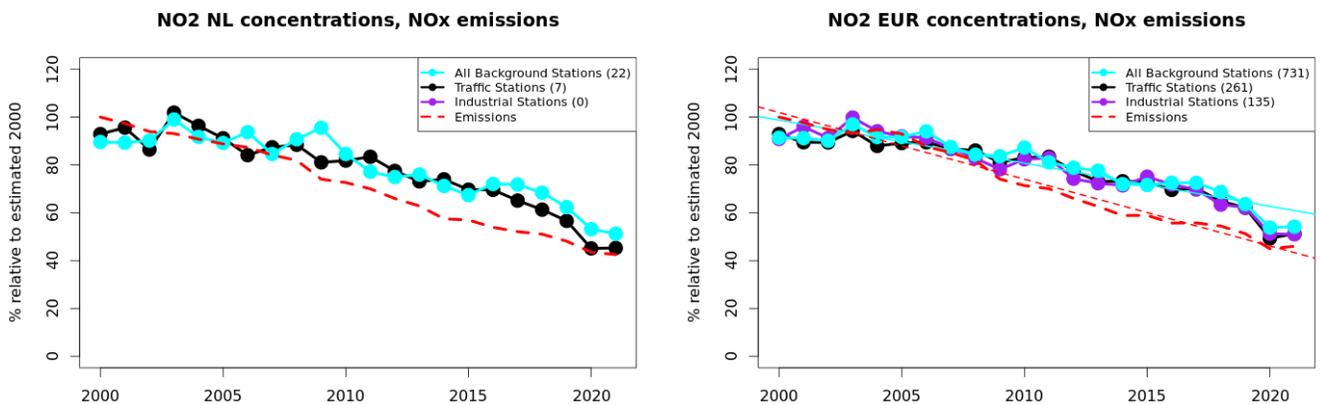


Figure A2.414: Time series of 2000-2021 (left) and European (right) median NO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

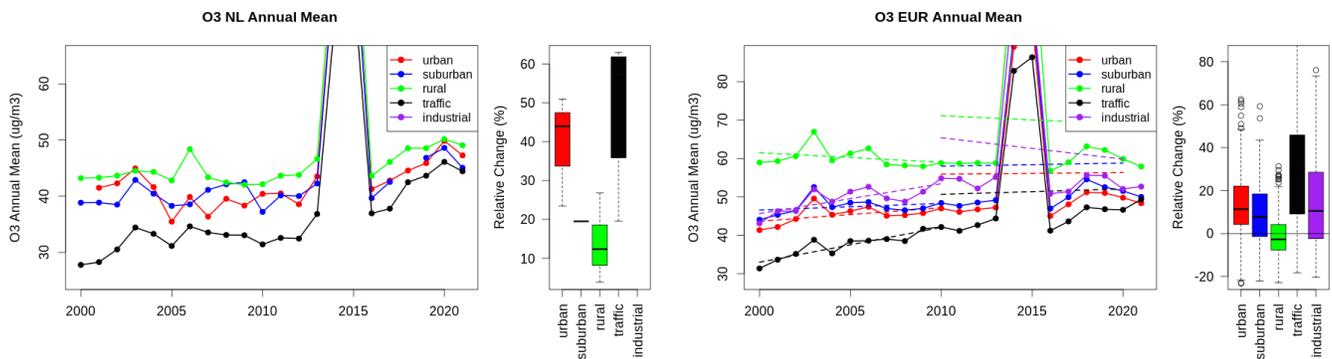


Figure A2.415: Time series of the Netherlands (left) and European-wide composite (median) of annual mean ozone (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Netherlands and in Europe.

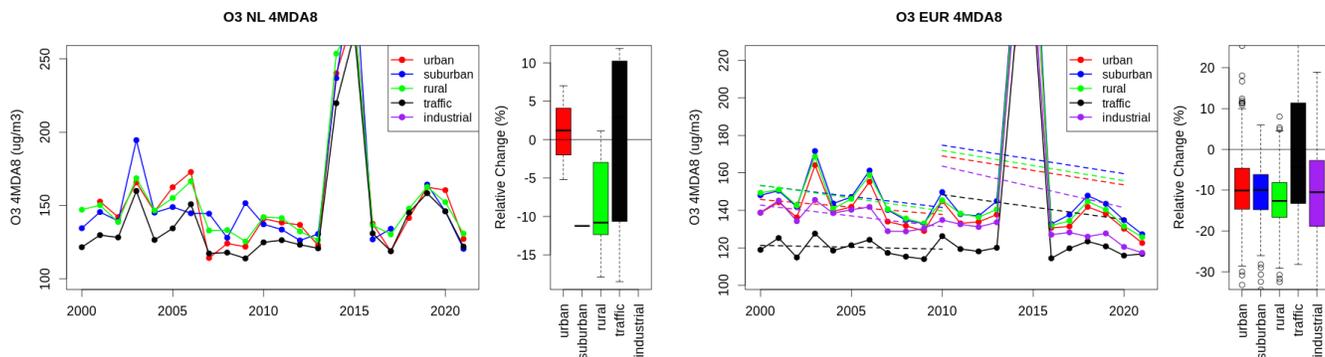


Figure A2.416: Time series of the Netherlands (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Netherlands and in Europe.

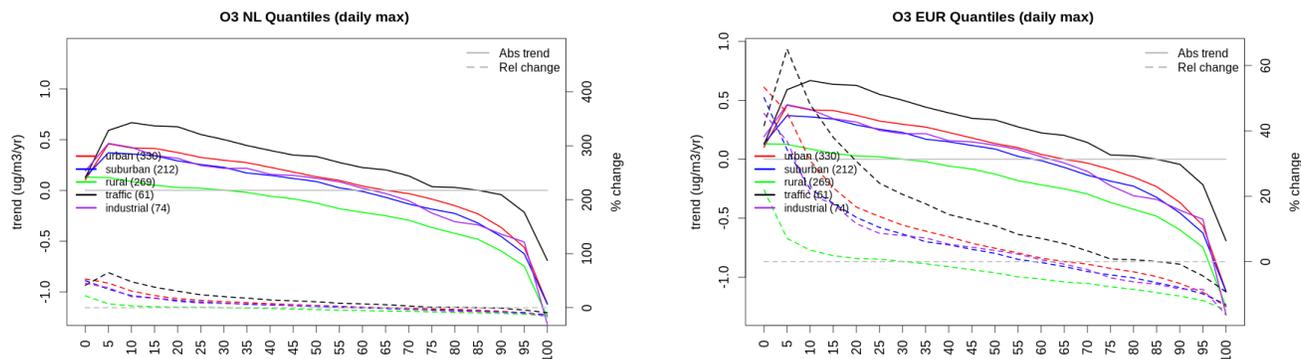


Figure A2.417: For ozone in Netherlands (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

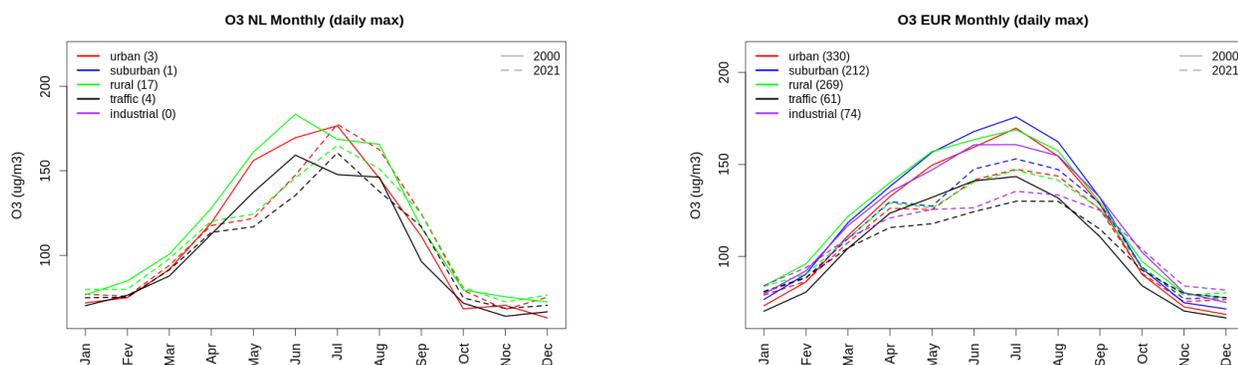


Figure A2.418: Monthly cycle of daily max ozone for Netherlands (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines)

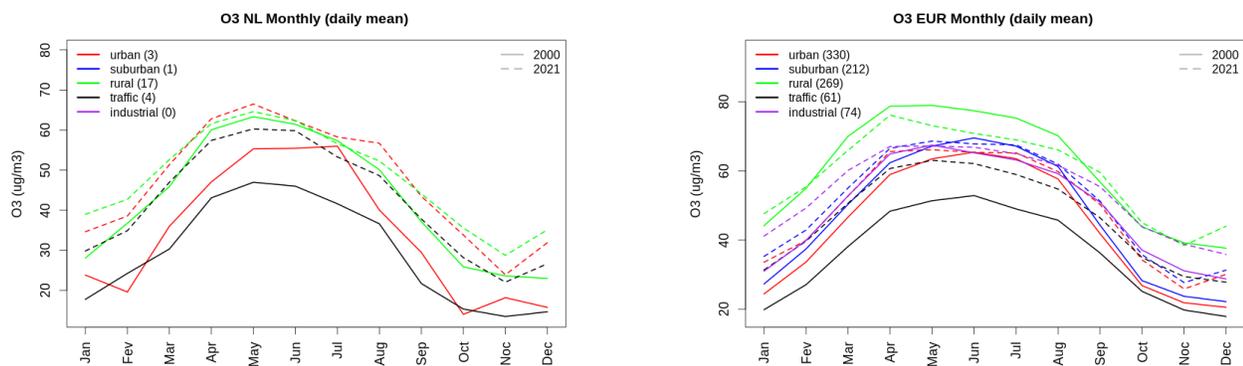


Figure A2.419: Monthly cycle of daily mean ozone for Netherlands (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

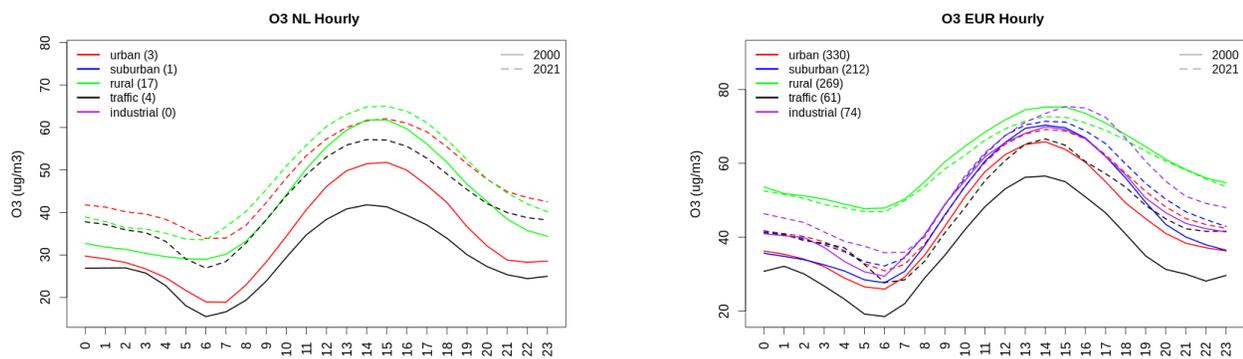


Figure A2.420: Diurnal cycle of daily mean ozone for Netherlands (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

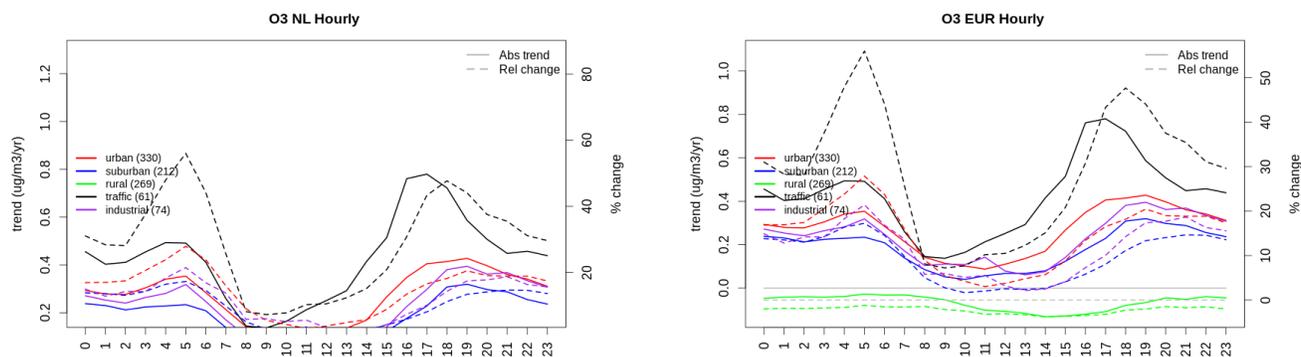


Figure A2.421: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Netherlands (left) and Europe (right) of ozone at various station type.

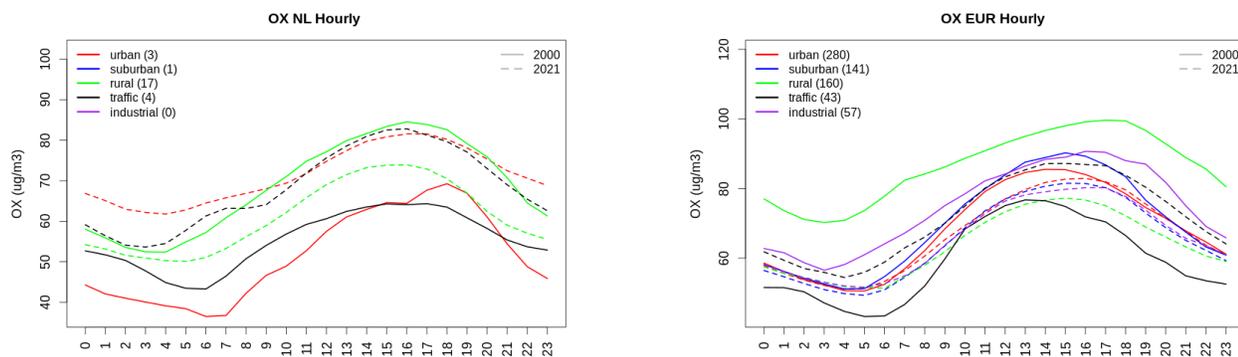


Figure A2.422: Diurnal cycle of daily mean OX (as NO₂+O₃) for Netherlands (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

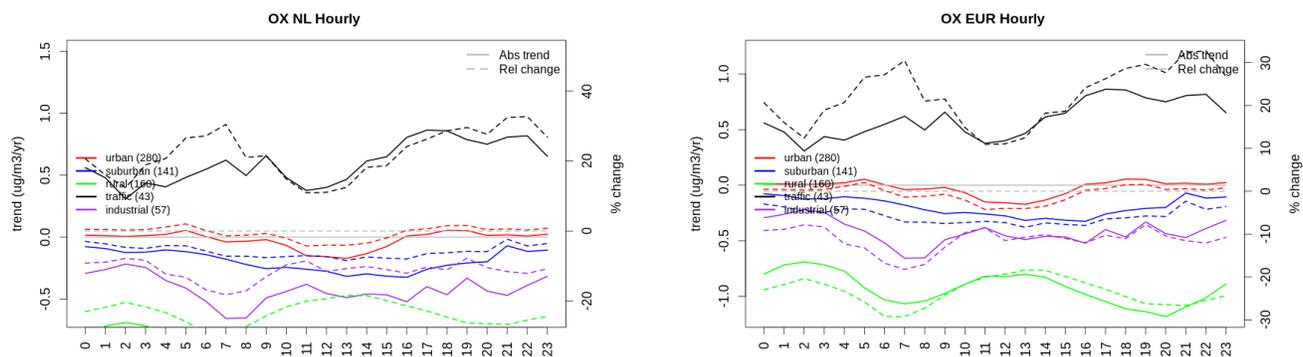


Figure A2.423: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Netherlands (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

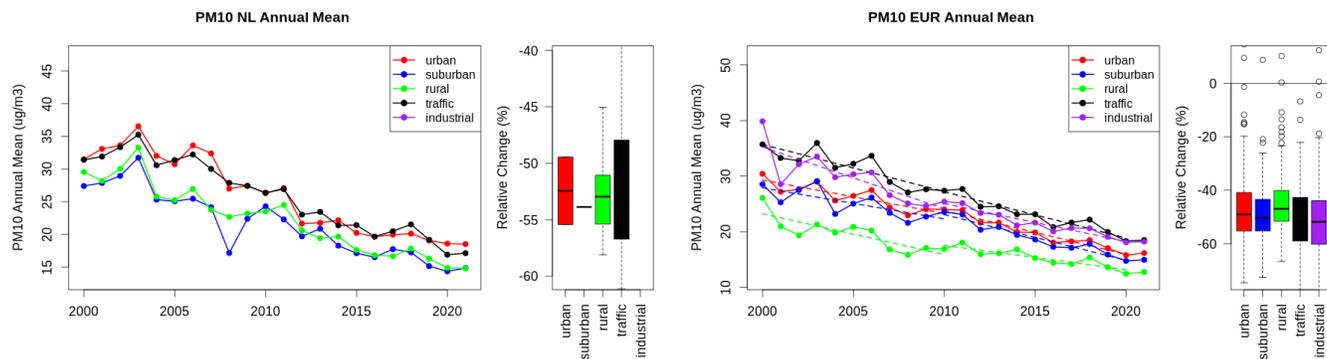


Figure A2.424: Time series of the Netherlands (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Netherlands and in Europe.

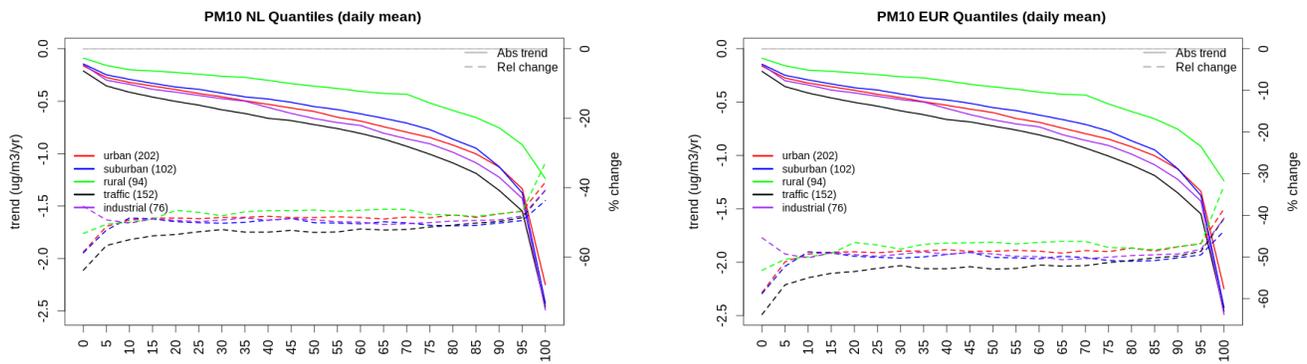


Figure A2.425: For PM10 in Netherlands (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

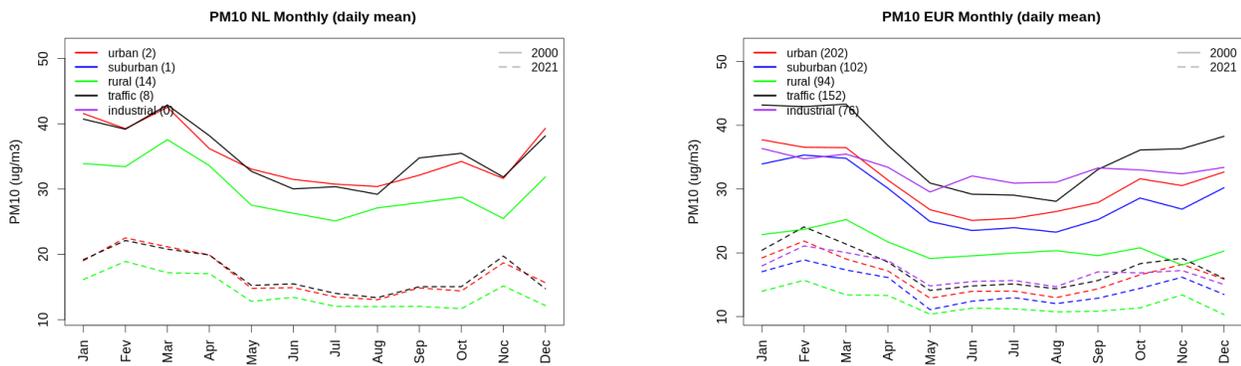


Figure A2.426: Monthly cycle of daily mean PM10 for Netherlands (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

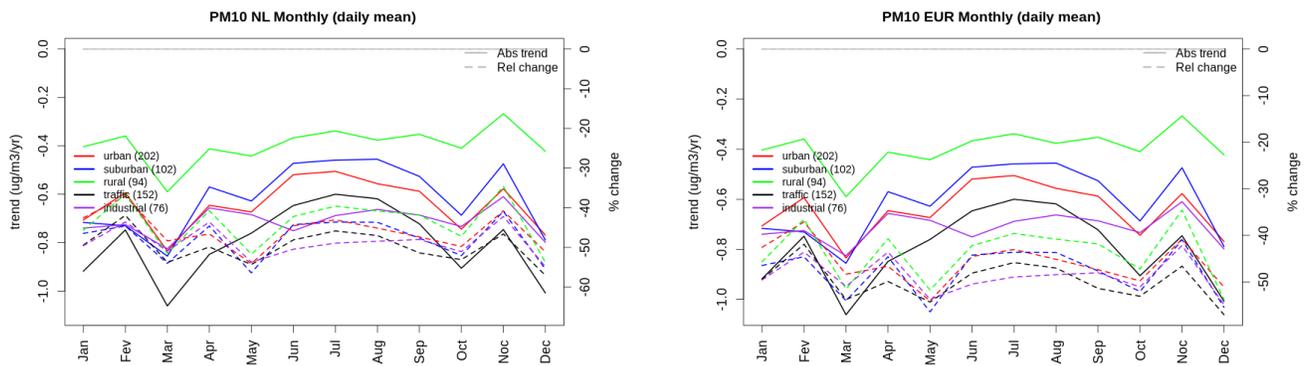


Figure A2.427: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Netherlands (left) and Europe (right) of PM10 at various station type.

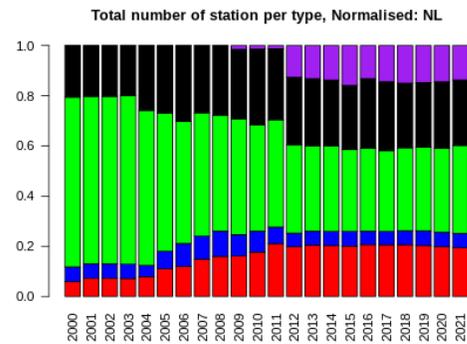
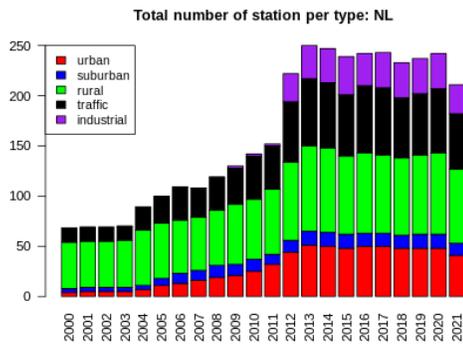
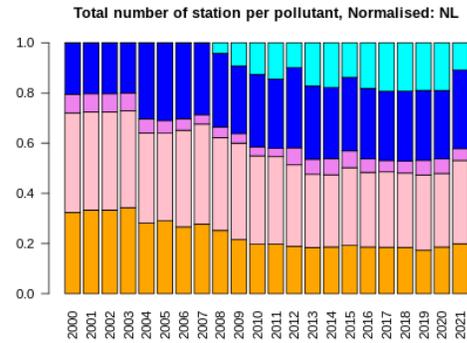
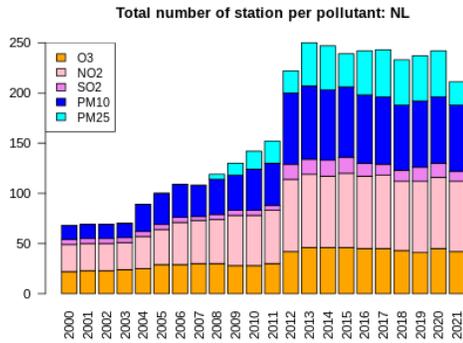
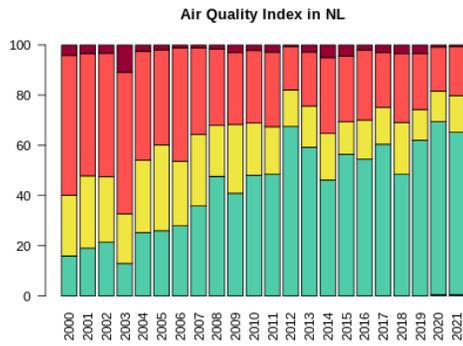


Figure A2.428: For Netherlands: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

21 Norway

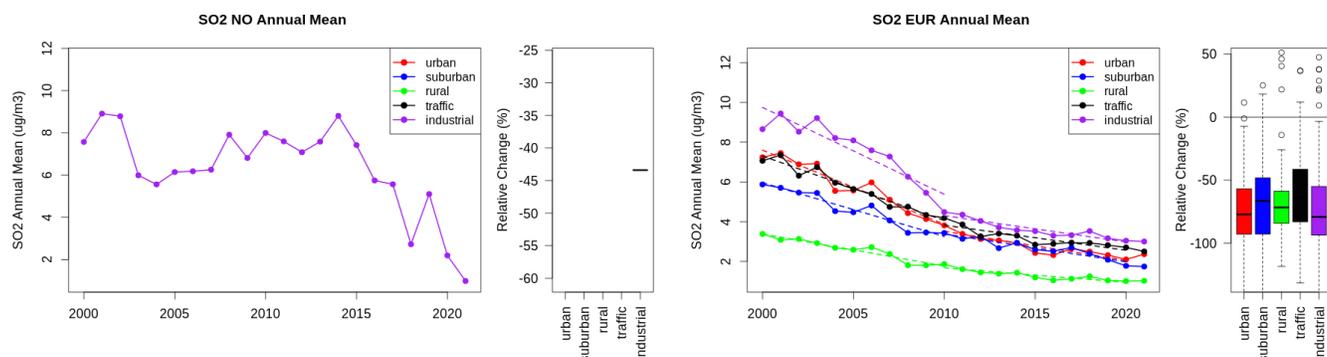


Figure A2.429: Time series of the Norway (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Norway and in Europe.

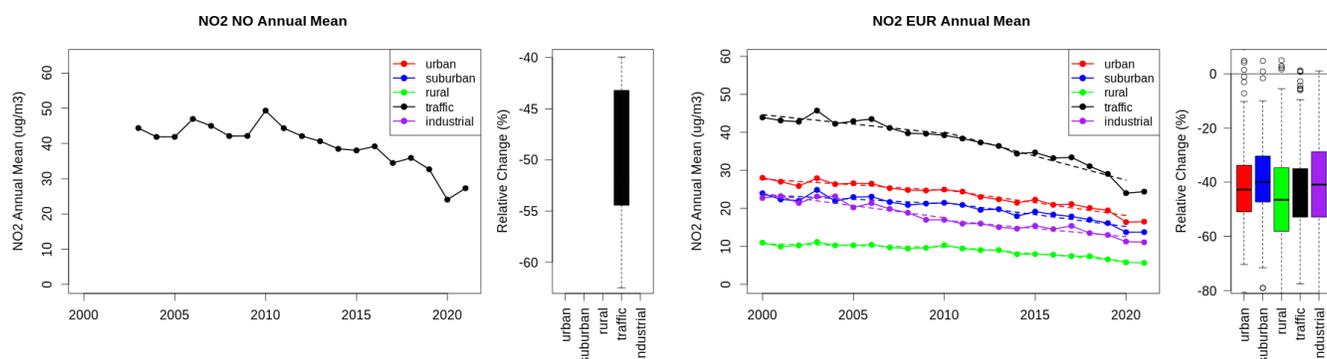


Figure A2.430: Time series of the Norway (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Norway and in Europe.

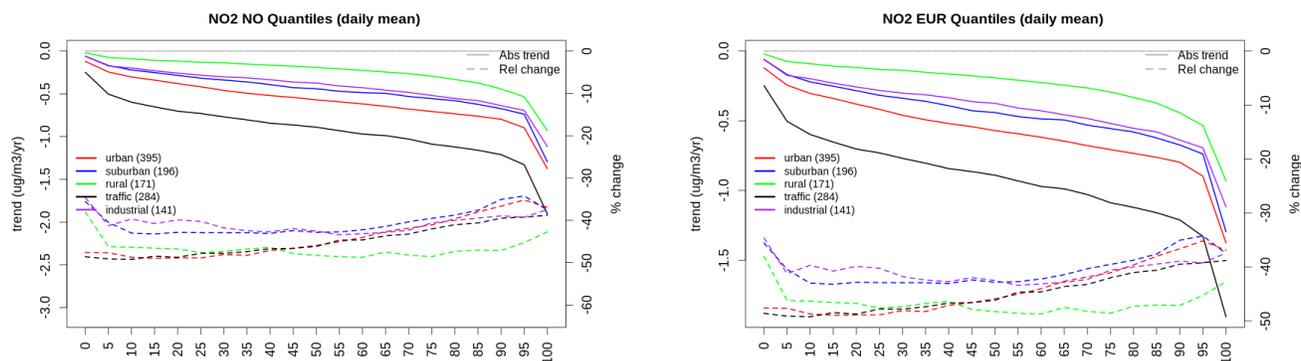


Figure A2.431: For NO₂ in Norway (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

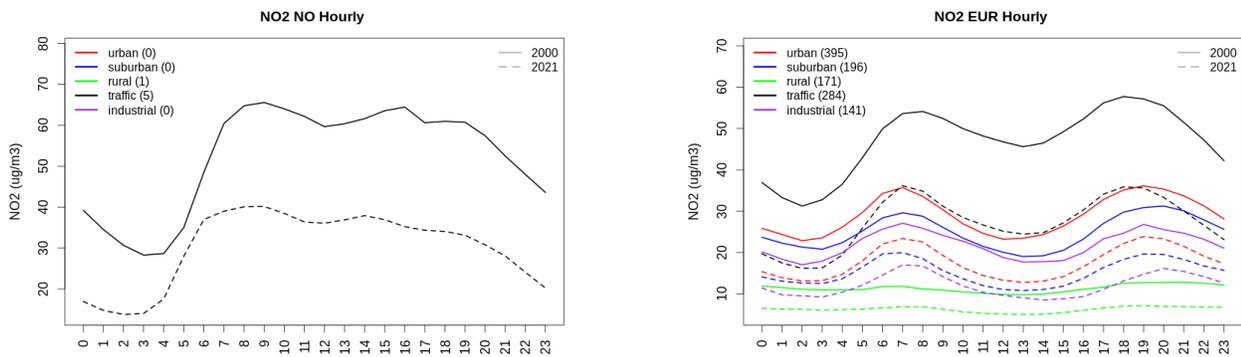


Figure A2.432: Diurnal cycle of daily mean NO2 for Norway (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

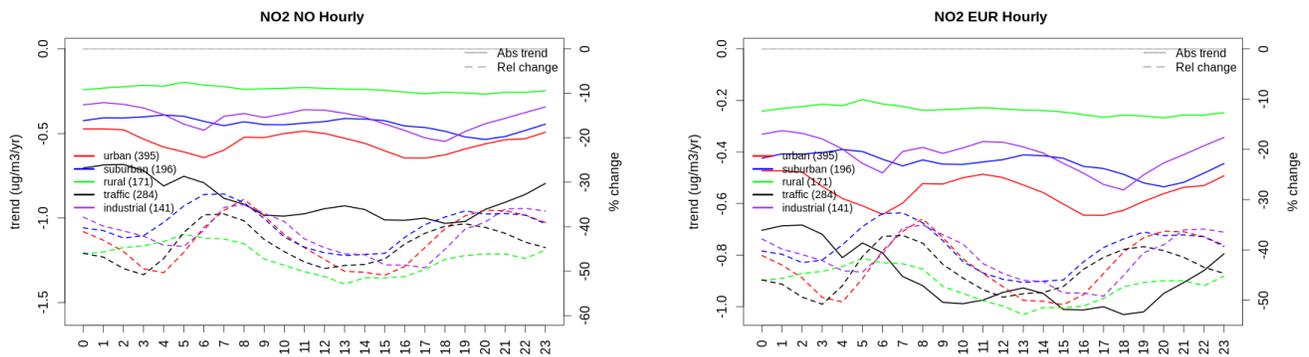


Figure A2.433: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Norway (left) and Europe (right) of NO2 at various station type.

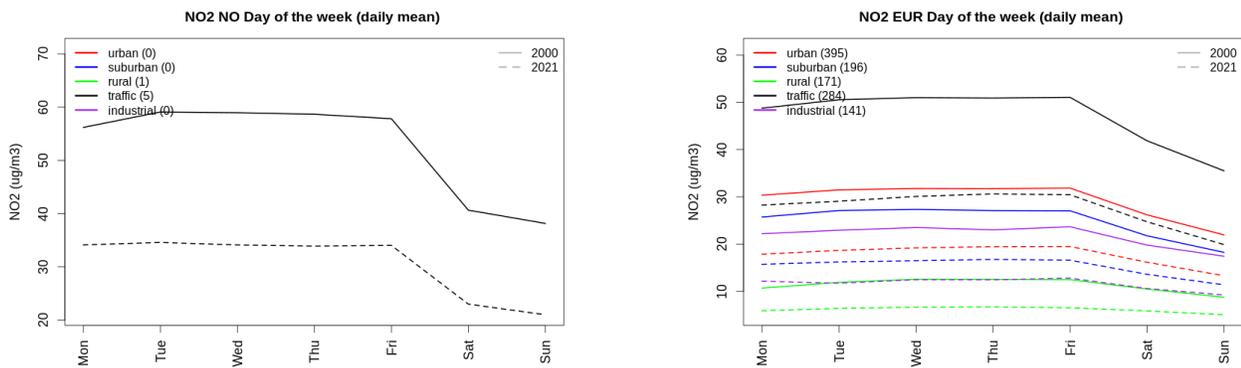


Figure A2.434: Weekly cycle of daily mean NO2 for Norway (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

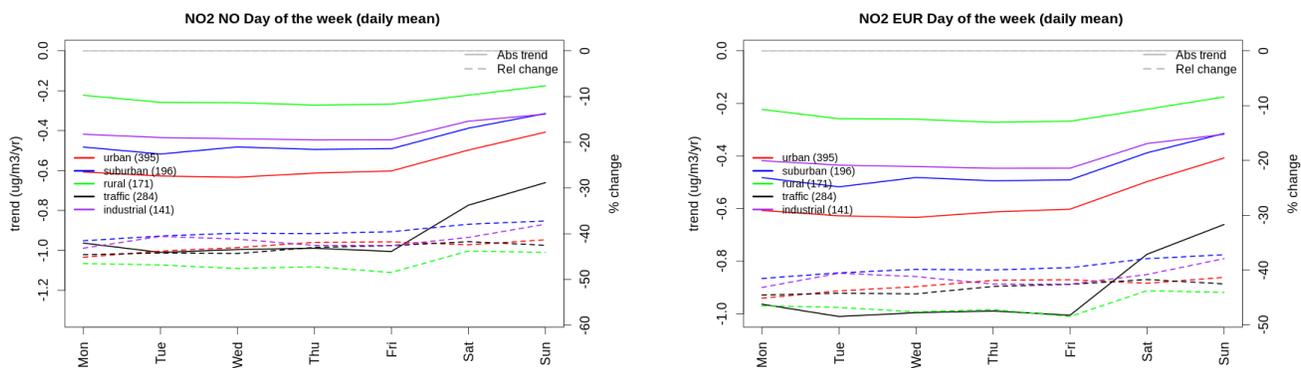


Figure A2.435: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Norway (left) and Europe (right) of NO₂ at various station type.

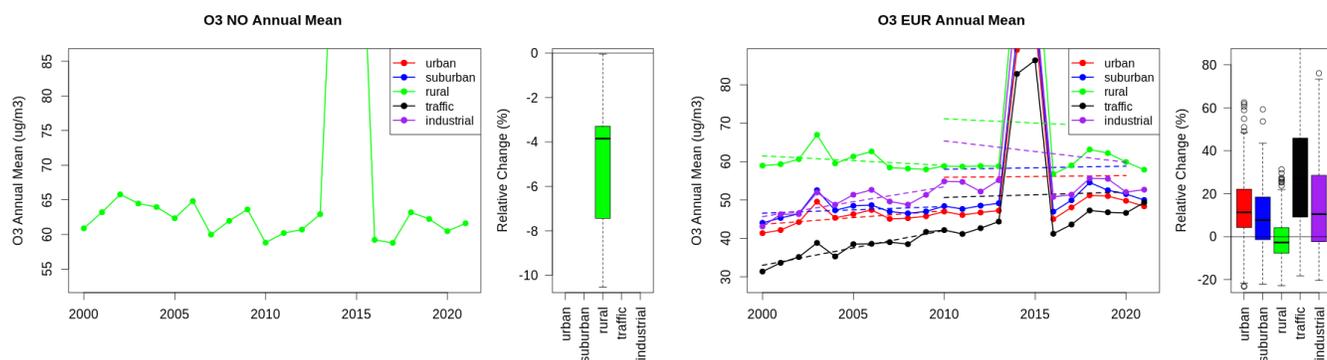


Figure A2.436: Time series of the Norway (left) and European-wide composite (median) of annual mean ozone (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Norway and in Europe.

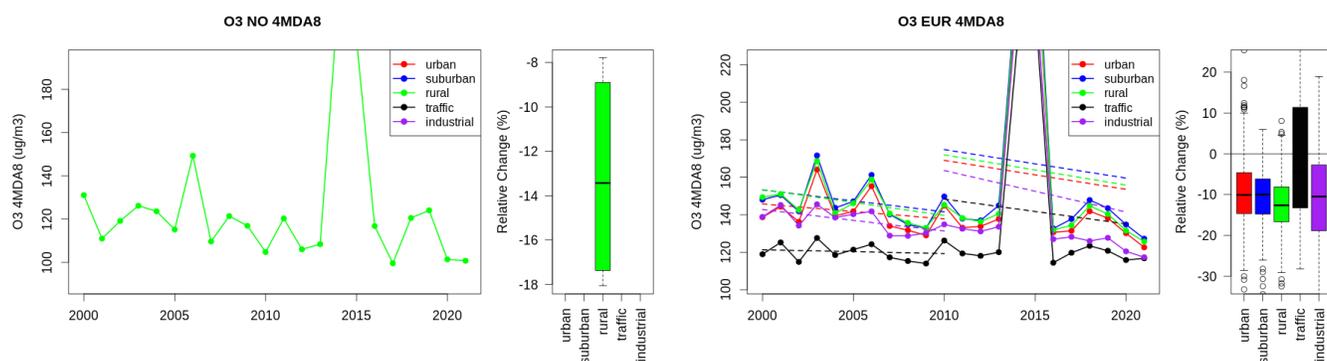


Figure A2.437: Time series of the Norway (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Norway and in Europe.

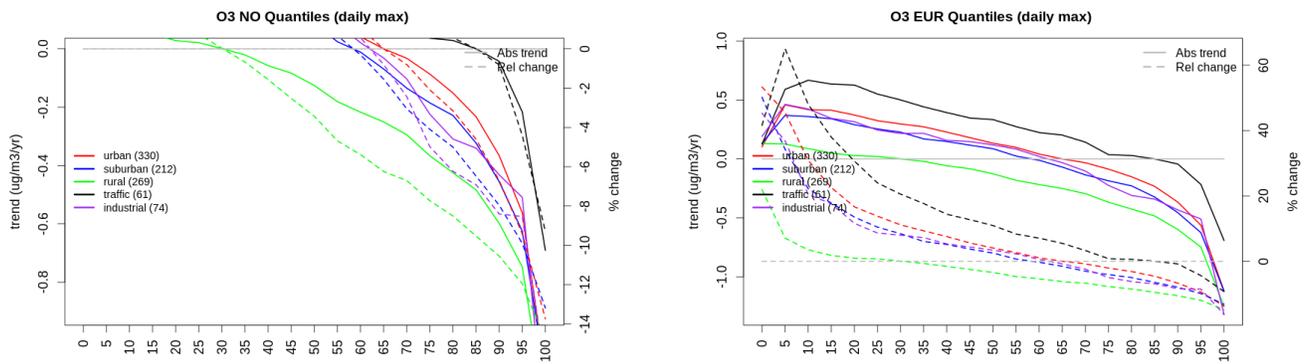


Figure A2.438: For ozone in Norway (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

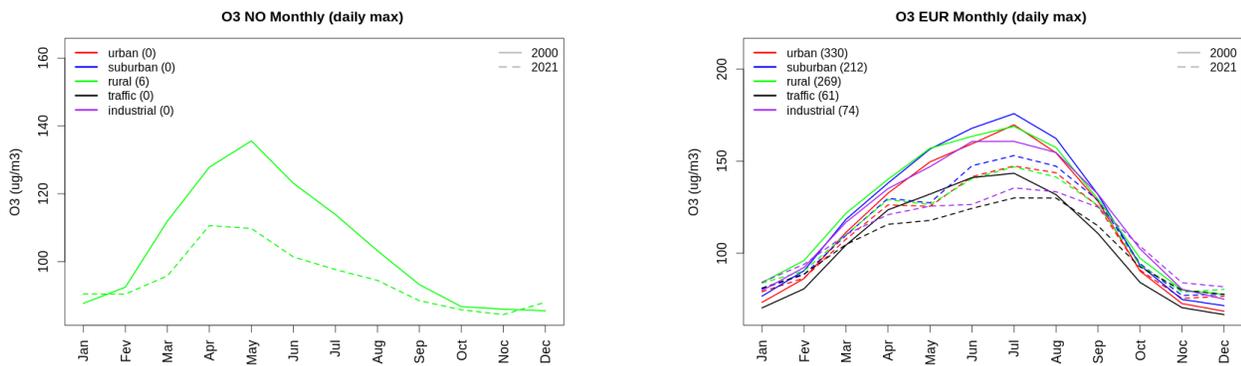


Figure A2.439: Monthly cycle of daily max ozone for Norway (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

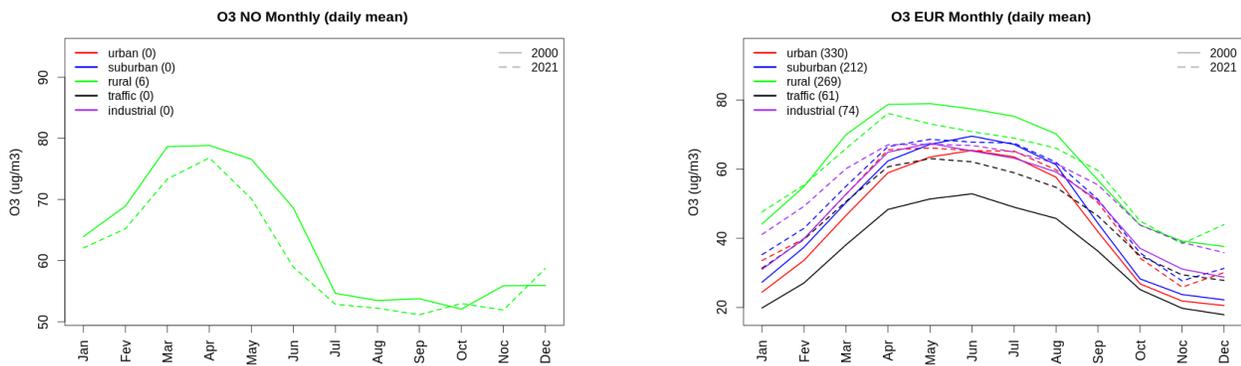


Figure A2.440: Monthly cycle of daily mean ozone for Norway (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

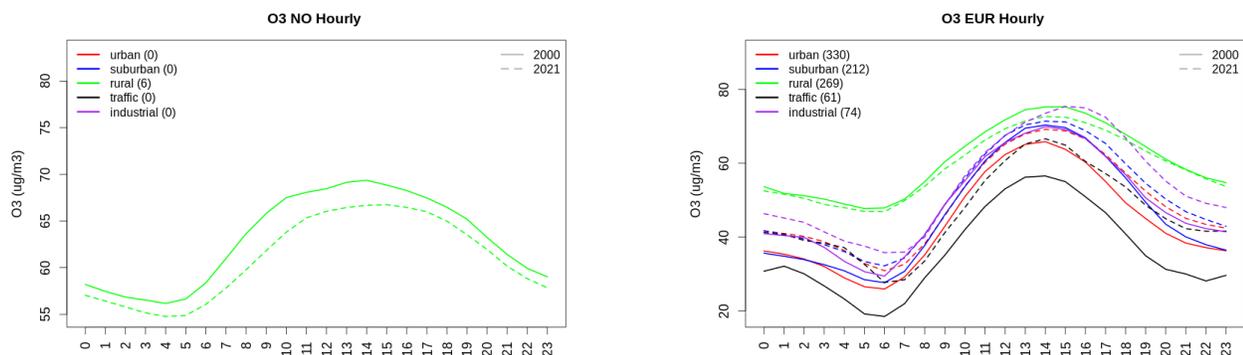


Figure A2.441: Diurnal cycle of daily mean ozone for Norway (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

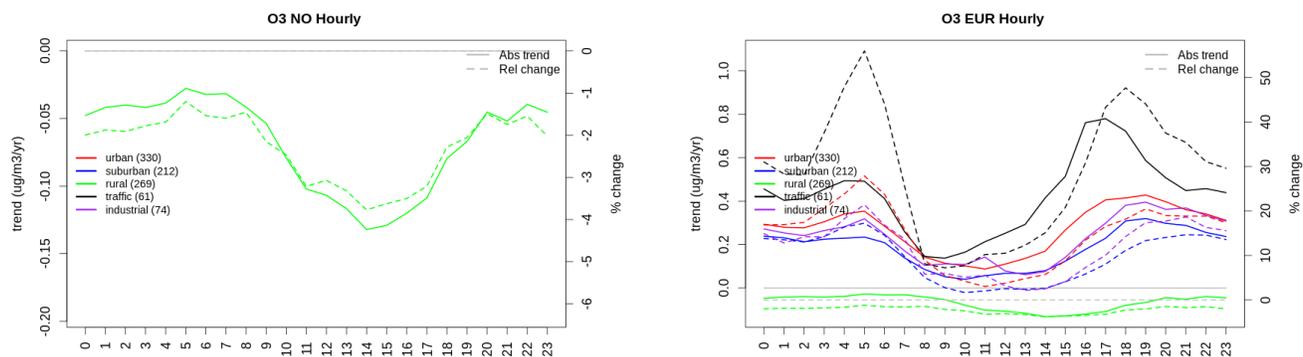


Figure A2.442: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Norway (left) and Europe (right) of ozone at various station type.

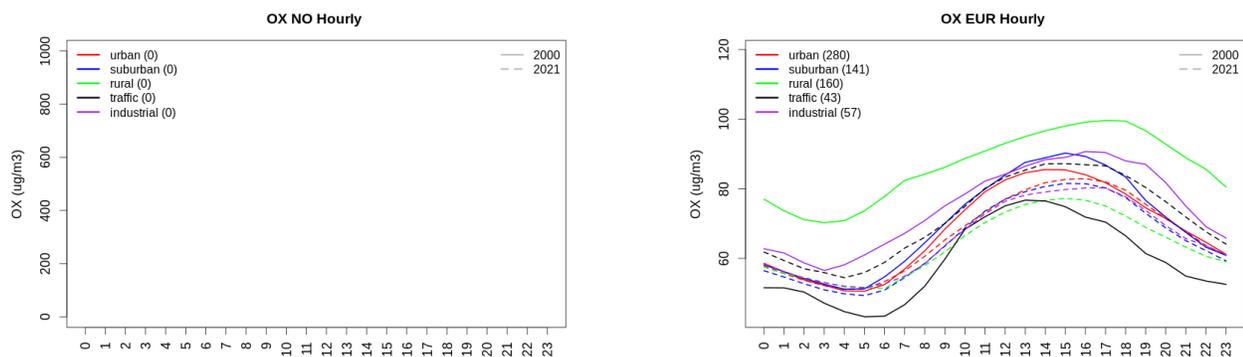


Figure A2.443: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Norway (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

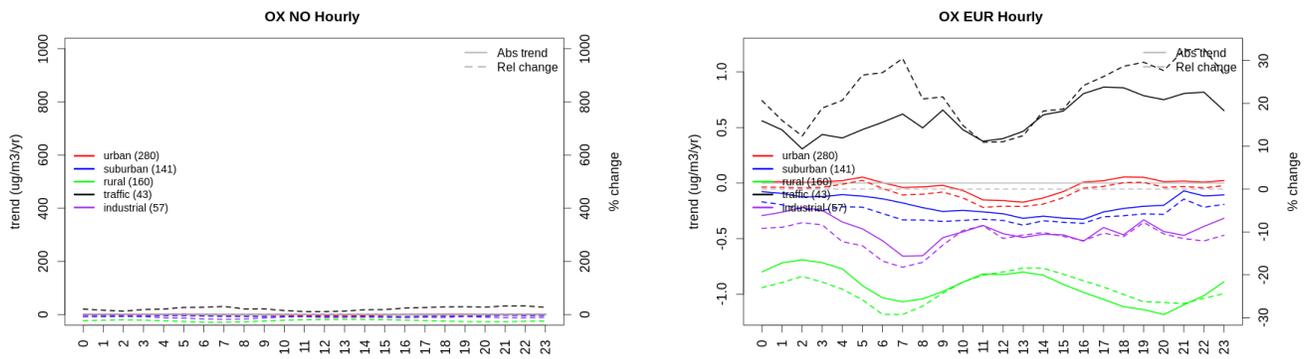


Figure A2.444: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Norway (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

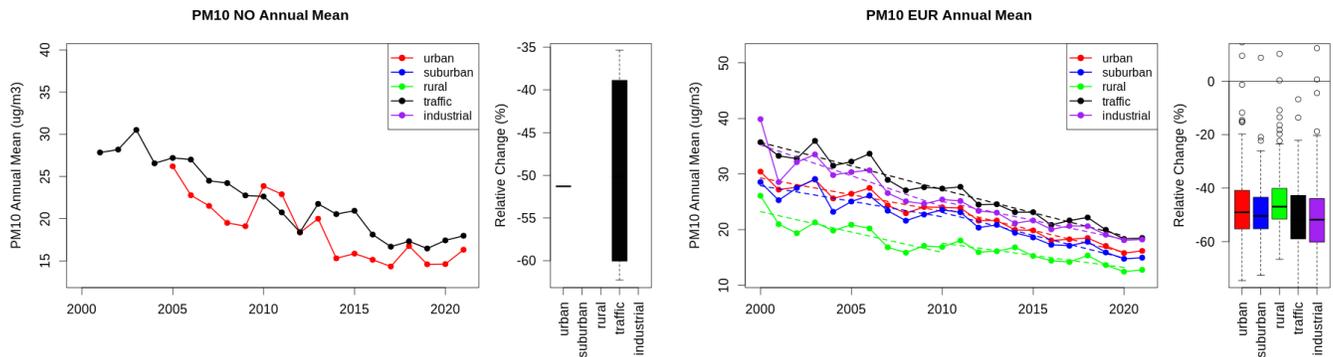


Figure A2.445: Time series of the Norway (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Norway and in Europe.

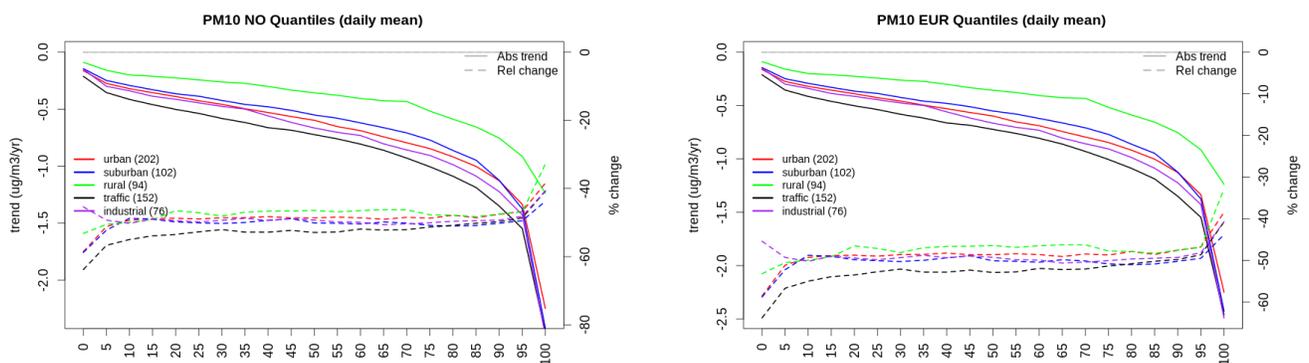


Figure A2.446: For PM₁₀ in Norway (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

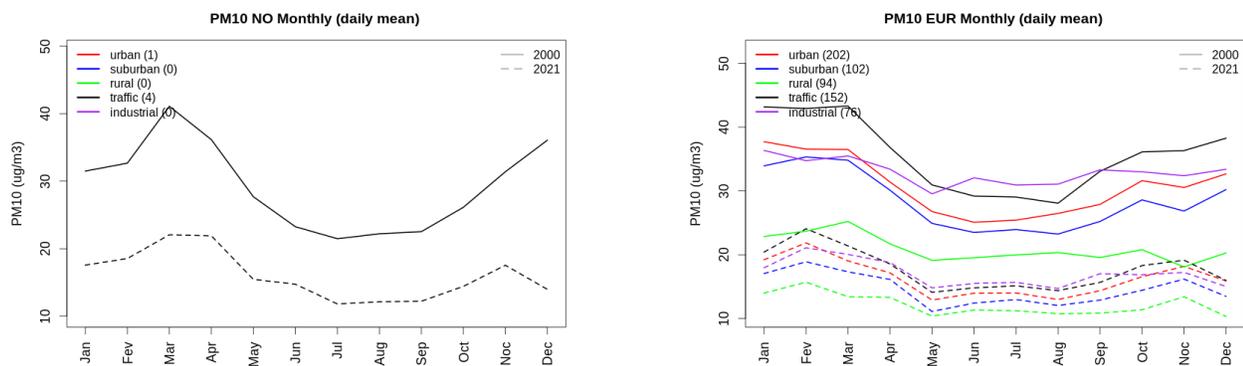


Figure A2.447: Monthly cycle of daily mean PM10 for Norway (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

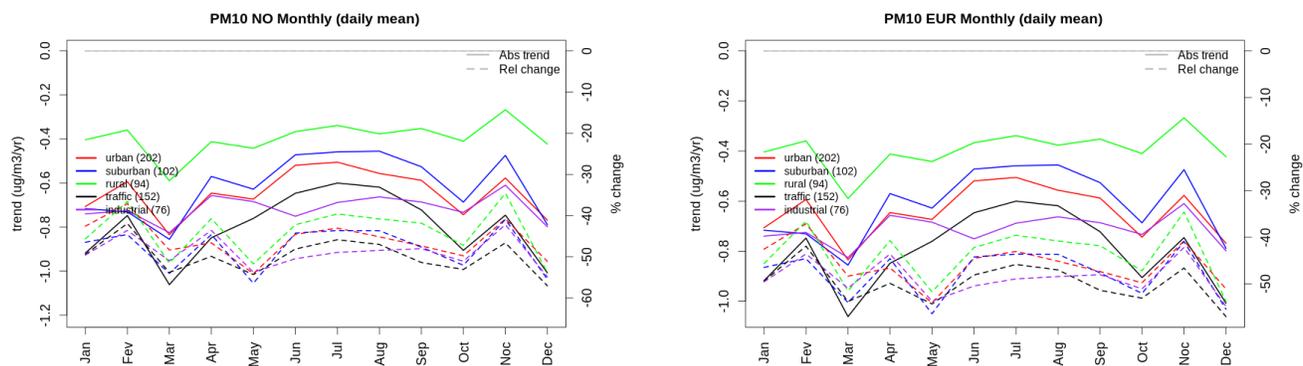


Figure A2.448: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Norway (left) and Europe (right) of PM10 at various station type.

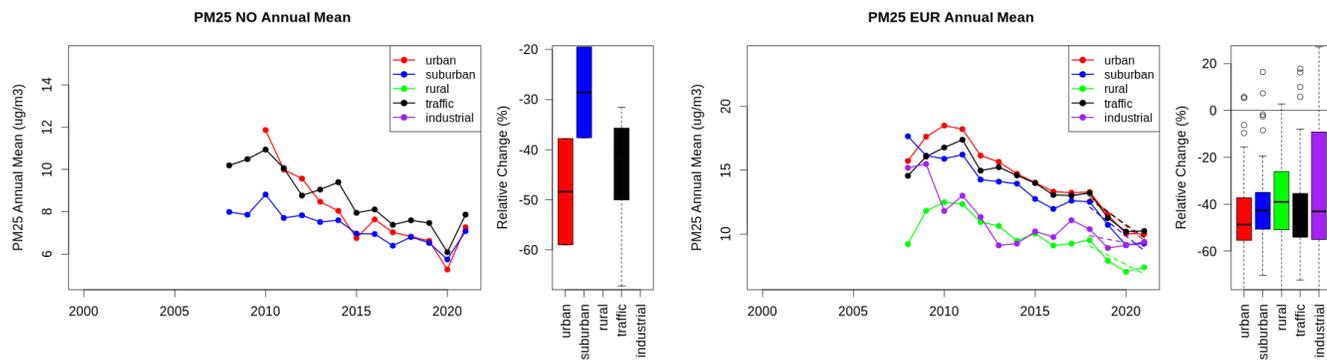


Figure A2.449: Time series of the Norway (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Norway and in Europe.

22 Poland

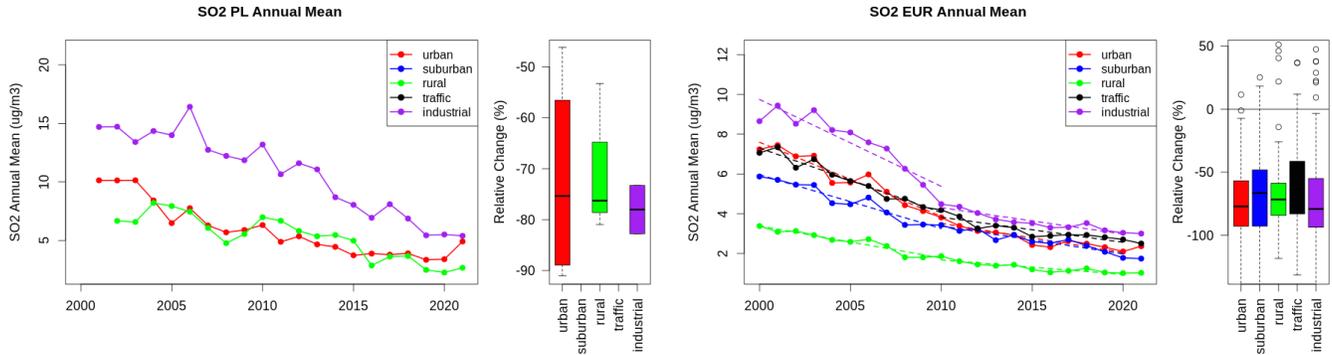


Figure A2.450: Time series of the Poland (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Poland and in Europe.

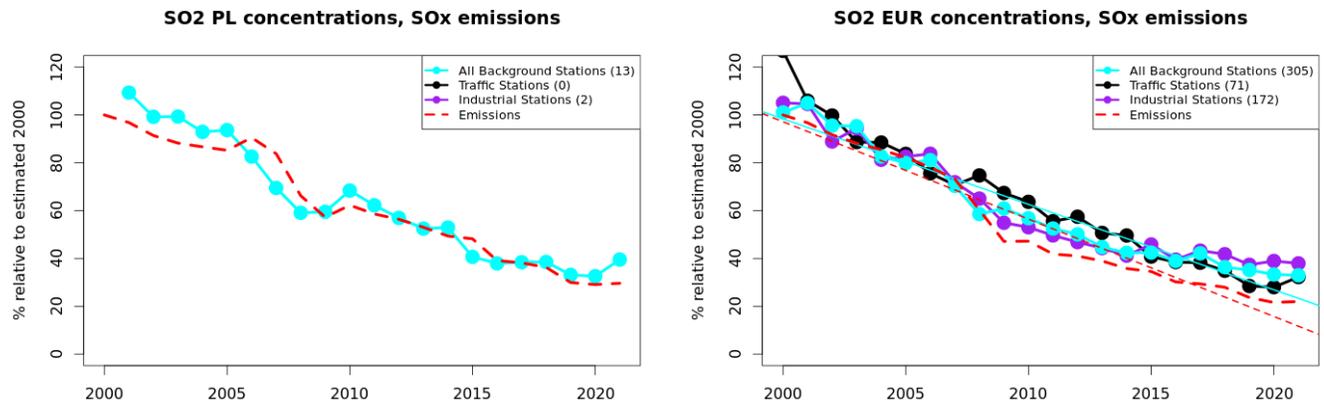


Figure A2.451: Time series of 2000-2021 (left) and European (right) median SO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding SO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

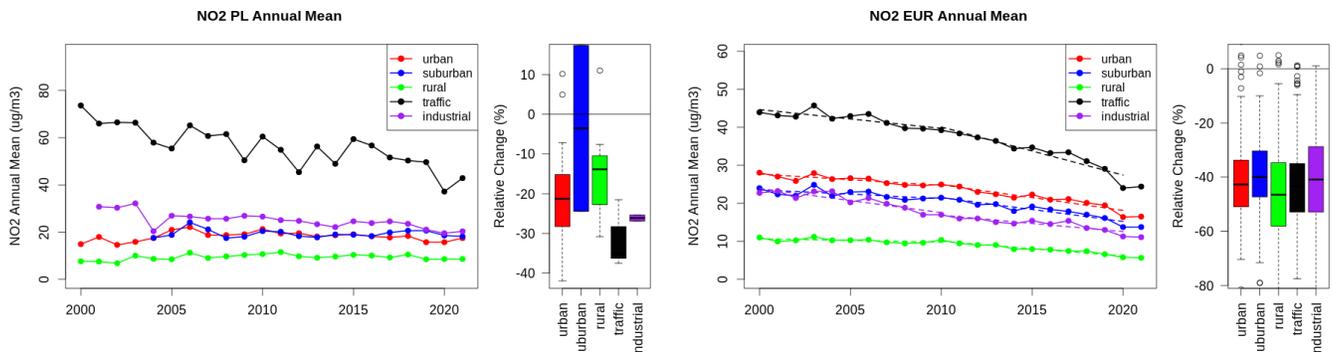


Figure A2.452: Time series of the Poland (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Poland and in Europe.

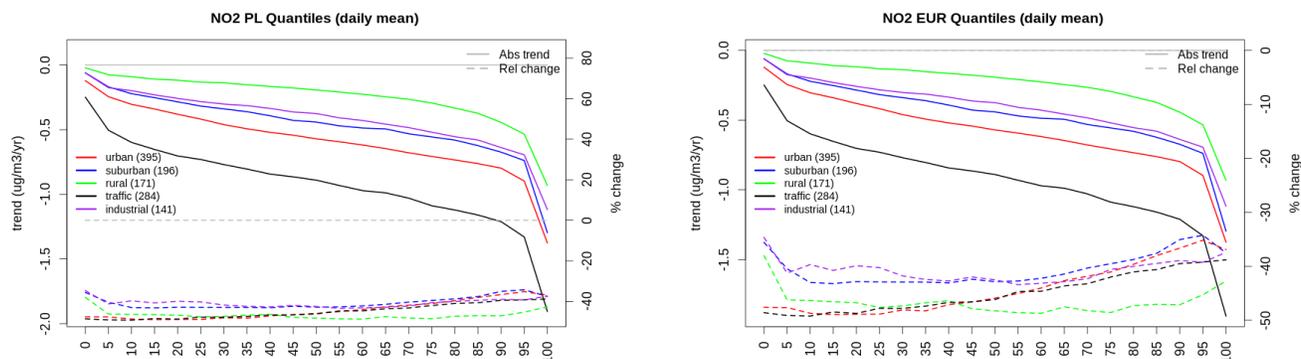


Figure A2.453: For NO₂ in Poland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

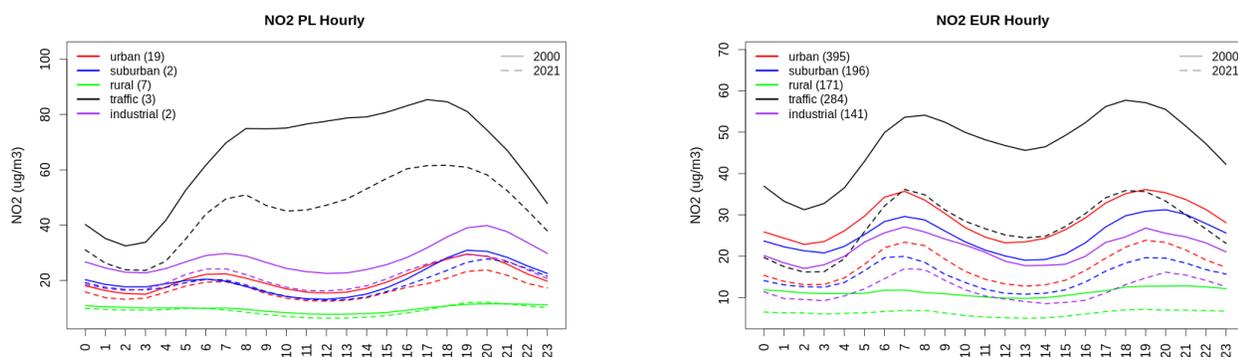


Figure A2.454: Diurnal cycle of daily mean NO₂ for Poland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

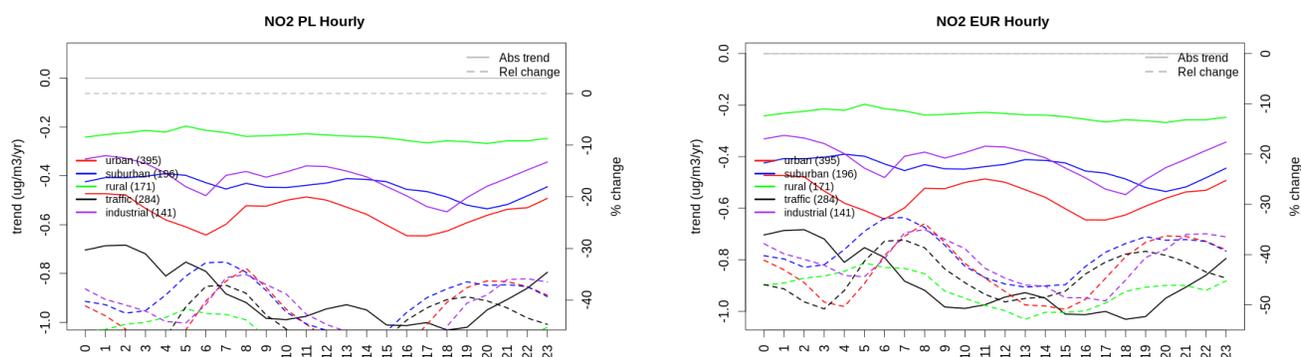


Figure A2.455: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Poland (left) and Europe (right) of NO₂ at various station type.

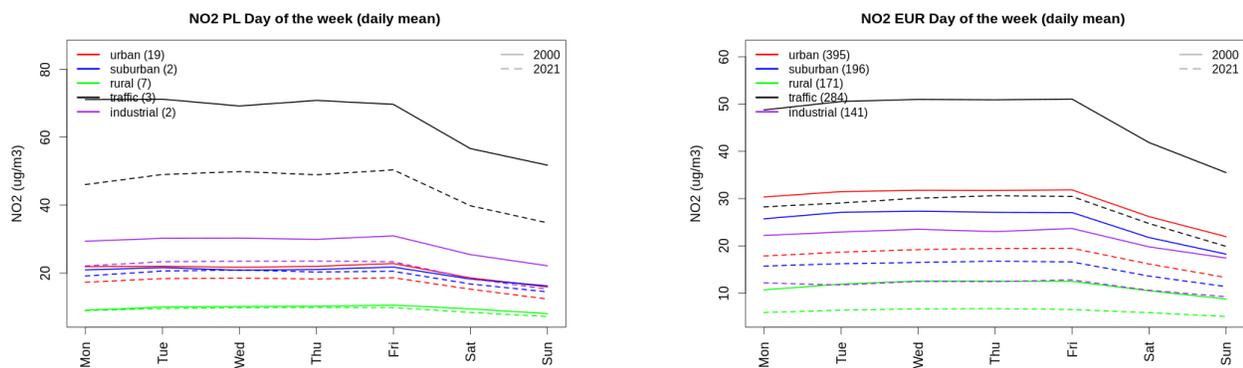


Figure A2.456: Weekly cycle of daily mean NO2 for Poland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

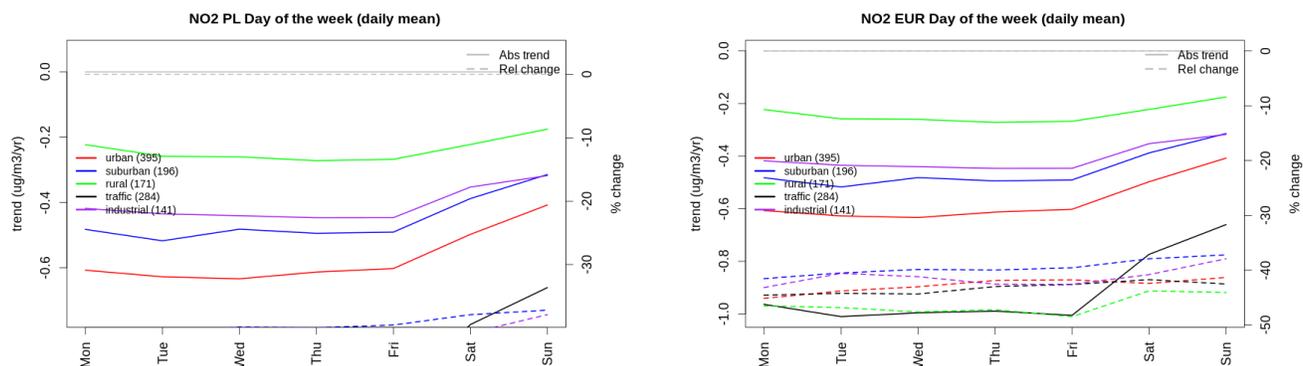


Figure A2.457: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Poland (left) and Europe (right) of NO2 at various station type.

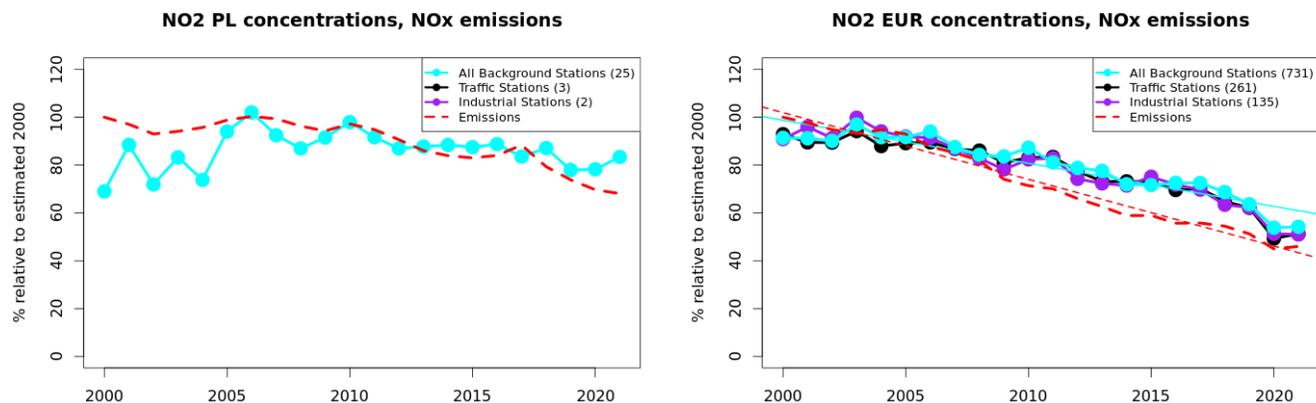


Figure A2.458: Time series of 2000-2021 (left) and European (right) median NO2 observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NOx emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

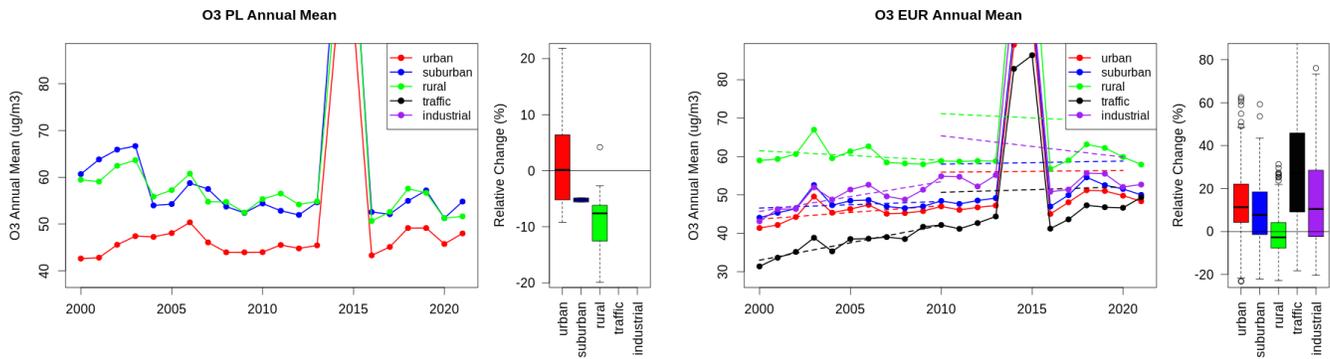


Figure A2.459: Time series of the Poland (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Poland and in Europe.

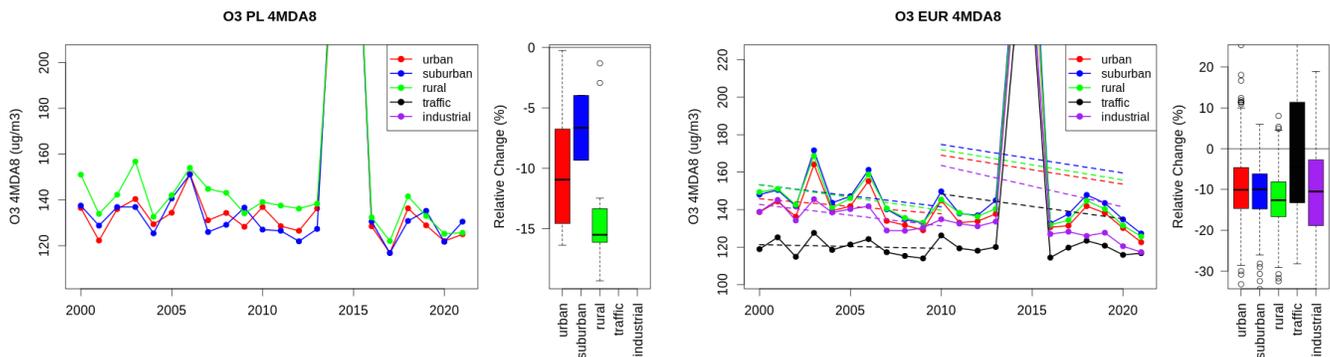


Figure A2.460: Time series of the Poland (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Poland and in Europe.

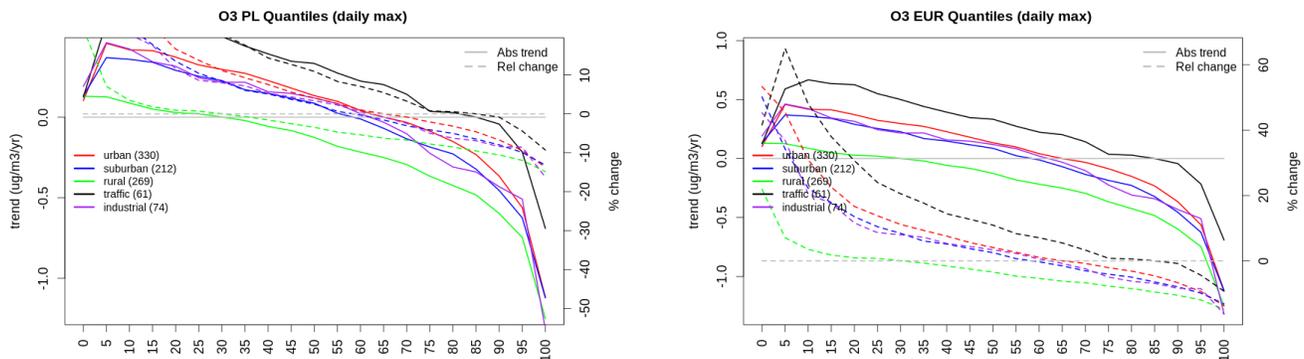


Figure A2.461: For ozone in Poland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

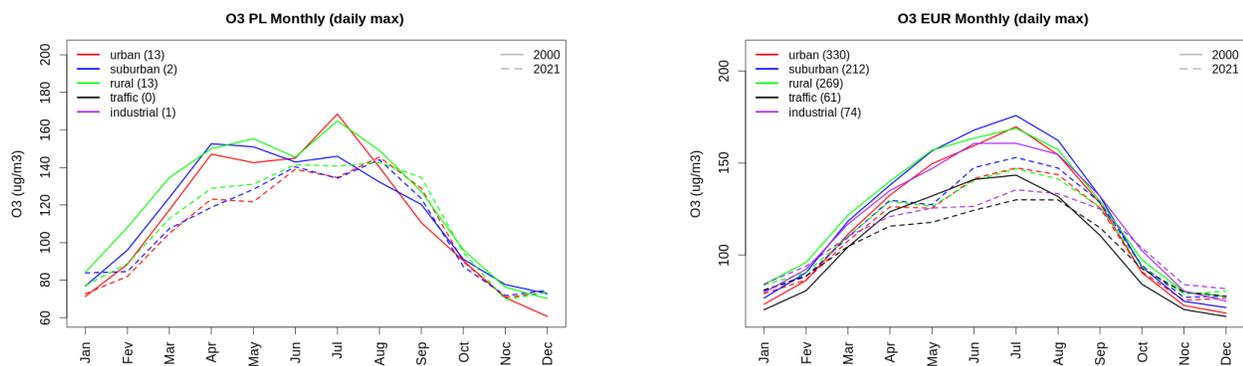


Figure A2.462: Monthly cycle of daily max ozone for Poland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

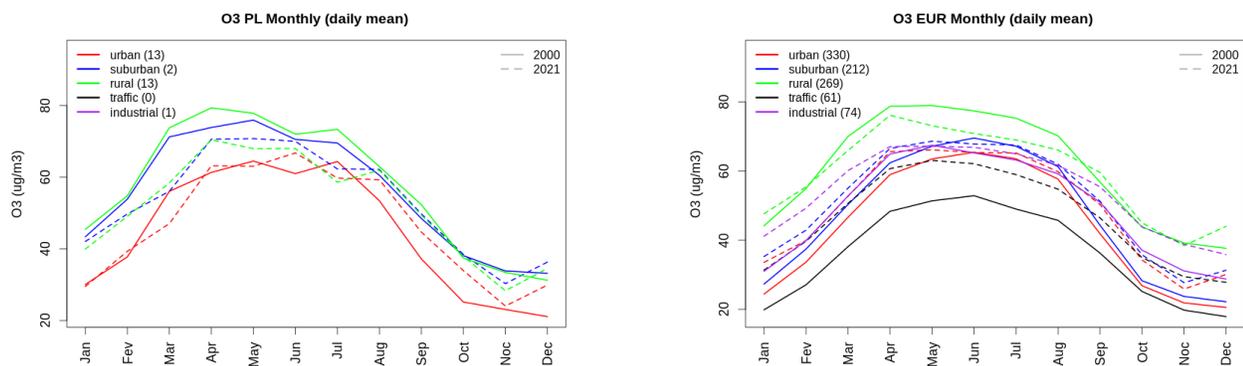


Figure A2.463: Monthly cycle of daily mean ozone for Poland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

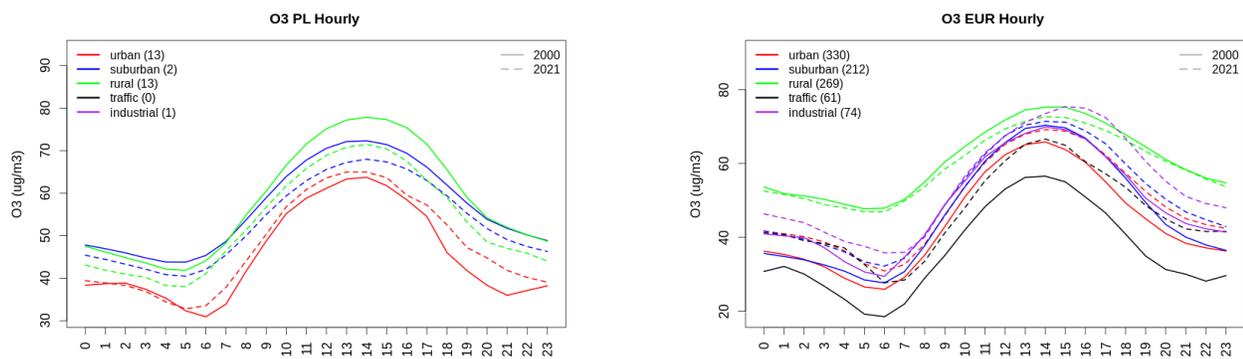


Figure A2.464: Diurnal cycle of daily mean ozone for Poland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

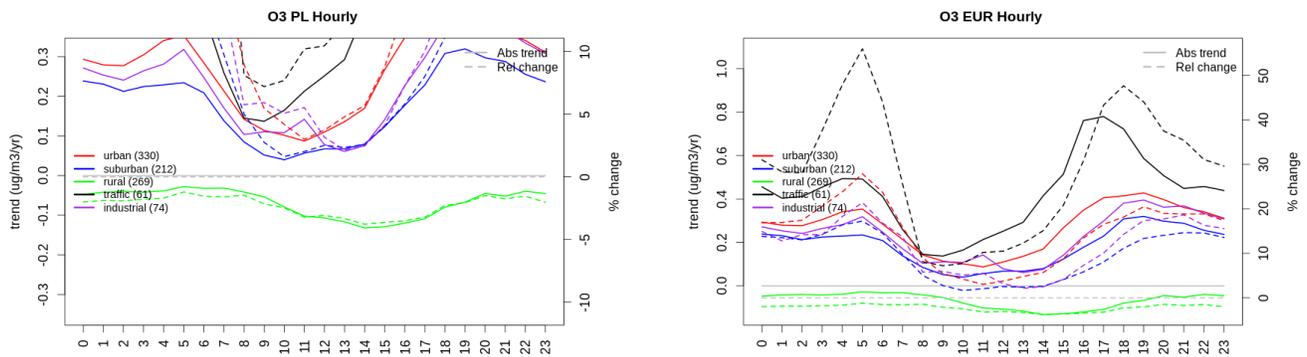


Figure A2.465: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Poland (left) and Europe (right) of ozone at various station type.

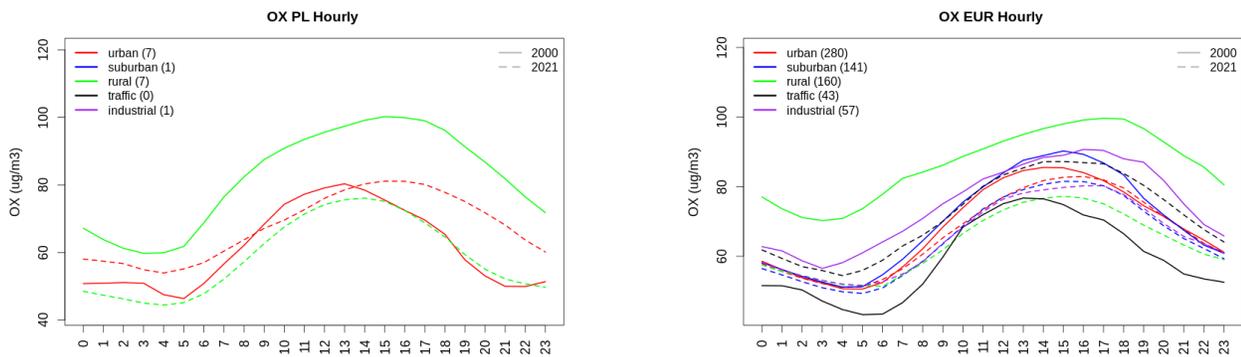


Figure A2.466: Diurnal cycle of daily mean OX (as NO₂+O₃) for Poland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

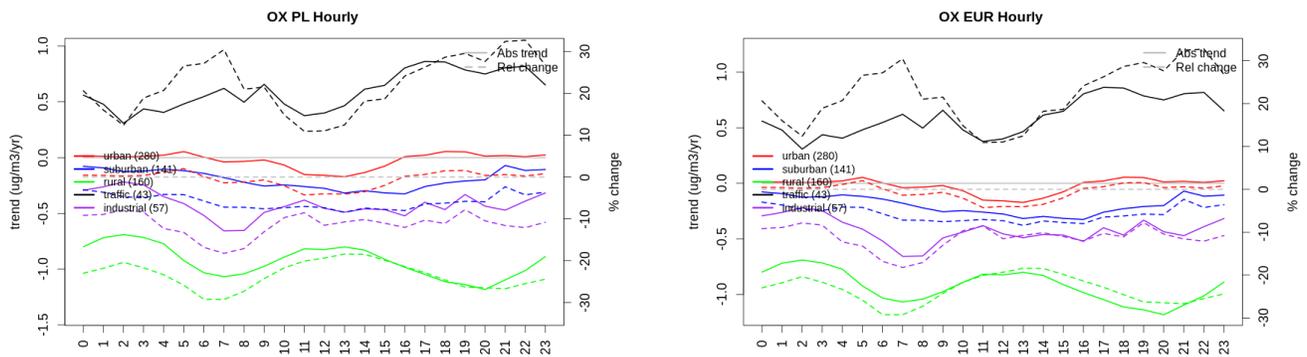


Figure A2.467: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Poland (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

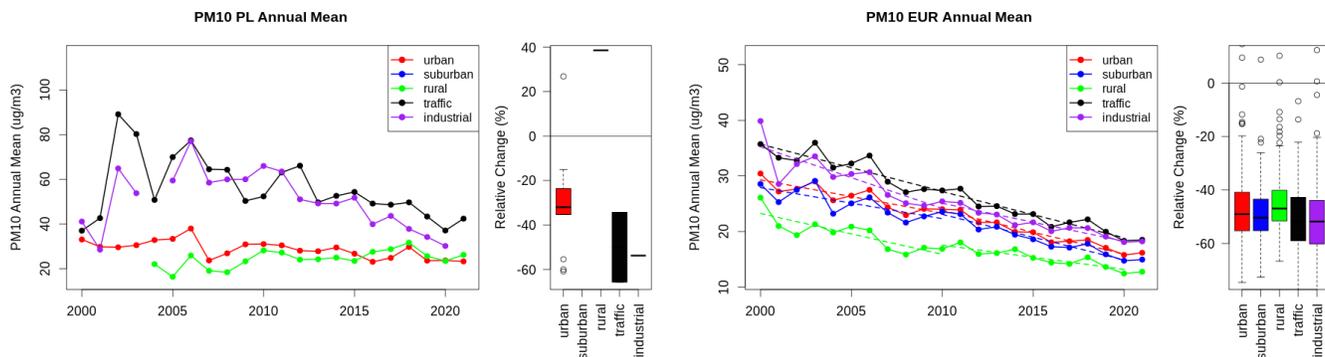


Figure A2.468: Time series of the Poland (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Poland and in Europe.

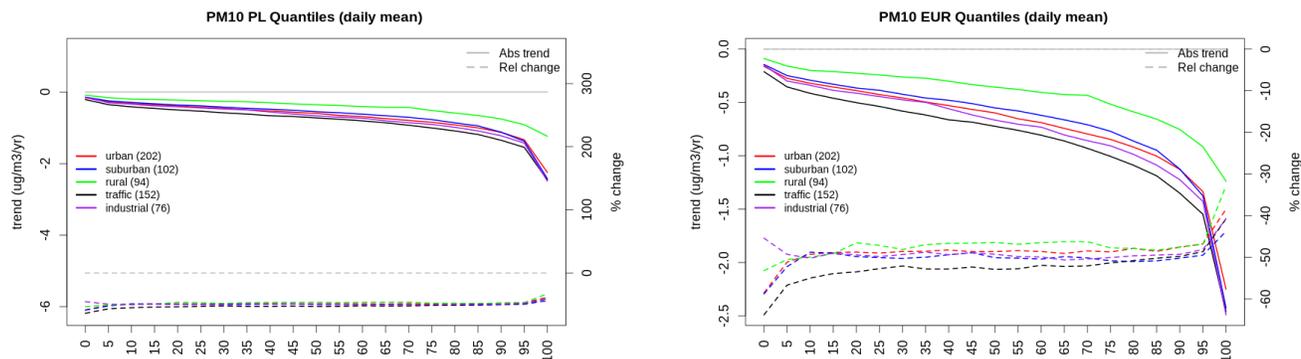


Figure A2.469: For PM10 in Poland (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

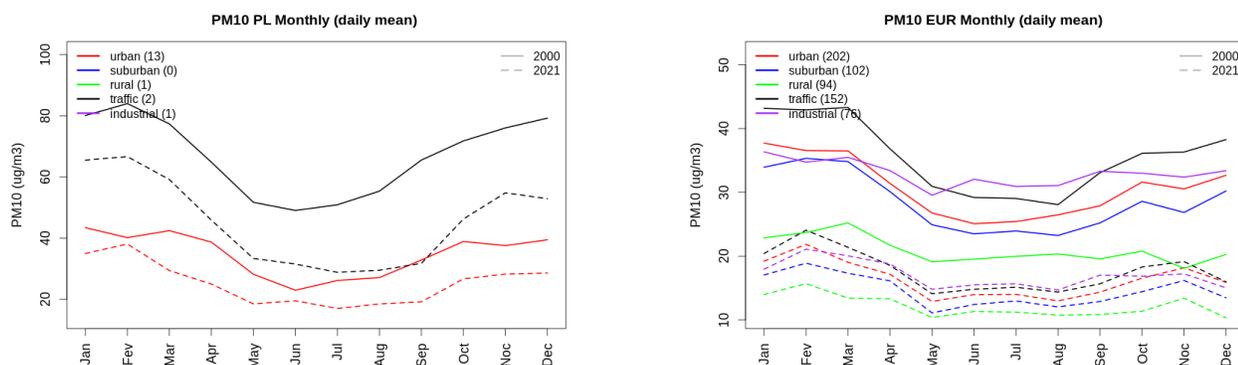


Figure A2.470: Monthly cycle of daily mean PM10 for Poland (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

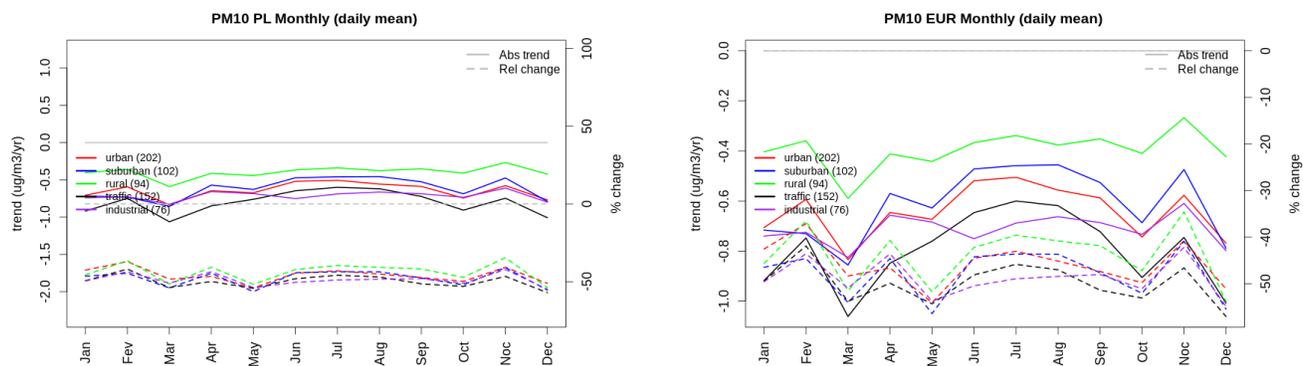


Figure A2.471: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Poland (left) and Europe (right) of PM10 at various station type.

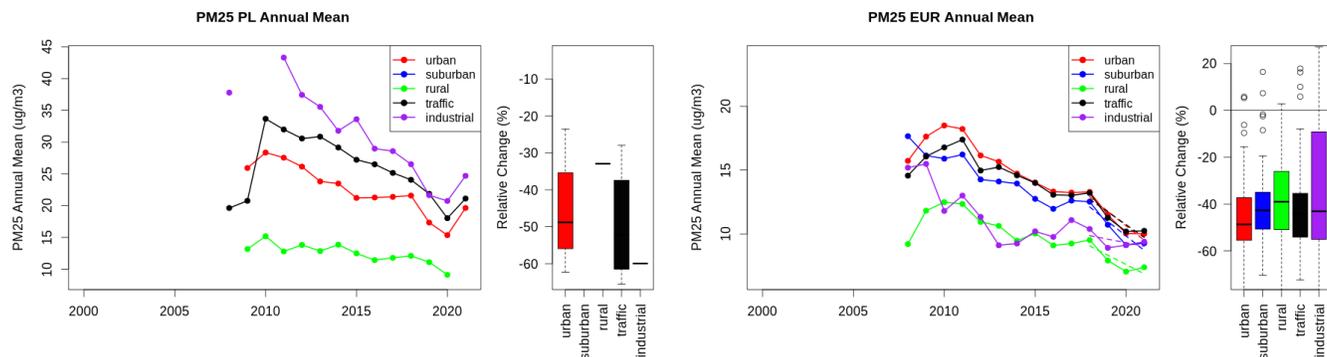


Figure A2.472: Time series of the Poland (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Poland and in Europe.

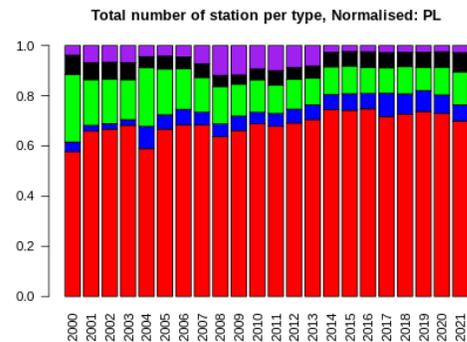
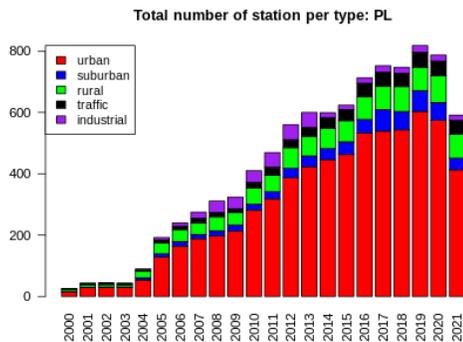
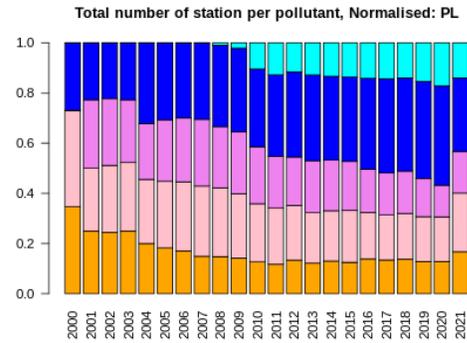
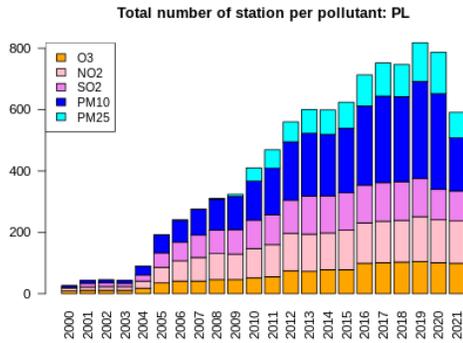
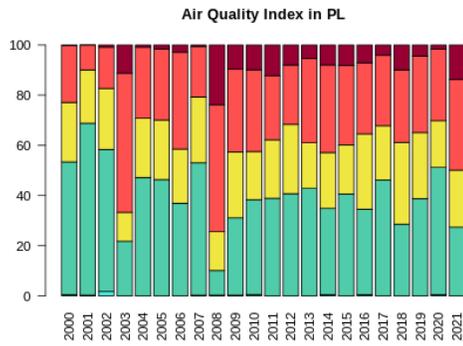


Figure A2.473: For Poland: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

23 Portugal

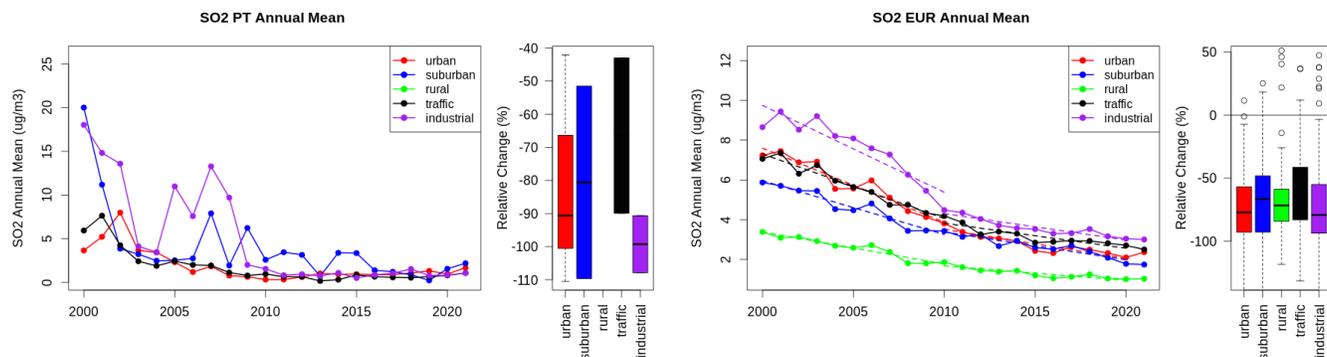


Figure A2.474: Time series of the Portugal (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Portugal and in Europe.

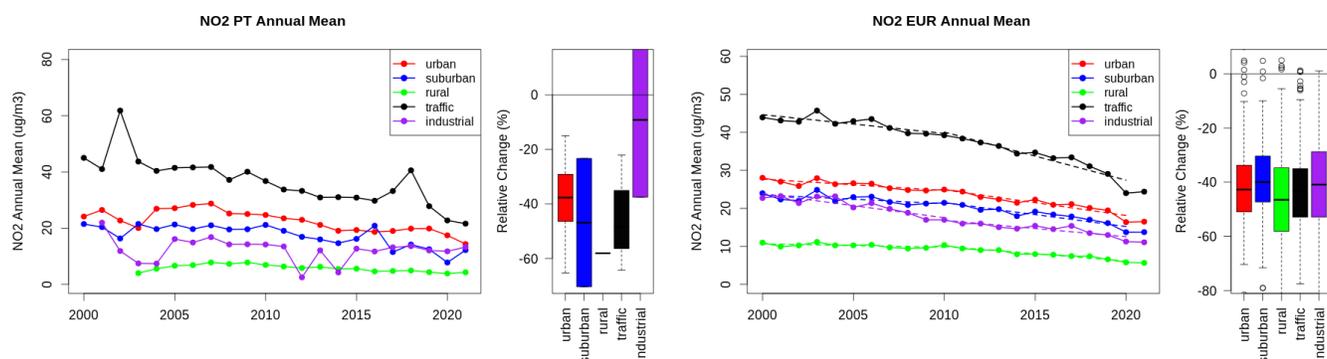


Figure A2.475: Time series of the Portugal (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Portugal and in Europe.

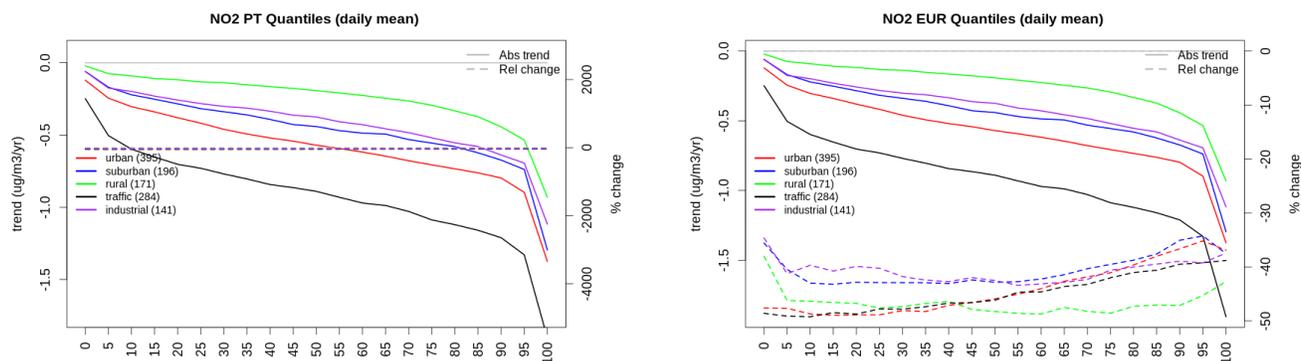


Figure A2.476: For NO₂ in Portugal (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

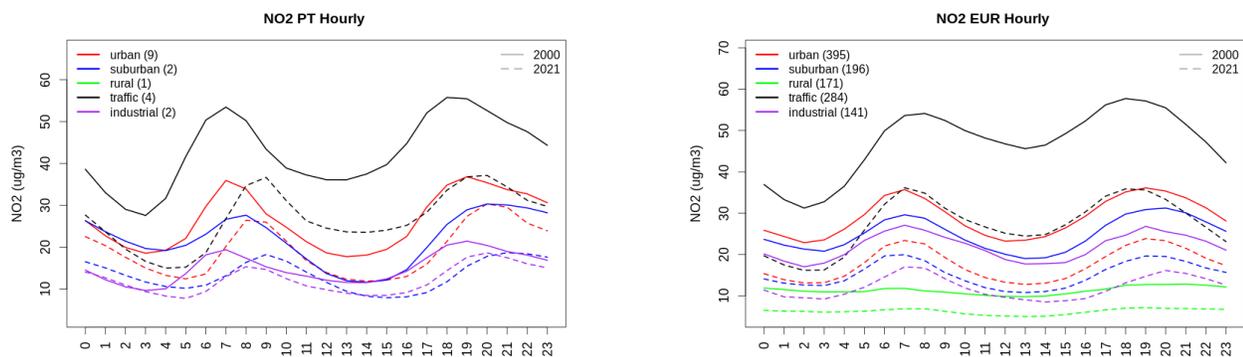


Figure A2.477: Diurnal cycle of daily mean NO₂ for Portugal (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

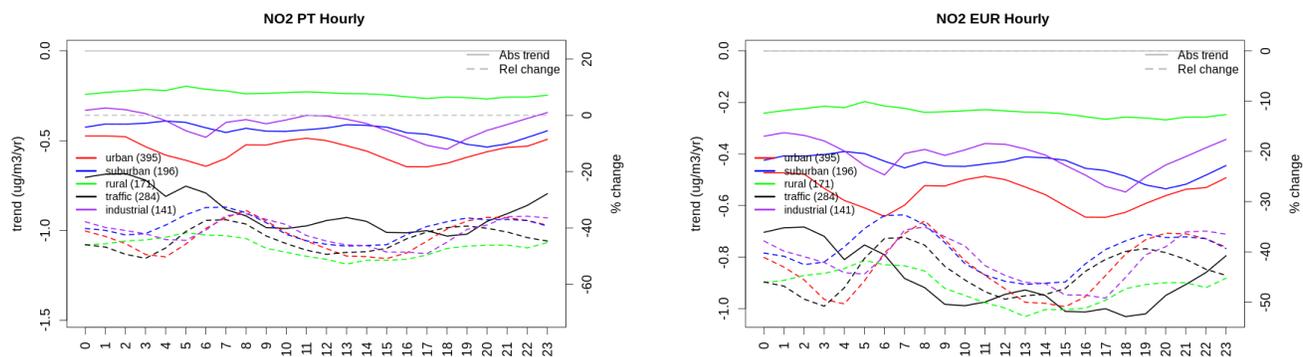


Figure A2.478: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Portugal (left) and Europe (right) of NO₂ at various station type.

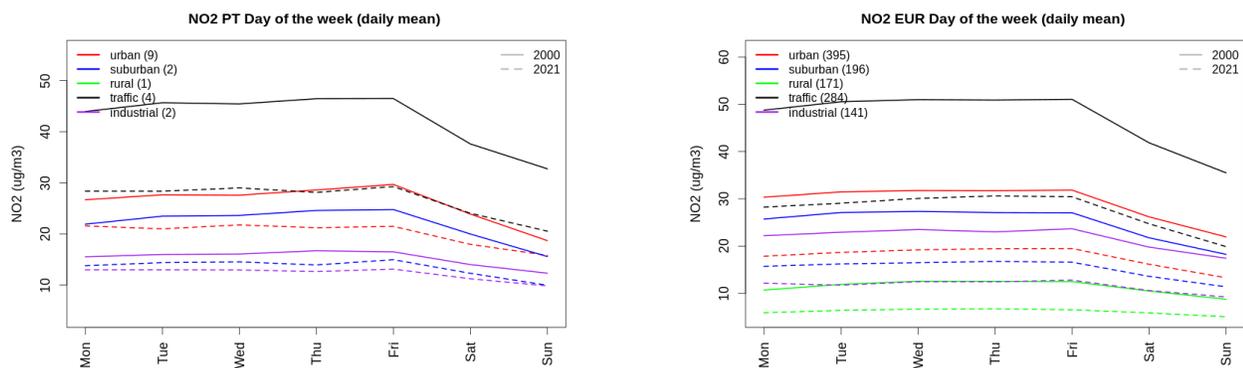


Figure A2.479: Weekly cycle of daily mean NO₂ for Portugal (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

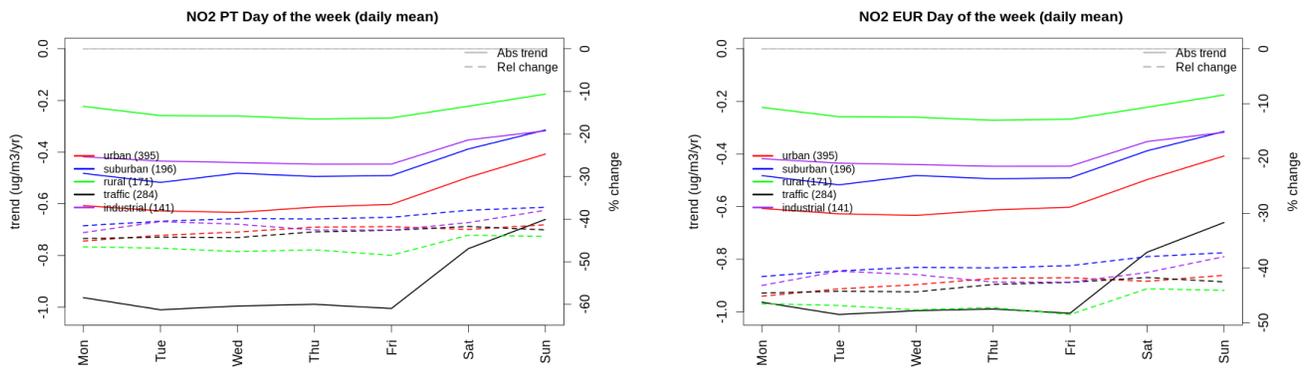


Figure A2.480: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Portugal (left) and Europe (right) of NO₂ at various station type.

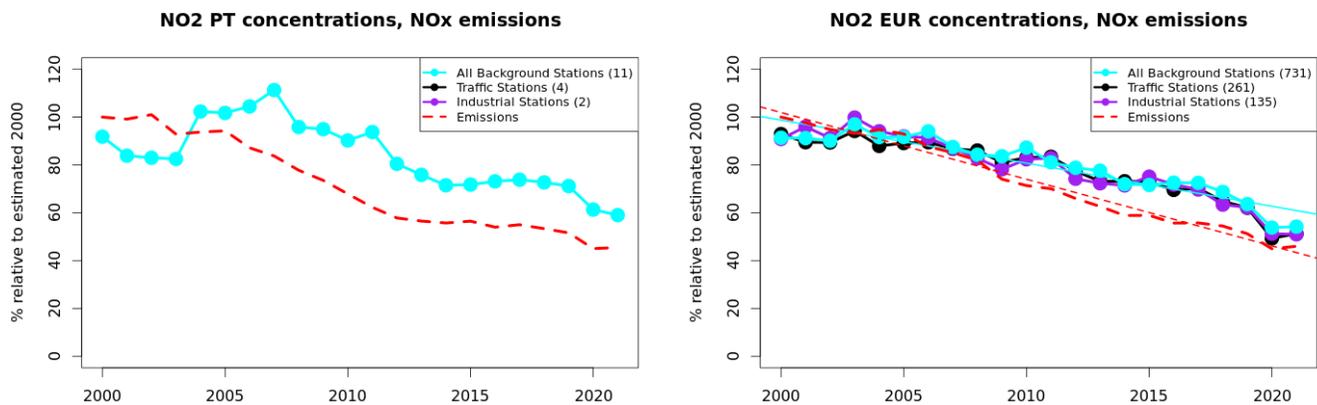


Figure A2.481: Time series of 2000-2021 (left) and European (right) median NO₂ observed at traffic (black), industrial (violet) and background (cyan) sites (solid lines), and corresponding NO_x emissions (dashed line) normalised to estimated 2005 levels (%). The median is taken over where more than 5 stations of each typology is available. The total number of stations included is provided in brackets. In the European composite, straight lines are the linear fits over the whole period.

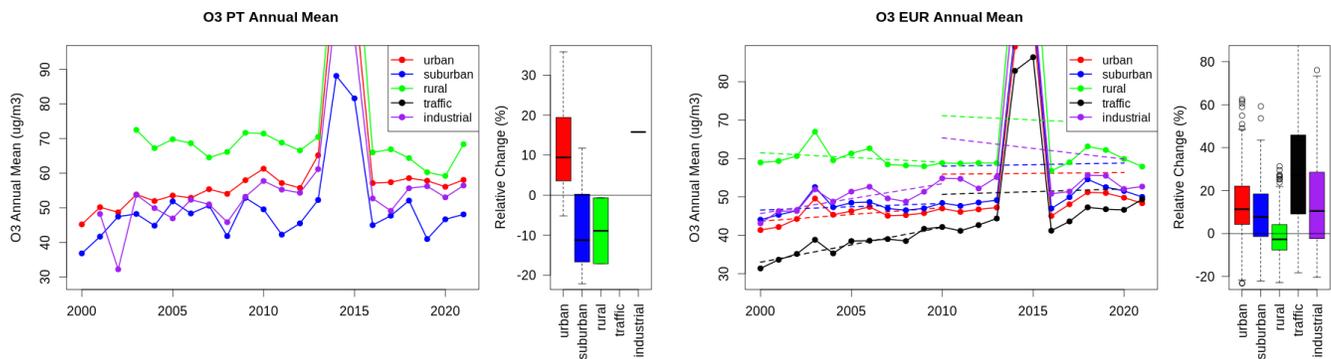


Figure A2.482: Time series of the Portugal (left) and European-wide composite (median) of annual mean ozone (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Portugal and in Europe.

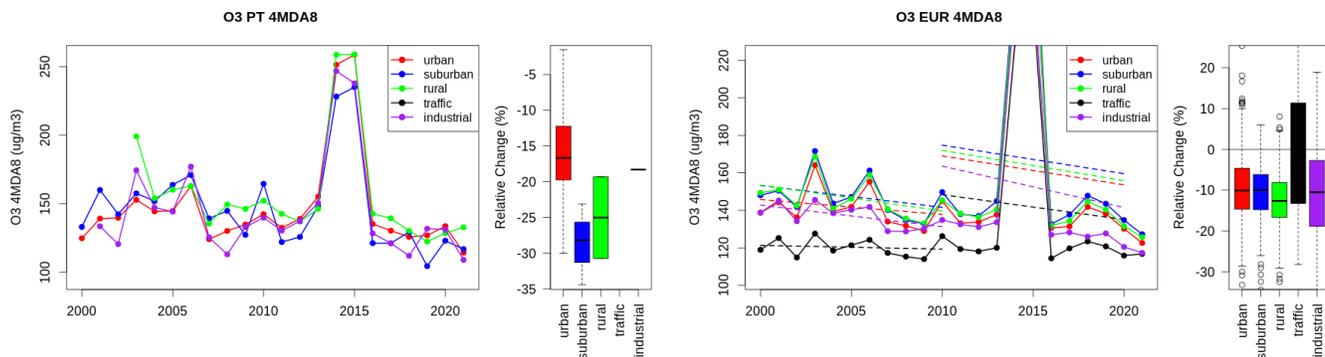


Figure A2.483: Time series of the Portugal (left) and European-wide composite (median) of O3 fourth highest daily peak (4MDA8, ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Portugal and in Europe.

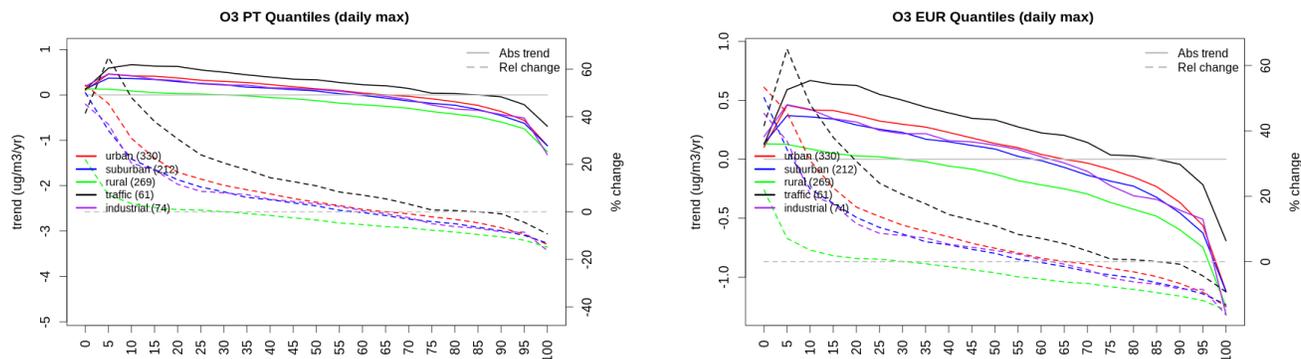


Figure A2.484: For ozone in Portugal (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

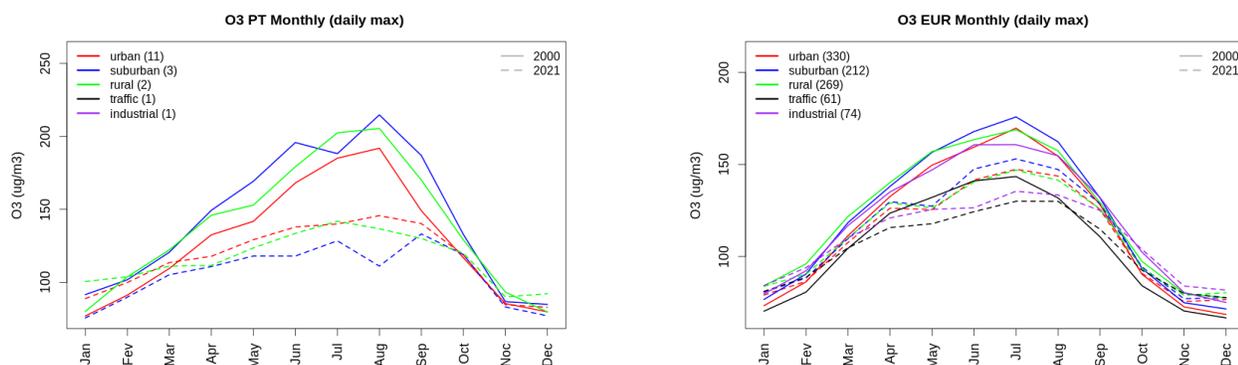


Figure A2.485: Monthly cycle of daily max ozone for Portugal (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

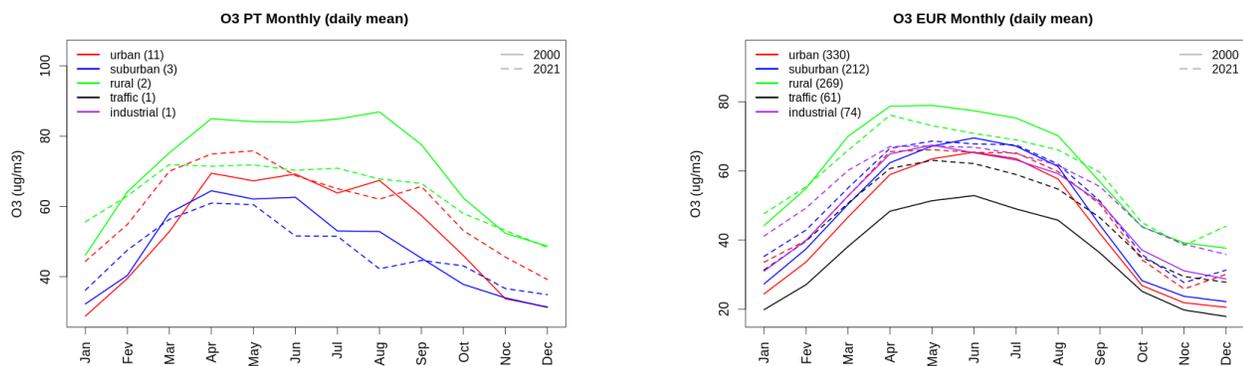


Figure A2.486: Monthly cycle of daily mean ozone for Portugal (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

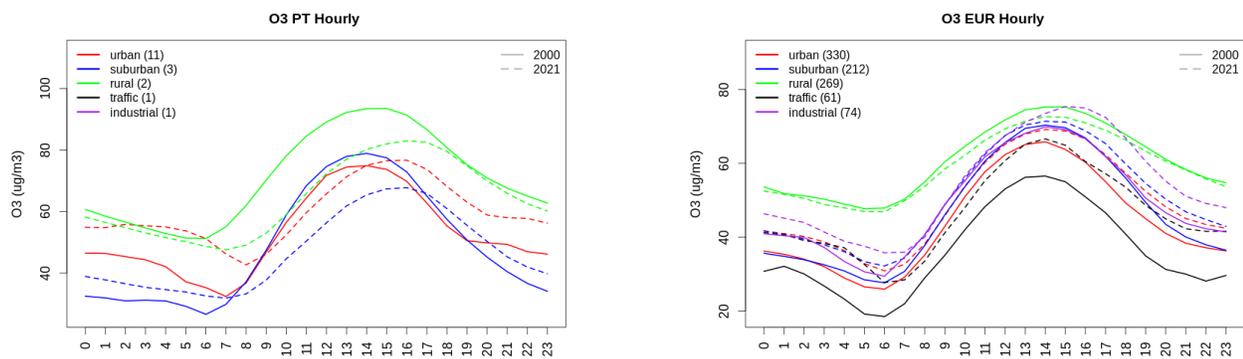


Figure A2.487: Diurnal cycle of daily mean ozone for Portugal (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

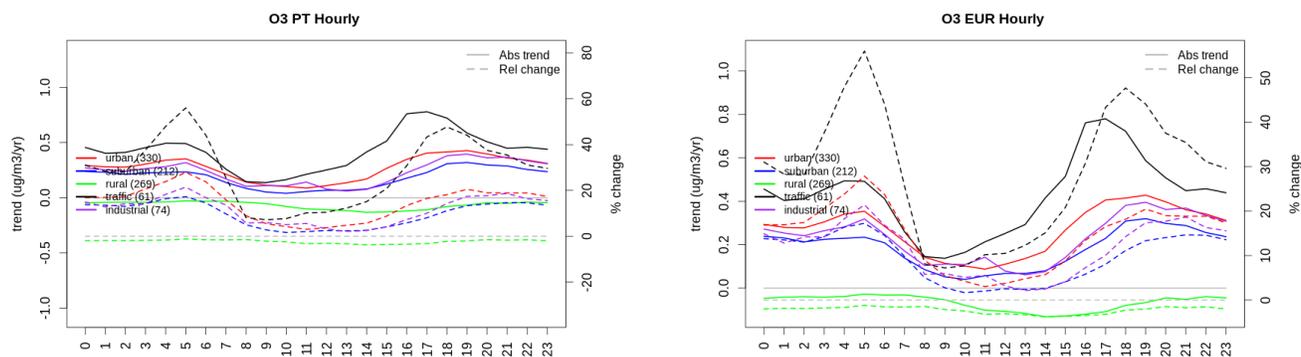


Figure A2.488: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Portugal (left) and Europe (right) of ozone at various station type.

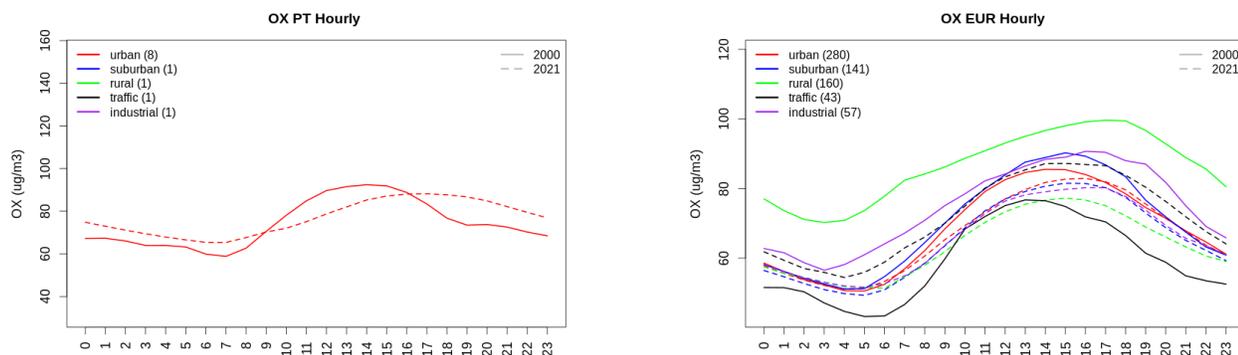


Figure A2.489: Diurnal cycle of daily mean OX (as NO₂+O₃) for Portugal (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

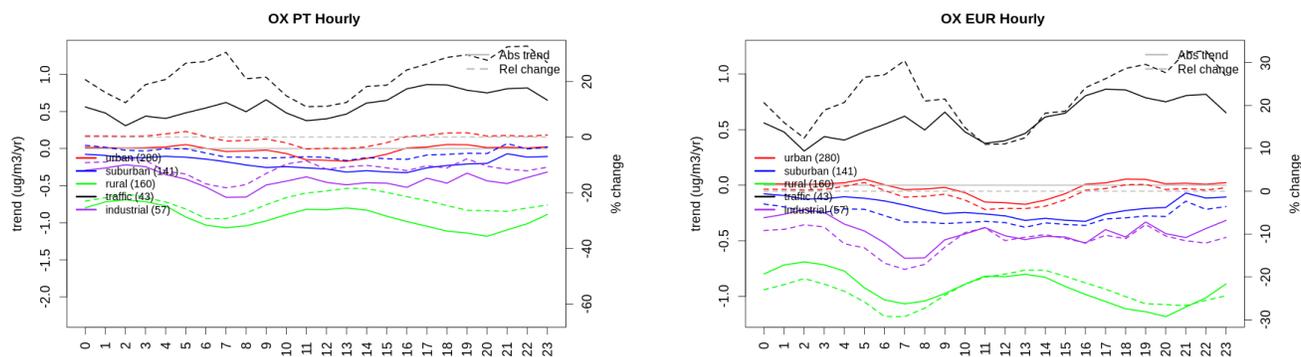


Figure A2.490: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Portugal (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

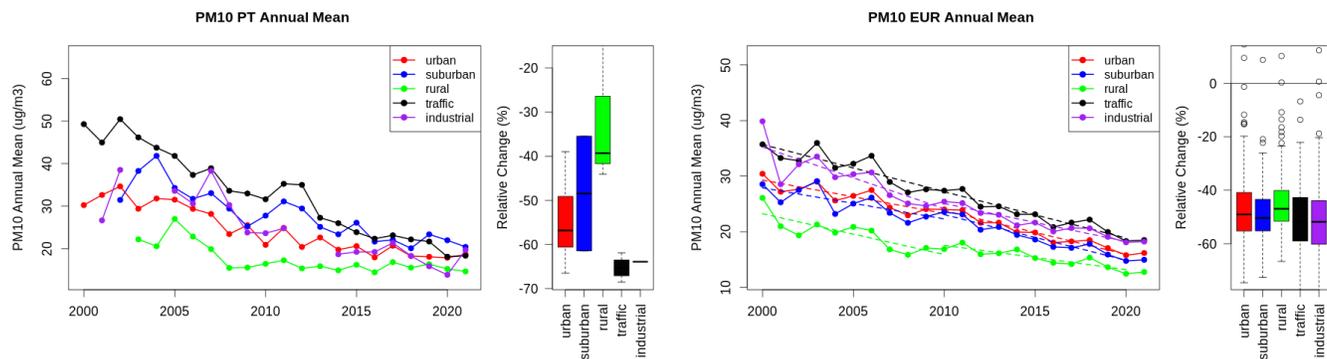


Figure A2.491: Time series of the Portugal (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Portugal and in Europe.

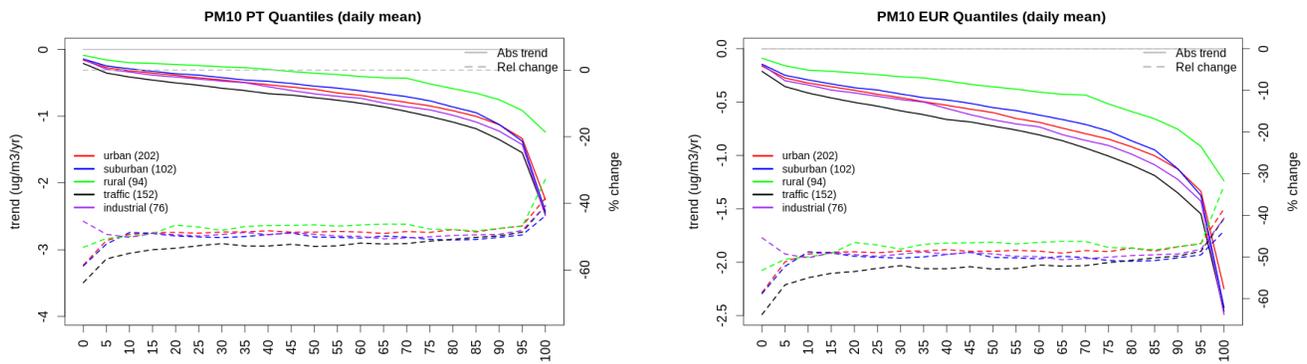


Figure A2.492: For PM10 in Portugal (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

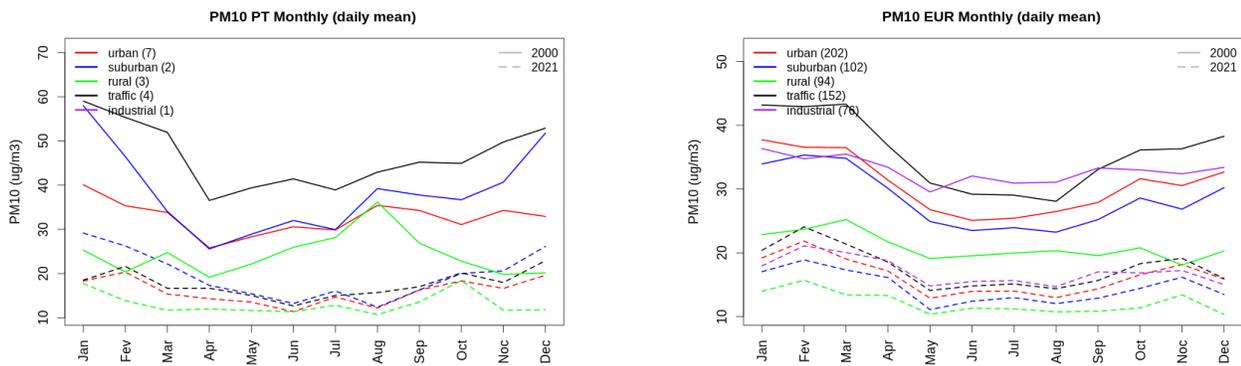


Figure A2.493: Monthly cycle of daily mean PM10 for Portugal (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

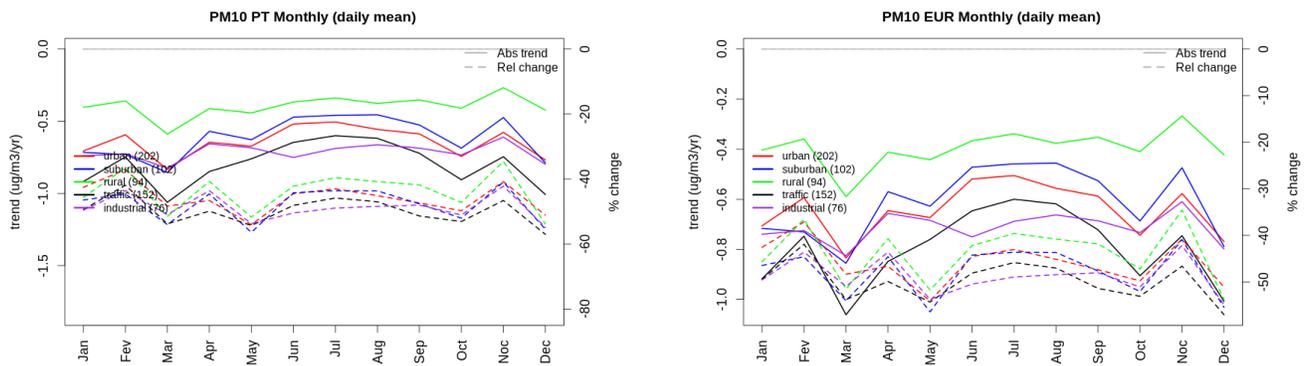


Figure A2.494: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Portugal (left) and Europe (right) of PM10 at various station type.

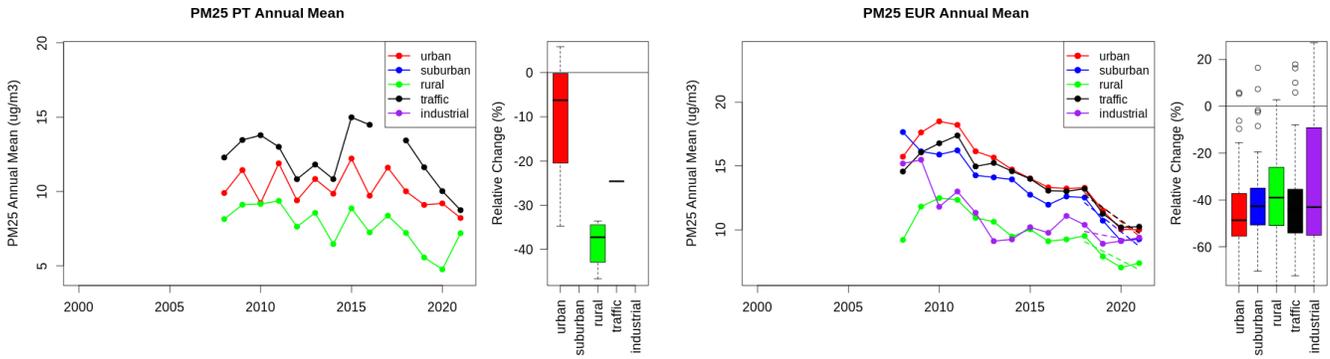


Figure A2.495: Time series of the Portugal (left) and European-wide composite (median) of annual mean PM25 (ug/m3) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Portugal and in Europe.

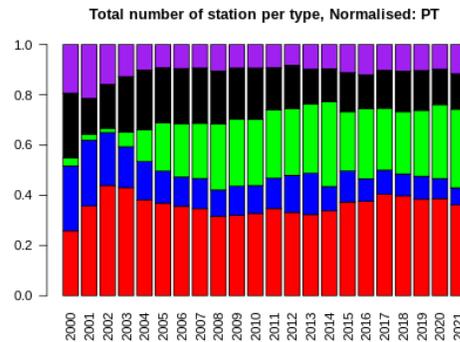
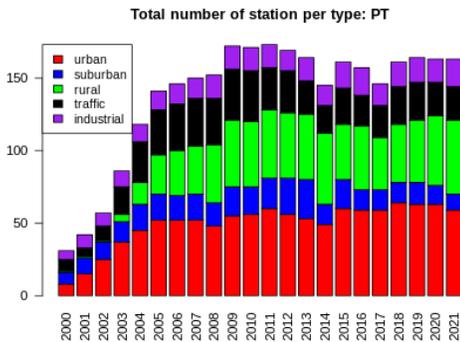
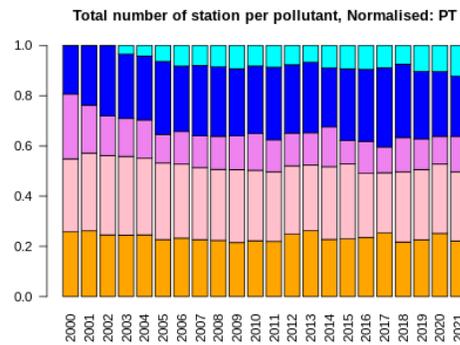
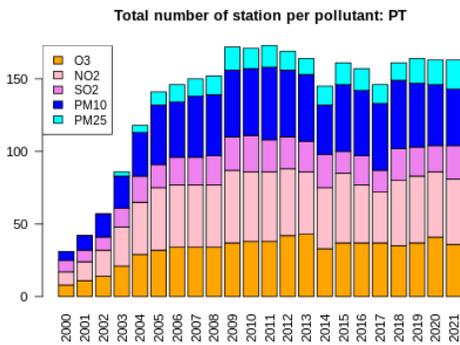
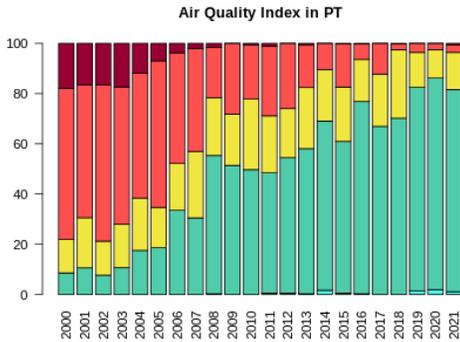


Figure A2.496: For Portugal: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

24 Romania

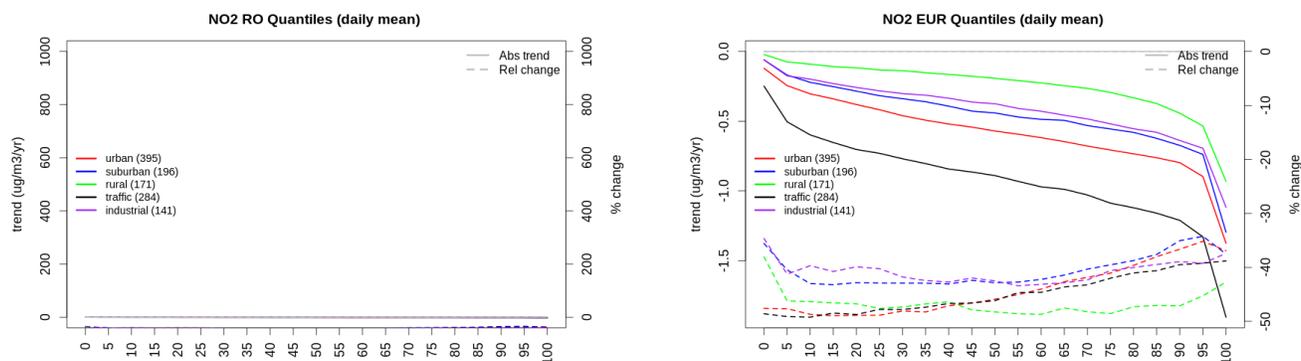


Figure A2.497: For NO₂ in Romania (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

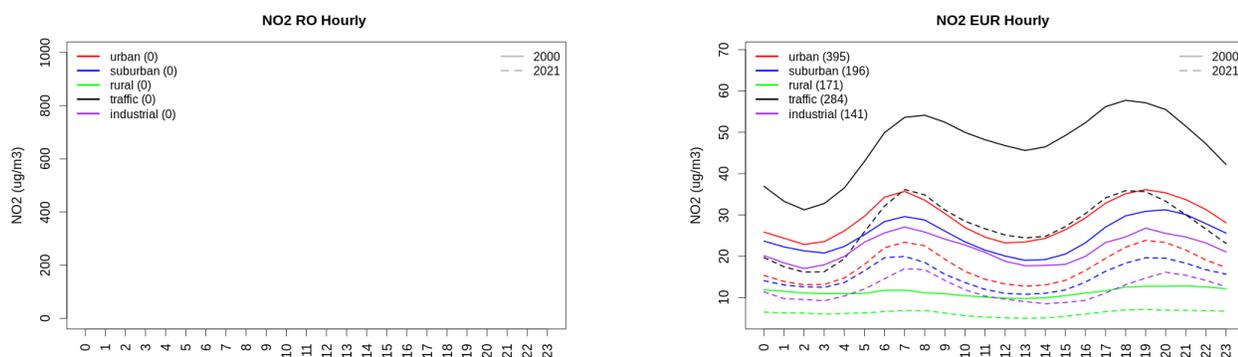


Figure A2.498: Diurnal cycle of daily mean NO₂ for Romania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

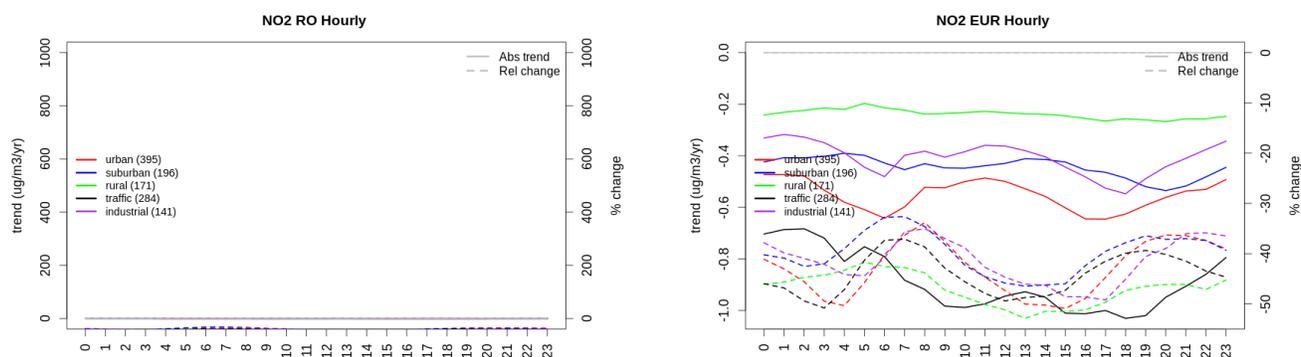


Figure A2.499: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Romania (left) and Europe (right) of NO₂ at various station type.

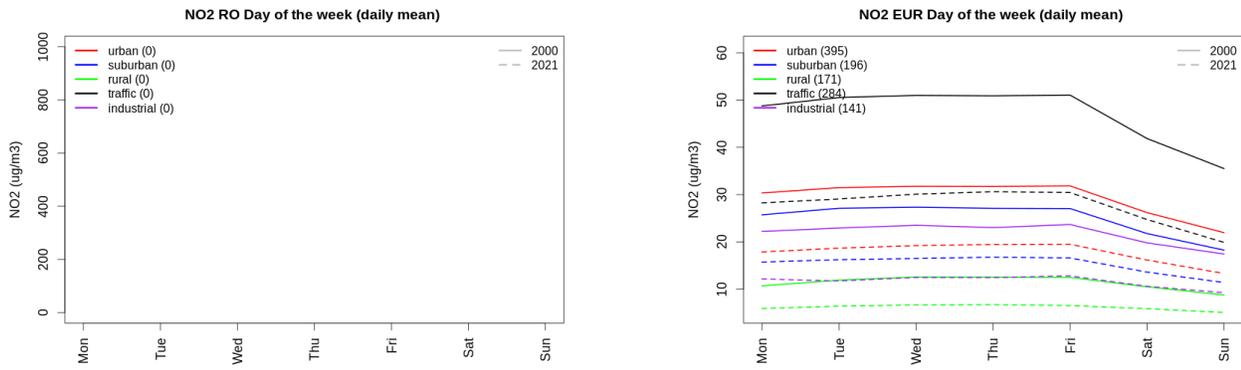


Figure A2.500: Weekly cycle of daily mean NO2 for Romania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

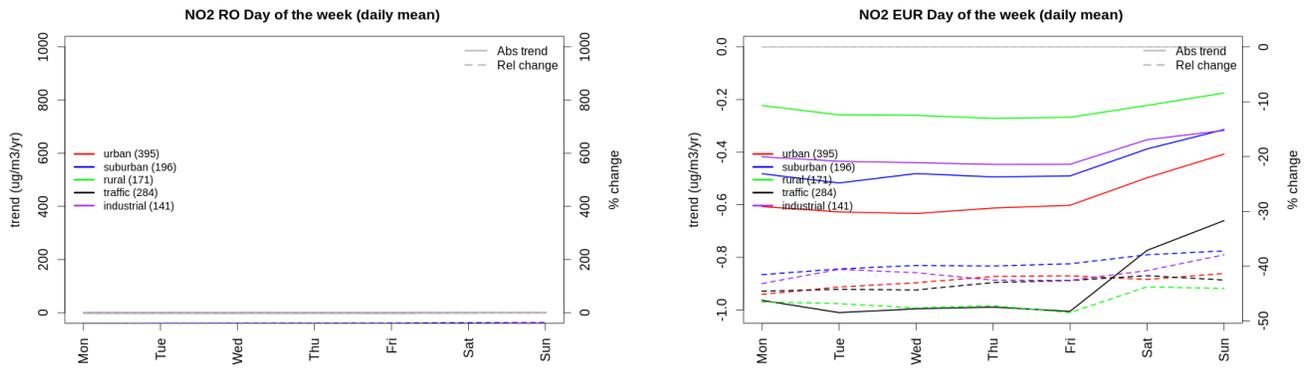


Figure A2.501: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Romania (left) and Europe (right) of NO2 at various station type.

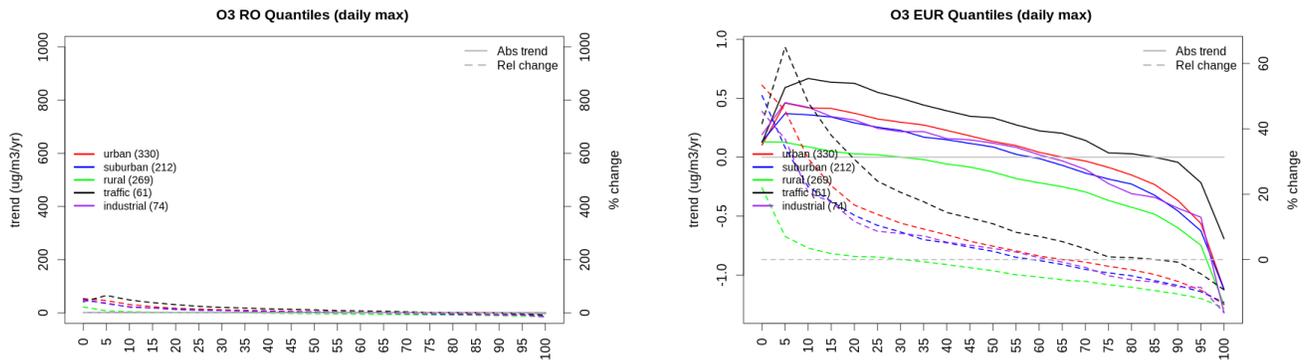


Figure A2.502: For ozone in Romania (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

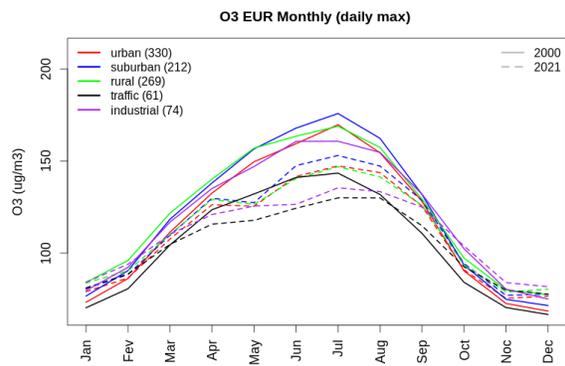
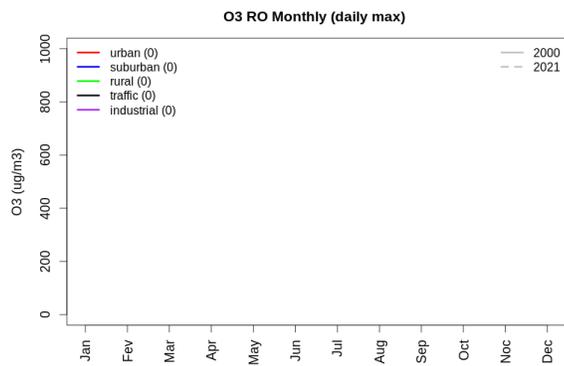


Figure A2.503: Monthly cycle of daily max ozone for Romania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

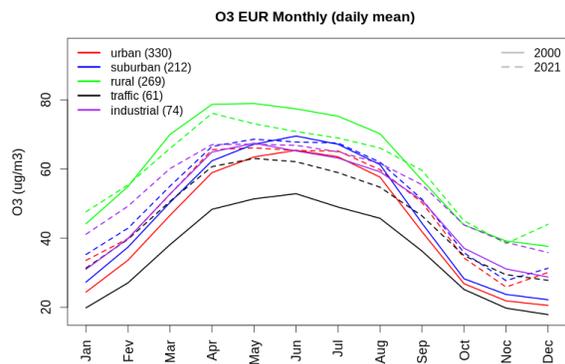
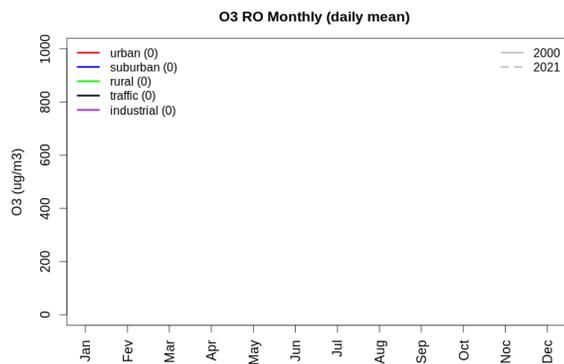


Figure A2.504: Monthly cycle of daily mean ozone for Romania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

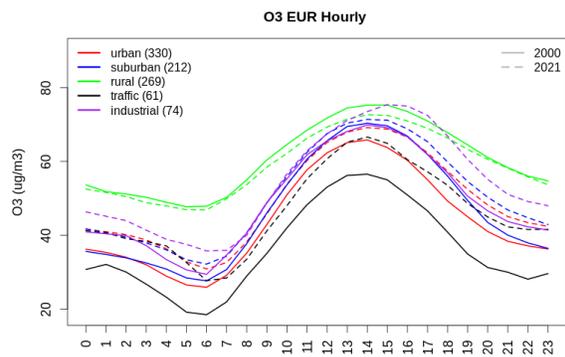
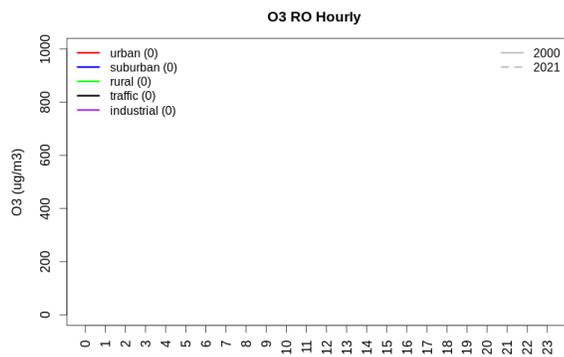


Figure A2.505: Diurnal cycle of daily mean ozone for Romania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

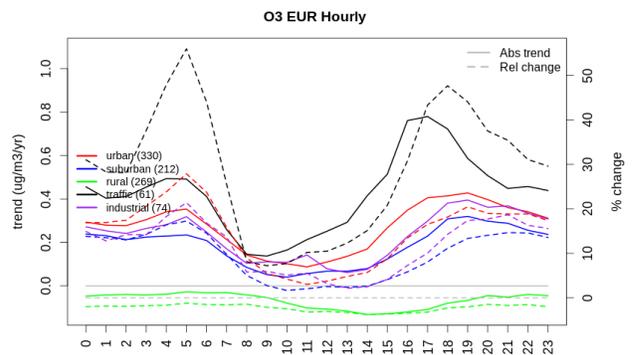
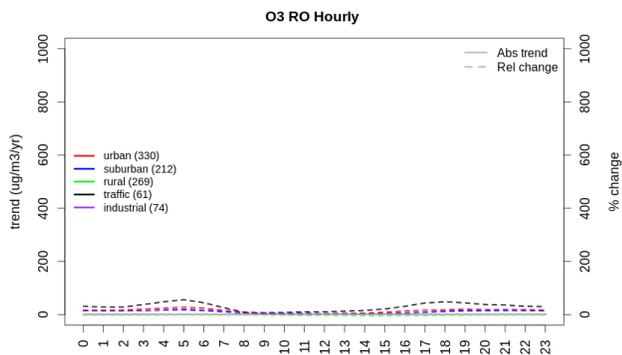


Figure A2.506: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Romania (left) and Europe (right) of ozone at various station type.

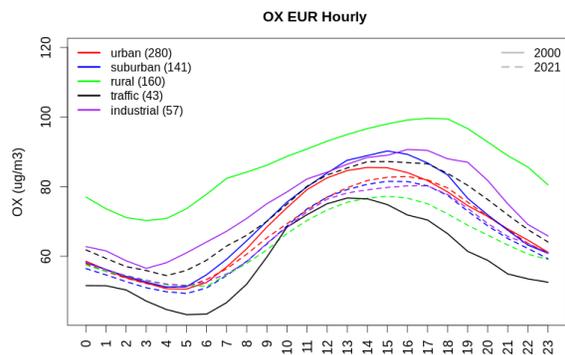
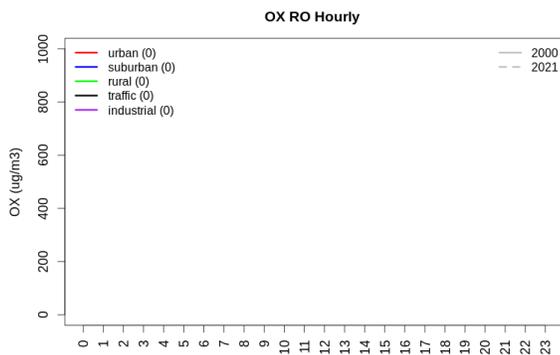


Figure A2.507: Diurnal cycle of daily mean OX (as NO₂+O₃) for Romania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

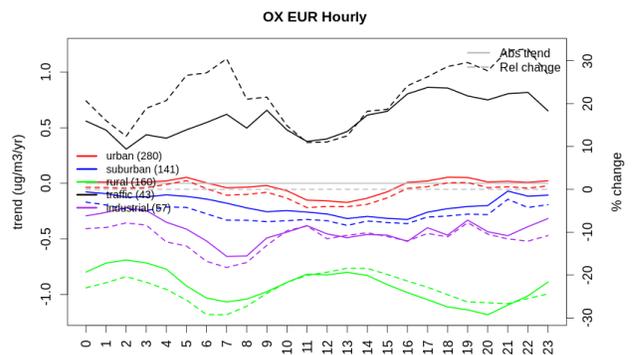
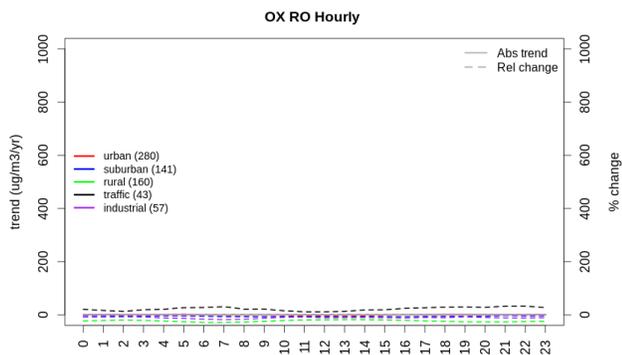


Figure A2.508: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Romania (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

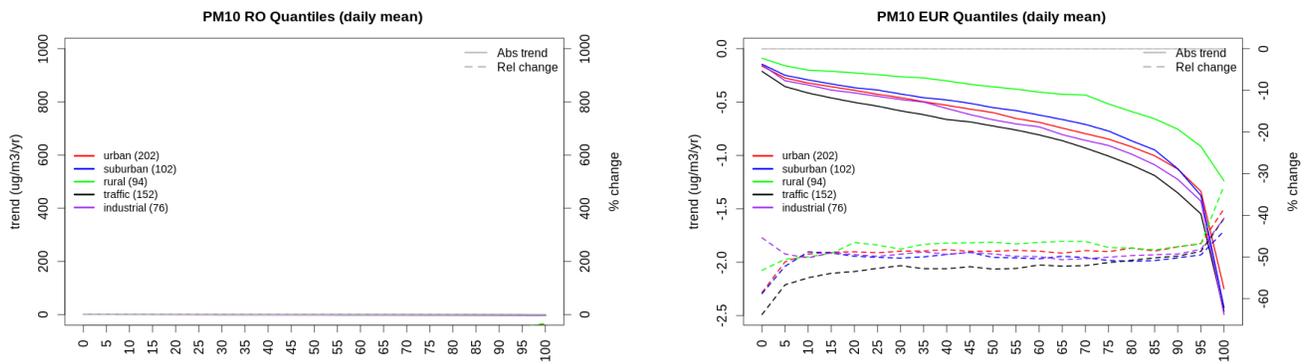


Figure A2.509: For PM10 in Romania (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

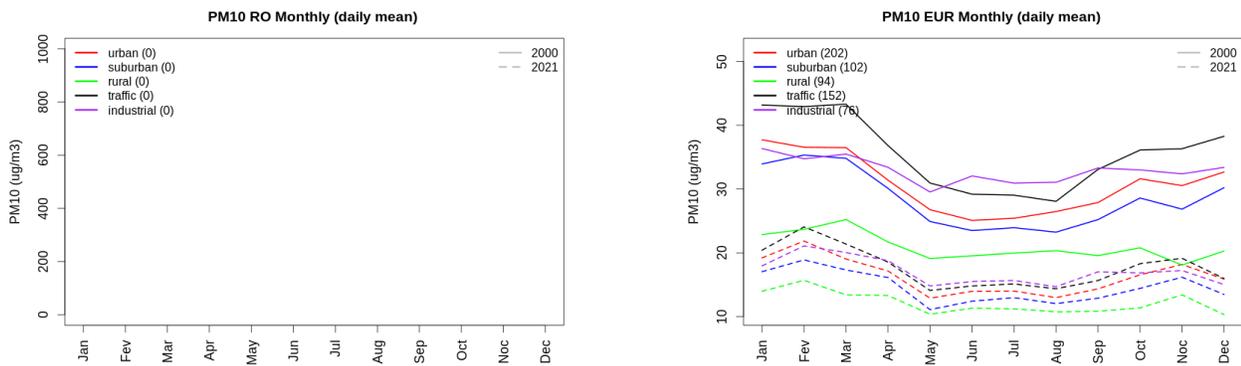


Figure A2.510: Monthly cycle of daily mean PM10 for Romania (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

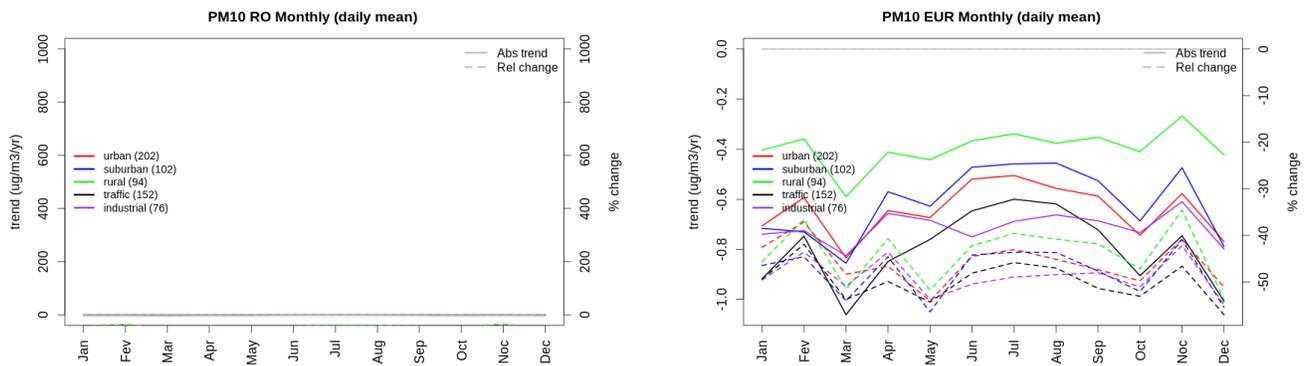


Figure A2.511: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Romania (left) and Europe (right) of PM10 at various station type.

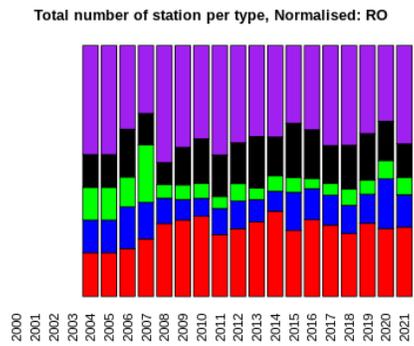
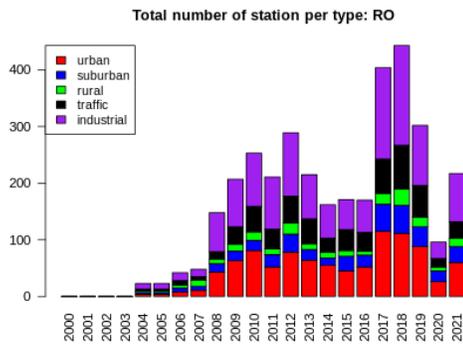
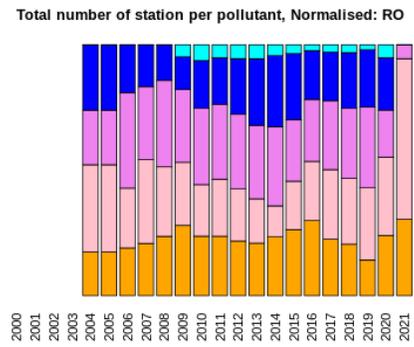
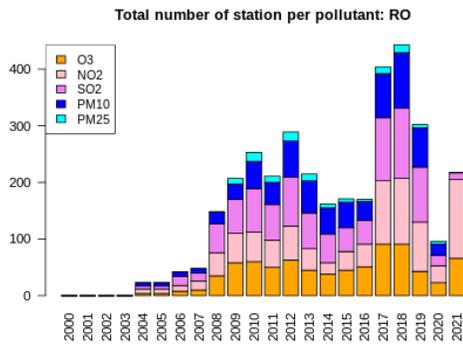
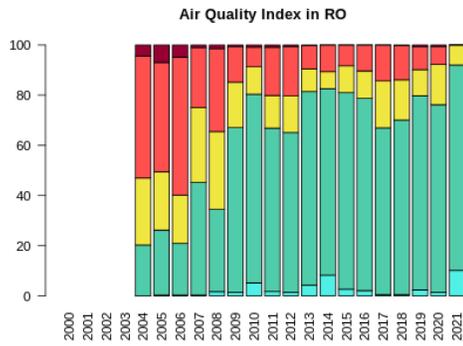


Figure A2.512: For Romania: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

25 Sweden

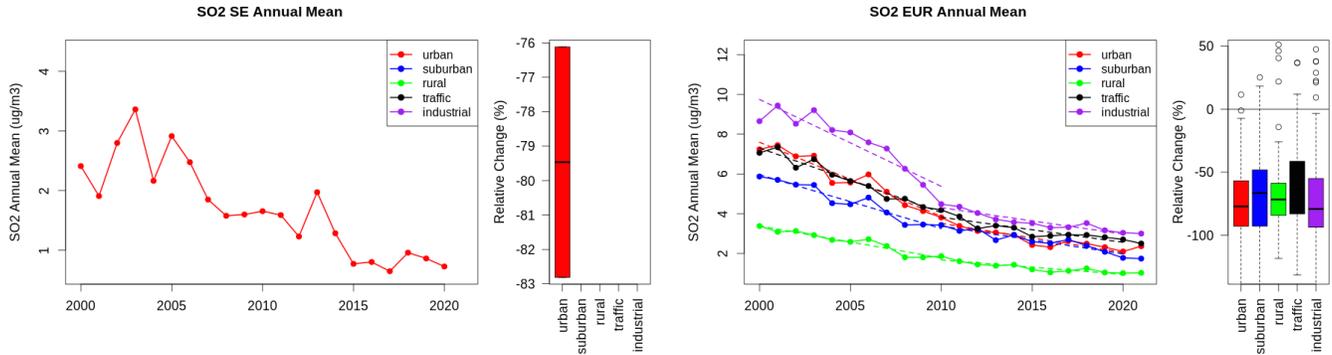


Figure A2.513: Time series of the Sweden (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Sweden and in Europe.

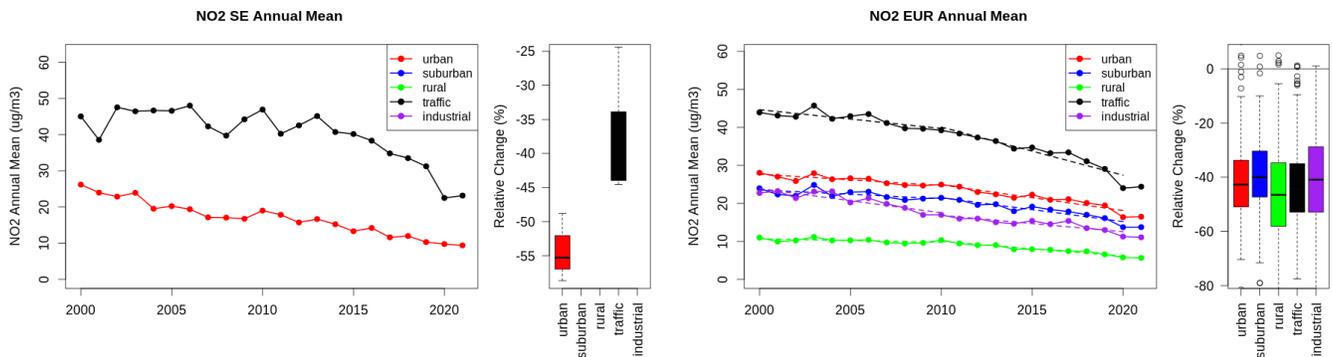


Figure A2.514: Time series of the Sweden (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Sweden and in Europe.

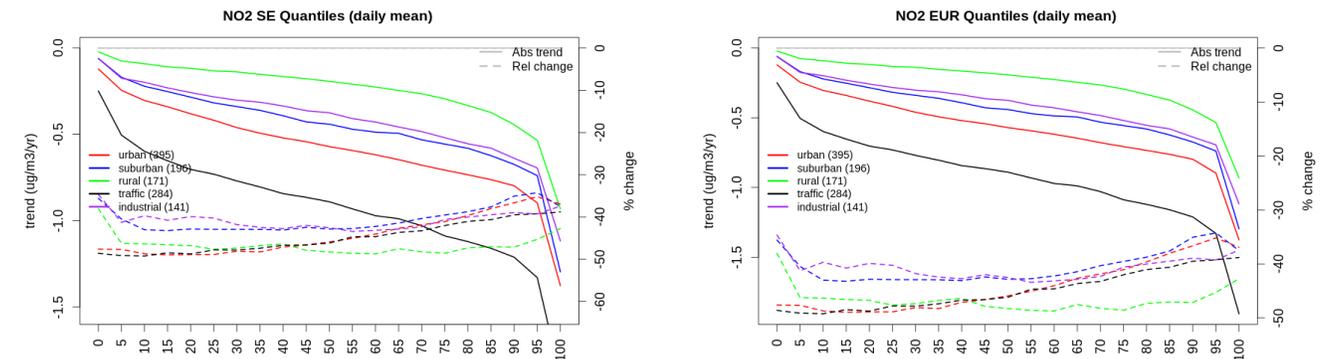


Figure A2.515: For NO₂ in Sweden (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

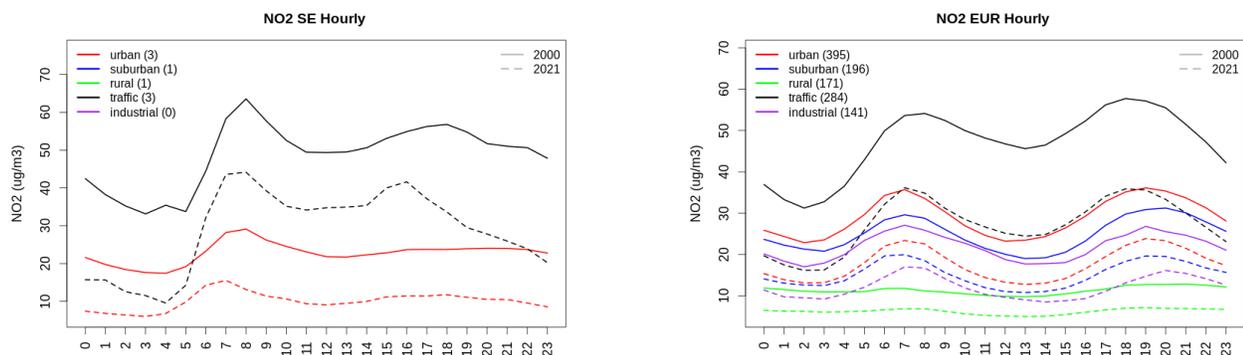


Figure A2.516: Diurnal cycle of daily mean NO₂ for Sweden (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

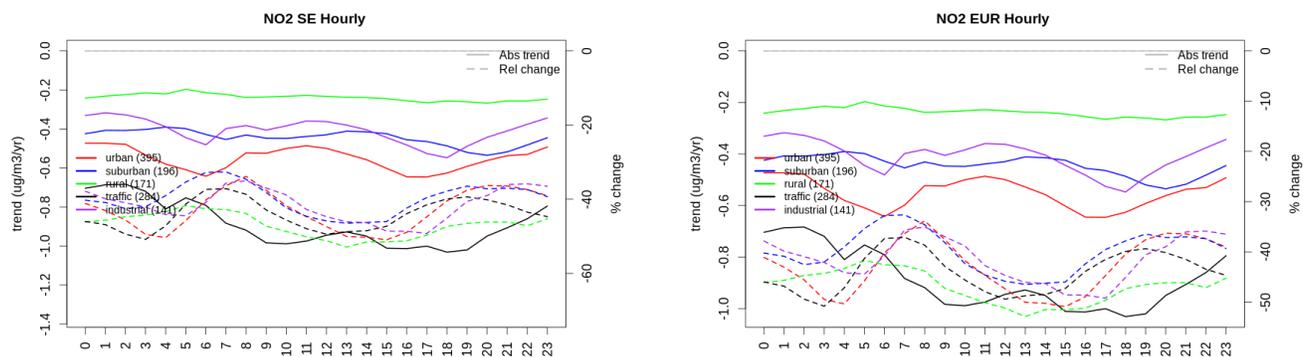


Figure A2.517: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Sweden (left) and Europe (right) of NO₂ at various station type.

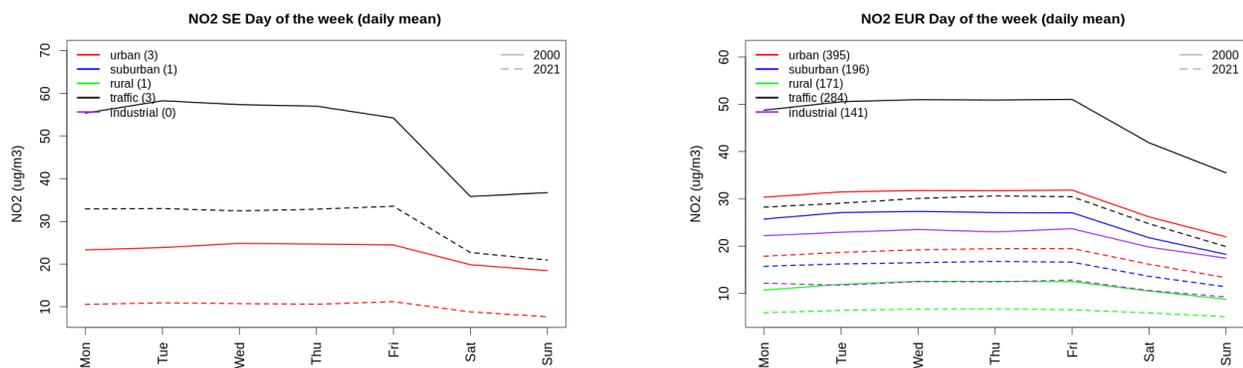


Figure A2.518: Weekly cycle of daily mean NO₂ for Sweden (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

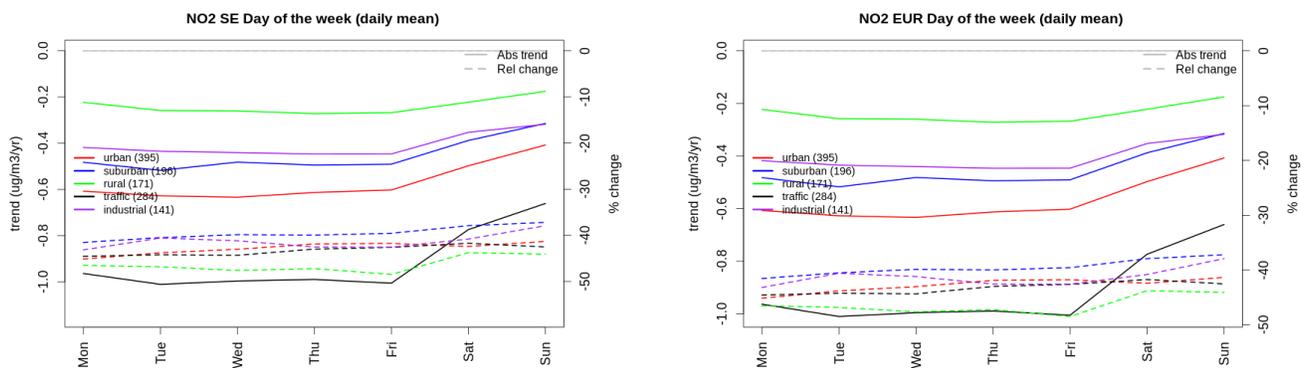


Figure A2.519: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Sweden (left) and Europe (right) of NO₂ at various station type.

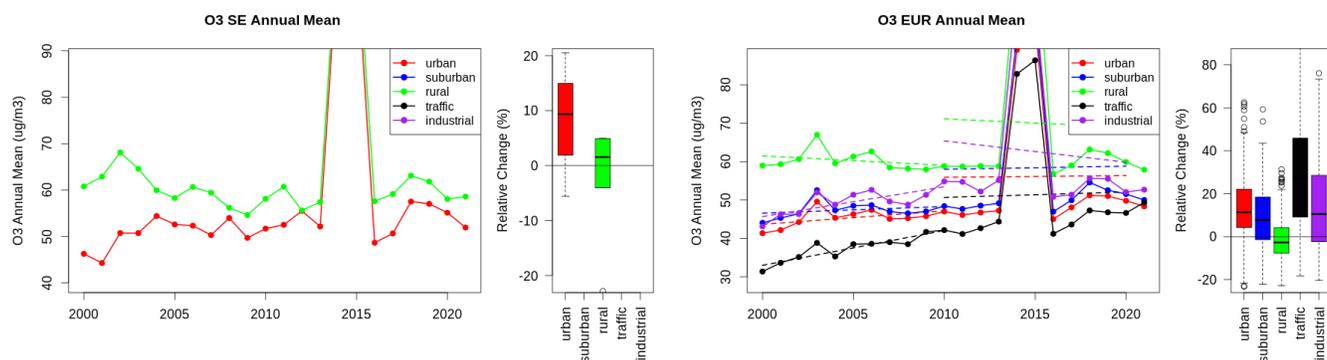


Figure A2.520: Time series of the Sweden (left) and European-wide composite (median) of annual mean ozone (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Sweden and in Europe.

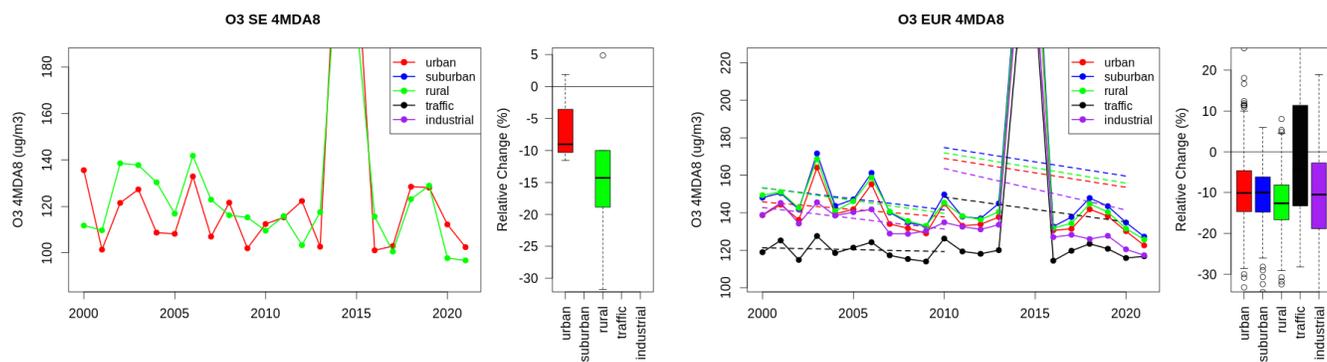


Figure A2.521: Time series of the Sweden (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Sweden and in Europe.

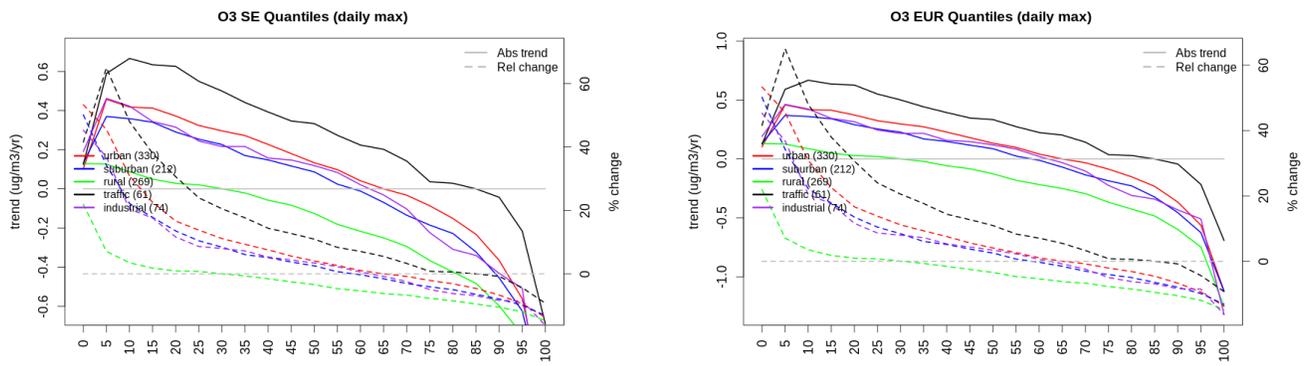


Figure A2.522: For ozone in Sweden (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

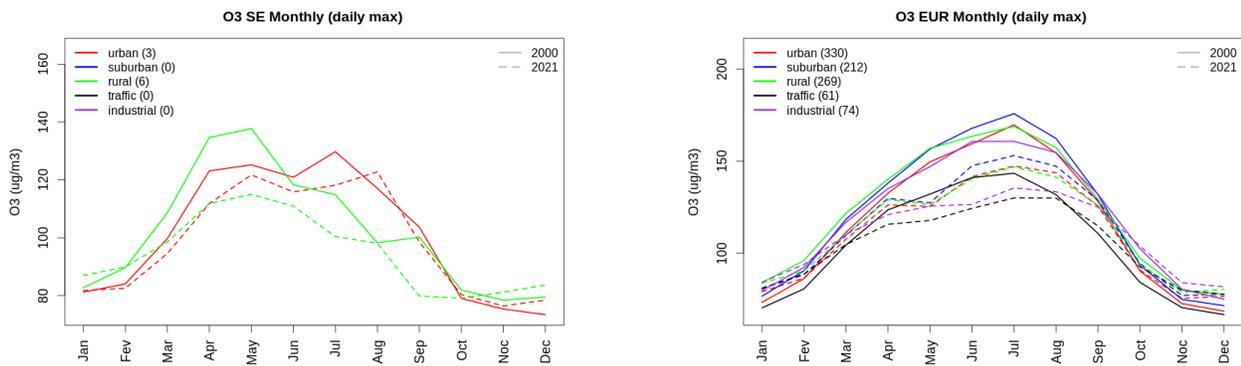


Figure A2.523: Monthly cycle of daily max ozone for Sweden (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

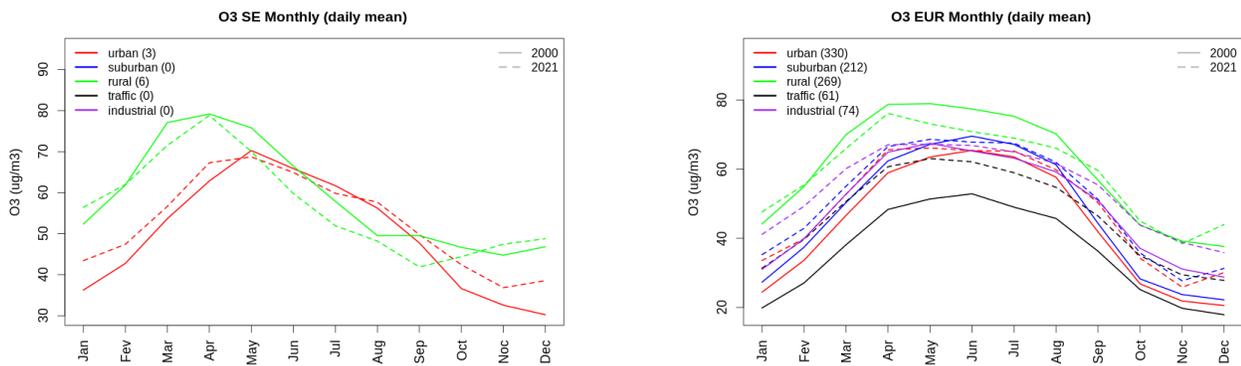


Figure A2.524: Monthly cycle of daily mean ozone for Sweden (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

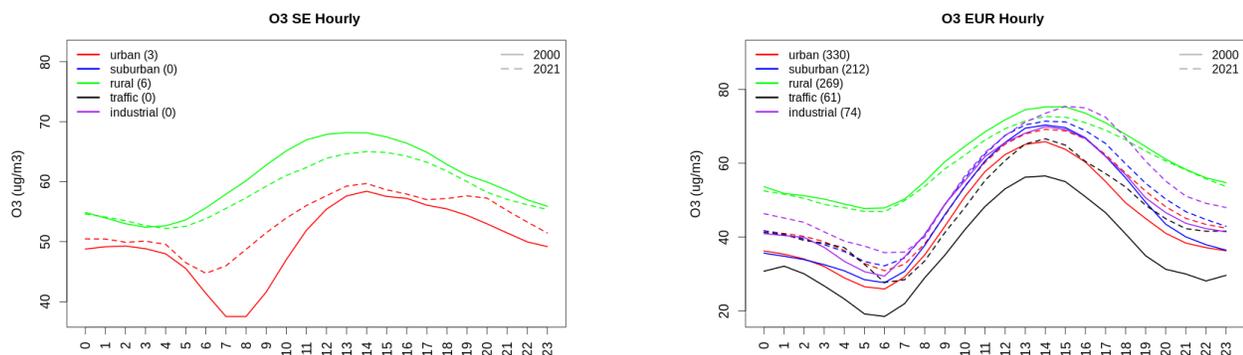


Figure A2.525: Diurnal cycle of daily mean ozone for Sweden (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

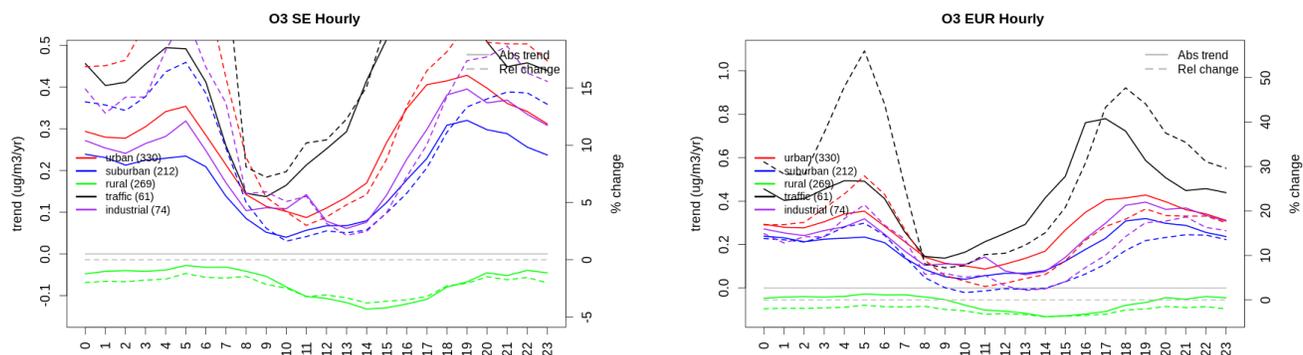


Figure A2.526: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Sweden (left) and Europe (right) of ozone at various station type.

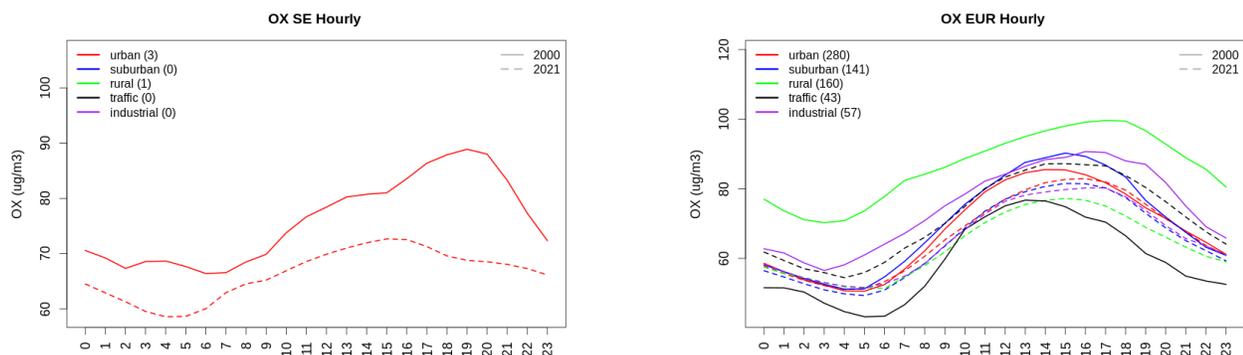


Figure A2.527: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Sweden (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

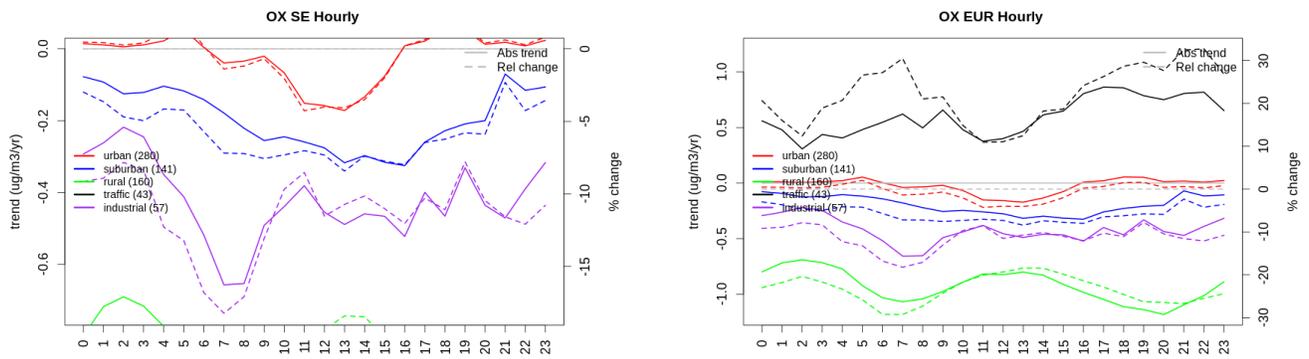


Figure A2.528: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Sweden (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

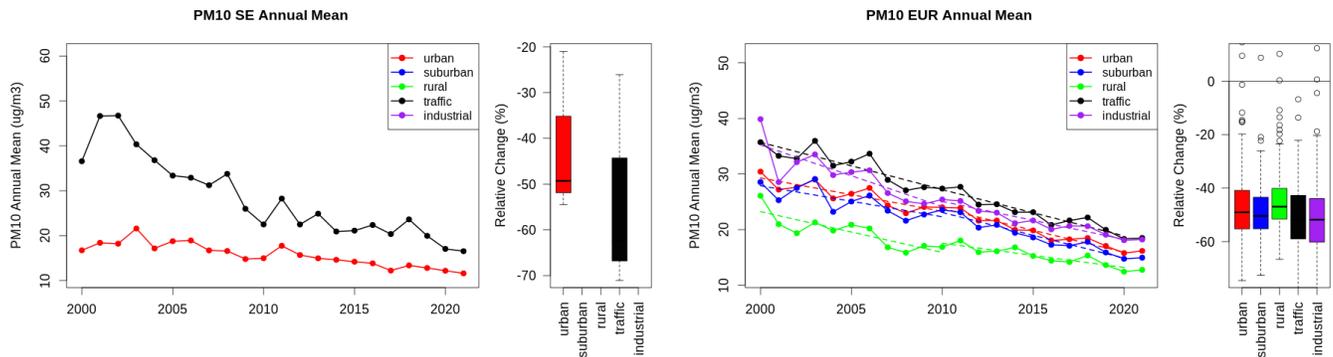


Figure A2.529: Time series of the Sweden (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Sweden and in Europe.

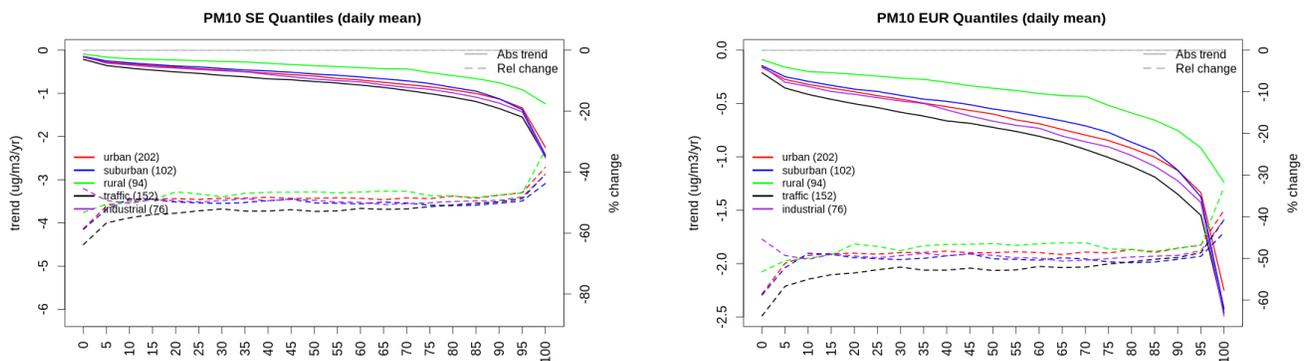


Figure A2.530: For PM₁₀ in Sweden (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

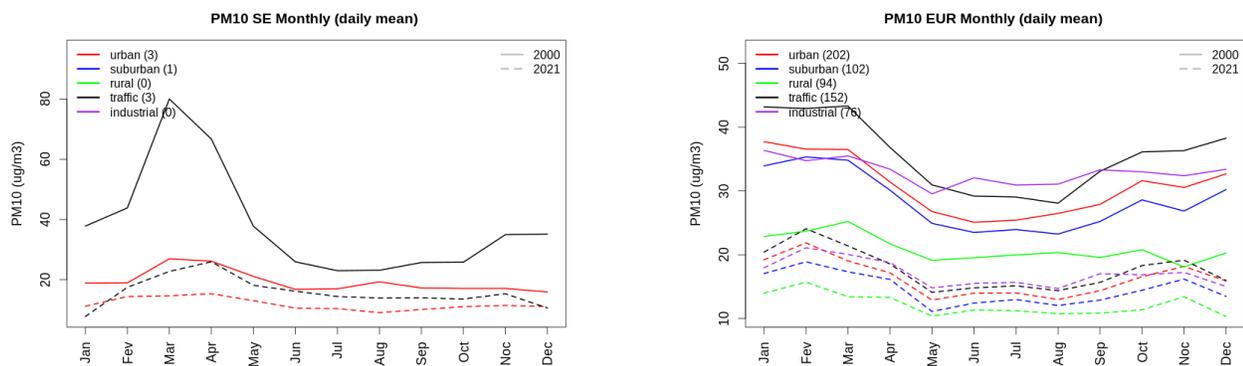


Figure A2.531: Monthly cycle of daily mean PM10 for Sweden (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021 (dashed lines)

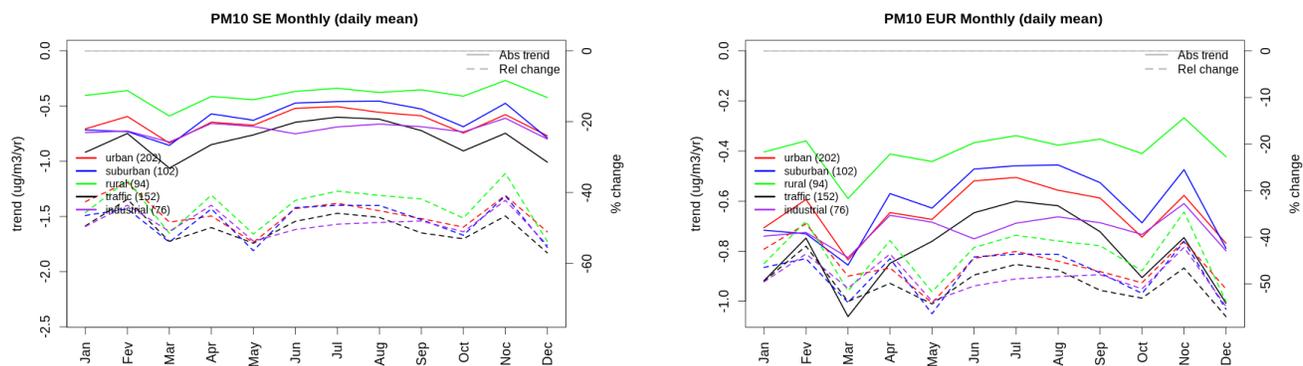


Figure A2.532: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Sweden (left) and Europe (right) of PM10 at various station type.

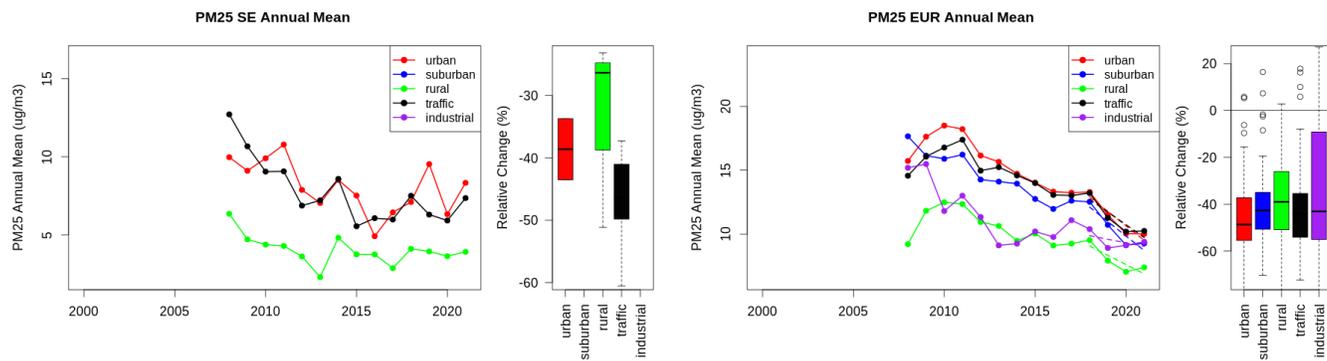


Figure A2.533: Time series of the Sweden (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Sweden and in Europe.

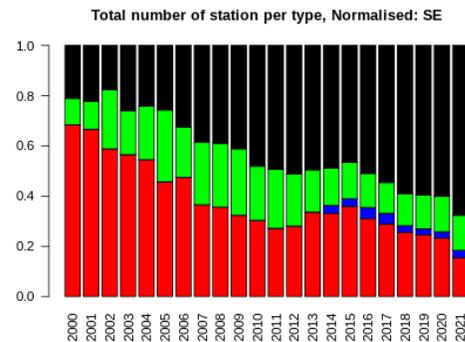
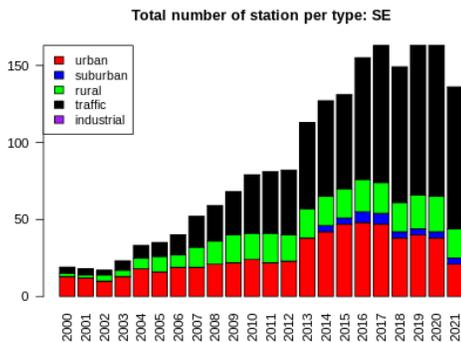
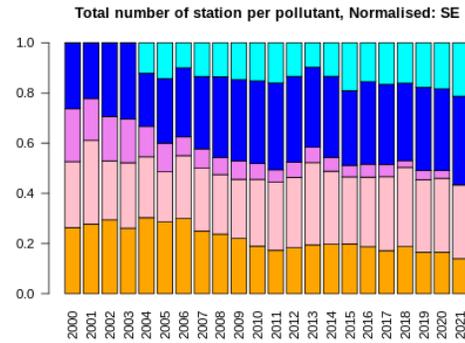
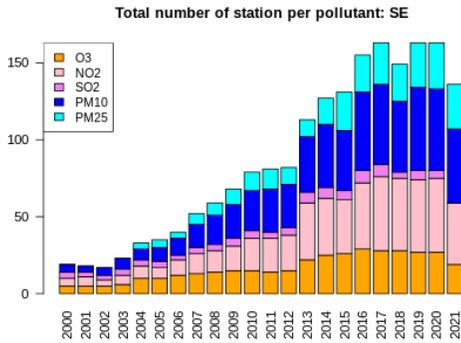
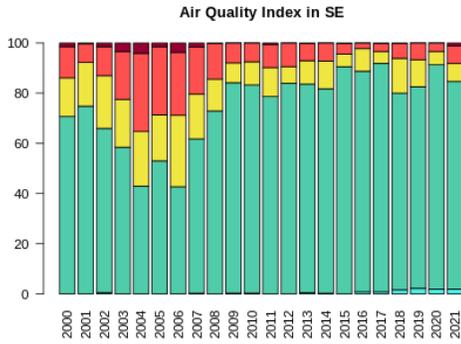


Figure A2.534: For Sweden: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

26 Slovenia

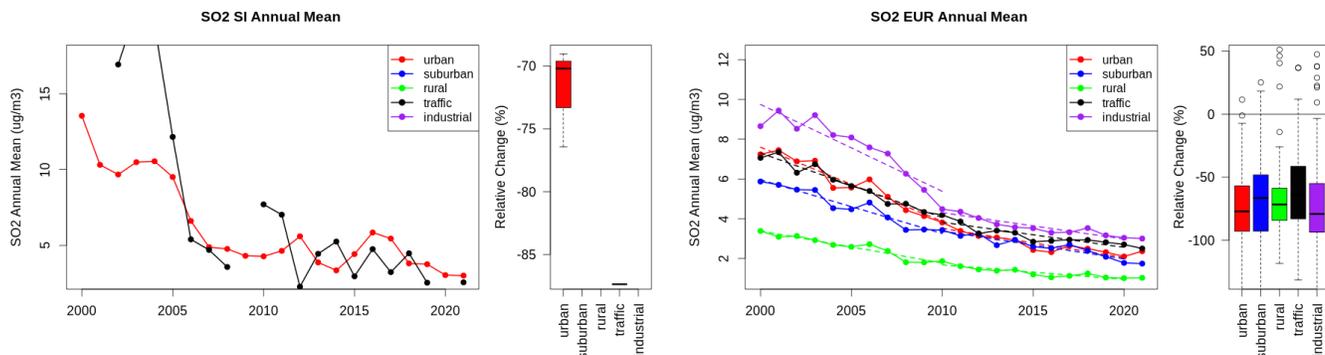


Figure A2.535: Time series of the Slovenia (left) and European-wide composite (median) of annual mean SO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovenia and in Europe.

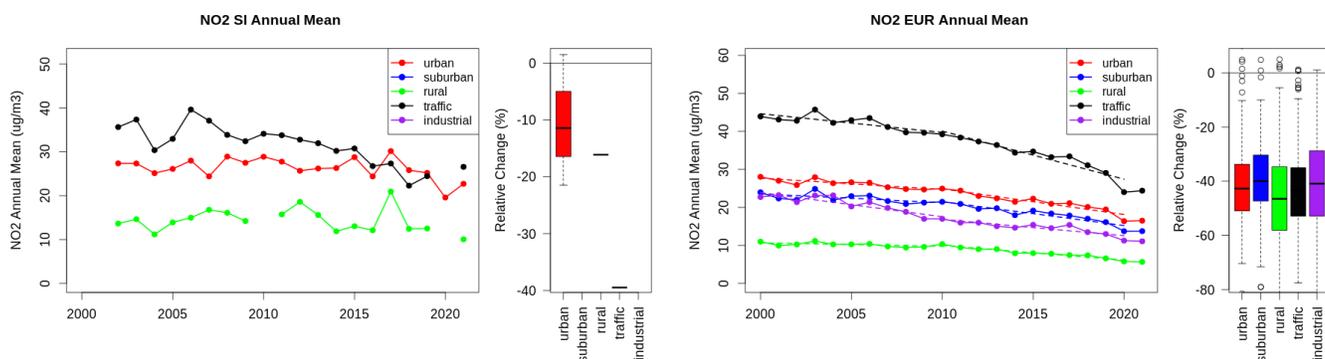


Figure A2.536: Time series of the Slovenia (left) and European-wide composite (median) of annual mean NO₂ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovenia and in Europe.

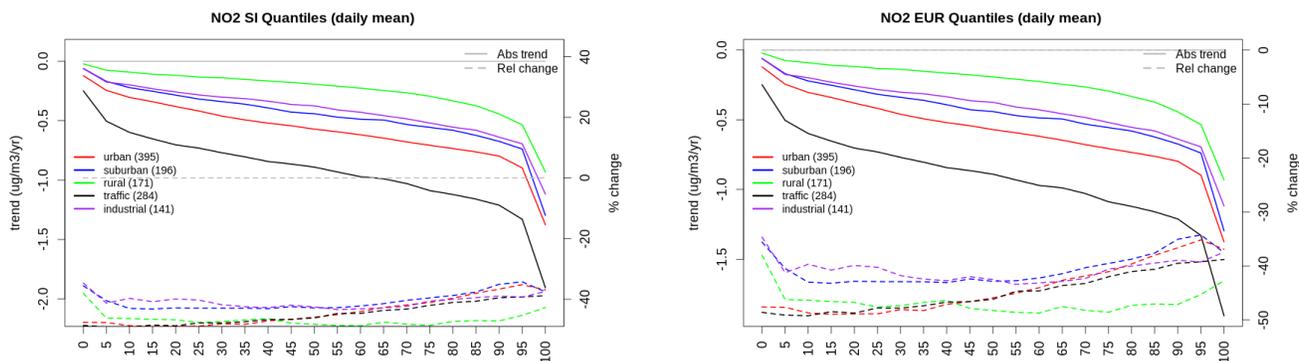


Figure A2.537: For NO₂ in Slovenia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

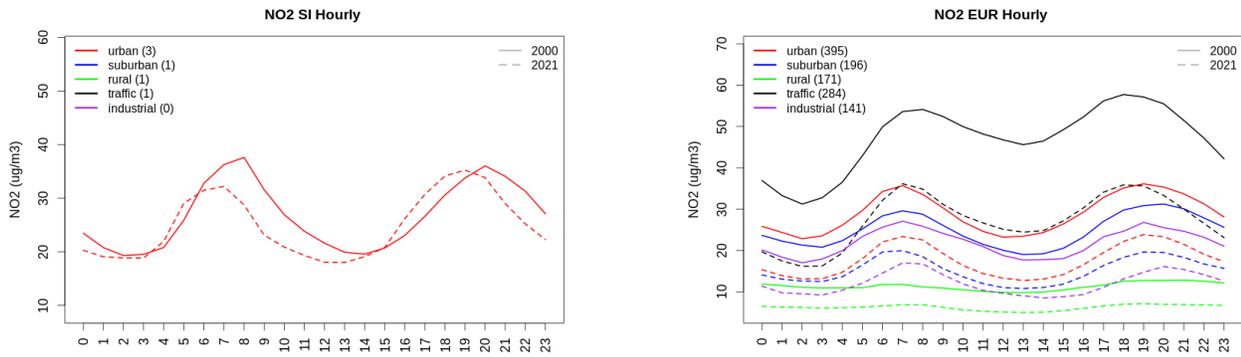


Figure A2.538: Diurnal cycle of daily mean NO2 for Slovenia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

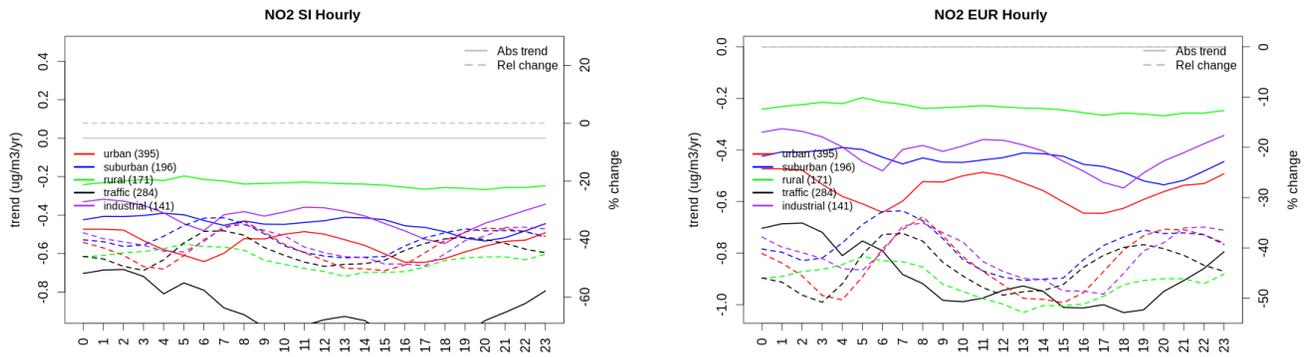


Figure A2.539: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Slovenia (left) and Europe (right) of NO2 at various station type.

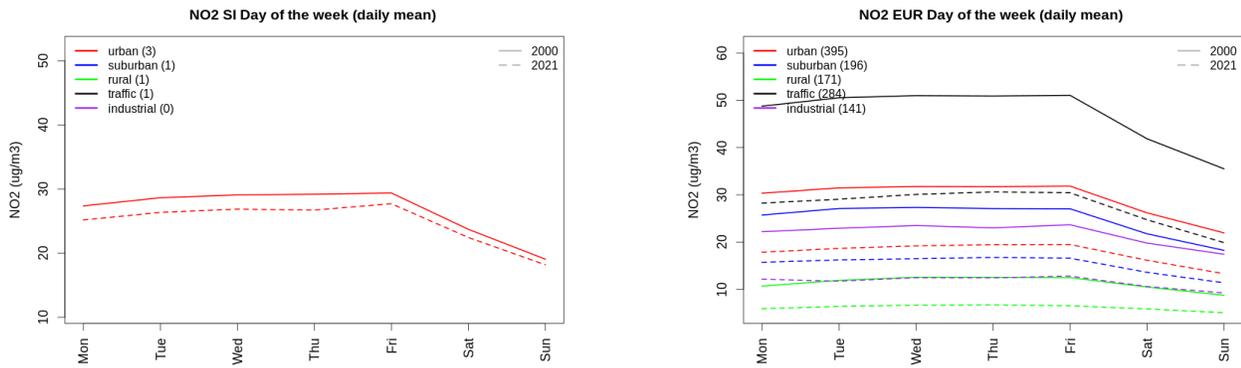


Figure A2.540: Weekly cycle of daily mean NO2 for Slovenia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

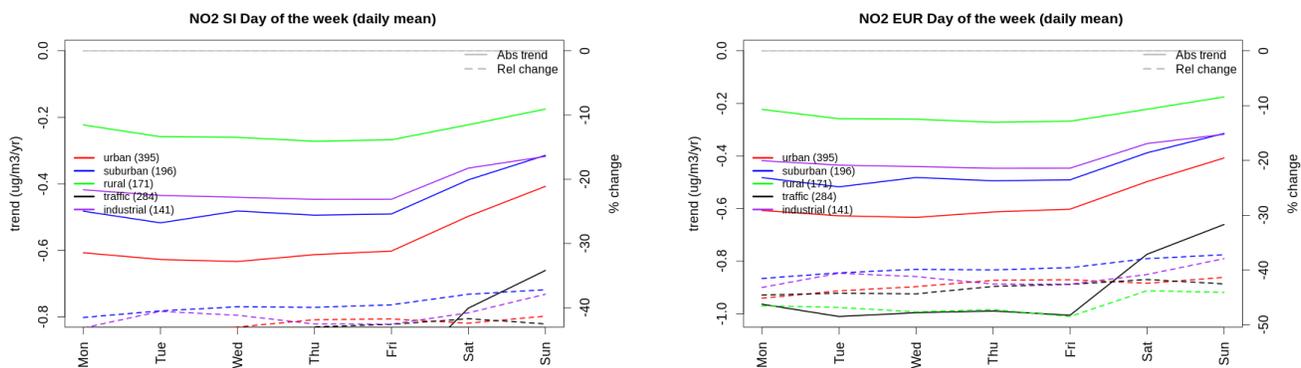


Figure A2.541: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Slovenia (left) and Europe (right) of NO₂ at various station type.

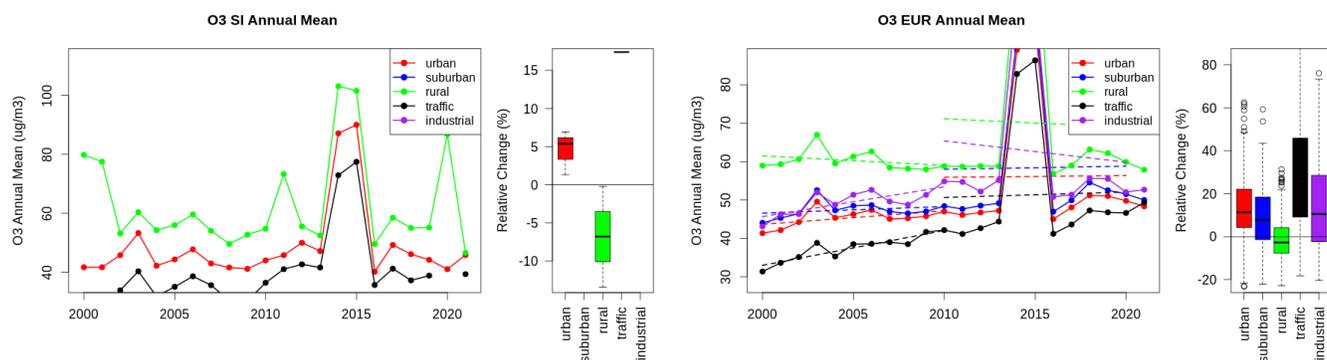


Figure A2.542: Time series of the Slovenia (left) and European-wide composite (median) of annual mean ozone (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovenia and in Europe.

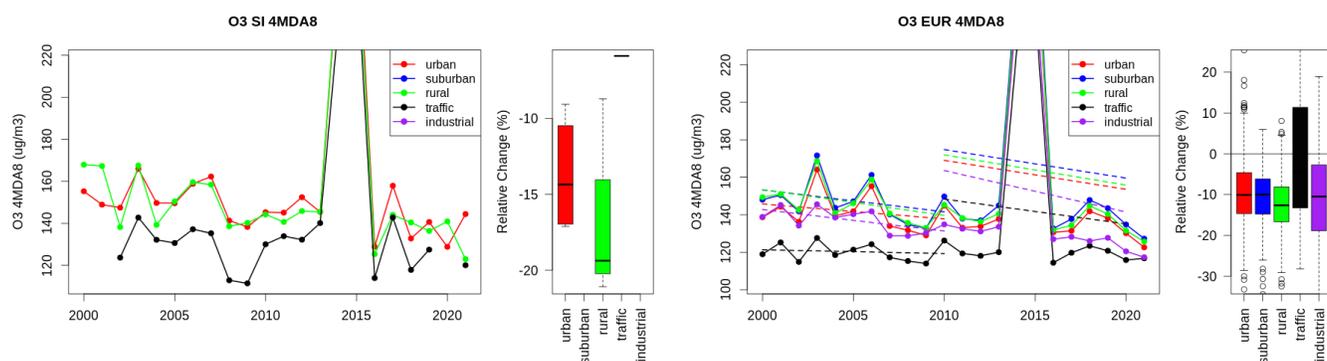


Figure A2.543: Time series of the Slovenia (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovenia and in Europe.

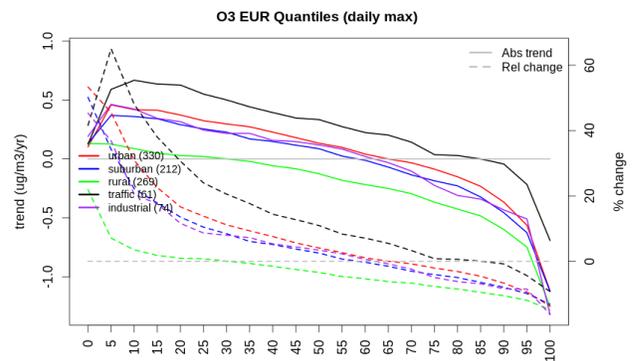
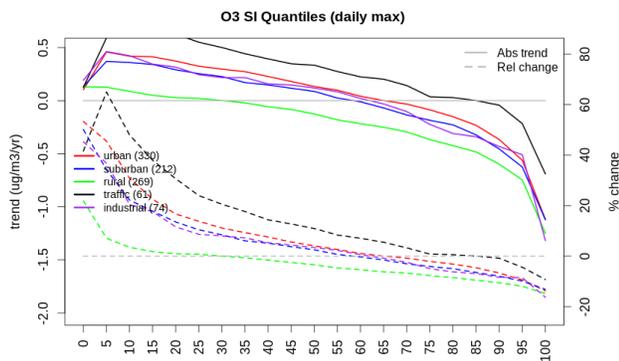


Figure A2.544: For ozone in Slovenia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

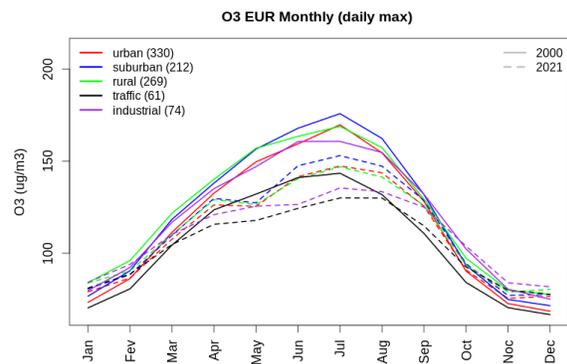
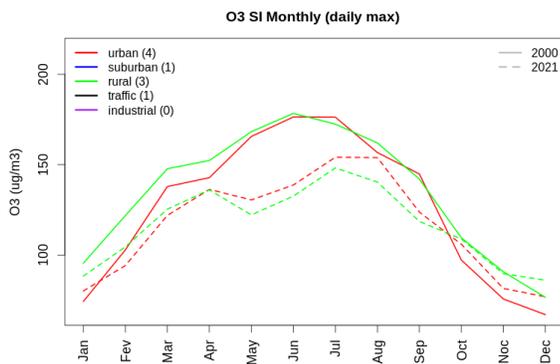


Figure A2.545: Monthly cycle of daily max ozone for Slovenia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

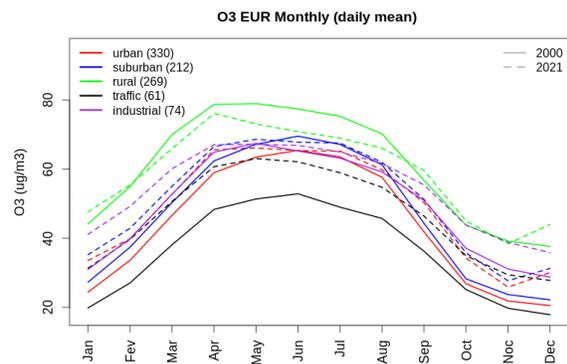
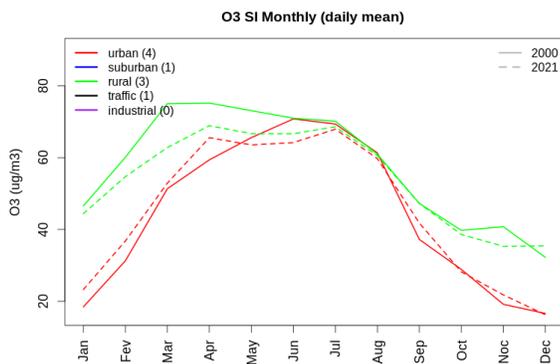


Figure A2.546: Monthly cycle of daily mean ozone for Slovenia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

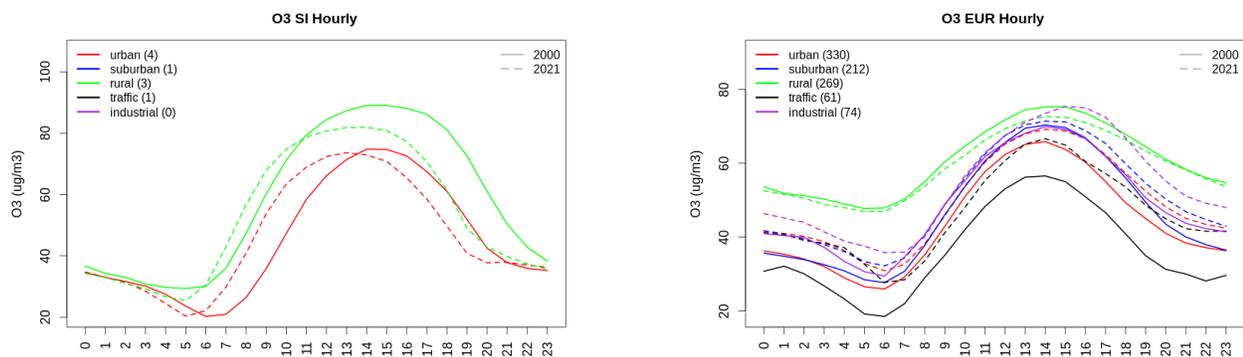


Figure A2.547: Diurnal cycle of daily mean ozone for Slovenia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

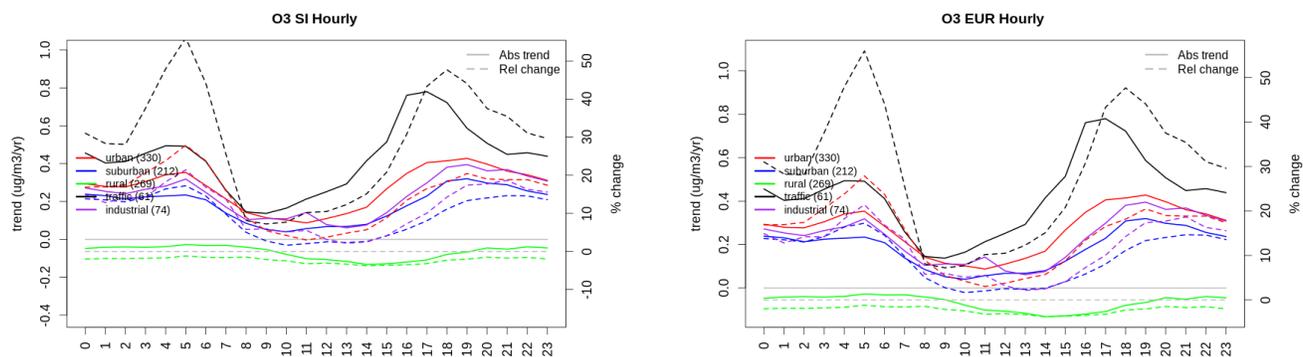


Figure A2.548: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Slovenia (left) and Europe (right) of ozone at various station type.

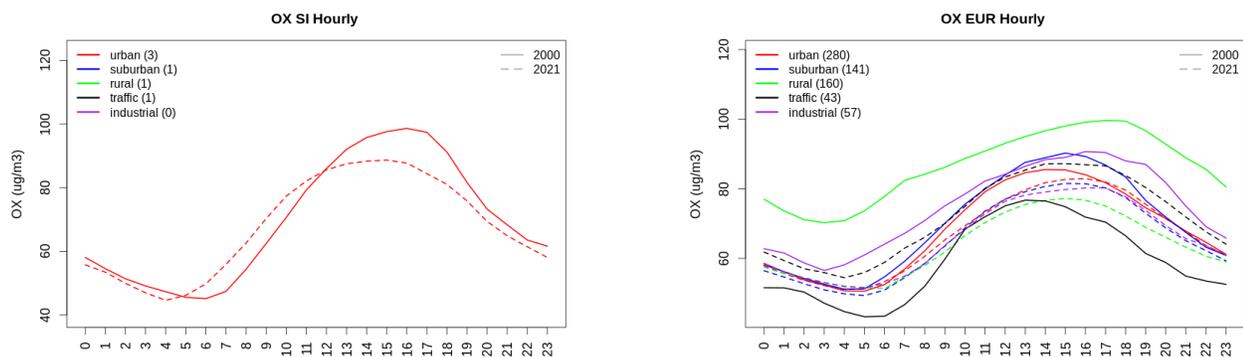


Figure A2.549: Diurnal cycle of daily mean OX (as $\text{NO}_2 + \text{O}_3$) for Slovenia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

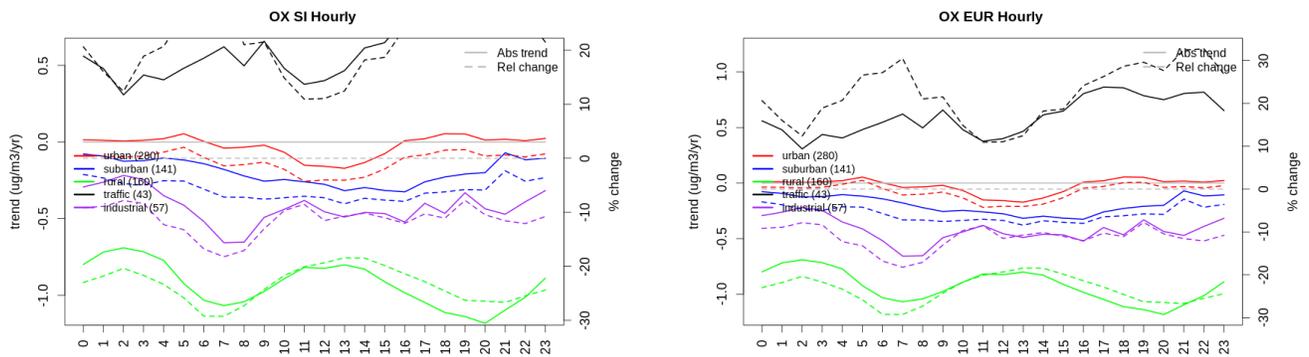


Figure A2.550: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Slovenia (left) and Europe (right) of OX (as NO₂+O₃) at various station type.

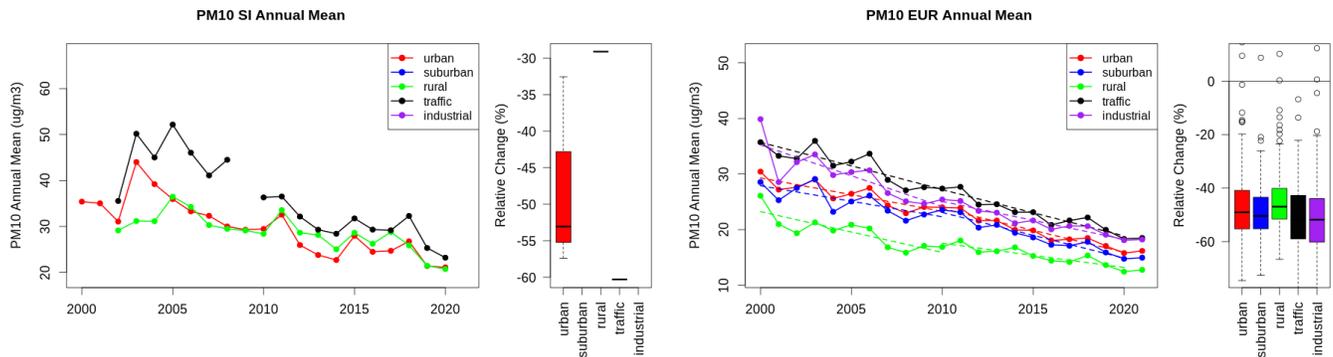


Figure A2.551: Time series of the Slovenia (left) and European-wide composite (median) of annual mean PM₁₀ (ug/m³) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovenia and in Europe.

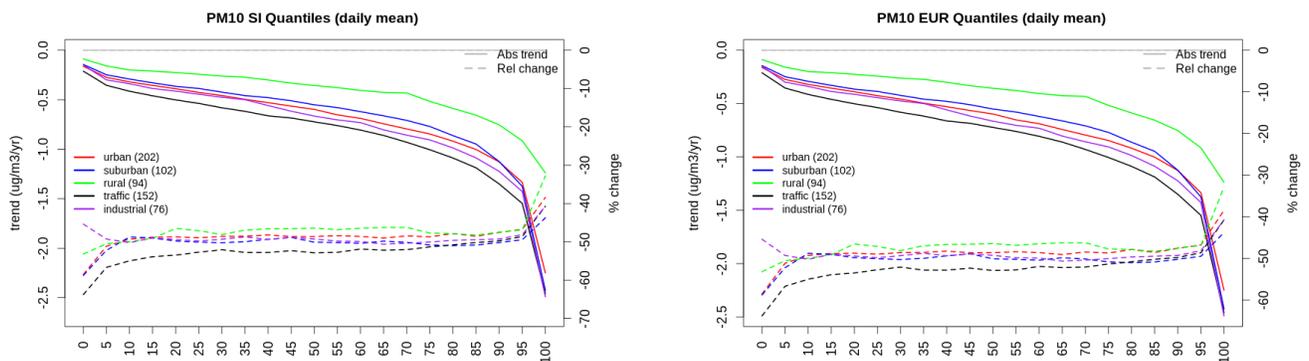


Figure A2.552: For PM₁₀ in Slovenia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

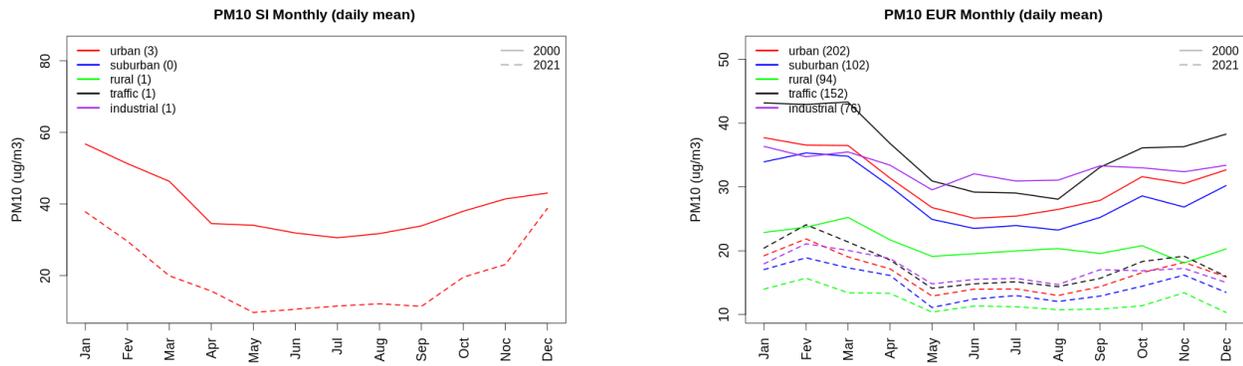


Figure A2.553: Monthly cycle of daily mean PM10 for Slovenia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

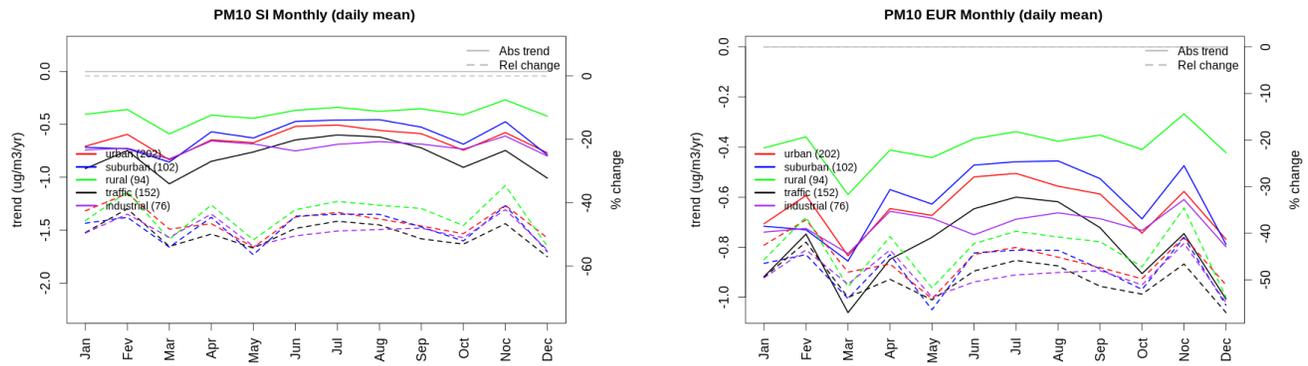


Figure A2.554: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Slovenia (left) and Europe (right) of PM10 at various station type.

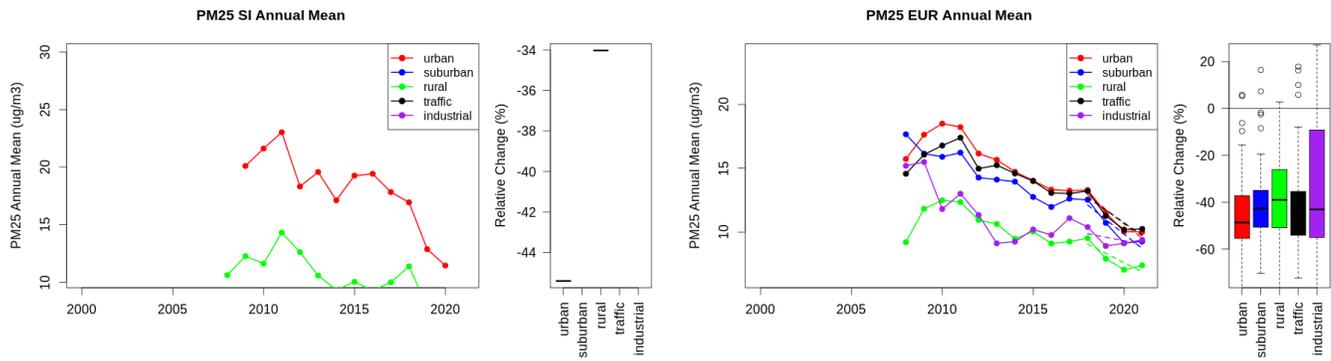


Figure A2.555: Time series of the Slovenia (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovenia and in Europe.

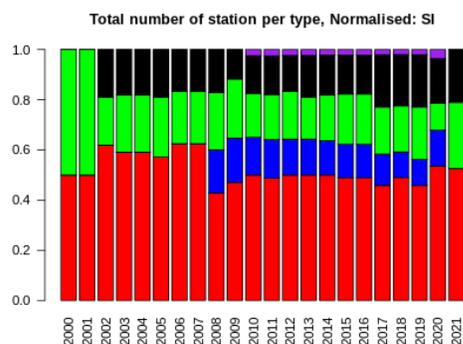
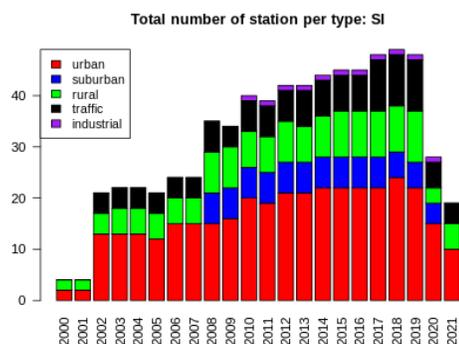
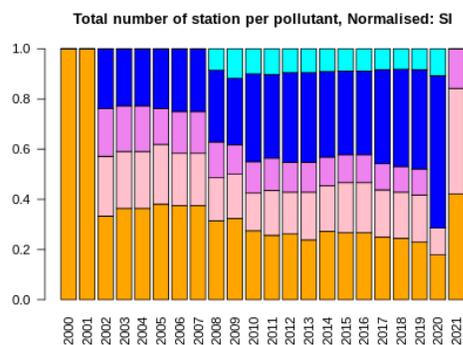
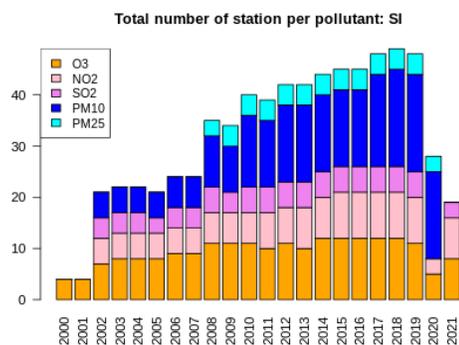
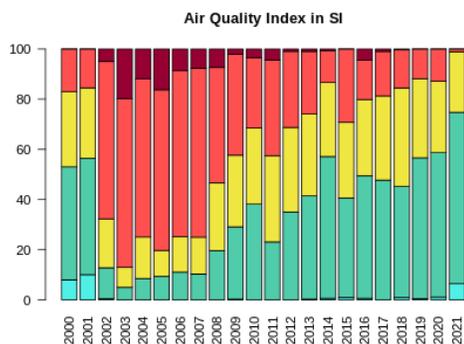


Figure A2.556: For Slovenia: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).

27 Slovakia

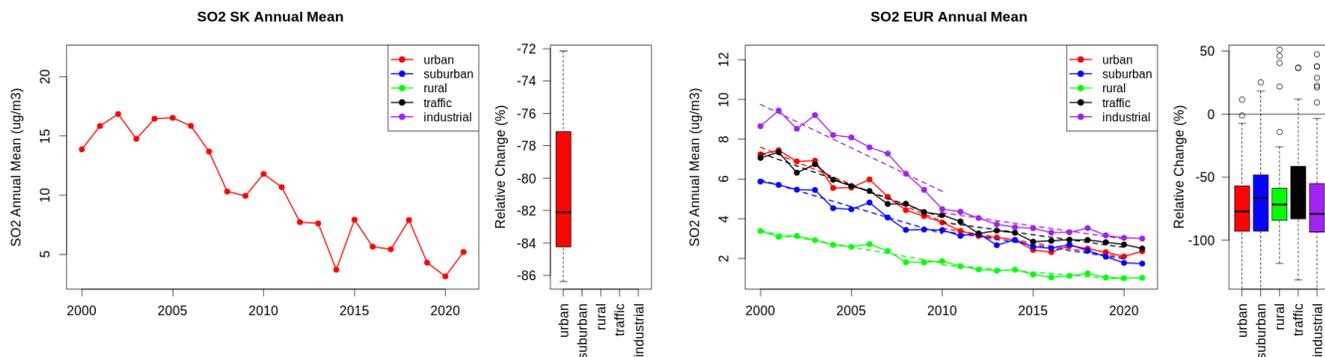


Figure A2.557: Time series of the Slovakia (left) and European-wide composite (median) of annual mean SO₂ ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovakia and in Europe.

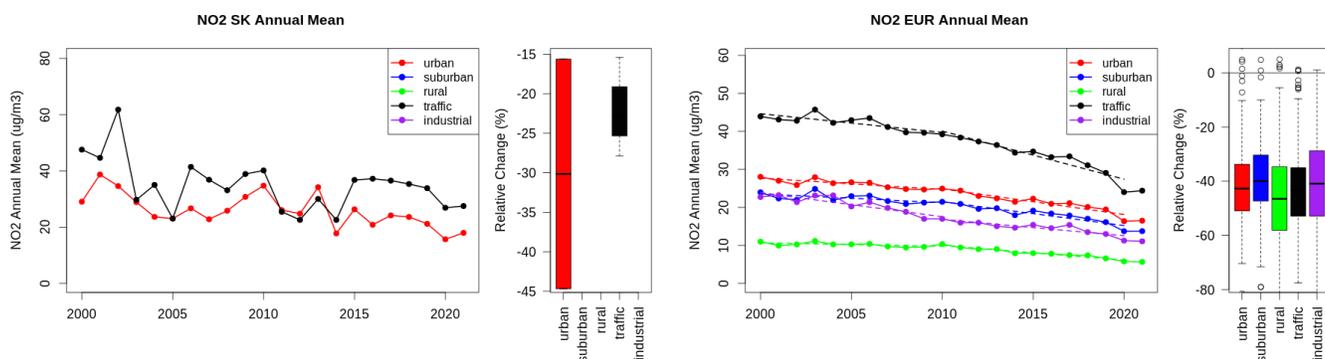


Figure A2.558: Time series of the Slovakia (left) and European-wide composite (median) of annual mean NO₂ ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovakia and in Europe.

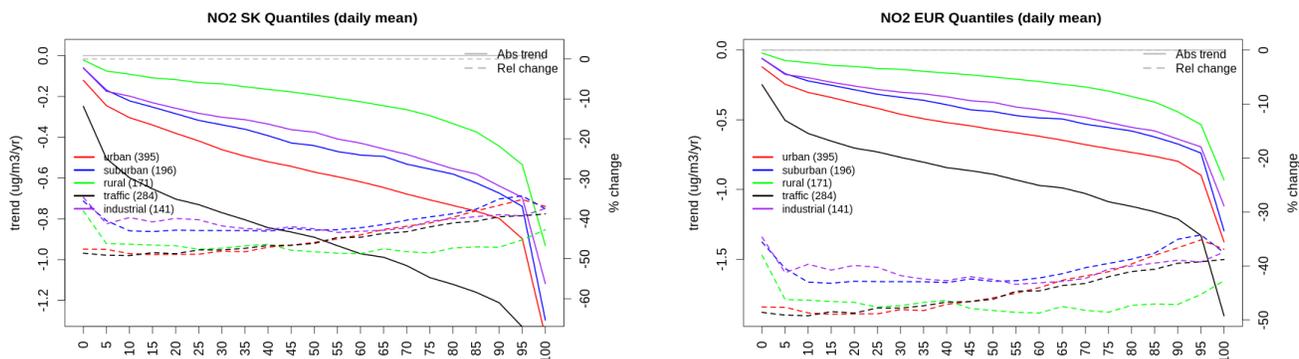


Figure A2.559: For NO₂ in Slovakia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

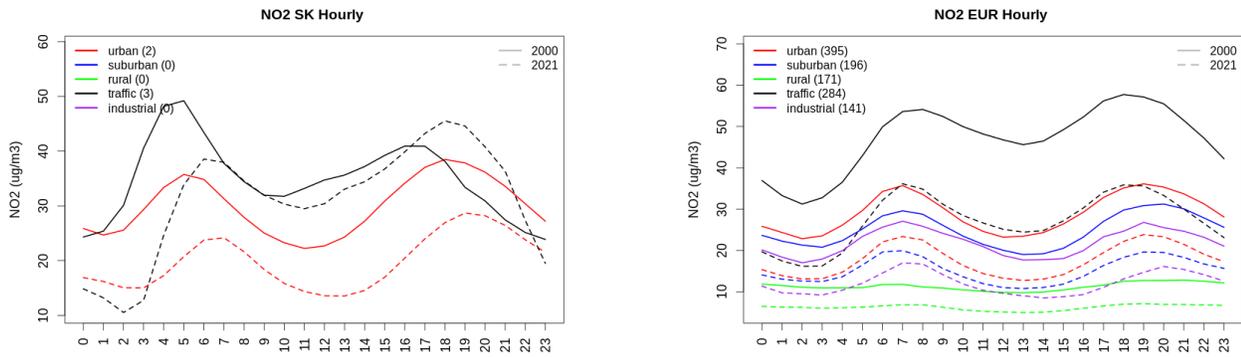


Figure A2.560: Diurnal cycle of daily mean NO₂ for Slovakia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

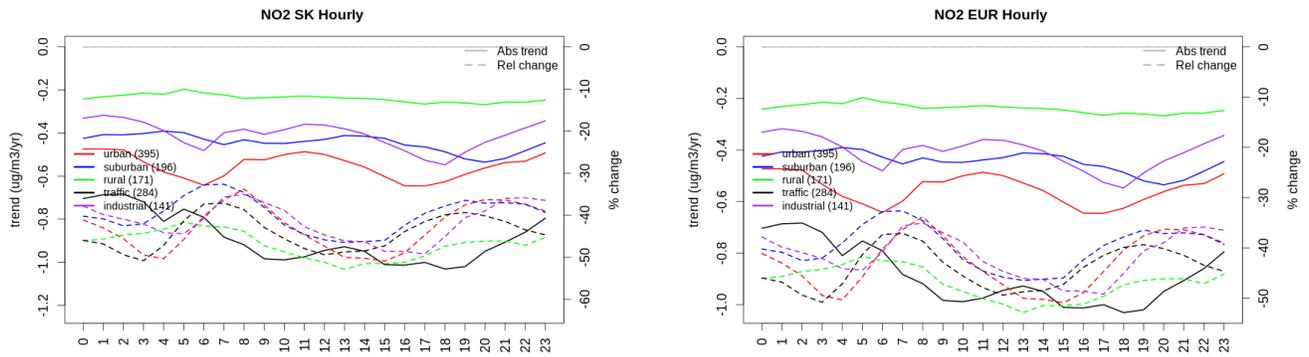


Figure A2.561: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Slovakia (left) and Europe (right) of NO₂ at various station type.

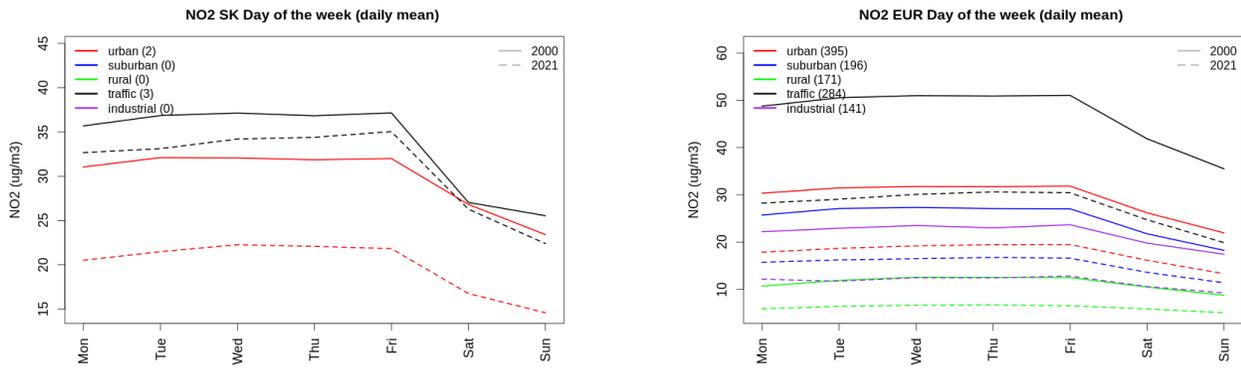


Figure A2.562: Weekly cycle of daily mean NO₂ for Slovakia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

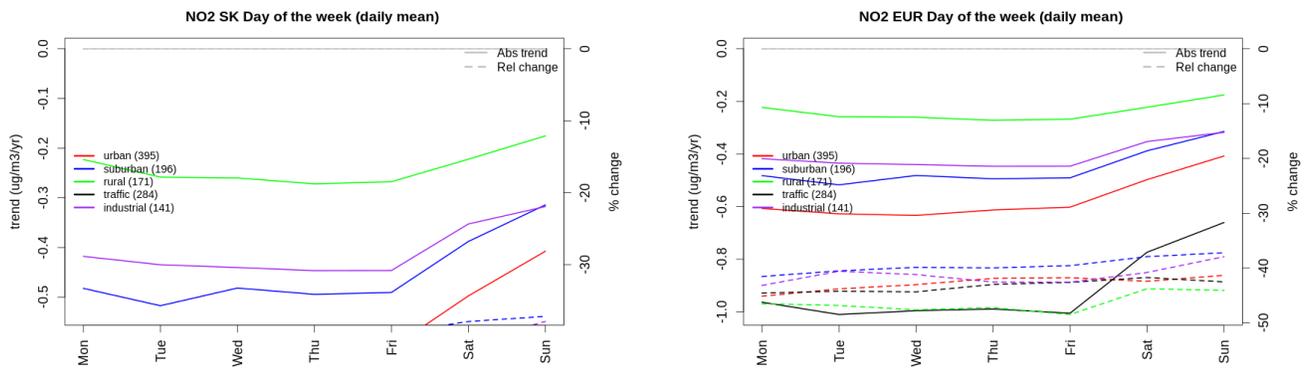


Figure A2.563: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the weekly cycle for Slovakia (left) and Europe (right) of NO₂ at various station type.

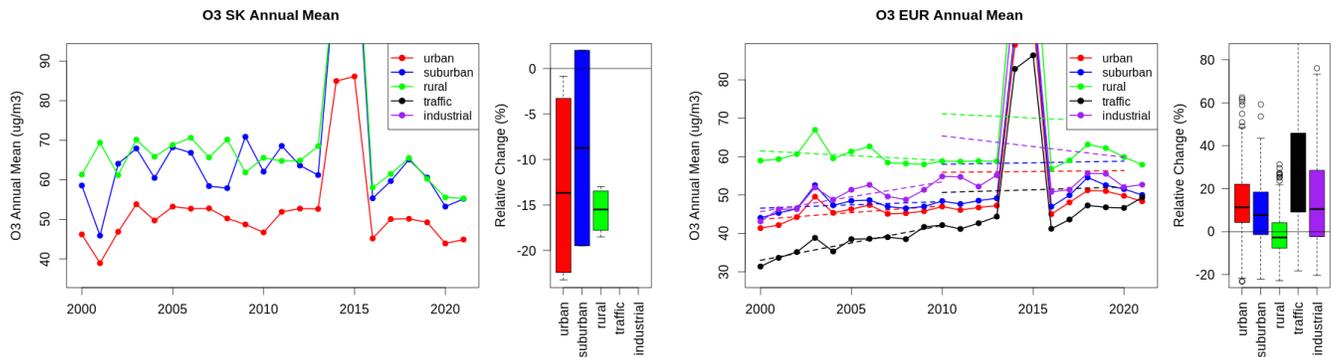


Figure A2.564: Time series of the Slovakia (left) and European-wide composite (median) of annual mean ozone ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovakia and in Europe.

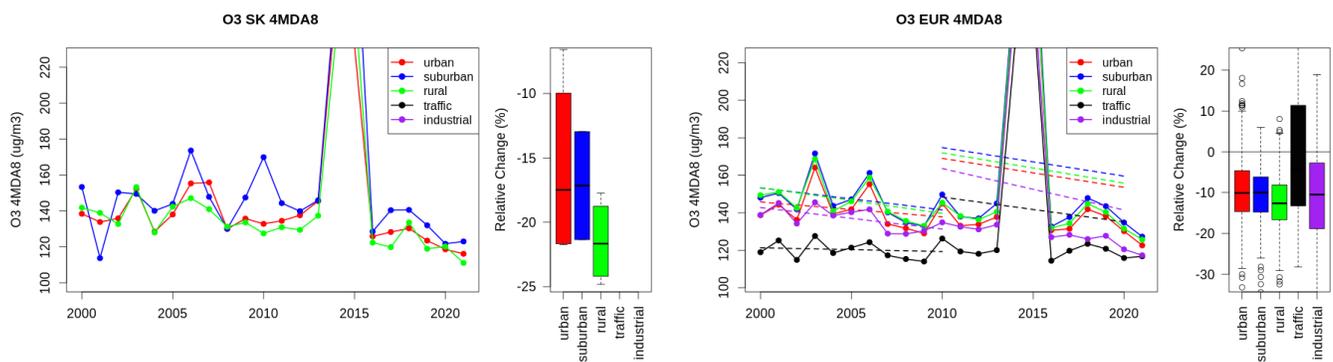


Figure A2.565: Time series of the Slovakia (left) and European-wide composite (median) of O₃ fourth highest daily peak (4MDA8, $\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovakia and in Europe.

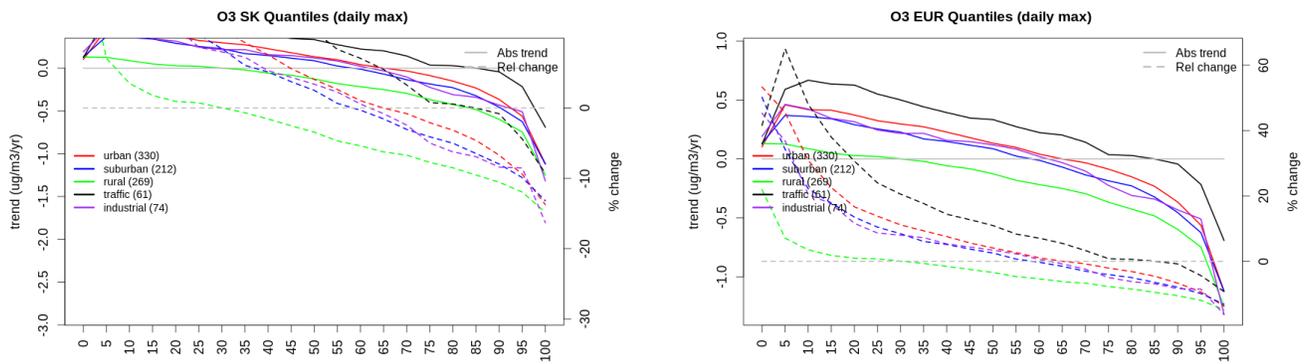


Figure A2.566: For ozone in Slovakia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily maxima.

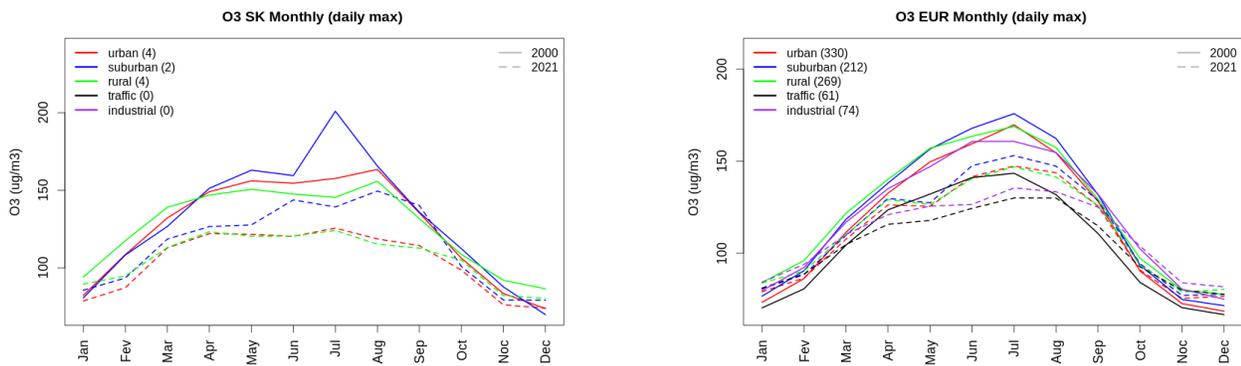


Figure A2.567: Monthly cycle of daily max ozone for Slovakia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

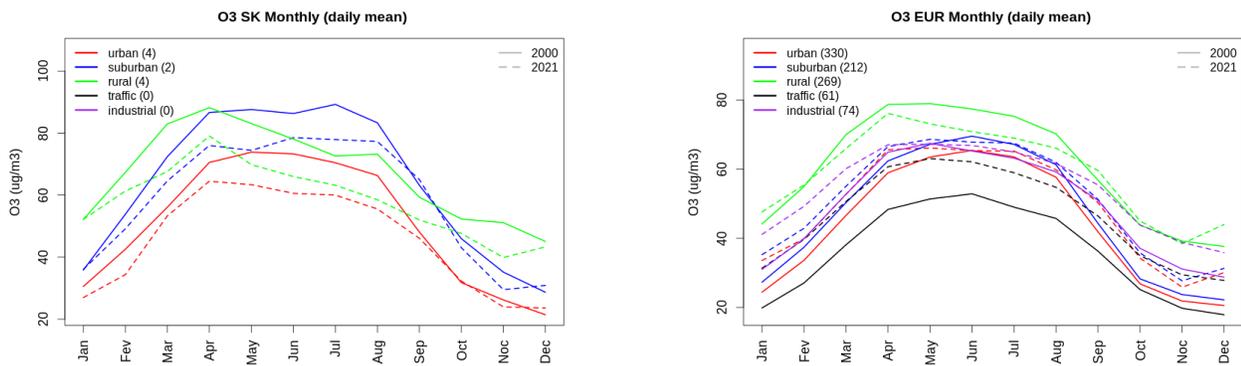


Figure A2.568: Monthly cycle of daily mean ozone for Slovakia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

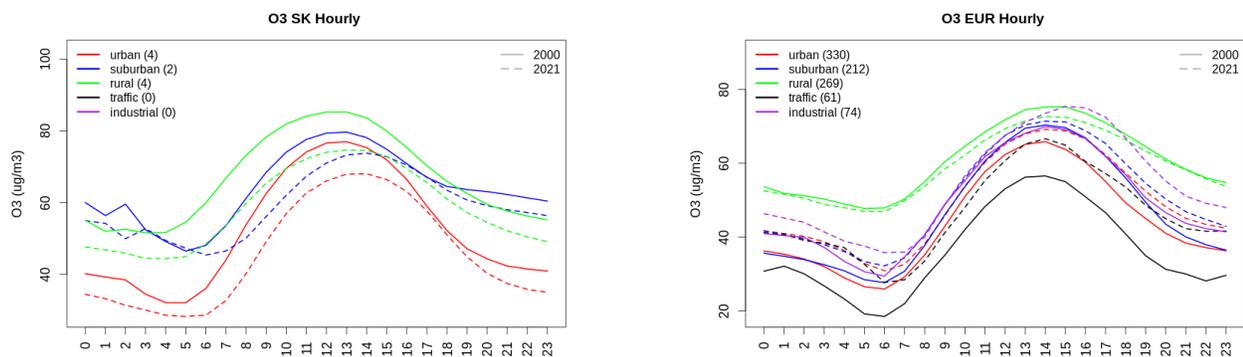


Figure A2.569: Diurnal cycle of daily mean ozone for Slovakia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

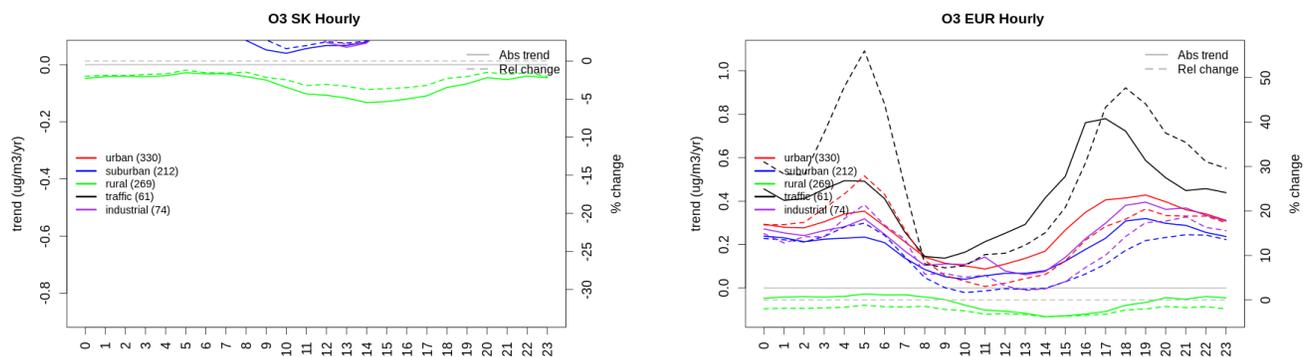


Figure A2.570: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Slovakia (left) and Europe (right) of ozone at various station type.

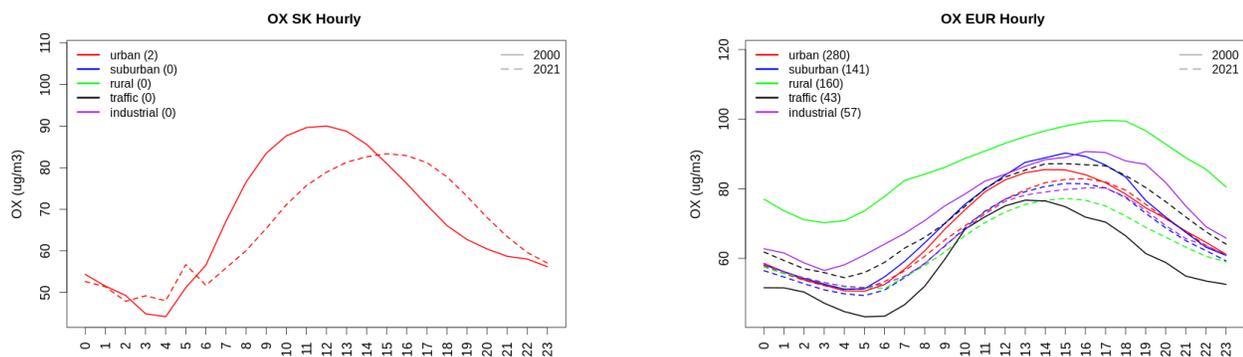


Figure A2.571: Diurnal cycle of daily mean OX (as NO2+O3) for Slovakia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

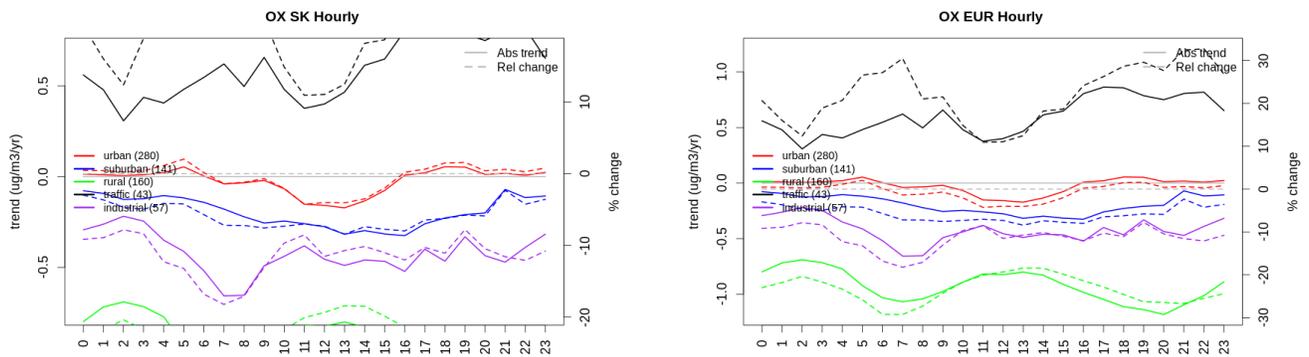


Figure A2.572: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the diurnal cycle for Slovakia (left) and Europe (right) of OX (as $\text{NO}_2 + \text{O}_3$) at various station type.

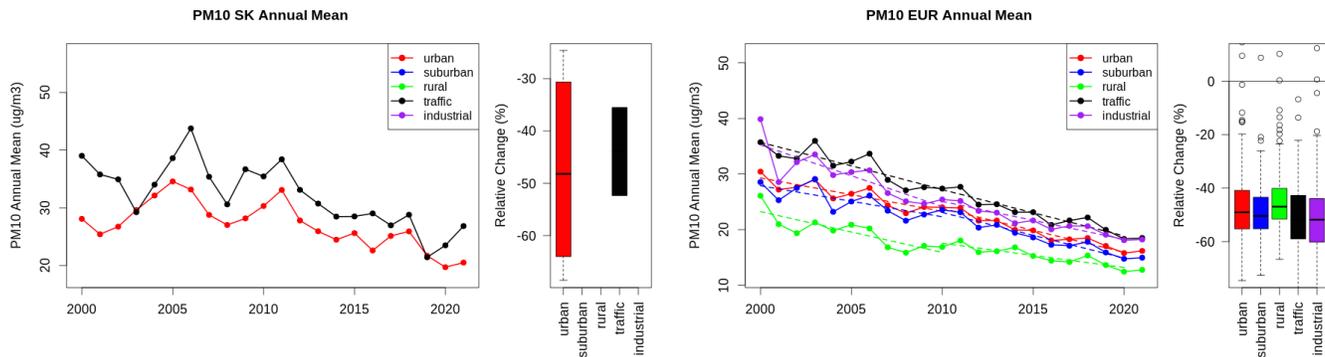


Figure A2.573: Time series of the Slovakia (left) and European-wide composite (median) of annual mean PM10 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovakia and in Europe.

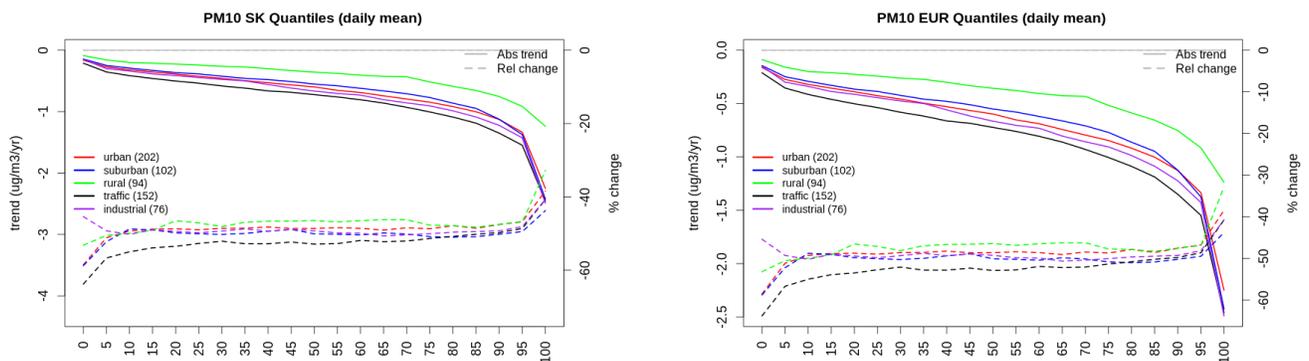


Figure A2.574: For PM10 in Slovakia (left) and Europe, and for each typology of station: absolute trend (solid lines, left y-axis) and relative change (dashed lines, right y-axis) of the percentiles of daily means.

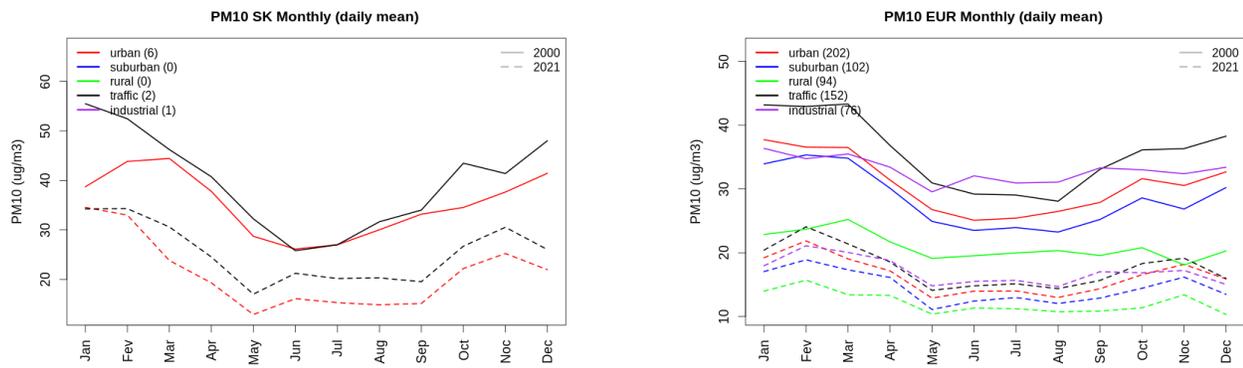


Figure A2.575: Monthly cycle of daily mean PM10 for Slovakia (left) and Europe (right) at various station types estimated from the whole time series in 2000 (solid lines) and 2021

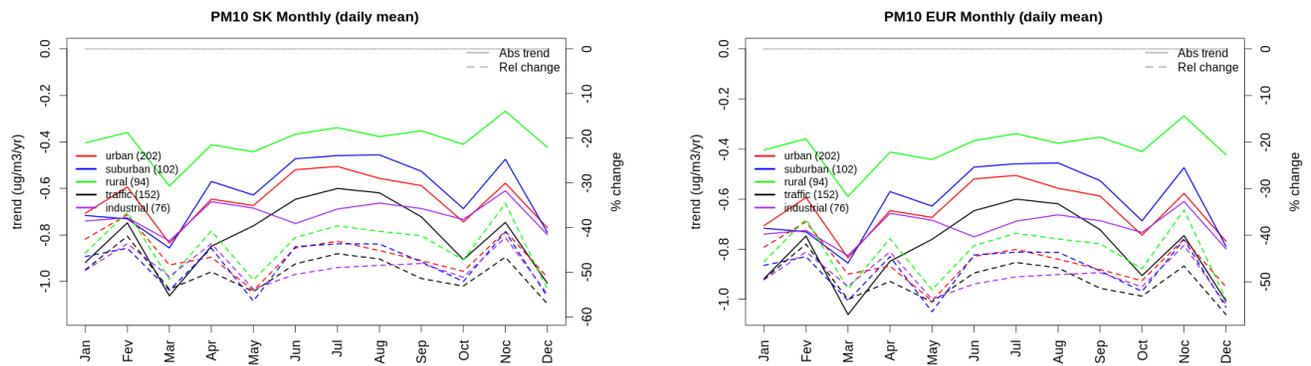


Figure A2.576: Absolute (solid lines, left axis) and relative (dashed lines, right axis) trends in the monthly cycle for Slovakia (left) and Europe (right) of PM10 at various station type.

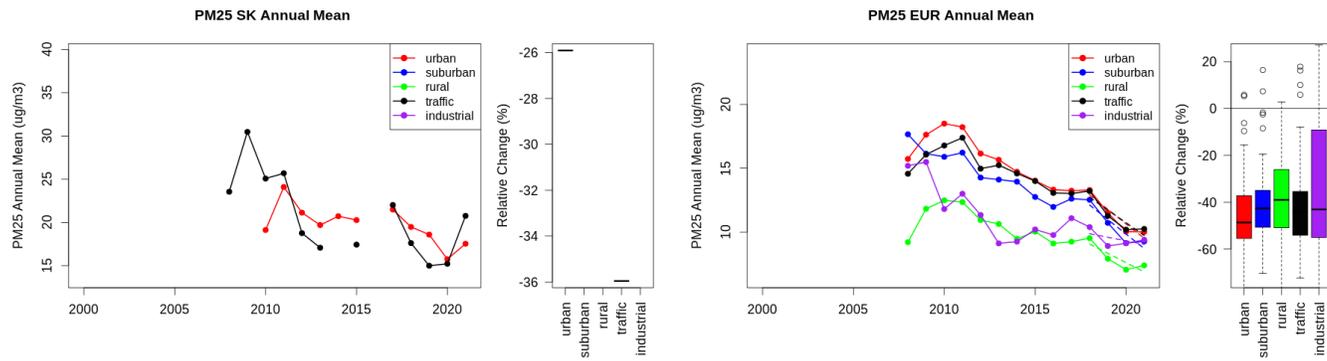


Figure A2.577: Time series of the Slovakia (left) and European-wide composite (median) of annual mean PM25 ($\mu\text{g}/\text{m}^3$) per station type and area (red: urban background, blue suburban background, green: rural background, black: traffic, violet: industrial) between 2000 and 2021. In the European composite, the dashed lines show the linear fit between 2000 & 2010 and between 2010 & 2021. The boxplots on the right-hand side show the distribution of relative changes (%) between 2000 and 2021 for all stations of each typology in Slovakia and in Europe.

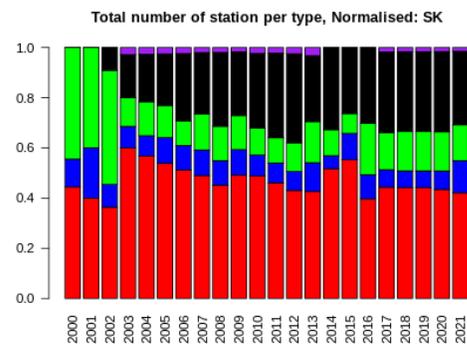
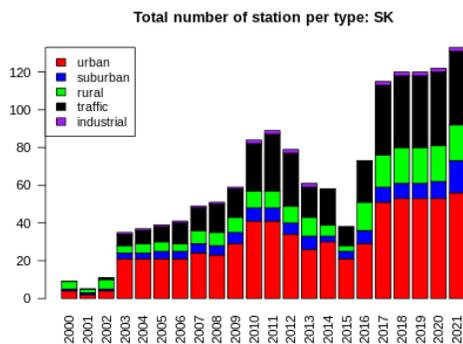
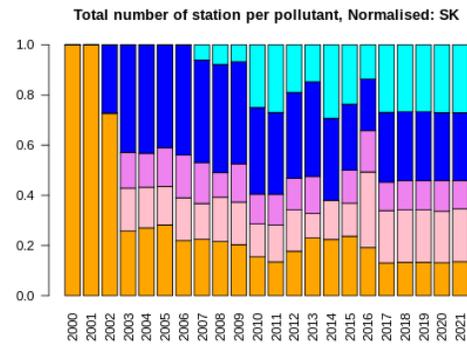
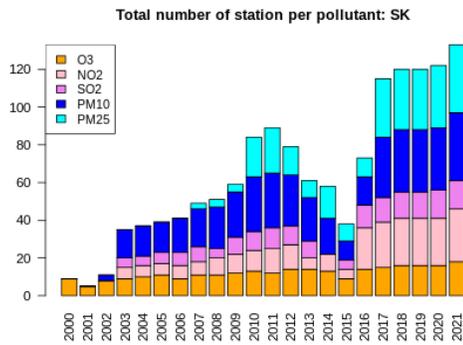
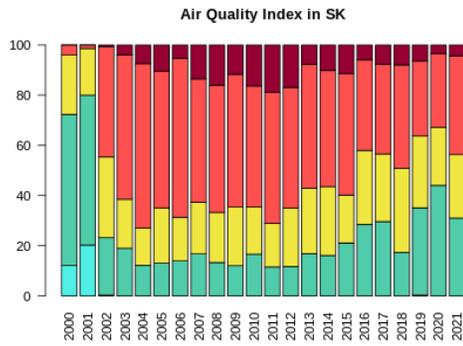


Figure A2.578: For Slovakia: overall air quality index (percentage of days in a given year) and distribution of daily categories per pollutant (light blue: good, light green: fair, yellow: moderate, orange: poor, red: very poor, violet: extremely poor).