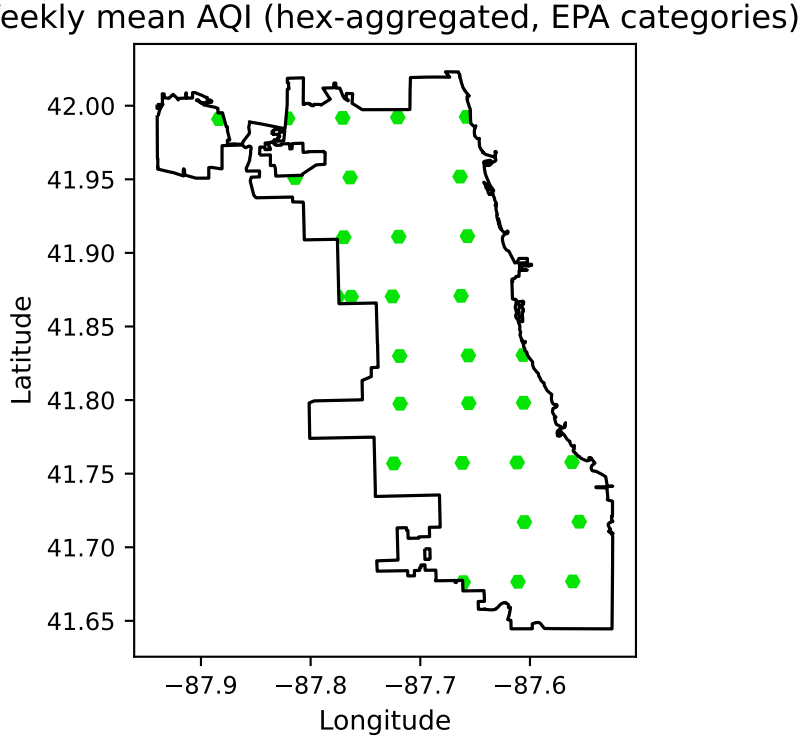
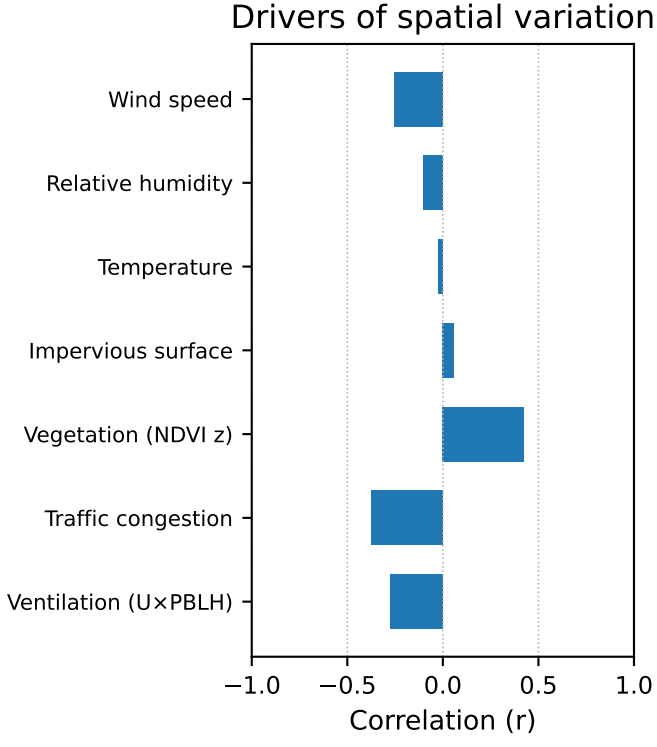
Chicago AQI — Weekly Dashboard | 2024-W01 [2024-01-01 to 2024-01-07]





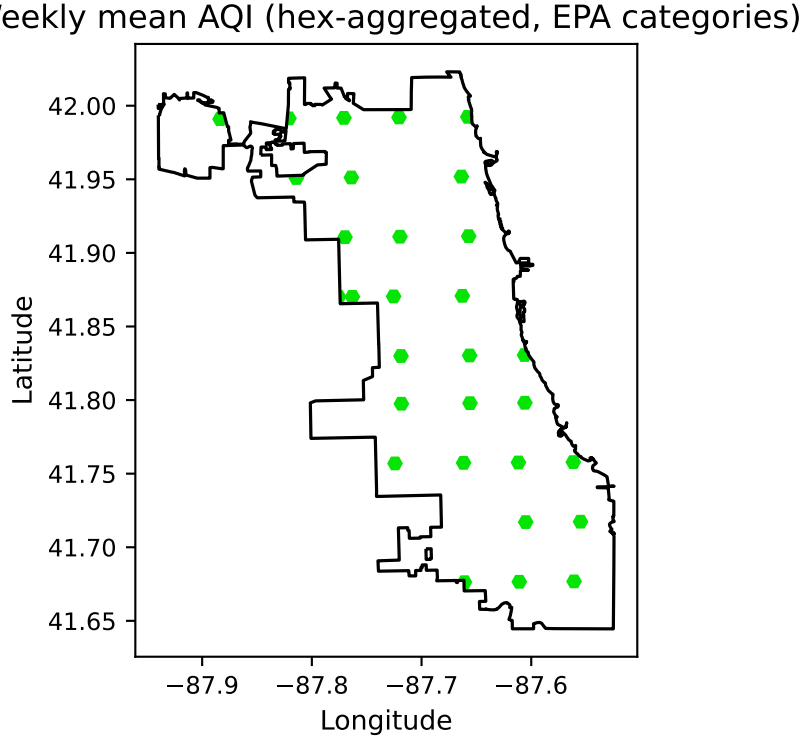
Weekly inference:

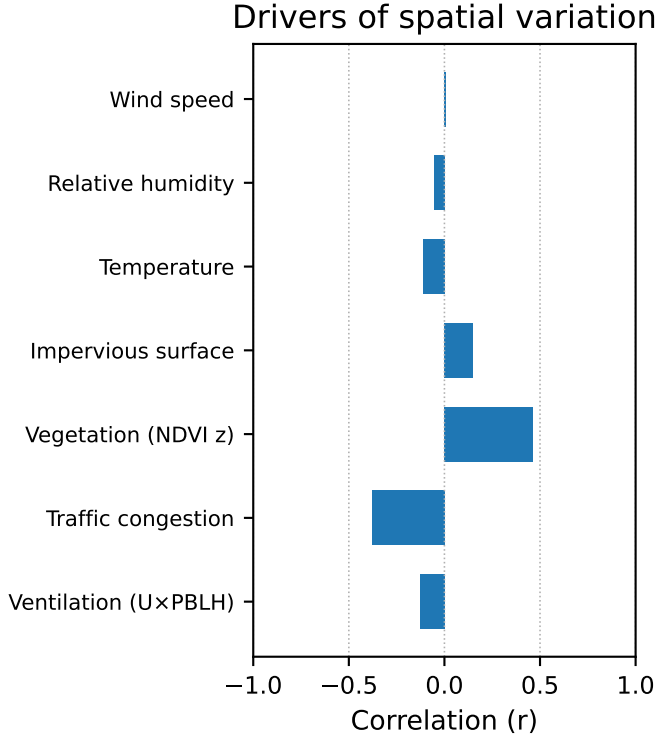
Week 2024-W01 (2024-01-01–2024-01-07): citywide weekly AQI median ≈ 35 (P10≈30, P90≈39).
Mean conditions: T≈-0.9 °C, RH≈78%, U≈6.3 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.28). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: moderate negative correlation (r≈-0.38). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.42). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.06). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible negative correlation (r≈-0.02). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W02 [2024-01-08 to 2024-01-14]





Weekly inference:

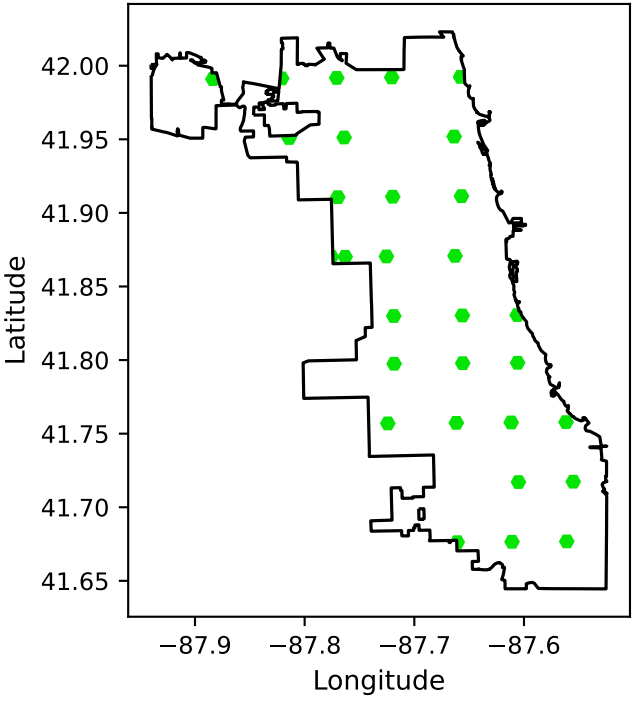
Week 2024-W02 (2024-01-08–2024-01-14): citywide weekly AQI median ≈ 31 (P10≈28, P90≈34).
Mean conditions: T̄≈-4.0 °C, RH̄≈83%, Ū≈6.1 m/s.

Driver-wise interpretation:

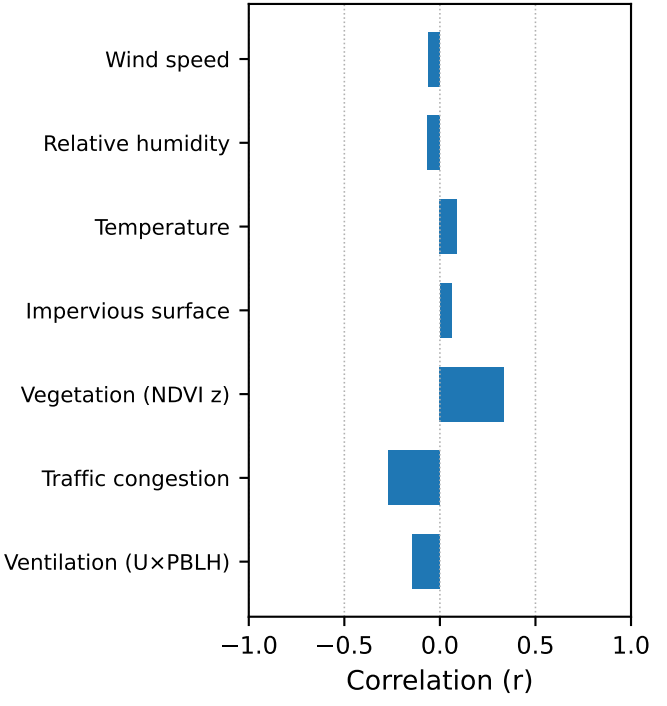
- Ventilation (U×PBLH): weak negative correlation (r≈-0.13). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: moderate negative correlation (r≈-0.38). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.46). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: weak positive correlation (r≈0.15). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak negative correlation (r≈-0.11). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W03 [2024-01-15 to 2024-01-21]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W03 (2024-01-15–2024-01-21): citywide weekly AQI median ≈ 29 (P10≈26, P90≈31).
Mean conditions: T̄≈-13.4 °C, RH̄≈68%, Ū≈14.1 m/s.

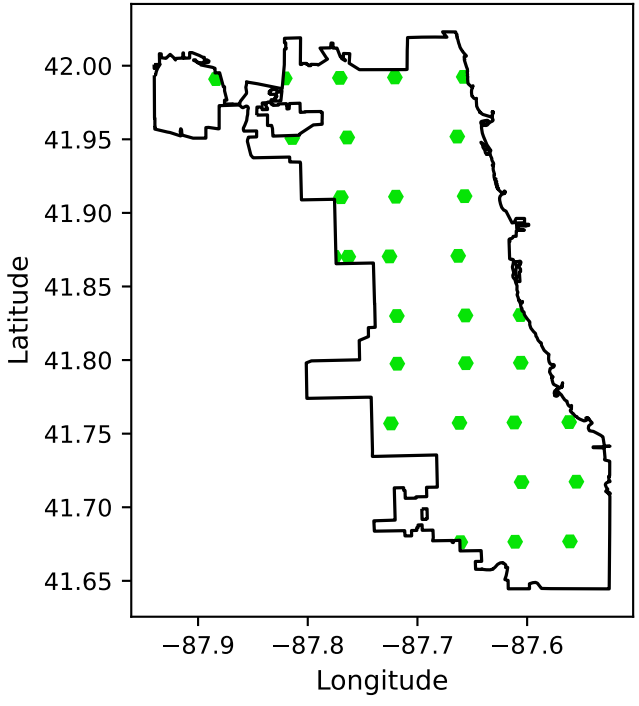
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.14). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.27). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.34). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.06). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible positive correlation (r≈0.09). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

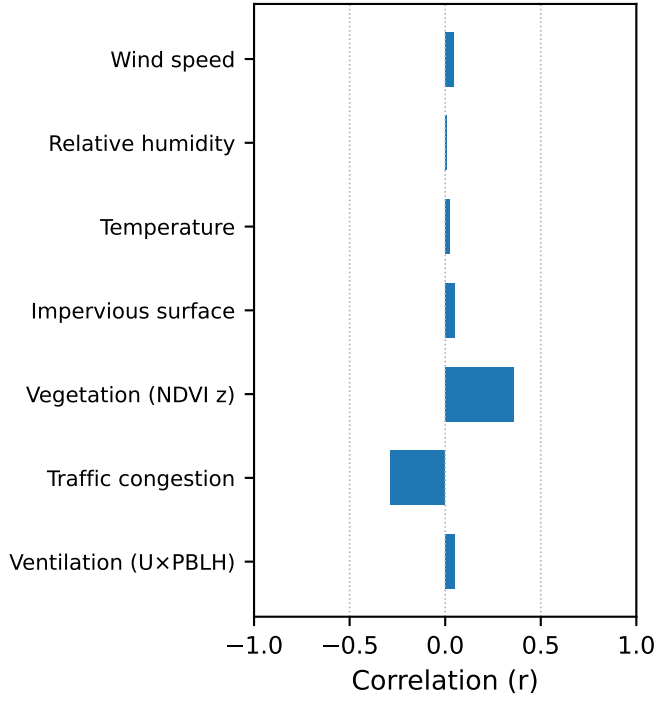
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W04 [2024-01-22 to 2024-01-28]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

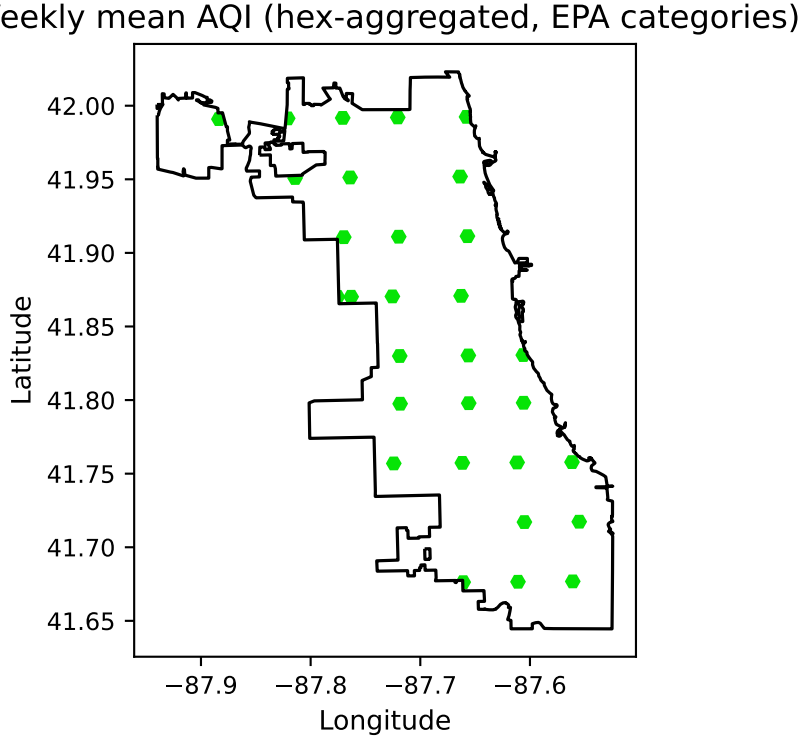
Week 2024-W04 (2024-01-22–2024-01-28): citywide weekly AQI median ≈ 38 (P10≈33, P90≈42).
Mean conditions: T̄≈1.1 °C, RH̄≈93%, Ū≈-0.1 m/s.

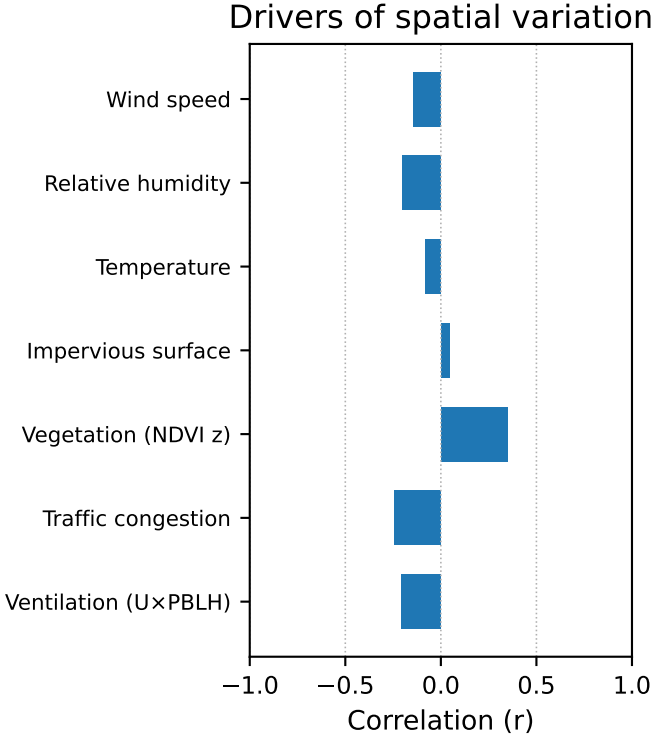
Driver-wise interpretation:

- Ventilation (U×PBLH): negligible positive correlation (r≈0.05). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.29). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.36). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas; reduced local dilution.
- Impervious surface: negligible positive correlation (r≈0.05). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible positive correlation (r≈0.02). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W05 [2024-01-29 to 2024-02-04]





Weekly inference:

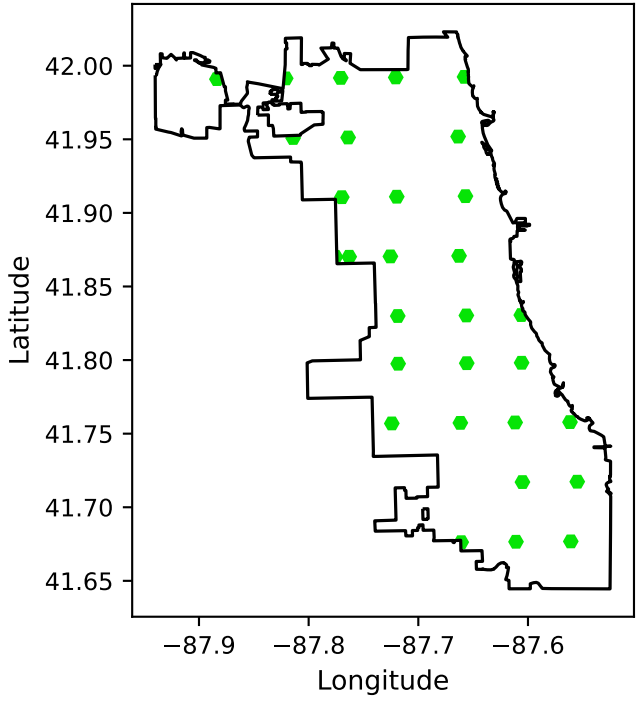
Week 2024-W05 (2024-01-29–2024-02-04): citywide weekly AQI median ≈ 37 (P10≈31, P90≈40).
Mean conditions: T̄≈1.4 °C, RH̄≈86%, Ū≈0.8 m/s.

Driver-wise interpretation:

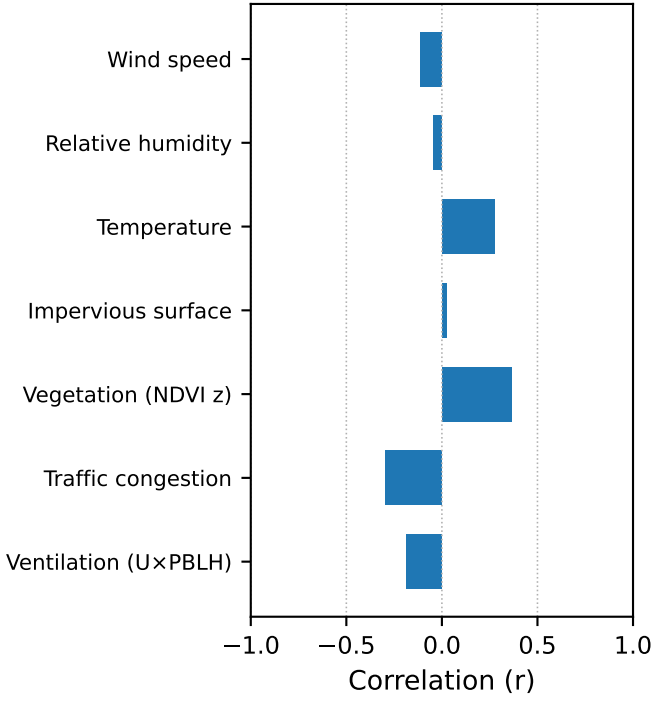
- Ventilation (U×PBLH): weak negative correlation (r≈-0.20). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.24). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.35). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.05). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible negative correlation (r≈-0.08). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W06 [2024-02-05 to 2024-02-11]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W06 (2024-02-05–2024-02-11): citywide weekly AQI median ≈ 37 (P10≈31, P90≈41).
Mean conditions: T̄≈3.1 °C, RH̄≈77%, Ū≈3.5 m/s.

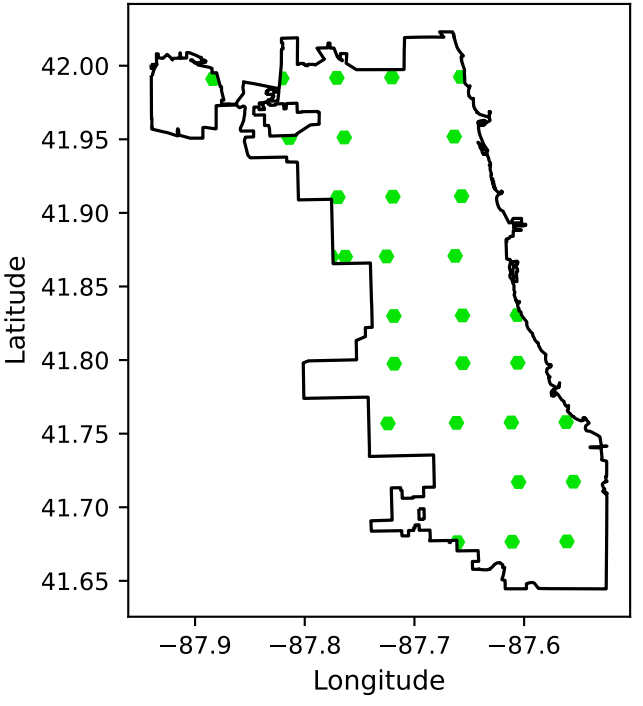
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.19). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.29). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.36). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.02). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.28). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

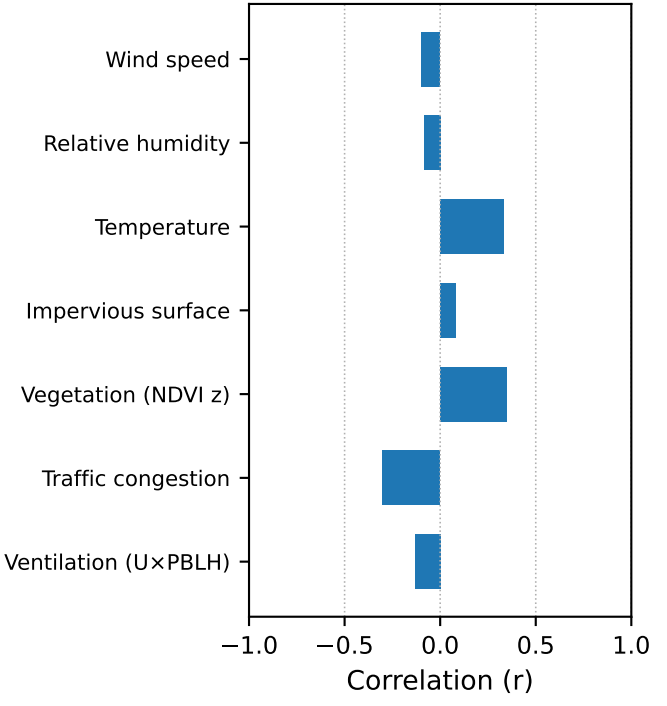
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W07 [2024-02-12 to 2024-02-18]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

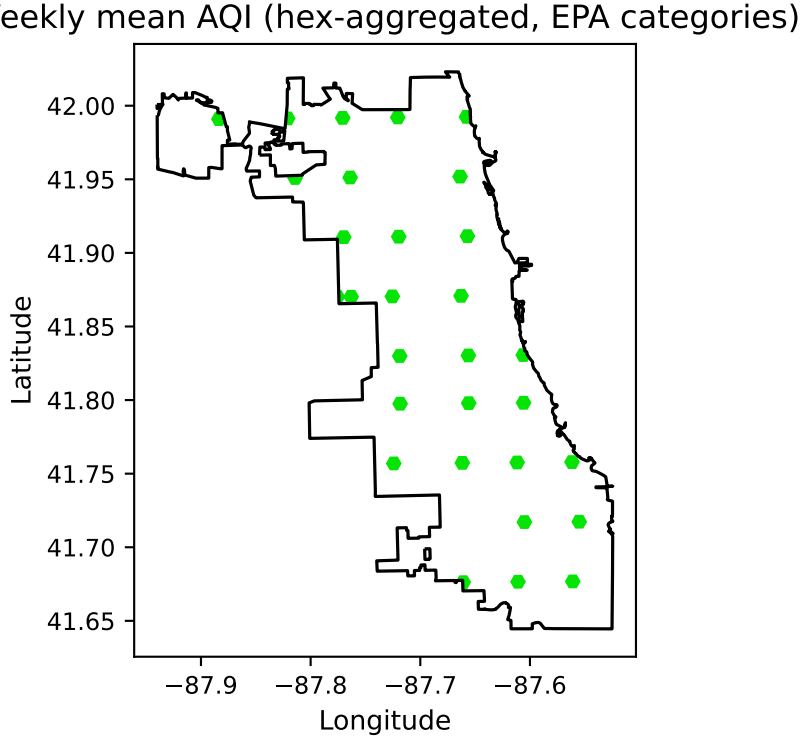
Week 2024-W07 (2024-02-12–2024-02-18): citywide weekly AQI median ≈ 33 (P10≈29, P90≈36).
Mean conditions: T̄≈-0.7 °C, RH̄≈60%, Ū≈9.2 m/s.

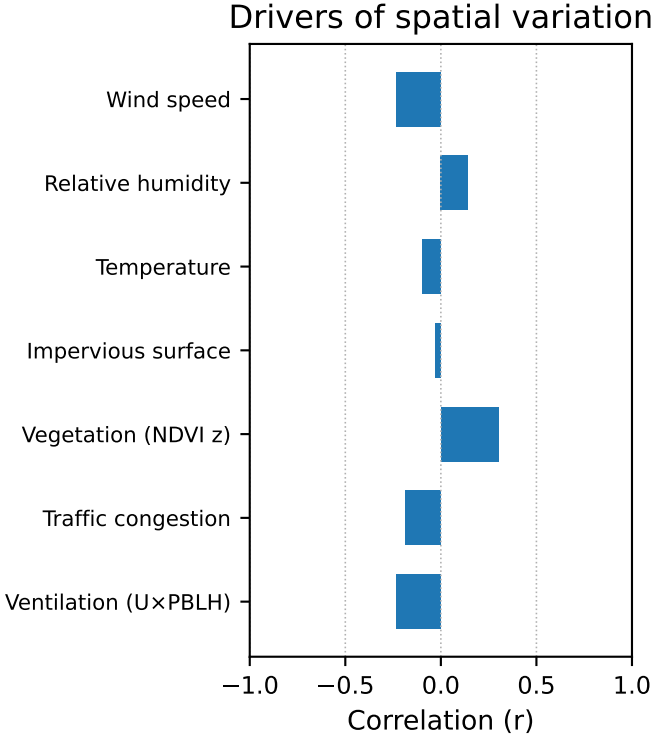
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.13). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: moderate negative correlation (r≈-0.30). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.35). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas; reduced local dilution.
- Impervious surface: negligible positive correlation (r≈0.08). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and
- Temperature: moderate positive correlation (r≈0.33). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W08 [2024-02-19 to 2024-02-25]





Weekly inference:

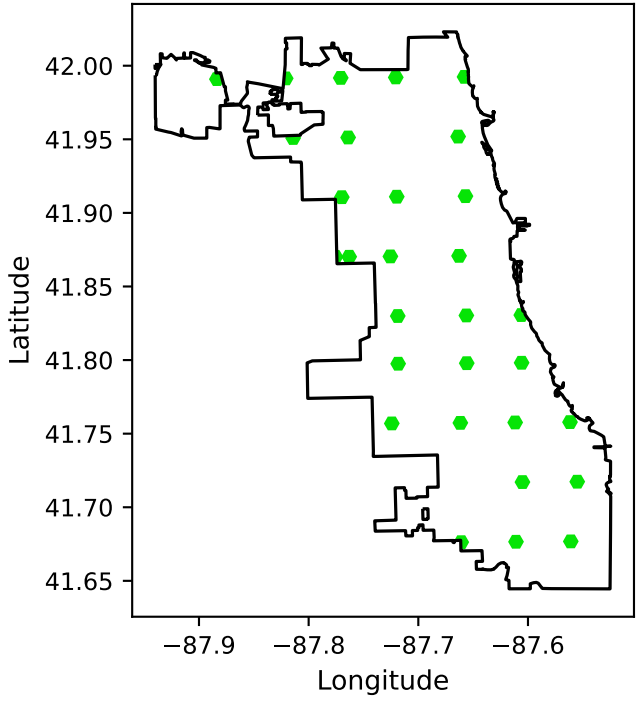
Week 2024-W08 (2024-02-19–2024-02-25): citywide weekly AQI median ≈ 36 (P10≈31, P90≈39).
Mean conditions: T≈3.7 °C, RH≈67%, U≈2.9 m/s.

Driver-wise interpretation:

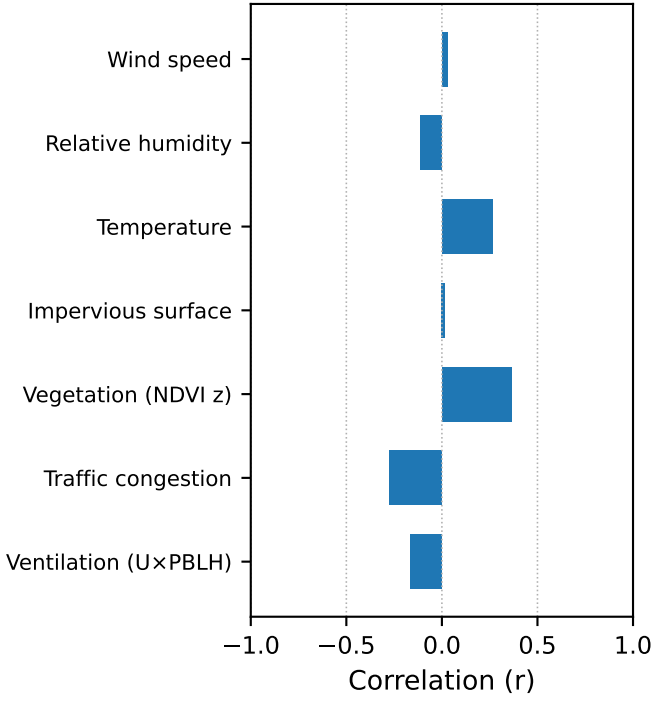
- Ventilation (U×PBLH): weak negative correlation (r≈-0.23). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.19). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.30). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.03). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible negative correlation (r≈-0.10). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W09 [2024-02-26 to 2024-03-03]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W09 (2024-02-26–2024-03-03): citywide weekly AQI median ≈ 38 (P10≈32, P90≈42).
Mean conditions: T≈6.1 °C, RH≈64%, U≈4.1 m/s.

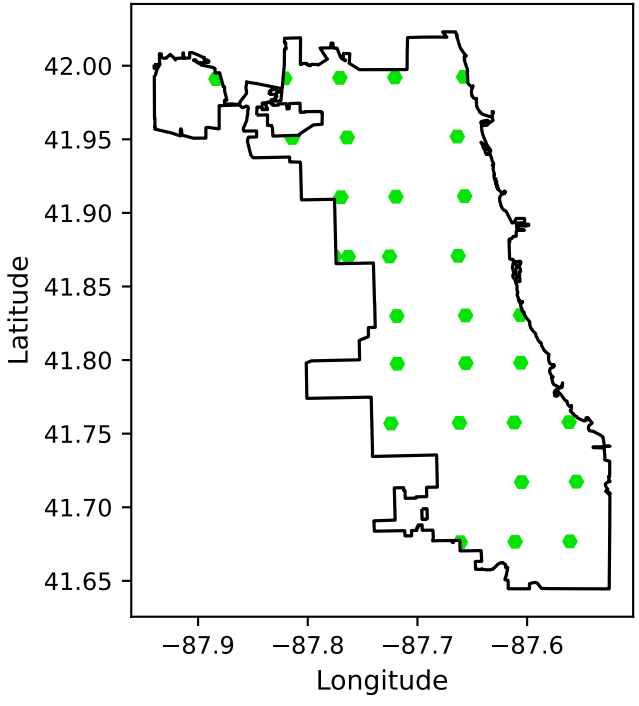
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.16). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.28). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.36). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.02). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.26). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

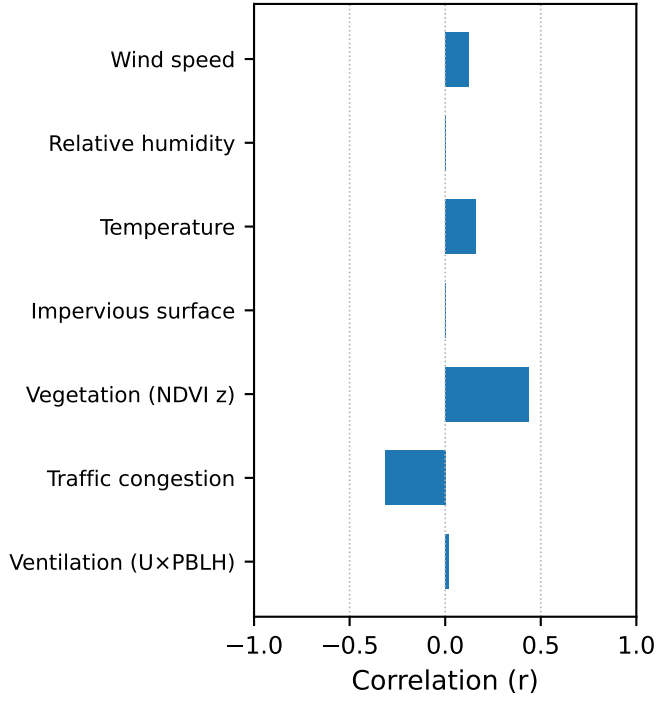
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W10 [2024-03-04 to 2024-03-10]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

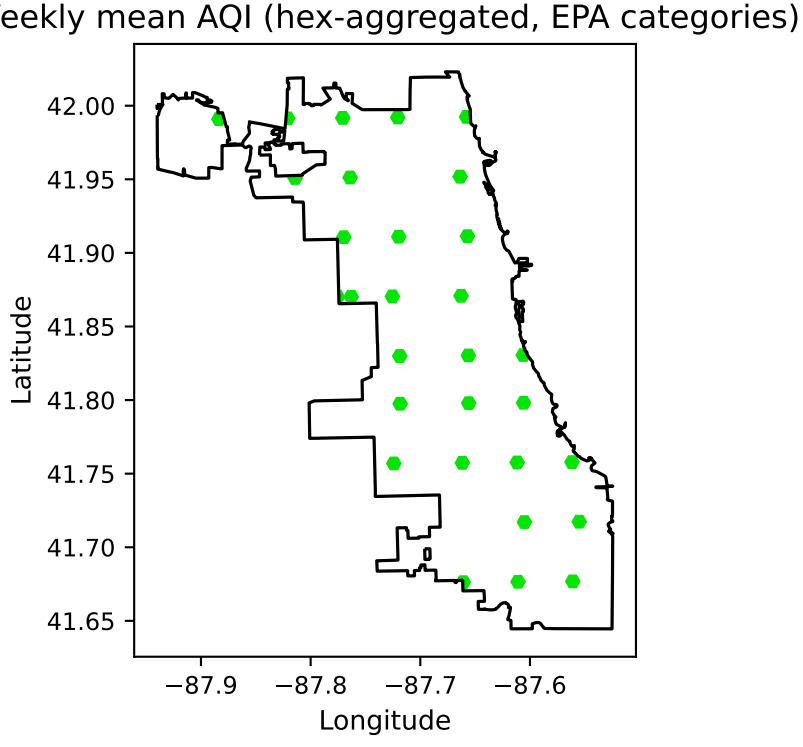
Week 2024-W10 (2024-03-04–2024-03-10): citywide weekly AQI median ≈ 35 (P10≈31, P90≈39).
Mean conditions: T̄≈5.9 °C, RH̄≈77%, Ū≈0.1 m/s.

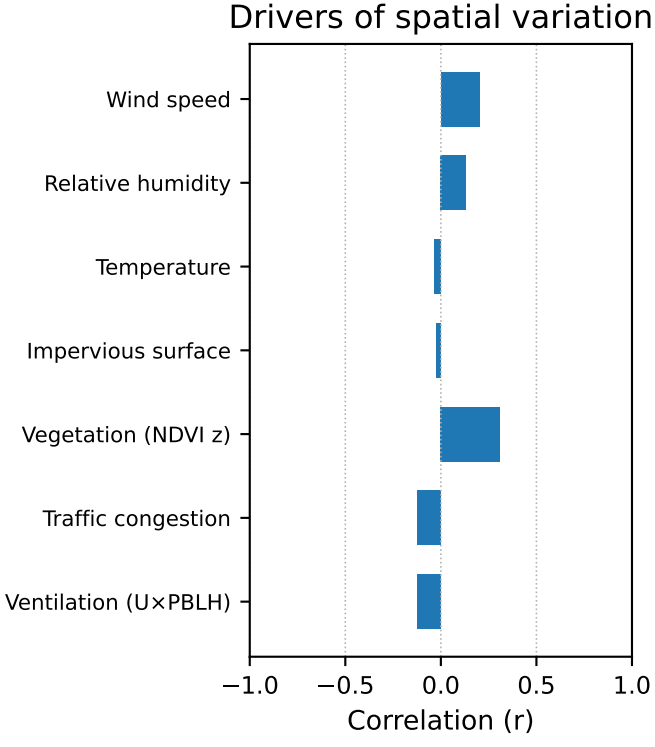
Driver-wise interpretation:

- Ventilation (U×PBLH): negligible positive correlation (r≈0.02). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: moderate negative correlation (r≈-0.32). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.43). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.00). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.16). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W11 [2024-03-11 to 2024-03-17]





Weekly inference:

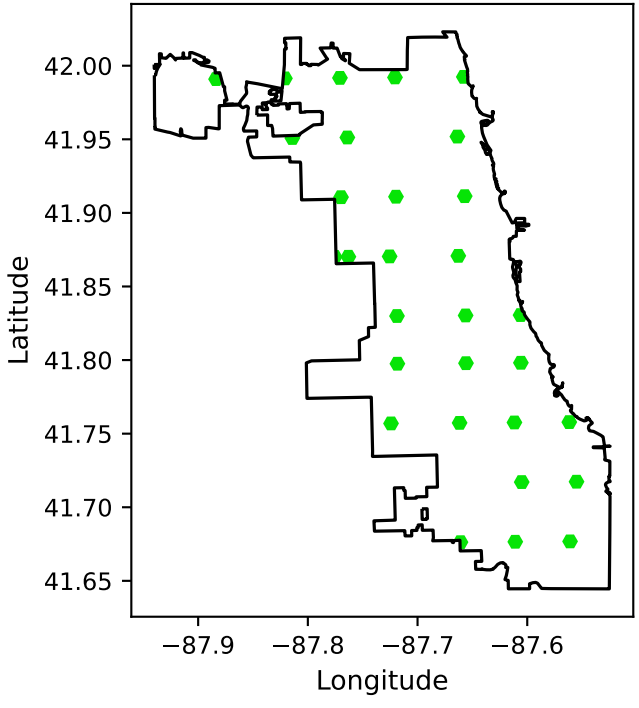
Week 2024-W11 (2024-03-11–2024-03-17): citywide weekly AQI median ≈ 35 (P10≈30, P90≈38).
Mean conditions: T≈7.7 °C, RH≈66%, U≈8.5 m/s.

Driver-wise interpretation:

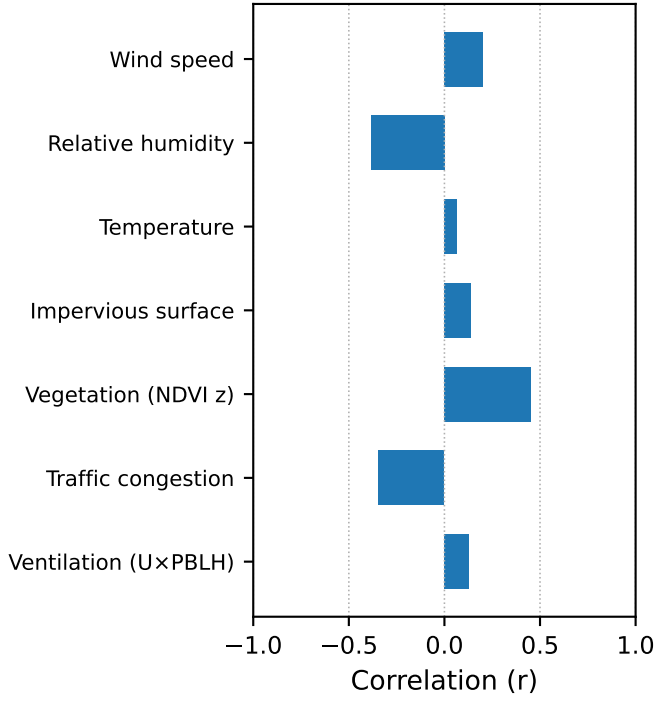
- Ventilation (U×PBLH): weak negative correlation (r≈-0.12). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.12). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.31). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.02). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible negative correlation (r≈-0.04). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W12 [2024-03-18 to 2024-03-24]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W12 (2024-03-18–2024-03-24): citywide weekly AQI median ≈ 31 (P10≈28, P90≈35).
Mean conditions: T̄≈1.1 °C, RH̄≈60%, Ū≈0.6 m/s.

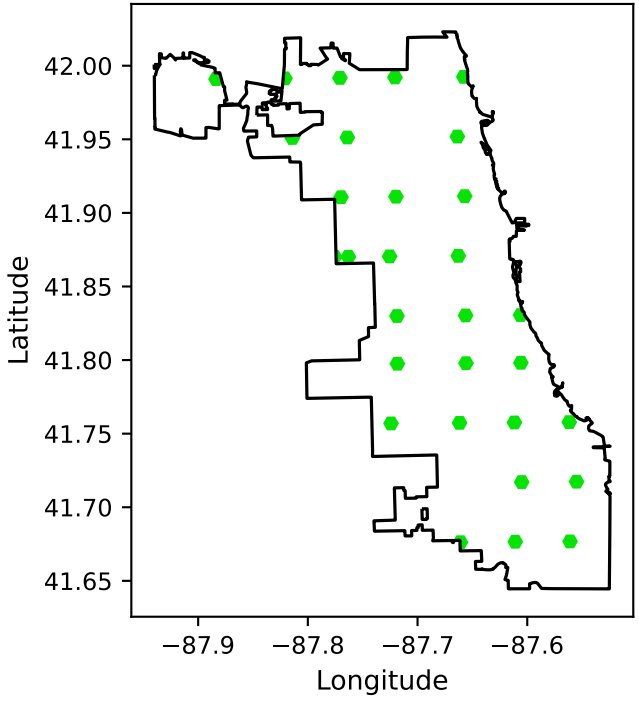
Driver-wise interpretation:

- Ventilation (U×PBLH): weak positive correlation (r≈0.13). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: moderate negative correlation (r≈-0.35). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.45). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: weak positive correlation (r≈0.14). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible positive correlation (r≈0.07). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

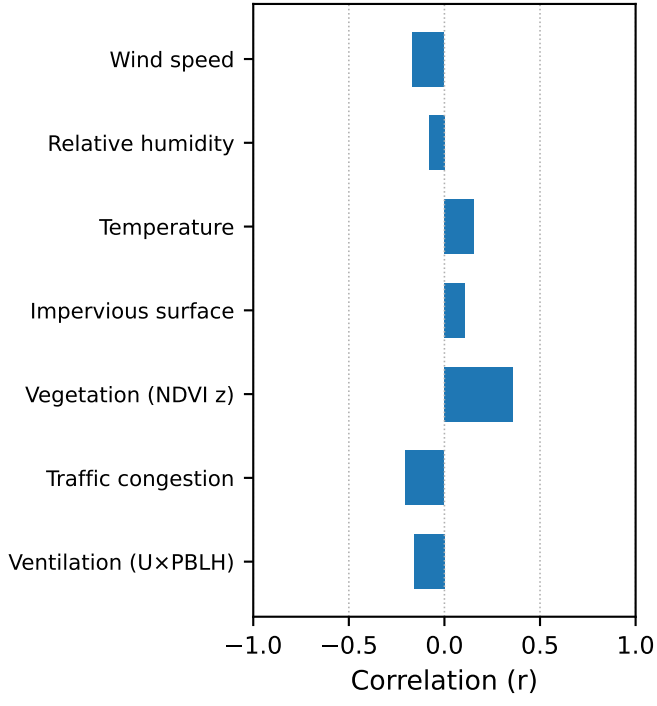
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W13 [2024-03-25 to 2024-03-31]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W13 (2024-03-25–2024-03-31): citywide weekly AQI median ≈ 33 (P10≈30, P90≈36).
Mean conditions: T̄≈5.9 °C, RH̄≈70%, Ū≈2.4 m/s.

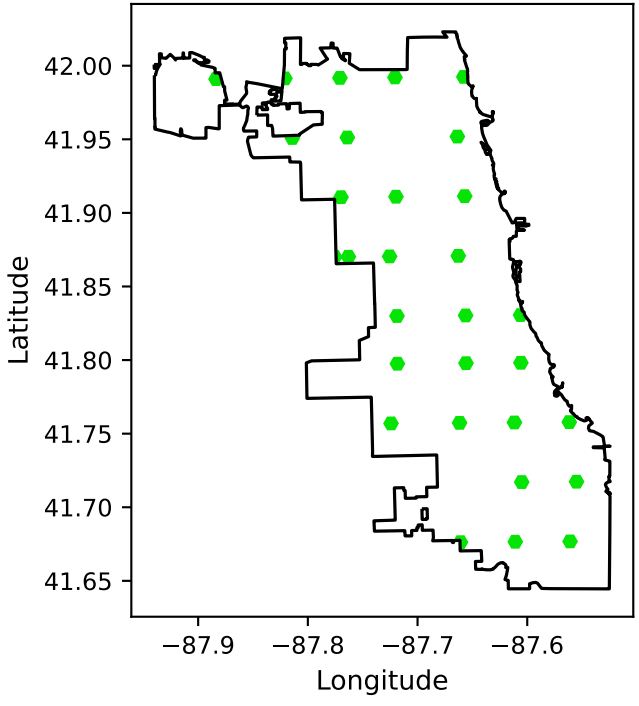
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.16). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.20). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.36). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: weak positive correlation (r≈0.11). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.16). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

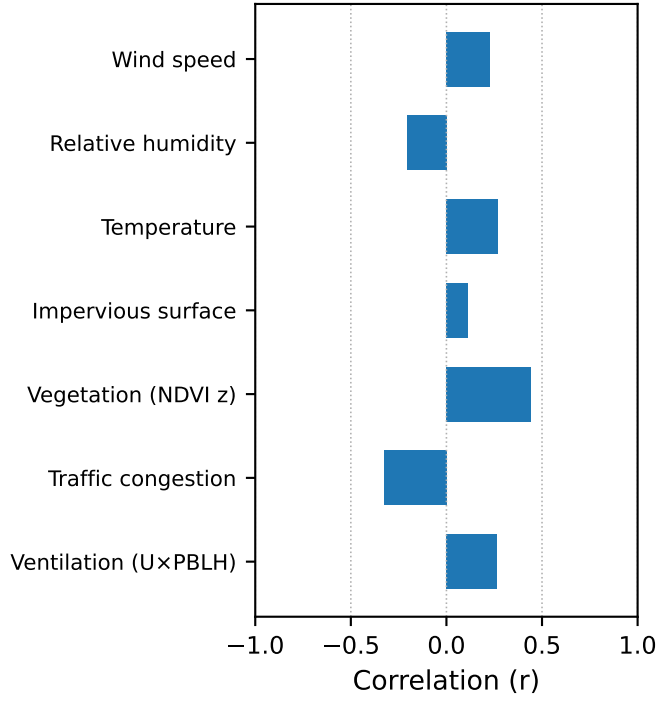
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W14 [2024-04-01 to 2024-04-07]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

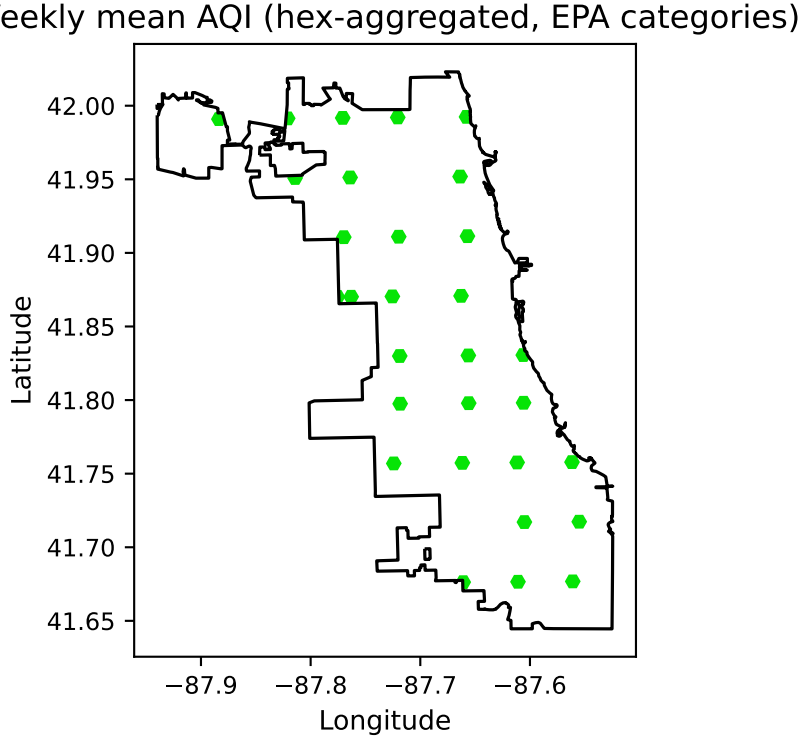
Week 2024-W14 (2024-04-01–2024-04-07): citywide weekly AQI median ≈ 32 (P10≈30, P90≈35).
Mean conditions: T̄≈4.6 °C, RH̄≈82%, Ū≈-0.7 m/s.

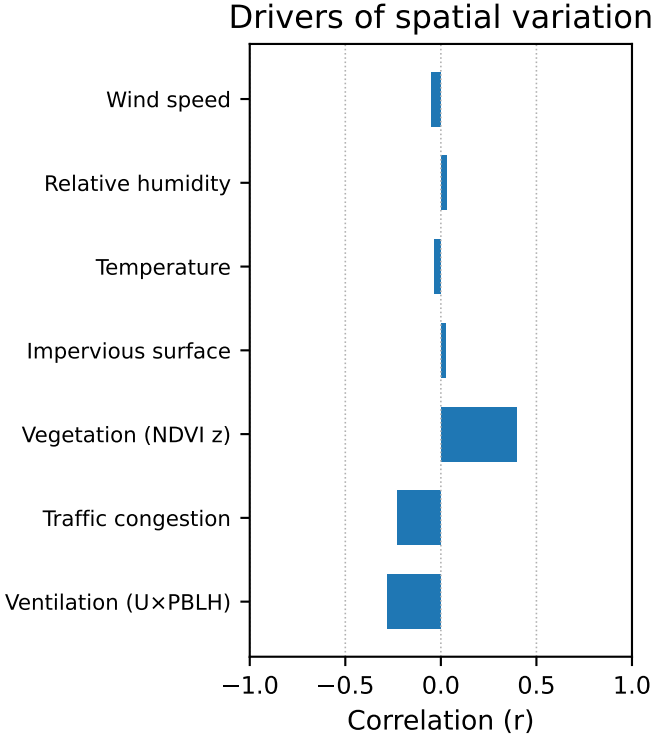
Driver-wise interpretation:

- Ventilation (U×PBLH): weak positive correlation (r≈0.27). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: moderate negative correlation (r≈-0.33). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.44). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: weak positive correlation (r≈0.11). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.27). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W15 [2024-04-08 to 2024-04-14]





Weekly inference:

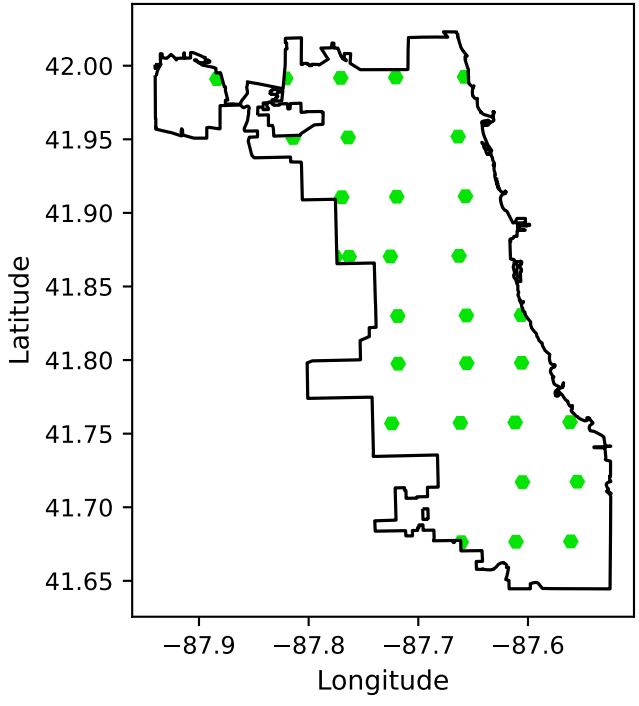
Week 2024-W15 (2024-04-08–2024-04-14): citywide weekly AQI median ≈ 35 (P10≈32, P90≈40).
Mean conditions: T̄≈12.2 °C, RH̄≈65%, Ū≈6.6 m/s.

Driver-wise interpretation:

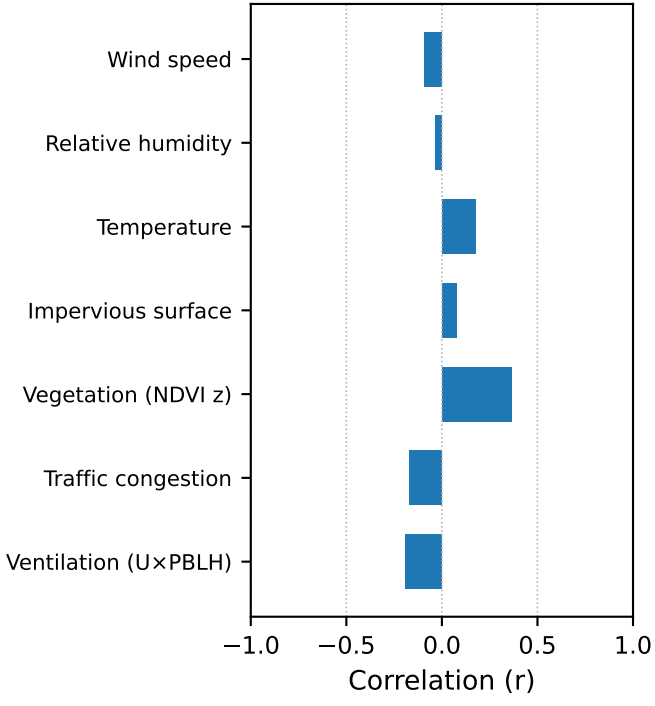
- Ventilation (U×PBLH): weak negative correlation (r≈-0.28). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.23). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.40). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.03). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible negative correlation (r≈-0.03). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W16 [2024-04-15 to 2024-04-21]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

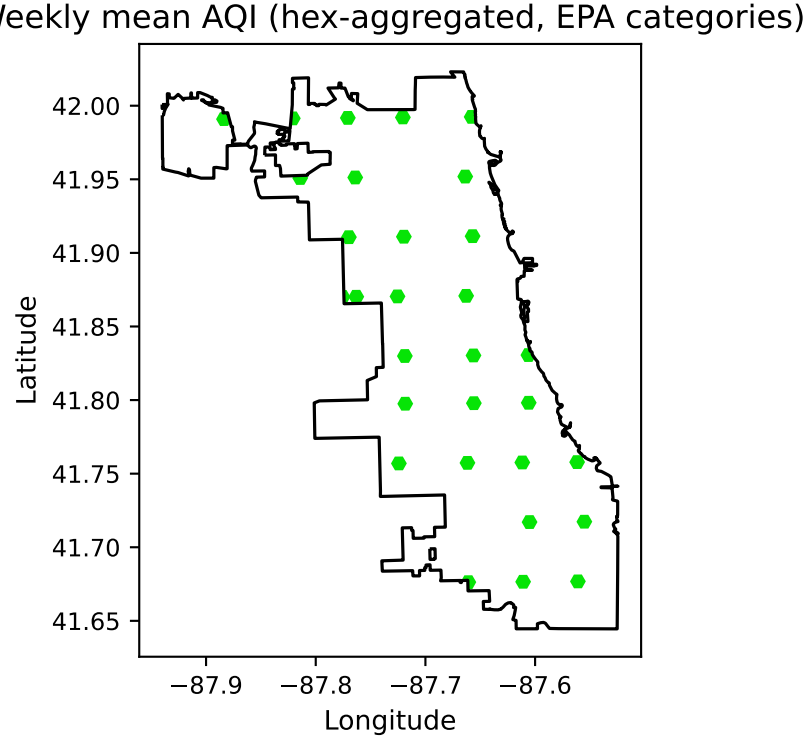
Week 2024-W16 (2024-04-15–2024-04-21): citywide weekly AQI median ≈ 32 (P10≈29, P90≈35).
Mean conditions: T̄≈10.5 °C, RH̄≈62%, Ū≈5.2 m/s.

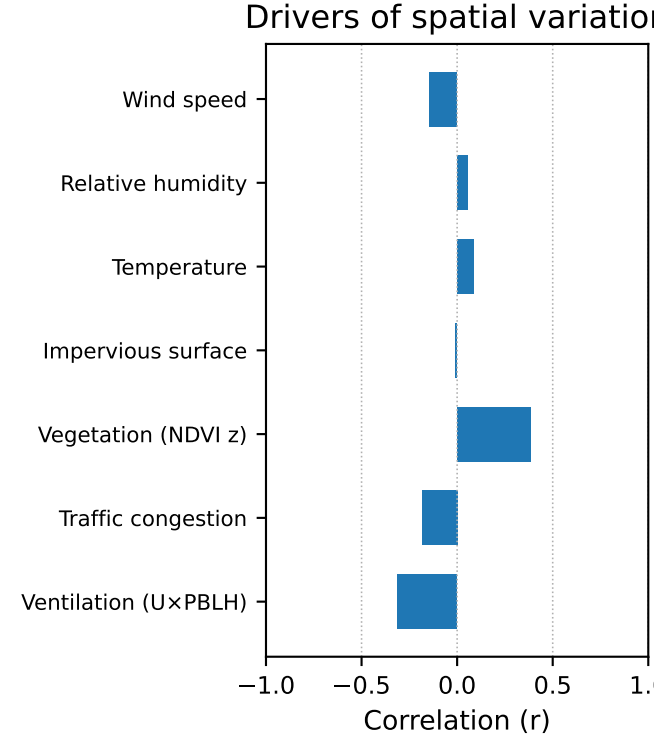
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.19). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.17). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.37). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.08). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.18). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W17 [2024-04-22 to 2024-04-28]





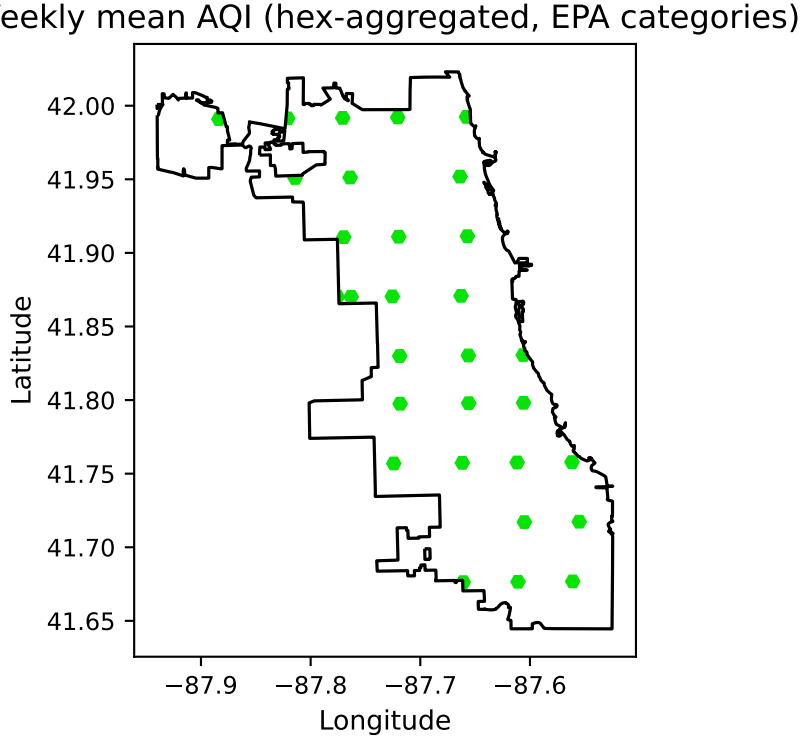
Weekly inference:

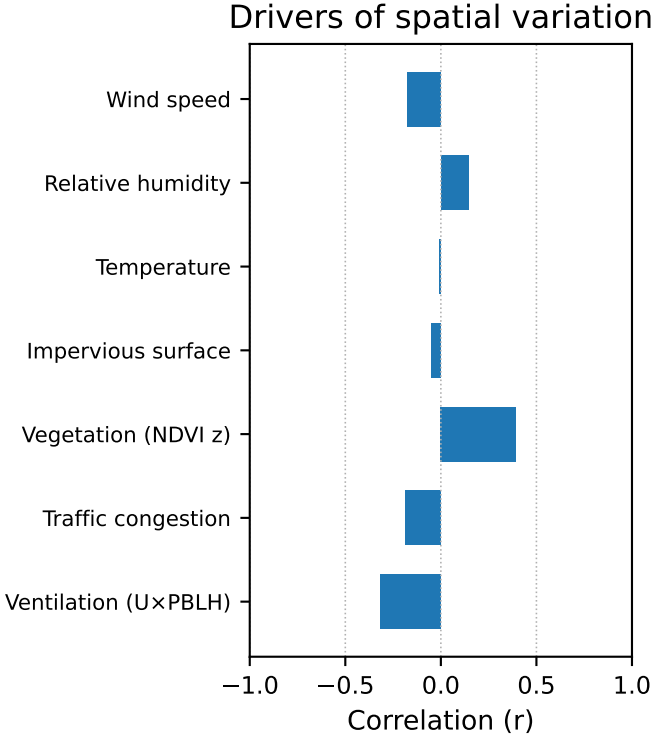
Week 2024-W17 (2024-04-22–2024-04-28): citywide weekly AQI median ≈ 38 (P10≈33, P90≈42).
Mean conditions: T̄≈11.8 °C, RH̄≈70%, Ū≈1.9 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): moderate negative correlation (r≈-0.31). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.18). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.38). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.01). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible positive correlation (r≈0.09). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W18 [2024-04-29 to 2024-05-05]





Weekly inference:

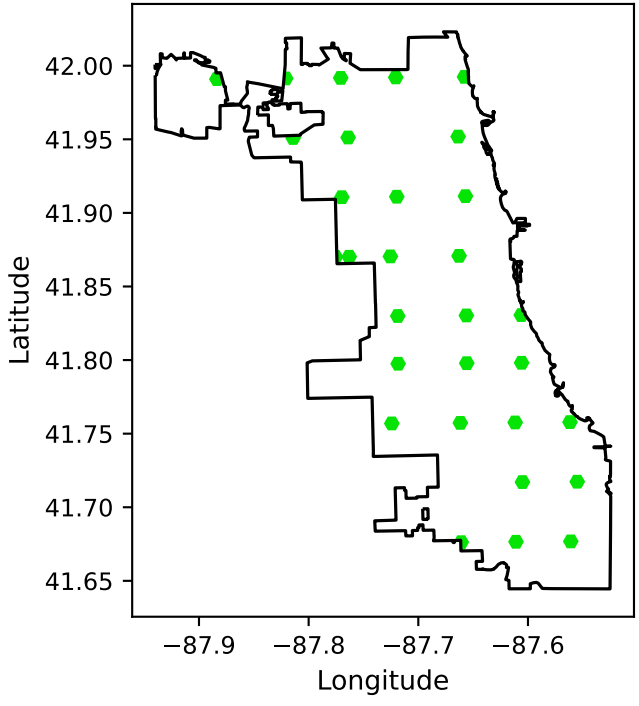
Week 2024-W18 (2024-04-29–2024-05-05): citywide weekly AQI median ≈ 39 (P10≈35, P90≈44).
Mean conditions: T≈15.7 °C, RH≈74%, U≈1.6 m/s.

Driver-wise interpretation:

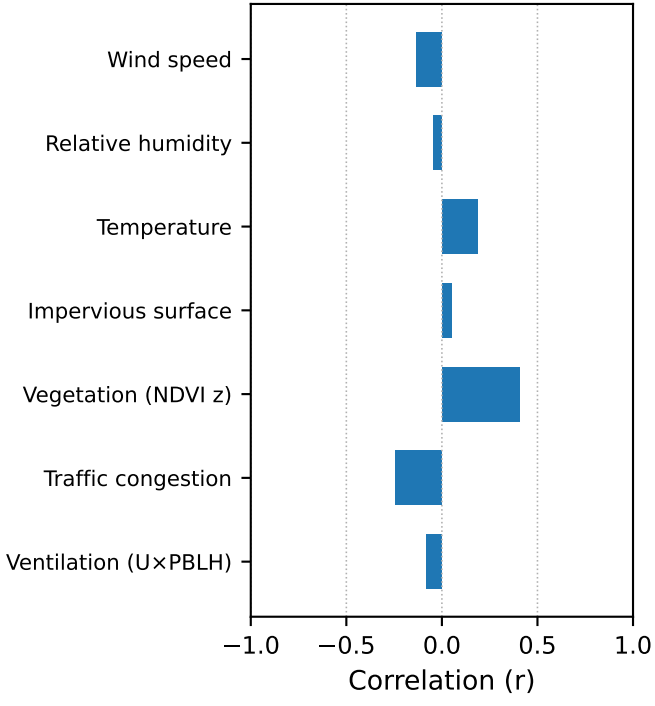
- Ventilation (U×PBLH): moderate negative correlation (r≈-0.32). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.19). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.39). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.05). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible negative correlation (r≈-0.01). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W19 [2024-05-06 to 2024-05-12]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W19 (2024-05-06–2024-05-12): citywide weekly AQI median ≈ 36 (P10≈33, P90≈41).
Mean conditions: T≈14.5 °C, RH≈74%, U≈-0.8 m/s.

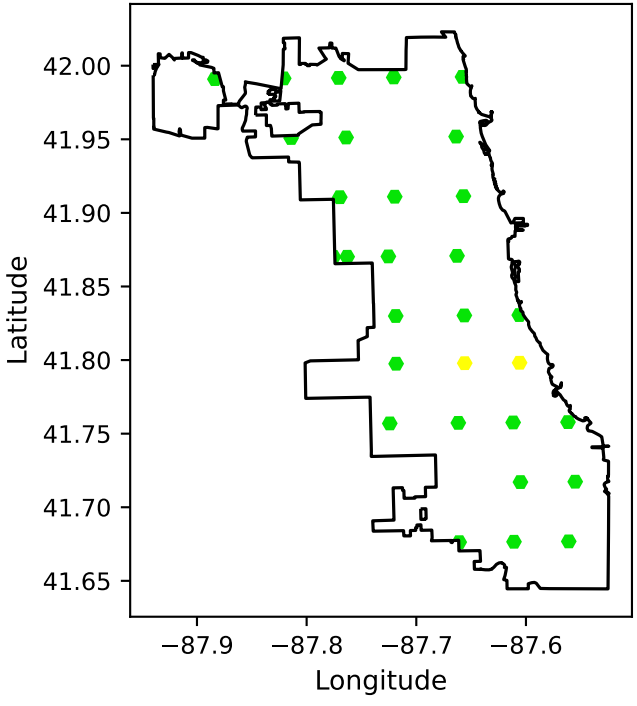
Driver-wise interpretation:

- Ventilation (U×PBLH): negligible negative correlation (r≈-0.08). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.24). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.41). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.05). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.19). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

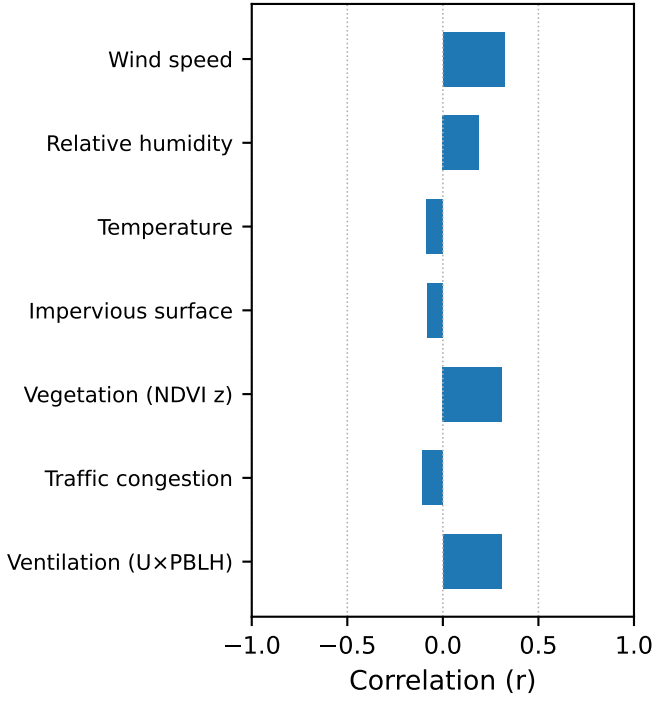
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W20 [2024-05-13 to 2024-05-19]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W20 (2024-05-13–2024-05-19): citywide weekly AQI median ≈ 44 (P10≈36, P90≈49).
Mean conditions: T≈16.4 °C, RH≈78%, U≈-0.2 m/s.

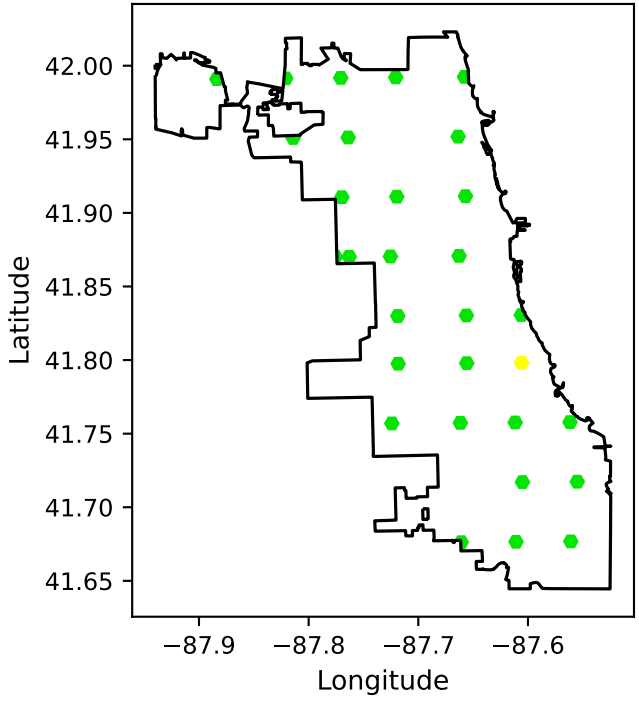
Driver-wise interpretation:

- Ventilation (U×PBLH): moderate positive correlation (r≈0.31). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.10). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.31). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.08). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible negative correlation (r≈-0.09). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

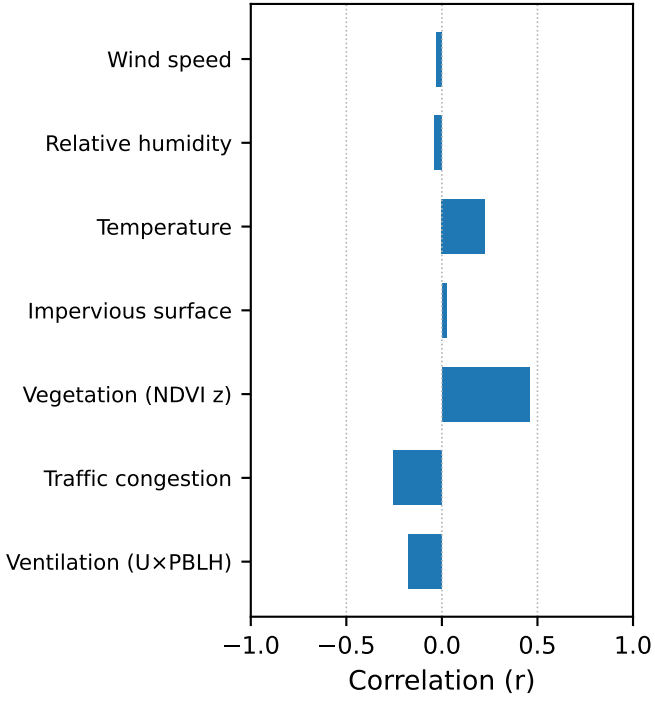
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W21 [2024-05-20 to 2024-05-26]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W21 (2024-05-20–2024-05-26): citywide weekly AQI median ≈ 43 (P10≈36, P90≈48).
Mean conditions: T̄≈19.5 °C, RH̄≈67%, Ū≈1.9 m/s.

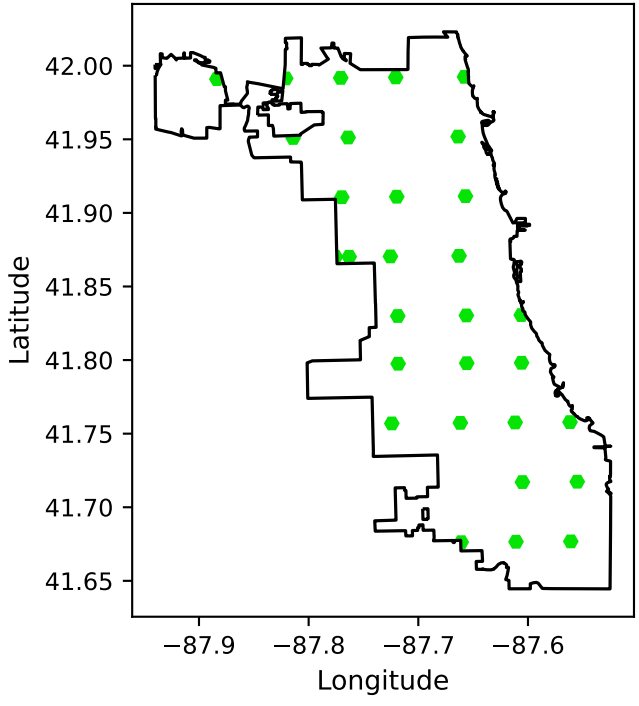
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.18). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.26). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.46). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.03). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.23). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

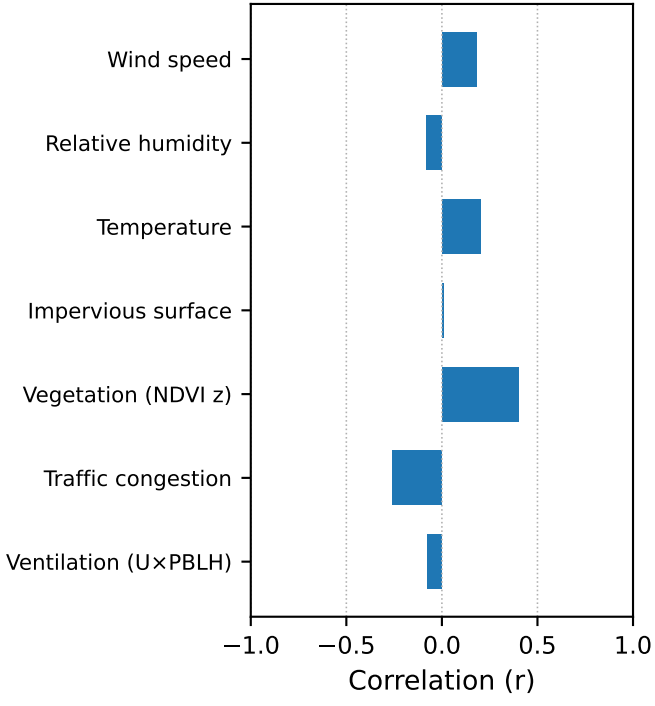
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W22 [2024-05-27 to 2024-06-02]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

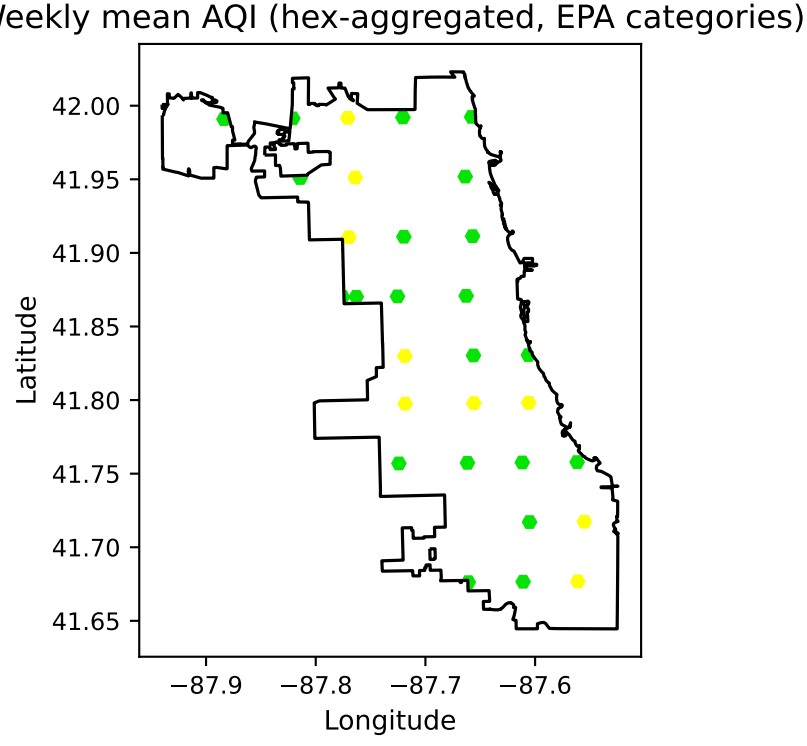
Week 2024-W22 (2024-05-27–2024-06-02): citywide weekly AQI median ≈ 38 (P10≈33, P90≈43).
Mean conditions: T̄≈15.7 °C, RH̄≈75%, Ū≈0.6 m/s.

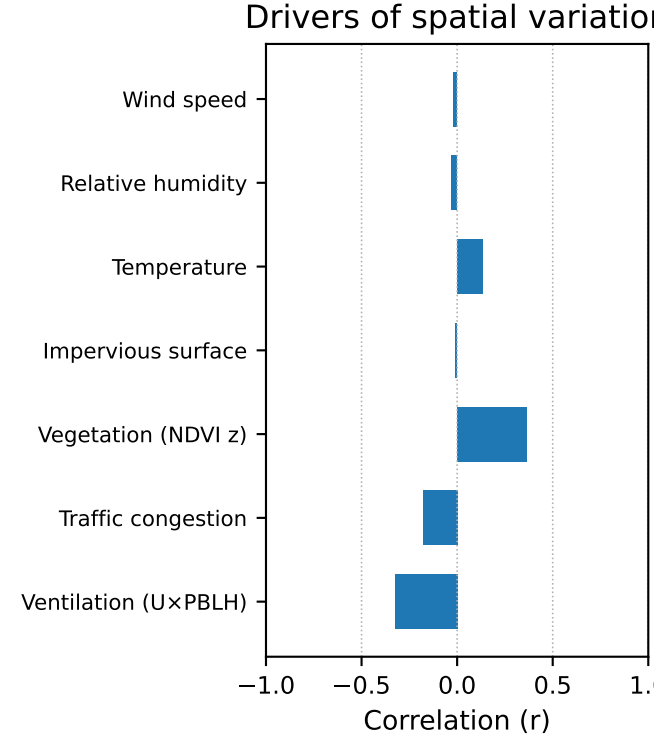
Driver-wise interpretation:

- Ventilation (U×PBLH): negligible negative correlation (r≈-0.07). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.26). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.40). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.01). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.20). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W23 [2024-06-03 to 2024-06-09]





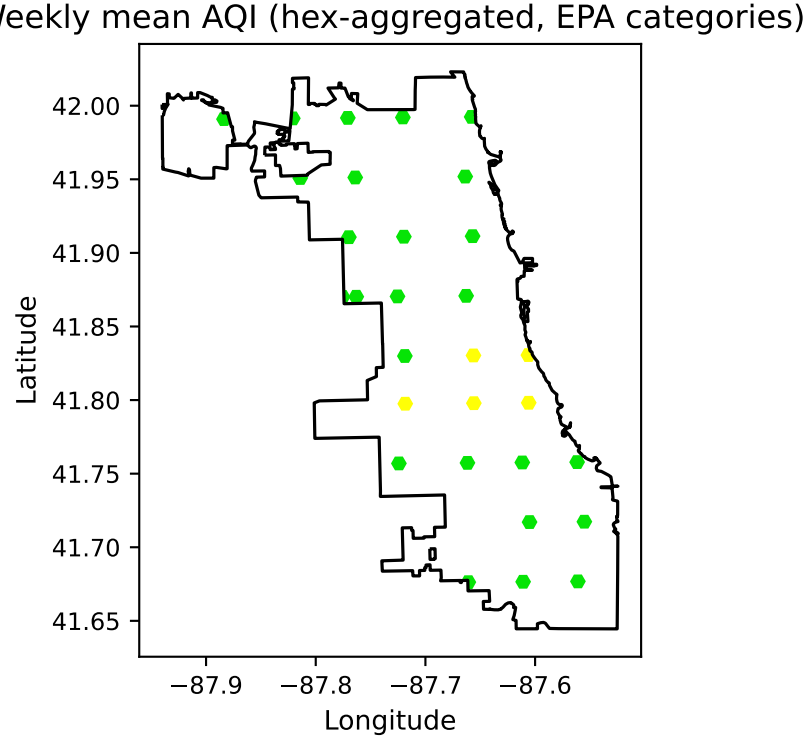
Weekly inference:

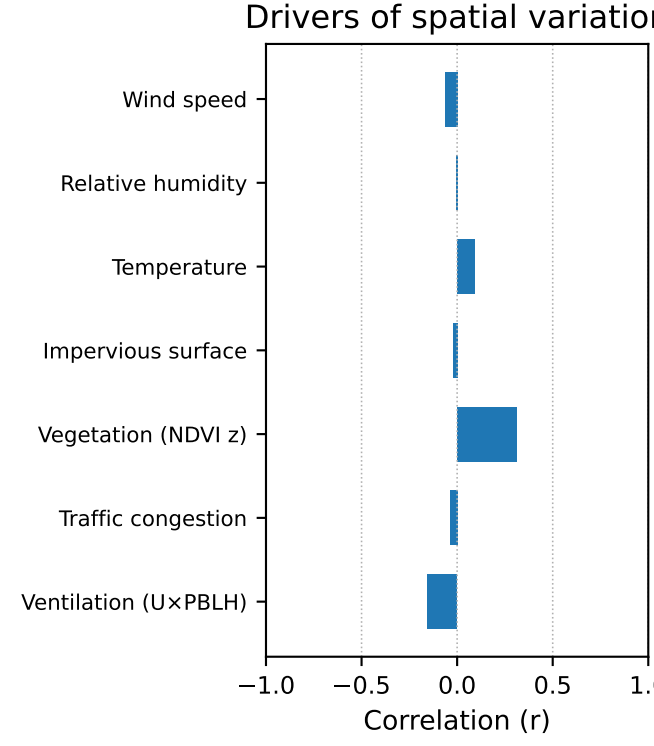
Week 2024-W23 (2024-06-03–2024-06-09): citywide weekly AQI median ≈ 46 (P10≈41, P90≈52).
Mean conditions: T̄≈20.2 °C, RH̄≈68%, Ū≈7.7 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): moderate negative correlation (r≈-0.33). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.18). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.36). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.01). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: weak positive correlation (r≈0.13). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W24 [2024-06-10 to 2024-06-16]





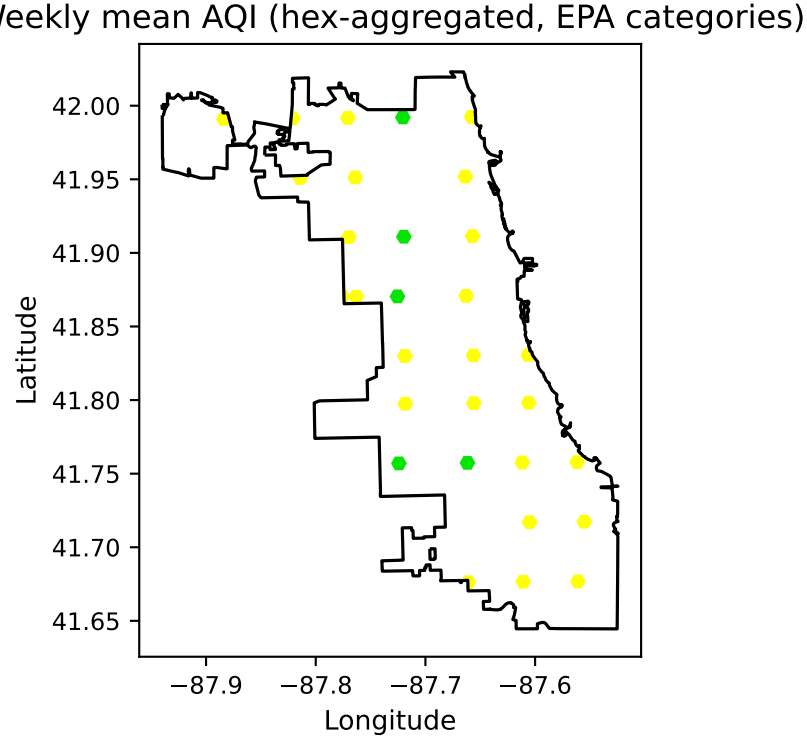
Weekly inference:

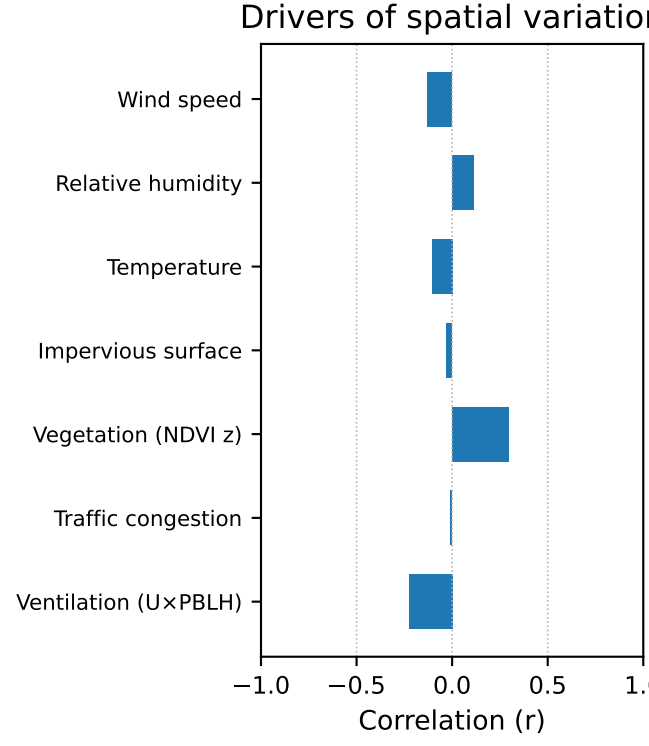
Week 2024-W24 (2024-06-10–2024-06-16): citywide weekly AQI median ≈ 45 (P10≈39, P90≈51).
Mean conditions: T̄≈21.1 °C, RH̄≈61%, Ū≈0.9 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.15). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: negligible negative correlation (r≈-0.04). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.31). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.02). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible positive correlation (r≈0.09). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W25 [2024-06-17 to 2024-06-23]





Weekly inference:

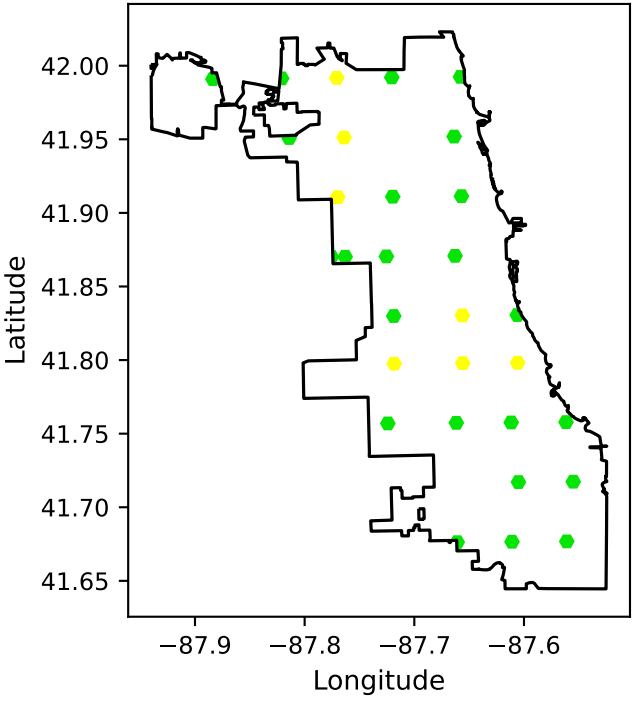
Week 2024-W25 (2024-06-17–2024-06-23): citywide weekly AQI median ≈ 58 (P10≈46, P90≈65).
Mean conditions: T̄≈26.2 °C, RH̄≈66%, Ū≈5.9 m/s.

Driver-wise interpretation:

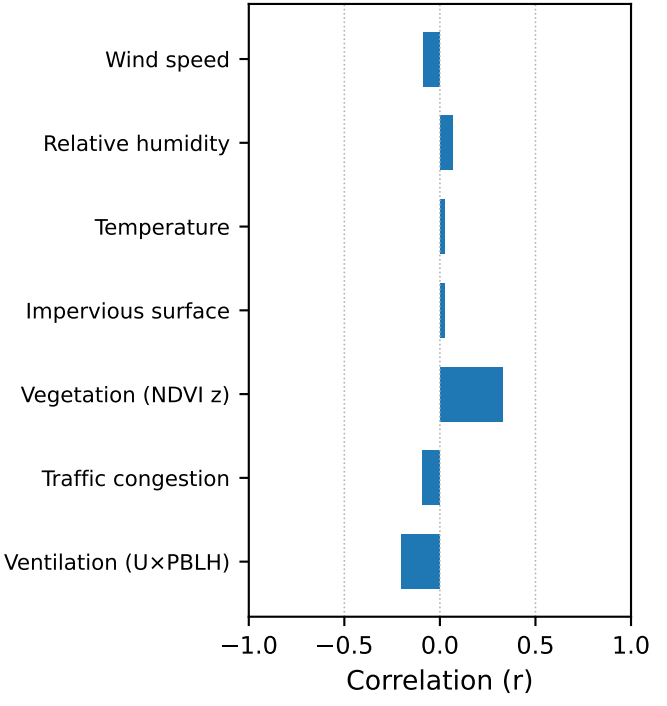
- Ventilation (U×PBLH): weak negative correlation (r≈-0.23). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: negligible negative correlation (r≈-0.01). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): weak positive correlation (r≈0.30). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.03). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: weak negative correlation (r≈-0.11). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W26 [2024-06-24 to 2024-06-30]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

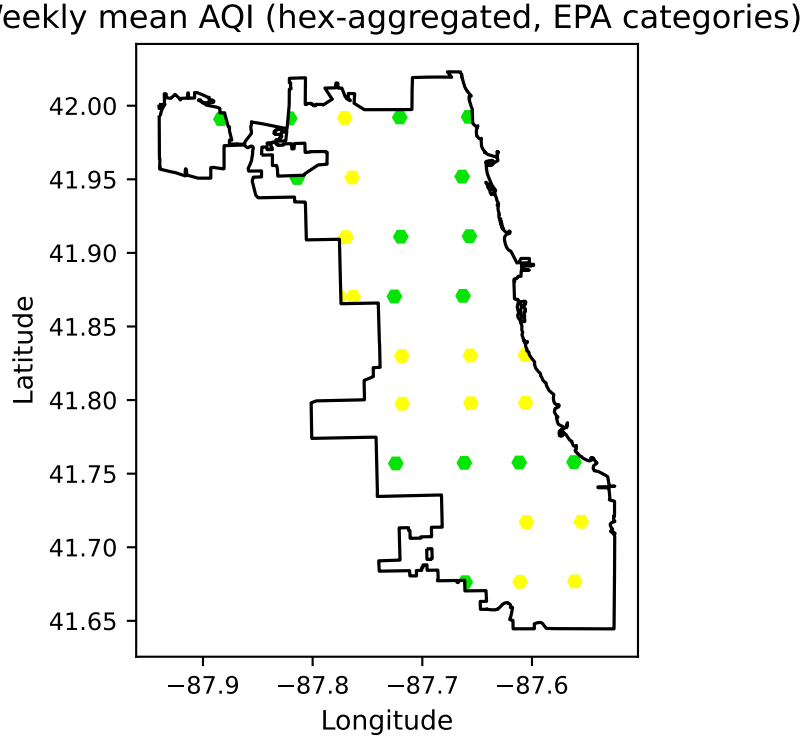
Week 2024-W26 (2024-06-24–2024-06-30): citywide weekly AQI median ≈ 46 (P10≈41, P90≈51).
Mean conditions: T≈22.3 °C, RH≈70%, U≈1.6 m/s.

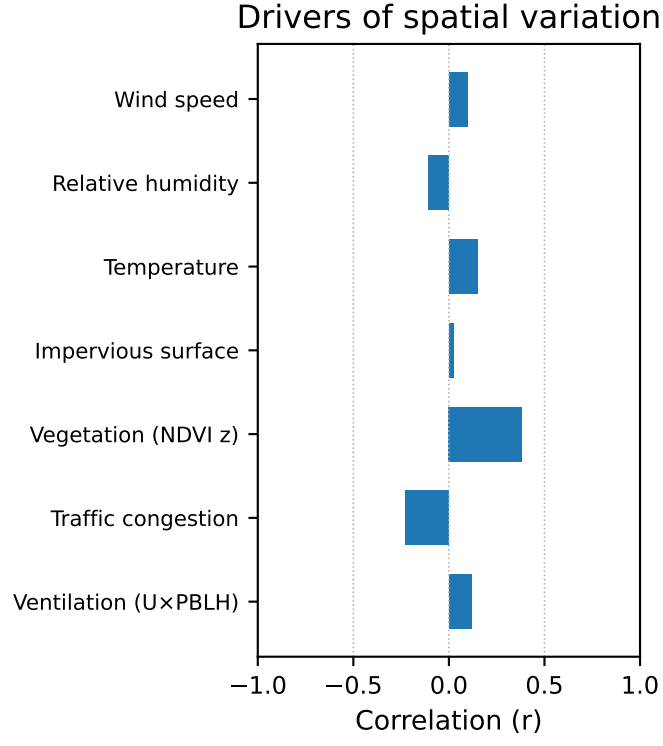
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.20). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: negligible negative correlation (r≈-0.09). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.33). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas; reduced local dilution.
- Impervious surface: negligible positive correlation (r≈0.02). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and
- Temperature: negligible positive correlation (r≈0.02). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W27 [2024-07-01 to 2024-07-07]





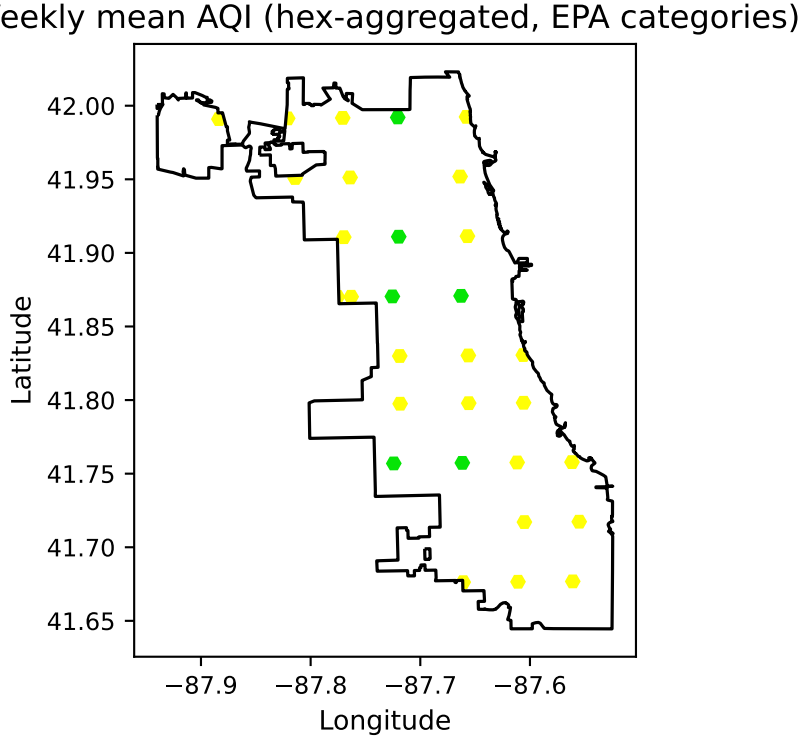
Weekly inference:

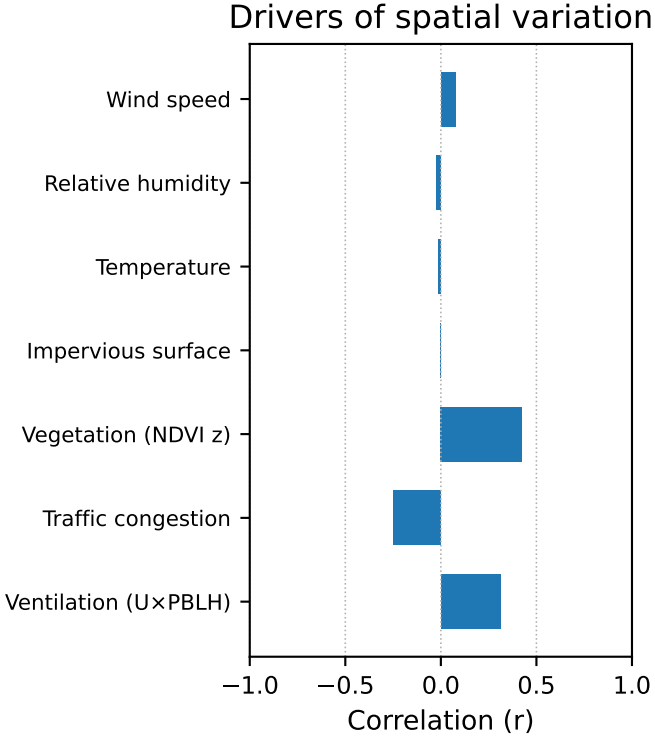
Week 2024-W27 (2024-07-01–2024-07-07): citywide weekly AQI median ≈ 49 (P10≈42, P90≈56).
Mean conditions: T≈22.1 °C, RH≈70%, U≈1.3 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): weak positive correlation (r≈0.12). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.23). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.38). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.02). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.15). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W28 [2024-07-08 to 2024-07-14]





Weekly inference:

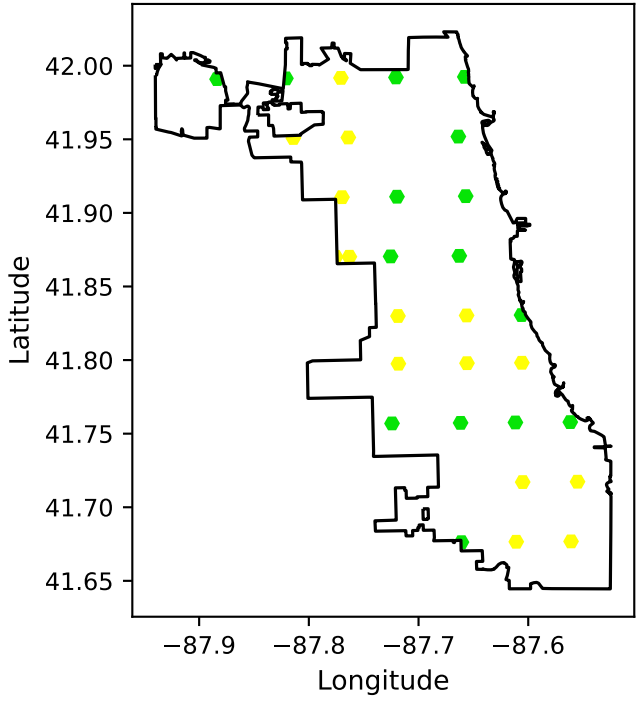
Week 2024-W28 (2024-07-08–2024-07-14): citywide weekly AQI median ≈ 58 (P10≈46, P90≈66).
Mean conditions: T≈22.8 °C, RH≈82%, U≈0.9 m/s.

Driver-wise interpretation:

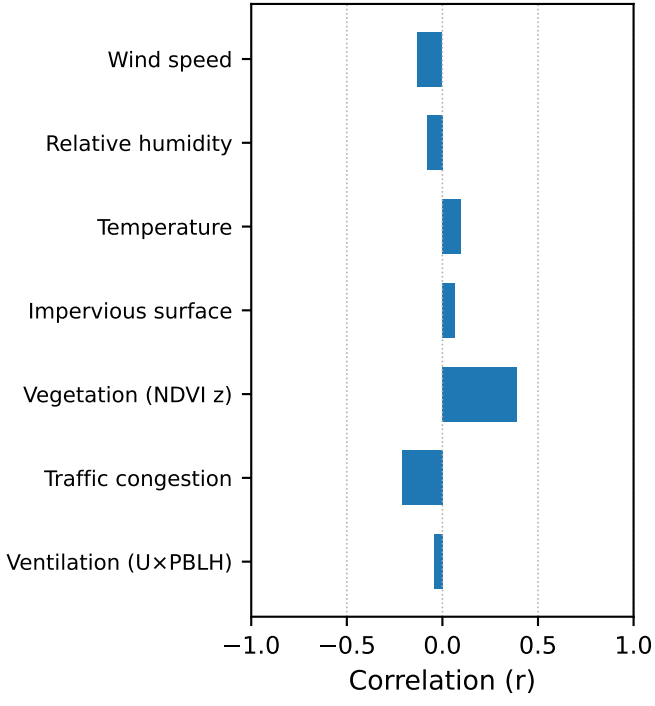
- Ventilation (U×PBLH): moderate positive correlation (r≈0.31). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.25). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.42). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.00). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible negative correlation (r≈-0.02). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W29 [2024-07-15 to 2024-07-21]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W29 (2024-07-15–2024-07-21): citywide weekly AQI median ≈ 50 (P10≈44, P90≈58).
Mean conditions: T≈21.9 °C, RH≈73%, U≈1.1 m/s.

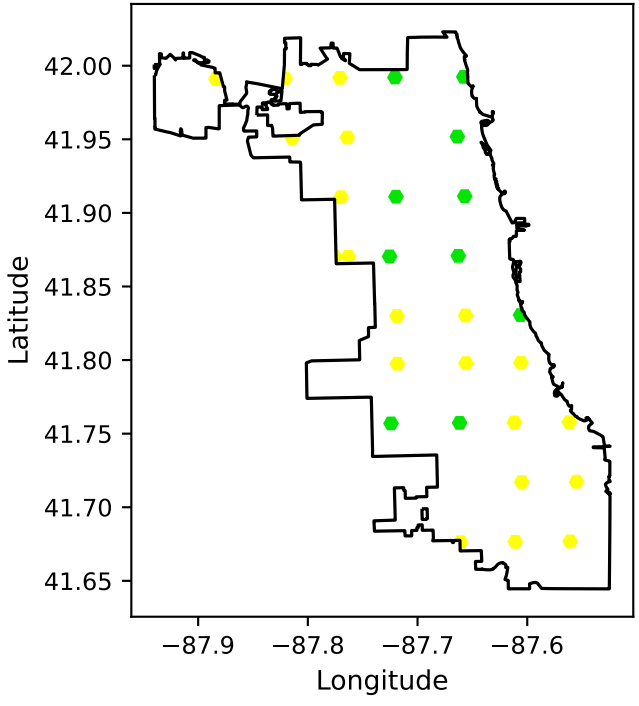
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Driver-wise interpretation:

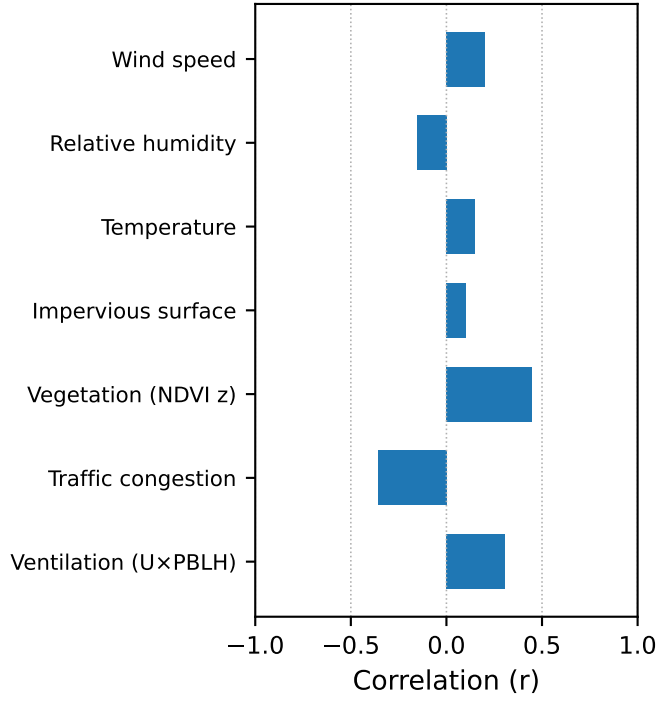
- Ventilation (U×PBLH): negligible negative correlation (r≈-0.05). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.21). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.39). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.07). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible positive correlation (r≈0.10). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W30 [2024-07-22 to 2024-07-28]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W30 (2024-07-22–2024-07-28): citywide weekly AQI median ≈ 53 (P10≈45, P90≈61).
Mean conditions: T≈21.7 °C, RH≈77%, U≈-3.3 m/s.

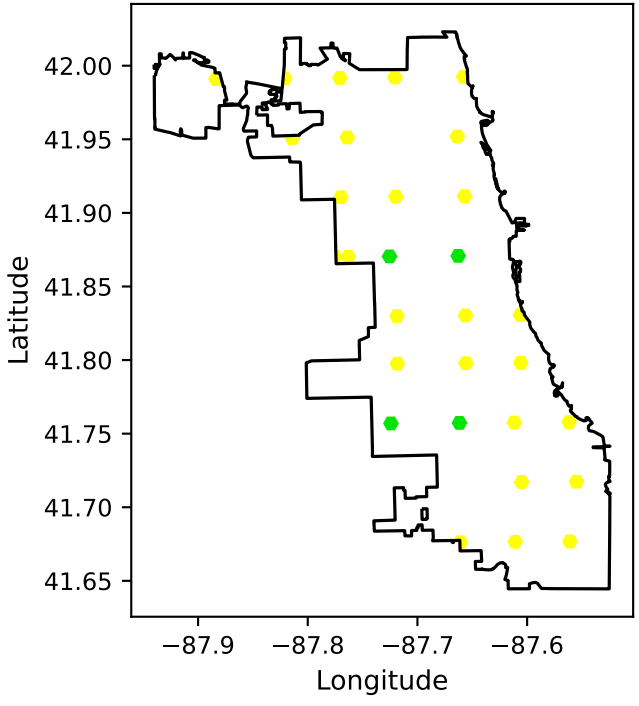
Driver-wise interpretation:

- Ventilation (U×PBLH): moderate positive correlation (r≈0.31). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: moderate negative correlation (r≈-0.36). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.45). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: weak positive correlation (r≈0.10). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.15). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

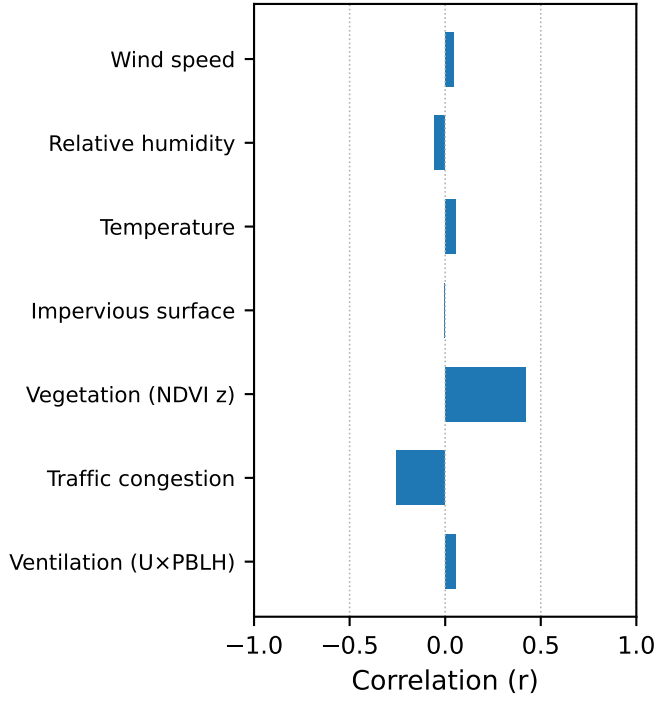
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W31 [2024-07-29 to 2024-08-04]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

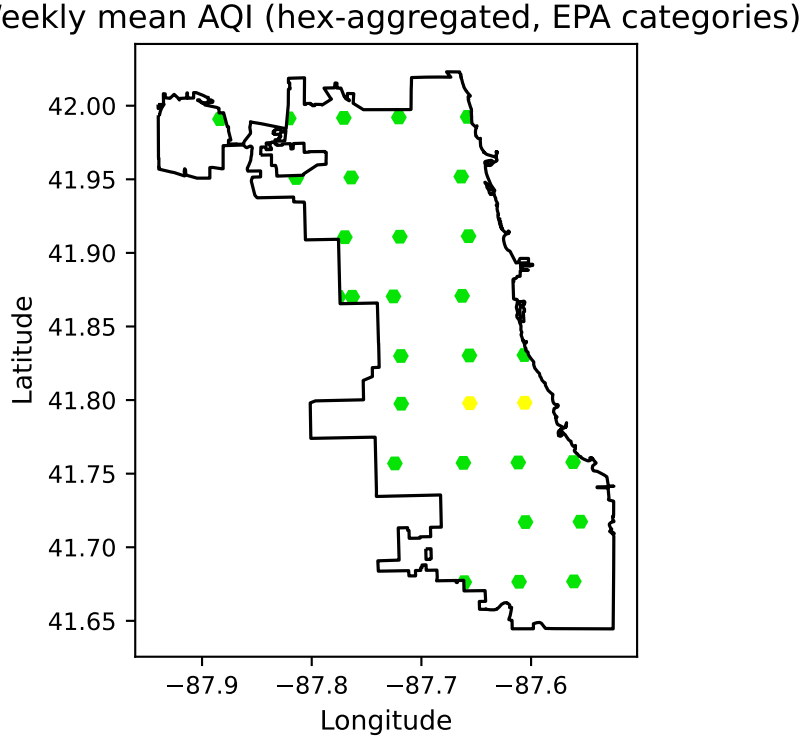
Week 2024-W31 (2024-07-29–2024-08-04): citywide weekly AQI median ≈ 61 (P10≈48, P90≈70).
Mean conditions: T≈24.7 °C, RH≈79%, U≈2.9 m/s.

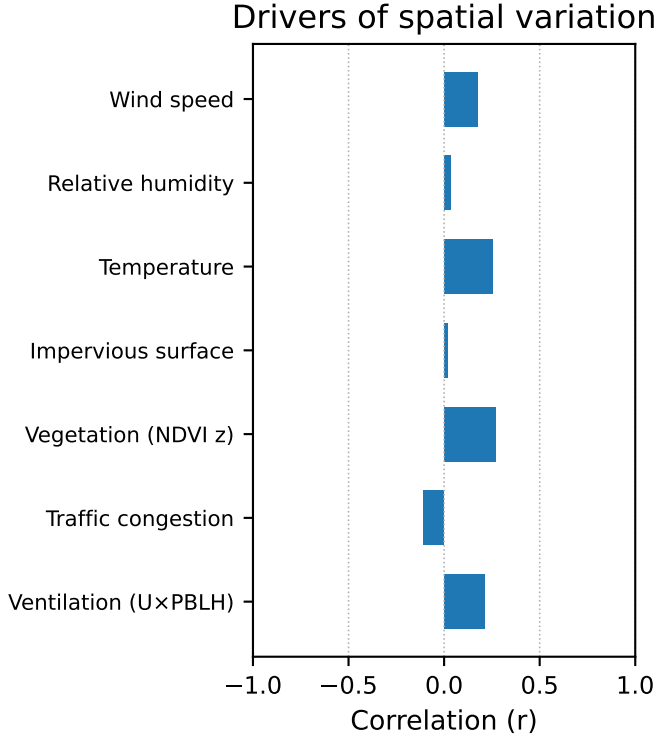
Driver-wise interpretation:

- Ventilation (U×PBLH): negligible positive correlation (r≈0.06). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.26). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.42). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.00). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible positive correlation (r≈0.05). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W32 [2024-08-05 to 2024-08-11]





Weekly inference:

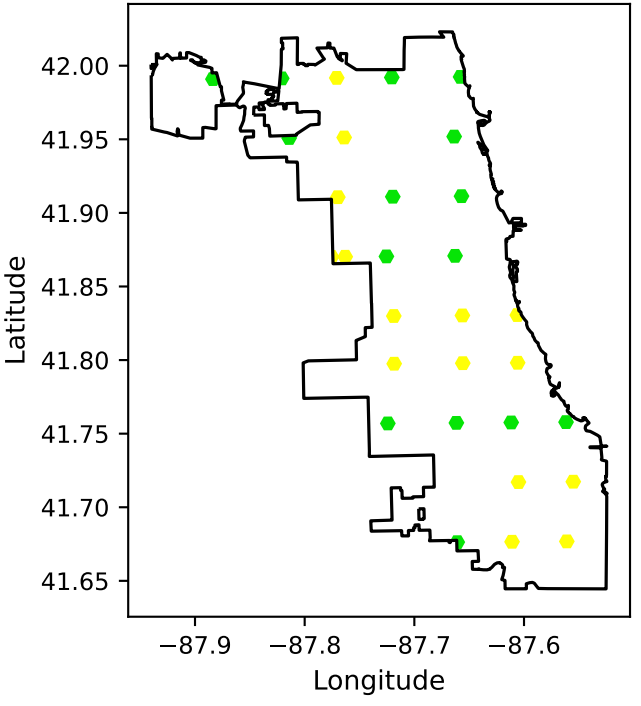
Week 2024-W32 (2024-08-05–2024-08-11): citywide weekly AQI median ≈ 44 (P10≈38, P90≈48).
Mean conditions: T̄≈21.2 °C, RH̄≈68%, Ū≈4.5 m/s.

Driver-wise interpretation:

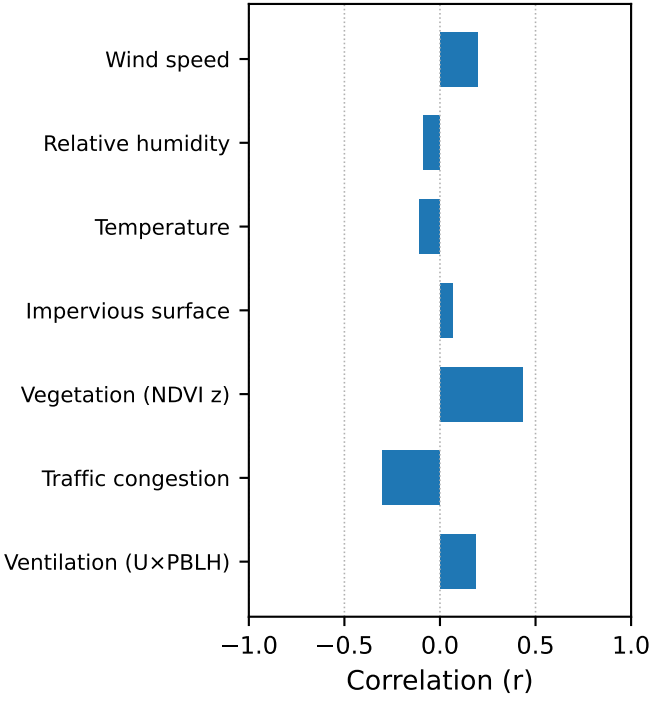
- Ventilation (U×PBLH): weak positive correlation (r≈0.21). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.11). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): weak positive correlation (r≈0.27). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.02). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.25). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W33 [2024-08-12 to 2024-08-18]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W33 (2024-08-12–2024-08-18): citywide weekly AQI median ≈ 51 (P10≈43, P90≈58).
Mean conditions: T≈21.9 °C, RH≈75%, U≈1.2 m/s.

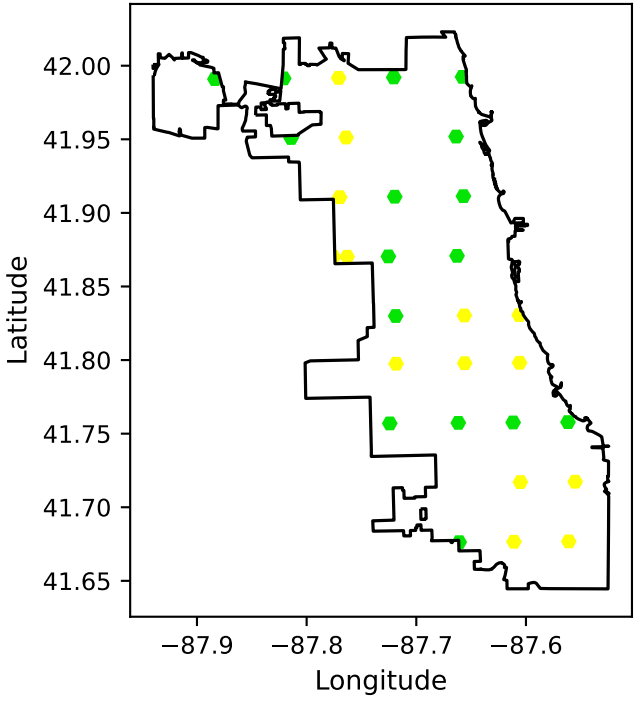
Driver-wise interpretation:

- Ventilation (U×PBLH): weak positive correlation (r≈0.18). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: moderate negative correlation (r≈-0.30). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.43). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.06). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak negative correlation (r≈-0.11). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

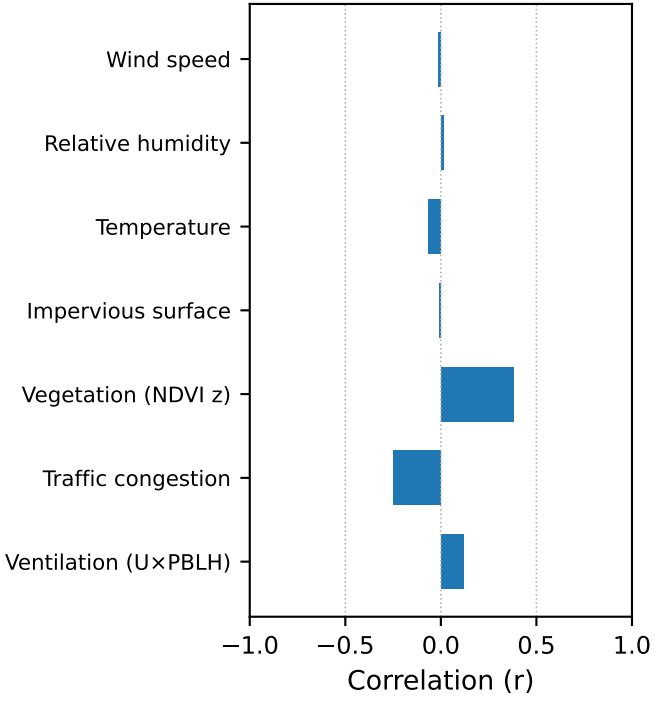
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W34 [2024-08-19 to 2024-08-25]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

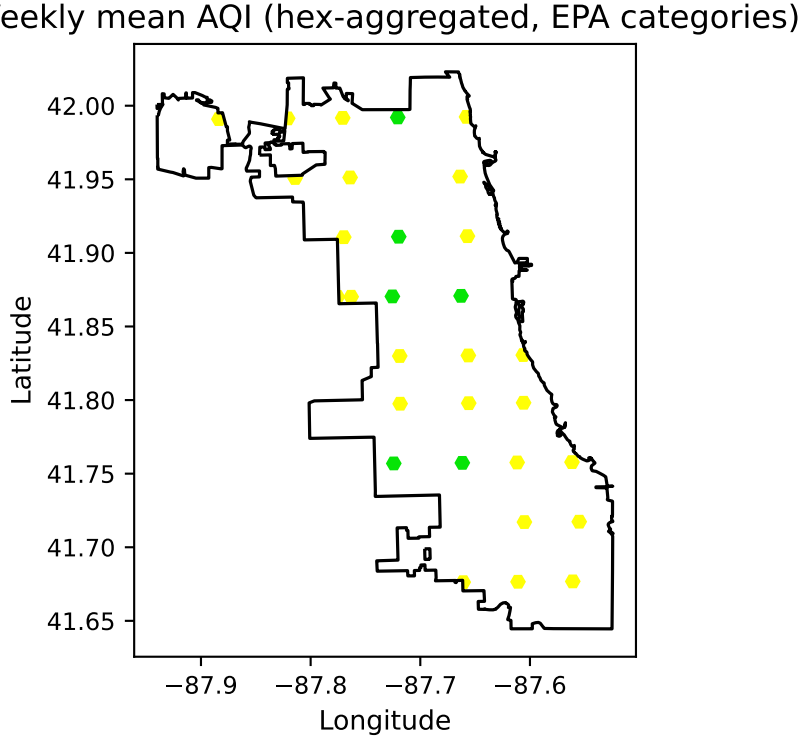
Week 2024-W34 (2024-08-19–2024-08-25): citywide weekly AQI median ≈ 50 (P10≈41, P90≈55).
Mean conditions: T≈20.5 °C, RH≈68%, U≈-1.6 m/s.

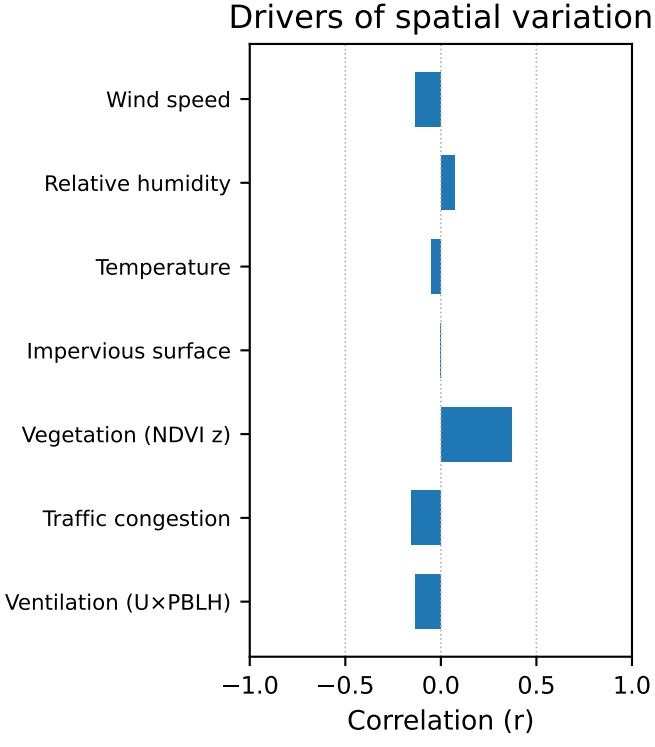
Driver-wise interpretation:

- Ventilation (U×PBLH): weak positive correlation (r≈0.12). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.25). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.38). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.01). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible negative correlation (r≈-0.07). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W35 [2024-08-26 to 2024-09-01]





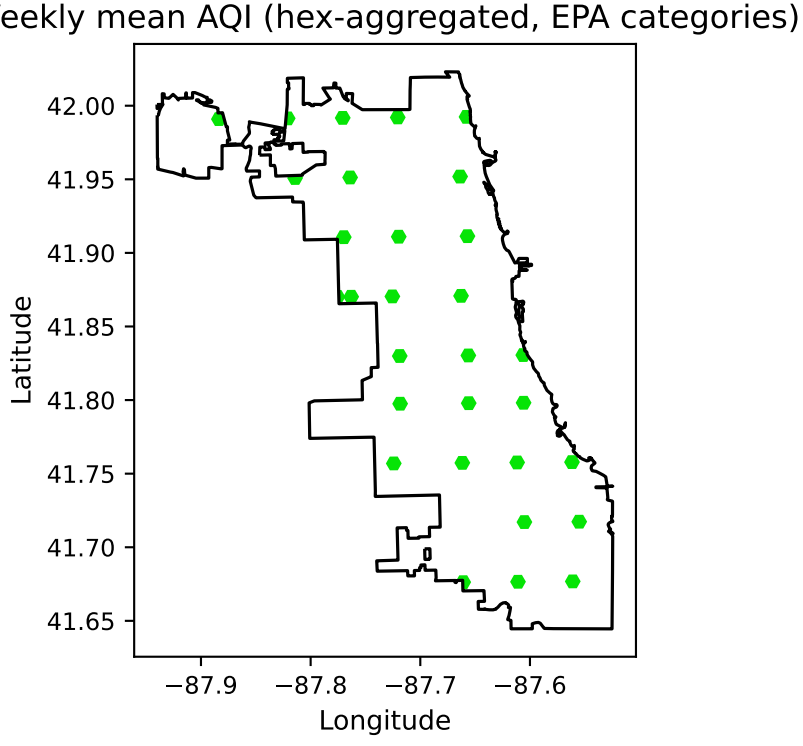
Weekly inference:

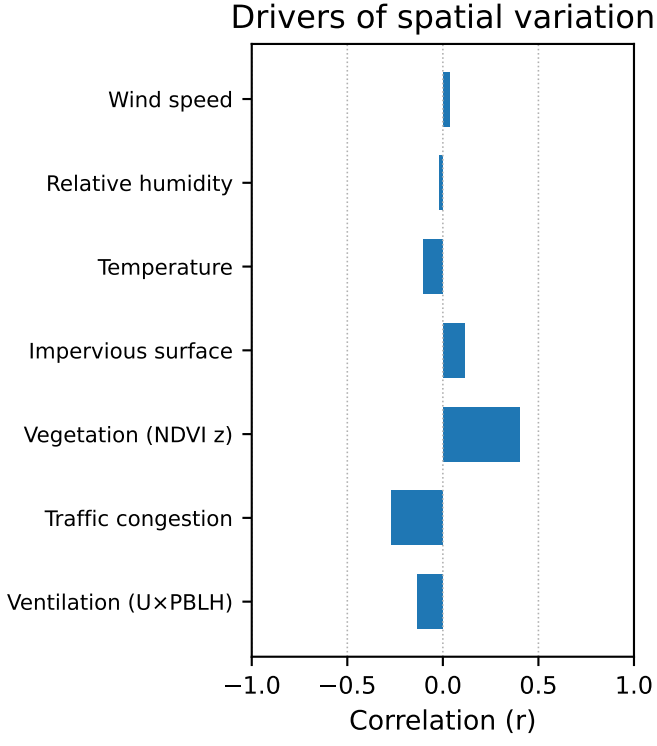
Week 2024-W35 (2024-08-26–2024-09-01): citywide weekly AQI median ≈ 58 (P10≈48, P90≈65).
Mean conditions: T≈24.9 °C, RH≈70%, U≈1.9 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.14). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.15). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.37). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.00). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible negative correlation (r≈-0.05). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W36 [2024-09-02 to 2024-09-08]





Weekly inference:

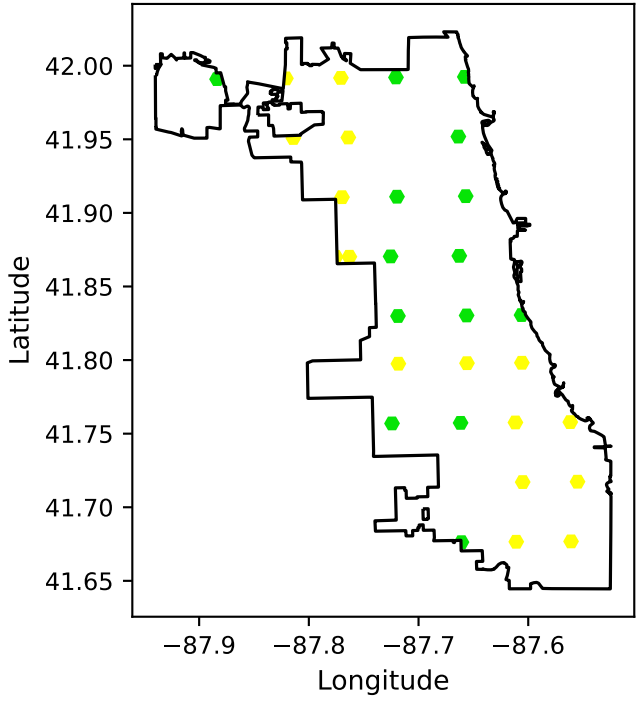
Week 2024-W36 (2024-09-02–2024-09-08): citywide weekly AQI median ≈ 40 (P10≈35, P90≈45).
Mean conditions: T̄≈18.1 °C, RH̄≈65%, Ū≈-0.1 m/s.

Driver-wise interpretation:

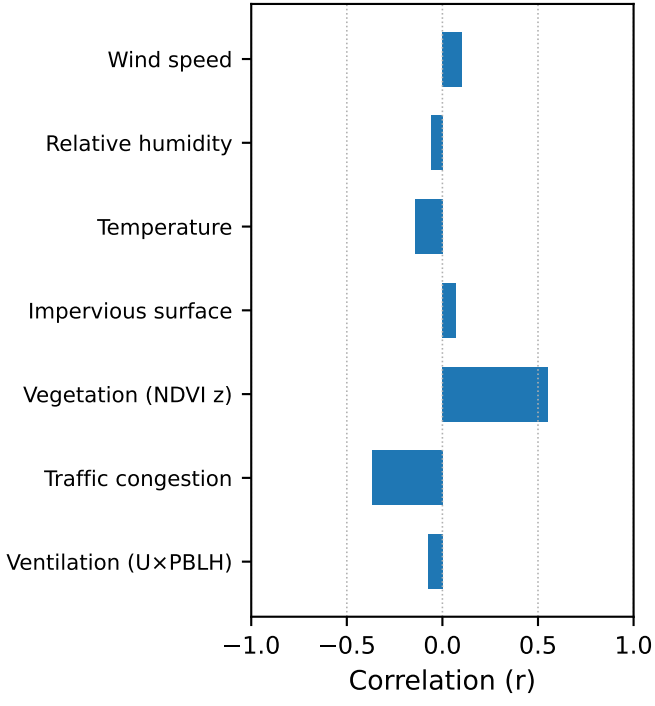
- Ventilation (U×PBLH): weak negative correlation (r≈-0.13). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.27). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.40). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: weak positive correlation (r≈0.11). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible negative correlation (r≈-0.10). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W37 [2024-09-09 to 2024-09-15]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W37 (2024-09-09–2024-09-15): citywide weekly AQI median ≈ 51 (P10≈43, P90≈61).
Mean conditions: T≈22.0 °C, RH≈60%, U≈-3.6 m/s.

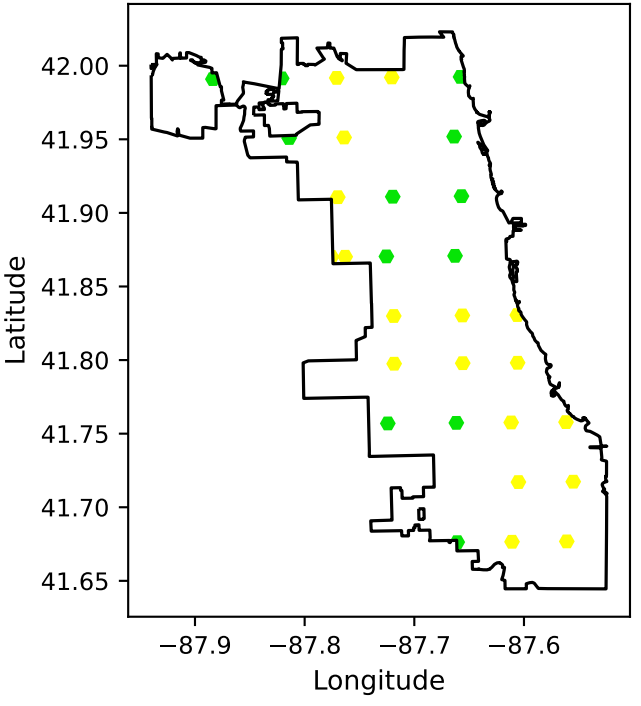
Driver-wise interpretation:

- Ventilation (U×PBLH): negligible negative correlation (r≈-0.08). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: moderate negative correlation (r≈-0.37). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.55). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.07). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak negative correlation (r≈-0.15). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

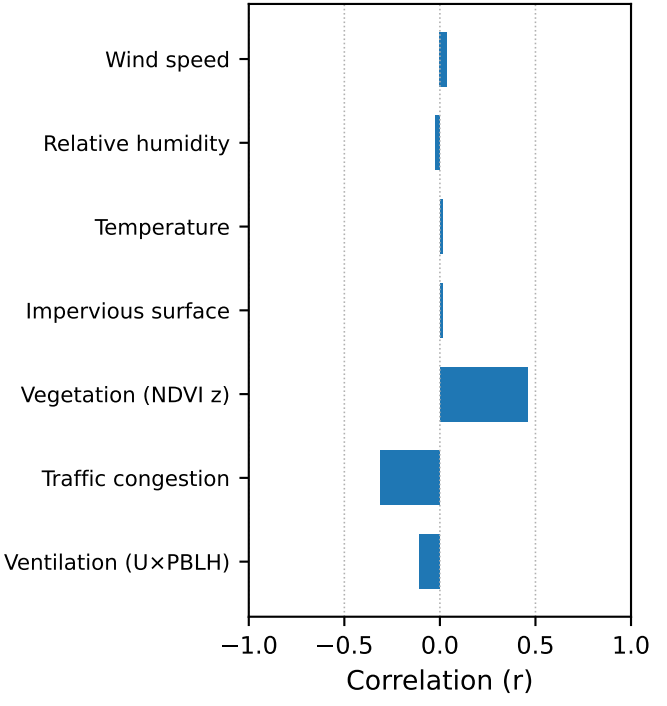
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W38 [2024-09-16 to 2024-09-22]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

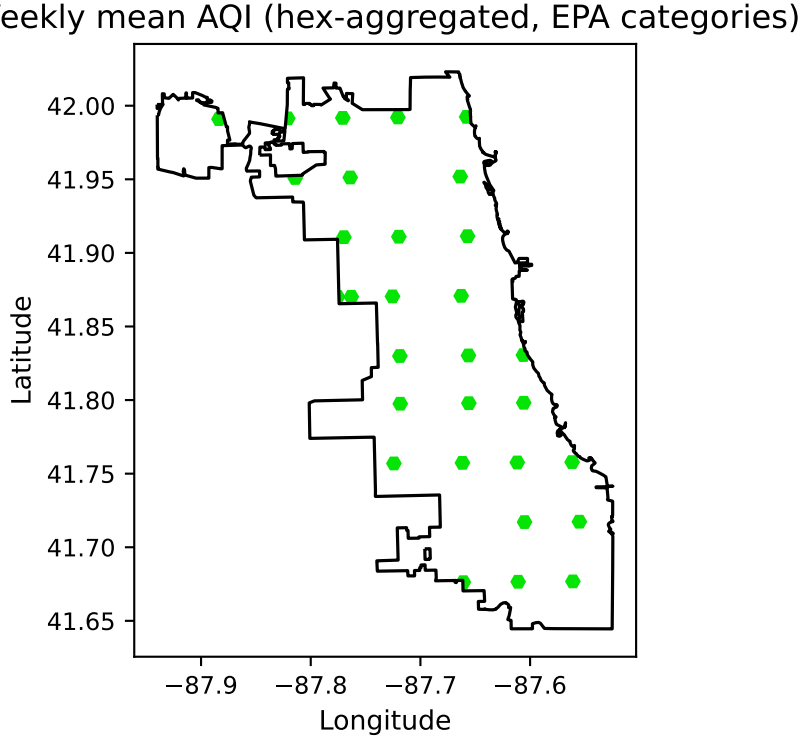
Week 2024-W38 (2024-09-16–2024-09-22): citywide weekly AQI median ≈ 54 (P10≈43, P90≈60).
Mean conditions: T≈22.5 °C, RH≈64%, U≈-2.3 m/s.

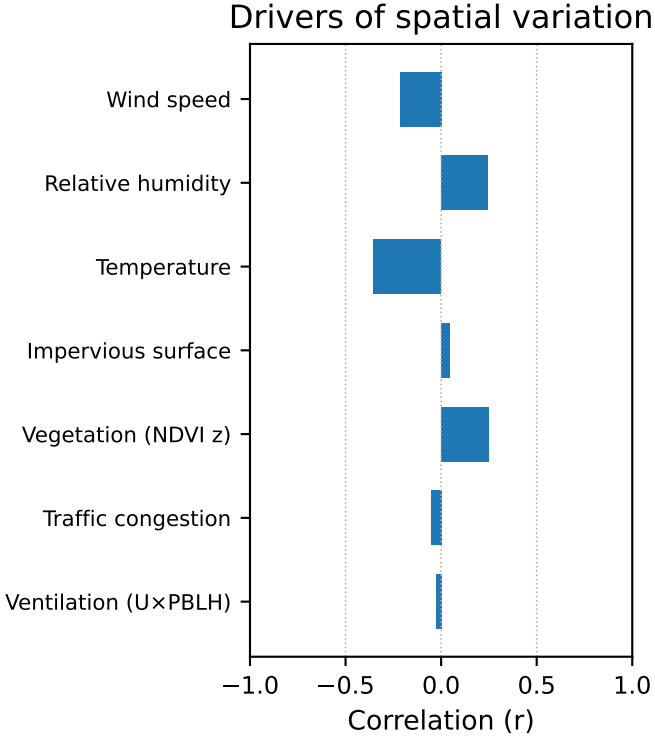
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.11). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: moderate negative correlation (r≈-0.31). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.46). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas; reduced local dilution.
- Impervious surface: negligible positive correlation (r≈0.01). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and
- Temperature: negligible positive correlation (r≈0.01). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W39 [2024-09-23 to 2024-09-29]





Weekly inference:

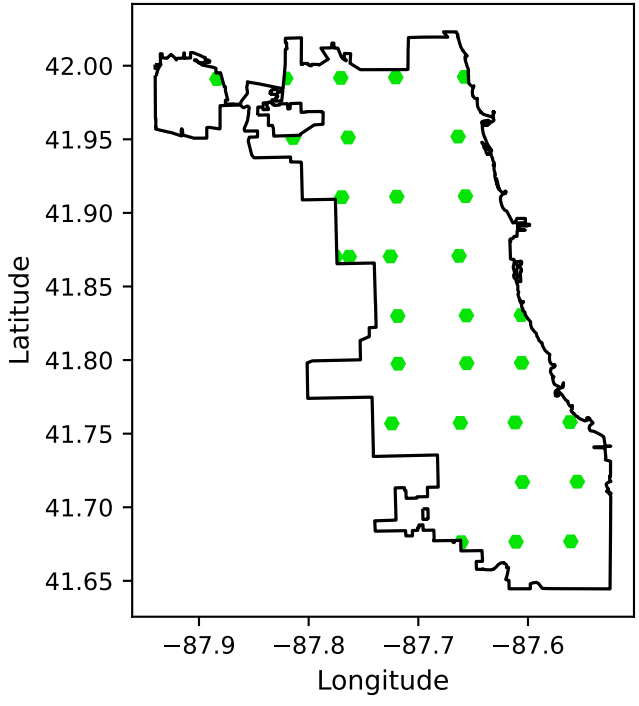
Week 2024-W39 (2024-09-23–2024-09-29): citywide weekly AQI median ≈ 39 (P10≈32, P90≈41).
Mean conditions: T≈18.0 °C, RH≈79%, U≈-6.2 m/s.

Driver-wise interpretation:

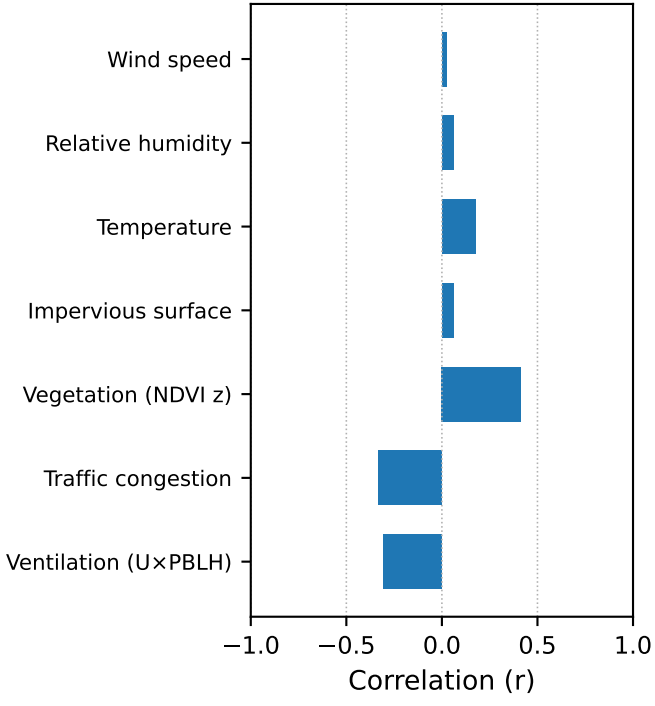
- Ventilation (U×PBLH): negligible negative correlation (r≈-0.03). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: negligible negative correlation (r≈-0.05). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): weak positive correlation (r≈0.25). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.04). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: moderate negative correlation (r≈-0.35). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Chicago AQI — Weekly Dashboard | 2024-W40 [2024-09-30 to 2024-10-06]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W40 (2024-09-30–2024-10-06): citywide weekly AQI median ≈ 36 (P10≈31, P90≈40).
Mean conditions: T≈18.0 °C, RH≈62%, U≈1.3 m/s.

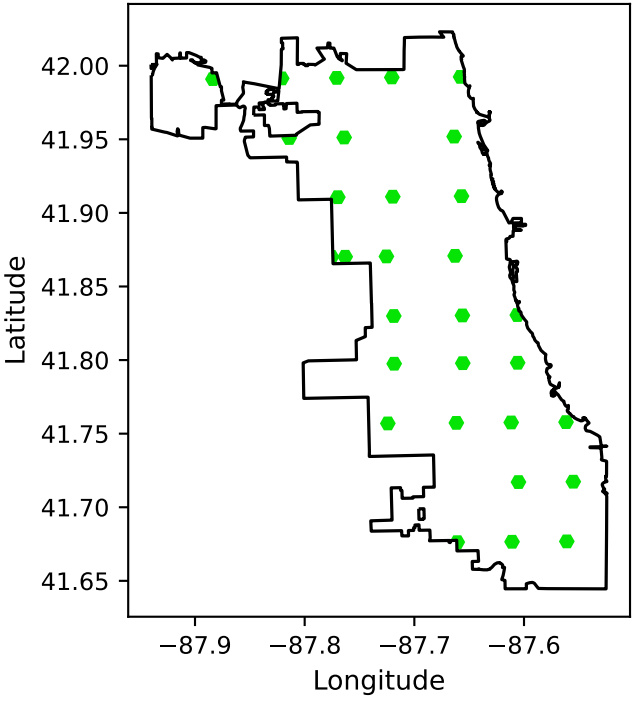
Driver-wise interpretation:

- Ventilation (U×PBLH): moderate negative correlation (r≈-0.31). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: moderate negative correlation (r≈-0.33). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.41). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.06). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.17). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

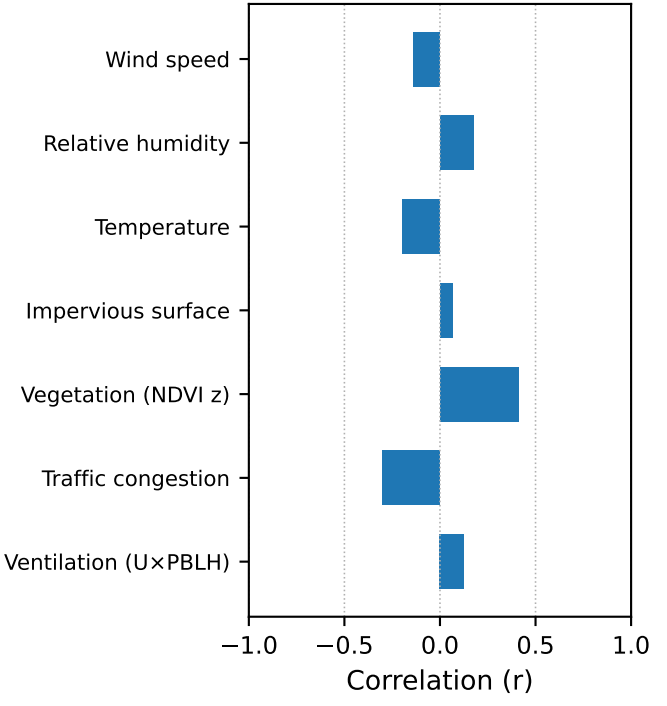
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W41 [2024-10-07 to 2024-10-13]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W41 (2024-10-07–2024-10-13): citywide weekly AQI median ≈ 33 (P10≈29, P90≈36).
Mean conditions: T≈15.3 °C, RH≈61%, U≈2.0 m/s.

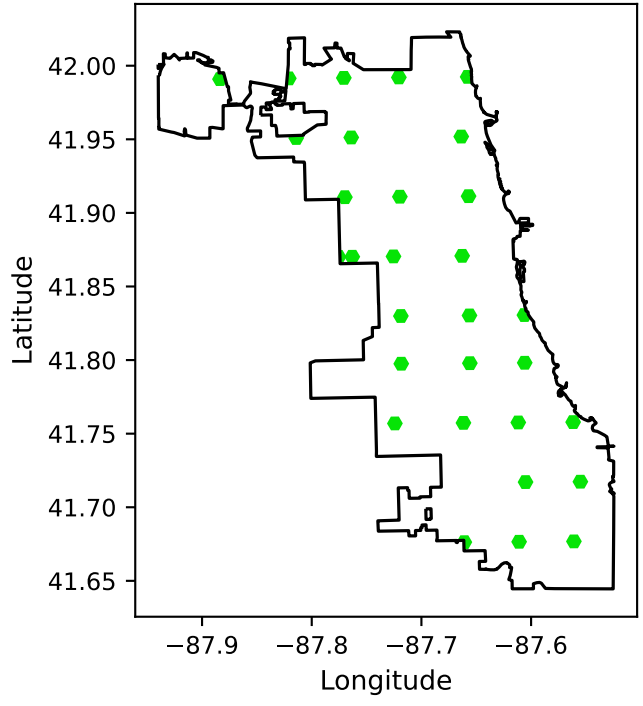
Driver-wise interpretation:

- Ventilation (U×PBLH): weak positive correlation (r≈0.13). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: weak negative correlation (r≈-0.30). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.41). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.07). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak negative correlation (r≈-0.20). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

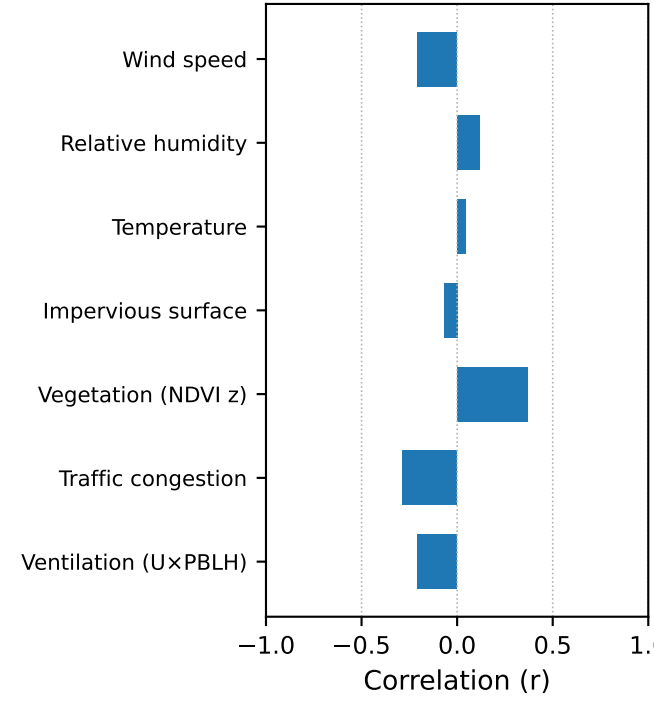
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W42 [2024-10-14 to 2024-10-20]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

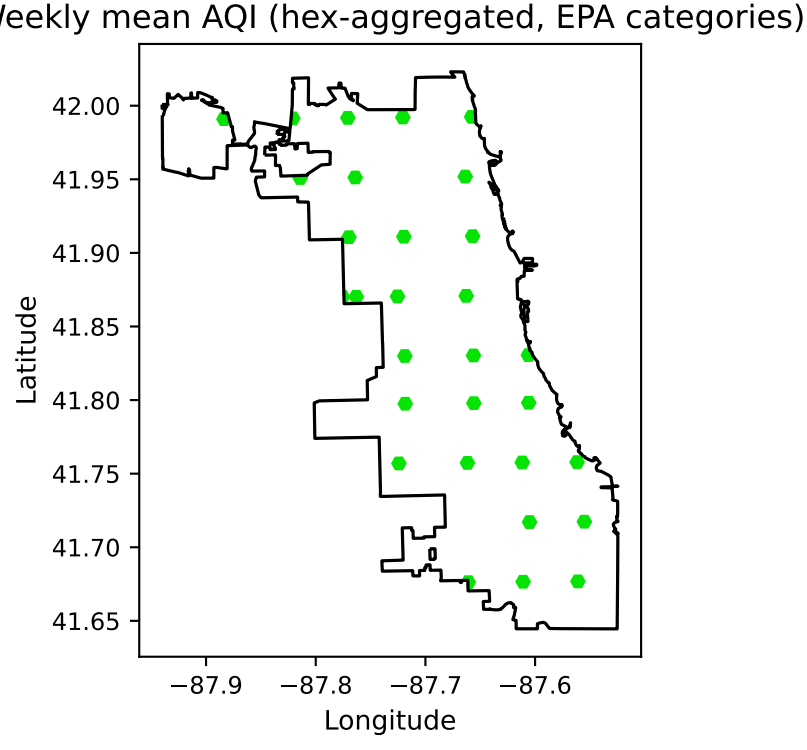
Week 2024-W42 (2024-10-14–2024-10-20): citywide weekly AQI median ≈ 33 (P10≈28, P90≈35).
Mean conditions: T̄≈10.7 °C, RH̄≈59%, Ū≈5.3 m/s.

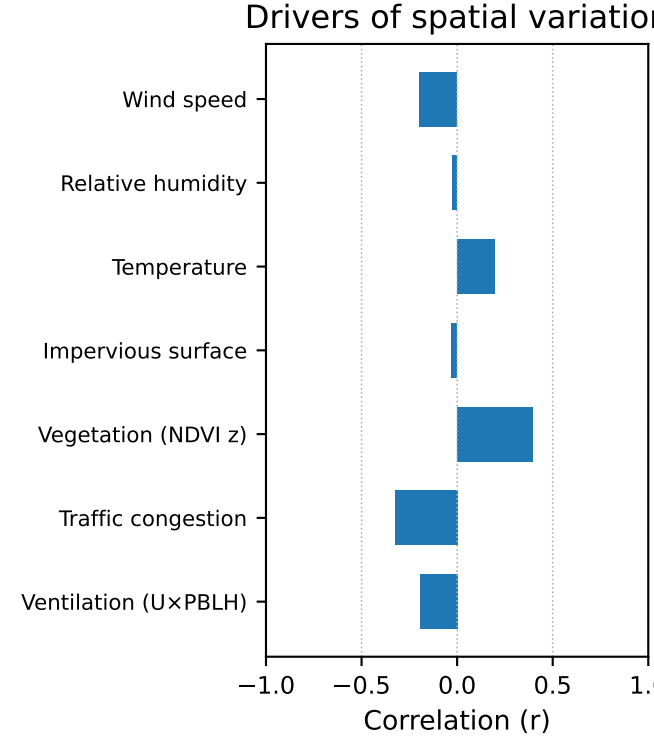
Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.21). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.29). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.37). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.07). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: negligible positive correlation (r≈0.04). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W43 [2024-10-21 to 2024-10-27]





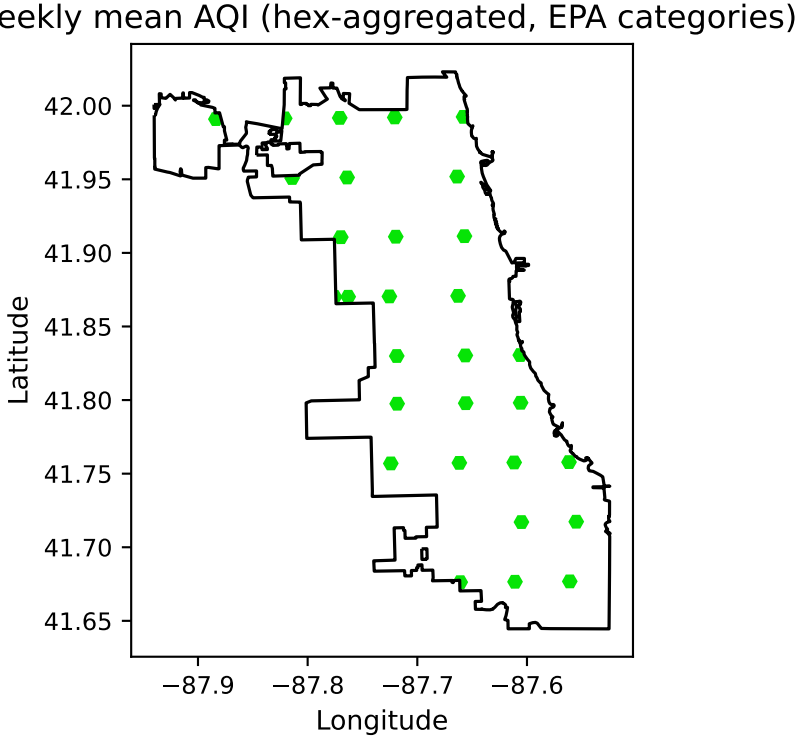
Weekly inference:

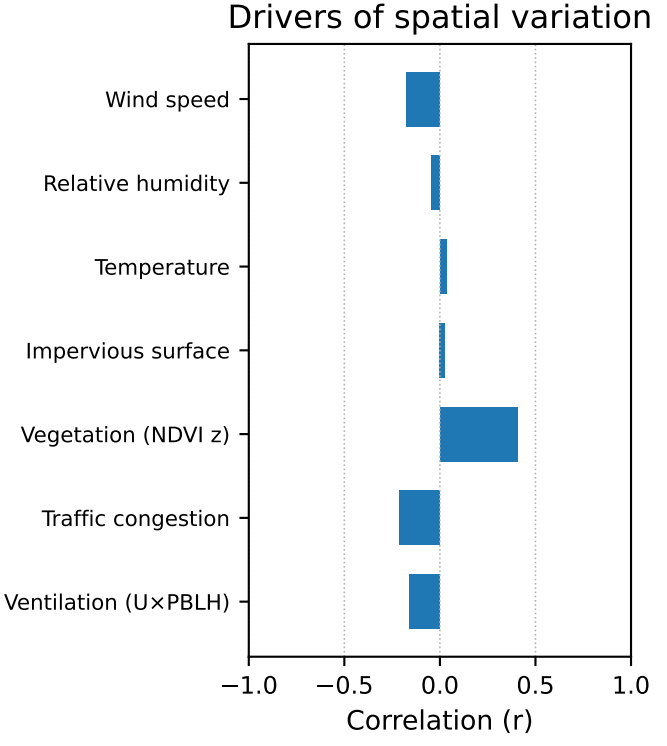
Week 2024-W43 (2024-10-21–2024-10-27): citywide weekly AQI median ≈ 34 (P10≈28, P90≈37).
Mean conditions: T≈12.9 °C, RH≈58%, U≈4.7 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): weak negative correlation (r≈-0.19). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: moderate negative correlation (r≈-0.32). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.39). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible negative correlation (r≈-0.03). Highly impervious cells did not show systematically higher AQI, pointing to a more regionally mixed pollution pattern.
- Temperature: weak positive correlation (r≈0.19). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W44 [2024-10-28 to 2024-11-03]





Weekly inference:

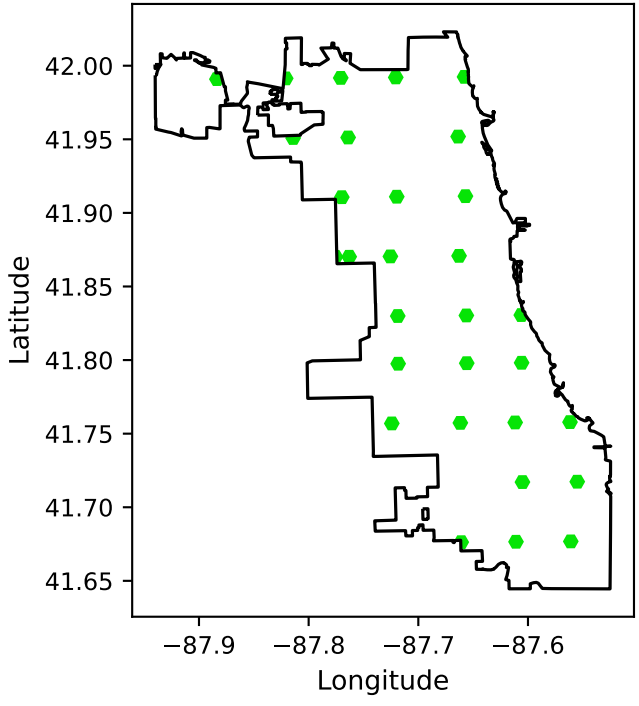
Week 2024-W44 (2024-10-28–2024-11-03): citywide weekly AQI median ≈ 34 (P10≈31, P90≈37).
Mean conditions: T̄≈14.1 °C, RH̄≈65%, Ū≈3.9 m/s.

Driver-wise interpretation:

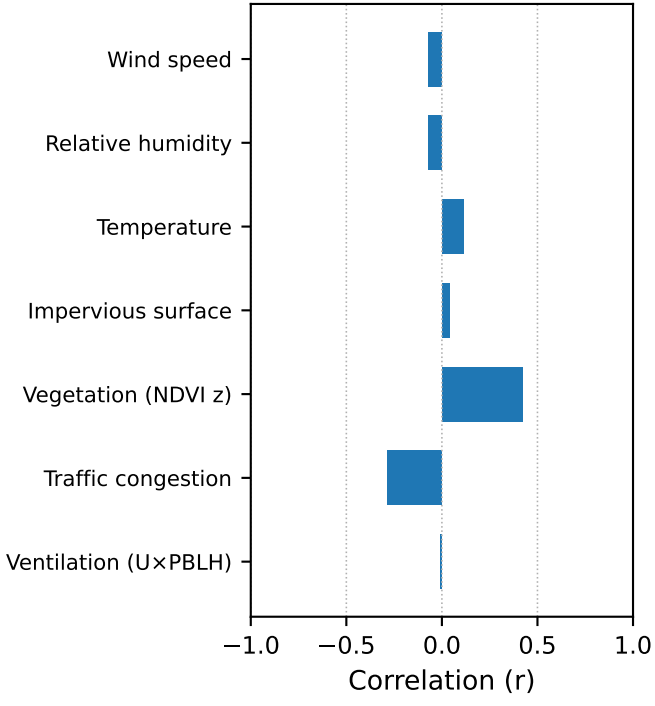
- Ventilation (U×PBLH): weak negative correlation (r≈-0.16). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.21). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.41). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.03). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: negligible positive correlation (r≈0.03). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

Chicago AQI — Weekly Dashboard | 2024-W45 [2024-11-04 to 2024-11-10]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W45 (2024-11-04–2024-11-10): citywide weekly AQI median ≈ 37 (P10≈32, P90≈41).
Mean conditions: T̄≈12.6 °C, RH̄≈80%, Ū≈4.5 m/s.

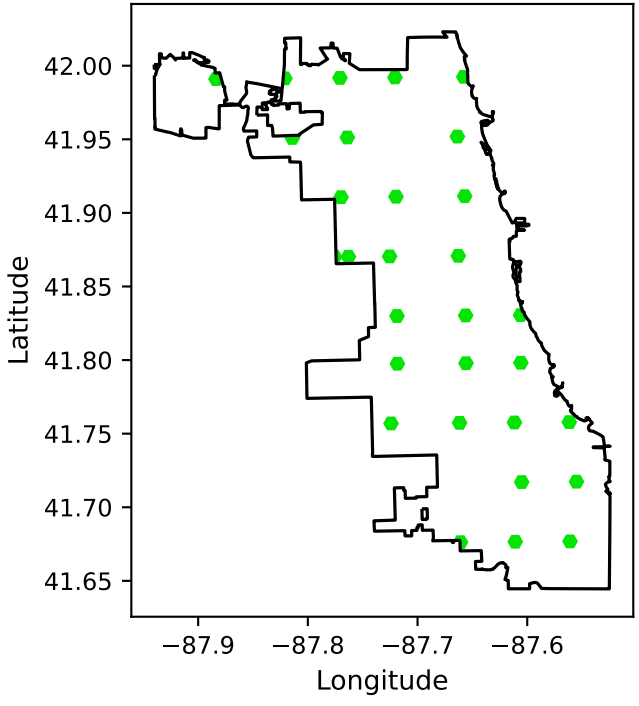
Driver-wise interpretation:

- Ventilation (U×PBLH): negligible negative correlation (r≈-0.01). Higher AQI tended to occur in cells with weaker ventilation (lower wind speed × shallower PBL), consistent with stagnant conditions.
- Traffic congestion: weak negative correlation (r≈-0.28). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.42). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: negligible positive correlation (r≈0.04). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak positive correlation (r≈0.11). Warmer parts of the city tended to have higher AQI, consistent with enhanced photochemistry and urban heat island influences.

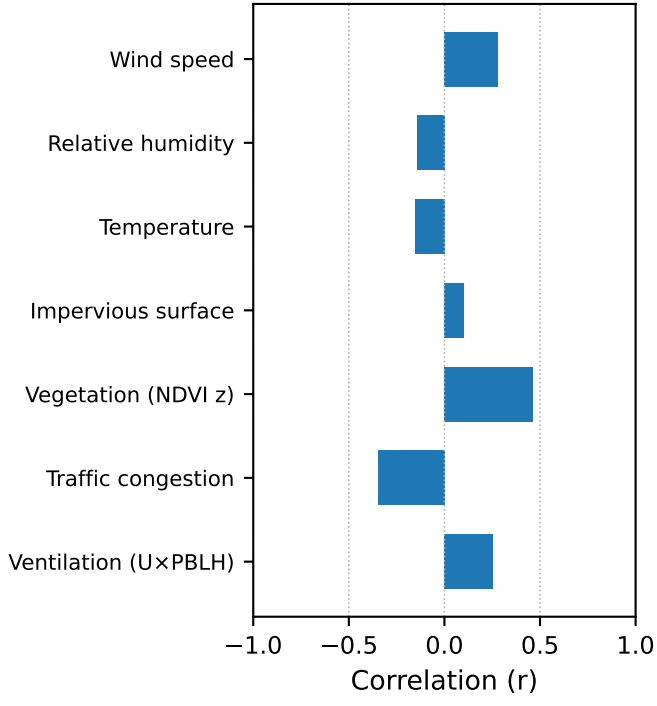
Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)

Chicago AQI — Weekly Dashboard | 2024-W46 [2024-11-11 to 2024-11-17]

Weekly mean AQI (hex-aggregated, EPA categories)



Drivers of spatial variation



Weekly inference:

Week 2024-W46 (2024-11-11–2024-11-17): citywide weekly AQI median ≈ 34 (P10≈30, P90≈39).
Mean conditions: T̄≈8.6 °C, RH̄≈78%, Ū≈-0.5 m/s.

Driver-wise interpretation:

- Ventilation (U×PBLH): weak positive correlation (r≈0.25). Higher AQI co-occurred with stronger ventilation, suggesting advection from polluted upwind sectors dominated over local dilution.
- Traffic congestion: moderate negative correlation (r≈-0.35). AQI did not systematically increase with congestion, implying meteorology or regional background dominated over local traffic for this week.
- Vegetation (NDVI z): moderate positive correlation (r≈0.46). Greener cells also showed slightly higher AQI, likely reflecting regional haze that affects both vegetated and built-up areas.
- Impervious surface: weak positive correlation (r≈0.10). More built-up, impervious areas experienced higher AQI, aligning with dense emission sources and reduced local dilution.
- Temperature: weak negative correlation (r≈-0.15). Cooler areas showed slightly higher AQI, suggesting the dominant events were more stagnation-driven than photochemical.

Good (0-50)
Moderate (51-100)
USG (101-150)
Unhealthy (151-200)
Very Unhealthy (201-300)
Hazardous (301-500)