

Main Data

Overview

Han Tran

Overview

- Duration: **01.01.2010** → **31.12.2021** (4383 days)
- Output file: *main_data.csv*

Locations

- 'Graz-DB'
- 'Graz-N'
- 'Graz-O'
- 'Graz-S'
- 'Graz-W'

Parameters

- 'LUFE'
- 'LUTE'
- 'NO'
- 'NO2'
- 'NOX'
- 'PM10'
- 'SO2'
- 'STBK 10K'

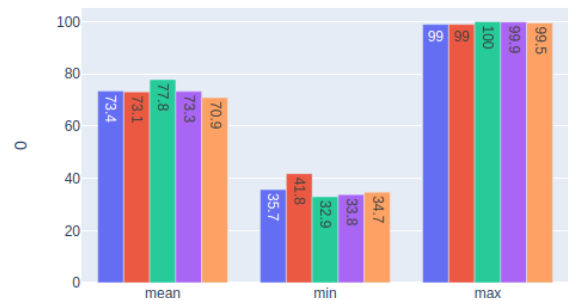
Value Counts per Year

	year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Graz-DB (LUFE)	365	365	366	364	363	365	366	366	365	365	365	366	359
Graz-DB (LUTE)	365	365	366	347	363	365	366	365	365	365	366	366	359
Graz-DB (NO)	360	364	364	365	363	365	366	364	365	363	365	364	
Graz-DB (NO2)	360	364	364	365	363	365	366	364	365	363	365	364	
Graz-DB (NOX)	360	364	364	365	363	365	366	364	365	363	365	364	
Graz-DB (PM10)	357	365	364	361	364	363	365	363	341	357	366	361	
Graz-DB (SO2)	362	365	365	361	363	365	366	365	365	356	365	357	
Graz-DB (STBK 10K)	347	332	364	364	361	363	362	364	363	363	362	365	
Graz-N (LUFE)	365	365	366	365	365	365	358	363	361	365	366	361	
Graz-N (LUTE)	365	365	346	360	365	365	358	363	361	365	366	361	
Graz-N (NO)	365	365	366	365	364	364	362	364	362	365	365	361	
Graz-N (NO2)	365	365	366	365	364	364	362	364	362	365	365	361	
Graz-N (NOX)	365	365	366	365	364	364	362	364	362	365	365	361	
Graz-N (PM10)	365	354	366	362	364	337	0	0	157	361	17	0	
Graz-N (SO2)	365	365	365	365	364	359	362	365	363	365	366	351	
Graz-N (STBK 10K)	361	365	354	326	365	365	356	365	363	361	365	359	
Graz-O P (LUFE)	0	0	0	0	0	0	0	0	223	364	365	360	364
Graz-O P (LUTE)	0	0	0	0	0	0	0	0	227	365	365	360	363
Graz-O P (NO)	347	365	366	363	362	363	362	364	365	364	366	358	
Graz-O P (NO2)	347	365	366	363	362	363	362	364	365	364	366	360	
Graz-O P (NOX)	347	365	366	363	362	363	362	364	365	364	366	360	
Graz-O P (PM10)	0	0	0	0	0	0	77	365	364	362	363	360	360
Graz-O P (STBK 10K)	347	365	362	361	364	365	358	362	361	365	366	364	
Graz-S (LUFE)	365	364	366	365	346	365	366	365	358	365	366	365	
Graz-S (LUTE)	365	364	366	365	336	362	355	365	358	365	366	365	
Graz-S (NO)	365	360	365	363	364	363	365	361	359	363	365	359	
Graz-S (NO2)	365	360	365	363	364	363	365	361	359	363	365	359	
Graz-S (NOX)	365	360	365	363	364	363	365	361	359	363	365	359	
Graz-S (PM10)	353	365	366	363	364	362	365	364	364	362	364	358	
Graz-S (SO2)	365	364	366	365	365	365	366	365	359	360	366	365	
Graz-S (STBK 10K)	365	364	365	365	365	365	340	363	357	365	366	365	
Graz-W (LUFE)	365	365	365	348	361	365	366	365	364	358	366	360	
Graz-W (LUTE)	365	365	356	365	361	365	366	365	365	365	366	365	
Graz-W (NO)	364	359	351	365	357	356	365	349	365	365	366	359	
Graz-W (NO2)	364	359	351	365	357	356	365	349	365	365	366	359	
Graz-W (NOX)	364	359	351	365	357	356	365	349	365	365	366	359	
Graz-W (PM10)	354	346	359	364	354	365	349	362	365	362	366	365	
Graz-W (STBK 10K)	354	346	359	364	354	365	349	362	365	362	366	365	
Graz-W (SO2)	62	0	0	0	0	0	0	0	0	0	0	0	0
Graz-N (O3)	361	361	365	355	364	361	363	360	362	356	364	359	
Graz-S (O3)	361	358	359	363	358	361	362	363	356	352	360	355	

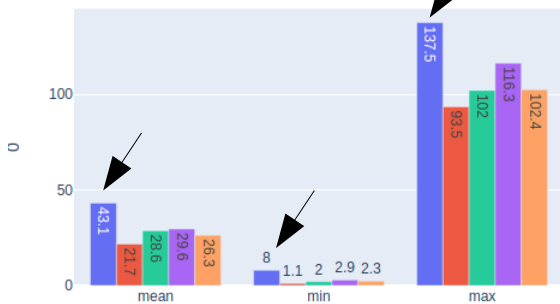
Data Understanding

Mean – Min – Max

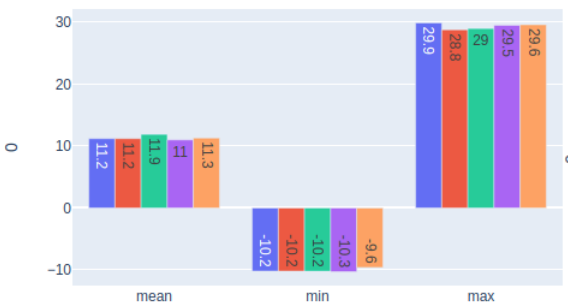
LUF6



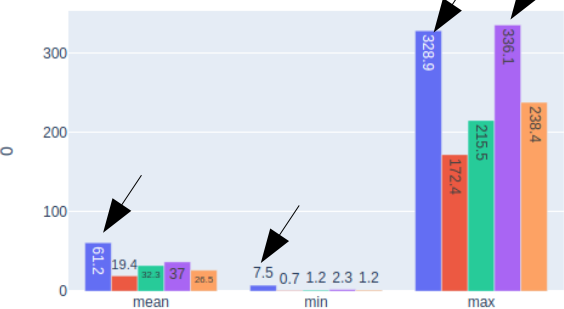
NO2



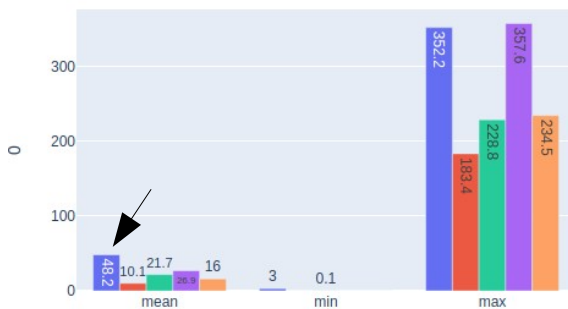
LUTE



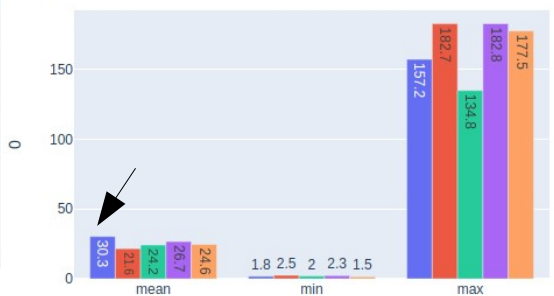
NOX



NO



PM10



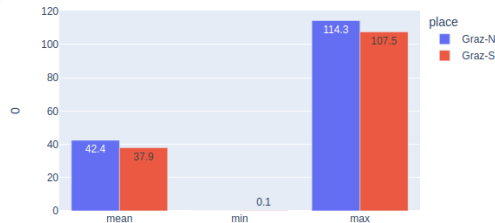
Observations

- DB:
 - NO, NO2, NOX: mean value is extremely high*

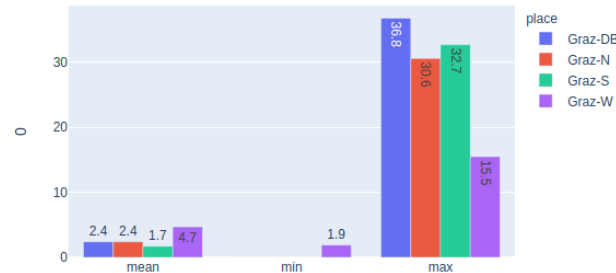
place



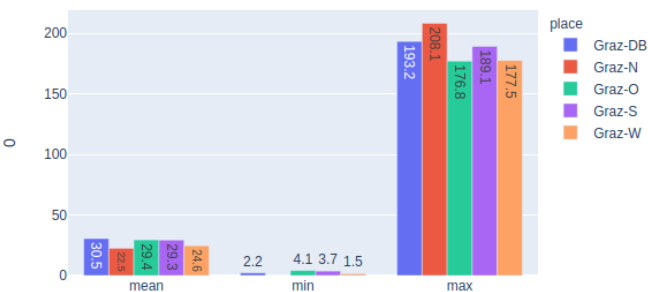
O3



SO2



STBK 10K



Yearly Average

Yearly Average: LUFE



Yearly Average: NO2



Yearly Average: SO2



Yearly Average: LUTE



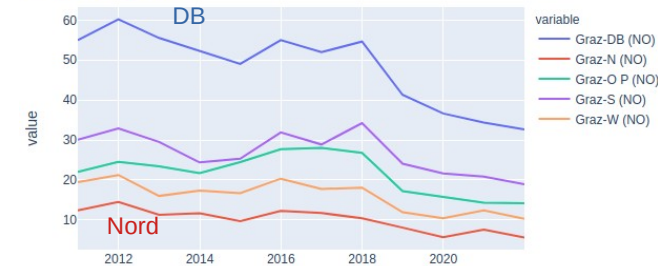
Yearly Average: NOX



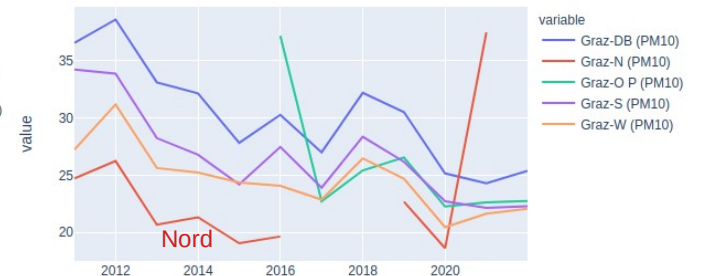
Yearly Average: STBK 10K



Yearly Average: NO



Yearly Average: PM10

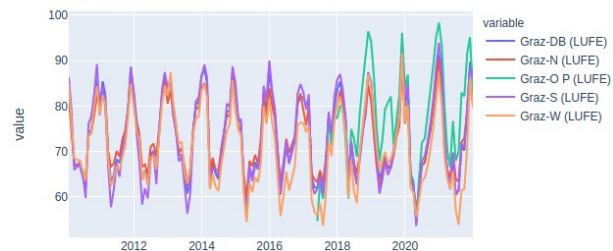


Yearly Average: O3

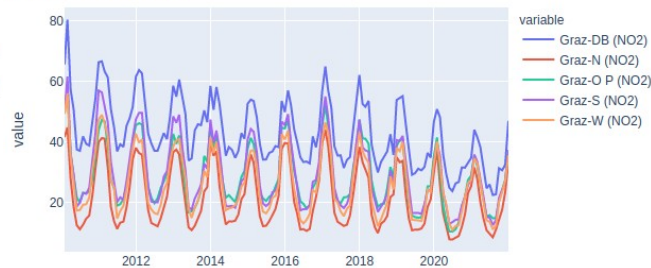


Monthly Average

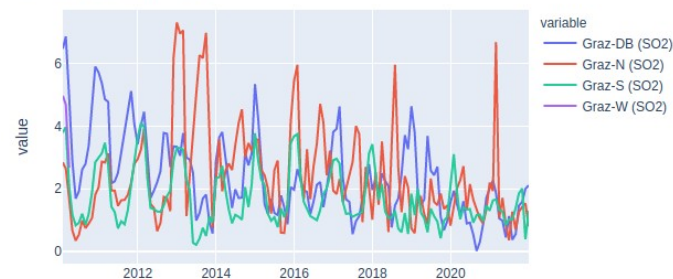
Monthly Average: LUFE



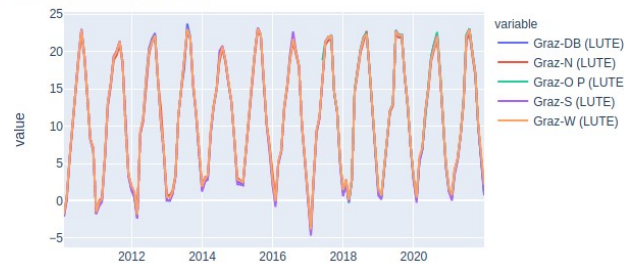
Monthly Average: NO2



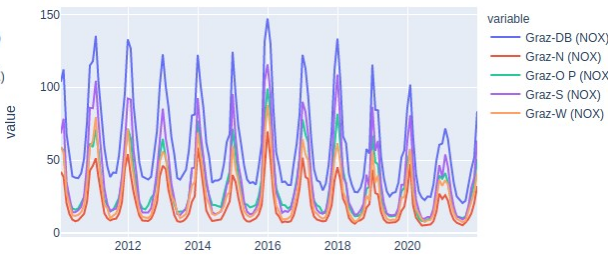
Monthly Average: SO2



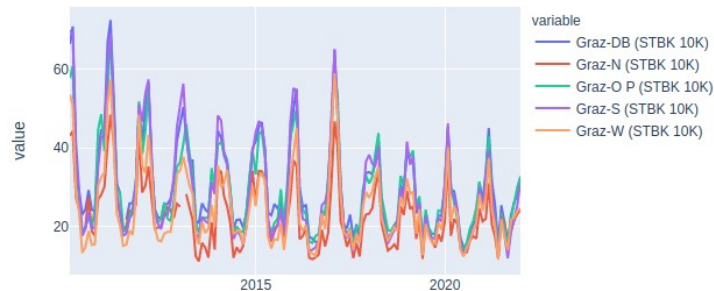
Monthly Average: LUTE



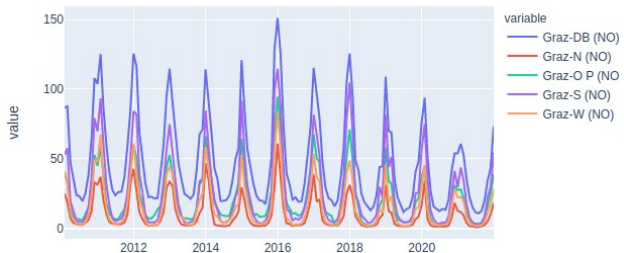
Monthly Average: NOX



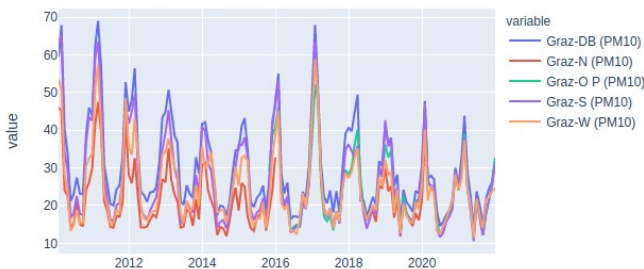
Monthly Average: STBK 10K



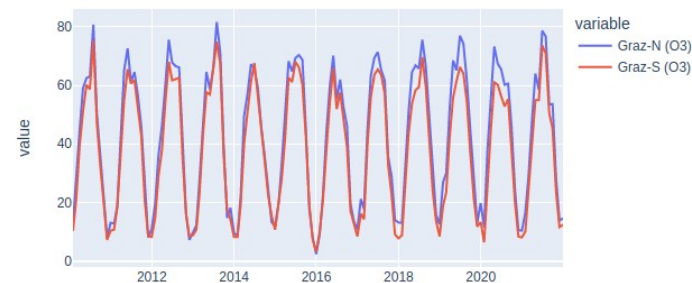
Monthly Average: NO



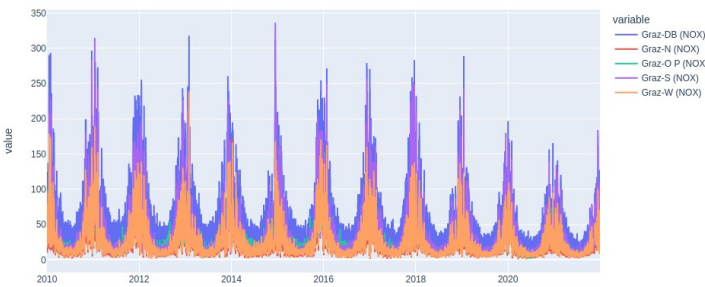
Monthly Average: PM10



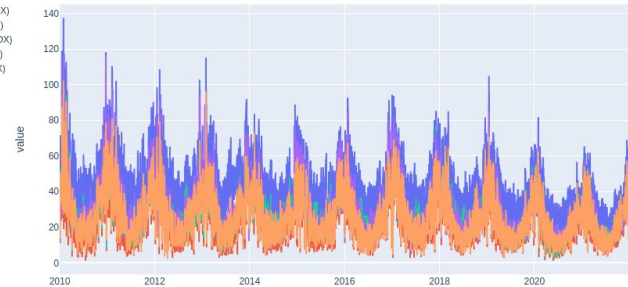
Monthly Average: O3



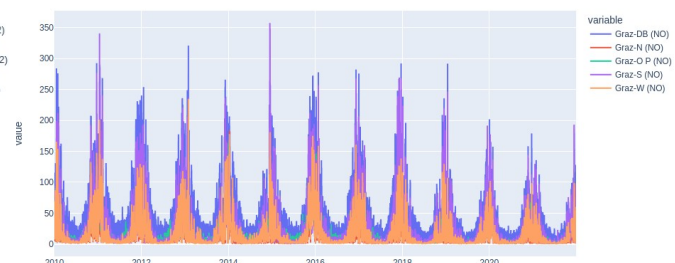
NOX



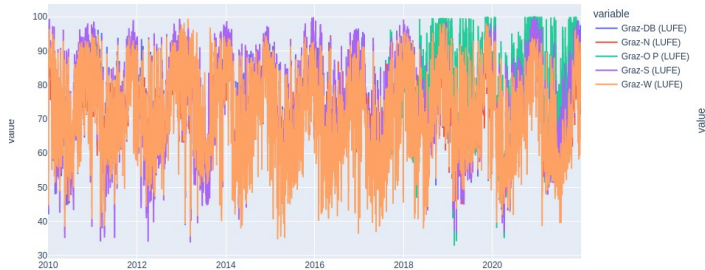
NO2



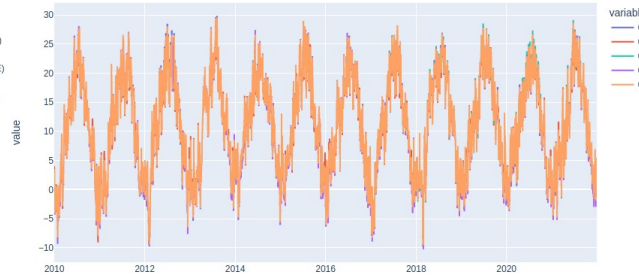
NO



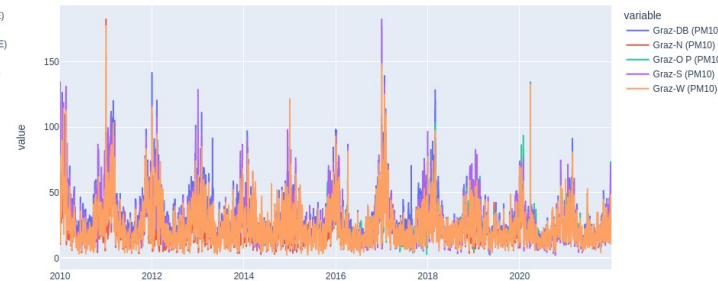
LUFE



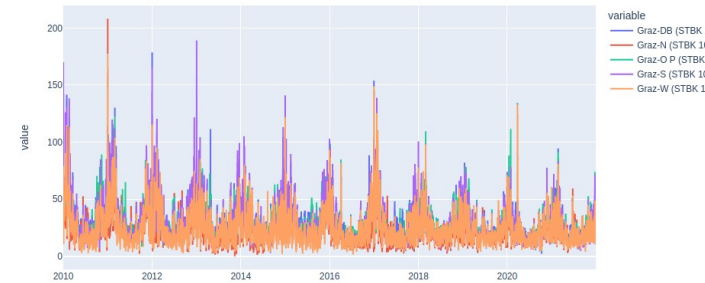
LUTE



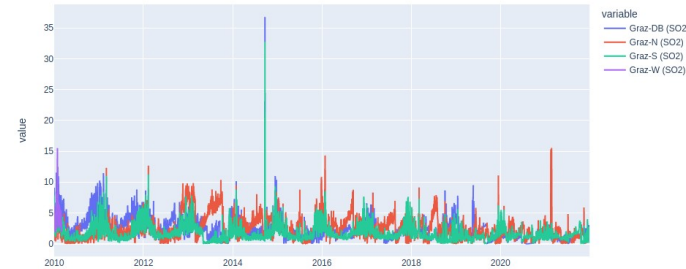
PM10



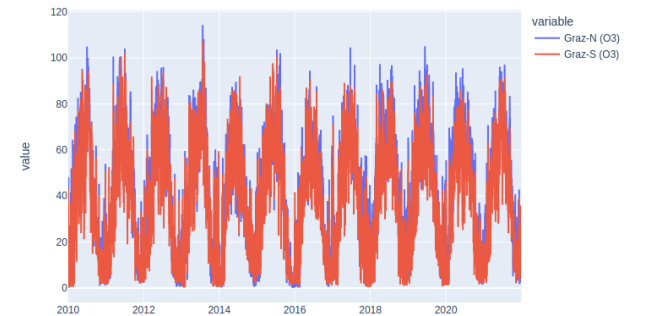
STBK 10K



SO2

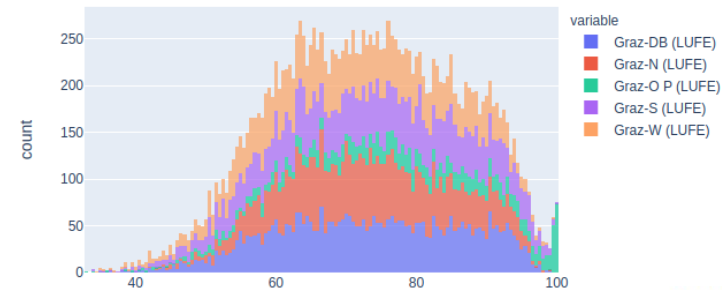


O3

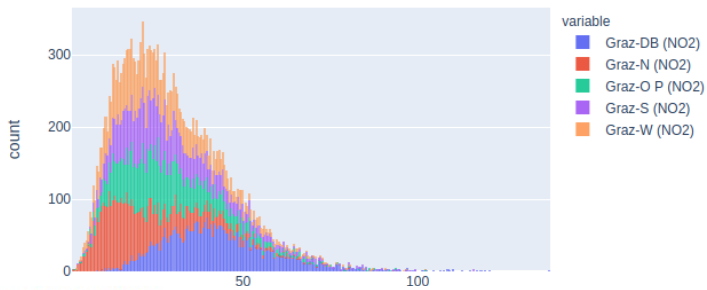


Histograms

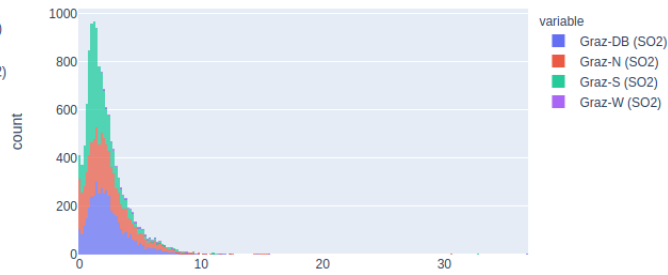
Value Distributions: LUFE



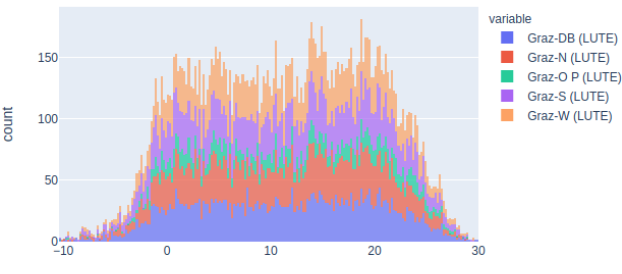
Value Distributions: NO2



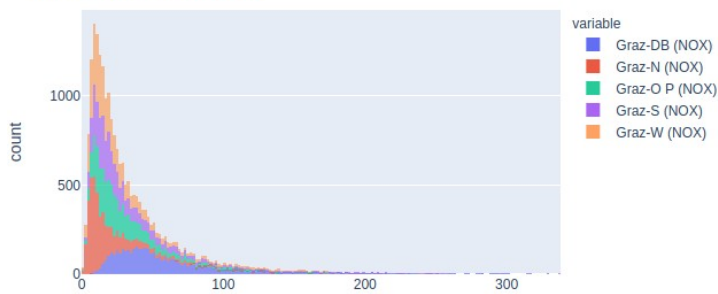
Value Distributions: SO2



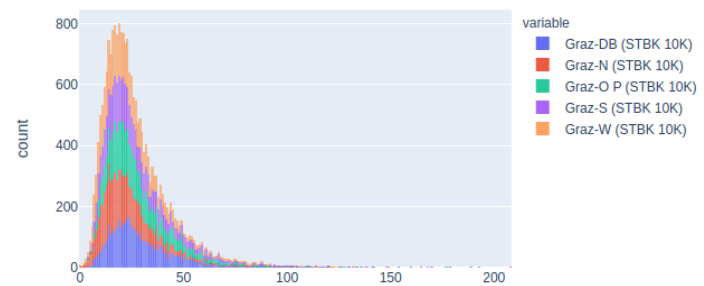
Value Distributions: LUTE



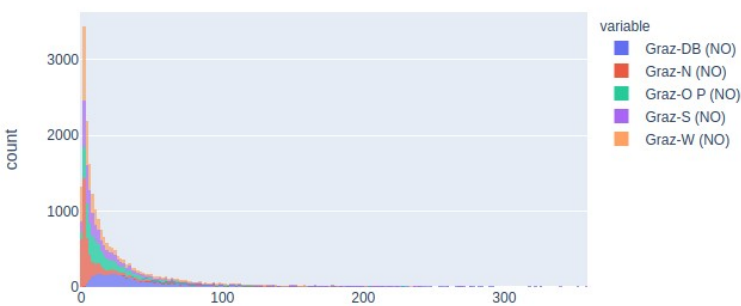
Value Distributions: NOX



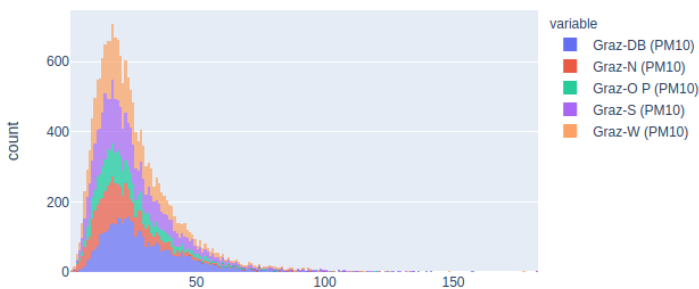
Value Distributions: STBK 10K

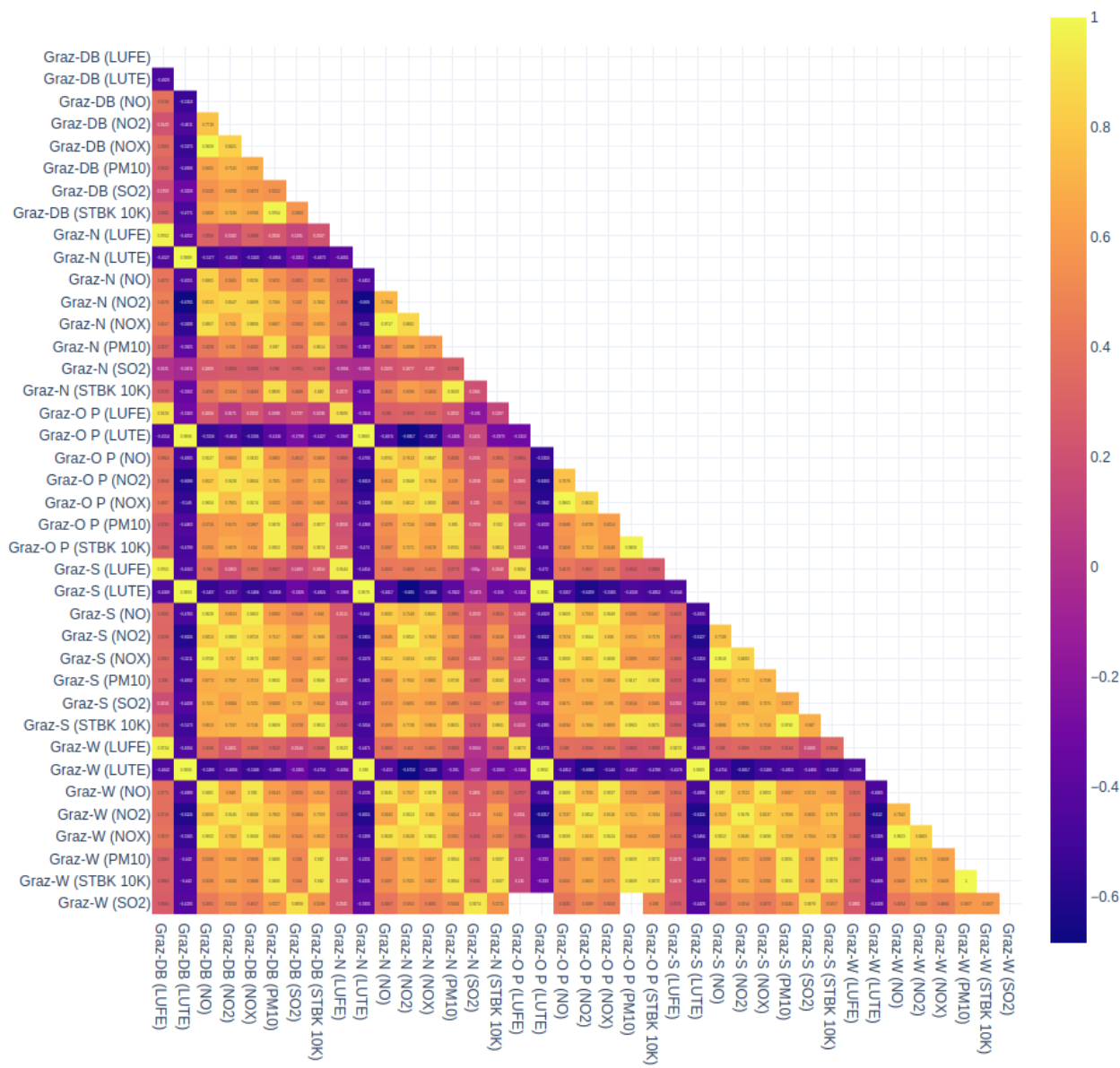


Value Distributions: NO



Value Distributions: PM10





- Same variable at different locations is correlated
- LUTE
 - Anti-correlation: with others
- NO, NOX, NO2: same behavior

Remarks

- Can not be used
 - SO₂: West
 - LUFE: Ost
 - Year: 2010 → 2017
 - LUTE: Ost
 - Year: 2010 → 2017
 - PM₁₀: Nord
 - Year: 2016 → 2021
- FillNA

Thank you!