Prezentacja 2

15.03.2023r.

PRZYGOTOWANIE DANYCH





https://powietrze.gios.gov.pl/pjp/archives



- 2019_Ni(PM10)_24g.xlsx
- 2019_NO_1g.xlsx
- 2019_NO2_1g.xlsx
- 2019_NO2_24g.xlsx
- 2019_NOx_1g.xlsx
- 2019_O3_1g.xlsx
- 2019_Pb(PM10)_24g.xlsx
- 2019_PM10_1g.xlsx
- 2019_PM10_24g.xlsx
- 2019_PM25_1g.xlsx
- 2019_PM25_24g.xlsx
- 2019_PrekursoryZielonka_1g.xlsx
- 2019_SO2_1g.xlsx
- 2019_SO2_24g.xlsx

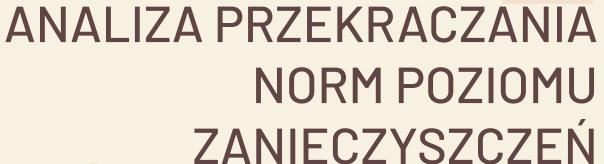


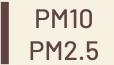
_	Nr	1	2	3	4	5	6
	Kod stacji	DsGlogWiStwo	DsJaworMOB	DsJelGorSoko	DsLegAlRzecz	DsNowRudJezi	DsOlawZoInAK
	Wskaźnik	PM10	PM10	PM10	PM10	PM10	PM10
	Czas uśredniania	24g	24g	24g	24g	24g	24g
	Jednostka	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
_	Kod stanowiska	DsGlogWiStwo-PM10-24g	DsJaworMOB-PM10-24g	DsJelGorSoko-PM10-24g	DsLegAlRzecz-PM10-24g	DsNowRudJezi-PM10-24g	DsOlawZoInAK-PM10-24g
	01/01/2019 00:00	13,71	13,15	22,24	15,86		12,52
	02/01/2019 00:00	8,28	11,26	10,17	13,28		9,95
	03/01/2019 00:00	8,06	13,87	12,92	16,72		
	04/01/2019 00:00	11,47	16,49	13,65	16,63		
	05/01/2019 00:00	6,67	8,69	8,02	12,19		10,27
	06/01/2019 00:00	10,05	11,91	15,1	17,51		11,01
	07/01/2019 00:00	26,4	34,46	29,45	37,3		26,71
	08/01/2019 00:00	5,29	7,89	6,2	9,79		8,67
	09/01/2019 00:00	17,83	15,67	8,43	18,06		15,51
	10/01/2019 00:00	17,52	23,1	21,64	30,58		37,71
	11/01/2019 00:00	11,47	15,57	16,07	14,99		22,88
	12/01/2019 00:00	16,69	16,12	14,41	18,1		15,06
	13/01/2019 00:00	3,66	6,45	4,96	6,7		6,24
	14/01/2019 00:00	8,58	14,07	8,72	10,99		
	15/01/2019 00:00	10,07	13,55	8,74	14,11		8,98
	16/01/2019 00:00		15,63	19,22	20,62		7,52
	17/01/2019 00:00	13,39	17,52	16,47	22,6		11,58
	18/01/2019 00:00	8,89	17,14	13,23	18,16		13,36
	19/01/2019 00:00	51,78	40,79	48,51	49,29		32,55
	20/01/2019 00:00	125,9	116,27	35,8	108,1		128,93
	21/01/2019 00:00	57,41	96,62	56,8	112,46		88,63
	22/01/2019 00:00	85,03	84,57	60,2	103,52		122,15

```
data2019 <- read.csv('2019_PM10_24g.csv', sep = ',')</pre>
    date <- as.Date(data2019Nr[6:370], format='%m/%d/%Y %H:%M')
    year <- c()
    month <- c()
    day <- c()
14 * for (i in 1:length(date)) {
      year[i] <- substr(date[i], 1, 4)</pre>
      month[i] <- substr(date[i], 6, 7)</pre>
      day[i] <- substr(date[i], 9, 10)</pre>
18 - }
20 year <- rep(year, 7)
21 month <- rep(month, 7)
    day <- rep(day, 7)
    loc <- c(rep('Warszawa', 365), rep('Wrocław', 365), rep('Gdańsk', 365), rep('Kraków', 365), rep('
    year <- rep(year, 2)
    month <- rep(month, 2)
    day <- rep(day, 2)
    loc <- rep(loc, 2)</pre>
    type <- c(rep('PM10', 2555), rep('PM2,5', 2555))
    value <- c(as.numeric(data2019$X97[6:370]), as.numeric(data2019$X13[6:370]), as.numeric(data2019$X
    data <- data.frame(year = year, month = month, day = day, loc = loc, type = type, value = value)
```

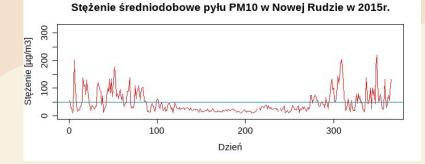


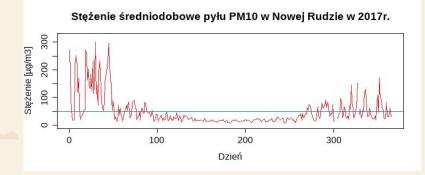
1	2019	01	01	Warszawa	PM10	NA
2	2019	01	02	Warszawa	PM10	NA
3	2019	01	03	Warszawa	PM10	NA
4	2019	01	04	Warszawa	PM10	NA
5	2019	01	05	Warszawa	PM10	NA
6	2019	01	06	Warszawa	PM10	NA
7	2019	01	07	Warszawa	PM10	NA
8	2019	01	08	Warszawa	PM10	52.78
9	2019	01	09	Warszawa	PM10	43.53
10	2019	01	10	Warszawa	PM10	46.63
11	2019	01	11	Warszawa	PM10	53.70
12	2019	01	12	Warszawa	PM10	25.76
13	2019	01	13	Warszawa	PM10	16.69
14	2019	01	14	Warszawa	PM10	11.25
15	2019	01	15	Warszawa	PM10	20.14
16	2019	01	16	Warszawa	PM10	25.23
17	2019	01	17	Warszawa		34.66
18	2019	01	18	Warszawa		24.13
19	2019	01	19	Warszawa		52.43
20	2019	01	20	Warszawa		74.56
21	2019	01	21	Warszawa		63.86
-21	2013	01		Waiszawa	TMITO	05.80

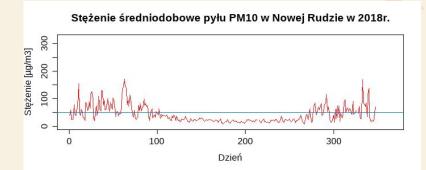


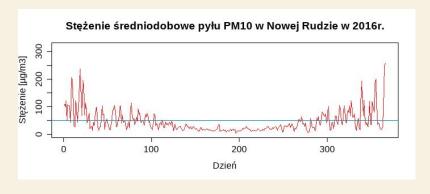


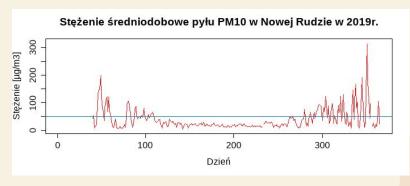


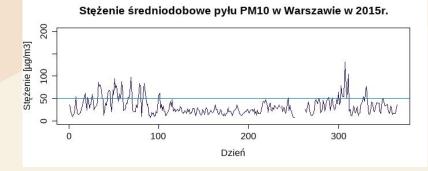


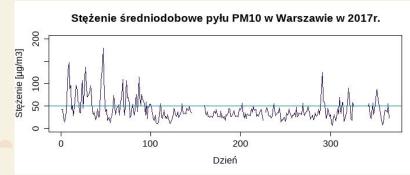


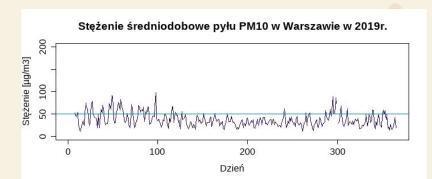


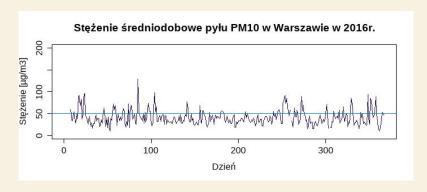


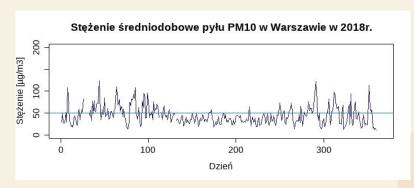


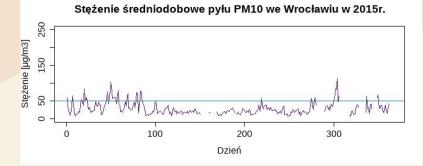


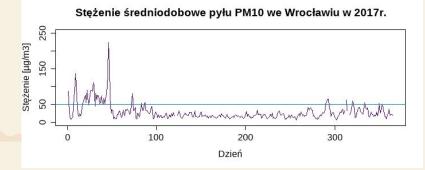


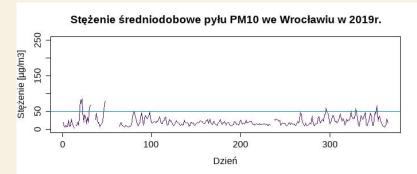


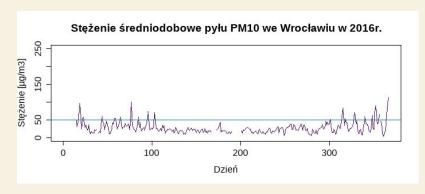


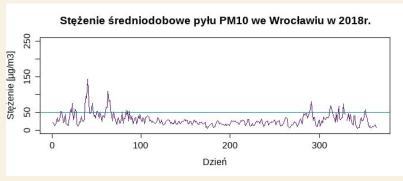












ILOŚĆ DNI ZE STĘŻENIEM ŚREDNIODOBOWYM PYŁU PM10 WYŻSZYM NIŻ 50µg/m³

W ciągu roku nie może być więcej niż **35** dni kiedy to stężenie średniodobowe jest wyższe niż 50 µg/m³.

Wrocław

Warszawa

Kraków

Gdańsk

Nowa Ruda

Łódź

2015	2016	2017	2018	2019
49/314	38/335	55/359	50/363	46/340
54/353	79/357	69/334	107 /352	66/357
73/353	65/361	47/312	59/348	106/364
43/338	34/326	38/360	55/361	49/309
75/361	77/366	74/362	89/344	73/324
96/364	77/364	68/365	84/347	52/365

ILOŚĆ DNI ZE STĘŻENIEM ŚREDNIODOBOWYM PYŁU PM2.5 WYŻSZYM NIŻ 25µg/m³

Wrocław

Warszawa

Kraków

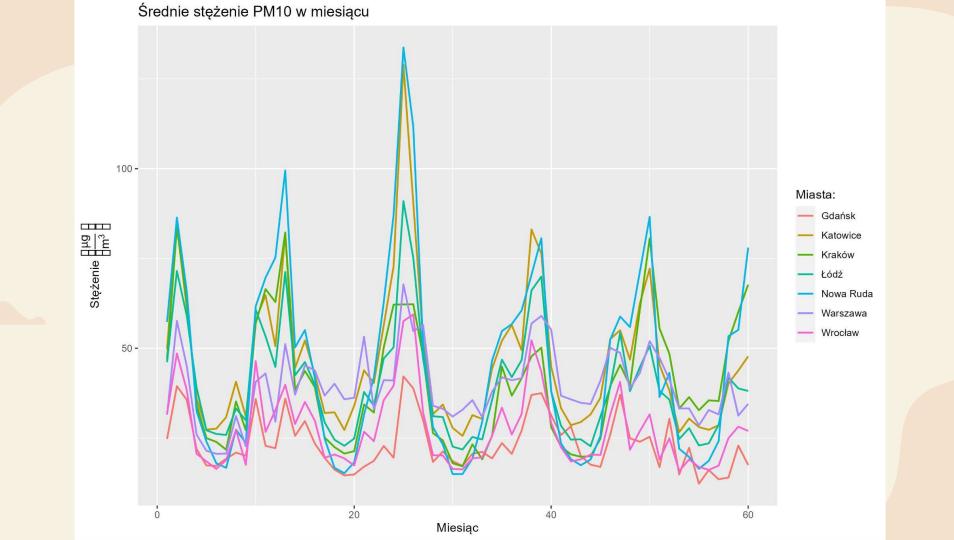
Gdańsk

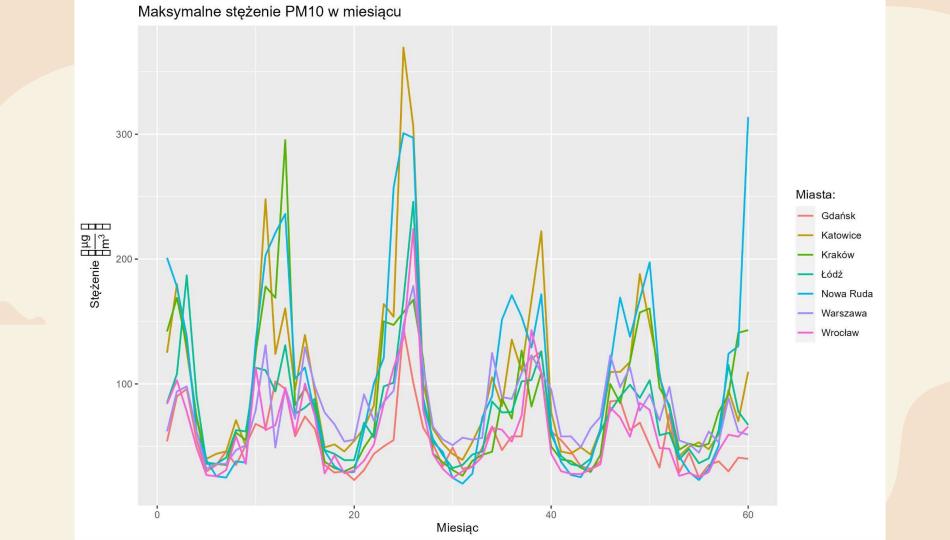
Nowa Ruda

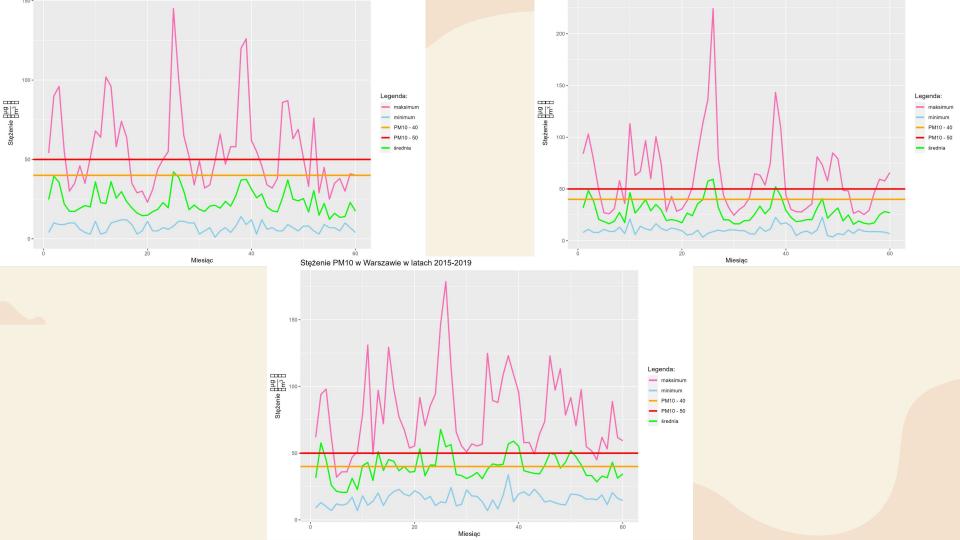
Łódź

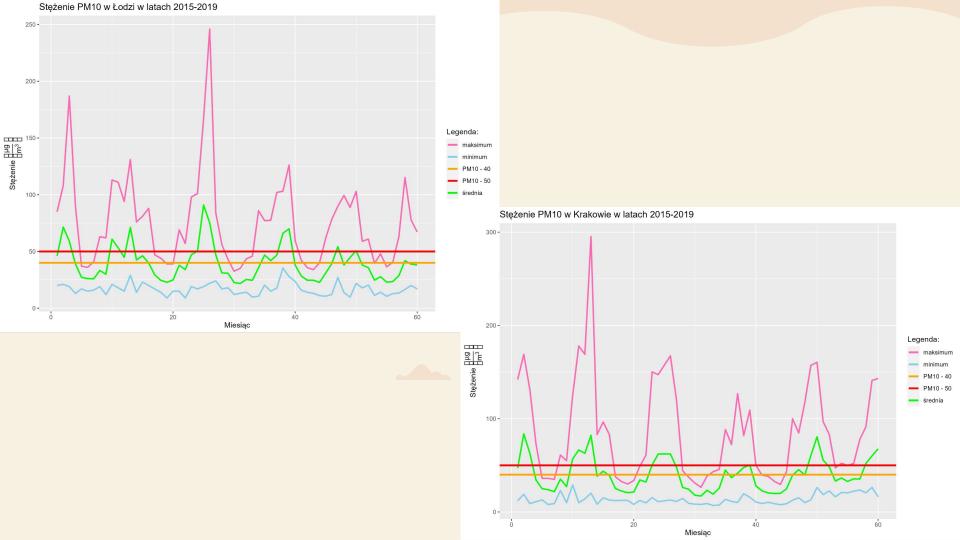
2015	2016	2017	2018	2019
133/309	147/318	143/355	156/364	200/358
166/357	138/361	151/361	139/336	163/358
178/365	166/361	148/363	172/359	153/363
203/357	192/360	122/357	170/341	178/319
-	-	-	-	-
163/364	175/366	163/365	171/359	157/361

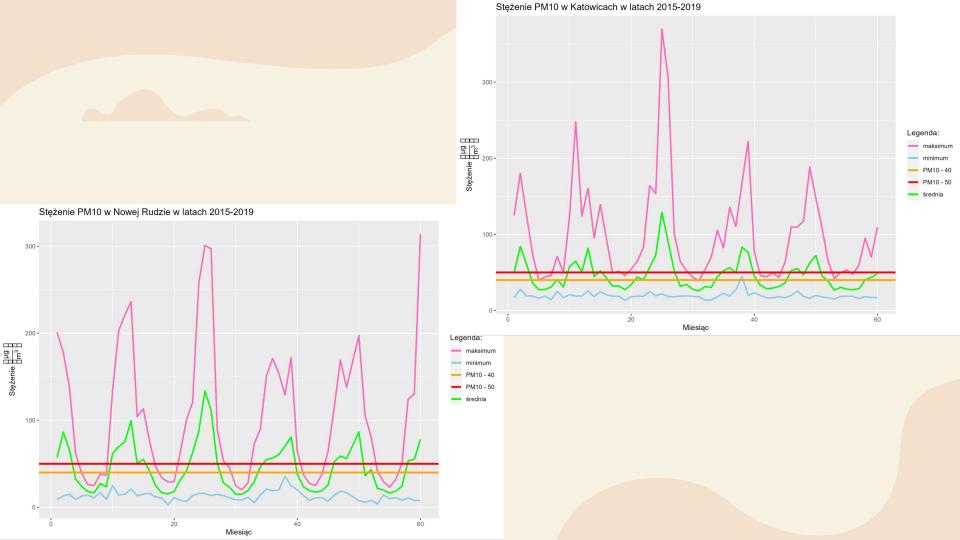
PORÓWNANIE ŚREDNICH MIESIĘCZNYCH STĘŻEŃ PM10 W POSZCZEGÓLNYCH MIASTACH





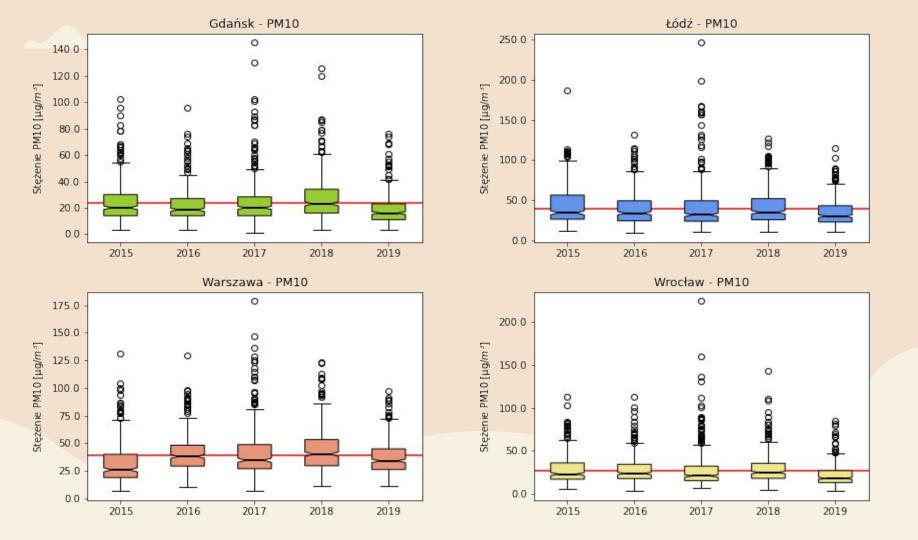


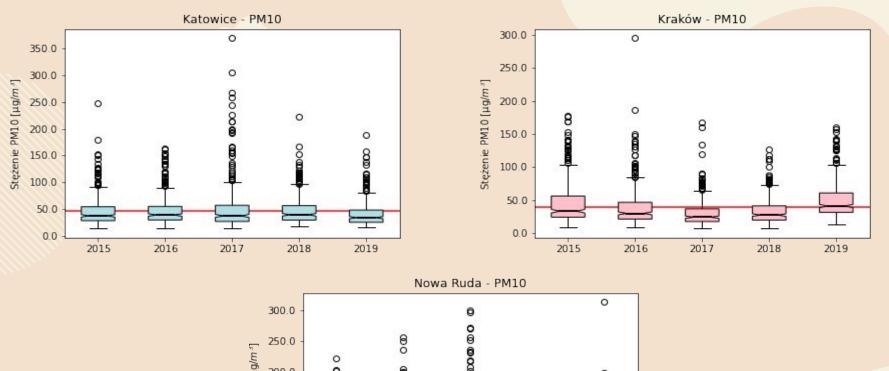


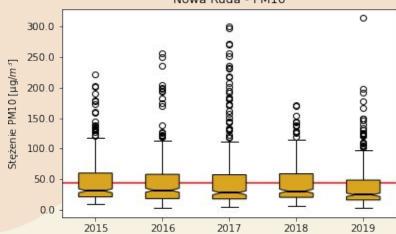


ANALIZA
STĘŻENIA SMOGU
NA PRZESTRZENI
LAT



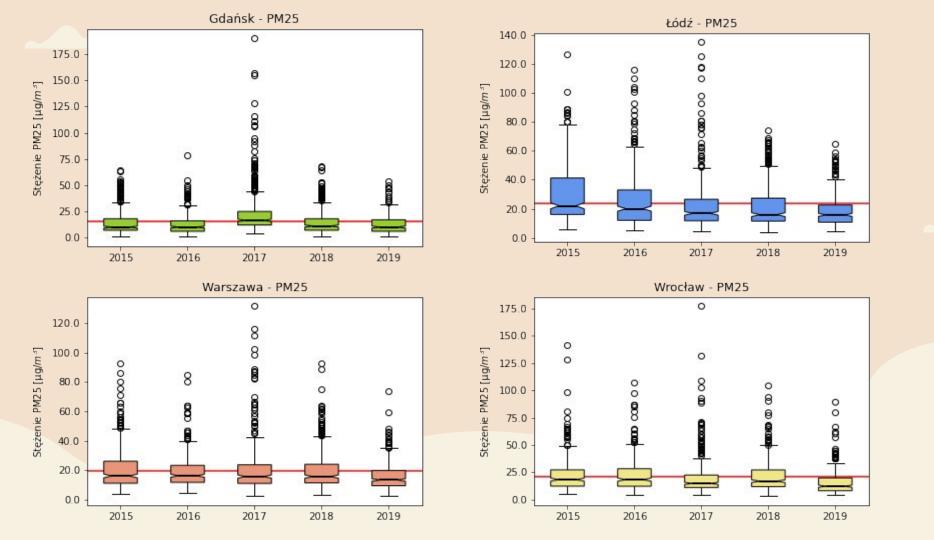


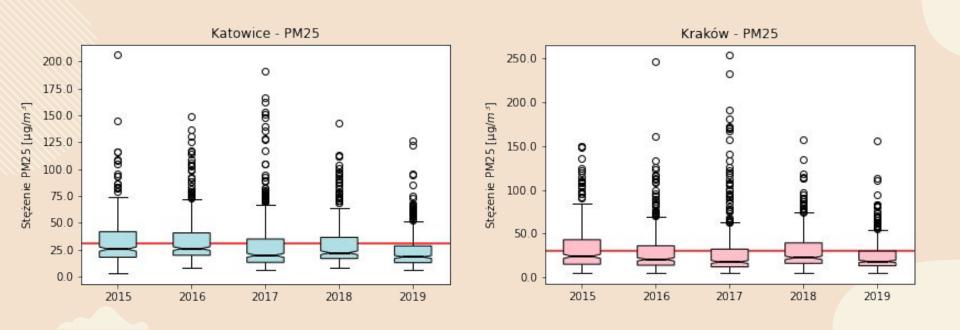




Dla pyłu PM10

Miasto	Średnia	Odchylenie standardowe
Gdańsk	23.661747	15.785912
Katowice	46.562954	32.231959
Kraków	39.936187	27.860675
Nowa Ruda	44.690285	40.911043
Warszawa	39.434467	19.775921
Wrocław	27.239036	18.118857
Łódź	39.691342	23.415380



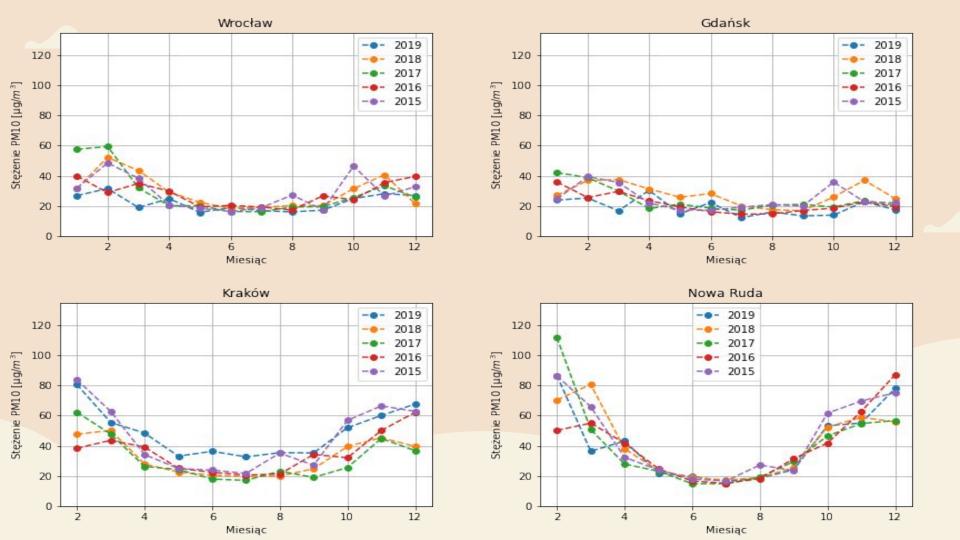


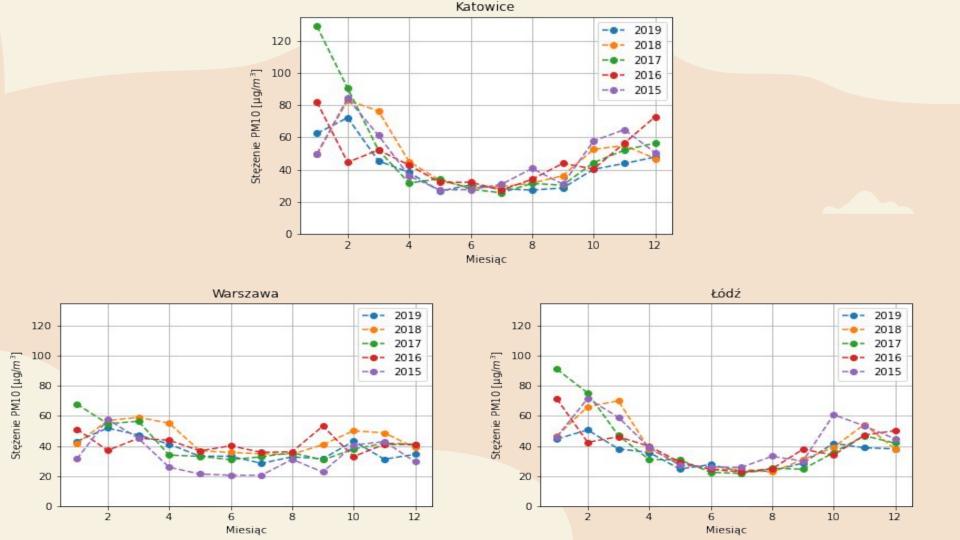
Dla pyłu PM2.5

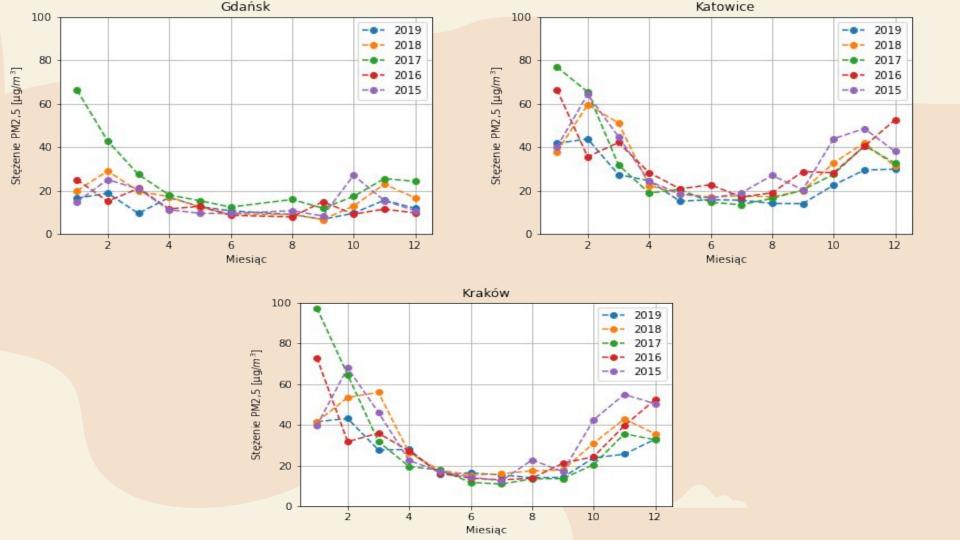
Miasto	Średnia	Odchylenie standardowe
Gdańsk	15.789533	14.973802
Katowice	30.387700	23.472337
Kraków	30.016874	27.009804
Warszawa	19.565623	14.101073
Wrocław	20.510810	16.109888
Łódź	23.961197	17.719239

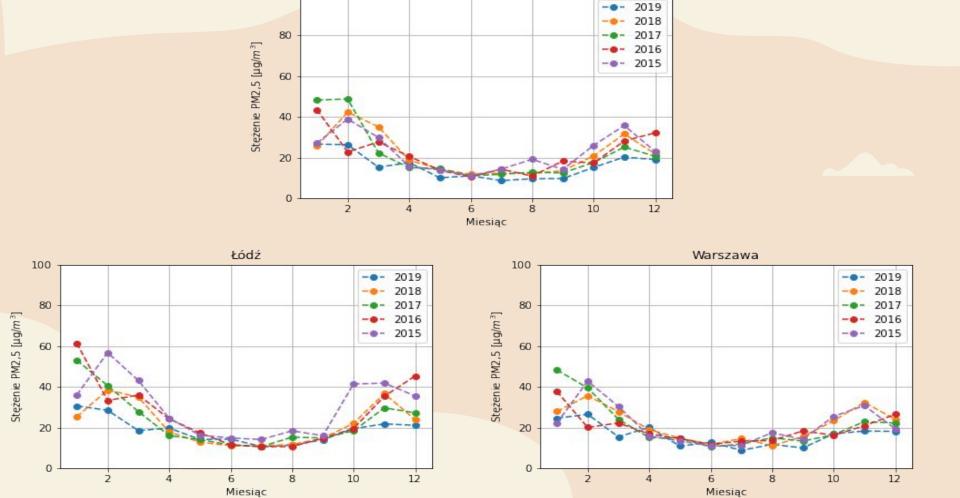


ANALIZA STĘŻENIA **SMOGU ZE** WZGLĘDU NA MIESIACE









Wrocław

100

DZIĘKUJEMY ZA UWAGĘ!

PREZENTACJĘ PRZYGOTOWALI:

Paulina Iwach

Julia Mazur

Ewa Trębacz

Małgorzata Kowalczyk

Kamil Kowalski

