Technologie IoT - Analityka Big Data Michał Lidwa-Projekt

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Michał Lidwa 3ID14A Technologie IoT - Analityka Big Data (Projekt) Temat projektu: Algierskie pożary lasów

O danych: - Zbiór danych obejmuje 244 przypadki, które przegrupowują dane z dwóch regionów Algierii, mianowicie regionu Bejaia położonego w północno-wschodniej Algierii i regionu Sidi Belabbes położonego w północno-zachodniej Algierii. - 122 instancje dla każdego regionu. - Okres od czerwca 2012 r. do września 2012 r. - Zestaw danych zawiera 11 atrybutów i 1 atrybut wyjściowy (klasa) - 244 instancje zostały podzielone na klasy fire (138 klas), a not fire (106 klas).

Informacje o atrybutach: - Date: (day/month/year) Dzień, miesiąc (od 'czerwiec' do 'wrzesień'), rok (2012)

- Temp: Temperatura w południe (maksymalna temperatura) w stopniach Celsjusza: 22 do 42
- RH: Wilgotność względna (w %): 21 do 90
- Ws: Predkość wiatru (w km/h): 6 do 29
- Rain: Całkowity dzień w mm: 0 do 16,8 FWI Komponenty
- Indeks Dokładnego kodu wilgotności paliwa (FFMC) z systemu FWI: 28,6 do 92,5
- Indeks Kodu wilgotności Duffa (DMC) z systemu FWI: 1.1 do 65,9
- Indeks Kodu suszy (DC) z systemu FWI: od 7 do 220,4
- Indeks Początkowego spreadu (ISI) z systemu FWI: 0 do 18,5
- Indeks Budowania (BUI) z systemu FWI: 1.1 do 68
- Indeks Pogody pożarowej (FWI): 0 do 31.1
- Klasy: Fire and not Fire

Importowanie podstawowych bibliotek

```
[]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import geopandas as gpd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import StandardScaler
```

```
from sklearn import metrics import mean_squared_error, mean_absolute_error, mean_absolute_error, r2_score from sklearn.tree import DecisionTreeClassifier from sklearn import tree from sklearn.tree import export_graphviz from sklearn.metrics import classification_report from sklearn.metrics import accuracy_score from sklearn.metrics import ConfusionMatrixDisplay from sklearn.ensemble import RandomForestRegressor import sqlite3 import statsmodels.api as sm
```

Odczyt danych z pliku sqlite3

```
[]: poloczenie = sqlite3.connect('Algerian_forest_fires_dataset.db')
```

Przerabianie danych na potrzeby analiz przez bilioteke pandas i zamkniecie bilbioteki

```
[]: dane = pd.read_sql_query("SELECT * FROM Algerian_forest_fires_dataset ", u poloczenie)
```

```
[]: poloczenie.close()
```

Wyswietlenie informacji o danych

[]: dane.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 247 entries, 0 to 246
Data columns (total 14 columns):

#	Column	Non-Null Count	Dtype
0	day	246 non-null	object
1	month	245 non-null	object
2	year	245 non-null	object
3	Temperature	245 non-null	object
4	RH	245 non-null	object
5	Ws	245 non-null	object
6	Rain	245 non-null	object
7	FFMC	245 non-null	object
8	DMC	245 non-null	object
9	DC	245 non-null	object
10	ISI	245 non-null	object
11	BUI	245 non-null	object
12	FWI	245 non-null	object
13	Classes	244 non-null	object

dtypes: object(14)
memory usage: 27.1+ KB

Wyświetlenie kolumn danych

[]: dane.tail()

```
[]: dane.columns
[]: Index(['day', 'month', 'year', 'Temperature', 'RH', 'Ws', 'Rain', 'FFMC',
             'DMC', 'DC', 'ISI', 'BUI', 'FWI', 'Classes'],
            dtype='object')
    Wyświetlenie ilosci danych
[]: dane.nunique()
                      33
[ ]: day
     month
                       5
                       2
     year
     Temperature
                      20
     RH
                      63
                      19
     Ws
                      40
     Rain
     FFMC
                     174
     DMC
                     167
     DC
                     199
     ISI
                     107
     BUI
                     175
     FWI
                     127
                       9
     Classes
     dtype: int64
    Wyswietlenie pierwszych 5 wierszy danych
[]: dane.head()
[]:
       day month
                   year Temperature
                                               Rain
                                                      FFMC
                                                            DMC
                                                                    DC
                                                                        ISI
                                                                              BUI
                                                                                    FWI
                                       RH
                                           Ws
     0
         1
                6
                   2012
                                  29
                                       57
                                           18
                                                 0.0
                                                      65.7
                                                             3.4
                                                                   7.6
                                                                         1.3
                                                                              3.4
                                                                                    0.5
     1
         2
                6
                   2012
                                  29
                                       61
                                           13
                                                 1.3
                                                      64.4
                                                            4.1
                                                                   7.6
                                                                           1
                                                                              3.9
                                                                                    0.4
     2
         3
                6
                   2012
                                  26
                                       82
                                           22
                                               13.1
                                                      47.1
                                                            2.5
                                                                   7.1
                                                                        0.3
                                                                              2.7
                                                                                    0.1
                                                            1.3
                                                 2.5
     3
         4
                6
                   2012
                                   25
                                       89
                                           13
                                                      28.6
                                                                   6.9
                                                                           0
                                                                              1.7
                                                                                      0
     4
         5
                6
                                   27
                                       77
                                           16
                                                 0.0
                                                      64.8
                                                               3
                                                                  14.2
                                                                         1.2
                                                                              3.9
                   2012
                                                                                    0.5
             Classes
        not fire
     0
       not fire
     1
       not fire
     3 not fire
     4 not fire
    Wyświetlenie ostatnich 5 wierszy danych
```

[]:		day	month	year	Temperature	RH	Ws	Rain	FFMC	DMC	DC	ISI	BUI	FWI	\
	242	26	9	2012	30	65	14	0.0	85.4	16	44.5	4.5	16.9	6.5	
	243	27	9	2012	28	87	15	4.4	41.1	6.5	8	0.1	6.2	0	
	244	28	9	2012	27	87	29	0.5	45.9	3.5	7.9	0.4	3.4	0.2	
	245	29	9	2012	24	54	18	0.1	79.7	4.3	15.2	1.7	5.1	0.7	
	246	30	a	2012	24	64	15	0.2	67 3	3 8	16 5	1 2	4 8	0.5	

Classes

242 fire

243 not fire

244 not fire

245 not fire

246 not fire

Wyświetlenie wszystkich danych

[]: print(dane.to_string())

	DVG	20	.		day		year Tempera	ature	RH	Ws	Rain
FFMC	DMC	DC	ISI	BUI			Classes	00		4.0	0 0
0		- 0	4 6		1	6		29	57	18	0.0
65.7	3.4	7.6	1.3	3.4	_	0.5		0.0		4.0	
1					2	6		29	61	13	1.3
64.4	4.1	7.6	1	3.9	_	0.4		0.0	0.0	0.0	40.4
2					3	6		26	82	22	13.1
47.1	2.5	7.1	0.3	2.7		0.1		0.5	0.0	4.0	0.5
3						6		25	89	13	2.5
28.6	1.3	6.9	0	1.7		0					
4					5	6		27	77	16	0.0
64.8	3	14.2	1.2	3.9	_	0.5					
5					6		2012	31	67	14	0.0
82.6	5.8	22.2	3.1	7			fire				
6					7	6		33	54	13	0.0
88.2	9.9	30.5	6.4	10.9			fire				
7					8		2012	30	73	15	0.0
86.6	12.1	38.3	5.6	13.5			fire				
8						6		25	88	13	0.2
52.9	7.9	38.8	0.4	10.5		0.3					
9					10	6		28	79	12	0.0
73.2	9.5	46.3	1.3	12.6							
10					11	6		31	65	14	0.0
84.5	12.5	54.3	4	15.8			fire				
11					12	6		26	81	19	0.0
84.0	13.8	61.4	4.8	17.7							
12					13	6		27	84	21	1.2
50.0	6.7	17	0.5	6.7		0.2	not fire				
13					14	6	2012	30	78	20	0.5
59.0	4.6	7.8	1	4.4		0.4	not fire				

14					15		6	2012	28	80	17	3.1
49.4	3	7.4	0.4	3				not fire				
15					16				29	89	13	0.7
36.1	1.7	7.6	0	2.2				not fire				
16		7 0	•		17			2012	30	89	16	0.6
37.3	1.1	7.8	0	1.6	4.0	0		not fire	0.4	70	4.4	0 0
17	1 0	8	0.7	0 4	18	0 0		2012	31	78	14	0.3
56.9 18	1.9	0	0.7	2.4	19	0.2		not fire 2012	31	55	16	0.1
79.9	4.5	16	2.5	5.3	13			not fire	31	33	10	0.1
19	4.0	10	2.0	0.0	20	1.4		2012	30	80	16	0.4
59.8	3.4	27.1	0.9	5.1	20			not fire	00	00	10	0.1
20	0.1			0.1	21				30	78	14	0.0
81.0	6.3	31.6	2.6	8.4		2.2		fire				
21					22				31	67	17	0.1
79.1	7	39.5	2.4	9.7		2.3		not fire				
22					23		6	2012	32	62	18	0.1
81.4	8.2	47.7	3.3	11.5		3.8		fire				
23					24		6	2012	32	66	17	0.0
85.9	11.2	55.8	5.6	14.9				fire				
24					25				31	64	15	0.0
86.7	14.2	63.8	5.7	18.3				fire				
25									31	64	18	0.0
86.8	17.8	71.8	6.7	21.6				fire	0.4	50	4.0	0 0
26	04.6	00.0	0 0	05.0		4 =		2012	34	53	18	0.0
89.0	21.6	80.3	9.2	25.8				fire	20		4.4	0 0
27 89.1	0E E	00 E	7 6	20.7		12 0		2012 fire	32	55	14	0.0
28	25.5	00.5	7.0	29.1	29		6		32	47	13	0.3
79.9	18.4	84 4	2 2	23.8				not fire	02	71	10	0.5
29	10.1	01.1	2.2	20.0		0.5		2012	33	50	14	0.0
88.7	22.9	92.8	7.2	28.3				fire		00		0.0
30									29	68	19	1.0
59.9	2.5	8.6	1.1	2.9		0.4		not fire				
31								2012	27	75	19	1.2
55.7	2.4	8.3	0.8	2.8		0.3		not fire				
32					3		7	2012	32	76	20	0.7
63.1	2.6	9.2	1.3	3		0.5						
33					4				33	78	17	0.0
80.1	4.6	18.5	2.7	5.7		1.7						
34					5		7		33	66	14	0.0
	7.6	27.9	4.8	9.1	_			fire				
35	40.0	0.77		40 =	6				32	63	14	0.0
87.0	10.9	37	5.6	12.5	-			fire	٥٢	C 1	10	0 0
36	0.7	40.4	0.0	10 1	1	2 1			35	64	18	0.2
80.0 37	9.7	40.4	2.8	12.1	0			not fire 2012	33	68	19	0 0
	12 5	49.8	6	15.4	8		1		33	δō	19	0.0
00.0	12.0	43.0	U	10.4		0		1116				

38								2012	32	68	14	1.4
66.6	7.7	9.2	1.1	7.4		0.6		not fire				
39	_								33	69	13	0.7
66.6	6	9.3	1.1	5.8				not fire	0.0			
40	0.4	40.7	0.0	0.4	11	0.0		2012	33	76	14	0.0
81.1	8.1	18.7	2.6	8.1	10	2.2		not fire	0.4	75	4.0	0 1
41 75.1	7.9	27.7	1.5	9.2	12			2012 not fire	31	75	13	0.1
42	1.9	21.1	1.5	9.2	12	0.9		2012	34	81	15	0.0
81.8	9.7	37.2	3	11.7	13			not fire	34	01	13	0.0
43	3.1	01.2	J	11.1		0.4		2012	34	61	13	0.6
73.9	7.8	22.9	1.4	8.4	17			not fire	04	01	10	0.0
44	7.0	22.0	1.1	0.1		0.0			30	80	19	0.4
60.7	5.2	17	1.1	5.9				not fire	00		10	0.1
45	0.2								28	76	21	0.0
72.6	7	25.5	0.7	8.3				not fire				
46									29	70	14	0.0
82.8	9.4	34.1	3.2	11.1		3.6		fire				
47					18			2012	31	68	14	0.0
85.4	12.1	43.1	4.6	14.2		6		fire				
48					19		7	2012	35	59	17	0.0
88.1	12	52.8	7.7	18.2		10.9		fire				
49					20		7	2012	33	65	15	0.1
81.4	12.3	62.1	2.8	16.5		4		fire				
50					21		7	2012	33	70	17	0.0
85.4	18.5	71.5	5.2	22.4		8.8		fire				
51					22		7	2012	28	79	18	0.1
73.4	16.4	79.9	1.8	21.7		2.8		not fire				
52					23				27	66	22	0.4
68.2	10.5	71.3	1.8	15.4				not fire				
53					24			2012	28	78	16	0.1
70.0	9.6	79.7	1.4					not fire				
54								2012	31	65	18	0.0
	12.5	88.7	4.8	18.5				fire	0.0		4.0	
55	47 4	00.0	4.0	00.0				2012	36	53	19	0.0
89.2	17.1	98.6	10	23.9				fire	200	40	4.0	0 0
56	00.0	100 F	0.7	00.4				2012	36	48	13	0.0
90.3	22.2	108.5	8.7	29.4				fire	22	76	1 5	0 0
57	04.4	117 0	E 6	20 1		11 2		2012 fire	33	76	15	0.0
58	24.4	117.0	5.6	32.1				2012	32	73	15	0.0
	26.7	127	E 6	25				fire	32	13	15	0.0
59	20.1	121	5.0	35		11.9			31	79	15	0.0
85.4	28 5	136	17	37 <i>/</i> l				fire	31	19	15	0.0
60	20.0	130	T. 1	51.4		10.7			35	64	17	0.0
	31 9	145 7	6.8	41 2				fire	55	UŦ	Τ1	0.0
61	01.0	1 10.1	5.0	11.2				2012	36	45	14	0.0
	4.8	10.2	2	4.7				not fire	50	10	- -	0.0
		· -	_									

60					0		0	0010	25	EE	10	0 1
62	г о	10	4 7		2				35	55	12	0.4
78.0	5.8	10	1.7	5.5		0.8		not fire	0.5	60	4.4	0 0
63		4.0			3			2012	35	63	14	0.3
76.6	5.7	10	1.7	5.5		0.8		not fire				
64					4			2012	34	69	13	0.0
85.0	8.2	19.8	4	8.2		3.9		fire				
65					5				34	65	13	0.0
86.8	11.1	29.7	5.2	11.5				fire				
66					6				32	75	14	0.0
86.4	13	39.1	5.2	14.2		6.8		fire				
67					7			2012	32	69	16	0.0
86.5	15.5	48.6	5.5	17.2		8		fire				
68					8		8	2012	32	60	18	0.3
77.1	11.3	47	2.2	14.1		2.6		not fire				
69					9		8	2012	35	59	17	0.0
87.4	14.8	57	6.9	17.9		9.9		fire				
70								2012	35	55	14	0.0
88.9	18.6	67	7.4	21.9		11.6		fire				
71								2012	35	63	13	0.0
	21.7	77	7.1	25.5				fire				
72				20.0	12		8		35	51	13	0.3
	15.6	75 1	2.5	20.7				not fire	00	01	10	0.0
73	10.0	70.1	2.0	20.1		1.2			35	63	15	0.0
87.0	19	QF 1	5.0	2/ /				fire	00	00	10	0.0
74	13	00.1	0.5	27.7		10.2			33	66	14	0.0
	01.7	04.7	E 7	07.0				fire	33	00	14	0.0
	21.7	94.7	5.7	21.2					36	EE	1.0	0.2
75	1 F C	00 5	0.7	00		6.0			36	55	13	0.3
	15.6	92.5	3.7	22				fire	26	C1	10	0.0
76	44 7	00.4	0 0	47.0		4 0			36	61	18	0.3
80.2	11.7	90.4	2.8	17.6				fire	0.77	50	40	0 0
77	4.0	400 5							37	52	18	0.0
89.3	16	100.7						fire				
78									36	54	18	0.0
	20	110.9	9.7	27.5				fire				
79								2012	35	62	19	0.0
	23.2	120.9	9.7	31.3				fire				
80								2012	35	68	19	0.0
	25.9	130.6	8.8	34.7				fire				
81					21		8	2012	36	58	19	0.0
88.6	29.6	141.1	9.2	38.8		18.4		fire				
82					22		8	2012	36	55	18	0.0
89.1	33.5	151.3	9.9	43.1		20.4		fire				
83					23		8	2012	36	53	16	0.0
89.5	37.6	161.5	10.4	47.5				fire				
84									34	64	14	0.0
88.9	40.5	171.3	9	50.9		20.9		fire				
85								2012	35	60	15	0.0
	43.9	181.3	8.2	54.7								

86					26		8	2012	31	78	18	0.0
85.8 87	45.6	190.6	4.7	57.1		13.7		fire 2012	33	82	21	0.0
84.9	47	200.2	4.4	59.3		13.2		fire	55	02	21	0.0
88 89.4	50.2	210.4	7 3	62.9	28	19.9		2012 fire	34	64	16	0.0
89					29		8	2012	35	48	18	0.0
90.1 90	54.2	220.4	12.5	67.4				fire 2012	35	70	17	0.8
72.7	25.2	180.4	1.7	37.4				not fire		, 0		0.0
91 52.5	8.7	8.7	0.6	8.3	31	0.3		2012 not fire	28	80	21	16.8
92					1		9	2012	25	76	17	7.2
46.0 93	1.3	7.5	0.2	1.8	2	0.1	9	not fire 2012	22	86	15	10.1
30.5	0.7	7	0	1.1		0		not fire			10	
94 42.6	1.2	7.5	0.1	1.7	3	0	9	2012 not fire	25	78	15	3.8
95	1.2	7.0	0.1	1.,	4	Ŭ	9	2012	29	73	17	0.1
68.4 96	1.9	15.7	1.4	2.9	5	0.5	9	not fire 2012	29	75	16	0.0
80.8	3.4	24	2.8	5.1	O	1.7		fire		70	10	
97 75.8	3.6	32.2	2.1	5.6	6	0.9	9	2012 not fire	29	74	19	0.1
98	0.0	02.2	2.1	0.0	7			2012	31	71	17	0.3
69.6 99	3.2	30.1	1.5	5.1	8	0.6		not fire 2012	30	73	17	0.9
62.0	2.6	8.4	1.1	3	O	0.4		not fire	50	7.5	11	0.5
100 56.1	2.1	8.4	0.7	2.6	9	0.2		2012 not fire	30	77	15	1.0
101	2.1	0.4	0.7	2.0	10	0.2		2012	33	73	12	1.8
59.9 102	2.2	8.9	0.7	2.7		0.3			30	77	21	1.8
58.5	1.9	8.4	1.1	2.4		0.3		not fire	30	11	21	1.0
103 71.0	2.6	16.6	1.2	3.7		0.5		2012 not fire	29	88	13	0.0
104	2.0	10.0	1.2	3.1	13	0.5	9		25	86	21	4.6
40.9 105	1.3	7.5	0.1	1.8	14	0		not fire 2012	22	76	26	8.3
47.4	1.1	7	0.4	1.6	14	0.1		not fire	22	70	20	0.5
106 44.9	0.0	7.3	0.2	1 /	15	^	9	2012	24	82	15	0.4
107	0.9	1.3	0.2	1.4	16	0		not fire 2012	30	65	14	0.0
78.1	3.2	15.7	1.9	4.2	17	0.8		not fire	21	ΕO	1 /	0.0
108 87.7	6.4	24.3	6.2	7.7	17	5.9		2012 fire	31	52	14	0.0
109	0.0	20.4	6.0	11 0	18	7 7			32	49	11	0.0
89.4	9.8	33.1	6.8	11.3		7.7		fire				

110					19	9	2012	29	57	14	0.0
89.3	12.5	41.3	7.8	14.2		9.7	fire		0.		
111					20	9	2012	28	84	18	0.0
83.8	13.5	49.3	4.5	16		6.3	fire				
112					21	9	2012	31	55	11	0.0
87.8	16.5	57.9	5.4	19.2		8.3	fire				
113					22	9	2012	31	50	19	0.6
77.8	10.6	41.4	2.4	12.9		2.8	not fire				
114					23	9	2012	32	54	11	0.5
73.7	7.9	30.4	1.2	9.6		0.7	not fire				
115					24	9	2012	29	65	19	0.6
68.3	5.5	15.2	1.5	5.8		0.7	not fire				
116					25	9	2012	26	81	21	5.8
48.6	3	7.7	0.4	3		0.1	not fire				
117					26	9	2012	31	54	11	0.0
82.0	6	16.3	2.5	6.2		1.7	not fire				
118					27	9	2012	31	66	11	0.0
85.7	8.3	24.9	4	9		4.1	fire				
119					28	9	2012	32	47	14	0.7
77.5	7.1	8.8	1.8	6.8		0.9	not fire				
120				_	29	9	2012	26	80	16	1.8
47.4	2.9	7.7	0.3	3		0.1	not fire				
121	4 0	7 -	0 0	0 1	30	9	2012	25	78	14	1.4
45.0	1.9	7.5	0.2	2.4		0.1	not fire				
	1.0							NT	NT	NT	NT
122				1	Vone	None	None	None	None	None	None
122 None	None	None	None	None	Vone	None None	None None				
122 None 123	None Sidi-Bel	None Abbes	None Regio	None n Data	None aset	None None None	None None	None None	None None	None None	None None
122 None 123 None	None	None	None	None n Data	None aset	None None None	None None None	None	None	None	None
122 None 123 None 124	None Sidi-Bel None	None Abbes None	None Regio None	None n Data None	None aset	None None None month	None None None year Temper	None			
None 123 None 124 FFMC	None Sidi-Bel None	None Abbes	None Regio	None n Data	None aset day	None None None month FWI	None None None year Temper Classes	None	None RH	None Ws	None Rain
122 None 123 None 124 FFMC 125	None Sidi-Bel None DMC	None Abbes None	None Regio None ISI	None n Data None BUI	None aset	None None None month FWI 6	None None None year Temper Classes 2012	None	None	None	None
122 None 123 None 124 FFMC 125 57.1	None Sidi-Bel None	None Abbes None	None Regio None	None n Data None	None aset day	None None None month FWI 6 0.2	None None None Vear Temper Classes 2012 not fire	None rature	None RH 71	None Ws 12	None Rain 0.7
122 None 123 None 124 FFMC 125 57.1	None Sidi-Bel None DMC 2.5	None Abbes None DC 8.2	None Regio None ISI 0.6	None n Data None BUI 2.8	None aset day 1	None None None month FWI 6 0.2 6	None None None Vear Temper Classes 2012 not fire 2012	None	None RH	None Ws	None Rain
122 None 123 None 124 FFMC 125 57.1 126 55.7	None Sidi-Bel None DMC 2.5	None Abbes None DC 8.2	None Regio None ISI 0.6	None n Data None BUI	None aset day 1	None None None month FWI 6 0.2 6 0.2	None None None Vear Temper Classes 2012 not fire 2012 not fire	None rature 32	None RH 71 73	None Ws 12 13	None Rain 0.7 4.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127	None Sidi-Bel None DMC 2.5	None Abbes None DC 8.2 7.8	None Regio None ISI 0.6	None n Data None BUI 2.8	None aset day 1	None None None month FWI 6 0.2 6 0.2 6	None None None Vear Temper Classes 2012 not fire 2012 not fire 2012	None rature	None RH 71	None Ws 12	None Rain 0.7
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7	None Sidi-Bel None DMC 2.5	None Abbes None DC 8.2	None Regio None ISI 0.6	None n Data None BUI 2.8	None aset day 1 2	None None None month FWI 6 0.2 6 0.2 6 0.1	None None None Vear Temper Classes 2012 not fire 2012 not fire 2012 not fire	None rature 32 30 29	None RH 71 73 80	None Ws 12 13	None Rain 0.7 4.0 2.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128	None Sidi-Bel None DMC 2.5 2.7	None Abbes None DC 8.2 7.8	None Regio None ISI 0.6 0.6	None n Data None BUI 2.8 2.9	None aset day 1	None None None month FWI 6 0.2 6 0.2 6 0.1	None None None None Year Temper Classes 2012 not fire 2012 not fire 2012 not fire 2012	None rature 32	None RH 71 73	None Ws 12 13	None Rain 0.7 4.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4	None Sidi-Bel None DMC 2.5 2.7	None Abbes None DC 8.2 7.8	None Regio None ISI 0.6	None n Data None BUI 2.8	None aset day 1 2 3 4	None None None month FWI 6 0.2 6 0.2 6 0.1 6 1	None None None Vear Temper Classes 2012 not fire 2012 not fire 2012 not fire	None rature 32 30 29 30	None RH 71 73 80 64	None Ws 12 13 14	None Rain 0.7 4.0 2.0 0.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4 129	None Sidi-Bel None DMC 2.5 2.7	None Abbes None DC 8.2 7.8	None Regio None ISI 0.6 0.6	None n Data None BUI 2.8 2.9	None aset day 1 2	None None None month FWI 6 0.2 6 0.2 6 0.1 6 1	None None None None Vear Temper Classes 2012 not fire 2012 not fire 2012 not fire 2012 not fire 2012	None rature 32 30 29	None RH 71 73 80	None Ws 12 13	None Rain 0.7 4.0 2.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4	None Sidi-Bel None DMC 2.5 2.7 2.2 5.2	None Abbes None DC 8.2 7.8 7.6	None Regio None ISI 0.6 0.6 0.3	None n Data None BUI 2.8 2.9 2.6 5.6	None aset day 1 2 3 4 5	None None None month FWI 6 0.2 6 0.2 6 1 6	None None None Vear Temper Classes 2012 not fire 2012 not fire 2012 not fire 2012 not fire 2012	None rature 32 30 29 30	None RH 71 73 80 64	None Ws 12 13 14	None Rain 0.7 4.0 2.0 0.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4 129 77.1	None Sidi-Bel None DMC 2.5 2.7 2.2 5.2 6	None Abbes None DC 8.2 7.8 7.6	None Regio None ISI 0.6 0.6 0.3	None n Data None BUI 2.8 2.9 2.6 5.6	None aset day 1 2 3 4 5	None None None month FWI 6 0.2 6 0.2 6 1 6 1 6 1 6	None None None None Vear Temper Classes 2012 not fire	None rature 32 30 29 30 32	None RH 71 73 80 64 60	None Ws 12 13 14 14	None Rain 0.7 4.0 2.0 0.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4 129 77.1	None Sidi-Bel None DMC 2.5 2.7 2.2 5.2 6	None Abbes None DC 8.2 7.8 7.6 15.4	None Regio None ISI 0.6 0.6 0.3 2.2 1.8	None n Data None BUI 2.8 2.9 2.6 5.6 6.5	None aset day 1 2 3 4 5	None None None month FWI 6 0.2 6 0.2 6 0.1 6 0.1 6 1 6 3.1	None None None None Vear Temper Classes 2012 not fire 2012	None rature 32 30 29 30 32	None RH 71 73 80 64 60	None Ws 12 13 14 14	None Rain 0.7 4.0 2.0 0.0
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4 129 77.1 130 83.7	None Sidi-Bel None DMC 2.5 2.7 2.2 5.2 6	None Abbes None DC 8.2 7.8 7.6 15.4	None Regio None ISI 0.6 0.6 0.3 2.2 1.8	None n Data None BUI 2.8 2.9 2.6 5.6 6.5	None aset day 1 2 3 4 5	None None None month FWI 6 0.2 6 0.2 6 0.1 6 0.1 6 1 6 3.1	None None None None None None Vear Temper Classes 2012 not fire 2012	None rature 32 30 29 30 32 35	None RH 71 73 80 64 60 54	None Ws 12 13 14 14 14 11	None Rain 0.7 4.0 2.0 0.0 0.2 0.1
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4 129 77.1 130 83.7 131	None Sidi-Bel None DMC 2.5 2.7 2.2 5.2 6 8.4	None Abbes None DC 8.2 7.8 7.6 15.4 17.6	None Regio None ISI 0.6 0.6 0.3 2.2 1.8 3.1	None n Data None BUI 2.8 2.9 2.6 5.6 6.5 9.3	None aset day 1 2 3 4 5	None None None nonth FWI 6 0.2 6 0.2 6 0.1 6 1 6 3.1 6 6	None None None None year Temper Classes 2012 not fire 2012 fire 2012	None rature 32 30 29 30 32 35	None RH 71 73 80 64 60 54	None Ws 12 13 14 14 14 11	None Rain 0.7 4.0 2.0 0.0 0.2 0.1
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4 129 77.1 130 83.7 131 85.6	None Sidi-Bel None DMC 2.5 2.7 2.2 5.2 6 8.4 9.9	None Abbes None DC 8.2 7.8 7.6 15.4 17.6	None Regio None ISI 0.6 0.6 0.3 2.2 1.8 3.1	None n Data None BUI 2.8 2.9 2.6 5.6 6.5 9.3	None aset day 1 2 3 4 5 6 7	None None None nonth FWI 6 0.2 6 0.2 6 0.1 6 1 6 3.1 6 6	None None None None Vear Temper Classes 2012 not fire 2012 fire 2012 fire	None rature 32 30 29 30 32 35 35	None RH 71 73 80 64 60 54 44	None Ws 12 13 14 14 14 17	None Rain 0.7 4.0 2.0 0.0 0.2 0.1 0.2
122 None 123 None 124 FFMC 125 57.1 126 55.7 127 48.7 128 79.4 129 77.1 130 83.7 131 85.6 132	None Sidi-Bel None DMC 2.5 2.7 2.2 5.2 6 8.4 9.9	None Abbes None DC 8.2 7.8 7.6 15.4 17.6 26.3	None Regio None ISI 0.6 0.6 0.3 2.2 1.8 3.1 5.4	None n Data None BUI 2.8 2.9 2.6 5.6 6.5 9.3 10.7	None aset day 1 2 3 4 5 6 7 8	None None None None month FWI 60.2 60.1 60.1 60.9 63.1 666	None None None None None None Vear Temper Classes 2012 not fire 2012 fire 2012 fire 2012 fire 2012	None rature 32 30 29 30 32 35 35	None RH 71 73 80 64 60 54 44	None Ws 12 13 14 14 14 17	None Rain 0.7 4.0 2.0 0.0 0.2 0.1 0.2

101					10		_	0010	20	11	4.5	0 0
134	40.0	00 5	0 4	40.4				2012	30	41	15	0.0
89.4	13.3	22.5	8.4	13.1				fire				
135								2012	31	42	21	0.0
90.6	18.2	30.5	13.4	18		16.7		fire				
136					12		6	2012	27	58	17	0.0
88.9	21.3	37.8	8.7	21.2		12.9		fire				
137					13		6	2012	30	52	15	2.0
72.3	11.4	7.8	1.4	10.9		0.9		not fire				
138					14		6	2012	27	79	16	0.7
53.4	6.4	7.3	0.5	6.1		0.3		not fire				
139					15		6	2012	28	90	15	0.0
66.8	7.2	14.7	1.2	7.1				not fire				
140								2012	29	87	15	0.4
47.4	4.2	8	0.2	4.1				not fire		•		· · -
141	1.2	Ü	0.2	1.1	17			2012	31	69	17	4.7
62.2	3.9	8	1.1	3.8	-1			not fire	01	00		1.1
142	5.5	O	1.1	5.0		0.4		2012	33	62	10	8.7
65.5	16	8.3	0.9	4.4	10				33	02	10	0.7
	4.6	0.3	0.9	4.4				not fire	20	67	4.4	4 -
143	4 4	0.0		4 0	19	0 4		2012	32	67	14	4.5
64.6	4.4	8.2	1	4.2		0.4		not fire	0.4			
144		_						2012	31	72	14	0.2
60.2	3.8	8	0.8	3.7				not fire				
145								2012	32	55	14	0.0
86.2	8.3	18.4	5	8.2				fire				
146					22			2012	33	46	14	1.1
78.3	8.1	8.3	1.9	7.7		1.2		not fire				
147					23		6	2012	33	59	16	0.8
74.2	7	8.3	1.6	6.7		0.8		not fire				
148					24		6	2012	35	68	16	0.0
85.3	10	17	4.9	9.9		5.3		fire				
149					25		6	2012	34	70	16	0.0
86.0	12.8	25.6	5.4	12.7		6.7		fire				
150					26		6	2012	36	62	16	0.0
87.8	16.5	34.5	7	16.4		9.5		fire				
151								2012	36	55	15	0.0
89.1	20.9	43.3	8	20.8				fire				
152									37	37	13	0.0
92.5	27.2	52.4	11.7	27.1				fire				
153		0211							37	36	13	0.6
86.2	17.9	36.7	4.8	17.8	20			fire	01	00	10	0.0
154	11.5	50.7	4.0	17.0				2012	34	42	15	1.7
	12	0 E	2.2	11 E	30			ot fire	94	72	10	1.1
	12	8.5	2.2	11.5	4				00	EO	10	0.0
155	2 2	0 -	4 0	0.0				2012	28	58	18	2.2
63.7	3.2	8.5	1.2	3.3				not fire	0.0	40	4.0	0 0
156	5 7.0	4		7 0	2			2012	33	48	16	0.0
87.6	7.9	17.8	6.8	7.8	_			fire	. .	F.		. .
157					3			2012	34	56	17	0.1
84.7	9.7	27.3	4.7	10.3		5.2		fire				

158								2012	34	58	18	0.0
88.0	13.6	36.8	8	14.1				fire	0.4	4.5	4.0	
159	10.7	4.0.4	11 0	10.7		4 -		2012	34	45	18	0.0
90.5 160	18.7	46.4	11.3	18.7		15	7	fire 2012	35	42	15	0.3
84.7	15.5	45 1	4.3	16.7	O	6.3		fire	33	42	13	0.5
161	10.0	10.1	1.0	10.7	7	0.0			38	43	13	0.5
85.0	13	35.4	4.1	13.7				fire				
162					8		7	2012	35	47	18	6.0
80.8	9.8	9.7	3.1	9.4		3		fire				
163					9		7	2012	36	43	15	1.9
82.3	9.4	9.9	3.2	9		3.1		fire				
164					10		7		34	51	16	3.8
77.5	8	9.5	2	7.7				not fire				
165	5 4	0.5	4.0					2012	34	56	15	2.9
74.8	7.1	9.5	1.6	6.8				not fire	2.0	4.4	10	0 0
166 90.1	12.6	19.4	8.3	12.5	12	0.6		2012 fire	36	44	13	0.0
167	12.0	19.4	0.3	12.5		9.0			39	45	13	0.6
85.2	11.3	10 4	4.2	10.9		4.7		fire	39	40	13	0.0
168	11.0	10.1	1.2	10.5				2012	37	37	18	0.2
88.9	12.9	14.6 9	12.5	10.4				None				
169							7		34	45	17	0.0
90.5	18	24.1	10.9	17.7		14.1		fire				
170					16		7	2012	31	83	17	0.0
84.5	19.4	33.1	4.7	19.2		7.3		fire				
171					17		7		32	81	17	0.0
84.6	21.1	42.3	4.7	20.9				fire				
172	20.0	54 0			18		7		33	68	15	0.0
86.1	23.9	51.6	5.2	23.9				fire	0.4	F.O.	4.0	0 0
173	27.8	61 1	7.3	07 7	19			2012 fire	34	58	16	0.0
174	21.0	01.1	1.3	21.1				2012	36	50	16	0.0
	32 7	71	9.5	32 6				fire	30	30	10	0.0
175	02.1	, ,	5.0	02.0				2012	36	29	18	0.0
	39.6	80.6	18.5	39.5				fire				
176									32	48	18	0.0
91.5	44.2	90.1	13.2	44		25.4		fire				
177					23		7	2012	31	71	17	0.0
87.3	46.6	99	6.9	46.5		16.3		fire				
178					24		7	2012	33	63	17	1.1
	20.9	56.6	1.6	21.7				not fire				
179								2012	39	64	9	1.2
73.8	11.7	15.9	1.1	11.4				not fire	0.5	F.0	4.0	0 0
180	10.0	10.7	1.0	10.7	26	4	1	2012	35	58	10	0.2
78.3 181	10.8	19.7	1.6	10.7				not fire 2012	29	97	10	0 0
	11 Q	28.3	2 Q	11 Q				not fire	29	87	18	0.0
00.0	11.0	20.3	2.0	11.0		3.2		TOP TITE				

100					20		7	2012	22	E 7	16	0 0
182	15 7	27.6	6.7	15 7				2012	33	57	16	0.0
87.5	15.7	31.0	0.7					fire	2.4	ΕO	1.6	0 0
183	40 =	45.0	- 4		29				34	59	16	0.0
88.1	19.5	47.2	7.4	19.5				fire				
184									36	56	16	0.0
	23.8	57.1	8.2	23.8				fire				
185									37	55	15	0.0
	28.3	67.2	8.3	28.3				fire				
186									38	52	14	0.0
	4.4	10.5	2	4.4				not fire				
187					2		8	2012	40	34	14	0.0
93.3	10.8	21.4	13.8	10.6	1	13.5		fire				
188					3		8	2012	39	33	17	0.0
93.7	17.1	32.1	17.2	16.9	1	19.5		fire				
189					4		8	2012	38	35	15	0.0
93.8	23	42.7	15.7	22.9	2	20.9		fire				
190					5		8	2012	34	42	17	0.1
88.3	23.6	52.5	19	23.5	1	12.6		fire				
191					6		8	2012	30	54	14	3.1
	11	9.1	1.3	10.5		0.8		not fire				
192									34	63	13	2.9
69.7	7.2	9.8	1.2	6.9		0.6		not fire				
193								2012	37	56	11	0.0
87.4	11.2	20.2	5.2	11				fire				
194								2012	39	43	12	0.0
91.7	16.5	30.9	9.6	16.4				fire				
195	10.0	00.0	0.0	10.1					39	39	15	0.2
	15.8	35 4	8 2	15.8				fire	00	00	10	0.2
196	10.0	00.1	0.2	10.0	11				40	31	15	0.0
	22 5	46 3	16 6	22 4				fire	10	01	10	0.0
197	22.0	40.0	10.0	22.4		21.0			39	21	17	0.4
93.0	18.4	41.5	15 5	12 /				fire	00	21	11	0.4
198		41.5							35	34	16	0.2
								fire	33	34	10	0.2
199	10.9	40.1	7.5	17.5				2012	37	40	13	0 0
	00.2	EE E	10 0	20.2					31	40	13	0.0
	22.3	55.5	10.8	22.3				fire	٥F	4.0	10	0 0
200	40.0	F4 0	۰	4.0					35	46	13	0.3
83.9	16.9	54.2	3.5	19				fire	4.0	4.4	4.0	0.4
201	00.0	0E 4	۰	04.0					40	41	10	0.1
	22.6	65.1	9.5	24.2				fire	4.0		•	
202									42	24	9	0.0
	30.3	76.4	15.7	30.4				fire				
203									37	37	14	0.0
	35.9	86.8	16	35.9				fire				
204									35	66	15	0.1
	32.7	96.8	3.3	35.5				fire				
205					20		8		36	81	15	0.0
83.7	34.4	107	3.8	38.1		9		fire				

86.0 36.9 117.1 5.1 41.3 12.2 fire 207	206					21		8	2012	36	71	15	0.0
Section Sect		36.9	117.1	5.1								10	0.0
88.5. 41.1 127.5 8. 45.5 18.1 fire 36 43 16 0.0 208 24.5 611e 36 43 16 0.0 21.2 46.1 137.7 11.5 50.2 24.5 61ire 35 38 15 0.0 92.1 51.3 147.7 12.2 54.9 26.9 fire 30 40 18 0.0 92.1 56.3 157.5 14.3 59.5 31.1 fire 30 3 37 16 0.0 92.2 61.3 167.2 13.1 64 30.3 fire 36 54 14 0.0 91.2 61.3 167.2 13.1 68 261.1 fire 35 56 14 0.0 91.2 37 166 2.1 30.6 6.1 not fire 3 16 14 0.0 19.2 20.7 43.6 5.7										37	53	14	0.0
208		41.1	127.5	8	45.5								
91.2 46.1 137.7 11.5 50.2 24.5 fire 209 22.1 51.3 147.7 12.2 54.9 26.9 fire 210 51.3 147.7 12.2 54.9 26.9 8 2012 34 40 18 0.0 92.1 56.3 157.5 14.3 59.5 31.1 fire 33 37 16 0.0 92.2 61.3 167.2 13.1 64 30.3 fire 212 36 54 14 0.0 91.0 65.9 177.3 10 68 26.1 16 16 2.0 14 0.4										36	43	16	0.0
92.1 51.3 147.7 12.2 54.9 26.9 fire 210 25 8 2012 34 40 18 0.0 92.1 56.3 157.5 14.3 59.5 31.1 fire 2 21 66.3 167.2 13.1 64 30.3 fire 212 29 61.3 167.2 13.1 64 30.3 fire 212 30.6 177.3 10 68 26.1 fire 213 37 166 2.1 30.6 6.1 not fire 214 37 166 2.1 30.6 5.9 fire 214 37 30.6 5.9 6.1 not fire 215 38 159.1 8.1 35.7 16 6.1 not fire 216 38 159.1 8.1 35.7 16 6.1 6.1 9.0 39 21 2.4	91.2	46.1	137.7	11.5	50.2				fire				
210	209					24		8	2012	35	38	15	0.0
92.1 56.3 157.5 14.3 59.5 31.1 fire 211 26 8 2012 33 37 16 0.0 92.2 61.3 167.2 13.1 64 30.3 fire 212 27 8 2012 36 54 14 0.0 91.0 65.9 177.3 10 68 26.1 fire 35 56 14 0.4 79.2 37 166 2.1 30.6 6.1 not fire 35 53 17 0.5 80.2 20.7 149.2 2.7 30.6 5.9 fire 31 0.8 2012 34 49 15 0.5 89.1 27.8 168.2 9.8 39.3 19.4 fire 31 8 2012 30 59 19 0.0 89.1 27.8 168.2 9.8 39.3 19.4 fire 31 9 <td>92.1</td> <td>51.3</td> <td>147.7</td> <td>12.2</td> <td>54.9</td> <td></td> <td>26.9</td> <td></td> <td>fire</td> <td></td> <td></td> <td></td> <td></td>	92.1	51.3	147.7	12.2	54.9		26.9		fire				
211 Section 167.2 13.1 64 30.3 fire 167.2 16.0 0.0 92.2 61.3 167.2 13.1 64 30.3 fire 17.3 10 68 26.1 fire 17.3 10 68 26.1 fire 18.2 35 56 14 0.0 0.6 0.7 0.0	210					25		8	2012	34	40	18	0.0
92.2 61.3 167.2 13.1 64 30.3 fire 212 8 2012 36 54 14 0.0 91.0 65.9 177.3 10 68 26.1 fire 213 166 2.1 30.6 6.1 not fire 214 2.7 30.6 6.1 not fire 214 5.7 30.6 5.9 fire 215 6.2 30.6 5.9 fire 215 7.8 18.1 35.7 16 fire 216 8.1 159.1 8.1 35.7 16 fire 216 8.2 9.8 39.3 19.4 fire 217 1 9 2012 29 86 16 0.0 37.9 0.9 8.2 0.1 1.4 0 not fire 19 0.0 218 2.9 16.3 2 4 0.8 not fir	92.1	56.3	157.5	14.3	59.5		31.1		fire				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	211					26		8	2012	33	37	16	0.0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	92.2	61.3	167.2	13.1	64		30.3		fire				
213 79.2 37 166 2.1 30.6 6.1 not fire 214 20.7 149.2 2.7 30.6 6.1 not fire 215 30.6 5.9 fire 215 30.8 2012 34 49 15 0.0 89.2 24.8 159.1 8.1 35.7 16 fire 30 59 19 0.0 89.1 27.8 168.2 9.8 39.3 19.4 fire 21 30 59 19 0.0 89.1 27.8 168.2 9.8 39.3 19.4 fire 21 40 0.0 60.0 16 0.0 0.0 0.0 60.0 16 0.0	212					27		8	2012	36	54	14	0.0
79.2 37 166 2.1 30.6 6.1 not fire 29 8 2012 35 53 17 0.5 80.2 20.7 149.2 2.7 30.6 5.9 fire 215 80.2 24.8 159.1 8.1 35.7 16 fire 216 89.2 24.8 159.1 8.1 35.7 16 fire 216 1 9 2012 30 59 19 0.0 89.1 27.8 168.2 9.8 39.3 19.4 fire 29 86 16 0.0 37.9 0.9 8.2 0.1 1.4 0 not fire 29 86 16 0.0 37.9 0.9 8.2 0.1 1.4 0 not fire 21 29 86 16 0.0 37.9 16.3 2 4 0.8 not fire 29 2012 30 66 15	91.0	65.9	177.3	10	68		26.1		fire				
214 Company of the company	213					28		8	2012	35	56	14	0.4
80.2 20.7 149.2 2.7 30.6 5.9 fire 215 30 8 2012 34 49 15 0.0 89.2 24.8 159.1 8.1 35.7 16 fire 30 59 19 0.0 89.1 27.8 168.2 9.8 39.3 19.4 fire 30 59 19 0.0 217 1 9 2012 29 86 16 0.0 37.9 0.9 8.2 0.1 1.4 0 not fire 218 75 16 0.0 75.4 2.9 16.3 2 4 0.8 not fire 219 2012 28 67 19 0.0 75.4 2.9 16.3 3.3 6 2.5 fire 220 28 75 16 0.0 73.5 4.1 26.6 1.5 6 0.7 not fire 221	79.2	37	166	2.1	30.6								
15	214									35	53	17	0.5
89.2 24.8 159.1 8.1 35.7 16 fire 216 31 8 2012 30 59 19 0.0 89.1 27.8 168.2 9.8 39.3 19.4 fire 1 0 0.0 29 86 16 0.0 37.9 0.9 8.2 0.1 1.4 0 not fire 2 9 2012 28 67 19 0.0 75.4 2.9 16.3 2 4 0.8 not fire 2 9 2012 28 67 19 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 220 30 66 15 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 30 66 15 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 30 58 12 4.1 221 6.6.1 1.5 6 0.7 not fire 30 58		20.7	149.2	2.7	30.6								
216 77.8 168.2 9.8 39.3 19.4 fire 1 9 2012 29 86 16 0.0 37.9 0.9 8.2 0.1 1.4 0 not fire 2 9 2012 28 67 19 0.0 75.4 2.9 16.3 2 4 0.8 not fire 0.0										34	49	15	0.0
89.1 27.8 168.2 9.8 39.3 19.4 fire 217 1 9 2012 29 86 16 0.0 37.9 0.9 8.2 0.1 1.4 0 not fire 0 0.0 75.4 2.9 16.3 2 4 0.8 not fire 0 0.0 219 3 2 4 0.8 not fire 0 0.0 0.0 219 3 3.3 6 2.5 fire 0 0.0 </td <td></td> <td>24.8</td> <td>159.1</td> <td>8.1</td> <td>35.7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		24.8	159.1	8.1	35.7								
217 0.9 8.2 0.1 1.4 0 not fire 218 2.9 16.3 2 4 0.8 not fire 219 16.3 2 4 0.8 not fire 219 24 0.8 not fire 219 3 9 2012 28 75 16 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 6 0.7 not fire 7 0.2 30 66 15 0.2 0.2 0.2 0.3 66 15 0.2 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>30</td><td>59</td><td>19</td><td>0.0</td></td<>										30	59	19	0.0
37.9 0.9 8.2 0.1 1.4 0 not fire 218 2 16.3 2 4 0.8 not fire 219 3 9 2012 28 75 16 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 30 66 15 0.2 73.5 4.1 26.6 1.5 6 0.7 not fire 30 58 12 4.1 221 5 9 2012 30 58 12 4.1 66.1 4 8.4 1 3.9 0.4 not fire 222 6 9 2012 34 71 14 6.5 64.5 3.3 9.1 1 3.5 0.4 not fire 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 30		27.8	168.2	9.8	39.3								
218 2.9 16.3 2 4 0.8 not fire 219 3.3 9 2012 28 75 16 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 6 15 0.2 73.5 4.1 26.6 1.5 6 0.7 not fire 0.2 0.66 15 0.2 73.5 4.1 26.6 1.5 6 0.7 not fire 0.0										29	86	16	0.0
75.4 2.9 16.3 2 4 0.8 not fire 219 3 9 2012 28 75 16 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 220 4 9 2012 30 66 15 0.2 73.5 4.1 26.6 1.5 6 0.7 not fire 0.2 0.2 30 58 12 4.1 66.1 4 8.4 1 3.9 0.4 not fire 0.2 0.2 30 58 12 4.1 66.1 4 8.4 1 3.9 0.4 not fire 0.2 0.2 34 71 14 6.5 64.5 3.3 9.1 1 3.5 0.4 not fire 0.2 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7		0.9	8.2	0.1	1.4								
219 3 9 2012 28 75 16 0.0 82.2 4.4 24.3 3.3 6 2.5 fire 220 - - 4 9 2012 30 66 15 0.2 73.5 4.1 26.6 1.5 6 0.7 not fire -						2				28	67	19	0.0
82.2 4.4 24.3 3.3 6 2.5 fire 220 - 4 9 2012 30 66 15 0.2 73.5 4.1 26.6 1.5 6 0.7 not fire 221 - - 5 9 2012 30 58 12 4.1 66.1 4 8.4 1 3.9 0.4 not fire		2.9	16.3	2	4	_							
220 4.1 26.6 1.5 6 0.7 not fire 73.5 4.1 26.6 1.5 6 0.7 not fire 221 5 9 2012 30 58 12 4.1 66.1 4 8.4 1 3.9 0.4 not fire 7 14 6.5 64.5 3.3 9.1 1 3.5 0.4 not fire 34 71 14 6.5 64.5 3.3 9.1 1 3.5 0.4 not fire 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 30 73 14 0						3				28	75	16	0.0
73.5 4.1 26.6 1.5 6 0.7 not fire 221 5 9 2012 30 58 12 4.1 66.1 4 8.4 1 3.9 0.4 not fire 222 6 9 2012 34 71 14 6.5 64.5 3.3 9.1 1 3.5 0.4 not fire 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 30 74 15 1.1 59.5		4.4	24.3	3.3	6					0.0			
221 5 9 2012 30 58 12 4.1 66.1 4 8.4 1 3.9 0.4 not fire 222 6 9 2012 34 71 14 6.5 64.5 3.3 9.1 1 3.5 0.4 not fire 0.2 <td></td> <td>4.4</td> <td>00.0</td> <td>4 -</td> <td></td> <td>4</td> <td></td> <td></td> <td></td> <td>30</td> <td>66</td> <td>15</td> <td>0.2</td>		4.4	00.0	4 -		4				30	66	15	0.2
66.1 4 8.4 1 3.9 0.4 not fire 222 6 9 2012 34 71 14 6.5 64.5 3.3 9.1 1 3.5 0.4 not fire 223 7 9 2012 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 7 6 6 6 15 0.0 82.4 8.6 17.7 3.8 6.4 3.2 fire 7 7 9 2012 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 7 10 9 2012 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 29 74 15 1.1 59.5 4.7 8.2 0.8 4.6 0.3 not fire 30 73 14 0.0 79.2 6.5 16.6 2		4.1	26.6	1.5	6	_				20	F0	40	4.4
222 64.5 3.3 9.1 1 3.5 0.4 not fire 223 7 9 2012 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 224 8 9 2012 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 6 6 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 7 10 9 2012 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 7 11 9 2012 29 74 15 1.1 15 1.1 11 9 2012 30 73 14 0.0 14 0.0 10		4	0.4	1	2.0					30	58	12	4.1
64.5 3.3 9.1 1 3.5 0.4 not fire 223 7 9 2012 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 224 8 9 2012 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 225 9 9 2012 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 226 10 9 2012 29 74 15 1.1 59.5 4.7 8.2 0.8 4.6 0.3 not fire 227 11 9 2012 30 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 228 12 9 2012 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 229 0.0 49 19 0.0		4	0.4	1	3.9					2/	71	1./	6 E
223 7 9 2012 31 62 15 0.0 83.3 5.8 17.7 3.8 6.4 3.2 fire 224 8 9 2012 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 6.0 6.0 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 7.0		2 2	0 1	1	2 5					34	11	14	0.5
83.3 5.8 17.7 3.8 6.4 3.2 fire 224 8 9 2012 30 88 14 0.0 82.5 6.6 26.1 3 8.1 2.7 fire 225 9 9 2012 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 226 10 9 2012 29 74 15 1.1 59.5 4.7 8.2 0.8 4.6 0.3 not fire 227 11 9 2012 30 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 228 8.3 25.2 3.8 9.1 3.9 fire 229 13 9 2012 29 49 19 0.0		3.3	9.1	1	3.5					21	60	15	0 0
224 82.5 6.6 26.1 3 8.1 2.7 fire 225 9 9 2012 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 29 74 15 1.1 59.5 4.7 8.2 0.8 4.6 0.3 not fire 30 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 30 73 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 29 49 19 0.0		5 Q	17 7	3 Q	6 1	'				31	02	15	0.0
82.5 6.6 26.1 3 8.1 2.7 fire 225 9 9 2012 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 226 10 9 2012 29 74 15 1.1 59.5 4.7 8.2 0.8 4.6 0.3 not fire 227 11 9 2012 30 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 228 12 9 2012 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 229 13 9 2012 29 49 19 0.0		5.0	11.1	3.0	0.4	8				30	88	1/1	0 0
225 9 9 2012 30 80 15 0.0 83.1 7.9 34.5 3.5 10 3.7 fire 226 10 9 2012 29 74 15 1.1 59.5 4.7 8.2 0.8 4.6 0.3 not fire 227 11 9 2012 30 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 228 12 9 2012 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 229 49 19 0.0		6 6	26 1	3	8 1	O				30	00	14	0.0
83.1 7.9 34.5 3.5 10 3.7 fire 226		0.0	20.1	0	0.1	9				30	80	15	0 0
226 10 9 2012 29 74 15 1.1 59.5 4.7 8.2 0.8 4.6 0.3 not fire 0.3 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 0.2 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 29 49 19 0.0		7.9	34.5	3.5	10	Ü				00	00	10	0.0
59.5 4.7 8.2 0.8 4.6 0.3 not fire 227 11 9 2012 30 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 228 12 9 2012 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 229 49 19 0.0		,	01.0	0.0	10	10				29	74	15	1.1
227 11 9 2012 30 73 14 0.0 79.2 6.5 16.6 2.1 6.6 1.2 not fire 228 12 9 2012 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 229 13 9 2012 29 49 19 0.0		4.7	8.2	0.8	4.6								
79.2 6.5 16.6 2.1 6.6 1.2 not fire 228 12 9 2012 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 229 13 9 2012 29 49 19 0.0			0.1							30	73	14	0.0
228 12 9 2012 31 72 14 0.0 84.2 8.3 25.2 3.8 9.1 3.9 fire 229 13 9 2012 29 49 19 0.0		6.5	16.6	2.1	6.6						. •		
84.2 8.3 25.2 3.8 9.1 3.9 fire 229 13 9 2012 29 49 19 0.0										31	72	14	0.0
229 13 9 2012 29 49 19 0.0		8.3	25.2	3.8	9.1					- -	· -	-	
										29	49	19	0.0
		11.5	33.4	9.1	12.4								

230					14		9	2012	28	81	15	0.0
84.6	12.6	41.5	4.3	14.3		5.7		fire				
231					15		9	2012	32	51	13	0.0
88.7	16	50.2	6.9	17.8		9.8		fire				
232					16		9	2012	33	26	13	0.0
93.9	21.2	59.2	14.2	22.4		19.3		fire				
233									34	44	12	0.0
92.5	25.2	63.3	11.2	26.2		17.5		fire				
234									36	33	13	0.1
90.6	25.8	77.8	9	28.2				fire				
235					19		9		29	41	8	0.1
83.9	24.9	86	2.7	28.9				fire				
236									34	58	13	0.2
79.5	18.7	88	2.1	24.4								
237								2012	35	34	17	0.0
92.2	23.6	97.3	13.8	29.4				fire				
238									33	64	13	0.0
88.9	26.1	106.3	7.1	32.4				fire				
239									35	56	14	0.0
89.0	29.4	115.6	7.5	36				fire			_	
240					24		9		26	49	6	2.0
61.3	11.9	28.1	0.6	11.9				not fire				
241	40.0	00.4	0.4		25				28	70	15	0.0
79.9	13.8	36.1	2.4	14.1				not fire				0 0
242		44 =			26				30	65	14	0.0
85.4	16	44.5	4.5	16.9				fire	0.0	07	4.5	4 4
243	<i>0</i> F	0	0.4	6.0	27				28	87	15	4.4
41.1	6.5	8	0.1	6.2		0		not fire	07	07	00	٥. ٦
244	٥. ٦	7.0	0 4	2 4	28				27	87	29	0.5
45.9	3.5	7.9	0.4	3.4				not fire	0.4	Ε.4	10	0 1
245	4 0	15.0	4 7	г 4	29				24	54	18	0.1
79.7	4.3	15.2	1.7	5.1	30				24	61	1 5	0.0
246	2.0	1 <i>6</i> E	1.0	4.0				2012	24	64	15	0.2
67.3	3.8	10.5	1.2	4.8		0.5		not fire				

Opis ilosc danych w tabeli kategoriami

[]: dane.describe()

[]: DMC DC \ day month year Temperature RHWs Rain ${\tt FFMC}$ 246 245 245 245 245 245.0 245.0 245.0 245 count 245 unique 33 5 2 20 63 40.0 174.0 167.0 199 19 7 35 64 0.0 88.9 7.9 top 1 2012 14 8 244 133.0 5.0 freq 8 62 29 10 43 8.0 5

ISI BUI FWI Classes count 245.0 245 245.0 244 unique 107.0 175 127.0 9

```
Sprawdzanie wartości które sa puste (null)
    dane[dane.isnull().any(axis=1)]
[]:
                                       day month
                                                   year Temperature
                                                                         RH
                                                                               Ws
                                                                                    Rain
     122
                                      None
                                            None
                                                   None
                                                                None
                                                                      None
                                                                             None
                                                                                    None
     123
          Sidi-Bel Abbes Region Dataset
                                            None
                                                   None
                                                                None
                                                                      None
                                                                             None
                                                                                    None
     168
                                        14
                                                7
                                                   2012
                                                                  37
                                                                         37
                                                                               18
                                                                                     0.2
          FFMC
                  DMC
                            DC
                                 ISI
                                        BUI
                                                  FWI Classes
     122
                 None
                                None
                                       None
                                                          None
          None
                          None
                                                 None
     123
          None
                 None
                          None
                                None
                                       None
                                                 None
                                                          None
     168
          88.9
                 12.9
                       14.6 9
                                12.5
                                       10.4
                                             fire
                                                         None
    Podsumowanie danych ile są puste dla danego atrybutu
[]: dane.isnull().sum()
[ ]: day
                     1
                     2
     month
                     2
     year
                     2
     Temperature
     RH
                     2
                     2
     Ws
                     2
     Rain
     FFMC
                     2
     DMC
                     2
     DC
                     2
                     2
     ISI
     BUI
                     2
     FWI
                     2
     Classes
                     3
     dtype: int64
    Usunięcie danych gdzie jest brak danych (null)
[]: dane=dane.dropna().reset_index(drop=True)
    Sprawdzanie danych po usunięciu
[]: dane[dane.isnull().any(axis=1)]
[]: Empty DataFrame
     Columns: [day, month, year, Temperature, RH, Ws, Rain, FFMC, DMC, DC, ISI, BUI,
     FWI, Classes]
     Index: []
```

top

freq

1.1

8.0

3

5

0.4 fire

131

12.0

[]: dane.isnull().sum()

[]: day 0 month0 year 0 Temperature 0 RH0 Ws 0 Rain 0 FFMC 0 ${\tt DMC}$ 0 DC 0 0 ISI BUI 0 FWI 0 Classes 0 dtype: int64

Wyswietlenie wszytkich danych po operacji

[]: print(dane.to_string())

	day	month	year	Temperature	RH	Ws	Rain	FFMC	DMC	DC	ISI	
BUI	FWI		Class	es								
0	1	6	2012	29	57	18	0.0	65.7	3.4	7.6	1.3	
3.4	0.5	not	fire									
1	2	6	2012	29	61	13	1.3	64.4	4.1	7.6	1	
3.9	0.4	not	fire									
2	3	6	2012	26	82	22	13.1	47.1	2.5	7.1	0.3	
2.7	0.1	not	fire									
3	4	6	2012	25	89	13	2.5	28.6	1.3	6.9	0	
1.7	0	not	fire									
4	5	6	2012	27	77	16	0.0	64.8	3	14.2	1.2	
3.9	0.5	not	fire									
5	6	6	2012	31	67	14	0.0	82.6	5.8	22.2	3.1	
7 :	2.5	f	ire									
6	7	6	2012	33	54	13	0.0	88.2	9.9	30.5	6.4	
10.9	7.2	2	fire									
7	8	6	2012	30	73	15	0.0	86.6	12.1	38.3	5.6	
13.5	7.1	L	fire									
8	9	6	2012	25	88	13	0.2	52.9	7.9	38.8	0.4	
10.5	0.3	3 no	t fire									
9	10	6	2012	28	79	12	0.0	73.2	9.5	46.3	1.3	
12.6	0.9	o no	t fire									
10	11	6	2012	31	65	14	0.0	84.5	12.5	54.3	4	
15.8	5.6	3	fire									
11	12	6	2012	26	81	19	0.0	84.0	13.8	61.4	4.8	
17.7	7.1	L	fire									

6.7 0.2 not fire 13 14 6 2012 30 78 20 0.5 59.0 4.6 7.8 1 14 15 6 2012 28 80 17 3.1 49.4 3 7.4 0.4 3 0.1 not fire 15 16 6 2012 29 89 13 0.7 36.1 1.7 7.6 0 2.2 0 not fire 16 17 6 2012 30 89 16 0.6 37.3 1.1 7.8 0 1.6 0 not fire 17 18 6 2012 31 78 14 0.3 56.9 1.9 8 0.7 2.4 0.2 not fire 18 19 6 2012 30 80 16 0.1 79.9 4.5 16 2.5 18 19 6 2012 30 80 16 0.1 79.9 4.5 16 2.5 1.1 0.4 not fire 19 20 6 2012 30 80 16 0.4 59.8 3.4 27.1 0.9 5.1 0.4 not fire 20 21 6 2012 30 80 16 0.4 59.8 3.4 27.1 0.9 5.1 0.4 not fire 21 22 6 2012 30 78 14 0.0 81.0 6.3 31.6 2.6 8.4 2.2 fire 22 23 6 2012 31 67 17 0.1 79.1 7 39.5 2.4 9.7 2.3 not fire 22 23 6 2012 32 62 18 0.1 81.4 8.2 47.7 3.3 11.5 3.8 fire 23 24 6 2012 32 66 17 0.0 86.7 14.2 63.8 5.7 14.9 7.5 fire 24 25 6 2012 31 64 15 0.0 86.7 14.2 63.8 5.7 14.9 7.5 fire 25 26 6 2012 31 64 18 0.0 86.7 14.2 63.8 5.7 18.3 8.4 fire 25 26 6 2012 31 64 18 0.0 86.7 14.2 63.8 5.7 18.3 8.4 fire 25 26 6 2012 31 64 18 0.0 89.0 21.6 80.3 9.2 25.8 15 fire 27 28 6 2012 32 85 14 0.0 89.0 21.6 80.3 9.2 25.8 15 fire 28 29 6 2012 32 47 13 0.3 79.9 18.4 84.4 2.2 27.1 3.9 fire 28 29 6 2012 32 47 13 0.3 79.9 18.4 84.4 2.2 28.3 12.9 fire 29 30 6 2012 32 67 19 1.0 59.9 2.5 86.6 1.1 29 30 7 4 7 2012 29 68 19 1.0 59.9 2.5 86.6 1.1 29 30 7 4 7 2012 29 68 19 1.0 59.9 2.5 86.6 1.1 29 30 7 4 7 2012 29 68 19 1.0 59.9 2.5 86.6 1.1 29 30 7 5 10 5 10 5 10 5 10 5 10 5 10 5 10 5	12	13	6	2012	27	84	21	1.2	50.0	6.7	17	0.5
4.4 0.4 not fire 14 15 6 2012 28 80 17 3.1 49.4 3 7.4 0.4 3 0.1 not fire 15 16 6 2012 29 89 13 0.7 36.1 1.7 7.6 0 2.2 0 not fire 16 17 6 2012 30 89 16 0.6 37.3 1.1 7.8 0 1.6 0 not fire 17 18 6 2012 31 78 14 0.3 56.9 1.9 8 0.7 2.4 0.2 not fire 18 19 6 2012 31 55 16 0.1 79.9 4.5 16 2.5 5.3 1.4 not fire 19 20 6 2012 30 80 16 0.4 59.8 3.4 27.1 0.9 5.1 0.4 not fire 20 21 6 2012 30 80 16 0.4 59.8 3.4 27.1 0.9 5.1 0.4 not fire 21 22 6 2012 31 67 17 0.1 79.1 7 39.5 2.4 9.7 2.3 not fire 22 23 6 2012 31 67 17 0.1 79.1 7 39.5 2.4 9.7 2.3 not fire 22 23 6 2012 31 67 17 0.1 79.1 7 39.5 2.4 9.7 2.3 not fire 23 24 6 2012 32 66 17 0.0 85.9 11.2 55.8 5.6 14.9 7.5 fire 24 25 6 2012 31 64 15 0.0 86.7 14.2 63.8 5.7 14.9 7.5 fire 24 25 6 2012 31 64 15 0.0 86.7 14.2 63.8 5.7 18.3 8.4 fire 25 26 6 2012 31 64 15 0.0 86.8 17.8 71.8 6.7 21.3 18.3 8.4 fire 22 27 6 2012 31 64 15 0.0 86.8 17.8 71.8 6.7 21.3 18.3 8.4 fire 22 28 6 2012 31 64 15 0.0 86.8 17.8 71.8 6.7 21.3 18.3 8.4 fire 22 28 6 2012 31 64 15 0.0 86.8 17.8 71.8 6.7 21.3 19 fire 22 28 6 2012 32 65 14 0.0 89.1 25.5 88.5 7.6 22 23 8 6 2012 32 65 14 0.0 89.1 25.5 88.5 7.6 23 24 6 2012 32 65 14 0.0 89.1 25.5 88.5 7.6 24 25 6 2012 32 65 14 0.0 89.1 25.5 88.5 7.6 25 26 7 2012 32 47 13 0.3 79.9 18.4 84.4 2.2 25 8 6 2012 32 65 14 0.0 89.1 25.5 88.5 7.6 27 28 6 2012 32 47 13 0.3 79.9 18.4 84.4 2.2 28.8 3.9 not fire 29 30 6 2012 32 47 13 0.3 79.9 18.4 84.4 2.2 28.8 3.9 not fire 29 30 6 2012 32 75 19 1.2 55.7 2.4 8.3 0.8 28.3 12.9 fire 30 1 7 2012 29 68 19 1.0 59.9 2.5 8.6 1.1 29 0.4 not fire 30 2 7 2012 27 75 19 1.2 55.7 2.4 8.3 0.8 28.8 0.3 not fire 30 3 7 2012 32 76 20 0.7 63.1 2.6 9.2 1.3 3 0.5 not fire 31 2 7 2012 32 76 20 0.7 63.1 2.6 9.2 1.3 3 0.5 not fire 32 3 7 2012 33 78 17 0.0 80.1 4.6 18.5 2.7 5.7 1.7 not fire 33 4 7 2012 33 78 17 0.0 80.1 4.6 18.5 2.7	6.7	0.2	not									
14	13	14	6	2012	30	78	20	0.5	59.0	4.6	7.8	1
3	4.4	0.4	not	fire								
15	14	15	6	2012	28	80	17	3.1	49.4	3	7.4	0.4
2.2	3 0	.1	not f	ire								
16 17 6 2012 30 89 16 0.6 37.3 1.1 7.8 0 1.6 0 not fire 31 78 14 0.3 56.9 1.9 8 0.7 2.4 0.2 not fire 31 78 14 0.3 56.9 1.9 8 0.7 5.3 1.4 not fire 30 80 16 0.1 79.9 4.5 16 2.5 5.3 1.4 not fire 30 80 16 0.4 59.8 3.4 27.1 0.9 5.1 0.4 not fire 30 78 14 0.0 81.0 6.3 31.6 2.6 8.4 2.2 fire 31 67 17 0.1 79.1 7 39.5 2.4 9.7 2.3 not fire 32 62 18 0.1 81.4 8.2 47.7 3.3 <	15	16	6	2012	29	89	13	0.7	36.1	1.7	7.6	0
1.6	2.2	0	not	fire								
17	16	17	6	2012	30	89	16	0.6	37.3	1.1	7.8	0
2.4	1.6	0	not	fire								
18 19 6 2012 31 55 16 0.1 79.9 4.5 16 2.5 5.3 1.4 not fire 30 80 16 0.4 59.8 3.4 27.1 0.9 5.1 0.4 not fire 30 78 14 0.0 81.0 6.3 31.6 2.6 8.4 2.2 fire 31 67 17 0.1 79.1 7 39.5 2.4 9.7 2.3 not fire 22 23 6 2012 32 62 18 0.1 81.4 8.2 47.7 3.3 11.5 3.8 fire 3 24 6 2012 32 66 17 0.0 85.9 11.2 55.8 5.6 14.9 7.5 fire 24 25 6 2012 31 64 15 0.0 86.7 14.2 63.8 5.7 25 26 6 2012 31 64 18 0.0 89.0 21.6 <td>17</td> <td>18</td> <td></td> <td></td> <td>31</td> <td>78</td> <td>14</td> <td>0.3</td> <td>56.9</td> <td>1.9</td> <td>8</td> <td>0.7</td>	17	18			31	78	14	0.3	56.9	1.9	8	0.7
5.3 1.4 not fire 19 20 6 2012 30 80 16 0.4 59.8 3.4 27.1 0.9 5.1 0.4 not fire 30 78 14 0.0 81.0 6.3 31.6 2.6 8.4 2.2 fire 31 67 17 0.1 79.1 7 39.5 2.4 9.7 2.3 not fire 32 62 18 0.1 81.4 8.2 47.7 3.3 11.5 3.8 fire 32 66 17 0.0 85.9 11.2 55.8 5.6 14.9 7.5 fire 31 64 15 0.0 86.7 14.2 63.8 5.7 24 25 6 2012 31 64 15 0.0 86.7 14.2 63.8 5.7 21.6 10.6 fire 32 53 18 0.0 86.7 14.2 63.8 5.7 25.8 15 fire 32												
19					31	55	16	0.1	79.9	4.5	16	2.5
5.1												
20					30	80	16	0.4	59.8	3.4	27.1	0.9
8.4												
21			6		30	78	14	0.0	81.0	6.3	31.6	2.6
9.7										_		
22					31	67	17	0.1	79.1	7	39.5	2.4
11.5									0.4.4		45.5	
23			6		32	62	18	0.1	81.4	8.2	47.7	3.3
14.9			0		20	0.0	47	0 0	05.0	44.0	FF 0	г о
24			6		32	66	17	0.0	85.9	11.2	55.8	5.6
18.3 8.4 fire 25			6		21	61	1 5	0.0	06 7	1/1 0	62.0	F 7
25			0		31	64	15	0.0	00.7	14.2	03.0	5.7
21.6			6		21	61	10	0 0	06 0	17 0	71 0	6 7
26			0		31	04	10	0.0	00.0	17.0	11.0	0.7
25.8			6		3/1	23	1Ω	0 0	80 O	21 6	8U 3	0.2
27			O		34	55	10	0.0	09.0	21.0	00.5	9.2
29.7 13.9 fire			6		32	55	14	0.0	20 1	25 5	88 5	7.6
28			O		02	00	17	0.0	03.1	20.0	00.0	7.0
23.8			6		32	47	13	0.3	79.9	18.4	84.4	2.2
29 30 6 2012 33 50 14 0.0 88.7 22.9 92.8 7.2 28.3 12.9 fire 30 1 7 2012 29 68 19 1.0 59.9 2.5 8.6 1.1 2.9 0.4 not fire 31 2 7 2012 27 75 19 1.2 55.7 2.4 8.3 0.8 2.8 0.3 not fire 32 3 7 2012 32 76 20 0.7 63.1 2.6 9.2 1.3 3 0.5 not fire 33 4 7 2012 33 78 17 0.0 80.1 4.6 18.5 2.7 5.7 1.7 not fire 34 5 7 2012 33 66 14 0.0 85.9 7.6 27.9 4.8 9.1 4.9 fire			_		02		10	0.0		10.1	01.1	2.2
28.3 12.9 fire 30 1 7 2012 29 68 19 1.0 59.9 2.5 8.6 1.1 2.9 0.4 not fire 31 2 7 2012 27 75 19 1.2 55.7 2.4 8.3 0.8 2.8 0.3 not fire 32 3 7 2012 32 76 20 0.7 63.1 2.6 9.2 1.3 3 0.5 not fire 33 4 7 2012 33 78 17 0.0 80.1 4.6 18.5 2.7 5.7 1.7 not fire 34 5 7 2012 33 66 14 0.0 85.9 7.6 27.9 4.8 9.1 4.9 fire					33	50	14	0.0	88.7	22.9	92.8	7.2
30											02.0	
2.9					29	68	19	1.0	59.9	2.5	8.6	1.1
31												
2.8					27	75	19	1.2	55.7	2.4	8.3	0.8
32		0.3										
33 4 7 2012 33 78 17 0.0 80.1 4.6 18.5 2.7 5.7 1.7 not fire 34 5 7 2012 33 66 14 0.0 85.9 7.6 27.9 4.8 9.1 4.9 fire	32				32	76	20	0.7	63.1	2.6	9.2	1.3
5.7 1.7 not fire 34 5 7 2012 33 66 14 0.0 85.9 7.6 27.9 4.8 9.1 4.9 fire	3 0	.5	not f	ire								
34 5 7 2012 33 66 14 0.0 85.9 7.6 27.9 4.8 9.1 4.9 fire	33	4	7	2012	33	78	17	0.0	80.1	4.6	18.5	2.7
9.1 4.9 fire	5.7	1.7	not	fire								
	34	5	7	2012	33	66	14	0.0	85.9	7.6	27.9	4.8
35 6 7 2012 32 63 14 0.0 87.0 10.9 37 5.6	9.1	4.9		fire								
	35	6	7	2012	32	63	14	0.0	87.0	10.9	37	5.6
12.5 6.8 fire	12.5	6.8		fire								

36	7	7 2012	35	64	18	0.2	80.0	9.7	40.4	2.8
12.1 37	3.2 8	not fire 7 2012	33	68	19	0.0	85.6	12.5	49.8	6
15.4 38	8 9	fire 7 2012	32	68	14	1.4	66.6	7.7	9.2	1.1
7.4 39	0.6 10	not fire 7 2012	33	69	13	0.7	66.6	6	9.3	1.1
5.8 40	0.5 11	not fire 7 2012	33	76	14	0.0	81.1	8.1	18.7	2.6
8.1 41	2.2 12	not fire 7 2012	31	75	13	0.1	75.1	7.9	27.7	1.5
9.2 42	0.9 13	not fire 7 2012	34	81	15	0.0	81.8	9.7	37.2	3
11.7 43	3.4 14	not fire 7 2012	34	61	13	0.6	73.9	7.8	22.9	1.4
8.4 44	0.8	not fire 7 2012	30	80	19	0.4	60.7	5.2	17	1.1
5.9 45	0.5 16	not fire 7 2012	28	76	21	0.0	72.6	7	25.5	0.7
8.3 46	0.4 17	not fire 7 2012	29	70	14	0.0	82.8	9.4	34.1	3.2
11.1 47	3.6 18	fire	31	68						4.6
14.2	6	fire			14	0.0	85.4	12.1	43.1	
48 18.2	19 10.9	7 2012 fire	35	59	17	0.0	88.1	12	52.8	7.7
49 16.5	20 4	7 2012 fire	33	65	15	0.1		12.3	62.1	2.8
50 22.4	21 8.8	7 2012 fire	33	70	17	0.0	85.4	18.5	71.5	5.2
51 21.7	22 2.8	7 2012 not fire	28	79	18	0.1	73.4	16.4	79.9	1.8
52 15.4	23 2.1	7 2012 not fire	27	66	22		68.2		71.3	1.8
53 14.7	24 1.3	7 2012 not fire	28	78	16	0.1	70.0	9.6	79.7	1.4
54 18.5	25 7.3	7 2012 fire	31	65	18	0.0	84.3	12.5	88.7	4.8
55 23.9	26 15.3	7 2012 fire	36	53	19	0.0	89.2	17.1	98.6	10
56 29.4	27 15.3	7 2012 fire	36	48	13	0.0	90.3	22.2	108.5	8.7
57 32.1	28 11.3	7 2012 fire	33	76	15	0.0	86.5	24.4	117.8	5.6
58 35 1	29 1.9	7 2012 fire	32	73	15	0.0	86.6	26.7	127	5.6
59	30 10.7	7 2012 fire	31	79	15	0.0	85.4	28.5	136	4.7

60	31	7	2012	35	64	17	0.0	87.2	31.9	145.7	6.8
41.2 61	15.7 1	8	fire 2012	36	45	14	0.0	78.8	4.8	10.2	2
4.7 62	0.9	not 8	fire 2012	35	55	12	0.4	78.0	5.8	10	1.7
5.5 63	0.8 3	not 8	fire 2012	35	63	14	0.3	76.6	5.7	10	1.7
5.5 64	0.8 4	not 8	fire 2012	34	69	13	0.0	85.0	8.2	19.8	4
8.2 65	3.9 5	8	fire 2012	34		13	0.0	86.8		29.7	5.2
11.5	6.1		fire						11.1		
66 14.2	6 6.8	8	2012 fire	32	75	14	0.0	86.4	13	39.1	5.2
67 17.2	7 8	8	2012 fire	32	69	16	0.0	86.5	15.5	48.6	5.5
68 14.1	8 2.6	8	2012 t fire	32	60	18	0.3	77.1	11.3	47	2.2
69	9	8	2012	35	59	17	0.0	87.4	14.8	57	6.9
17.9 70	9.9 10	8	fire 2012	35	55	14	0.0	88.9	18.6	67	7.4
21.9 71	11.6 11	8	fire 2012	35	63	13	0.0	88.9	21.7	77	7.1
25.5 72	12.1 12	8	fire 2012	35	51	13	0.3	81.3	15.6	75.1	2.5
20.7	4.2	no	t fire								
73 24.4	13 10.2	8	2012 fire	35	63	15	0.0	87.0	19	85.1	5.9
74 27.2	14 10.6	8	2012 fire	33	66	14	0.0	87.0	21.7	94.7	5.7
75 22	15 6.3	8	2012 fire	36	55	13	0.3	82.4	15.6	92.5	3.7
76	16		2012	36	61	18	0.3	80.2	11.7	90.4	2.8
17.6 77	4.2 17		fire 2012	37	52	18	0.0	89.3	16	100.7	9.7
22.9 78	14.6 18	8	fire 2012	36	54	18	0.0	89.4	20	110.9	9.7
27.5	16.1		fire	00	01	10	0.0	03.1	20	110.0	0.1
79 31.3	19 17.2	8	2012 fire	35	62	19	0.0	89.4	23.2	120.9	9.7
80	20	8	2012	35	68	19	0.0	88.3	25.9	130.6	8.8
34.7 81	16.8 21	8	fire 2012	36	58	19	0.0	88.6	29.6	141.1	9.2
38.8	18.4		fire								
82 43.1	22 20.4	8	2012 fire	36	55	18	0.0	89.1	33.5	151.3	9.9
43.1 83	20.4		2012	36	53	16	0.0	89.5	37.6	161.5	10.4
	22.3		fire								

54.7 20.3 fire 86 26 8 2012 31 78 18 0.0 85.8 45.6 190.6 4 57.1 13.7 fire 87 27 8 2012 33 82 21 0.0 84.9 47 200.2 4 59.3 13.2 fire 88 28 8 2012 34 64 16 0.0 89.4 50.2 210.4 7 62.9 19.9 fire 89 29 8 2012 35 48 18 0.0 90.1 54.2 220.4 12 67.4 30.2 fire 90 30 8 2012 35 70 17 0.8 72.7 25.2 180.4 1 37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	3.2 1.7 1.4 1.4 2.5 2.5 7
54.7 20.3 fire 86 26 8 2012 31 78 18 0.0 85.8 45.6 190.6 4 57.1 13.7 fire 87 27 8 2012 33 82 21 0.0 84.9 47 200.2 4 59.3 13.2 fire 88 28 8 2012 34 64 16 0.0 89.4 50.2 210.4 7 62.9 19.9 fire 89 29 8 2012 35 48 18 0.0 90.1 54.2 220.4 12 67.4 30.2 fire 90 30 8 2012 35 70 17 0.8 72.7 25.2 180.4 1 37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	1.7 1.4 7.3 2.5
86	2.5 7
87	7.3 2.5 7
59.3 13.2 fire 88 28 8 2012 34 64 16 0.0 89.4 50.2 210.4 7 62.9 19.9 fire 89 29 8 2012 35 48 18 0.0 90.1 54.2 220.4 12 67.4 30.2 fire 90 30 8 2012 35 70 17 0.8 72.7 25.2 180.4 1 37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	7.3 2.5 7
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62.9 19.9 fire 89 29 8 2012 35 48 18 0.0 90.1 54.2 220.4 12 67.4 30.2 fire 90 30 8 2012 35 70 17 0.8 72.7 25.2 180.4 1 37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	2.5
89 29 8 2012 35 48 18 0.0 90.1 54.2 220.4 12 67.4 30.2 fire 90 30 8 2012 35 70 17 0.8 72.7 25.2 180.4 1 37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	7
67.4 30.2 fire 90 30 8 2012 35 70 17 0.8 72.7 25.2 180.4 1 37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	7
90 30 8 2012 35 70 17 0.8 72.7 25.2 180.4 1 37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire).6
37.4 4.2 not fire 91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire).6
91 31 8 2012 28 80 21 16.8 52.5 8.7 8.7 0 8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	
8.3 0.3 not fire 92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire	
92 1 9 2012 25 76 17 7.2 46.0 1.3 7.5 0 1.8 0.1 not fire).2
1.8 0.1 not fire	1.2
95 2 9 2012 22 00 15 10.1 50.5 0.7	0
1.1 0 not fire	U
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2.9 0.5 not fire	
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5.1 1.7 fire	
97 6 9 2012 29 74 19 0.1 75.8 3.6 32.2 2	2.1
5.6 0.9 not fire	
98 7 9 2012 31 71 17 0.3 69.6 3.2 30.1 1	5
5.1 0.6 not fire	
	1
3 0.4 not fire	
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2.6 0.2 not fire	
101 10 9 2012 33 73 12 1.8 59.9 2.2 8.9 0	1.7
2.7 0.3 not fire	
	1
2.4 0.3 not fire 103 12 9 2012 29 88 13 0.0 71.0 2.6 16.6 1	2
3.7 0.5 not fire	∠
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1.6 0.1 not fire	
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1.4 0 not fire	
	9
4.2 0.8 not fire	

108	17	9	2012	31	52	14	0.0	87.7	6.4	24.3	6.2
7.7 109	5.9 18	9	fire 2012	32	49	11	0.0	89.4	9.8	33.1	6.8
11.3	7.7	_	fire								
110	19	9	2012	29	57	14	0.0	89.3	12.5	41.3	7.8
14.2	9.7	0	fire	00	0.4	10	0.0	02.0	10 F	40.2	4 5
111 16	20 6.3	9	2012 fire	28	84	18	0.0	83.8	13.5	49.3	4.5
112	21	9	2012	; 31	55	11	0.0	87.8	16.5	57.9	5.4
19.2	8.3		fire	01	00	11	0.0	01.0	10.0	01.5	0.4
113	22	9	2012	31	50	19	0.6	77.8	10.6	41.4	2.4
12.9	2.8		t fire	01	00	10	0.0		10.0		2.1
114	23	9	2012	32	54	11	0.5	73.7	7.9	30.4	1.2
9.6	0.7		fire		-				, , ,	0012	
115	24	9	2012	29	65	19	0.6	68.3	5.5	15.2	1.5
5.8	0.7		fire								
116	25	9		26	81	21	5.8	48.6	3	7.7	0.4
	0.1	not f									
117	26	9		31	54	11	0.0	82.0	6	16.3	2.5
6.2	1.7		fire								
118	27	9	2012	31	66	11	0.0	85.7	8.3	24.9	4
	1.1	f	ire								
119	28	9		32	47	14	0.7	77.5	7.1	8.8	1.8
6.8	0.9	not	fire								
120	29	9	2012	26	80	16	1.8	47.4	2.9	7.7	0.3
3 (0.1	not f	ire								
121	30	9	2012	25	78	14	1.4	45.0	1.9	7.5	0.2
2.4	0.1	not	fire								
122	day	month	year	Temperature	RH	Ws	Rain	FFMC	DMC	DC	ISI
BUI	FWI	C	lasses								
123	1	6	2012	32	71	12	0.7	57.1	2.5	8.2	0.6
2.8	0.2	not	fire								
124	2	6	2012	30	73	13	4.0	55.7	2.7	7.8	0.6
2.9	0.2	not	fire								
125	3	6	2012	29	80	14	2.0	48.7	2.2	7.6	0.3
2.6	0.1	not	fire								
126	4	6	2012	30	64	14	0.0	79.4	5.2	15.4	2.2
5.6	1	not	fire								
127	5	6	2012	32	60	14	0.2	77.1	6	17.6	1.8
6.5	0.9	not	fire								
128	6	6	2012	35	54	11	0.1	83.7	8.4	26.3	3.1
9.3	3.1		fire								
129	7	6	2012	35	44	17	0.2	85.6	9.9	28.9	5.4
10.7	6		fire								
130	8	6	2012	28	51	17	1.3	71.4	7.7	7.4	1.5
7.3	0.8		fire								
7.3 131 8.3	0.8 9	6	fire 2012 fire	27	59	18	0.1	78.1	8.5	14.7	2.4

132	10	6	2012	30	41	15	0.0	89.4	13.3	22.5	8.4
13.1	10		fire								
133	11	6	2012	31	42	21	0.0	90.6	18.2	30.5	13.4
	6.7		fire								
134	12	6	2012	27	58	17	0.0	88.9	21.3	37.8	8.7
21.2	12.9		fire								
135	13	6		30	52	15	2.0	72.3	11.4	7.8	1.4
10.9	0.9		t fire								
136	14	6	2012	27	79	16	0.7	53.4	6.4	7.3	0.5
6.1	0.3		fire								
137	15		2012	28	90	15	0.0	66.8	7.2	14.7	1.2
7.1	0.6		fire							_	
138	16	6	2012	29	87	15	0.4	47.4	4.2	8	0.2
4.1	0.1		fire							_	
139	17		2012	31	69	17	4.7	62.2	3.9	8	1.1
3.8	0.4		fire			4.0					
140	18	6	2012	33	62	10	8.7	65.5	4.6	8.3	0.9
4.4	0.4		fire	00	07	4.4	4 =	04.0	4 4	0.0	4
141	19	6	2012	32	67	14	4.5	64.6	4.4	8.2	1
4.2	0.4		fire	0.4	70	4.4	0.0	CO 0	2.0	0	0 0
142	20	6	2012	31	72	14	0.2	60.2	3.8	8	0.8
3.7	0.3 21		fire	20	EE	1 /	0 0	oe 0	0 2	10 /	5
143	4.9	6	2012	32	55	14	0.0	86.2	8.3	18.4	Э
8.2 144	4.9 22	6	fire 2012	33	46	14	1.1	78.3	8.1	8.3	1.9
7.7	1.2		fire	33	40	14	1.1	10.3	0.1	0.3	1.9
145	23	6	2012	33	59	16	0.8	74.2	7	8.3	1.6
6.7	0.8		fire	33	33	10	0.0	14.2	,	0.5	1.0
146	24	6	2012	35	68	16	0.0	85.3	10	17	4.9
9.9	5.3	U	fire	00	00	10	0.0	00.0	10	Ι,	4.5
147	25	6	2012	34	70	16	0.0	86.0	12.8	25.6	5.4
12.7	6.7	Ů	fire	01	, ,	10	0.0	00.0	12.0	20.0	0.1
148	26	6	2012	36	62	16	0.0	87.8	16.5	34.5	7
	9.5		fire		-			0.10		01.0	·
149	27	6	2012	36	55	15	0.0	89.1	20.9	43.3	8
	12	_									
150	28	6	2012	37	37	13	0.0	92.5	27.2	52.4	11.7
27.1	18.4		fire								
151			2012	37	36	13	0.6	86.2	17.9	36.7	4.8
	7.2		fire								
152	30	6	2012	34	42	15	1.7	79.7	12	8.5	2.2
11.5	2.2	not	fire								
	1	7	2012	28	58	18	2.2	63.7	3.2	8.5	1.2
3.3	0.5		fire								
	2		2012	33	48	16	0.0	87.6	7.9	17.8	6.8
7.8	6.4		fire								
155	3	7	2012	34	56	17	0.1	84.7	9.7	27.3	4.7
10.3	5.2		fire								

156	4		012	34	58	18	0.0	88.0	13.6	36.8	8
14.1 157	9.9 5	7 20	fire 012	34	45	18	0.0	90.5	18.7	46.4	11.3
18.7 158	15 6		fire 012	35	42	15	0.3	84.7	15.5	45.1	4.3
16.7 159	6.3 7		fire 012	38	43	13	0.5	85.0	13	35.4	4.1
13.7 160	5.2 8		fire 012	35	47	18	6.0	80.8	9.8	9.7	3.1
9.4 161	3 9	7 20	ire 012	36	43	15	1.9	82.3	9.4	9.9	3.2
9 3		fire		0.4	- 4		0.0		•		
162 7.7	10	7 20 not fi	012	34	51	16	3.8	77.5	8	9.5	2
163	1.3 11		012	34	56	15	2.9	74.8	7.1	9.5	1.6
6.8	0.8	not fi		01		10	2.0	. 1.0		0.0	1.0
164	12		012	36	44	13	0.0	90.1	12.6	19.4	8.3
12.5	9.6		fire								
165	13		012	39	45	13	0.6	85.2	11.3	10.4	4.2
10.9 166	4.7 15		fire 012	34	45	17	0.0	90.5	18	24.1	10.9
17.7	14.1		fire	34	40	11	0.0	90.5	10	24.1	10.9
167	16		012	31	83	17	0.0	84.5	19.4	33.1	4.7
19.2	7.3	1	fire								
168	17	7 20	012	32	81	17	0.0	84.6	21.1	42.3	4.7
20.9	7.7		fire								
169	18		012	33	68	15	0.0	86.1	23.9	51.6	5.2
23.9	9.1		fire	0.4	50	4.0	0 0	00.4	07.0	04.4	7.0
170	19		012	34	58	16	0.0	88.1	27.8	61.1	7.3
27.7 171	13 20		fire 012	36	50	16	0.0	89.9	32.7	71	9.5
32.6	17.3		fire	30	30	10	0.0	09.9	52.1	11	9.0
172	21	7 20		36	29	18	0.0	93.9	39.6	80.6	18.5
	30		fire								
173		7 20		32	48	18	0.0	91.5	44.2	90.1	13.2
44 2	5.4	fi	re								
174	23	7 20	012	31	71	17	0.0	87.3	46.6	99	6.9
	16.3	į									
175	24	7 20		33	63	17	1.1	72.8	20.9	56.6	1.6
	2.5	not i				_					
176	25	7 20		39	64	9	1.2	73.8	11.7	15.9	1.1
	0.7	not i		0.5	- 0	4.0	0.0	70.0	40.0	40.7	4.0
177 10.7	26	7 20		35	58	10	0.2	78.3	10.8	19.7	1.6
10.7 178	1 27	not 1		29	87	18	0 0	80.0	11 2	28.3	2.8
	3.2	not i		23	01	10	0.0	50.0	11.0	20.0	۷.0
179	28	7 20		33	57	16	0.0	87.5	15.7	37.6	6.7
15.7	9		fire		٠.				==.,	23	

180	29	7	2012	34	59	16	0.0	88.1	19.5	47.2	7.4
19.5	10.9	_	fire								
181	30	7	2012	36	56	16	0.0	88.9	23.8	57.1	8.2
23.8	13.2	_	fire								
182	31	7	2012	37	55	15	0.0	89.3	28.3	67.2	8.3
28.3	14.5	•	fire	00	50		0 0	70.0	4 4	40 5	0
183	1	8	2012	38	52	14	0.0	78.3	4.4	10.5	2
4.4	0.8		fire	40	2.4	1 /	0 0	02.2	10.0	01 4	12.0
184	2 13.5	8	2012	40	34	14	0.0	93.3	10.8	21.4	13.8
10.6	3	0	fire	20	22	17	0 0	02.7	17 1	20 1	17 0
185 16.9	3 19.5	8	2012 fire	39	33	17	0.0	93.7	17.1	32.1	17.2
186	19.5 4	8	2012	38	35	15	0.0	93.8	23	42.7	15.7
22.9	20.9	0	fire	30	33	15	0.0	93.0	23	42.1	15.7
187	20.9 5	8	2012	34	42	17	0.1	88.3	23.6	52.5	19
23.5	12.6	O	fire	34	42	11	0.1	00.5	23.0	32.3	19
188	6	8	2012	30	54	14	3.1	70.5	11	9.1	1.3
10.5	0.8		t fire	50	04	17	0.1	70.0	11	3.1	1.0
189	7	8	2012	34	63	13	2.9	69.7	7.2	9.8	1.2
6.9	0.6		fire	01	00	10	2.0	00.1	7.2	3.0	1.2
190	8	8		37	56	11	0.0	87.4	11.2	20.2	5.2
11	5.9		fire	01	00		0.0	0,,1	11.2	20.2	0.2
191	9	8	2012	39	43	12	0.0	91.7	16.5	30.9	9.6
16.4	12.7	_	fire								
192	10	8	2012	39	39	15	0.2	89.3	15.8	35.4	8.2
15.8	10.7		fire								
193	11	8	2012	40	31	15	0.0	94.2	22.5	46.3	16.6
22.4	21.6		fire								
194	12	8	2012	39	21	17	0.4	93.0	18.4	41.5	15.5
18.4	18.8		fire								
195	13	8	2012	35	34	16	0.2	88.3	16.9	45.1	7.5
17.5	10.5		fire								
196	14	8	2012	37	40	13	0.0	91.9	22.3	55.5	10.8
22.3	15.7		fire								
197	15	8	2012	35	46	13	0.3	83.9	16.9	54.2	3.5
19	5.5		fire								
198	16	8	2012	40	41	10	0.1	92.0	22.6	65.1	9.5
24.2	14.8		fire								
199	17	8	2012	42	24	9	0.0	96.0	30.3	76.4	15.7
30.4	24		fire								
200	18	8	2012	37	37	14	0.0	94.3	35.9	86.8	16
35.9	26.3		fire								
201	19	8	2012	35	66	15	0.1	82.7	32.7	96.8	3.3
35.5	7.7		fire								
202	20	8	2012	36	81	15	0.0	83.7	34.4	107	3.8
38.1	9		fire								
203	21	8	2012	36	71	15	0.0	86.0	36.9	117.1	5.1
41.3	12.2		fire								

204 22	8 2012	37	53	14	0.0	89.5	41.1	127.5	8
45.5 18.1 205 23	fire 8 2012	36	43	16	0.0	91.2	46.1	137.7	11.5
50.2 24.5 206 24	fire 8 2012	35	38	15	0.0	92.1	51.3	147.7	12.2
54.9 26.9 207 25 59.5 31.1	fire 8 2012 fire	34	40	18	0.0	92.1	56.3	157.5	14.3
208 26 64 30.3	8 2012 fire	33	37	16	0.0	92.2	61.3	167.2	13.1
209 27 68 26.1	8 2012 fire	36	54	14	0.0	91.0	65.9	177.3	10
210 28 30.6 6.1	8 2012 not fire	35	56	14	0.4	79.2	37	166	2.1
211 29 30.6 5.9	8 2012 fire	35	53	17	0.5	80.2	20.7	149.2	2.7
212 30 35.7 16	8 2012 fire	34	49	15	0.0	89.2	24.8	159.1	8.1
213 31 39.3 19.4	8 2012 fire	30	59	19	0.0	89.1	27.8	168.2	9.8
214 1 1.4 0	9 2012 not fire	29	86	16	0.0	37.9	0.9	8.2	0.1
215 2 4 0.8	9 2012 not fire	28	67	19	0.0	75.4	2.9	16.3	2
216 3 6 2.5	9 2012 fire	28	75	16	0.0	82.2	4.4	24.3	3.3
	9 2012 not fire	30	66	15	0.2	73.5	4.1	26.6	1.5
218 5 3.9 0.4	9 2012 not fire	30	58	12	4.1	66.1	4	8.4	1
219 6 3.5 0.4 220 7	9 2012 not fire 9 2012	34 31	71 62	14 15	6.5	64.5 83.3	3.35.8	9.1	3.8
6.4 3.2 221 8	fire 9 2012	30	88		0.0				
8.1 2.7 222 9	fire 9 2012	30	80	15			7.9		
10 3.7 223 10	fire 9 2012	29	74					8.2	
4.6 0.3 224 11	not fire 9 2012	30	73	14	0.0	79.2	6.5	16.6	2.1
6.6 1.2 225 12	not fire 9 2012	31	72	14	0.0	84.2	8.3	25.2	3.8
9.1 3.9 226 13	fire 9 2012	29	49	19	0.0	88.6	11.5	33.4	9.1
12.4 10.3 227 14 14.3 5.7	fire 9 2012 fire	28	81	15	0.0	84.6	12.6	41.5	4.3
11.0 0.1	1116								

```
0.0 88.7
                                                                          50.2
228
      15
                  2012
                                    32
                                         51
                                               13
                                                                    16
                                                                                  6.9
17.8
       9.8
                    fire
                   2012
                                                           93.9
                                                                  21.2
                                                                          59.2
                                                                                 14.2
229
      16
               9
                                    33
                                         26
                                               13
                                                      0.0
22.4
      19.3
                    fire
                                                           92.5
                                                                  25.2
230
      17
                  2012
                                         44
                                               12
                                                      0.0
                                                                          63.3
                                                                                 11.2
                                    34
26.2
      17.5
                    fire
                                                           90.6
                                                                  25.8
231
      18
                  2012
                                    36
                                         33
                                               13
                                                      0.1
                                                                          77.8
                                                                                    9
28.2
      15.4
                    fire
232
      19
                   2012
                                    29
                                         41
                                                8
                                                      0.1
                                                           83.9
                                                                  24.9
                                                                            86
                                                                                  2.7
28.9
       5.6
                    fire
233
      20
                  2012
                                         58
                                                      0.2
                                                          79.5
                                                                  18.7
                                                                            88
                                                                                  2.1
               9
                                    34
                                               13
24.4
       3.8
               not fire
                                                                  23.6
234
                  2012
                                                           92.2
                                                                          97.3
                                                                                 13.8
      21
                                    35
                                         34
                                               17
                                                      0.0
29.4
      21.6
                    fire
235
               9 2012
                                                           88.9
                                                                  26.1
                                                                         106.3
                                                                                  7.1
      22
                                    33
                                         64
                                               13
                                                      0.0
32.4
      13.7
                    fire
236
      23
                  2012
                                    35
                                         56
                                               14
                                                      0.0
                                                           89.0
                                                                  29.4
                                                                         115.6
                                                                                  7.5
36 15.2
                  fire
237
      24
                  2012
                                    26
                                         49
                                                6
                                                      2.0
                                                           61.3
                                                                  11.9
                                                                          28.1
                                                                                  0.6
               9
11.9
       0.4
               not fire
                   2012
                                                           79.9
                                                                  13.8
238
      25
                                    28
                                         70
                                               15
                                                      0.0
                                                                          36.1
                                                                                  2.4
14.1
          3
               not fire
                   2012
                                                           85.4
239
      26
                                    30
                                         65
                                               14
                                                      0.0
                                                                    16
                                                                          44.5
                                                                                  4.5
16.9
       6.5
                    fire
240
      27
               9
                  2012
                                    28
                                         87
                                               15
                                                      4.4
                                                           41.1
                                                                   6.5
                                                                             8
                                                                                  0.1
6.2
        0
              not fire
                                                           45.9
                                                                           7.9
                                                                                  0.4
241
      28
               9
                   2012
                                    27
                                         87
                                               29
                                                      0.5
                                                                   3.5
              not fire
3.4
      0.2
                   2012
                                                           79.7
242
      29
               9
                                    24
                                         54
                                                      0.1
                                                                   4.3
                                                                          15.2
                                                                                  1.7
                                               18
5.1
      0.7
              not fire
                  2012
                                                           67.3
243
      30
               9
                                    24
                                         64
                                               15
                                                      0.2
                                                                   3.8
                                                                          16.5
                                                                                  1.2
4.8
      0.5
             not fire
```

Podział danych ze względu na region 1 - Bejaia Region 2 - Sidi-Bel Abbes

```
[]: dane.loc[:122, 'Region'] = 1
  dane.loc[122:, 'Region'] = 2
  dane[['Region']] = dane[['Region']].astype('int64')
```

Wyświetlenie pierwszych 5 dancyh wirszy dla Regionu Bejaia

```
[ ]: dane.head()
```

```
FWI
[]:
       day month
                    year Temperature
                                         RH
                                             Ws
                                                  Rain
                                                        FFMC
                                                               DMC
                                                                        DC
                                                                            ISI
                                                                                  BUI
                                                                                              \
                    2012
                                                   0.0
                                                         65.7
                                                                       7.6
                                                                            1.3
                                                                                  3.4
                                                                                        0.5
     0
          1
                 6
                                    29
                                         57
                                             18
                                                                3.4
          2
                 6
                    2012
                                    29
                                         61
                                             13
                                                   1.3
                                                         64.4
                                                                4.1
                                                                       7.6
                                                                                  3.9
                                                                                        0.4
     1
                                                                               1
     2
          3
                 6
                    2012
                                    26
                                         82
                                             22
                                                  13.1
                                                         47.1
                                                                2.5
                                                                       7.1
                                                                            0.3
                                                                                  2.7
                                                                                        0.1
                                         89
                                                         28.6
     3
          4
                 6
                    2012
                                    25
                                             13
                                                   2.5
                                                                1.3
                                                                       6.9
                                                                               0
                                                                                  1.7
                                                                                          0
```

4 5 6 2012 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5

		Classes	Region
0	not	fire	1
1	not	fire	1
2	not	fire	1
3	not	fire	1
4	not	fire	1

Wyświetlenie pierwszych 5 dancyh wirszy dla Regionu Sidi-Bel Abbes

[]: dane.tail()

[]: day month year Temperature Ws Rain FFMC DMC DC ISI BUI FWI RH26 9 0.0 85.4 44.5 4.5 16.9 6.5 239 2012 65 14 16 2012 240 27 9 28 87 15 4.4 41.1 6.5 8 0.1 6.2 0 241 28 9 2012 27 87 29 0.5 45.9 3.5 7.9 0.4 3.4 0.2 242 29 9 2012 24 54 18 0.1 79.7 4.3 15.2 1.7 5.1 0.7 243 2012 15 0.2 67.3 3.8 16.5 30 9 24 64 1.2 4.8 0.5

Classes Region
239 fire 2
240 not fire 2
241 not fire 2
242 not fire 2
243 not fire 2

[]: print(dane.to_string())

FFMC DMC DC day month year Temperature RH Ws Rain ISI BUI FWI Classes Region 2012 0 1 6 29 57 18 0.0 65.7 3.4 7.6 1.3 3.4 0.5 not fire 1 1 2 6 2012 29 61 13 1.3 64.4 4.1 7.6 1 3.9 0.4 not fire 1 13.1 2.5 2 2012 26 82 47.1 7.1 0.3 3 6 22 2.7 0.1 not fire 1 3 4 6 2012 25 13 2.5 28.6 1.3 6.9 0 89 1.7 not fire 0 1 4 5 6 2012 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5 not fire 1 2012 5 6 6 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 7 2012 33 54 88.2 9.9 30.5 6.4 6 13 0.0 10.9 7.2 1 fire 6 2012 8 30 73 0.0 86.6 12.1 38.3 7 15 5.6 13.5 7.1 fire 1 8 9 2012 25 88 13 0.2 52.9 7.9 38.8 0.4

10.5	0.3	not	t fire	1							
9	10		2012	28	79	12	0.0	73.2	9.5	46.3	1.3
12.6	0.9		t fire	1			0.0	.0.2	0.0	10.0	1.0
10	11	6		31	65	14	0.0	84.5	12.5	54.3	4
15.8	5.6	_	fire	1							_
11	12	6	2012	26	81	19	0.0	84.0	13.8	61.4	4.8
17.7	7.1		fire	1							
12	13	6	2012	27	84	21	1.2	50.0	6.7	17	0.5
6.7	0.2		fire	1							
13	14		2012	30	78	20	0.5	59.0	4.6	7.8	1
4.4	0.4	not	fire	1							
14	15	6	2012	28	80	17	3.1	49.4	3	7.4	0.4
3 0	.1	not f	ire	1							
15	16	6	2012	29	89	13	0.7	36.1	1.7	7.6	0
2.2	0	not	fire	1							
16	17	6	2012	30	89	16	0.6	37.3	1.1	7.8	0
1.6	0	not	fire	1							
17	18	6	2012	31	78	14	0.3	56.9	1.9	8	0.7
2.4	0.2	not	fire	1							
18	19	6	2012	31	55	16	0.1	79.9	4.5	16	2.5
5.3	1.4		fire	1							
19	20		2012	30	80	16	0.4	59.8	3.4	27.1	0.9
5.1	0.4		fire	1							
20	21	6		30	78	14	0.0	81.0	6.3	31.6	2.6
8.4	2.2		fire	1							
21	22	6	2012	31	67	17	0.1	79.1	7	39.5	2.4
9.7	2.3		fire	1							
22	23	6	2012	32	62	18	0.1	81.4	8.2	47.7	3.3
11.5	3.8		fire	1				05.0	4.4.0	0	- 0
23	24	6	2012	32	66	17	0.0	85.9	11.2	55.8	5.6
14.9	7.5	6	fire	1	C 4	4 5	0 0	06.7	14.0	60.0	г 7
24	25	6	2012	31		15	0.0	86.7	14.2	63.8	5.7
	8.4		fire	1		10	0 0	06.0	17 0	71 0	6 7
25 21.6	26 10.6	О	2012 fire	1	64	10	0.0	00.0	17.8	71.8	0.7
26	27	6	2012	34	53	18	0 0	90 O	21.6	80.3	9.2
	15		fire	1	: 55	10	0.0	09.0	21.0	00.3	9.2
27	28		2012	32	55	14	0.0	80 1	25 5	88.5	7.6
29.7	13.9	O	fire	1	. 55	14	0.0	09.1	20.0	00.0	7.0
28	29	6	2012	32	47	13	0.3	79 9	18.4	84.4	2.2
	3.9		t fire	1		10	0.0	10.0	10.1	01.1	2.2
29	30		2012	33		14	0.0	88.7	22.9	92.8	7.2
28.3	12.9		fire	1			0.0	00.1	22.0	02.0	
	1		2012	29	68	19	1.0	59.9	2.5	8.6	1.1
2.9	0.4		fire	1			0			3 · ·	- · -
	2		2012	27	75	19	1.2	55.7	2.4	8.3	0.8
	0.3		fire	1		-	·	-		-	-
32		7		32	76	20	0.7	63.1	2.6	9.2	1.3

3	0.5	not fi	re	1								
33	4		2012		33	78	17	0.0	80.1	4.6	18.5	2.7
5.7	1.7	not :			1							
34	5	7 :	2012		33	66	14	0.0	85.9	7.6	27.9	4.8
9.1	4.9	:	fire		1							
35	6		2012		32	63	14	0.0	87.0	10.9	37	5.6
12.	5 6.8		fire		1							
36	7		2012		35	64	18	0.2	80.0	9.7	40.4	2.8
12.	1 3.2	not	fire		1							
37	8	7 :	2012		33	68	19	0.0	85.6	12.5	49.8	6
15.	4 8		fire		1							
38	9	7	2012		32	68	14	1.4	66.6	7.7	9.2	1.1
7.4	0.6	not :	fire		1							
39	10	7	2012		33	69	13	0.7	66.6	6	9.3	1.1
5.8	0.5	not :	fire		1							
40	11	7	2012		33	76	14	0.0	81.1	8.1	18.7	2.6
8.1	2.2	not :	fire		1							
41	12	7	2012		31	75	13	0.1	75.1	7.9	27.7	1.5
9.2	0.9	not :	fire		1							
42	13	7	2012		34	81	15	0.0	81.8	9.7	37.2	3
11.	7 3.4	not	fire		1							
43	14	7	2012		34	61	13	0.6	73.9	7.8	22.9	1.4
8.4	0.8	not :	fire		1							
44	15	7	2012		30	80	19	0.4	60.7	5.2	17	1.1
5.9	0.5	not :	fire		1							
45	16	7	2012		28	76	21	0.0	72.6	7	25.5	0.7
8.3	0.4	not :	fire		1							
46	17	7	2012		29	70	14	0.0	82.8	9.4	34.1	3.2
11.			fire		1							
47	18	7 :	2012		31	68	14	0.0	85.4	12.1	43.1	4.6
14.			fire		1							
48	19		2012		35	59	17	0.0	88.1	12	52.8	7.7
18.			fire		1							
49			2012		33	65	15	0.1	81.4	12.3	62.1	2.8
	5 4		fire		1							
50	21		2012		33	70	17	0.0	85.4	18.5	71.5	5.2
22.			fire		1				50 4		50.0	
51			2012		28	79	18	0.1	73.4	16.4	79.9	1.8
	7 2.8		fire		1	cc	00	0 4	CO 0	10 F	74 0	1.0
52 15	23		2012		27	66	22	0.4	68.2	10.5	71.3	1.8
15.			fire		1	70	1.0	0 1	70.0	0.6	70.7	4 4
53	24		2012		28	78	16	0.1	70.0	9.6	79.7	1.4
14.			fire		1	C.E.	10	0 0	04.2	10 F	00.7	4.0
54			2012		31 1	65	18	0.0	04.3	12.5	88.7	4.8
18. 55	5 7.3 26		fire			53	10	0.0	90.0	17 1	98.6	10
23.			2012 fire		36 1	υS	19	0.0	03.2	11.1	90.0	10
23.1 56						48	12	0.0	00 s	ງ ე ე	108.5	Q 7
96	27	1	2012		36	40	13	0.0	90.3	22.2	100.5	8.7

00.4	45.0										
29.4	15.3	7	fire	1	70	4.5	0.0	06 5	04.4	447.0	Б. С
57	28	7	2012	33	76	15	0.0	86.5	24.4	117.8	5.6
32.1	11.3	7	fire	1	70	4.5	0 0	06.6	06.7	107	г с
58	29	7		32	73	15	0.0	86.6	26.7	127	5.6
	1.9		fire	1	70	4.5	0 0	OF 4	00 F	126	4 7
59	30	7		31 1	79	15	0.0	85.4	28.5	136	4.7
37.4 60	10.7 31	7	fire 2012	35	64	17	0.0	87.2	31.9	145.7	6.8
41.2	15.7	'	fire	1	04	11	0.0	01.2	31.9	145.7	0.0
61	13.7	8	2012	36	45	14	0.0	78.8	4.8	10.2	2
4.7	0.9		fire	1	40	14	0.0	70.0	4.0	10.2	2
62	2	8	2012	35	55	12	0.4	78.0	5.8	10	1.7
5.5	0.8		fire	1	00	12	0.1	10.0	0.0	10	1.,
63	3	8	2012	35	63	14	0.3	76.6	5.7	10	1.7
5.5	0.8		fire	1			0.0	, , , ,	0.,	10	
64	4	8	2012	34	69	13	0.0	85.0	8.2	19.8	4
8.2	3.9		fire	1							
65	5	8	2012	34	65	13	0.0	86.8	11.1	29.7	5.2
11.5	6.1		fire	1							
66	6	8	2012	32	75	14	0.0	86.4	13	39.1	5.2
14.2	6.8		fire	1							
67	7	8	2012	32	69	16	0.0	86.5	15.5	48.6	5.5
17.2	8		fire	1							
68	8	8	2012	32	60	18	0.3	77.1	11.3	47	2.2
14.1	2.6	no	t fire	1							
69	9	8	2012	35	59	17	0.0	87.4	14.8	57	6.9
17.9	9.9		fire	1							
70	10	8	2012	35	55	14	0.0	88.9	18.6	67	7.4
21.9	11.6		fire	1							
71	11	8	2012	35	63	13	0.0	88.9	21.7	77	7.1
25.5	12.1		fire	1							
72	12	8	2012	35	51	13	0.3	81.3	15.6	75.1	2.5
	4.2		t fire	1							
73	13	8	2012	35	63	15	0.0	87.0	19	85.1	5.9
24.4	10.2	0	fire	1	0.0	4.0	0 0	07.0	04.7	04.7	- -7
74	14		2012	33	66	14	0.0	87.0	21.7	94.7	5.7
27.2	10.6 15		fire	1	EE	10	0.3	00 4	15 6	92.5	2.7
75 22	6.3		2012 fire	36 1	55	13	0.3	02.4	15.0	92.5	3.7
76	16		2012	36	61	18	0.3	80 O	11 7	90.4	2.8
17.6	4.2	0	fire	1	01	10	0.3	00.2	11.7	30.4	2.0
77	17	8	2012	37	52	18	0 0	89.3	16	100.7	9.7
22.9	14.6	O	fire	1	02	10	0.0	09.0	10	100.7	9.1
78	18	8	2012	36	54	18	0.0	89.4	20	110.9	9.7
27.5	16.1	9	fire	1	0-1	10	0.0	50.1	20	110.0	5.1
79	19	8	2012	35	62	19	0.0	89.4	23.2	120.9	9.7
31.3	17.2	•	fire	1			3.0	· -	-	,	- • •
80	20	8	2012	35	68	19	0.0	88.3	25.9	130.6	8.8

04 5	400									
34.7			1	Ε0	10	0 0	00.6	00.6	4.4.4	0 0
81	21	8 2012	36	58	19	0.0	88.6	29.6	141.1	9.2
38.8 82	18.4 22	fire 8 2012	1 36	55	10	0 0	89.1	33.5	151 2	0 0
43.1	20.4	8 2012 fire	1	55	18	0.0	09.1	33.5	151.3	9.9
83	23	8 2012	36	53	16	0.0	89.5	37.6	161.5	10.4
47.5		fire	1	00	10	0.0	05.0	37.0	101.0	10.4
84	24	8 2012	34	64	14	0.0	88.9	40.5	171.3	9
50.9		fire	1	0.1		0.0	00.0	10.0	1,1,0	Ü
85	25	8 2012	35	60	15	0.0	88.9	43.9	181.3	8.2
54.7		fire	1							
86	26	8 2012	31	78	18	0.0	85.8	45.6	190.6	4.7
57.1	13.7	fire	1							
87	27	8 2012	33	82	21	0.0	84.9	47	200.2	4.4
59.3	13.2	fire	1							
88	28	8 2012	34	64	16	0.0	89.4	50.2	210.4	7.3
62.9	19.9	fire	1							
89	29	8 2012	35	48	18	0.0	90.1	54.2	220.4	12.5
67.4		fire	1							
90	30	8 2012	35	70	17	0.8	72.7	25.2	180.4	1.7
37.4		not fire	1							
91	31	8 2012	28	80	21	16.8	52.5	8.7	8.7	0.6
8.3	0.3	not fire	1							
92	1	9 2012	25	76	17	7.2	46.0	1.3	7.5	0.2
1.8	0.1	not fire	1							
93	2	9 2012	22	86	15	10.1	30.5	0.7	7	0
1.1	0	not fire	1							
94	3	9 2012	25	78	15	3.8	42.6	1.2	7.5	0.1
1.7	0	not fire	1	70	4 17	0.4	20.4	4.0	45.5	4 4
95	4	9 2012	29	73	17	0.1	68.4	1.9	15.7	1.4
2.9	0.5	not fire	1	75	1.0	0 0	00 0	2 4	0.4	0 0
96 = 1	5 1 7	9 2012	29	75	16	0.0	80.8	3.4	24	2.8
5.1 97	1.7 6	fire 9 2012	1 29	74	19	0 1	75 0	2.6	32.2	2.1
5.6	0.9	not fire	1	14	19	0.1	15.6	3.0	32.2	2.1
98	7	9 2012	31	71	17	0.3	69.6	3.2	30.1	1.5
5.1	0.6	not fire	1	, ,	11	0.5	03.0	0.2	50.1	1.0
	8	9 2012	30	73	17	0.9	62.0	2.6	8.4	1.1
	0.4	not fire	1	10		0.0	02.0	2.0	0.1	
100	9	9 2012	30	77	15	1.0	56.1	2.1	8.4	0.7
2.6	0.2	not fire	1							
101	10	9 2012	33	73	12	1.8	59.9	2.2	8.9	0.7
2.7	0.3	not fire	1							
102	11	9 2012	30	77	21	1.8	58.5	1.9	8.4	1.1
2.4	0.3	not fire	1							
103	12	9 2012	29	88	13	0.0	71.0	2.6	16.6	1.2
3.7	0.5	not fire	1							
104	13	9 2012	25	86	21	4.6	40.9	1.3	7.5	0.1

	_										
1.8	0		fire	1	76	26	0.0	17 1	1 1	7	0.4
105 1.6	14 0.1	9	2012 fire	22 1	76	26	8.3	47.4	1.1	7	0.4
106	15	9	2012	24	82	15	0.4	44.9	0.9	7.3	0.2
1.4	0		fire	1	02	10	0.4	44.3	0.9	7.5	0.2
107	16	9	2012	30	65	14	0.0	78.1	3.2	15.7	1.9
4.2	0.8		fire	1							
108	17	9	2012	31	52	14	0.0	87.7	6.4	24.3	6.2
7.7	5.9		fire	1							
109	18	9	2012	32	49	11	0.0	89.4	9.8	33.1	6.8
11.3	7.7		fire	1							
110	19	9	2012	29	57	14	0.0	89.3	12.5	41.3	7.8
14.2	9.7		fire	1							
111	20	9	2012	28	84	18	0.0	83.8	13.5	49.3	4.5
	6.3	0	fire			4.4	0.0	07.0	40 5	F7 0	- 4
112	21 8.3	9	2012	31	55	11	0.0	87.8	16.5	57.9	5.4
19.2 113	0.3 22	9	fire 2012	1 31	50	19	0.6	77.8	10.6	41.4	2.4
12.9	2.8		t fire	1	50	13	0.0	11.0	10.0	41.4	2.4
114	23	9	2012	32	54	11	0.5	73.7	7.9	30.4	1.2
9.6	0.7		fire	1	01		0.0		,	00.1	
115	24	9	2012	29	65	19	0.6	68.3	5.5	15.2	1.5
5.8	0.7	not	fire	1							
116	25	9	2012	26	81	21	5.8	48.6	3	7.7	0.4
3 0	1.1	not f	ire	1							
117	26	9	2012	31	54	11	0.0	82.0	6	16.3	2.5
6.2	1.7		fire	1							
118	27	9		31	66	11	0.0	85.7	8.3	24.9	4
	.1		ire	1	4.5						4 0
119	28	9	2012	32	47	14	0.7	77.5	7.1	8.8	1.8
6.8 120	0.9 29	not 9	fire 2012	1 26	80	16	1.8	47.4	2.9	7.7	0.3
	29).1	not f		1	80	10	1.0	47.4	2.9	1.1	0.3
121	30		2012	25	78	14	1 4	45.0	1.9	7.5	0.2
2.4	0.1		fire	1	10		1.1	10.0	1.0	1.0	0.2
				Temperature	RH	Ws	Rain	FFMC	DMC	DC	ISI
BUI	FWI		lasses	_							
123	1	6	2012	32	71	12	0.7	57.1	2.5	8.2	0.6
2.8	0.2	not	fire	2							
124	2	6	2012	30	73	13	4.0	55.7	2.7	7.8	0.6
2.9	0.2		fire	2							
125	3	6	2012	29	80	14	2.0	48.7	2.2	7.6	0.3
2.6	0.1		fire	2							
126	4		2012	30	64	14	0.0	79.4	5.2	15.4	2.2
5.6	1		fire	2	60	1 /1	0.0	77 1	c	17 6	1 0
127 6.5	5 0.9	6	2012 fire	32 2	60	14	0.2	77.1	6	17.6	1.8
128	6	по с 6		35	54	11	0 1	83 7	8.4	26.3	3.1
120	J	U	2012	33	04	11	0.1	00.1	0.4	20.0	0.1

0 0	2 4		e :	0							
9.3	3.1	c	fire	2	4.4	17	0 0	OF 6	0 0	00.0	F 1
129	7	6	2012	35	44	17	0.2	85.6	9.9	28.9	5.4
10.7	6	c	fire	2	E4	17	1 2	71 /	7 7	7 1	1 5
130	8	6	2012	28	51	17	1.3	71.4	7.7	7.4	1.5
7.3	0.8		fire	2	Ε0	10	0 1	70 1	0 5	4.4 7	0 4
131	9	6	2012	27	59	18	0.1	78.1	8.5	14.7	2.4
8.3	1.9		fire	2	4.4	4.5	0 0	00.4	40.0	00 5	0 1
132	10	6	2012	30	41	15	0.0	89.4	13.3	22.5	8.4
13.1	10		fire	2	4.0	0.4	0 0	00.0	40.0	00 5	10.1
133	11		2012	31	42	21	0.0	90.6	18.2	30.5	13.4
	6.7		fire	2		4.			0.4.0	07.0	۰
134	12	6	2012	27	58	17	0.0	88.9	21.3	37.8	8.7
21.2	12.9	_	fire	2							
135	13	6	2012	30	52	15	2.0	72.3	11.4	7.8	1.4
10.9	0.9		fire	2							
136	14	6	2012	27	79	16	0.7	53.4	6.4	7.3	0.5
6.1	0.3		fire	2							
137	15	6	2012	28	90	15	0.0	66.8	7.2	14.7	1.2
7.1	0.6		fire	2							
138	16	6	2012	29	87	15	0.4	47.4	4.2	8	0.2
4.1	0.1		fire	2							
139	17	6	2012	31	69	17	4.7	62.2	3.9	8	1.1
3.8	0.4	not	fire	2							
140	18	6	2012	33	62	10	8.7	65.5	4.6	8.3	0.9
4.4	0.4	not	fire	2							
141	19	6	2012	32	67	14	4.5	64.6	4.4	8.2	1
4.2	0.4	not	fire	2							
142	20	6	2012	31	72	14	0.2	60.2	3.8	8	0.8
3.7	0.3	not	fire	2							
143	21	6	2012	32	55	14	0.0	86.2	8.3	18.4	5
8.2	4.9		fire	2							
144	22	6	2012	33	46	14	1.1	78.3	8.1	8.3	1.9
7.7	1.2	not	fire	2							
145	23	6	2012	33	59	16	0.8	74.2	7	8.3	1.6
6.7	0.8	not	fire	2							
146	24	6	2012	35	68	16	0.0	85.3	10	17	4.9
9.9	5.3		fire	2							
147	25	6	2012	34	70	16	0.0	86.0	12.8	25.6	5.4
12.7	6.7		fire	2							
148	26	6	2012	36	62	16	0.0	87.8	16.5	34.5	7
16.4	9.5		fire	2							
149	27	6	2012	36	55	15	0.0	89.1	20.9	43.3	8
20.8	12		fire	2							
150	28	6	2012	37	37	13	0.0	92.5	27.2	52.4	11.7
27.1	18.4		fire	2							
151	29	6	2012	37	36	13	0.6	86.2	17.9	36.7	4.8
17.8	7.2		fire	2							
152	30	6		34	42	15	1.7	79.7	12	8.5	2.2

11.5	2.2	not	fire	2							
153	1	7		28	58	18	2.2	63.7	3.2	8.5	1.2
3.3	0.5		fire	2							
154	2	7	2012	33	48	16	0.0	87.6	7.9	17.8	6.8
7.8	6.4		fire	2							
155	3	7		34	56	17	0.1	84.7	9.7	27.3	4.7
10.3	5.2		fire	2							
156	4	7	2012	34	58	18	0.0	88.0	13.6	36.8	8
14.1	9.9		fire	2							
157	5	7	2012	34	45	18	0.0	90.5	18.7	46.4	11.3
18.7	15		fire	2							
158	6	7	2012	35	42	15	0.3	84.7	15.5	45.1	4.3
16.7	6.3		fire	2							
159	7	7	2012	38	43	13	0.5	85.0	13	35.4	4.1
13.7	5.2		fire	2							
160	8	7	2012	35	47	18	6.0	80.8	9.8	9.7	3.1
9.4	3		fire	2							
161	9	7		36	43	15	1.9	82.3	9.4	9.9	3.2
	1.1		ire	2							
162	10	7		34	51	16	3.8	77.5	8	9.5	2
7.7	1.3		fire	2							
163	11	7		34	56	15	2.9	74.8	7.1	9.5	1.6
6.8	0.8		fire	2		4.0		00.4	40.0	40.4	
164	12	7		36	44	13	0.0	90.1	12.6	19.4	8.3
12.5	9.6	-	fire	2	4.5	4.0	0 0	05.0	44.0	40.4	4 0
165	13	7		39	45	13	0.6	85.2	11.3	10.4	4.2
10.9	4.7	7	fire	2	4 =	17	0 0	00 5	10	04.4	10.0
166	15	7		34 2	45	17	0.0	90.5	18	24.1	10.9
17.7 167	14.1 16	7	fire 2012	31	83	17	0.0	84.5	19.4	33.1	4.7
19.2	7.3	,	fire	2	03	11	0.0	04.5	19.4	55.1	4.1
168	17	7	2012	32	81	17	0.0	84.6	21.1	42.3	4.7
20.9	7.7	'	fire	2	01	Τ,	0.0	01.0	21.1	12.0	1.1
169	18	7	2012	33	68	15	0.0	86.1	23.9	51.6	5.2
	9.1	·		2				0012		02.0	0.2
170	19		2012	34	58	16	0.0	88.1	27.8	61.1	7.3
27.7	13		fire	2							
171	20		2012	36	50	16	0.0	89.9	32.7	71	9.5
32.6	17.3		fire	2							
172	21	7	2012	36	29	18	0.0	93.9	39.6	80.6	18.5
39.5	30		fire	2							
173	22	7	2012	32	48	18	0.0	91.5	44.2	90.1	13.2
44 2	5.4		fire	2							
174	23	7	2012	31	71	17	0.0	87.3	46.6	99	6.9
46.5	16.3		fire	2							
175	24		2012	33		17	1.1	72.8	20.9	56.6	1.6
	2.5		t fire	2							
176	25	7	2012	39	64	9	1.2	73.8	11.7	15.9	1.1

11.4	0.7		t fire	2		4.0		70.0	40.0	40 5	
177	26	7		35	58	10	0.2	78.3	10.8	19.7	1.6
10.7	1		t fire	2	07	10	0 0	00 0	11 0	00.0	0.0
178	27	7		29	87	18	0.0	80.0	11.8	28.3	2.8
11.8	3.2		t fire	2	- 7	4.0	0 0	07 5	45 5	07.6	6 7
179	28	7		33	57	16	0.0	87.5	15.7	37.6	6.7
15.7	9	7	fire	2	Ε0	1.0	0 0	00.1	10 5	47.0	7 1
180	29	7		34	59	16	0.0	88.1	19.5	47.2	7.4
19.5	10.9	7	fire	2	F.C	4.0	0 0	00.0	00.0	F7 4	0.0
181	30	7	2012	36	56	16	0.0	88.9	23.8	57.1	8.2
23.8	13.2	7	fire	2		4 =	0 0	00 0	00.0	67.0	0.0
182	31	7		37	55	15	0.0	89.3	28.3	67.2	8.3
28.3	14.5	0	fire	2	50	4.0	0 0	70.0	4 4	40 5	
183	1	8	2012	38	52	14	0.0	78.3	4.4	10.5	2
4.4	0.8		fire	2							
184	2	8	2012	40	34	14	0.0	93.3	10.8	21.4	13.8
10.6	13.5	_	fire	2							
185	3	8	2012	39	33	17	0.0	93.7	17.1	32.1	17.2
16.9	19.5		fire	2							
186	4	8	2012	38	35	15	0.0	93.8	23	42.7	15.7
22.9	20.9		fire	2							
187	5	8	2012	34	42	17	0.1	88.3	23.6	52.5	19
23.5	12.6		fire	2							
188	6	8	2012	30	54	14	3.1	70.5	11	9.1	1.3
10.5	0.8		t fire	2							
189	7	8	2012	34	63	13	2.9	69.7	7.2	9.8	1.2
6.9	0.6		fire	2							
190	8	8		37	56	11	0.0	87.4	11.2	20.2	5.2
11	5.9		fire	2							
191	9	8	2012	39	43	12	0.0	91.7	16.5	30.9	9.6
16.4	12.7		fire	2							
192	10	8	2012	39	39	15	0.2	89.3	15.8	35.4	8.2
15.8	10.7		fire	2							
193	11	8	2012	40	31	15	0.0	94.2	22.5	46.3	16.6
22.4	21.6		fire	2							
194	12	8	2012	39	21	17	0.4	93.0	18.4	41.5	15.5
18.4	18.8		fire	2							
195	13	8	2012	35	34	16	0.2	88.3	16.9	45.1	7.5
17.5	10.5		fire	2							
196	14	8	2012	37	40	13	0.0	91.9	22.3	55.5	10.8
22.3	15.7		fire	2							
197	15	8	2012	35	46	13	0.3	83.9	16.9	54.2	3.5
19	5.5		fire	2							
198	16	8	2012	40	41	10	0.1	92.0	22.6	65.1	9.5
24.2	14.8		fire	2							
199	17	8	2012	42	24	9	0.0	96.0	30.3	76.4	15.7
30.4	24		fire	2							
200	18	8	2012	37	37	14	0.0	94.3	35.9	86.8	16

35.9	26.3		fire		2						
201	19	8	2012		- 35 66	15	0.1	82.7	32.7	96.8	3.3
35.5	7.7		fire		2						
202	20	8	2012		36 81	. 15	0.0	83.7	34.4	107	3.8
38.1	9		fire		2						
203	21	8	2012		36 71	. 15	0.0	86.0	36.9	117.1	5.1
41.3	12.2		fire		2						
204	22	8	2012		37 53	14	0.0	89.5	41.1	127.5	8
45.5	18.1		fire		2						
205	23	8	2012		36 43	16	0.0	91.2	46.1	137.7	11.5
50.2	24.5		fire		2						
206	24	8	2012		35 38	15	0.0	92.1	51.3	147.7	12.2
54.9	26.9		fire		2						
207	25	8	2012		34 40	18	0.0	92.1	56.3	157.5	14.3
59.5	31.1		fire		2						
208	26		2012		33 37	16	0.0	92.2	61.3	167.2	13.1
	0.3		fire	2							
209	27		2012		36 54	: 14	0.0	91.0	65.9	177.3	10
	6.1		fire	2							
210	28	8	2012		35 56	14	0.4	79.2	37	166	2.1
30.6	6.1		t fire		2		٥	00.0	00.7	1.10	0.7
211	29	8	2012		35 53	17	0.5	80.2	20.7	149.2	2.7
30.6	5.9	0	fire		2		0 0	00.0	04.0	150 1	0.4
212	30	8	2012		34 49	15	0.0	89.2	24.8	159.1	8.1
35.7	16	0	fire		2 20 F0	10	0 0	00.1	07.0	160.0	0.0
213	31	8	2012		30 59	19	0.0	89.1	27.8	168.2	9.8
39.3 214	19.4 1	0	fire		2 29 86	16	0.0	27 0	0 0	0 0	0 1
1.4	0	9	2012 fire	2		16	0.0	37.9	0.9	8.2	0.1
215	2	9	2012		28 67	19	0.0	75.4	2.9	16.3	2
	.8	not f		2	20 01	19	0.0	13.4	2.3	10.5	2
216	. 3		2012		28 75	16	0.0	82.2	4.4	24.3	3.3
	.5		ire	2	20 10	, 10	0.0	02.2	1.1	21.0	0.0
	4		2012		30 66	15	0.2	73.5	4.1	26.6	1.5
		not f		2	30 00	- 10	0.2	10.0		20.0	1.0
	5		2012		30 58	12	4.1	66.1	4	8.4	1
	0.4		fire	2							
	6		2012		34 71	. 14	6.5	64.5	3.3	9.1	1
3.5	0.4		fire	2							
220	7	9	2012		31 62	15	0.0	83.3	5.8	17.7	3.8
6.4	3.2		fire	2							
221	8	9	2012		30 88	14	0.0	82.5	6.6	26.1	3
8.1	2.7		fire	2							
222	9	9	2012		30 80	15	0.0	83.1	7.9	34.5	3.5
10	3.7		fire	2							
223	10	9	2012		29 74	: 15	1.1	59.5	4.7	8.2	0.8
4.6	0.3		fire	2							
224	11	9	2012		30 73	14	0.0	79.2	6.5	16.6	2.1

6 6	1 0		£:	0							
6.6 225	1.2 12	пот 9	fire 2012	2	1 72	14	0.0	84.2	8 3	25.2	3.8
9.1	3.9	9	fire	2	1 12	14	0.0	04.2	0.5	25.2	3.0
226	13	9	2012	2:	9 49	19	0.0	88.6	11.5	33.4	9.1
12.4	10.3	3	fire	2		10	0.0	00.0	11.0	00.1	J.1
227	14	9	2012	2		15	0.0	84.6	12.6	41.5	4.3
14.3	5.7		fire	2				0 2 0 0			2.0
228	15	9	2012	3:		13	0.0	88.7	16	50.2	6.9
17.8	9.8		fire	2							
229	16	9	2012	3	3 26	13	0.0	93.9	21.2	59.2	14.2
22.4	19.3		fire	2							
230	17	9	2012	3-	4 44	12	0.0	92.5	25.2	63.3	11.2
26.2	17.5		fire	2							
231	18	9	2012	3	6 33	13	0.1	90.6	25.8	77.8	9
28.2	15.4		fire	2							
232	19	9	2012	2:	9 41	8	0.1	83.9	24.9	86	2.7
28.9	5.6		fire	2							
233	20	9	2012	3-	4 58	13	0.2	79.5	18.7	88	2.1
24.4	3.8	no	t fire	2							
234	21	9	2012	3	5 34	17	0.0	92.2	23.6	97.3	13.8
29.4	21.6		fire	2							
235	22	9	2012	33	3 64	13	0.0	88.9	26.1	106.3	7.1
32.4	13.7		fire	2							
236	23	9	2012	3	5 56	14	0.0	89.0	29.4	115.6	7.5
36 1	5.2	:	fire	2							
237	24	9	2012	2	6 49	6	2.0	61.3	11.9	28.1	0.6
11.9	0.4	no	t fire	2							
238	25	9	2012	28		15	0.0	79.9	13.8	36.1	2.4
14.1	3	no	t fire	2							
239	26	9	2012	30		14	0.0	85.4	16	44.5	4.5
16.9	6.5		fire	2							
240	27	9	2012	2	8 87	15	4.4	41.1	6.5	8	0.1
6.2	0		fire	2							
241	28		2012	2	7 87	29	0.5	45.9	3.5	7.9	0.4
3.4	0.2		fire	2							
242	29	9		2	4 54	18	0.1	79.7	4.3	15.2	1.7
5.1	0.7		fire	2							
243	30		2012	2	4 64	15	0.2	67.3	3.8	16.5	1.2
4.8	0.5	not :	fire	2							

Usuniecie lini 122 ze wzgledu na duplikacje nazw atrybutów

[]: dane = dane.drop(122).reset_index(drop=True)

Ponowne sprawdzanie danych po operacji

[]: print(dane.to_string())

day month year Temperature RH Ws Rain FFMC DMC DC ISI BUI

FWI	Cla	asses	Region									
0	1 6		_	29	57	18	0.0	65.7	3.4	7.6	1.3	3.4
0.5	not fir	re	1									
1	2 6	2012		29	61	13	1.3	64.4	4.1	7.6	1	3.9
0.4	not fir	re	1									
2	3 6	2012		26	82	22	13.1	47.1	2.5	7.1	0.3	2.7
0.1	not fir		1									
3		2012		25	89	13	2.5	28.6	1.3	6.9	0	1.7
0	not fire		1						_			
4	5 6			27	77	16	0.0	64.8	3	14.2	1.2	3.9
0.5	not fir			0.4	67	4.4	0 0	00.6	г о	00.0	2 1	7
5	6 6 fir	2012	1	31	67	14	0.0	82.6	5.8	22.2	3.1	7
2.5 6		2012		33	54	13	0 0	99 J	9.9	30.5	6.4	10.9
7.2	fir		1	33	94	13	0.0	00.2	9.9	30.5	0.4	10.9
7		2012		30	73	15	0.0	86.6	12.1	38.3	5.6	13.5
7.1	fir		1	00		10	0.0	00.0		00.0	0.0	10.0
8		2012		25	88	13	0.2	52.9	7.9	38.8	0.4	10.5
0.3	not fir		1									
9	10 6	2012		28	79	12	0.0	73.2	9.5	46.3	1.3	12.6
0.9	not fir	re .	1									
10	11 6	2012		31	65	14	0.0	84.5	12.5	54.3	4	15.8
5.6	fir		1									
11		2012		26	81	19	0.0	84.0	13.8	61.4	4.8	17.7
7.1	fir		1									
12		2012		27	84	21	1.2	50.0	6.7	17	0.5	6.7
	not fir		1	20	70	00	0 5	FO 0	4 0	7.0	4	4 4
13		2012		30	78	20	0.5	59.0	4.6	7.8	1	4.4
0.4 14	not fir	2012	1	28	80	17	2 1	49.4	3	7.4	0.4	3
0.1	not fir		1	20	80	11	3.1	43.4	3	7.4	0.4	3
15		2012		29	89	13	0.7	36.1	1.7	7.6	0	2.2
0				20		10	0.1	00.1		,	Ů	2.2
16	17 6			30	89	16	0.6	37.3	1.1	7.8	0	1.6
0	not fire											
17	18 6	2012		31	78	14	0.3	56.9	1.9	8	0.7	2.4
0.2	not fir	re .	1									
18	19 6	2012		31	55	16	0.1	79.9	4.5	16	2.5	5.3
	not fir											
19	20 6			30	80	16	0.4	59.8	3.4	27.1	0.9	5.1
	not fir											
20		2012		30	78	14	0.0	81.0	6.3	31.6	2.6	8.4
2.2	fir		1	0.4	67	17	0 1	70.4	7	20 5	0 4	0.7
21	22 6			31	67	17	0.1	79.1	7	39.5	2.4	9.7
2.3	not fir	re 2012		สว	62	18	<u>∩ 1</u>	81 <i>/</i> I	გ ე	47.7	3 3	11.5
3.8	25 6			32	UZ	10	0.1	01.4	0.2	Ŧ1 · I	٥.٥	11.0
23	24 6			32	66	17	0.0	85.9	11.2	55.8	5.6	14.9
20	21 0	2012		02	55	±1	0.0	50.5	++•~	50.0	5.0	11.0

7.5		fir	е	1									
24	25		2012		31	64	15	0.0	86.7	14.2	63.8	5.7	18.3
8.4		fir		1									
25	26	6	2012		31	64	18	0.0	86.8	17.8	71.8	6.7	21.6
10.6		fi	re	1									
26	27	6	2012		34	53	18	0.0	89.0	21.6	80.3	9.2	25.8
15		fire		1									
27	28		2012		32	55	14	0.0	89.1	25.5	88.5	7.6	29.7
13.9		fi		1									
28	29		2012		32	47	13	0.3	79.9	18.4	84.4	2.2	23.8
	not			1	22	EΛ	1./	0 0	00.7	00.0	00.0	7 0	00.2
29 12.9		6 fi	2012	1	33	50	14	0.0	88.7	22.9	92.8	1.2	28.3
30	1		2012	1	29	68	19	1 0	50 Q	2.5	8.6	1 1	2.9
0.4	not			1	23	00	13	1.0	09.9	2.0	0.0	1.1	2.3
31	2		2012	_	27	75	19	1.2	55.7	2.4	8.3	0.8	2.8
0.3	not			1									
32			2012		32	76	20	0.7	63.1	2.6	9.2	1.3	3
0.5	not	fir	е	1									
33	4	7	2012		33	78	17	0.0	80.1	4.6	18.5	2.7	5.7
1.7	not	fir	е	1									
34	5	7	2012		33	66	14	0.0	85.9	7.6	27.9	4.8	9.1
4.9		fir		1									
35	6		2012		32	63	14	0.0	87.0	10.9	37	5.6	12.5
6.8	_	fir		1							40.4		40.4
36			2012	4	35	64	18	0.2	80.0	9.7	40.4	2.8	12.1
3.2 37	not		e 2012	1	33	68	19	0 0	85.6	12.5	49.8	6	15.4
8		ire	2012	1	33	00	19	0.0	00.0	12.5	49.0	O	15.4
38			2012	1	32	68	14	1.4	66.6	7.7	9.2	1.1	7.4
0.6	not			1	02				00.0		0.2		
39			2012		33	69	13	0.7	66.6	6	9.3	1.1	5.8
0.5	not	fir	е	1									
40	11	7	2012		33	76	14	0.0	81.1	8.1	18.7	2.6	8.1
2.2	not	fir	е	1									
41			2012		31	75	13	0.1	75.1	7.9	27.7	1.5	9.2
	not			1								_	
42			2012		34	81	15	0.0	81.8	9.7	37.2	3	11.7
			e 2012		24	C 1	10	0.6	72.0	7.0	00.0	1 /	0 1
43 0.8			2012 e	1	34	61	13	0.6	13.9	7.8	22.9	1.4	8.4
44			e 2012	1	30	80	10	0.4	60.7	5.2	17	1 1	5.9
			e 2012	1	50	00	13	0.4	00.7	0.2	11	1.1	0.5
45			2012		28	76	21	0.0	72.6	7	25.5	0.7	8.3
			е	1									
46			2012		29	70	14	0.0	82.8	9.4	34.1	3.2	11.1
3.6			е										
47	18	7	2012		31	68	14	0.0	85.4	12.1	43.1	4.6	14.2

6	f	ire		1										
48	19		2012			35	59	17	0.0	88.1	12	52.8	7.7	18.2
10.9			re		1									
49	20	7	2012			33	65	15	0.1	81.4	12.3	62.1	2.8	16.5
4	f	ire		1										
50	21	7	2012			33	70	17	0.0	85.4	18.5	71.5	5.2	22.4
8.8		fir			1									
51			2012			28	79	18	0.1	73.4	16.4	79.9	1.8	21.7
	not				1									
52			2012			27	66	22	0.4	68.2	10.5	71.3	1.8	15.4
2.1	not				1	00	70	1.0	0 1	70.0	0.0	70. 7	4 4	11 7
53 1.3	24 not		2012		1	28	78	16	0.1	70.0	9.6	79.7	1.4	14.7
54			2012		1	31	65	18	0 0	84.3	12.5	88.7	4.8	18.5
7.3	20	fir			1	31	00	10	0.0	04.0	12.0	00.7	4.0	10.5
55	26		2012		_	36	53	19	0.0	89.2	17.1	98.6	10	23.9
15.3			re		1					33.1	_,,_			
56	27		2012			36	48	13	0.0	90.3	22.2	108.5	8.7	29.4
15.3			re		1									
57	28	7	2012			33	76	15	0.0	86.5	24.4	117.8	5.6	32.1
11.3		fi	re		1									
58	29	7	2012			32	73	15	0.0	86.6	26.7	127	5.6	35
11.9		fi	re		1									
59	30		2012			31	79	15	0.0	85.4	28.5	136	4.7	37.4
10.7			re		1									
60	31		2012			35	64	17	0.0	87.2	31.9	145.7	6.8	41.2
15.7			re		1		4.5			70.0	4.0	40.0	•	
61	1		2012		4	36	45	14	0.0	78.8	4.8	10.2	2	4.7
0.9 62	not 2		e 2012		1	35	EE	10	0 4	78.0	E 0	10	1 7	
0.8	∠ not				1	35	55	12	0.4	70.0	5.8	10	1.7	5.5
63	3		2012		_	35	63	14	0.3	76.6	5.7	10	1.7	5.5
	not				1	00	00		0.0	10.0	0.1	10	,	0.0
64			2012			34	69	13	0.0	85.0	8.2	19.8	4	8.2
3.9		fir			1									
65	5	8	2012			34	65	13	0.0	86.8	11.1	29.7	5.2	11.5
6.1		fir	е		1									
66	6	8	2012			32	75	14	0.0	86.4	13	39.1	5.2	14.2
6.8			е		1									
67			2012			32	69	16	0.0	86.5	15.5	48.6	5.5	17.2
8				1										
68	8		2012			32	60	18	0.3	77.1	11.3	47	2.2	14.1
2.6	not				1	25	F0	17	0 0	07.4	14.0	F7	6.0	17.0
69	9		2012		1	35	59	17	0.0	87.4	14.8	57	6.9	17.9
9.9 70	10		e 2012		1	35	55	14	0 0	88 a	12 6	67	7 /	21.9
11.6			re		1	55	55	17	0.0	00.3	10.0	01	1.4	21.3
71			2012		_	35	63	13	0.0	88.9	21.7	77	7.1	25.5
. –		Ŭ						-0						

12.1		fi	re.		1									
72	12	8			_	35	51	13	0.3	81.3	15.6	75.1	2.5	20.7
4.2	not			:	1									
73	13	8	2012			35	63	15	0.0	87.0	19	85.1	5.9	24.4
10.2		fi	re		1									
74	14	8	2012			33	66	14	0.0	87.0	21.7	94.7	5.7	27.2
10.6		fi	re		1									
75	15	8				36	55	13	0.3	82.4	15.6	92.5	3.7	22
6.3		fir			1									
76	16		2012			36	61	18	0.3	80.2	11.7	90.4	2.8	17.6
4.2	45	fir			1	07	50	4.0	0 0	00.0	4.0	100 7	0.7	00.0
77	17		2012		4	37	52	18	0.0	89.3	16	100.7	9.7	22.9
14.6 78	18		re 2012		1	36	54	18	0.0	89.4	20	110.9	9.7	27.5
16.1			2012 .re		1	30	54	10	0.0	09.4	20	110.9	9.1	21.5
79	19		2012		_	35	62	19	0 0	89.4	23.2	120.9	9.7	31.3
17.2			re.		1	00	02	10	0.0	00.1	20.2	120.0	5.1	01.0
80	20		2012		_	35	68	19	0.0	88.3	25.9	130.6	8.8	34.7
16.8			re		1									
81	21	8	2012			36	58	19	0.0	88.6	29.6	141.1	9.2	38.8
18.4		fi	re		1									
82	22	8	2012			36	55	18	0.0	89.1	33.5	151.3	9.9	43.1
20.4		fi	re		1									
83	23	8	2012			36	53	16	0.0	89.5	37.6	161.5	10.4	47.5
22.3			fire		1									
84	24	8	2012			34	64	14	0.0	88.9	40.5	171.3	9	50.9
20.9			re		1					00.0	40.0	404.0		
85	25	8	2012		,	35	60	15	0.0	88.9	43.9	181.3	8.2	54.7
20.3 86		0	fire 2012		1	31	78	10	0 0	85.8	45.6	190.6	4 7	57.1
13.7	26		fire		1	31	10	18	0.0	00.0	45.0	190.0	4.7	57.1
87	27		2012		_	33	82	21	0.0	84.9	47	200.2	4.4	59.3
13.2		Ü	fire		1	00	02	21	0.0	01.0		200.2	1.1	00.0
88		8				34	64	16	0.0	89.4	50.2	210.4	7.3	62.9
19.9			fire		1									
89	29	8	2012			35	48	18	0.0	90.1	54.2	220.4	12.5	67.4
30.2		fi	re		1									
90	30	8	2012			35	70	17	0.8	72.7	25.2	180.4	1.7	37.4
	not			:	1									
91			2012			28	80	21	16.8	52.5	8.7	8.7	0.6	8.3
	:				1									
92			2012			25	76	17	7.2	46.0	1.3	7.5	0.2	1.8
0.1			ire			00	0.0	4 -	10 1	20 5	0.7	7	0	4 4
93			2012			22	86	15	10.1	30.5	0.7	7	U	1.1
0 94			re 2012	1		25	72	15	3 2	42 6	1 2	7.5	0.1	1.7
0			2012			20	10	10	5.0	72.0	1.2	1.5	0.1	1.1
95	4			1		29	73	17	0.1	68.4	1.9	15.7	1.4	2.9
	-	J	2012			20	. 0	- '	V.1	00.4	1.0	10.1	1.1	2.0

	not fire		00	75	4.0	0 0	00.0	2 4	0.4	0.0	F 4
96 1.7	5 9 2012 fire	1	29	75	16	0.0	80.8	3.4	24	2.8	5.1
97	6 9 2012	1	29	74	19	0.1	75.8	3.6	32.2	2.1	5.6
0.9	not fire	1	20		10	0.1	, , , ,	0.0	02.2	2.1	0.0
98	7 9 2012		31	71	17	0.3	69.6	3.2	30.1	1.5	5.1
0.6	not fire	1									
99	8 9 2012		30	73	17	0.9	62.0	2.6	8.4	1.1	3
0.4	not fire	1									
100	9 9 2012		30	77	15	1.0	56.1	2.1	8.4	0.7	2.6
0.2	not fire	1		=-	4.0		50.0				
101	10 9 2012		33	73	12	1.8	59.9	2.2	8.9	0.7	2.7
	not fire	1	20	77	0.1	1 0	FO F	1 0	0.4	4 4	0 4
102	11 9 2012	4	30	77	21	1.8	58.5	1.9	8.4	1.1	2.4
0.3 103	not fire 12 9 2012	1	29	88	13	0 0	71.0	2.6	16.6	1.2	3.7
	not fire	1	23	00	13	0.0	11.0	2.0	10.0	1.2	3.1
104	13 9 2012	_	25	86	21	4.6	40.9	1.3	7.5	0.1	1.8
0	not fire	1	20			1.0	10.0	1.0		0.1	1.0
105	14 9 2012	_	22	76	26	8.3	47.4	1.1	7	0.4	1.6
0.1	not fire										
106	15 9 2012		24	82	15	0.4	44.9	0.9	7.3	0.2	1.4
0	not fire	1									
107	16 9 2012		30	65	14	0.0	78.1	3.2	15.7	1.9	4.2
0.8	not fire	1									
108	17 9 2012		31	52	14	0.0	87.7	6.4	24.3	6.2	7.7
5.9	fire	1									
109	18 9 2012		32	49	11	0.0	89.4	9.8	33.1	6.8	11.3
7.7	fire	1	00		4.4	0 0	00.0	40 5	44.0	7.0	4.4.0
110	19 9 2012	4	29	57	14	0.0	89.3	12.5	41.3	7.8	14.2
9.7 111	fire 20 9 2012	1	28	84	18	0 0	83.8	13.5	49.3	4.5	16
6.3	20 9 2012 fire	1	20	04	10	0.0	03.0	13.5	49.3	4.5	10
112	21 9 2012		31	55	11	0 0	87 8	16.5	57.9	5 4	19 2
8.3		1	01			0.0	01.0	10.0	01.0	0.1	10.2
113			31	50	19	0.6	77.8	10.6	41.4	2.4	12.9
	not fire	1									
114	23 9 2012		32	54	11	0.5	73.7	7.9	30.4	1.2	9.6
0.7	not fire	1									
115	24 9 2012		29	65	19	0.6	68.3	5.5	15.2	1.5	5.8
	not fire	1									
116	25 9 2012		26	81	21	5.8	48.6	3	7.7	0.4	3
	not fire	1									
117	26 9 2012		31	54	11	0.0	82.0	6	16.3	2.5	6.2
	not fire		21	66	11	0 0	OE 7	0 2	04.0	1	0
118 4.1	27 9 2012 fire		31	00	11	0.0	00./	0.3	24.9	4	9
119			30	47	1 🛭	0.7	77 F	7 1	8.8	1 2	6.8
119	20 9 2012		32	+1	14	0.1	11.5	1.1	0.0	1.0	0.0

		4									
0.9 120	not fire 29 9 2012	1	26	80	16	1 Ω	17 1	2.9	7 7	0.3	3
	not fire	1	20	80	10	1.0	41.4	2.9	1.1	0.5	3
121	30 9 2012	-	25	78	14	1.4	45.0	1.9	7.5	0.2	2.4
0.1	not fire	1					20.0			**-	
122	1 6 2012		32	71	12	0.7	57.1	2.5	8.2	0.6	2.8
0.2	not fire	2									
123	2 6 2012		30	73	13	4.0	55.7	2.7	7.8	0.6	2.9
0.2	not fire	2									
124	3 6 2012		29	80	14	2.0	48.7	2.2	7.6	0.3	2.6
0.1	not fire	2									
125	4 6 2012		30	64	14	0.0	79.4	5.2	15.4	2.2	5.6
1	not fire	2									
126	5 6 2012		32	60	14	0.2	77.1	6	17.6	1.8	6.5
0.9	not fire	2									
127	6 6 2012		35	54	11	0.1	83.7	8.4	26.3	3.1	9.3
3.1	fire	2	0.5	4.4	4.7	0 0	05.0	0 0	00.0	- 4	40.5
128		0	35	44	17	0.2	85.6	9.9	28.9	5.4	10.7
6 129	fire 8 6 2012	_	28	E 1	17	1 2	71 /	7.7	7 /	1 5	7 2
0.8	not fire	2	20	51	17	1.5	11.4	1.1	7.4	1.5	7.3
130	9 6 2012	2	27	59	18	0 1	70 1	8.5	1/1 7	2.4	8.3
1.9	not fire	2	21	59	10	0.1	70.1	0.5	14.7	2.4	0.3
131	10 6 2012	2	30	41	15	0 0	80 /	12 2	22.5	8 /l	12 1
	fire	2	30	41	10	0.0	03.4	10.0	22.0	0.4	15.1
			31	42	21	0 0	90.6	18 2	30 5	13 4	18
132	11 6 2012		31	42	21	0.0	90.6	18.2	30.5	13.4	18
132 16.7	11 6 2012 fire										
132 16.7 133	11 6 2012 fire 12 6 2012	2	31 27	42 58	21 17		90.6			13.4 8.7	
132 16.7	11 6 2012 fire 12 6 2012					0.0		21.3	37.8	8.7	
132 16.7 133 12.9 134	11 6 2012 fire 12 6 2012 fire	2	27	58	17	0.0	88.9	21.3	37.8	8.7	21.2
132 16.7 133 12.9 134	11 6 2012 fire 12 6 2012 fire 13 6 2012	2	27 30	58	17	0.0	88.9 72.3	21.3	37.8 7.8	8.7	21.2
132 16.7 133 12.9 134 0.9 135	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire	2 2 2	27 30	58 52	17 15	0.0	88.9 72.3	21.3	37.8 7.8	8.7	21.2
132 16.7 133 12.9 134 0.9 135	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire	2 2 2 2	27 30 27	58 52 79	17 15 16	0.0 2.0 0.7	88.9 72.3 53.4	21.3 11.4 6.4	37.8 7.8	8.7 1.4 0.5	21.2 10.9 6.1
132 16.7 133 12.9 134 0.9 135 0.3 136	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire	2 2 2 2	27 30 27	58 52 79	17 15 16	0.0 2.0 0.7	88.9 72.3 53.4	21.3 11.4 6.4	37.8 7.8 7.3	8.7 1.4 0.5	21.2 10.9 6.1
132 16.7 133 12.9 134 0.9 135 0.3 136	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire	2 2 2 2 2	27 30 27 28	58 52 79 90	17 15 16 15	0.0 2.0 0.7 0.0	88.9 72.3 53.4 66.8	21.3 11.4 6.4	37.8 7.8 7.3 14.7	8.7 1.4 0.5	21.2 10.9 6.1 7.1
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire	2 2 2 2 2 2	27 30 27 28 29	58 52 79 90 87	17 15 16 15	0.0 2.0 0.7 0.0	88.9 72.3 53.4 66.8 47.4	21.3 11.4 6.4 7.2 4.2	37.8 7.8 7.3 14.7	8.7 1.4 0.5 1.2	21.2 10.9 6.1 7.1 4.1
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 16 6 2012 not fire	2 2 2 2 2	27 30 27 28 29	58 52 79 90 87	17 15 16 15	0.0 2.0 0.7 0.0	88.9 72.3 53.4 66.8 47.4	21.3 11.4 6.4 7.2	37.8 7.8 7.3 14.7	8.7 1.4 0.5	21.2 10.9 6.1 7.1 4.1
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire	2 2 2 2 2	27 30 27 28 29 31	58 52 79 90 87 69	17 15 16 15 15	0.0 2.0 0.7 0.0 0.4 4.7	88.9 72.3 53.4 66.8 47.4 62.2	21.3 11.4 6.4 7.2 4.2 3.9	37.8 7.8 7.3 14.7 8	8.7 1.4 0.5 1.2 0.2	21.2 10.9 6.1 7.1 4.1 3.8
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 17 6 2012 not fire 18 6 2012	2 2 2 2 2 2	27 30 27 28 29 31	58 52 79 90 87 69	17 15 16 15 15	0.0 2.0 0.7 0.0 0.4 4.7	88.9 72.3 53.4 66.8 47.4 62.2	21.3 11.4 6.4 7.2 4.2 3.9	37.8 7.8 7.3 14.7	8.7 1.4 0.5 1.2 0.2	21.2 10.9 6.1 7.1 4.1 3.8
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139 0.4	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 18 6 2012 not fire	2 2 2 2 2	27 30 27 28 29 31 33	58 52 79 90 87 69	17 15 16 15 15 17	0.0 2.0 0.7 0.0 0.4 4.7 8.7	88.9 72.3 53.4 66.8 47.4 62.2 65.5	21.3 11.4 6.4 7.2 4.2 3.9 4.6	37.8 7.8 7.3 14.7 8 8	8.7 1.4 0.5 1.2 0.2 1.1	21.2 10.9 6.1 7.1 4.1 3.8 4.4
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139 0.4	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 18 6 2012 not fire 18 6 2012 not fire	2 2 2 2 2 2 2	27 30 27 28 29 31 33	58 52 79 90 87 69	17 15 16 15 15 17	0.0 2.0 0.7 0.0 0.4 4.7 8.7	88.9 72.3 53.4 66.8 47.4 62.2 65.5	21.3 11.4 6.4 7.2 4.2 3.9	37.8 7.8 7.3 14.7 8 8	8.7 1.4 0.5 1.2 0.2	21.2 10.9 6.1 7.1 4.1 3.8 4.4
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139 0.4	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 18 6 2012 not fire 18 6 2012 not fire 19 6 2012 not fire	2 2 2 2 2 2 2 2	27 30 27 28 29 31 33	58 52 79 90 87 69 62 67	17 15 16 15 15 17 10	0.0 2.0 0.7 0.0 0.4 4.7 8.7 4.5	88.9 72.3 53.4 66.8 47.4 62.2 65.5 64.6	21.3 11.4 6.4 7.2 4.2 3.9 4.6 4.4	37.8 7.8 7.3 14.7 8 8.3 8.2	8.7 1.4 0.5 1.2 0.2 1.1 0.9	21.2 10.9 6.1 7.1 4.1 3.8 4.4 4.2
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139 0.4 140 0.4	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 18 6 2012 not fire 19 6 2012 not fire 20 6 2012	2 2 2 2 2 2 2 2	27 30 27 28 29 31 33	58 52 79 90 87 69 62 67	17 15 16 15 15 17 10	0.0 2.0 0.7 0.0 0.4 4.7 8.7 4.5	88.9 72.3 53.4 66.8 47.4 62.2 65.5 64.6	21.3 11.4 6.4 7.2 4.2 3.9 4.6 4.4	37.8 7.8 7.3 14.7 8 8	8.7 1.4 0.5 1.2 0.2 1.1	21.2 10.9 6.1 7.1 4.1 3.8 4.4
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139 0.4 140 0.4 141 0.3	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 18 6 2012 not fire 19 6 2012 not fire 20 6 2012 not fire	2 2 2 2 2 2 2 2	27 30 27 28 29 31 33 32	58 52 79 90 87 69 62 67 72	17 15 16 15 15 17 10 14	0.0 2.0 0.7 0.0 0.4 4.7 8.7 4.5	88.9 72.3 53.4 66.8 47.4 62.2 65.5 64.6 60.2	21.3 11.4 6.4 7.2 4.2 3.9 4.6 4.4	37.8 7.8 7.3 14.7 8 8.3 8.2	8.7 1.4 0.5 1.2 0.2 1.1 0.9 1	21.2 10.9 6.1 7.1 4.1 3.8 4.4 4.2
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139 0.4 140 0.4 141 0.3	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 18 6 2012 not fire 19 6 2012 not fire 20 6 2012 not fire 20 6 2012 not fire	2 2 2 2 2 2 2 2 2	27 30 27 28 29 31 33 32	58 52 79 90 87 69 62 67 72	17 15 16 15 15 17 10 14	0.0 2.0 0.7 0.0 0.4 4.7 8.7 4.5	88.9 72.3 53.4 66.8 47.4 62.2 65.5 64.6 60.2	21.3 11.4 6.4 7.2 4.2 3.9 4.6 4.4	37.8 7.8 7.3 14.7 8 8.3 8.2	8.7 1.4 0.5 1.2 0.2 1.1 0.9	21.2 10.9 6.1 7.1 4.1 3.8 4.4 4.2
132 16.7 133 12.9 134 0.9 135 0.3 136 0.6 137 0.1 138 0.4 139 0.4 140 0.4 141 0.3	11 6 2012 fire 12 6 2012 fire 13 6 2012 not fire 14 6 2012 not fire 15 6 2012 not fire 16 6 2012 not fire 17 6 2012 not fire 18 6 2012 not fire 19 6 2012 not fire 20 6 2012 not fire 21 6 2012 fire	2 2 2 2 2 2 2 2 2 2	27 30 27 28 29 31 33 32 31	58 52 79 90 87 69 62 67 72 55	17 15 16 15 17 10 14 14	0.0 2.0 0.7 0.0 0.4 4.7 8.7 4.5 0.2	88.9 72.3 53.4 66.8 47.4 62.2 65.5 64.6 60.2 86.2	21.3 11.4 6.4 7.2 4.2 3.9 4.6 4.4 3.8 8.3	37.8 7.8 7.3 14.7 8 8.3 8.2	8.7 1.4 0.5 1.2 0.2 1.1 0.9 1 0.8	21.2 10.9 6.1 7.1 4.1 3.8 4.4 4.2 3.7 8.2

		t fire	2	00	F0	4.0	0.0	74.0	7	0.0	4.0	0.7
144 0.8		6 2011 t fire	2	33	59	16	0.8	74.2	7	8.3	1.6	6.7
145		6 201:		35	68	16	0 0	85.3	10	17	4.9	9.9
5.3	21	fire	2	00	00	10	0.0	00.0	10		1.0	0.0
146	25	6 201		34	70	16	0.0	86.0	12.8	25.6	5.4	12.7
6.7		fire	2									
147	26	6 2013	2	36	62	16	0.0	87.8	16.5	34.5	7	16.4
9.5		fire	2									
148	27	6 2013		36	55	15	0.0	89.1	20.9	43.3	8	20.8
12	00	fire			0.7	4.0			0.7.0	50.4		0.7.4
149		6 201		37	37	13	0.0	92.5	27.2	52.4	11.7	27.1
18.4		fire	2	27	26	12	0.6	96 9	17 0	26 7	1 0	17 0
150 7.2	29	6 2011 fire	2	37	36	13	0.6	86.2	17.9	36.7	4.8	17.8
151	30	6 201:		34	42	15	1 7	79.7	12	8.5	2.2	11.5
2.2	not i		2	01	12	10	1.,	10.1	12	0.0	2.2	11.0
152		7 201:		28	58	18	2.2	63.7	3.2	8.5	1.2	3.3
0.5		t fire	2									
153		7 2013		33	48	16	0.0	87.6	7.9	17.8	6.8	7.8
6.4		fire	2									
154	3	7 2013	2	34	56	17	0.1	84.7	9.7	27.3	4.7	10.3
5.2		fire	2									
155	4	7 2013		34	58	18	0.0	88.0	13.6	36.8	8	14.1
9.9		fire										
156	5	7 2015		34	45	18	0.0	90.5	18.7	46.4	11.3	18.7
15	•	fire	2	0.5	4.0	4.5	0.0	04.7	45 5	45.4	4 0	40.7
157	6	7 201:		35	42	15	0.3	84.7	15.5	45.1	4.3	16.7
6.3 158	7	fire 7 2011	2	38	43	13	0 5	85.0	13	35.4	4.1	13.7
5.2	'	fire	2	30	43	13	0.5	65.0	13	33.4	4.1	13.7
159	8	7 201:		35	47	18	6.0	80.8	9.8	9.7	3.1	9.4
3		fire	2	00		10	0.0	00.0	0.0	0.,	0.1	0.1
		7 201		36	43	15	1.9	82.3	9.4	9.9	3.2	9
3.1		fire	2									
161	10	7 2013	2	34	51	16	3.8	77.5	8	9.5	2	7.7
1.3	not	t fire	2									
162	11	7 2013	2	34	56	15	2.9	74.8	7.1	9.5	1.6	6.8
		t fire										
163	12	7 2013		36	44	13	0.0	90.1	12.6	19.4	8.3	12.5
9.6		fire	2									
164	13	7 201:		39	45	13	0.6	85.2	11.3	10.4	4.2	10.9
4.7 165	15	fire 7 2011		2/	45	17	0 0	00 E	10	24.1	10 0	17 7
14.1		fire		34	45	17	0.0	90.5	10	24.1	10.9	11.1
166		7 201:		31	83	17	0.0	84.5	19.4	33.1	4.7	19.2
	10	fire		91	55		J.0	01.0	10.1	55.1	1.1	10.2
167		7 201:		32	81	17	0.0	84.6	21.1	42.3	4.7	20.9
- •	•						•	•	- · -			

7.7		fire		2									
168	18	7 2	012		33	68	15	0.0	86.1	23.9	51.6	5.2	23.9
9.1		fire		2									
169	19	7 2	012		34	58	16	0.0	88.1	27.8	61.1	7.3	27.7
13		fire		2									
170	20	7 2			36	50	16	0.0	89.9	32.7	71	9.5	32.6
17.3		fire		2									
171	21	7 2		_	36	29	18	0.0	93.9	39.6	80.6	18.5	39.5
30	00	fire		2	00	40	4.0	0 0	04 5	44.0	00.4	40.0	4.4
172		7 2		0	32	48	18	0.0	91.5	44.2	90.1	13.2	44
25.4 173	23	fire 7 2		2	31	71	17	0 0	87.3	46.6	99	6.9	46.5
16.3		fire		2	31	11	11	0.0	01.3	40.0	99	0.9	40.5
174	24	7 2		2	33	63	17	1 1	72.8	20.9	56.6	1 6	21.7
2.5		fire	O12	2	00	00	Δ,	1.1	12.0	20.0	00.0	1.0	21.1
175	25	7 2	012	_	39	64	9	1.2	73.8	11.7	15.9	1.1	11.4
		fire		2									
176		7 2	012		35	58	10	0.2	78.3	10.8	19.7	1.6	10.7
1	not f	ire	2	2									
177	27	7 2	012		29	87	18	0.0	80.0	11.8	28.3	2.8	11.8
	not			2									
178		7 2			33	57	16	0.0	87.5	15.7	37.6	6.7	15.7
9		ire	2	2									
179	29	7 2		0	34	59	16	0.0	88.1	19.5	47.2	7.4	19.5
10.9		fire		2	26	E.C.	1.6	0 0	00 0	02.0	F7 1	0 0	02.0
180 13.2	30	7 2 fire		2	36	56	16	0.0	88.9	23.8	57.1	8.2	23.8
181		7 2		2	37	55	15	0.0	89.3	28.3	67.2	8.3	28.3
14.5		fire		2	01	00	10	0.0	03.0	20.0	01.2	0.0	20.0
182	1	8 2		_	38	52	14	0.0	78.3	4.4	10.5	2	4.4
0.8		fire		2									
183	2	8 2	012		40	34	14	0.0	93.3	10.8	21.4	13.8	10.6
13.5		fire		2									
184	3	8 2	012		39	33	17	0.0	93.7	17.1	32.1	17.2	16.9
19.5		fire		2									
185	4	8 2		_	38	35	15	0.0	93.8	23	42.7	15.7	22.9
20.9		fire		2		40	4 77	0.4	00.0	00.4	F0 F	4.0	00 5
186	5	8 2		0	34	42	17	0.1	88.3	23.6	52.5	19	23.5
12.6 187	6	fire 8 2		2	30	54	14	2 1	70 F	11	9.1	1.3	10.5
0.8		fire		2	30	54	14	5.1	10.5	11	9.1	1.5	10.5
188	7	8 2		2	34	63	13	2 9	69 7	7.2	9.8	1.2	6.9
0.6		fire	012	2	01		10	2.0	00.1		0.0		0.0
189		8 2	012		37	56	11	0.0	87.4	11.2	20.2	5.2	11
5.9		fire		2									
190	9	8 2	012		39	43	12	0.0	91.7	16.5	30.9	9.6	16.4
12.7		fire		2									
191	10	8 2	012		39	39	15	0.2	89.3	15.8	35.4	8.2	15.8

10.7		fi	re	2									
192	11		2012		40	31	15	0.0	94.2	22.5	46.3	16.6	22.4
21.6		fi		2									
193	12		2012		39	21	17	0.4	93.0	18.4	41.5	15.5	18.4
18.8		fi	re	2									
194	13	8	2012		35	34	16	0.2	88.3	16.9	45.1	7.5	17.5
10.5		fi	re	2									
195	14	8	2012		37	40	13	0.0	91.9	22.3	55.5	10.8	22.3
15.7		fi	re	2									
196	15	8	2012		35	46	13	0.3	83.9	16.9	54.2	3.5	19
5.5		fir	е	2									
197	16		2012		40	41	10	0.1	92.0	22.6	65.1	9.5	24.2
14.8			re	2									
198	17		2012		42	24	9	0.0	96.0	30.3	76.4	15.7	30.4
24		fire		2									
199	18		2012		37	37	14	0.0	94.3	35.9	86.8	16	35.9
26.3		fi		2									
200	19		2012		35	66	15	0.1	82.7	32.7	96.8	3.3	35.5
7.7		fir		2									
201	20	8	2012		36	81	15	0.0	83.7	34.4	107	3.8	38.1
9		fire		2									
202	21		2012		36	71	15	0.0	86.0	36.9	117.1	5.1	41.3
12.2		fi		2								_	
203	22		2012	_	37	53	14	0.0	89.5	41.1	127.5	8	45.5
18.1			re	2									
204	23		2012		36	43	16	0.0	91.2	46.1	137.7	11.5	50.2
24.5			re	2									
205	24		2012	•	35	38	15	0.0	92.1	51.3	147.7	12.2	54.9
26.9	0.5	fi		2	0.4	4.0	4.0	0 0	00.4	F4 0	455 5	44.0	F0 F
206	25		2012	0	34	40	18	0.0	92.1	56.3	157.5	14.3	59.5
31.1	0.0		re	2	2.2	27	1.0	0 0	00 0	C1 0	167.0	10 1	C 4
207	26		2012	2	33	37	16	0.0	92.2	61.3	167.2	13.1	64
30.3	07		re		26	ΕΛ	1 /	0 0	01 0	CE O	177 0	10	60
208 26.1				0	36	54	14	0.0	91.0	65.9	177.3	10	68
20.1	28		re 2012	2	32	56	14	0.4	70.2	37	166	2.1	30.6
		ot fir		2	33	50	14	0.4	13.2	31	100	2.1	30.0
210	29		2012	2	35	53	17	0.5	80 2	20. 7	149.2	2.7	30.6
	23		e 2012	2	33	55	11	0.5	00.2	20.1	140.2	2.1	30.0
211	30	8		2	34	49	15	0 0	89 2	24 8	159.1	8 1	35.7
	00		2012	2	01	10	10	0.0	00.2	21.0	100.1	0.1	00.7
212	31		2012	2	30	59	19	0 0	89 1	27.8	168.2	9.8	39 3
19.4			re	2	00	00	10	0.0	03.1	21.0	100.2	3.0	00.0
	1		2012	2	29	86	16	0.0	37.9	0.9	8.2	0.1	1.4
0		fire		2			-0	0.0	00	0.0	J.2	· · ·	
		9		_	28	67	19	0.0	75.4	2.9	16.3	2	4
		ot fir		2	_•			- • •				_	_
215		9		_	28	75	16	0.0	82.2	4.4	24.3	3.3	6
	-	-			_•	. •		- • •	· -			•	•

2.5		fire		2									
216	4	9 :		_	30	66	15	0.2	73.5	4.1	26.6	1.5	6
0.7	not			2				0.2					
217		9 :	2012	_	30	58	12	4.1	66.1	4	8.4	1	3.9
0.4	not			2									
218	6		2012		34	71	14	6.5	64.5	3.3	9.1	1	3.5
0.4	not			2									
219		9 :			31	62	15	0.0	83.3	5.8	17.7	3.8	6.4
3.2		fire		2									
220	8	9 :	2012		30	88	14	0.0	82.5	6.6	26.1	3	8.1
2.7		fire		2									
221	9	9 :	2012		30	80	15	0.0	83.1	7.9	34.5	3.5	10
3.7		fire		2									
222	10	9 :	2012		29	74	15	1.1	59.5	4.7	8.2	0.8	4.6
0.3	not	fire		2									
223	11	9 :	2012		30	73	14	0.0	79.2	6.5	16.6	2.1	6.6
1.2	not	fire		2									
224	12	9 :	2012		31	72	14	0.0	84.2	8.3	25.2	3.8	9.1
3.9		fire		2									
225	13	9 :	2012		29	49	19	0.0	88.6	11.5	33.4	9.1	12.4
10.3		fire	е	2	2								
226	14	9 :	2012		28	81	15	0.0	84.6	12.6	41.5	4.3	14.3
5.7		fire		2									
227	15	9 :			32	51	13	0.0	88.7	16	50.2	6.9	17.8
9.8		fire		2									
228	16	9 :			33	26	13	0.0	93.9	21.2	59.2	14.2	22.4
19.3		fire		2	2								
229	17		2012		34	44	12	0.0	92.5	25.2	63.3	11.2	26.2
17.5		fire		2	2							_	
230	18		2012		36	33	13	0.1	90.6	25.8	77.8	9	28.2
15.4		fire		:	2	4.4	0	0.4	00.0	04.0	0.0	0.7	00.0
231	19		2012	0	29	41	8	0.1	83.9	24.9	86	2.7	28.9
5.6	00	fire		2		- 0	40	0 0	70 5	40.7	00	0.4	04.4
232				0		58	13	0.2	79.5	18.7	88	2.1	24.4
	not					2.4	17	0 0	00 0	02.6	07.2	12.0	00.4
233	21				35	34	17	0.0	92.2	23.6	97.3	13.8	29.4
234			e 2012			64	13	0 0	00 n	26.1	106.3	7 1	20 /
13.7			2012 e		2	04	13	0.0	00.9	20.1	100.3	7.1	32.4
235			e 2012		35	56	14	0 0	80 N	20 /	115.6	7 5	36
15.2		fire				50	17	0.0	03.0	20.4	110.0	7.0	50
236	24		2012			49	6	2.0	61.3	11 9	28.1	0.6	11 9
	not			2		10	O	2.0	01.0	11.0	20.1	0.0	11.0
237	25					70	15	0.0	79.9	13.8	36.1	2.4	14.1
3	not f				20		10	0.0	, , , ,	10.0	00.1	2.1	
238		9 :		_	30	65	14	0.0	85.4	16	44.5	4.5	16.9
6.5	20			2	33	- •	- -	- , •	· -			•	
239			2012		28	87	15	4.4	41.1	6.5	8	0.1	6.2
					_		-			-	-		· ·

```
not fire
0
                       2
240
    28
           9
              2012
                             27 87
                                     29
                                          0.5 45.9
                                                      3.5
                                                             7.9
                                                                   0.4
                                                                         3.4
0.2
      not fire
                         2
241
    29
            9
              2012
                             24 54
                                     18
                                          0.1 79.7
                                                      4.3
                                                            15.2
                                                                   1.7
                                                                         5.1
0.7
      not fire
                         2
                                          0.2 67.3
242
    30
            9
               2012
                             24
                                64
                                     15
                                                      3.8
                                                            16.5
                                                                   1.2
                                                                         4.8
0.5
                         2
     not fire
```

Przerabianie danych na dataframe na potrzeby analizy

[]: dane.shape

[]: (243, 15)

[]: dane[dane.isnull().any(axis=1)]

[]: Empty DataFrame

Columns: [day, month, year, Temperature, RH, Ws, Rain, FFMC, DMC, DC, ISI, BUI,

FWI, Classes, Region]

Index: []

Wyświetlenie danych na dataframe

[]: print(dane.to_string)

<box< td=""><td>nd met</td><td>hod I</td><td>DataFram</td><td>e.to_s</td><td>trin</td><td>g of</td><td></td><td>day m</td><td>onth</td><td>year</td><td>Temper</td><td>ature</td><td>RH</td><td>Ws</td></box<>	nd met	hod I	DataFram	e.to_s	trin	g of		day m	onth	year	Temper	ature	RH	Ws
Rain	FFMC	DMO	C DC	ISI	BUI	\								
0	1	6	2012		29	57	18	0.0	65.7	3.4	7.6	1.3	3.4	
1	2	6	2012		29	61	13	1.3	64.4	4.1	7.6	1	3.9	
2	3	6	2012		26	82	22	13.1	47.1	2.5	7.1	0.3	2.7	
3	4	6	2012		25	89	13	2.5	28.6	1.3	6.9	0	1.7	
4	5	6	2012		27	77	16	0.0	64.8	3	14.2	1.2	3.9	
										•••				
238	26	9	2012		30	65	14	0.0	85.4	16	44.5	4.5	16.9	
239	27	9	2012		28	87	15	4.4	41.1	6.5	8	0.1	6.2	
240	28	9	2012		27	87	29	0.5	45.9	3.5	7.9	0.4	3.4	
241	29	9	2012		24	54	18	0.1	79.7	4.3	15.2	1.7	5.1	
242	30	9	2012		24	64	15	0.2	67.3	3.8	16.5	1.2	4.8	
	FWI		Classes	Regi	on									
0	0.5	not	fire	J	1									
1	0.4	not	fire		1									
2	0.1	not	fire		1									
3	0	not	fire		1									
4	0.5	not	fire		1									
			•••											
238	6.5		fire		2									
239	0	not	fire		2									
240	0.2	not	fire		2									

```
241 0.7 not fire 2
242 0.5 not fire 2
```

[243 rows x 15 columns]>

Naprawa kolumn

[]: dane.columns

[]: Index(['day', 'month', 'year', 'Temperature', 'RH', 'Ws', 'Rain', 'FFMC', 'DMC', 'DC', 'ISI', 'BUI', 'FWI', 'Classes', 'Region'], dtype='object')

```
[]: dane.columns = dane.columns.str.strip()
```

[]: dane.columns

[]: Index(['day', 'month', 'year', 'Temperature', 'RH', 'Ws', 'Rain', 'FFMC', 'DMC', 'DC', 'ISI', 'BUI', 'FWI', 'Classes', 'Region'], dtype='object')

Sprawdzanie danych po naprawie kolumn

[]: print(dane.to_string())

day month year Temperature RH Ws Rain FFMC DMC DC ISI BUI FWI Classes Region 29 57 18 0.0 65.7 3.4 7.6 1.3 3.4 0.5 not fire 1 2 6 2012 29 61 13 1.3 64.4 4.1 7.6 1 3.9 0.4 not fire 1 2 3 6 2012 26 82 22 13.1 47.1 2.5 7.1 0.3 2.7 0.1 not fire 1 3 2.5 28.6 1.3 6.9 0 1.7 0 not fire 1 4 5 6 2012 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5 not fire 1 1 0 0 82.6 5.8 22.2 3.1 7 <th></th>															
0 1 6 2012 29 57 18 0.0 65.7 3.4 7.6 1.3 3.4 0.5 not fire 1 1 1 2 6 2012 29 61 13 1.3 64.4 4.1 7.6 1 3.9 0.4 not fire 1 2 3 6 2012 26 82 22 13.1 47.1 2.5 7.1 0.3 2.7 0.1 not fire 1 3 4 6 2012 25 89 13 2.5 28.6 1.3 6.9 0 1.7 0 not fire 1 4 5 6 2012 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5 not fire 1 5 6 6 2012 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 6 7 6 2012 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	FWT	•		•	-	ture	RH	Ws	Rain	FFMC	DMC	DC	ISI	BUI	
0.5 not fire 1 1 2 6 2012 29 61 13 1.3 64.4 4.1 7.6 1 3.9 0.4 not fire 1 2 3 6 2012 26 82 22 13.1 47.1 2.5 7.1 0.3 2.7 0.1 not fire 1 3 4 6 2012 25 89 13 2.5 28.6 1.3 6.9 0 1.7 0 not fire 1 4 5 6 2012 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5 not fire 1 5 6 6 2012 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 6 7 6 2012 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8					•	29	57	18	0 0	65.7	3 4	7.6	1.3	3 4	
1 2 6 2012 29 61 13 1.3 64.4 4.1 7.6 1 3.9 0.4 not fire 1 2 3 6 2012 26 82 22 13.1 47.1 2.5 7.1 0.3 2.7 0.1 not fire 1 3 4 6 2012 25 89 13 2.5 28.6 1.3 6.9 0 1.7 0 not fire 1 4 5 6 2012 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5 not fire 1 5 6 6 2012 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 6 7 6 2012 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	-	_				20	01	10	0.0	00.1	0.1	7.0	1.0	0.1	
0.4 not fire 1 2 3 6 2012					=	29	61	13	1.3	64.4	4.1	7.6	1	3.9	
2 3 6 2012	_					20	01	10	1.0	01.1		,	-	0.0	
0.1 not fire 1 3 4 6 2012					=	26	82	22	13.1	47.1	2.5	7.1	0.3	2.7	
25 89 13 2.5 28.6 1.3 6.9 0 1.7 not fire 1 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5 not fire 1 5 6 6 2012 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 6 7 6 2012 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 1 1 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	0.1														
0 not fire 1 4 5 6 2012 27 77 16 0.0 64.8 3 14.2 1.2 3.9 0.5 not fire 1 5 6 6 2012 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 6 7 6 2012 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	3					25	89	13	2.5	28.6	1.3	6.9	0	1.7	
0.5 not fire 1 5 6 6 2012 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 6 7 6 2012 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	О	not f													
5 6 6 2012 31 67 14 0.0 82.6 5.8 22.2 3.1 7 2.5 fire 1 6 7 6 2012 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 10 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	4	5	6	2012		27	77	16	0.0	64.8	3	14.2	1.2	3.9	
2.5 fire 1 33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	0.5	not	fir	e	1										
33 54 13 0.0 88.2 9.9 30.5 6.4 10.9 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	5	6	6	2012		31	67	14	0.0	82.6	5.8	22.2	3.1	7	
7.2 fire 1 7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 9 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	2.5		fir	e	1										
7 8 6 2012 30 73 15 0.0 86.6 12.1 38.3 5.6 13.5 7.1 fire 1	6	7	6	2012		33	54	13	0.0	88.2	9.9	30.5	6.4	10.9	
7.1 fire 1 8 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	7.2		fir	e	1										
3 9 6 2012 25 88 13 0.2 52.9 7.9 38.8 0.4 10.5 0.3 not fire 1 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	7	8	6	2012		30	73	15	0.0	86.6	12.1	38.3	5.6	13.5	
0.3 not fire 1 9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	7.1		fir	e	1										
9 10 6 2012 28 79 12 0.0 73.2 9.5 46.3 1.3 12.6 0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	8	9	6	2012		25	88	13	0.2	52.9	7.9	38.8	0.4	10.5	
0.9 not fire 1 10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	0.3	not	fir	e	1										
10 11 6 2012 31 65 14 0.0 84.5 12.5 54.3 4 15.8	9	10	6	2012		28	79	12	0.0	73.2	9.5	46.3	1.3	12.6	
	0.9	not	fir	e	1										
5.6 fire 1	10	11	6	2012		31	65	14	0.0	84.5	12.5	54.3	4	15.8	
	5.6		fir	e	1										

11	12	6 2012		26	81	19	0.0	84.0	13.8	61.4	4.8	17.7
7.1 12	13	fire 6 2012		27	84	21	1 2	50 O	6 7	17	0.5	6.7
	not		1	21	04	21	1.2	50.0	0.7	17	0.5	0.7
13	14	6 2012		30	78	20	0.5	59.0	4.6	7.8	1	4.4
	not		1	00	10	20	0.0	00.0	1.0	7.0	_	1.1
14		6 2012		28	80	17	3.1	49.4	3	7.4	0.4	3
0.1		fire					0.1	10 1 1	· ·			
15		6 2012		29	89	13	0.7	36.1	1.7	7.6	0	2.2
0	not f											
16	17	6 2012		30	89	16	0.6	37.3	1.1	7.8	0	1.6
0	not f	ire	1									
17	18	6 2012		31	78	14	0.3	56.9	1.9	8	0.7	2.4
0.2	not	fire	1									
18	19	6 2012		31	55	16	0.1	79.9	4.5	16	2.5	5.3
1.4	not	fire	1									
19	20	6 2012		30	80	16	0.4	59.8	3.4	27.1	0.9	5.1
0.4	not	fire	1									
20	21	6 2012		30	78	14	0.0	81.0	6.3	31.6	2.6	8.4
2.2		fire	1									
21	22	6 2012		31	67	17	0.1	79.1	7	39.5	2.4	9.7
2.3	not	fire	1									
22	23	6 2012		32	62	18	0.1	81.4	8.2	47.7	3.3	11.5
3.8		fire	1									
23	24	6 2012		32	66	17	0.0	85.9	11.2	55.8	5.6	14.9
7.5		fire	1									
24	25	6 2012		31	64	15	0.0	86.7	14.2	63.8	5.7	18.3
8.4		fire	1									
25	26	6 2012		31	64	18	0.0	86.8	17.8	71.8	6.7	21.6
10.6		fire	1									
26	27	6 2012		34	53	18	0.0	89.0	21.6	80.3	9.2	25.8
15		fire	1									
27	28	6 2012		32	55	14	0.0	89.1	25.5	88.5	7.6	29.7
13.9		fire	1									
28		6 2012		32	47	13	0.3	79.9	18.4	84.4	2.2	23.8
3.9		fire										
29		6 2012		33	50	14	0.0	88.7	22.9	92.8	7.2	28.3
		fire										
		7 2012		29	68	19	1.0	59.9	2.5	8.6	1.1	2.9
	not		1									
31		7 2012		27	75	19	1.2	55.7	2.4	8.3	0.8	2.8
		fire										
		7 2012		32	76	20	0.7	63.1	2.6	9.2	1.3	3
		fire										
33		7 2012		33	78	17	0.0	80.1	4.6	18.5	2.7	5.7
		fire										
		7 2012		33	66	14	0.0	85.9	7.6	27.9	4.8	9.1
4.9		fire	1									

35	6					32	63	14	0.0	87.0	10.9	37	5.6	12.5
6.8 36		7	e 2012		1	35	64	18	0.2	80.0	9.7	40.4	2.8	12.1
3.2 37			e 2012		1	33	68	19	0.0	85.6	12.5	49.8	6	15.4
8 38	f 9		2012	1		32	68	14	1.4	66.6	7.7	9.2	1.1	7.4
0.6 39			e 2012		1	33	69	13	0.7	66.6	6	9.3	1.1	5.8
0.5 40	not 11		e 2012		1	33	76	14	0.0	81.1	8.1	18.7	2.6	8.1
2.2 41	not 12		e 2012		1	31	75	13	0.1	75.1	7.9	27.7	1.5	9.2
0.9 42	not 13		e 2012		1	34	81	15	0.0	81.8	9.7	37.2	3	11.7
3.4 43	not 14		e 2012		1	34	61	13	0.6	73.9	7.8	22.9	1.4	8.4
0.8 44	not 15		e 2012		1	30	80	19	0.4	60.7	5.2	17	1.1	5.9
0.5 45	not 16		e 2012		1	28	76	21	0.0	72.6	7	25.5	0.7	8.3
0.4 46	not 17		e 2012		1	29	70	14	0.0	82.8	9.4	34.1	3.2	11.1
3.6 47	18		e 2012		1	31	68	14	0.0	85.4	12.1	43.1	4.6	14.2
6				1										
48 10.9		7 fi	2012 re		1	35	59	17	0.0	88.1	12	52.8	7.7	18.2
49	20	7	2012				65	15	0.1	81.4	12.3	62.1	2.8	16.5
	f			1		20	70	47	0 0	OF 4	10 F	74 5	г о	00 4
50 8.8	21					33	70	17	0.0	85.4	18.5	71.5	5.2	22.4
51			2012			28	79	18	0.1	73.4	16.4	79.9	1.8	21.7
	not				1				V					
52			2012			27	66	22	0.4	68.2	10.5	71.3	1.8	15.4
2.1	not	fir	е		1									
53	24	7	2012			28	78	16	0.1	70.0	9.6	79.7	1.4	14.7
1.3	not	fir	е		1									
54		7	2012			31	65	18	0.0	84.3	12.5	88.7	4.8	18.5
7.3		fir			1									
55			2012				53	19	0.0	89.2	17.1	98.6	10	23.9
15.3			re		1		4.0				00.0	400 5	۰	00.4
56	27		2012			36	48	13	0.0	90.3	22.2	108.5	8.7	29.4
15.3			re		1	22	76	1 =	0 0	06 E	24 4	117 0	E 6	20 1
57 11.3			2012 re		1	33	10	10	0.0	00.5	24.4	117.8	0.0	3∠.1
11.3 58			2012		T	30	73	15	0 0	86 6	26 7	127	5.6	35
11.9			re		1		13	10	0.0	00.0	20.1	121	0.0	33
0					_									

59	30	7 2012		31	79	15	0.0	85.4	28.5	136	4.7	37.4
10.7 60	31	fire 7 2012	1	35	64	17	0.0	87.2	31.9	145.7	6.8	41.2
15.7 61	1	fire 8 2012	1	36	45	14	0.0	78.8	4.8	10.2	2	4.7
0.9 62	not 2	fire 8 2012	1	35	55	12	0.4	78.0	5.8	10	1.7	5.5
0.8		fire	1				0.1	, , , ,				
63	3	8 2012		35	63	14	0.3	76.6	5.7	10	1.7	5.5
0.8 64	not	fire 8 2012	1	34	60	10	0 0	0F 0	0 0	10.0	4	0 0
3.9	4	o 2012 fire	1	34	69	13	0.0	85.0	8.2	19.8	4	8.2
65	5	8 2012	1	34	65	13	0 0	86.8	11.1	29.7	5.2	11.5
6.1	Ü	fire	1	01	00	10	0.0	00.0		20.1	0.2	11.0
66	6	8 2012	_	32	75	14	0.0	86.4	13	39.1	5.2	14.2
6.8		fire	1									
67	7	8 2012		32	69	16	0.0	86.5	15.5	48.6	5.5	17.2
8	f	ire	1									
68	8	8 2012		32	60	18	0.3	77.1	11.3	47	2.2	14.1
2.6	not	fire	1									
69	9	8 2012		35	59	17	0.0	87.4	14.8	57	6.9	17.9
9.9		fire	1									
70	10	8 2012		35	55	14	0.0	88.9	18.6	67	7.4	21.9
11.6		fire	1									
71	11	8 2012		35	63	13	0.0	88.9	21.7	77	7.1	25.5
12.1		fire	1									
72	12	8 2012		35	51	13	0.3	81.3	15.6	75.1	2.5	20.7
	not		1	0.5	20	4 =	0 0	07.0	4.0	05.4	5 0	0.4.4
73	13	8 2012	4	35	63	15	0.0	87.0	19	85.1	5.9	24.4
10.2		fire	1	22	cc	4.4	0 0	07.0	01.7	04.7	F 7	07.0
74	14	8 2012	1	33	66	14	0.0	87.0	21.7	94.7	5.7	27.2
10.6 75	1 5	fire 8 2012		36	55	13	0.3	99 <i>1</i>	15.6	92.5	3.7	22
6.3	15	fire	1	30	55	13	0.3	02.4	15.0	92.5	3.1	22
76	16	8 2012		36	61	12	03	80 2	11 7	90.4	2.8	17 6
4 0	10	fire		50	01	10	0.5	00.2	11.1	30.4	2.0	17.0
77		8 2012		37	52	18	0.0	89.3	16	100.7	9.7	22.9
14.6		fire	1	01	O2	10	0.0	00.0	10	100.1	0.1	22.0
78		8 2012	-	36	54	18	0.0	89.4	20	110.9	9.7	27.5
16.1		fire	1		-							_,
79	19	8 2012		35	62	19	0.0	89.4	23.2	120.9	9.7	31.3
17.2		fire	1									
80	20	8 2012		35	68	19	0.0	88.3	25.9	130.6	8.8	34.7
16.8		fire	1									
81	21	8 2012		36	58	19	0.0	88.6	29.6	141.1	9.2	38.8
18.4		fire	1									
82		8 2012		36	55	18	0.0	89.1	33.5	151.3	9.9	43.1
20.4		fire	1									

83	23 8 2012		36	53	16	0.0	89.5	37.6	161.5	10.4	47.5
22.3 84	fire 24 8 2012	1	34	64	14	0.0	88.9	40.5	171.3	9	50.9
20.9 85	fire 25 8 2012	1	35	60	15	0 0	88.9	43.9	181.3	8.2	54.7
20.3	ß fire	1			10					0.2	01.1
86 13.7	26 8 2012 fire	1	31	78	18	0.0	85.8	45.6	190.6	4.7	57.1
87	27 8 2012		33	82	21	0.0	84.9	47	200.2	4.4	59.3
13.2 88	28 fire 28 8 2012	1	34	64	16	0 0	89 <i>1</i>	50.2	210.4	7 3	62.9
19.9		1	0-1	0-1	10	0.0	03.4	00.2	210.4	7.0	02.3
89	29 8 2012		35	48	18	0.0	90.1	54 2	220.4	12 5	67.4
30.2		1	00	10	10	0.0	30.1	01.2	220.1	12.0	01.1
90	30 8 2012		35	70	17	0.8	72.7	25.2	180.4	1 7	37.4
4.2	not fire	1	00	10		0.0	12.1	20.2	100.1	±.,	01.1
91	31 8 2012		28	80	21	16.8	52.5	8.7	8.7	0.6	8.3
0.3	not fire	1					0_10				
92	1 9 2012	_	25	76	17	7.2	46.0	1.3	7.5	0.2	1.8
0.1	not fire	1				–					
93	2 9 2012		22	86	15	10.1	30.5	0.7	7	0	1.1
0	not fire	1									
94	3 9 2012		25	78	15	3.8	42.6	1.2	7.5	0.1	1.7
0	not fire	1									
95	4 9 2012		29	73	17	0.1	68.4	1.9	15.7	1.4	2.9
0.5	not fire	1									
96	5 9 2012		29	75	16	0.0	80.8	3.4	24	2.8	5.1
1.7	fire	1									
97	6 9 2012		29	74	19	0.1	75.8	3.6	32.2	2.1	5.6
0.9	not fire	1									
98	7 9 2012		31	71	17	0.3	69.6	3.2	30.1	1.5	5.1
0.6	not fire	1									
99	8 9 2012		30	73	17	0.9	62.0	2.6	8.4	1.1	3
0.4	not fire	1									
100	9 9 2012		30	77	15	1.0	56.1	2.1	8.4	0.7	2.6
0.2	not fire	1									
101	10 9 2012		33	73	12	1.8	59.9	2.2	8.9	0.7	2.7
0.3	not fire	1									
102	11 9 2012		30	77	21	1.8	58.5	1.9	8.4	1.1	2.4
0.3	not fire	1									
103	12 9 2012		29	88	13	0.0	71.0	2.6	16.6	1.2	3.7
0.5	not fire	1									
104	13 9 2012		25	86	21	4.6	40.9	1.3	7.5	0.1	1.8
0	not fire										
	14 9 2012		22	76	26	8.3	47.4	1.1	7	0.4	1.6
	not fire										
106	15 9 2012		24	82	15	0.4	44.9	0.9	7.3	0.2	1.4
0	not fire	1									

107	16 9 2012		30	65	14	0.0	78.1	3.2	15.7	1.9	4.2
	not fire	1									
108	17 9 2012		31	52	14	0.0	87.7	6.4	24.3	6.2	7.7
5.9	fire	1									
109	18 9 2012		32	49	11	0.0	89.4	9.8	33.1	6.8	11.3
7.7	fire	1									
110	19 9 2012		29	57	14	0.0	89.3	12.5	41.3	7.8	14.2
9.7	fire	1									
111	20 9 2012		28	84	18	0.0	83.8	13.5	49.3	4.5	16
6.3	fire	1									
112	21 9 2012		31	55	11	0.0	87.8	16.5	57.9	5.4	19.2
8.3	fire	1									
113	22 9 2012		31	50	19	0.6	77.8	10.6	41.4	2.4	12.9
2.8	not fire	1									
114	23 9 2012		32	54	11	0.5	73.7	7.9	30.4	1.2	9.6
0.7	not fire	1									
115	24 9 2012		29	65	19	0.6	68.3	5.5	15.2	1.5	5.8
0.7	not fire	1									
116	25 9 2012		26	81	21	5.8	48.6	3	7.7	0.4	3
0.1	not fire	1									
117	26 9 2012		31	54	11	0.0	82.0	6	16.3	2.5	6.2
1.7	not fire	1									
118	27 9 2012		31	66	11	0.0	85.7	8.3	24.9	4	9
4.1	fire	1									
119	28 9 2012		32	47	14	0.7	77.5	7.1	8.8	1.8	6.8
0.9	not fire	1									
120	29 9 2012		26	80	16	1.8	47.4	2.9	7.7	0.3	3
0.1	not fire	1									
121	30 9 2012		25	78	14	1.4	45.0	1.9	7.5	0.2	2.4
0.1	not fire	1									
122	1 6 2012		32	71	12	0.7	57.1	2.5	8.2	0.6	2.8
0.2	not fire	2									
123	2 6 2012		30	73	13	4.0	55.7	2.7	7.8	0.6	2.9
	not fire	2									
124	3 6 2012		29	80	14	2.0	48.7	2.2	7.6	0.3	2.6
0.1	not fire	2									
125	4 6 2012		30	64	14	0.0	79.4	5.2	15.4	2.2	5.6
1		2									
126	5 6 2012		32	60	14	0.2	77.1	6	17.6	1.8	6.5
		2									
127	6 6 2012		35	54	11	0.1	83.7	8.4	26.3	3.1	9.3
3.1	fire	2									
128	7 6 2012		35	44	17	0.2	85.6	9.9	28.9	5.4	10.7
6		2									
129			28	51	17	1.3	71.4	7.7	7.4	1.5	7.3
0.8		2									
130	9 6 2012		27	59	18	0.1	78.1	8.5	14.7	2.4	8.3
1.9	not fire	2									

131		2012	30	41	15	0.0	89.4	13.3	22.5	8.4	13.1
10 132		2 2012	31	42	21	0.0	90.6	18.2	30.5	13.4	18
16.7 133		e 2 2012	? 27	58	17	0.0	88.9	21.3	37.8	8.7	21.2
12.9 134	fire 13 6 2		30	52	15	2.0	72.3	11.4	7.8	1.4	10.9
0.9 135	not fire		27	79	16	0.7	53.4	6.4	7.3	0.5	6.1
0.3 136	not fire		28	90	15	0.0	66.8	7.2	14.7	1.2	7.1
0.6 137	not fire	2012	29	87	15	0.4	47.4	4.2	8	0.2	4.1
0.1 138	not fire		31	69	17	4.7	62.2	3.9	8	1.1	3.8
0.4 139	not fire	2	33	62	10		65.5		8.3		4.4
	not fire	2	32	67	14		64.6	4.4	8.2	1	4.2
0.4	not fire	2	31	72	14		60.2	3.8	8	0.8	3.7
	not fire 21 6 2	2	32	55	14			8.3		5	8.2
4.9 143	fire 22 6 2	2	33	46	14		78.3		8.3	1.9	7.7
1.2	not fire	2									
144 0.8	not fire	2	33	59	16			7	8.3		6.7
	24 6 2 fire	2	35	68	16		85.3		17		9.9
146 6.7	25 6 2 fire	2	34	70	16				25.6		12.7
147 9.5	fire	2	36		16			16.5		7	
	fire	2012							43.3		
149 18.4	fire	e 2	?						52.4		
150 7.2	29 6 2 fire	2							36.7		
151 2.2	not fire	2	34	42	15				8.5		
152 0.5	1 7 2 not fire	2012	28	58	18	2.2	63.7	3.2	8.5	1.2	3.3
153 6.4	2 7 2 fire		33	48	16	0.0	87.6	7.9	17.8	6.8	7.8
154 5.2	3 7 2 fire		34	56	17	0.1	84.7	9.7	27.3	4.7	10.3

155	4	7	2012		34	58	18	0.0	88.0	13.6	36.8	8	14.1
9.9 156	5	fir 7	e 2012	2	34	45	18	0 0	90.5	18.7	46.4	11.3	18 7
150		' fire		2	04	40	10	0.0	30.5	10.7	40.4	11.5	10.7
157	6		2012	_	35	42	15	0.3	84.7	15.5	45.1	4.3	16.7
6.3		fir		2									
158	7	7	2012		38	43	13	0.5	85.0	13	35.4	4.1	13.7
5.2		fir	е	2									
159		7	2012		35	47	18	6.0	80.8	9.8	9.7	3.1	9.4
3	f	ire		2									
160	9		2012		36	43	15	1.9	82.3	9.4	9.9	3.2	9
3.1		fir		2									
161			2012		34	51	16	3.8	77.5	8	9.5	2	7.7
	not			2									
162			2012		34	56	15	2.9	74.8	7.1	9.5	1.6	6.8
0.8	not			2									
163	12		2012	•	36	44	13	0.0	90.1	12.6	19.4	8.3	12.5
9.6	4.0	fir		2		4-	4.0		05.0		40.4	4.0	40.0
164	13		2012	0	39	45	13	0.6	85.2	11.3	10.4	4.2	10.9
4.7	4-	fir		2	0.4	4.5	4 17	0 0	00 5	40	04.4	40.0	45 5
165	15		2012	0	34	45	17	0.0	90.5	18	24.1	10.9	17.7
14.1		fi		2	0.4	00	47	0 0	04 5	10 1	22.4	4 7	10.0
166	16		2012	0	31	83	17	0.0	84.5	19.4	33.1	4.7	19.2
7.3	17	fir		2	32	0.1	17	0 0	04.6	21.1	42.3	4 7	20.0
167	17		2012	0	32	81	17	0.0	84.6	21.1	42.3	4.7	20.9
7.7	10	fir		2	22	60	1 5	0 0	06 1	02 O	E1 6	E 0	02 O
168 9.1	18		2012	2	33	68	15	0.0	86.1	23.9	51.6	5.2	23.9
169	19	fir	e 2012	2	34	58	16	0 0	88.1	27.8	61.1	7.3	27.7
13			2012	2	34	56	10	0.0	00.1	21.0	01.1	1.3	21.1
170			2012	2	36	50	16	0 0	89.9	32.7	71	9.5	32.6
17.3		fi		2	30	50	10	0.0	03.3	32.1	11	9.5	32.0
17.3			2012	2	36	29	18	0 0	03 0	39.6	80.6	18 5	30 5
			2012	2	30	23	10	0.0	93.9	39.0	00.0	10.5	39.5
172				2	30	12	12	0 0	01 5	11 2	90 1	13 2	11
	22		re		52	40	10	0.0	91.0	44.2	30.1	10.2	77
173			2012	2	31	71	17	0 0	87 3	46 6	99	6.9	46 5
16.3			re	2	01	1 1	Τ,	0.0	07.0	40.0	33	0.5	40.0
174			2012		33	63	17	1 1	72 8	20 9	56.6	1 6	21 7
	not			2	00	00			12.0	20.0	00.0	1.0	21.1
175			2012		39	64	9	1.2	73.8	11.7	15.9	1.1	11.4
	not			2		01	Ü				10.0		
176			2012		35	58	10	0.2	78.3	10.8	19.7	1.6	10.7
1			2012					0.2		10.0	10	1.0	20.1
177	27			_	29	87	18	0.0	80.0	11.8	28.3	2.8	11.8
	not			2						•		•	_, •
178	28			_	33	57	16	0.0	87.5	15.7	37.6	6.7	15.7
9		ire		_									

179 29	7 2012		34	59	16	0.0	88.1	19.5	47.2	7.4	19.5
10.9	fire	2									
180 30	7 2012		36	56	16	0.0	88.9	23.8	57.1	8.2	23.8
13.2	fire	2					00.0	00.0	27. 0		00.0
181 31	7 2012	0	37	55	15	0.0	89.3	28.3	67.2	8.3	28.3
14.5	fire	2	20	F0	4.4	0 0	70.0	4 4	40 5	0	4 4
182 1	8 2012	0	38	52	14	0.0	78.3	4.4	10.5	2	4.4
	ot fire	2	40	24	1.1	0 0	02.2	10.0	01 4	12.0	10.6
183 2 13.5	8 2012	2	40	34	14	0.0	93.3	10.8	21.4	13.8	10.6
	fire	2	39	22	17	0 0	02.7	17 1	20 1	17 0	16.0
184 3 19.5	8 2012 fire	2	39	33	17	0.0	93.7	17.1	32.1	17.2	16.9
19.5 185 4	8 2012	2	38	35	15	0.0	93.8	23	42.7	15.7	22.9
20.9	fire	2	30	33	15	0.0	93.0	23	42.1	15.7	22.9
186 5	8 2012	2	34	42	17	0.1	88.3	23.6	52.5	19	23.5
12.6	fire	2	34	42	Τ1	0.1	00.5	23.0	02.0	19	23.5
187 6	8 2012	۷	30	54	14	3.1	70.5	11	9.1	1.3	10.5
	ot fire	2	50	0-1	1-1	0.1	70.0	11	3.1	1.0	10.0
188 7	8 2012	2	34	63	13	2.9	69.7	7.2	9.8	1.2	6.9
	ot fire	2	01	00	10	2.0	00.1	1.2	3.0	1.2	0.5
189 8	8 2012	_	37	56	11	0.0	87.4	11.2	20.2	5.2	11
5.9	fire	2	0.	00		0.0	0,,1		20.2	0.2	
190 9	8 2012	-	39	43	12	0.0	91.7	16.5	30.9	9.6	16.4
12.7	fire	2									
191 10	8 2012		39	39	15	0.2	89.3	15.8	35.4	8.2	15.8
10.7	fire	2									
192 11	8 2012		40	31	15	0.0	94.2	22.5	46.3	16.6	22.4
21.6	fire	2									
193 12	8 2012		39	21	17	0.4	93.0	18.4	41.5	15.5	18.4
18.8	fire	2									
194 13	8 2012		35	34	16	0.2	88.3	16.9	45.1	7.5	17.5
10.5	fire	2									
195 14	8 2012		37	40	13	0.0	91.9	22.3	55.5	10.8	22.3
15.7	fire	2									
196 15	8 2012		35	46	13	0.3	83.9	16.9	54.2	3.5	19
5.5	fire	2									
197 16	8 2012		40	41	10	0.1	92.0	22.6	65.1	9.5	24.2
14.8	fire	2									
198 17	8 2012		42	24	9	0.0	96.0	30.3	76.4	15.7	30.4
24	fire	2									
199 18	8 2012		37	37	14	0.0	94.3	35.9	86.8	16	35.9
26.3	fire	2									
200 19	8 2012		35	66	15	0.1	82.7	32.7	96.8	3.3	35.5
7.7	fire	2									
	8 2012		36	81	15	0.0	83.7	34.4	107	3.8	38.1
9	fire										
202 21			36	71	15	0.0	86.0	36.9	117.1	5.1	41.3
12.2	fire	2									

203			2012		37	53	14	0.0	89.5	41.1	127.5	8	45.5
18.1			re	2									
204			2012		36	43	16	0.0	91.2	46.1	137.7	11.5	50.2
24.5		fi		2									
205	24		2012		35	38	15	0.0	92.1	51.3	147.7	12.2	54.9
26.9			re	2									
206			2012		34	40	18	0.0	92.1	56.3	157.5	14.3	59.5
31.1			re	2									
207		8	2012		33	37	16	0.0	92.2	61.3	167.2	13.1	64
30.3		fi	re	2									
208	27	8	2012		36	54	14	0.0	91.0	65.9	177.3	10	68
26.1		fi	re	2									
209	28	8	2012		35	56	14	0.4	79.2	37	166	2.1	30.6
6.1	not	fir	е	2									
210	29	8	2012		35	53	17	0.5	80.2	20.7	149.2	2.7	30.6
5.9		fir	е	2									
211	30	8	2012		34	49	15	0.0	89.2	24.8	159.1	8.1	35.7
16		fire		2									
212	31	8	2012		30	59	19	0.0	89.1	27.8	168.2	9.8	39.3
19.4		fi	re	2									
213	1	9	2012		29	86	16	0.0	37.9	0.9	8.2	0.1	1.4
0	not f	ire		2									
214	2	9	2012		28	67	19	0.0	75.4	2.9	16.3	2	4
0.8	not	fir	е	2									
215	3	9	2012		28	75	16	0.0	82.2	4.4	24.3	3.3	6
2.5		fir	е	2									
216	4	9			30	66	15	0.2	73.5	4.1	26.6	1.5	6
0.7	not	fir	е	2									
217	5		2012		30	58	12	4.1	66.1	4	8.4	1	3.9
0.4	not			2									
218	6		2012		34	71	14	6.5	64.5	3.3	9.1	1	3.5
0.4	not	fir	е	2									
219			2012		31	62	15	0.0	83.3	5.8	17.7	3.8	6.4
3.2			е	2									
220	8		2012		30	88	14	0.0	82.5	6.6	26.1	3	8.1
2.7			e										
221			2012	_	30	80	15	0.0	83.1	7.9	34.5	3.5	10
3.7			e	2				0.0	00.1		01.0	0.0	10
222			2012	_	29	74	15	1 1	59 5	4 7	8.2	0.8	4.6
	not			2	20		10		00.0		0.2	0.0	1.0
223			2012		30	73	1Δ	0 0	79 2	6.5	16.6	2.1	6.6
	not			2	00	10		0.0	10.2	0.0	10.0	2.1	0.0
224			2012	2	21	72	1/1	0 0	8/1-2	8 3	25.2	3.8	9.1
	12		e 2012	2	31	12	14	0.0	04.2	0.5	20.2	5.0	9.1
225			e 2012	۷	29	49	10	0 0	88 6	11 5	33.4	Q 1	19 /
10.3		9 fi		2	23	43	13	0.0	00.0	11.5	JJ.4	9.1	12.4
226			2012		28	Q 1	15	0 0	8/1 6	12 6	41.5	/1 · 3	1/1 2
	14			2	20	01	10	0.0	04.0	12.0	41.0	4.3	14.3
5.1		fir	E	2									

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229 17
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237
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                                                                                 4.8
0.5
      not fire
                            2
```

32

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13

16

50.2

6.9 17.8

Zmiana typów danych na wymagane typy danych dla odpowiednich funkcji do analizy

```
[]: dane[['month','day','year','Temperature','RH','Ws']]=dane[['month','day','year','Temperature',
      ⇔astype('int64')
[]: obkiekty=[noweobiekty for noweobiekty in dane.columns if dane[noweobiekty].

dtypes=='0']

[]: for i in obkiekty:
         if i!='Classes':
```

Wyświetlenie danych po operacjach

dane[i] = dane[i] .astype(float)

227

15

9 2012

```
[]: dane.info()
```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 243 entries, 0 to 242
Data columns (total 15 columns):

#	Column	Non-Null Count	Dtype
0	day	243 non-null	int64
1	month	243 non-null	int64
2	year	243 non-null	int64
3	Temperature	243 non-null	int64
4	RH	243 non-null	int64
5	Ws	243 non-null	int64
6	Rain	243 non-null	float64
7	FFMC	243 non-null	float64
8	DMC	243 non-null	float64
9	DC	243 non-null	float64
10	ISI	243 non-null	float64
11	BUI	243 non-null	float64
12	FWI	243 non-null	float64
13	Classes	243 non-null	object
14	Region	243 non-null	int64
	67 164/7		. (4)

dtypes: float64(7), int64(7), object(1)

memory usage: 28.6+ KB

count 243.000000 243.000000

[]: dane.describe()

[]:		day	month	year	Temperature	RH	Ws \	
	count	243.000000	243.000000	243.0	243.000000	243.000000	243.000000	
	mean	15.761317	7.502058	2012.0	32.152263	62.041152	15.493827	
	std	8.842552	1.114793	0.0	3.628039	14.828160	2.811385	
	min	1.000000	6.000000	2012.0	22.000000	21.000000	6.000000	
	25%	8.000000	7.000000	2012.0	30.000000	52.500000	14.000000	
	50%	16.000000	8.000000	2012.0	32.000000	63.000000	15.000000	
	75%	23.000000	8.000000	2012.0	35.000000	73.500000	17.000000	
	max	31.000000	9.000000	2012.0	42.000000	90.000000	29.000000	
		Rain	FFMC	D	MC	DC I	SI BUI	\
	count	243.000000	243.000000	243.0000	00 243.0000	000 243.0000	00 243.000000	
	mean	0.762963	77.842387	14.6806	58 49.4308	64 4.7423	87 16.690535	
	std	2.003207	14.349641	12.3930	40 47.6656	306 4.1542	34 14.228421	
	min	0.000000	28.600000	0.7000	00 6.9000	0.0000	00 1.100000	
	25%	0.000000	71.850000	5.8000	00 12.3500	1.4000	00 6.000000	
	50%	0.000000	83.300000	11.3000	00 33.1000	3.5000	00 12.400000	
	75%	0.500000	88.300000	20.8000	00 69.1000	7.2500	00 22.650000	
	max	16.800000	96.000000	65.9000	00 220.4000	19.0000	00 68.000000	
		FWI	Region					

```
50%
              4.200000
                           1.000000
     75%
             11.450000
                           2.000000
             31.100000
                           2.000000
    max
    Ustawnie klasyfikacji dla klas
[]: dane["Classes"].value_counts()
[]: fire
                       131
     not fire
                       101
     fire
                         4
     fire
                         2
    not fire
                         2
    not fire
                         1
    not fire
                         1
                         1
    not fire
     Name: Classes, dtype: int64
[]: dane.Classes = dane.Classes.str.strip()
[]: dane["Classes"].value_counts()
[]: fire
                 137
     not fire
                 106
     Name: Classes, dtype: int64
    Ustawienie klasy: - not fire na 0 - fire na 1
[]: dane['Classes'] = np.where(dane['Classes'] == 'not fire',0,1)
[]: dane.Classes.value_counts()
[]: 1
          137
          106
     Name: Classes, dtype: int64
    Wyświetlenie korelacji
[]: dane.corr(numeric_only=True)
[]:
                        day
                                month
                                       year
                                              Temperature
                                                                  RH
                                                                            Ws \
                  1.000000 -0.000369
                                                 0.097227 -0.076034 0.047812
     day
                                         NaN
                 -0.000369
                             1.000000
                                                -0.056781 -0.041252 -0.039880
     month
                                         NaN
     year
                        NaN
                                         NaN
                                                                 NaN
     Temperature 0.097227 -0.056781
                                         NaN
                                                 1.000000 -0.651400 -0.284510
```

1.497942

0.501028

1.000000

1.000000

7.035391

7.440568

0.000000

0.700000

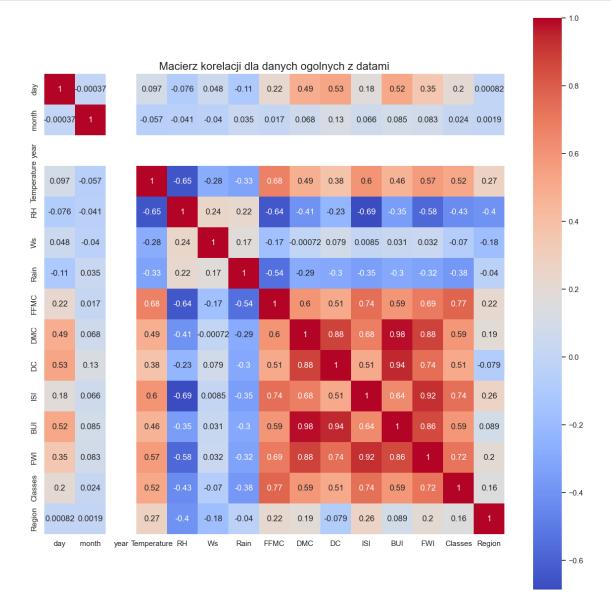
mean

std min

25%

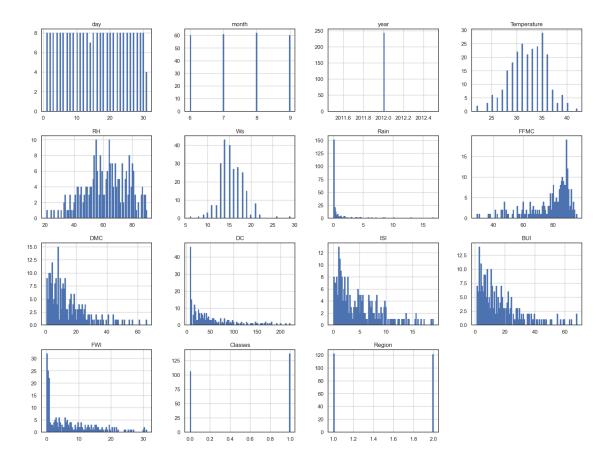
```
RH
            -0.076034 -0.041252
                                  NaN
                                          -0.651400
                                                     1.000000
                                                               0.244048
Ws
             0.047812 -0.039880
                                  NaN
                                          -0.284510
                                                     0.244048
                                                               1.000000
Rain
            -0.112523
                       0.034822
                                  NaN
                                          -0.326492 0.222356
                                                               0.171506
FFMC
             0.224956
                       0.017030
                                  NaN
                                           0.676568 -0.644873 -0.166548
DMC
             0.491514
                       0.067943
                                  NaN
                                           0.485687 -0.408519 -0.000721
DC
             0.527952
                       0.126511
                                  NaN
                                           0.376284 -0.226941
                                                               0.079135
ISI
             0.180543
                       0.065608
                                  NaN
                                           0.603871 -0.686667
                                                               0.008532
BUI
                                  NaN
             0.517117
                       0.085073
                                           0.459789 -0.353841
                                                               0.031438
FWI
             0.350781
                                  NaN
                                           0.566670 -0.580957
                       0.082639
                                                               0.032368
Classes
             0.202840
                       0.024004
                                  NaN
                                           0.516015 -0.432161 -0.069964
             0.000821
                       0.001857
                                  NaN
                                           0.269555 -0.402682 -0.181160
Region
                 Rain
                           FFMC
                                       DMC
                                                  DC
                                                           ISI
                                                                     BUI
day
            -0.112523
                       0.224956
                                 0.491514
                                            0.527952
                                                      0.180543
                                                                0.517117
             0.034822
                       0.017030
                                 0.067943
                                            0.126511
                                                      0.065608
                                                                0.085073
month
year
                  NaN
                            NaN
                                       NaN
                                                 NaN
                                                           NaN
                                                                     NaN
Temperature -0.326492
                       0.676568
                                 0.485687
                                            0.376284
                                                      0.603871
                                                                0.459789
RH
             0.222356 -0.644873 -0.408519 -0.226941 -0.686667 -0.353841
Ws
             0.171506 -0.166548 -0.000721
                                            0.079135
                                                      0.008532
                                                                0.031438
Rain
             1.000000 -0.543906 -0.288773 -0.298023 -0.347484 -0.299852
FFMC
            -0.543906
                                 0.603608
                       1.000000
                                            0.507397
                                                      0.740007
                                                                0.592011
DMC
            -0.288773
                       0.603608
                                 1.000000
                                            0.875925
                                                      0.680454
                                                                0.982248
DC
            -0.298023
                       0.507397
                                 0.875925
                                            1.000000
                                                      0.508643
                                                                0.941988
                       0.740007
ISI
            -0.347484
                                 0.680454
                                            0.508643
                                                      1.000000
                                                                0.644093
BUI
            -0.299852
                       0.592011
                                 0.982248
                                            0.941988
                                                      0.644093
                                                                1.000000
FWI
            -0.324422
                       0.691132
                                 0.875864
                                            0.739521
                                                      0.922895
                                                                0.857973
                                 0.585658
Classes
            -0.379097
                       0.769492
                                            0.511123
                                                      0.735197
                                                                0.586639
Region
            -0.040013
                       0.222241
                                 0.192089 -0.078734
                                                      0.263197
                                                                0.089408
                  FWI
                        Classes
                                    Region
             0.350781
                       0.202840
                                 0.000821
day
             0.082639
                       0.024004
                                 0.001857
month
year
                  NaN
                            NaN
                                       NaN
             0.566670
                       0.516015
Temperature
                                 0.269555
RH
            -0.580957 -0.432161 -0.402682
Ws
             0.032368 -0.069964 -0.181160
Rain
            -0.324422 -0.379097 -0.040013
FFMC
             0.691132
                       0.769492
                                 0.222241
DMC
             0.875864
                       0.585658
                                 0.192089
DC
             0.739521
                       0.511123 -0.078734
ISI
             0.922895
                       0.735197
                                 0.263197
BUI
             0.857973
                       0.586639
                                 0.089408
FWI
             1.000000
                       0.719216
                                 0.197102
Classes
             0.719216
                       1.000000
                                 0.162347
                                  1.000000
Region
             0.197102
                       0.162347
```

```
[]: sns.set(style="white")
  korelacja = dane.corr(numeric_only=True)
  plt.figure(figsize=(15, 15))
  sns.heatmap(korelacja, annot=True, cmap='coolwarm', square=True)
  plt.title('Macierz korelacji dla danych ogolnych z datami', fontsize=16)
  plt.show()
```



Wyświetlenie histogramu

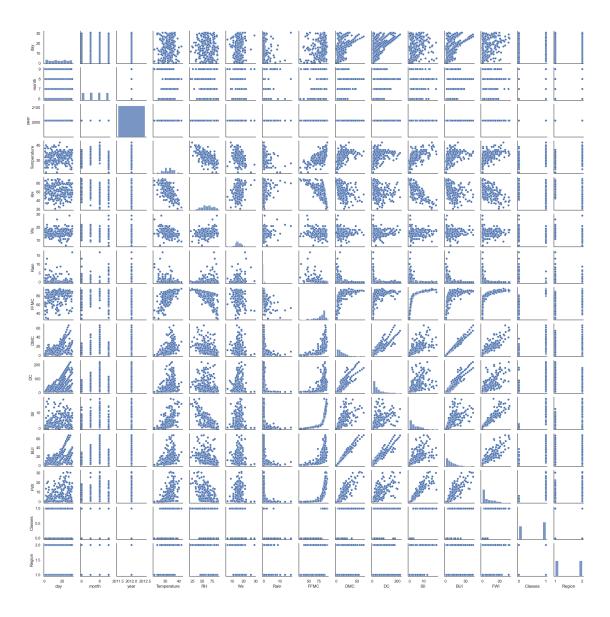
```
[]: dane.hist(bins=100, figsize=(20, 15), ec='b')
plt.show()
```



Wykresy rozrzutów

```
[]: sns.pairplot(dane, height=1.5, aspect=1,)
```

[]: <seaborn.axisgrid.PairGrid at 0x1fd6ca81a10>



Procent porżarów według klasy

```
[]: procent = dane.Classes.value_counts(normalize=True)*100 procent
```

[]: 1 56.378601 0 43.621399

Name: Classes, dtype: float64

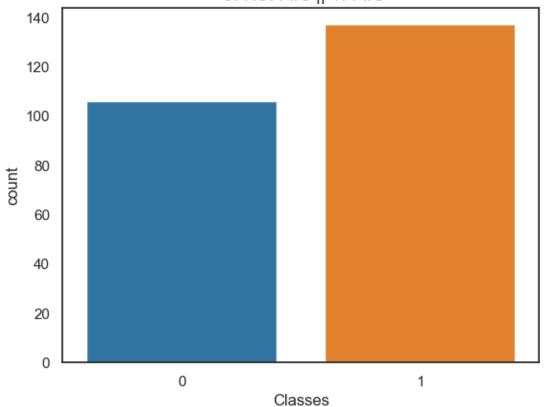
Analiza pożarów dla Algerii - klasa 0 - Not Fire - klasa 1 - Fire

```
[]: sns.countplot(x='Classes', data=dane, palette="tab10")
plt.title('Dane według klasy wykres słupkowy \n 0: Not Fire || 1: Fire',⊔

⇔fontsize=14)
```

[]: Text(0.5, 1.0, 'Dane wedlug klasy wykres słupkowy \n 0: Not Fire || 1: Fire')

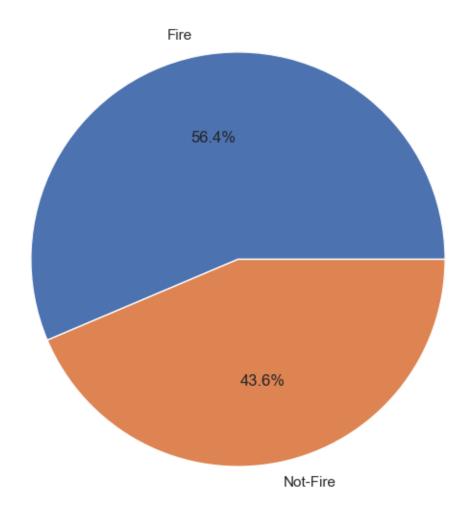




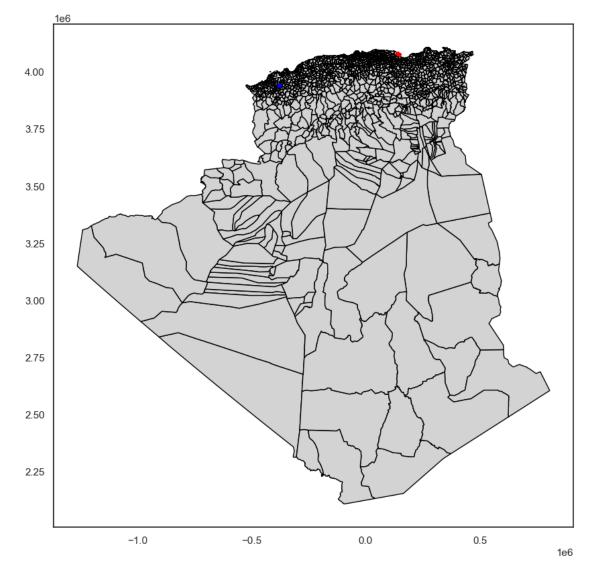
Wykres kołowy

```
[]: classeslabels = ["Fire", "Not-Fire"]
  plt.figure(figsize=(12, 7))
  plt.pie(procent, labels=classeslabels, autopct='%1.1f%%')
  plt.title("Wykres kołowy", fontsize=15)
  plt.show()
```

Wykres kołowy



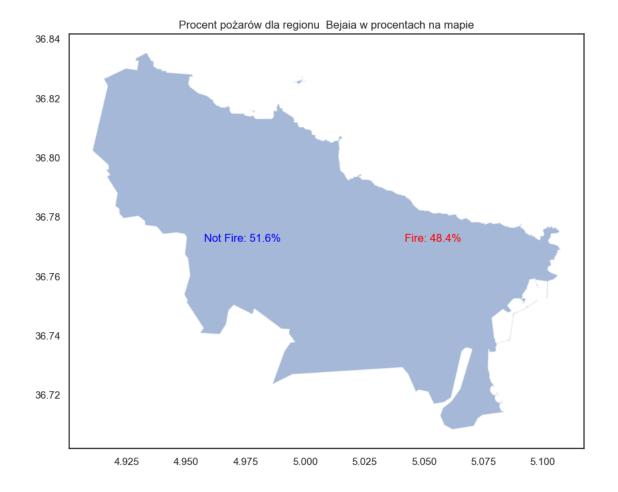
Zaznaczenie regionów gdzie są pożary: - Kolor czerowny - Bejaia - Kolor niebieski - Sidi Bel Abbes



Analiza pożarów dla Algerii dla danego regionu - klasa 0 - Not Fire - klasa 1 - Fire

```
[]: etykietyklasy = ['Not Fire', 'Fire']
```

```
mapabejaia = '.\dza_admbnda_unhcr2020_shp\dza_admbnda_adm2_unhcr_20200120.shp'
danemapy = gpd.read_file(mapabejaia)
bejaia = danemapy[danemapy['ADM2_EN'] == 'Bejaia']
bejaia_pozar = dane[dane['Region'] == 1]
procentbejaia = bejaia_pozar['Classes'].value_counts(normalize=True) * 100
fig, ax = plt.subplots(figsize=(10, 10))
bejaia.plot(ax=ax, alpha=0.5)
for idx, row in bejaia.iterrows():
   for i, val in enumerate(procentbejaia):
       if i == 0:
            color = 'blue'
            text = f"{etykietyklasy[0]}: {val:.1f}%"
            x_offset = -0.030
        else:
            color = 'red'
            text = f"{etykietyklasy[1]}: {val:.1f}%"
            x_offset = 0.050
        ax.annotate(text=text, xy=(
            row.geometry.centroid.x + x_offset, row.geometry.centroid.y),__
 ⇔color=color, ha='center', fontsize=12)
plt.title('Procent pożarów dla regionu Bejaia w procentach na mapie')
plt.show()
```

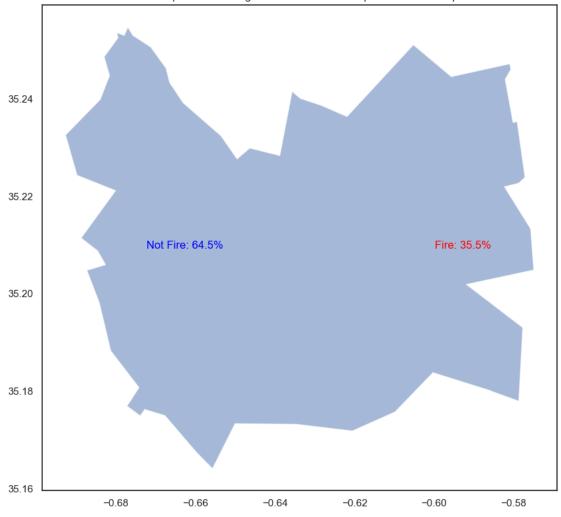


```
for i, val in enumerate(procentsidibel):
    if i == 0:
        color = 'blue'
        text = f"{etykietyklasy[0]}: {val:.1f}%"
        x_offset = -0.030
    else:
        color = 'red'
        text = f"{etykietyklasy[1]}: {val:.1f}%"
        x_offset = 0.040
    ax.annotate(text=text, xy=(
        row.geometry.centroid.x + x_offset, row.geometry.centroid.y),u
color=color, ha='center', fontsize=12)

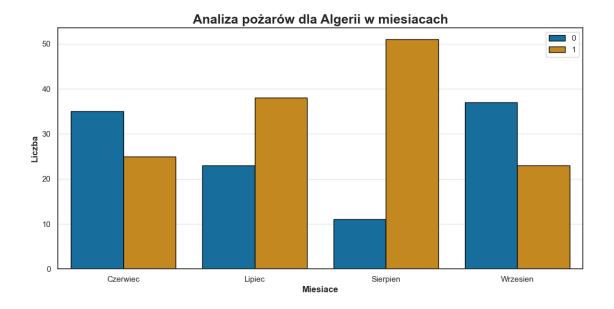
plt.title('Procent pożarów dla regionu Sidi Bel Abbes w procentach na mapie')

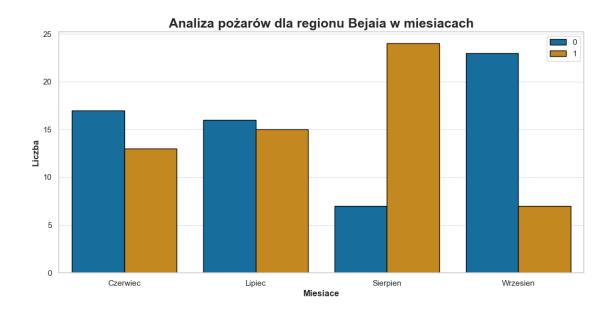
plt.show()
```

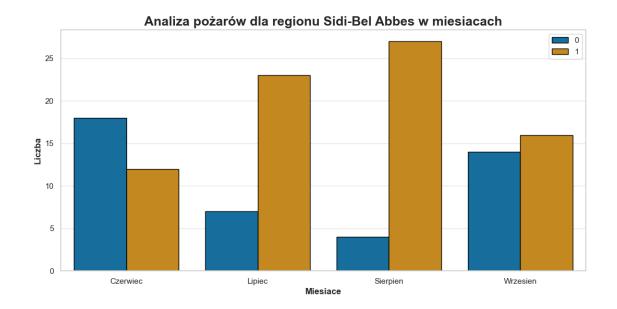




Analiza pożarów dla Algerii i dla danych regionów dla danego miesiąca - klasa 0 - Not Fire - klasa 1 - Fire







Analiza regresji

Usunięcie dnia meisiaca i roku na prztrzeby regresji analizy

```
[]: dane = dane.drop(['day', 'month', 'year'], axis=1)
dane.head(10)
[]: Temperature RH Ws Rain FFMC DMC DC ISI BUI FWI Classes \
```

L]:	Temperature	RH	Ws	Rain	FFMC	DMC	DC	1S1	BUI	F.M.T	Classes	\
0	29	57	18	0.0	65.7	3.4	7.6	1.3	3.4	0.5	0	
1	29	61	13	1.3	64.4	4.1	7.6	1.0	3.9	0.4	0	
2	26	82	22	13.1	47.1	2.5	7.1	0.3	2.7	0.1	0	
3	25	89	13	2.5	28.6	1.3	6.9	0.0	1.7	0.0	0	
4	27	77	16	0.0	64.8	3.0	14.2	1.2	3.9	0.5	0	
5	31	67	14	0.0	82.6	5.8	22.2	3.1	7.0	2.5	1	
6	33	54	13	0.0	88.2	9.9	30.5	6.4	10.9	7.2	1	
7	30	73	15	0.0	86.6	12.1	38.3	5.6	13.5	7.1	1	
8	25	88	13	0.2	52.9	7.9	38.8	0.4	10.5	0.3	0	
9	28	79	12	0.0	73.2	9.5	46.3	1.3	12.6	0.9	0	

	Region
0	1
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1

9 1

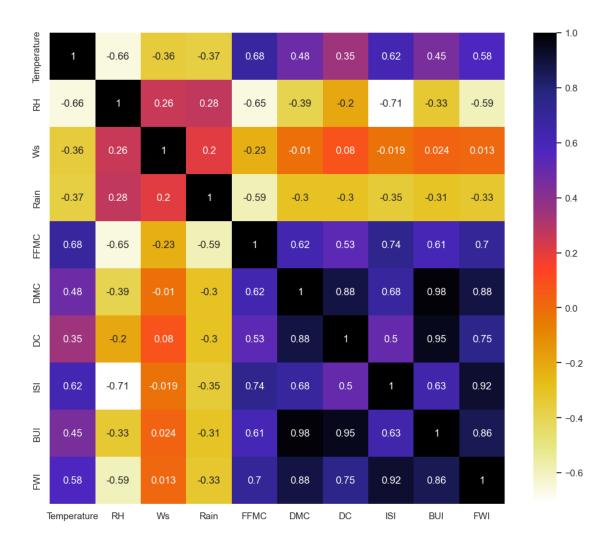
Podział zbioru danych na funkcję wejściową i wyjściową do analizy regresji

```
[]: x = dane.iloc[:,0:10]
     y= dane['FWI']
[]: x.head()
[]:
        Temperature
                             Rain FFMC
                                          DMC
                                                 DC
                                                      ISI
                                                           BUI
                                                                FWI
                     RH
                          Ws
                                    65.7
                                                 7.6
                                                      1.3
                                                           3.4
                                                                0.5
     0
                 29
                     57
                          18
                               0.0
                                          3.4
     1
                 29
                     61
                          13
                               1.3
                                    64.4
                                          4.1
                                                 7.6
                                                      1.0
                                                           3.9
                                                                0.4
                                                      0.3
                                                           2.7
     2
                     82
                          22
                              13.1
                                    47.1
                                          2.5
                                                                0.1
                 26
                                                 7.1
     3
                 25
                     89
                          13
                               2.5
                                    28.6
                                          1.3
                                                 6.9
                                                      0.0
                                                           1.7
                                                                0.0
     4
                                                           3.9
                 27
                     77
                          16
                               0.0
                                    64.8
                                          3.0
                                                14.2
                                                      1.2
                                                                0.5
[]: y.head()
[]: 0
          0.5
     1
          0.4
     2
          0.1
     3
          0.0
     4
          0.5
     Name: FWI, dtype: float64
    Podział zestawu danych na zbiór uczący i zbiór testowy
[]: x_uczacy, x_testujacy, y_uczacy, y_testujacy = train_test_split(x, y,_

stest_size=0.25,

                                                               random_state=0)
     x_uczacy.shape, x_testujacy.shape
[]: ((182, 10), (61, 10))
[]: x_testujacy.columns
[]: Index(['Temperature', 'RH', 'Ws', 'Rain', 'FFMC', 'DMC', 'DC', 'ISI', 'BUI',
            'FWI'],
           dtype='object')
    Korelacja uczących danych
[]: x_uczacy.corr()
[]:
                  Temperature
                                      RH
                                                 Ws
                                                         Rain
                                                                   FFMC
                                                                               DMC
     Temperature
                     1.000000 -0.657325 -0.357016 -0.365941
                                                               0.684556 0.482965
     RH
                    -0.657325
                                                    0.275592 -0.653649 -0.393893
                                1.000000
                                          0.262581
                                0.262581
     Ws
                    -0.357016
                                          1.000000
                                                    0.204035 -0.226129 -0.010158
                                          0.204035 1.000000 -0.589465 -0.300364
     Rain
                    -0.365941 0.275592
```

```
FFMC
                    0.684556 - 0.653649 - 0.226129 - 0.589465 1.000000 0.621958
    DMC
                    0.482965 -0.393893 -0.010158 -0.300364 0.621958 1.000000
    DC
                    0.349021 -0.203883 0.079699 -0.302591 0.528275 0.884417
    ISI
                    0.618172 -0.712353 -0.018845 -0.347660
                                                          0.742079 0.680918
    BUI
                    0.447959 - 0.333027 \ 0.023680 - 0.308258 \ 0.606527 \ 0.984222
    FWI
                    0.575406 \ -0.594299 \quad 0.013239 \ -0.326426 \quad 0.704563 \quad 0.882314
                       DC
                                         BUI
                               ISI
                                                   FWI
    Temperature 0.349021 0.618172 0.447959 0.575406
    RH
                -0.203883 -0.712353 -0.333027 -0.594299
    Ws
                 0.079699 -0.018845 0.023680 0.013239
    Rain
                -0.302591 -0.347660 -0.308258 -0.326426
    FFMC
                 0.528275 0.742079 0.606527 0.704563
    DMC
                 DC
                 1.000000 0.501412 0.951157 0.746551
    ISI
                 0.501412 1.000000 0.632285 0.918573
    BUI
                 0.951157  0.632285  1.000000  0.855633
    FWI
                 0.746551 0.918573 0.855633 1.000000
[]: plt.figure(figsize=(12, 10))
    korelacja = x_uczacy.corr()
    sns.heatmap(korelacja, annot=True, cmap=plt.cm.CMRmap r)
    plt.show()
```



Analizując wyniki korelacji, można zauważyć, że:

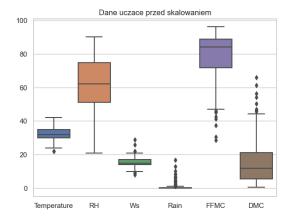
- Temperatura ma silną dodatnią korelację z FFMC, a także pozytywną korelację z FWI, BUI i ISI. Oznacza to, że wyższa temperatura zwiększa poziom wysuszonych paliw, co z kolei prowadzi do wzrostu zagrożenia pożarowego.
- Wilgotność względna (RH) ma silną negatywną korelację z FFMC oraz negatywną korelację z FWI, BUI i ISI. Oznacza to, że wyższa wilgotność powietrza zmniejsza poziom wysuszonych paliw i obniża zagrożenie pożarowe.
- Prędkość wiatru (Ws) ma słabą dodatnią korelację z FFMC, a także słabą dodatnią korelację z FWI, BUI i ISI. Oznacza to, że wyższa prędkość wiatru może zwiększyć rozprzestrzenianie się pożaru.
- Opady deszczu mają negatywną korelację z FFMC, FWI, BUI i ISI. Oznacza to, że opady deszczu mogą zmniejszyć poziom wysuszonych paliw i obniżyć zagrożenie pożarowe.
- Składowe FWI (BUI, ISI, FFMC, DMC i DC) są ze sobą silnie skorelowane, co jest zrozumiałe, biorąc pod uwagę, że FWI jest złożonym wskaźnikiem, który uwzględnia wpływ wszystkich

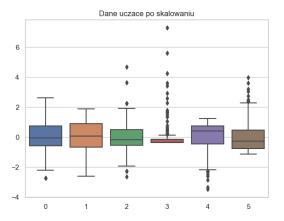
tych składowych na zagrożenie pożarowe. Warto zauważyć, że DMC i DC mają silną pozytywną korelację między sobą, co wskazuje na to, że wyższy poziom wilgoci w glebie wpływa na zwiększenie poziomu wilgoci w glebie organicznej, co z kolei zmniejsza zagrożenie pożarowe.

Sprawdzanie korelacji dla niezależnych cech, a cechy o korelacji większej niż 0,7 gdzie reszta zostanie usunieta z analizy

```
[]: def korelacjafunkcja(dane, prog):
         kolumna korelacji = set()
         kolumna_macierzy = dane.corr()
         for i in range(len(kolumna_macierzy.columns)):
             for j in range(i):
                 if abs(kolumna_macierzy.iloc[i, j]) > prog:
                     colname = kolumna macierzy.columns[i]
                     kolumna_korelacji.add(colname)
         return kolumna_korelacji
[]: nowakorelacja = korelacjafunkcja(x_uczacy, 0.7)
     nowakorelacja
[]: {'BUI', 'DC', 'FWI', 'ISI'}
    Usówanie 4 atrybutów ze wzgledu na korleacje wyzsza niz 0,7
[]: x_uczacy.drop(nowakorelacja, axis=1, inplace=True)
     x_testujacy.drop(nowakorelacja, axis=1, inplace=True)
     x_uczacy.shape
     x_testujacy.shape
[]: (61, 6)
    Skalowanie
[]: def skalowaniefunkcja(x_uczacy, x_testujacy):
         skalowanie = StandardScaler()
         x_uczacy_skalowane = skalowanie.fit_transform(x_uczacy)
         x_testujacy_skalowane = skalowanie.transform(x_testujacy)
         return x_uczacy_skalowane, x_testujacy_skalowane
[]: x_uczacy_skalowane, x_testujacy_skalowane = skalowaniefunkcja(x_uczacy,_
      →x_testujacy)
[]: fig, (ax1, ax2) = plt.subplots(1, 2, figsize=(15, 5))
     sns.boxplot(data=x_uczacy, ax=ax1)
     ax1.set_title('Dane uczace przed skalowaniem')
     sns.boxplot(data=x_uczacy_skalowane, ax=ax2)
     ax2.set title('Dane uczace po skalowaniu')
```

[]: Text(0.5, 1.0, 'Dane uczace po skalowaniu')





Regresja liniowa

```
[]: Regresjaliniowa = LinearRegression()
Regresjaliniowa.fit(x_uczacy_skalowane, y_uczacy)
```

[]: LinearRegression()

```
[]: print('Przechwycenie wynosi :',Regresjaliniowa.intercept_)
print('Współczynnik wynosi :',Regresjaliniowa.coef_)
```

Przechwycenie wynosi : 7.558791208791209 Współczynnik wynosi : [0.36394299 -1.99797066 0.98619421 0.04636838 0.80703533 5.44395047]

[]: print("Uczace dane wynik:",Regresjaliniowa.score(x_uczacy_skalowane, y_uczacy))
print("Testowe dane wynik:",Regresjaliniowa.

score(x_testujacy_skalowane,y_testujacy))

Uczace dane wynik: 0.8671797758215145 Testowe dane wynik: 0.7064857305909149

- []: Regresjaliniowa_predykcja = Regresjaliniowa.predict(x_testujacy_skalowane)
 Regresjaliniowa_predykcja
- []: array([6.71133901, 12.02490235, 7.17708272, 8.24813881, 5.87107049, 10.06783722, -1.57757075, 9.49762004, 6.91005123, 11.61699016, 1.59431776, 13.00464249, 10.62115882, 12.84924636, 2.76686137, -0.28105695, 5.56265496, 5.29475405, 2.8722131, -2.08125537, 14.70243078, 5.2585157, 11.12180353, -1.61398266, 2.36852748, 5.45039685, 10.68723643, -0.14835576, 0.73216072, 2.91307288, 11.58970348, 0.80835466, -1.68692435, 19.3097082, 2.70799081, 2.90471917, 4.61345951, 20.52842245, 26.80883138, 6.4163819,

```
6.1327361 , 3.2544518 , -4.1397093 , 3.91659235 , 1.16929796 ,
            -5.4031485 , 7.39875906, 4.74298501, -4.2341344 , 17.30309118,
            3.21502256, 8.83942816, -2.46778223, 0.69332504, 4.5829139,
             1.50799021, 10.54082105, 7.88725824, 8.47179454, 17.63579458,
             1.8425123 ])
[]: Aktualna predykcja = pd.DataFrame(
         {'Aktualny przychod': y_testujacy, 'Predykcja przychodu': u
      →Regresjaliniowa_predykcja})
     Aktualna_predykcja
[]:
         Aktualny przychod Predykcja przychodu
     110
                       9.7
                                       6.711339
     150
                       7.2
                                       12.024902
     37
                        8.0
                                        7.177083
     75
                       6.3
                                        8.248139
     109
                       7.7
                                        5.871070
     . .
                       •••
     179
                       10.9
                                      10.540821
     160
                       3.1
                                       7.887258
     159
                       3.0
                                       8.471795
     170
                       17.3
                                      17.635795
     221
                       3.7
                                      1.842512
     [61 rows x 2 columns]
[]: absolutnyblad = metrics.
     →mean_absolute_error(y_testujacy,Regresjaliniowa_predykcja)
     sredniblad = metrics.mean squared error(y testujacy, Regresjaliniowa predykcja)
     glownyblad = np.sqrt(metrics.mean_squared_error(
        y testujacy, Regresjaliniowa predykcja))
     print('Aboslutny bład:', absolutnyblad)
     print('Sredni bład:', sredniblad)
     print('Główny bład:', glownyblad)
    Aboslutny bład: 2.420707955240326
    Sredni bład: 10.189169987051969
    Główny bład: 3.192047929942777
[]: wynik = r2_score(y_testujacy, Regresjaliniowa_predykcja)
     print("Współczynnik determinacji:",wynik)
```

Współczynnik determinacji: 0.7064857305909149

Regresja w formie modelu OLS

```
[]: x = sm.add_constant(x)
model = sm.OLS(y, x)
results = model.fit()
print(results.summary())
```

OLS Regression Results							
Dep. Variab	le:	 I	:======= :WI R-squ	ared:	1.000		
Model:		(DLS Adj.	R-squared:		1.000	
Method:		Least Squar	res F-sta	tistic:		2.200e+30	
Date:	Мо	n, 22 May 20	023 Prob	(F-statisti	c):	0.00	
Time:		15:17	:34 Log-I	Log-Likelihood:			
No. Observations:		2	243 AIC:			-1.453e+04	
Df Residuals:		2	232 BIC:			-1.449e+04	
Df Model:			10				
Covariance	Type:	nonrobu	ıst				
=======	coef	std err	t	P> t	[0.025	0.975]	
const	2.914e-15	3.16e-14	0.092	0.927	-5.93e-14	6.52e-14	
Temperature	e -7.199e-16	6.65e-16	-1.083	0.280	-2.03e-15	5.9e-16	
RH	9.008e-16	1.77e-16	5.081	0.000	5.51e-16	1.25e-15	
Ws	-2.602e-16	6.42e-16	-0.406	0.685	-1.52e-15	1e-15	
Rain	2.281e-16	9.83e-16	0.232	0.817	-1.71e-15	2.16e-15	
FFMC	-2.299e-16	2.24e-16	-1.027	0.306	-6.71e-16	2.11e-16	
DMC	4.009e-16	1.12e-15	0.358	0.720	-1.8e-15	2.6e-15	
DC	2.047e-16	1.65e-16	1.240	0.216	-1.21e-16	5.3e-16	
ISI	-9.168e-16	1.82e-15	-0.502	0.616	-4.51e-15	2.68e-15	
BUI	-7.277e-16	1.46e-15	-0.499	0.618	-3.6e-15	2.14e-15	
FWI	1.0000	1.36e-15	7.38e+14	0.000	1.000	1.000	
Omnibus:		3.5	589 Durbi	.n-Watson:		0.399	
Prob(Omnibu	ıs):	0.3	166 Jarqu	ie-Bera (JB)	:	3.653	
Skew:		0.2	291 Prob(0.161	
Kurtosis:		2.8	348 Cond.	No.		2.45e+03	

Notes:

- [1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
- [2] The condition number is large, 2.45e+03. This might indicate that there are strong multicollinearity or other numerical problems.

Przy regresji OLS znajduje sie 10 zmiennych

R-kwadrat wynosi 0,86, co oznacza, że 86% zmienności zmiennej zależnej Classes może być wyjaśnione przez zmienne niezależne w tym modelu. Współczynnik R-kwadrat skorygowany wynosi 0,854, co oznacza, że model jest dobrze dopasowany do danych.

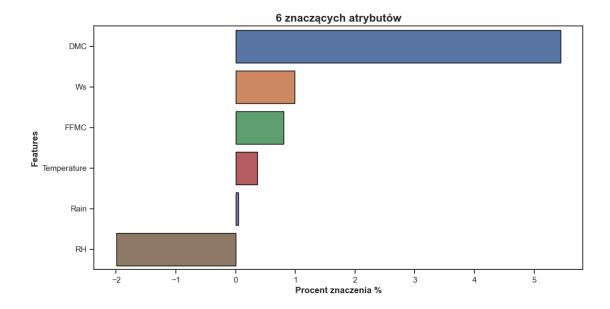
Każda z zmiennych niezależnych ma swój współczynnik. Współczynnik jest estymowanym przeciętnym wpływem danej zmiennej niezależnej na zmienną zależną przy założeniu, że wszystkie inne zmienne niezależne są stałe. Współczynniki dla zmiennych Temperature, RH, Ws, FFMC, DMC i ISI są istotne statystycznie, ponieważ mają wartości p mniejsze niż 0,05. Oznacza to, że zmienne te mają istotny wpływ na zmienną zależną Classes.

Zmienne Rain, DC, BUI i FWI nie są istotne statystycznie, ponieważ mają wartości p większe niż 0,05. Oznacza to, że zmienne te nie mają istotnego wpływu na zmienną zależną Classes w tym modelu.

Najbardziej znaczące atrybuty

```
[]: znaczaceatrybuty = Regresjaliniowa.coef
     znaczaceatrybutytabela = pd.DataFrame({
         'Atrybuty': x_uczacy.columns,
         'Znaczenie': znaczaceatrybuty
     }).sort_values('Znaczenie', ascending=False)
     znaczaceatrybutytabela
[]:
           Atrybuty
                    Znaczenie
     5
                DMC
                      5.443950
     2
                 Ws
                      0.986194
     4
               FFMC
                      0.807035
     0
       Temperature
                      0.363943
     3
               Rain
                      0.046368
     1
                 RH -1.997971
[]: plt.figure(figsize=(12,6))
     sns.set_style('ticks')
     ax = sns.barplot(data=znaczaceatrybutytabela,
```

```
[]: Text(0, 0.5, 'Features')
```



- (DMC) Indeks Kodu wilgotności Duffa Wynosi ponad 5%
- (Ws) Prędkość wiatru Wynosi troche ponad 1%
- (FFMC) Indeks Dokładnego kodu wilgotności paliwa prawie 1 %
- (Temperatu
e) Temperatura w południe maksymalna wynosi prawie 0.4 %
- (Rain) Całkowity dzień opadów wynosi troche niz 0 %
- (RH) Wilgotność względna wynosi prawie -2%

Klasyfikacja

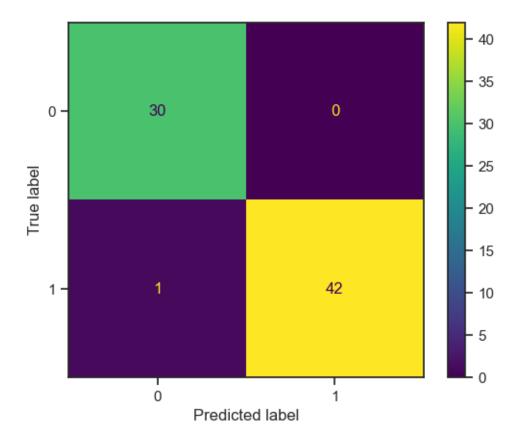
```
[]:
     dane.head()
[]:
         Temperature
                        RH
                             Ws
                                 Rain
                                        FFMC
                                                DMC
                                                        DC
                                                             ISI
                                                                  BUI
                                                                        FWI
                                                                              Classes
                                                                                         Region
     0
                        57
                                                       7.6
                                                             1.3
                                                                  3.4
                                                                        0.5
                                                                                     0
                   29
                             18
                                   0.0
                                         65.7
                                                3.4
                                                                                               1
                                   1.3
     1
                   29
                        61
                             13
                                        64.4
                                                4.1
                                                       7.6
                                                             1.0
                                                                  3.9
                                                                        0.4
                                                                                     0
                                                                                               1
     2
                   26
                        82
                             22
                                 13.1
                                        47.1
                                                2.5
                                                       7.1
                                                             0.3
                                                                  2.7
                                                                        0.1
                                                                                     0
                                                                                               1
                                                            0.0
     3
                        89
                             13
                                        28.6
                                                1.3
                                                       6.9
                                                                                     0
                   25
                                   2.5
                                                                  1.7
                                                                        0.0
                                                                                               1
     4
                   27
                        77
                                        64.8
                                                            1.2
                                                                  3.9
                                                                                     0
                             16
                                   0.0
                                               3.0
                                                     14.2
                                                                        0.5
                                                                                               1
       = dane.iloc[:, 0:10]
     y = dane['Classes']
[]:
     x.head(10)
[]:
         Temperature
                        RH
                             Ws
                                 Rain
                                        FFMC
                                                 DMC
                                                         DC
                                                              ISI
                                                                     BUI
                                                                           FWI
     0
                   29
                        57
                             18
                                   0.0
                                         65.7
                                                 3.4
                                                        7.6
                                                              1.3
                                                                     3.4
                                                                           0.5
     1
                   29
                        61
                             13
                                   1.3
                                        64.4
                                                 4.1
                                                        7.6
                                                              1.0
                                                                     3.9
                                                                           0.4
     2
                   26
                        82
                             22
                                 13.1
                                         47.1
                                                 2.5
                                                        7.1
                                                              0.3
                                                                     2.7
                                                                           0.1
                                                 1.3
     3
                   25
                        89
                             13
                                   2.5
                                         28.6
                                                        6.9
                                                              0.0
                                                                     1.7
                                                                           0.0
     4
                        77
                             16
                                        64.8
                                                 3.0
                                                       14.2
                                                                     3.9
                   27
                                   0.0
                                                              1.2
                                                                           0.5
```

```
5
                31 67
                        14
                             0.0 82.6
                                         5.8 22.2 3.1
                                                          7.0 2.5
    6
                             0.0 88.2
                                         9.9 30.5 6.4
                                                         10.9 7.2
                33
                    54
                        13
    7
                30
                    73
                        15
                             0.0 86.6
                                        12.1
                                              38.3 5.6
                                                         13.5
                                                              7.1
                                         7.9
                             0.2 52.9
    8
                25
                    88
                        13
                                              38.8
                                                    0.4
                                                         10.5
                                                               0.3
    9
                 28
                    79
                        12
                             0.0 73.2
                                          9.5 46.3 1.3 12.6 0.9
[]: y.head(10)
[]: 0
         0
         0
    1
    2
         0
    3
         0
    4
         0
    5
         1
    6
         1
    7
         1
    8
         0
    9
         0
    Name: Classes, dtype: int32
[]: x_uczacy, x_testujacy, y_uczacy, y_testujacy = train_test_split(
        x, y, test_size=0.3, random_state=0)
    x_uczacy.shape, x_testujacy.shape
[]: ((170, 10), (73, 10))
[]: x_uczacy.columns
[]: Index(['Temperature', 'RH', 'Ws', 'Rain', 'FFMC', 'DMC', 'DC', 'ISI', 'BUI',
            'FWI'],
           dtype='object')
[]: x_testujacy.columns
[]: Index(['Temperature', 'RH', 'Ws', 'Rain', 'FFMC', 'DMC', 'DC', 'ISI', 'BUI',
            'FWI'],
          dtype='object')
[]: korelacjanowadrzewo = korelacjafunkcja(x_uczacy, 0.7)
    korelacjanowadrzewo
[]: {'BUI', 'DC', 'FWI', 'ISI'}
[]: x_uczacy.drop(korelacjanowadrzewo, axis=1, inplace=True)
    x_testujacy.drop(korelacjanowadrzewo, axis=1, inplace=True)
    x_uczacy.shape, x_testujacy.shape
[]: ((170, 6), (73, 6))
```

```
[]: x_uczacy_skalowane, x_testujacy_skalowane = skalowaniefunkcja(x_uczacy,u
      →x_testujacy)
    Drzewo dezycyjne
[]: Drzewodezycyjne = DecisionTreeClassifier()
     Drzewodezycyjne.fit(x_uczacy_skalowane,y_uczacy)
[ ]: DecisionTreeClassifier()
[]: Drzewodezycyjne_predykcja = Drzewodezycyjne.predict(x_testujacy_skalowane)
     Drzewodezycyjne_predykcja
[]: array([1, 1, 1, 1, 1, 1, 0, 1, 1, 0, 1, 1, 1, 0, 0, 0, 0, 0, 1, 0, 1, 1,
            0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 1, 1, 0, 0, 1, 1, 0, 1, 0, 0, 0,
            0, 0, 1, 1, 0, 0, 1, 1, 0, 1, 1, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
            0, 0, 1, 1, 1, 0, 1])
[]: Aktualna_predykcja = pd.DataFrame(
        {'Aktualny przychod ': y_testujacy, 'Predykcjonowany przychod':
     →Drzewodezycyjne_predykcja})
     Aktualna_predykcja
[]:
         Aktualny przychod
                             Predykcjonowany przychod
     110
     150
                                                     1
     37
                           1
                                                     1
     75
                           1
                                                     1
     109
                           1
                                                     1
     . .
                                                     1
     89
                           1
    212
                          1
                                                     1
     74
                           1
                                                     1
                                                     0
     108
     [73 rows x 2 columns]
[]: Wynik = accuracy_score(y_testujacy, Drzewodezycyjne_predykcja)
     Raport_klasyfikacyjny = classification_report(
        y_testujacy, Drzewodezycyjne_predykcja)
     print("Decision Tree")
     print("Accuracy Score value: {:.4f}".format(Wynik))
     print(Raport_klasyfikacyjny)
    Decision Tree
    Accuracy Score value: 0.9863
                  precision
                             recall f1-score
                                                  support
```

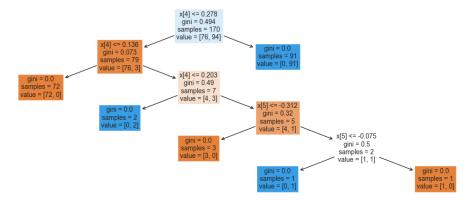
0	0.97	1.00	0.98	30
1	1.00	0.98	0.99	43
accuracy			0.99	73
macro avg	0.98	0.99	0.99	73
weighted avg	0.99	0.99	0.99	73

[]: <sklearn.metrics._plot.confusion_matrix.ConfusionMatrixDisplay at 0x1fd75a108d0>



[]: Drzewodezycyjnestring = tree.export_text(Drzewodezycyjne) print(Drzewodezycyjnestring)

```
[]: plt.figure(figsize=(15, 5))
   tree.plot_tree(Drzewodezycyjne, filled=True)
   plt.show()
```



Drzewo decyzyjne ma cztery poziomy i służy do klasyfikacji obiektów na dwie klasy (0 i 1) na podstawie pięciu cech.

Na pierwszym poziomie drzewa następuje podział na podstawie wartości cechy x_4 . Jeśli wartość tej cechy jest mniejsza lub równa 0.28, to algorytm przechodzi na drugi poziom, w przeciwnym przypadku przypisuje obiekt do klasy 1.

Na drugim poziomie drzewa algorytm ponownie dokonuje podziału na podstawie cechy x_4 , ale tym razem z wartością większą niż 0.14. Jeśli wartość ta jest mniejsza lub równa 0.20, to obiekt zostaje przypisany do klasy 1, w przeciwnym przypadku algorytm przechodzi na trzeci poziom.

Na trzecim poziomie drzewa algorytm dokonuje podziału na podstawie wartości cechy x_2 . Jeśli wartość tej cechy jest mniejsza lub równa -0.35, to obiektzostaje przypisany do klasy 0, w przeciwnym przypadku przechodzi na czwarty poziom.

Na czwartym poziomie drzewa algorytm dokonuje podziału na podstawie wartości cechy x_1 . Jeśli wartość tej cechy jest mniejsza lub równa 0.76, to obiekt zostaje przypisany do klasy 1, w przeciwnym przypadku przypisuje mu się klasę 0.