

Table S1: Number of firefighting personnel, vehicles and aircrafts that participated in historical fire events (2011-2019).

Wildfire incidents (n)									
Personnel (n)	2011	2012	2013	2014	2015	2016	2017	2018	2019
<10	9364	8642	8583	5743	6899	8621	8892	7002	8375
10-24	1282	1148	1040	771	763	1056	964	686	795
25-39	261	246	167	126	116	165	173	127	149
40-54	107	81	77	50	49	60	73	54	70
55-69	46	44	39	15	20	40	28	24	33
>70	70	102	55	43	44	64	70	32	53
Vehicles	2011	2012	2013	2014	2015	2016	2017	2018	2019
1-4	9643	8884	8530	5742	6841	8541	8832	6898	8282
5-9	1023	908	827	608	573	835	789	605	702
10-14	232	219	155	107	111	151	182	135	145
15-19	94	87	52	30	41	65	81	50	68
20-24	30	42	30	23	24	40	27	24	29
25-49	35	43	28	22	24	35	40	18	47
50-100	5	11	8	5	5	5	9	4	12
>100	3	2	5	1	3	3	3	2	2
Aircrafts	2011	2012	2013	2014	2015	2016	2017	2018	2019
≤2	290	373	145	126	128	159	175	121	125
3-5	103	122	66	62	48	74	85	47	82
6-10	44	37	28	15	10	24	33	8	26
>10	5	6	10	2	1	4	3	2	8

Table S2: Number of civilian and firefighter personnel fatalities during historical wildfire events.

Location of Wildfire Event and Year	Civilian fatalities (n)	Location of Wildfire Event and Year	Personnel fatalities (n)
Kassandra, Chalkidiki, 2006	1	Anthoupoli, Achaia, 1982	1
Rethymno, Crete, 2010	1	Taigetos, Lakonia, 2000	1
Kavala, 1985	1	Areopoli, Lakonia, 2007	1
Gytheio, Lakonia, 1981	1	Prespes, 2011	1
Parnassos, Pthiotida, 1977	1	Eastern Mani, Lakonia 2011	1
Rhodes, 1981	1	Heraklion, Crete, 2011	1
Penteli, Attica, 1982	2	Aspropyrgos, Attica, 2012	1
Karpahtos, 1983	2	Parorio, Viotia, 2016	1
Hydra, 1985	2	Zeugolatio, Korithia 2017	1
Egio, Achaia, 2007	3	Heraclia, Serres 2018	1
Areopoli Lakonia, 2007	5	Patra, Achaia, 1985	1
Evoia, 2007	6	Rhodopi, Thrace, 1984	1
Thassos, 1985	6	Chios Island 1999	2
Arkadia, 2007	7	Vari, Attica 1999	2
Xaraugi, Ipiros, 2000	11	Evoia, 2007	2
Ikaria, 1993	13	Zacharo, Ilia 2007	3
Ilia 2007	63	Rethymno, Crete 2007	3

Mati, Attica, 2018	102	Karea, Attica 1998	4
--------------------	-----	--------------------	---

Table S3: Number of aircraft casualties and personnel fatalities during historical wildfire events.

Location of Wildfire Event and Year	Personnel	
	fatalities (n)	Aircraft type
Kamena Vourla, Attica, 1991	0	PZL M.18
Kefalonia, 2009	1	PZL M.18
Corfu, 2000	1	PZL M.18
Lesvos, 2003	1	PZL M.18
Styra Evoia, 2007	2	CL-415 MP
Pilio, 2000	2	CL-215
Achaia, 1993	2	CL-215
Elefsina, 1984	2	CL-215
Korinth, 1977	3	CL-215
Drama, 1994	10	UH-1H

Table S4: Wildfire events with a total burned area greater than 7,000 hectares. In bold are the fires that were examined to derive the FIRE Index criteria and choices.

Rank	Municipality	Date	Hour of Ignition	Hectares
1	Ilias	24/8/2007	14:38	40,000
2	Ilias	24/8/2007	15:08	32,000
3	Ilias	25/8/2007	01:15	30,000
4	Corinthia	9/7/2000	22:48	23,000
5	Laconia	23/8/2007	10:30	22,000
6	Evia	25/8/2007	08:10	18,000
7	East Attica	21/8/2009	20:46	17,500
8	Achaia	24/7/2007	11:10	15,000
9	Evia	22/8/1977	05:00	15,000
10	Chios	18/8/2012	02:25	14,800
11	Samos	6/7/2000	19:10	14,500
12	Rhodes	9/8/1987	12:00	13,000
13	Mandras - Pateras	11/8/1985	21:30	12,700
14	Ilias	24/8/2007	17:30	12,000
15	Thassos	15/8/1985	13:30	11,900
16	Messinias	23/8/2007	14:00	11,300
17	Rhodes	22/7/2008	11:40	11,000
18	Arcadia	24/8/2007	23:00	10,000
19	Ilias	4/8/1998	17:40	10,000
20	Messinias	4/8/1981	11:45	10,000
21	Evia	4/7/1998	14:50	8,800
22	Messinias	5/8/1981	13:30	8,800
23	Thassos	16/8/1989	22:30	8,400
24	Attica	11/8/1995	21:15	7,800
25	Rhodes	4/9/1974	15:45	7,800
26	Fthiotidas	9/8/1987	12:00	7,350
27	Rhodes	24/9/1992	22:00	7,200
28	Lasithiou	17/8/1994	12:45	7,000
29	Karditsa	21/9/2000	12:50	7,000
30	Kapandriti - Malakasa	5/9/1992	13:30	7,000

Table S5: Wildfire events with a total burned area between 2000 and 7000 hectares. In bold are the fires that were examined to derive the FIRE Index criteria and choices.

Rank	Municipality	Date	Hour of Ignition	Hectares
1	Penteli East Attica	21/7/1995	7:30	6,884
2	Amaliada	3/8/1981	11:30	6,882
3	Arkadia	21/8/2000	18:09	6,700
4	Ioannina	22/8/2000	16:00	6,000
5	Penteli East Attica	13/6/1992	19:00	5,950
6	Evrou	27/8/2011	13:30	5,900
7	Kyparissia	3/8/1981	22:30	5,725
8	Larissa	23/7/1988	n/a	5,400
9	Laconia	21/8/2006	12:05	5,100
10	Megara	23/7/2018	12:03	5,065
11	Kavalas	14/8/1985	n/a	5,059
12	Chios	3/8/1981	12:30	5,050
13	Kassandra	12/8/2006	15:00	5,000
14	Messinias	25/8/2007	16:05	5,000
15	Mount Athos	8/8/2012	15:00	5,000
16	Evia	24/8/2007	14:05	5,000
17	Messinia	5/8/1981	13:00	5,000
18	Amaliada	14/8/1985	n/a	4,900
19	Parnitha, Attica	28/7/2007	13:00	4,874
20	Chios	6/7/1988	n/a	4,800
21	Evia	22/8/2009	10:40	4,600
22	Larissa	28/7/2000	4:30	4,500
23	Pyrgos	2/8/1981	11:00	4,345
24	Fthiotidas	9/7/2000	14:29	4,250
25	Amaliada	4/8/1981	n/a	4,165
26	Fthiotidas	12/7/2000	14:00	4,000
27	Laconia	4/7/2000	9:49	4,000
28	Kefallonia	8/7/1988	n/a	4,000
29	Chios	25/7/2016	3:01	4,000
30	Evia	30/7/1990	9:30	3,985
31	Tripoli-Routsio-Soul	25/8/1993	13:30	3,950
32	Dodecanese	25/6/1990	12:00	3,925
33	Dodecanese	26/7/1983	21:00	3,921
34	Trikala	9/7/1988	n/a	3,800
35	Rhodes	27/7/2013	16:10	3,800
36	Amfiloxia	3/8/1981	7:00	3,720
37	Lavrio	14/7/1985	22:30	3,700
38	Thessaloniki	18/7/1984	12:00	3,600
39	Amfiloxia	4/8/1981	n/a	3,320
40	Tripoli	3/8/1981	22:00	3,316
41	Amfiloxia	3/8/1981	n/a	3,280
42	Fthiotida-Atalanti	12/10/1992	15:30	3,270
43	Viotia	22/8/2009	13:15	3,250

44	Fthiotida - Sperxiada	25/8/1992	12:30	3,200
45	Chalkidikis	15/8/1985	n/a	3,200
46	Kozani	8/7/1988	n/a	3,100
47	Thassos	10/9/2016	6:00	3,080
48	Thassos	10/9/2016	6:20	3,050
49	Kyparissia	3/8/1981	n/a	3,025
50	Polygyros	15/8/1985	n/a	3,024
51	Corinthia Xylokastro	29/9/1993	15:00	3,014
52	Fthiotidas	9/7/2000	17:00	3,005
53	Kilkis	7/9/1988	n/a	3,000
54	Evia -Aliveri	14/8/1988	n/a	3,000
55	Zante	2/8/1981	22:00	3,000
56	Arkadia	7/8/2012	13:40	3,000
57	Evia	24/8/2012	23:30	3,000
58	Monemvasia	17/7/2015	3:40	3,000
59	Larissa	23/8/1988	n/a	2,950
60	Larissa	9/7/2000	13:55	2,817
61	Varnava-Grammatiko	13/8/1984	12:20	2,750
	Attica			
62	Kyparissia	4/8/1981	22:00	2,740
63	Patras	12/8/1985	12:00	2,700
64	Kalamata	9/7/1988	n/a	2,656
65	Patras	3/8/1981	9:00	2,650
66	Lesvos	15/8/1994	2:45	2,595
67	Dodecanese	23/9/1988	n/a	2,542
68	Fthiotida	24/8/2007	11:00	2,500
69	Kefallonia	24/7/2007	21:56	2,500
70	Magnesia	27/6/2007	15:35	2,500
71	Lasithiou	24/7/1993	n/a	2,500
72	Chios	30/8/1987	11:00	2,500
73	Lasithiou	6/8/1977	8:00	2,500
74	Lokroi	2/7/2014	12:00	2,500
75	Xylokastro	1/8/1982	13:00	2,435
76	Kavalas	14/8/1985	n/a	2,407
77	Fthiotida	9/7/2000	14:10	2,400
78	Distomo	8/9/2013	21:55	2,400
79	Larissa	23/8/1988	n/a	2,350
80	Chios	18/8/1987	13:00	2,260
81	Thessaloniki Stavros	2/10/1991	16:35	2,254
82	Larissa	11/7/1988	n/a	2,250
83	Mount Athos	14/8/1990	14:30	2,230
84	Argolida	14/8/2008	12:15	2,200
85	Lasithiou	28/8/1983	n/a	2,200
86	Lasithiou (Malles)	28/8/1983	n/a	2,200
87	Mantoudi	30/7/2016	11:45	2,200
88	Sparta Laconia	9/8/1992	15:00	2,170
89	Laurio-Attica	7/8/1979	n/a	2,158

90	Aetoloakarnanias	25/8/2007	11:15	2,150
91	Kassandra	21/7/1981	14:00	2,150
92	Kassandra-Prisons	21/7/1981	n/a	2,150
93	Psachna	13/8/2019	3:10	2,145
94	Ioannina	12/7/2000	16:29	2,100
95	Rodopi	12/5/1982	12:00	2,054
96	SE Thasos	21/7/1984	3:30	2,050
97	Oropos	13/8/2017	16:16	2,050
98	Florina	26/8/2012	13:00	2,030
99	Almyro	3/9/1988	n/a	2,024
100	Kalamata	29/8/1993	15:00	2,024
101	Magnesia	13/7/2000	10:30	2,020
102	Evros	6/9/2009	12:45	2,000
103	Drama	24/8/2000	10:59	2,000
104	Amfiloxia	12/8/1988	n/a	2,000
105	Kefallonia	8/7/1988	n/a	2,000
106	Attica	16/6/2012	12:30	2,000
107	Heraklion	30/7/2012	0:12	2,000
108	Rethymno	28/7/2011	21:16	2,000
109	Kythira	4/8/2017	10:55	2,000

Table S6: Wildfire events with a total burned area between 500 and 2000 hectares. In bold are the fires that were examined to derive the FIRE Index criteria and choices.

Rank	Municipality	Date	Hour of Ignition	Hectares
1	Samos	31/7/1993	15:00	1,990
2	Kapandriti, Attica	7/3/1990	13:40	1,989
3	Viotia	27/6/2007	19:15	1,954
4	Corinth	5/8/1982	n/a	1,949
5	Fthiotida	21/7/2007	18:05	1,903
6	Thessaloniki	18/8/1984	n/a	1,885
7	Kassandra	21/7/1977	11:30	1,850
8	Preveza	3/8/1981	10:00	1,830
9	Chalkidiki	21/6/1977	n/a	1,810
10	Ziria, Achaia	22/7/1995	12:30	1,800
11	Gythio	3/8/1981	n/a	1,756
12	Florina-Prespes	9/7/1988	10:30	1,750
13	Penteli	20/7/1974	7:00	1,750
14	Attikh Keratea	1/6/1974	7:00	1,750
15	Kyparisia, Messinia	13/8/1981	n/a	1,750
16	Kavala	5/9/1992	19:30	1,728
17	Ekali, Attica	4/8/1981	14:30	1,700
18	Amfiloxia	4/8/1981	n/a	1,685
19	Athens-Ekali-Kastri-N.Erythr.	4/8/1981	n/a	1,673
20	Seich-Sou Thessaloniki	6/7/1997	16:10	1,665
21	Corinth	11/6/1990	16:40	1,654
22	Megara, Attica	16/8/1978	10:00	1,640
23	Phaistos	31/7/2013	13:10	1,635
24	Amfiloxia	2/8/1981	n/a	1,624
25	Thasos	21/5/1984	3:30	1,613
26	Loutraki-Perachora	4/8/1986	14:00	1,600
27	Mytilene	5/8/1977	4:00	1,600
28	Gythio	5/8/1981	n/a	1,590
29	Xylokastro	14/8/1985	n/a	1,581
30	Argolis	8/8/1992	10:30	1,580
31	Lavrio (Kalyves)	12/8/1982	15:00	1,568
32	Rhodopi	4/8/2001	13:45	1,550
33	Samos	16/7/1990	12:45	1,550
34	Kavala	11/8/1985	15:00	1,537
35	Attica-Lavrio	6/8/1992	13:30	1,520
36	North Penteli	1/8/1982	14:30	1,513
37	Attica	25/8/1980	n/a	1,513
38	Penteli (Ekali)	1/4/1982	14:00	1,513
39	Dodecanese	25/8/1974	n/a	1,512
40	Thessaloniki (Vathylakos)	6/8/1982	11:00	1,512
41	Evia	26/8/2007	17:00	1,500
42	Corinthia	24/8/2007	19:59	1,500

43	Messinias	25/7/2007	21:00	1,500
44	Attica	24/7/2007	16:50	1,500
45	Viotia	4/6/2001	13:50	1,500
46	Atalanti	3/7/1988	n/a	1,500
47	Lasithiou	7/6/1977	17:00	1,500
48	Corinth	3/8/1986	n/a	1,497
49	Mesologi	1/8/1990	14:55	1,495
50	Gythio	12/8/1981	n/a	1,478
51	Evrou	5/9/2001	17:28	1,470
52	Arnaia Halkidiki	23/7/1990	14:20	1,425
53	Drama	29/8/1994	11:00	1,400
54	Chania	24/7/1985	0:00	1,400
55	Attica	11/8/1977	n/a	1,400
56	Rhodes	18/6/2016	11:00	1400
57	Zakynthou	26/8/2017	11:00	1400
58	Kozani	24/7/2007	17:30	1,350
59	Aridea (Polykastro)	7/8/1981	n/a	1,350
60	Tripoli	9/7/1988	n/a	1,340
61	Parnithas-Egaleo	23/7/1989	11:30	1,310
62	Serifos	1/8/2013	19:35	1309
63	Agia (Kastri)	7/8/1985	n/a	1,300
64	Livadia	6/9/2015	13:35	1300
65	Amfiloxia	13/8/1988	n/a	1,293
66	Piraeus	12/9/1992	20:40	1,276
67	Mati, Attica	23/7/2018	16:40	1,276
68	Fthiotidas-Lamia	28/9/1991	22:00	1,273
69	Malaoi	21/8/1993	22:00	1,250
70	Chios (Saint Thomas)	6/9/1980	n/a	1,250
71	Penteli	23/7/2018	16:49	1250
72	Patras (Floka)	5/9/1982	11:00	1,240
73	Goumenisa	18/9/1980	n/a	1,231
74	Thessaloniki	21/7/1981	n/a	1,230
75	Samos	30/7/2010	0:26	1,200
76	Dodecanese	4/12/2008	0:30	1,200
77	Fthiotida	25/8/2007	10:55	1,200
78	Thessaloniki	25/7/2007	16:50	1,200
79	Magnesia	27/6/2007	16:00	1,200
80	Amfiloxia	14/8/1988	n/a	1,200
81	Trikala	12/7/1980	16:00	1,200
82	Aetoloakarnanias	25/8/2011	13:45	1,200
83	Imathia	1/7/1977	n/a	1,186
84	Saronida	12/8/1982	13:45	1,180
85	Athens-Saronida	12/8/1982	14:00	1,180
86	Kavala	12/8/1985	n/a	1,150
87	Lasithiou	30/9/1984	n/a	1,150
88	Florina	7/11/2011	15:40	1,150
89	Patra	17/9/1987	n/a	1,140

90	Larissa	27/7/1980	15:00	1,140
91	Samos	12/9/1985	20:00	1,120
92	Ioannina	27/7/1993	17:15	1,115
93	Kalamata	29/8/1993	12:00	1,105
94	Penteli	10/7/1974	8:00	1,100
95	Attica	1/5/1974	8:00	1,100
96	Chios	6/7/1977	11:00	1,100
97	Lassithi (Ierapetra)	1/7/1984	20:00	1,100
98	Chios	3/6/1975	n/a	1,100
99	Zakynthou	12/8/2017	15:35	1100
100	Dodecanese	9/8/1982	9:00	1,099
101	Tripoli	4/8/1981	n/a	1,085
102	Hydra	14/7/1985	15:00	1,080
103	Dodecanese	28/8/1974	n/a	1,068
104	Attica	28/8/1980	n/a	1,068
105	Mesologi	1/8/1981	n/a	1,065
106	Ikaria - Agios Kyrikos	30/7/1993	14:55	1,057
107	Larissa	16/9/1994	11:00	1,050
108	Trikala	10/7/1977	14:00	1,050
109	Rethimno	8/7/1978	11:00	1,050
110	Evia-Istiaia	11/6/1990	7:20	1,034
111	Evia-Chalkida	24/7/1994	16:00	1,033
112	Kastorias	23/7/2007	18:39	1,020
113	Kavala	17/8/1985	n/a	1,014
114	Dodecanese	29/8/1988	n/a	1,012
115	Evia-Chalkida	28/7/1994	17:15	1,002
116	Dodecanese	14/8/1974	n/a	1,001
117	Chania	20/4/2008	12:12	1,000
118	Attica	25/8/2007	14:52	1,000
119	Chios	25/7/2007	11:39	1,000
120	Corinthia	18/7/2007	14:30	1,000
121	Ikaria	20/8/1993	15:00	1,000
122	Ilia	11/6/1975	n/a	1,000
123	Attica	20/8/2012	14:00	1,000
124	Cyclades	16/6/2012	18:45	1,000
125	Rethimno	14/10/1980	n/a	1,000
126	Xylokastro	23/7/2018	17:20	1000
127	Sparta	12/7/1980	15:00	998
128	Fthiotida	3/8/1977	n/a	985
129	Kalamata	4/8/1981	0:00	970
130	Attica	10/8/1977	n/a	969
131	Laconia	12/10/2001	3:44	950
132	Karystos	25/7/2016	10:35	950
133	Imathia Naousa	23/7/1993	13:00	940
134	Kilkis	18/8/2008	11:05	930
135	Laconia	22/5/1975	n/a	930
136	Evia Aliveri	21/8/1990	11:00	919

137	Evros	29/7/2007	10:40	900
138	Trikala	16/9/1994	13:00	900
139	Trikala	2/8/1994	14:30	900
140	Tanagra	25/6/2016	22:30	890
141	Evia	22/9/2000	12:50	880
142	Samos	7/8/1983	10:00	880
143	Patras	3/8/1981	20:00	875
144	Amfiklia	22/7/1977	11:00	860
145	Zakynthou	20/8/2009	19:50	850
146	Viotia	17/8/2009	11:38	850
147	Samos	2/8/2010	14:19	800
148	Attica	17/7/2010	12:37	800
149	Preveza	25/8/2007	5:34	800
150	Messinias	25/8/2007	0:48	800
151	Florina	25/7/2007	20:10	800
152	Argolida	26/6/2007	15:00	800
153	Laconia	22/8/2006	14:00	800
154	Artas	9/9/2000	5:15	800
155	Karditsa	26/8/2000	5:30	800
156	Argolida	7/8/2000	15:04	800
157	Achaia	18/7/2012	2:30	800
158	Arkadia	26/8/2011	11:09	800
159	Larissa	20/7/2011	13:50	800
160	Saktouria	30/7/2016	13:20	800
161	West Achaia	11/9/2017	16:01	800
162	Penteli	1/7/1974	11:00	768
163	Thasos	10/9/2016	6:45	755
164	Chania	23/7/2018	13:30	750
165	Almopia	27/10/2019	16:30	750
166	Attica	15/6/2009	15:28	700
167	Kilkis	7/9/2008	12:29	700
168	Chania	30/7/2007	11:40	700
169	Pella	17/7/2012	1:49	700
170	Livadia (Orchomenos)	29/6.2013	14:19	700
171	Kalabaka	24/8/2014	12:48	700
172	Zakynthou	15/9/2019	11:00	690
173	Kratigos Lesvos	21/7/2006	23:45	680
174	Attica	14/8/2010	15:15	650
175	Evros	21/9/2000	12:49	650
176	Trikala	22/8/2012	11:55	650
177	Attica	16/8/2007	10:30	630
178	Sithonia	25/10/2018	5:40	610
179	Messinia	24/8/2007	15:15	600
180	Kastoria	18/7/2007	15:49	600
181	Drama	24/8/2000	10:59	600
182	Evia	8/7/2000	17:30	600
183	Ioannina	19/7/2011	15:05	600

184	Markopoulo	2/8/2013	14:02	600
185	Lasithiou	3/7/2014	16:35	600
186	Vyronas	17/7/2015	12:29	600
187	Viotia	27/6/2006	15:00	552
188	Evia	12/7/2008	9:15	550
189	Kefalonia	17/9/2001	14:42	550
190	Larissa	19/8/2000	12:59	550
191	Magnesia	19/8/2000	12:59	550
192	Grevenon	26/7/2000	19:29	550
193	Viotia	9/7/2000	16:50	550
194	Thasos	31/8/2013	8:30	550
195	Evia	27/3/2001	8:30	542
196	Attica	28/7/2005	12:51	540
197	Kymi	4/7/2019	23:15	531
198	Viotia	14/10/2007	20:56	530
199	Messinias	5/7/2000	23:44	530
200	Laconia	21/8/2006	9:05	510
201	Mytilene	30/8/2015	8:09	510
202	Evros	25/7/2007	11:30	500
203	Chios	26/8/2011	18:50	500
204	Corfu	3/8/2011	19:45	500
205	Aetoloakarnanias	23/8/2011	1:40	500
206	Larissa	18/9/2011	18:00	500
207	Anafi	1/9/2013	21:50	500
208	Loutraki	22/11/2015	13:40	500
209	Larissa	5/9/2016	17:50	500
210	Larissa	16/7/2016	8:30	500
211	Chios	25/8/2016	23:48	500
212	Naxos	8/11/2016	18:00	500
213	Skyros	5/11/2016	18:10	500
214	Samos	8/7/2016	15:10	500
215	East Mani	3/6/2017	21:40	500
216	East Mani	1/7/2017	11:25	500
