

Etna Output Rate during the Last Decade (2011–2022): Insights for Hazard Assessment

Supplementary Material

This Supplementary Material comprises Table S1 and Table S2, whereas the Reference list of the citations listed in both Tables is in the main text.

Table S1. Paroxysmal explosive episodes of lava fountaining (LF) occurring at Etna volcano between 1 January 2011 and July 2022. The table consists of two halves that show the same features: the half on the left shows the quantities manually detected, while the one on the right those determined by using the software tool.

N	Starting Time	Ending Time	Duration (min)	LF Max Height (m)	LF Mean Height (m)	LF Volume of Pyro V_2 (10^6m^3)	TADR (m^3s^{-1})	Starting Time	Ending Time	Duration (min)	LF max Height (m)	LF Mean Height (m)	LF Volume of Pyro V_2 (10^6m^3)	TADR (m^3s^{-1})
1	12-Jan-2011 21:15:00	12-Jan-2011 23:51:00	156	791	313	3.80	405	12-Jan-2011 22:15:55	12-Jan-2011 23:51:00	96	794.14	341.82	0.53	92.89
2	18-Feb-2011 12:36:00	18-Feb-2011 13:05:00	29	171	92	0.095	55	18-Feb-2011 12:36:00	18-Feb-2011 13:04:36	29	141.22	86.88	0.09	51.44
3	10-Apr-2011 09:00:00	10-Apr-2011 13:14:00	254	1080	308	1.40	94	10-Apr-2011 09:24:53	10-Apr-2011 13:06:05	222	805.34	337.54	1.37	102.94
4	12-May-2011 00:20:00	12-May-2011 03:30:00	190	880	331	1.10	97	12-May-2011 00:24:46	12-May-2011 03:30:00	186	1163.27	316.24	1.10	99.06
5	09-Jul-2011 13:47:00	09-Jul-2011 15:20:00	93	1131	520	0.68	122	09-Jul-2011 13:51:33	09-Jul-2011 15:20:00	89	1159.69	489.25	0.64	121.38
6	19-Jul-2011 00:00:00	19-Jul-2011 02:10:00	130	1040	487	0.94	121	19-Jul-2011 00:03:21	19-Jul-2011 02:09:42	127	829.45	484.93	0.93	122.84
7	25-Jul-2011	25-Jul-2011	246	823	289	1.30	89	25-Jul-2011	25-Jul-2011	258	964.79	478.30	1.11	71.61

	01:44:00	05:50:00						03:06:07	07:23:54					
8	30-Jul- 2011 19:16:00	30-Jul- 2011 21:20:00	124	1000	374	0.78	105	30-Jul- 2011 19:16:00	30-Jul- 2011 21:16:20	121	957.14	364.02	0.72	99.78
9	05-Aug- 2011 21:26:00	05-Aug- 2011 23:20:00	114	1086	685	0.98	143	05-Aug- 2011 21:30:30	05-Aug- 2011 23:19:14	109	1074.46	632.46	0.90	138.53
10	12-Aug- 2011 08:00:00	12-Aug- 2011 10:18:00	138	1017	362	0.82	98	12-Aug- 2011 08:00:00	12-Aug- 2011 10:14:08	135	844.15	363.73	0.75	93.15
11	20-Aug- 2011 06:58:00	20-Aug- 2011 07:50:00	52	994	411	0.34	110	20-Aug- 2011 07:00:48	20-Aug- 2011 07:50:00	50	1031.59	422.87	0.34	114.48
12	29-Aug- 2011 03:55:00	29-Aug- 2011 05:05:00	70	1080	453	0.48	113	29-Aug- 2011 03:55:00	29-Aug- 2011 04:55:13	61	925.14	541.93	0.47	129.58
13	08-Sep- 2011 06:50:00	08-Sep- 2011 08:22:00	92	983	371	0.55	100	08-Sep- 2011 06:52:17	08-Sep- 2011 08:22:00	90	999.49	401.13	0.60	110.73
14	19-Sep- 2011 12:40:00	19-Sep- 2011 13:45:00	65	651	509	0.50	129	19-Sep- 2011 12:32:41	19-Sep- 2011 13:43:00	71	613.57	430.43	0.05	12.99
15	28-Sep- 2011 19:05:00	28-Sep- 2011 19:59:00	54	1029	271	0.27	83	28-Sep- 2011 19:05:00	28-Sep- 2011 19:57:41	53	720.25	50.79	0.18	56.94
16	23-Oct- 2011 18:30:00	23-Oct- 2011 20:16:00	106	550	238	0.52	82	23-Oct- 2011 18:32:06	23-Oct- 2011 20:16:00	104	703.69	396.76	0.68	108.63
17	15-Nov- 2011 11:15:00	15-Nov- 2011 12:28:00	73	960	590	0.59	136	15-Nov- 2011 11:15:00	15-Nov- 2011 12:27:33	73	746.07	488.33	0.54	123.29
18	05-Jan- 2012 05:30:00	05-Jan- 2012 06:44:00	74	1200	644	0.63	142	05-Jan- 2012 05:31:26	05-Jan- 2012 06:44:00	73	1549.96	997.19	0.79	180.64
19	08-Feb- 2012	09-Feb- 2012	351	750	326	2.10	100	08-Feb- 2012	09-Feb- 2012	345	578.09	407.05	2.33	112.97

	2012 23:48:00	2012 05:39:00						2012 23:54:46	2012 05:39:00					
20	04-Mar- 2012 06:00:00	04-Mar- 2012 09:31:00	211	1400	444	1.30	105	04-Mar- 2012 06:50:18	04-Mar- 2012 09:31:00	161	1200.19	641.52	1.34	138.79
21	18-Mar- 2012 07:30:00	18-Mar- 2012 10:14:00	164	1700	669	1.40	146	18-Mar- 2012 07:30:00	18-Mar- 2012 10:10:04	161	1006.41	582.32	1.30	135.46
22	01-Apr- 2012 01:52:00	01-Apr- 2012 03:39:00	107	1500	682	0.90	140	01-Apr- 2012 01:53:20	01-Apr- 2012 03:36:18	103	959.85	646.66	0.87	140.63
23	12-Apr- 2012 13:19:00	12-Apr- 2012 15:20:00	121	1950	649	0.93	128	12-Apr- 2012 13:42:32	12-Apr- 2012 15:20:00	98	1314.36	793.00	0.94	160.02
24	23-Apr- 2012 01:12:00	23-Apr- 2012 02:23:00	71	1400	688	0.64	151	24-Apr- 2012 01:13:10	24-Apr- 2012 02:20:00	67	1033.49	669.10	0.59	145.91
25	19-Feb- 2013 03:48:00	19-Feb- 2013 05:02:00	74	983	634	0.61	138	19-Feb- 2013 03:48:00	19-Feb- 2013 05:00:41	73	964.09	609.92	0.60	137.52
26	20-Feb- 2013 00:30:00	20-Feb- 2013 01:41:00	71	1057	515	0.53	124	20-Feb- 2013 00:33:48	20-Feb- 2013 01:41:00	68	932.74	515.16	0.52	128.01
27	20-Feb- 2013 12:40:00	20-Feb- 2013 13:46:00	66	743	186	0.28	72	20-Feb- 2013 12:40:00	20-Feb- 2013 13:43:15	64	701.38	263.85	0.16	40.92
28	23-Feb- 2013 18:20:00	23-Feb- 2013 19:14:00	54	1350	634	0.41	128	23-Feb- 2013 18:25:14	23-Feb- 2013 19:14:00	49	1062.34	670.94	0.43	147.52
29	28-Feb- 2013 10:00:00	28-Feb- 2013 10:46:00	46	891	534	0.35	128	28-Feb- 2013 10:02:32	28-Feb- 2013 10:46:00	44	852.86	561.23	0.35	134.60
30	05-Mar- 2013 23:18:00	06-Mar- 2013 00:15:00	57	938	607	0.46	133	05-Mar- 2013 23:18:00	06-Mar- 2013 00:10:31	53	979.08	554.22	0.41	128.84

31	16-Mar- 2013 17:20:00	16-Mar- 2013 18:15:00	55	926	612	0.44	135	16-Mar- 2013 17:20:00	16-Mar- 2013 18:14:26	55	1076.34	651.47	0.46	140.10
32	03-Apr- 2013 11:20:00	03-Apr- 2013 14:42:00	202	971	202	1.49	123	03-Apr- 2013 11:28:18	03-Apr- 2013 14:40:15	192	757.96	405.04	1.30	113.26
33	11-Apr- 2013 23:00:00	12-Apr- 2013 12:05:00	785	971	202	3.60	77	12-Apr- 2013 00:06:26	12-Apr- 2013 12:05:00	719	946.78	416.27	4.94	114.57
34	18-Apr- 2013 10:52:00	18-Apr- 2013 13:09:00	137	1320	471	0.92	112	18-Apr- 2013 10:52:00	18-Apr- 2013 13:09:00	137	747.88	431.67	0.65	79.42
35	20-Apr- 2013 15:19:00	20-Apr- 2013 16:32:00	73	900	312	1.00	96	20-Apr- 2013 15:15:00	20-Apr- 2013 16:29:50	75	614.96	346.90	0.43	96.02
36	27-Apr- 2013 16:36:00	27-Apr- 2013 19:36:00	180	900	312	1.03	96	27-Apr- 2013 16:36:00	27-Apr- 2013 19:36:00	180	596.39	343.84	1.11	102.87
37	26-Oct- 2013 02:55:00	26-Oct- 2013 10:21:00	446	983	588	3.62	136	26-Oct- 2013 02:55:00	26-Oct- 2013 10:10:58	436	907.48	681.69	3.83	146.37
38	16-Nov- 2013 22:41:00	17-Nov- 2013 04:40:00	359	1200	416	0.24	112	16-Nov- 2013 22:51:30	17-Nov- 2013 04:40:00	349	829.20	462.66	2.48	118.79
39	23-Nov- 2013 09:00:00	23-Nov- 2013 10:17:00	77	3400	1075	0.79	171	23-Nov- 2013 09:00:00	23-Nov- 2013 10:50:20	111	2430.58	1020.37	0.96	145.43
40	28-Nov- 2013 20:15:00	28-Nov- 2013 22:39:00	144	800	386	0.95	109	28-Nov- 2013 20:15:00	28-Nov- 2013 20:41:54	27	787.41	550.31	0.21	132.19
41	03-Dec- 2015 01:50:00	03-Dec- 2015 03:27:00	97	3850	1423	3.60	620	03-Dec- 2015 01:53:28	03-Dec- 2015 03:25:00	92	1891.75	713.67	0.80	145.65
42	04-Dec- 2015	04-Dec- 2015	113	2600	1080	3.40	532	04-Dec- 2015	04-Dec- 2015	74	1834.50	1063.16	0.81	184.35

	08:41:00	10:34:00						08:51:42	10:05:00					
43	04-Dec-2015 20:04:00	04-Dec-2015 21:20:00	76	1800	558	2.00	438	04-Dec-2015 20:04:00	04-Dec-2015 20:43:00	39	1484.95	671.59	0.17	72.33
44	05-Dec-2015 14:00:00	05-Dec-2015 16:35:00	155	880	350	2.80	300	05-Dec-2015 14:00:00	05-Dec-2015 16:28:52	149	897.66	430.18	1.01	112.82
45	18-May-2016 09:00:00	18-May-2016 11:50:00	170	125	33	0.26	25	18-May-2016 09:05:44	18-May-2016 11:00:00	115	361.00	78.79	0.34	49.56
46	18-May-2016 10:55:00	18-May-2016 13:59:00	184	550	336	3.10	281	18-May-2016 11:00:00	18-May-2016 13:43:18	164	900.91	329.70	0.96	97.56
47	24-Aug-2018 07:20:00	24-Aug-2018 09:00:00	100	74	74	0.29	49	24-Aug-2018 07:20:00	24-Aug-2018 08:57:59	98	141.80	43.56	0.09	15.96
48	24-Dec-2018 11:11:00	24-Dec-2018 11:48:00	37	950	413	0.25	112	24-Dec-2018 11:11:00	24-Dec-2018 11:47:10	37	380.03	252.14	0.20	91.07
49	24-Dec-2018 11:00:00	24-Dec-2018 12:49:00	109	800	422	0.0084	114	24-Dec-2018 11:19:30	24-Dec-2018 12:49:00	90	902.66	361.21	0.53	98.44
50	19-Apr-2020 08:46:00	19-Apr-2020 09:46:00	60	333	115	0.19	53	19-Apr-2020 08:46:00	19-Apr-2020 10:32:40	107	195.00	107.69	0.09	14.73
51	13-Dec-2020 22:00:00	13-Dec-2020 22:48:00	48	571	231	0.24	84	13-Dec-2020 22:04:38	13-Dec-2020 22:16:00	12	280.02	245.64	0.06	93.20
52	13-Dec-2020 23:58:00	14-Dec-2020 00:11:00	13	400	235	0.07	90	13-Dec-2020 23:58:00	14-Dec-2020 00:08:48	11	471.45	431.85	0.07	108.39
53	14-Dec-2020 01:02:00	14-Dec-2020 01:40:00	38	286	121	0.13	58	14-Dec-2020 01:02:00	14-Dec-2020 01:39:46	38	115.20	90.18	0.12	52.29
54	21-Dec-	21-Dec-	48	3080	1296	0.58	200	21-Dec-	21-Dec-	27	1389.87	901.40	0.13	81.75

	2020 09:11:00	2020 09:59:00						2020 09:11:00	2020 09:37:40					
55	22-Dec- 2020 03:05:00	22-Dec- 2020 05:13:00	128	800	295	0.72	93	22-Dec- 2020 03:05:00	22-Dec- 2020 06:04:08	180	516.31	352.11	0.84	77.72
56	18-Jan- 2021 19:38:00	18-Jan- 2021 21:03:00	85	1067	343	0.52	101	18-Jan- 2021 19:39:22	18-Jan- 2021 21:02:00	83	900.51	753.47	0.37	74.79
57	16-Feb- 2021 16:11:00	16-Feb- 2021 17:02:00	51	1560	757	0.46	150	16-Feb- 2021 16:11:00	16-Feb- 2021 17:00:14	50	1330.33	720.79	0.44	149.09
58	17-Feb- 2021 22:32:00	18-Feb- 2021 00:51:00	139	1230	358	0.82	98	17-Feb- 2021 22:37:31	18-Feb- 2021 00:51:00	134	1105.29	534.97	1.04	129.41
59	19-Feb- 2021 08:16:00	19-Feb- 2021 10:06:00	110	1365	492	0.78	118	19-Feb- 2021 08:16:00	19-Feb- 2021 10:04:15	109	1095.88	546.31	0.84	130.01
60	20-Feb- 2021 21:32:00	21-Feb- 2021 01:15:00	223	1500	386	1.40	107	20-Feb- 2021 21:32:01	21-Feb- 2021 01:09:05	218	738.46	337.88	1.33	102.29
61	22-Feb- 2021 21:17:00	23-Feb- 2021 00:03:00	166	3667	686	1.20	120	22-Feb- 2021 21:17:00	23-Feb- 2021 00:02:50	166	1726.77	846.33	1.43	143.58
62	23-Feb- 2021 03:52:00	23-Feb- 2021 04:50:00	58	900	337	0.32	92	23-Feb- 2021 03:52:00	23-Feb- 2021 04:28:54	37	780.64	640.13	0.29	131.28
63	24-Feb- 2021 18:56:00	24-Feb- 2021 21:41:00	165	1800	649	1.40	139	24-Feb- 2021 18:59:32	24-Feb- 2021 21:44:46	166	1383.67	845.36	1.61	161.92
64	28-Feb- 2021 07:31:00	28-Feb- 2021 08:34:00	63	3600	1376	0.70	185	28-Feb- 2021 07:31:00	28-Feb- 2021 08:42:40	72	2502.00	1106.89	0.75	175.57
65	02-Mar- 2021 11:23:00	02-Mar- 2021 14:50:00	207	606	278	1.00	83	02-Mar- 2021 11:29:01	02-Mar- 2021 12:11:00	42	333.38	269.69	0.15	59.43

66	04-Mar-2021 01:30:00	04-Mar-2021 04:10:00	160	600	204	0.75	78	04-Mar-2021 01:30:28	04-Mar-2021 01:43:00	13	324.74	308.96	0.05	63.20
67	04-Mar-2021 07:11:00	04-Mar-2021 09:32:00	141	3233	1275	1.60	186	04-Mar-2021 07:16:58	04-Mar-2021 09:32:00	136	1449.58	868.23	1.34	165.15
68	07-Mar-2021 04:10:00	07-Mar-2021 07:01:00	171	4000	638	1.10	104	07-Mar-2021 04:11:03	07-Mar-2021 04:58:00	47	551.71	473.35	0.35	125.15
69	09-Mar-2021 23:55:00	10-Mar-2021 02:46:00	171	1860	655	1.40	140	10-Mar-2021 01:11:52	10-Mar-2021 02:03:00	52	764.52	690.41	0.03	8.68
70	12-Mar-2021 07:35:00	12-Mar-2021 09:45:00	130	2400	1149	1.60	209	12-Mar-2021 07:30:00	12-Mar-2021 09:56:34	147	1579.21	1059.18	1.61	182.58
71	14-Mar-2021 23:12:00	15-Mar-2021 01:42:00	150	1333	670	0.53	59	14-Mar-2021 23:21:04	15-Mar-2021 01:43:00	142	1120.83	462.95	0.66	77.55
72	17-Mar-2021 01:30:00	17-Mar-2021 04:57:00	207	1533	538	1.60	127	17-Mar-2021 01:37:42	17-Mar-2021 03:00:00	83	502.29	278.40	0.42	84.18
73	19-Mar-2021 08:18:00	19-Mar-2021 10:13:00	115	629	171	0.75	108	19-Mar-2021 08:22:56	19-Mar-2021 09:40:00	78	679.22	475.47	0.58	124.48
74	23-Mar-2021 21:33:00	24-Mar-2021 08:19:00	646	1333	456	4.60	118	23-Mar-2021 21:33:01	24-Mar-2021 01:16:00	223	390.28	363.31	0.28	20.71
75	31-Mar-2021 19:30:00	01-Apr-2021 08:53:00	803	630	241	4.10	85	31-Mar-2021 19:30:00	01-Apr-2021 08:14:39	765	588.16	232.15	3.70	80.65
76	19-May-2021 00:50:00	19-May-2021 04:25:00	215	667	482	1.60	124	19-May-2021 00:53:56	19-May-2021 04:25:00	212	469.10	384.85	1.41	111.48
77	21-May-2021	21-May-2021	114	1533	683	0.99	145	21-May-2021	21-May-2021	113	748.02	631.74	0.97	143.62

	00:50:00	02:44:00						00:51:41	02:44:01					
78	22-May-2021 20:27:00	22-May-2021 22:08:00	101	1200	649	0.86	143	22-May-2021 20:27:00	22-May-2021 22:06:36	100	899.09	790.46	0.95	159.03
79	24-May-2021 20:25:00	24-May-2021 21:49:00	84	1467	831	0.82	162	24-May-2021 20:25:00	24-May-2021 21:47:42	83	1264.74	1056.08	0.91	183.62
80	25-May-2021 18:20:00	25-May-2021 18:53:00	33	533	317	0.20	102	25-May-2021 18:20:44	25-May-2021 18:53:00	33	348.87	322.51	0.21	106.62
81	26-May-2021 10:20:00	26-May-2021 11:10:00	50	1267	627	0.41	136	26-May-2021 10:20:58	26-May-2021 11:10:00	50	660.43	522.56	0.39	133.57
82	27-May-2021 12:50:00	27-May-2021 12:59:00	9	1133	691	0.36	149	27-May-2021 12:51:00	27-May-2021 13:04:44	14	838.81	803.34	0.13	162.82
83	28-May-2021 06:30:00	28-May-2021 07:27:00	57	800	433	0.40	116	28-May-2021 06:30:50	28-May-2021 07:27:00	57	495.58	407.78	0.40	117.40
84	28-May-2021 16:05:00	28-May-2021 16:11:00	6	333	295	0.04	112	28-May-2021 16:05:20	28-May-2021 16:11:00	6	376.12	355.42	0.04	131.15
85	28-May-2021 19:48:00	28-May-2021 20:50:00	62	1000	601	0.51	138	28-May-2021 19:49:08	28-May-2021 20:50:00	61	589.16	475.87	0.46	124.92
86	30-May-2021 04:20:00	30-May-2021 05:44:00	84	1000	589	0.69	137	30-May-2021 04:21:20	30-May-2021 05:44:00	83	576.08	507.34	0.64	128.94
87	02-Jun-2021 08:30:00	02-Jun-2021 10:46:00	136	1640	924	1.40	170	02-Jun-2021 08:30:00	02-Jun-2021 10:41:18	132	1672.44	939.01	1.09	138.94
88	04-Jun-2021 16:12:00	04-Jun-2021 17:40:00	88	1170	665	0.76	143	04-Jun-2021 16:30:00	04-Jun-2021 17:35:40	66	1095.23	741.21	0.61	153.60
89	12-Jun-2021	12-Jun-2021	106	810	438	0.73	115	12-Jun-2021	12-Jun-2021	104	581.71	417.74	0.72	116.16

	2021 20:00:00	2021 21:46:00						2021 20:02:35	2021 21:46:00					
90	14-Jun- 2021 21:15:00	14-Jun- 2021 22:21:00	66	870	419	0.44	112	14-Jun- 2021 21:16:38	14-Jun- 2021 22:21:00	65	726.22	445.17	0.47	120.64
91	16-Jun- 2021 11:37:00	16-Jun- 2021 12:38:00	61	1733	673	0.52	142	16-Jun- 2021 11:37:00	16-Jun- 2021 12:12:06	36	1337.60	1202.12	0.33	155.82
92	17-Jun- 2021 22:40:00	17-Jun- 2021 23:55:00	75	1140	404	0.50	111	17-Jun- 2021 22:41:22	17-Jun- 2021 23:55:00	74	665.02	379.79	0.49	111.36
93	19-Jun- 2021 18:47:00	19-Jun- 2021 19:35:00	48	1140	572	0.38	131	19-Jun- 2021 18:48:04	19-Jun- 2021 19:35:00	47	726.54	558.94	0.38	135.60
94	20-Jun- 2021 22:40:00	20-Jun- 2021 23:44:00	64	2467	892	0.63	164	20-Jun- 2021 22:40:56	20-Jun- 2021 23:44:00	64	1265.39	1069.38	0.72	189.83
95	22-Jun- 2021 02:30:00	22-Jun- 2021 03:45:00	75	2000	848	0.71	158	22-Jun- 2021 02:30:00	22-Jun- 2021 03:43:02	74	955.13	741.07	0.68	155.12
96	23-Jun- 2021 02:44:00	23-Jun- 2021 03:19:00	35	1867	1035	0.38	183	23-Jun- 2021 02:44:00	23-Jun- 2021 03:18:16	35	992.64	669.97	0.30	148.21
97	23-Jun- 2021 18:00:00	23-Jun- 2021 19:12:00	72	2933	1301	0.60	140	23-Jun- 2021 18:01:40	23-Jun- 2021 19:12:00	71	1411.63	660.58	0.57	134.18
98	24-Jun- 2021 09:45:00	24-Jun- 2021 10:26:00	41	1733	825	0.39	157	24-Jun- 2021 09:21:30	24-Jun- 2021 10:30:00	69	1528.27	1014.24	0.55	132.65
99	25-Jun- 2021 00:38:00	25-Jun- 2021 01:48:00	70	2333	876	0.64	153	25-Jun- 2021 01:04:18	25-Jun- 2021 01:48:00	44	1265.17	767.69	0.42	158.68
100	25-Jun- 2021 18:40:00	25-Jun- 2021 19:20:00	40	1133	691	0.36	149	25-Jun- 2021 01:05:00	25-Jun- 2021 01:48:18	44	1065.17	570.71	0.35	132.97

101	26-Jun- 2021 16:00:00	26-Jun- 2021 16:38:00	38	1600	772	0.35	155	26-Jun- 2021 16:00:52	26-Jun- 2021 16:38:00	38	1249.66	902.10	0.39	176.86
102	27-Jun- 2021 08:53:00	27-Jun- 2021 09:43:00	50	1600	674	0.43	143	27-Jun- 2021 08:50:00	27-Jun- 2021 10:02:04	73	704.45	370.83	0.47	107.88
103	28-Jun- 2021 14:25:00	28-Jun- 2021 15:30:00	65	2390	1211	0.75	193	28-Jun- 2021 14:26:24	28-Jun- 2021 15:30:00	64	2135.90	1240.59	0.71	185.22
104	01-Jul- 2021 22:50:00	02-Jul- 2021 00:27:00	97	1800	804	0.91	156	01-Jul- 2021 22:50:00	01-Jul- 2021 23:59:00	69	1338.67	1032.32	0.76	183.36
105	04-Jul- 2021 15:15:00	04-Jul- 2021 16:50:00	95	1467	873	0.94	164	04-Jul- 2021 15:30:00	04-Jul- 2021 16:48:48	79	1227.57	972.57	0.83	175.93
106	06-Jul- 2021 22:16:00	06-Jul- 2021 23:44:00	88	3270	1673	1.20	227	06-Jul- 2021 22:18:00	06-Jul- 2021 23:44:00	86	2809.36	1498.24	1.12	216.22
107	08-Jul- 2021 20:35:00	08-Jul- 2021 22:12:00	97	2710	1242	1.10	192	08-Jul- 2021 20:37:10	08-Jul- 2021 22:12:00	95	1858.01	1217.19	1.07	187.30
108	14-Jul- 2021 10:45:00	14-Jul- 2021 12:30:00	105	2230	1097	1.20	183	14-Jul- 2021 10:47:58	14-Jul- 2021 12:30:00	103	2177.18	1313.19	1.23	200.13
109	20-Jul- 2021 05:10:00	20-Jul- 2021 08:11:00	181	3510	1533	2.30	208	20-Jul- 2021 05:41:56	20-Jul- 2021 08:11:00	150	2271.40	1342.41	1.73	193.53
110	31-Jul- 2021 19:44:00	31-Jul- 2021 23:37:00	233	3830	1473	2.80	202	31-Jul- 2021 19:54:42	31-Jul- 2021 23:37:00	223	2205.36	1166.07	2.45	183.43
111	09-Aug- 2021 02:07:00	09-Aug- 2021 04:11:00	124	2390	1280	1.50	199	09-Aug- 2021 02:07:00	09-Aug- 2021 04:09:02	123	1808.31	1181.17	1.39	189.60
112	29-Aug- 2021	29-Aug- 2021	91	2390	1310	1.10	202	29-Aug- 2021	29-Aug- 2021	89	2459.76	1438.71	1.09	204.82

	16:24:00	17:55:00						16:24:00	17:52:34					
113	21-Sep-2021	21-Sep-2021	74	2333	1234	0.88	199	21-Sep-2021	21-Sep-2021	73	1639.74	1417.61	0.90	206.73
	07:21:00	08:35:00						07:21:00	08:33:50					
114	23-Oct-2021	23-Oct-2021	117	4000	1844	1.60	232	23-Oct-2021	23-Oct-2021	116	2414.34	1819.92	1.66	239.58
	08:20:00	10:17:00						08:21:50	10:17:00					
115	10-Feb-2022	10-Feb-2022	196	5714	2160	2.90	245	10-Feb-2022	10-Feb-2022	176	5060.35	1621.89	2.28	216.26
	18:40:00	21:56:00						19:00:10	21:56:00					
116	21-Feb-2022	21-Feb-2022	99	4057	1865	1.40	234	21-Feb-2022	21-Feb-2022	98	2231.38	1628.58	1.33	228.14
	11:11:00	12:50:00						11:11:00	12:48:16					

Table S2. Eruptive activity occurring at Etna volcano between 13 January 2011 and 10 October 2022, with the erupted volumes obtained by available references. Fountain volume refers to pyroclastic material erupted during each single episode, whereas cumulative fountain volume refers to the cumulated volumes of pyroclastic material erupted over time. Similarly, lava volume refers to the lava flow volume erupted during each single episode, whereas the cumulative lava volume is the cumulated volume of lava flows erupted over time. Fountain + lava volume refers to the volume of pyroclastic material and lava flows erupted during each episode, and the cumulative total volume refers to the cumulated volume of pyroclastic material and lava flow erupted over time. The episode numbers in the first column refer to the lava fountain episodes. No numbers correspond to a just effusive (lava flow) episode.

Episode #	Starting Date	Ending Date	Fountain Volume	Cumulative Fountain Volume	Lava Volume	Cumulative Lava Volume	Fountain + Lava Volume	Cumulative Total Volume	Reference Fountain Volume	Reference Lava Volume	Notes
											(in yellow the estimated values)
	dd/mm/yy	dd/mm/yy	m ³	m ³	m ³	m ³	m ³	m ³			
1	13/01/11	13/01/11	850,000	850,000	1,550,000	1,550,000	2,400,000	2,400,000	[22]	[37]	
2	18/02/11	18/02/11	850,000	1,700,000	1,000,000	2,550,000	1,850,000	4,250,000	estimated	estimated	
3	10/04/11	10/04/11	1,434,400	3,134,400	877,000	3,427,000	2,311,400	6,561,400	[22]	[37]	
4	12/05/11	12/05/11	1,107,380	4,241,780	1,470,000	4,897,000	2,577,380	9,138,780	[22]	[37]	
5	09/07/11	09/07/11	678,370	4,920,150	1,490,000	6,387,000	2,168,370	11,307,150	[22]	[37]	
6	19/07/11	19/07/11	941,360	5,861,510	2,140,000	8,527,000	3,081,360	14,388,510	[22]	[37]	
7	25/07/11	25/07/11	1,311,680	7,173,190	988,000	9,515,000	2,299,680	16,688,190	[22]	[37]	

8	30/07/11	30/07/11	777,510	7,950,700	2,220,000	11,735,000	2,997,510	19,685,700	[22]	[37]	
9	05/08/11	05/08/11	975,970	8,926,670	1,590,000	13,325,000	2,565,970	22,251,670	[22]	[37]	
10	12/08/11	12/08/11	815,420	9,742,090	2,860,000	16,185,000	3,675,420	25,927,090	[22]	[37]	
11	20/08/11	20/08/11	342,280	10,084,370	1,400,000	17,585,000	1,742,280	27,669,370	[22]	[37]	
12	29/08/11	29/08/11	476,290	10,560,660	1,740,000	19,325,000	2,216,290	29,885,660	[22]	[37]	
13	08/09/11	08/09/11	553,960	11,114,620	1,220,000	20,545,000	1,773,960	31,659,620	[22]	[37]	
14	19/09/11	19/09/11	501,500	11,616,120	1,000,000	21,545,000	1,501,500	33,161,120	[22]	estimated	
15	28/09/11	28/09/11	269,570	11,885,690	1,000,000	22,545,000	1,269,570	34,430,690	[22]	estimated	
16	08/10/11	08/10/11	875,000	12,760,690	1,000,000	23,545,000	1,875,000	36,305,690	estimated	estimated	
17	23/10/11	23/10/11	524,300	13,284,990	1,310,000	24,855,000	1,834,300	38,139,990	[22]	[37]	
18	15/11/11	15/11/11	594,480	13,879,470	1,810,000	26,665,000	2,404,480	40,544,470	[22]	[37]	
19	05/01/12	05/01/12	818,420	14,697,890	1,490,000	28,155,000	2,308,420	42,852,890	[22]	[37]	
20	09/02/12	09/02/12	2,105,970	16,803,860	871,000	29,026,000	2,976,970	45,829,860	[22]	[37]	
21	04/03/12	04/03/12	1,335,420	18,139,280	2,550,000	31,576,000	3,885,420	49,715,280	[22]	[37]	
22	18/03/12	18/03/12	1,439,050	19,578,330	2,150,000	33,726,000	3,589,050	53,304,330	[22]	[37]	
23	01/04/12	01/04/12	901,100	20,479,430	1,640,000	35,366,000	2,541,100	55,845,430	[22]	[37]	
24	12/04/12	12/04/12	929,030	21,408,460	1,710,000	37,076,000	2,639,030	58,484,460	[22]	[37]	
25	24/04/12	24/04/12	641,280	22,049,740	2,620,000	39,696,000	3,261,280	61,745,740	[22]	[37]	
03/07/12 02/12/12				22,049,740	3,110,400	42,806,400	3,110,400	64,856,140	Lava flow within BN, Volume estimated from 0,2 m³/s obtained by [24] extended for 6 months,		
26	19/02/13	19/02/13	611,340	22,661,080	2,580,000	45,386,400	3,191,340	68,047,480	[22]	[37]	
27	20/02/13	20/02/13	826,000	23,487,080	2,360,000	47,746,400	3,186,000	71,233,480	[22]	[37]	Cumulative of two episodes
29	21/02/13	21/02/13	830,000	24,317,080	1,000,000	48,746,400	1,830,000	73,063,480	estimated	estimated	

30	23/02/13	23/02/13	426,830	24,743,910	1,000,000	49,746,400	1,426,830	74,490,310	[22]	estimated	
31	28/02/13	28/02/13	351,930	25,095,840	1,170,000	50,916,400	1,521,930	76,012,240	[22]	[37]	
32	06/03/13	06/03/13	456,050	25,551,890	1,000,000	51,916,400	1,456,050	77,468,290	[22]	estimated	
33	16/03/13	16/03/13	444,410	25,996,300	1,470,000	53,386,400	1,914,410	79,382,700	[22]	[37]	
34	03/04/13	03/04/13	1,512,880	27,509,180	2,600,000	55,986,400	4,112,880	83,495,580	[22]	[37]	
35	12/04/13	12/04/13	1,466,621	28,975,801	1,390,000	57,376,400	2,856,621	86,352,201	[22]	[37]	
36	18/04/13	18/04/13	922,730	29,898,531	1,510,000	58,886,400	2,432,730	88,784,931	[22]	[37]	
37	20/04/13	20/04/13	480,500	30,379,031	1,180,000	60,066,400	1,660,500	90,445,431	[22]	[37]	
38	27/04/13	27/04/13	1,038,250	31,417,281	2,000,000	62,066,400	3,038,250	93,483,681	[22]	[37]	
39	26/10/13	26/10/13	3,628,450	35,045,731	1,220,000	63,286,400	4,848,450	98,332,131	[22]	[37]	
40	11/11/13	11/11/13	830,000	35,875,731	1,110,000	64,396,400	1,940,000	100,272,131	estimated	[37,38]	
41	16/11/13	17/11/13	2,409,520	38,285,251	1,210,000	65,606,400	3,619,520	103,891,651	[22]	[37]	
42	23/11/13	23/11/13	789,240	39,074,491	662,000	66,268,400	1,451,240	105,342,891	[22]	[37]	
43	28/11/13	28/11/13	944,860	40,019,351	494,000	66,762,400	1,438,860	106,781,751	[22]	[37]	
44	02/12/13	02/12/13	830,000	40,849,351	900,000	67,662,400	1,730,000	108,511,751	estimated	[39]	
45	14/12/13	16/12/13		40,849,351	908,000	68,570,400	908,000	109,419,751		[37,38]	Only lava flows
	29/12/13	31/12/13		40,849,351	1,150,000	69,720,400	1,150,000	110,569,751		[37,38]	Only lava flows
47	22/01/14	07/04/14		40,849,351	9,300,000	79,020,400	9,300,000	119,869,751		[37]	Only lava flows
49	14/06/14	18/06/14		40,849,351	1,290,000	80,310,400	1,290,000	121,159,751		[37,40]	Only lava flows
50	07/07/14	20/08/14		40,849,351	6,570,000	86,880,400	6,570,000	127,729,751		[37]	Only lava flows
51	28/12/14	28/12/14	830,000	41,679,351	2,600,000	89,480,400	3,430,000	131,159,751	Estimated	[39]	
52	31/01/15	02/02/15		41,679,351	1,350,000	90,830,400	1,350,000	132,509,751		[37]	Only lava flows
53	11/05/15	16/05/15		41,679,351	1,370,000	92,200,400	1,370,000	133,879,751		[37]	Only lava flows
54	03/12/15	03/12/15	4,190,000	45,869,351		92,200,400	4,190,000	138,069,751	[41]		No lava flows, Only lava fountain

55	04/12/15	04/12/15	4,570,000	50,439,351		92,200,400	4,570,000	142,639,751	[41]	No lava flows, Only lava fountain
56	05/12/15	05/12/15	1,360,000	51,799,351		92,200,400	1,360,000	143,999,751	[41]	No lava flows, Only lava fountain
57	06/12/15	08/12/15		51,799,351	2,730,000	94,930,400	2,730,000	146,729,751	[42]	Lava flows+scoria cone
58	18/05/16	19/05/16		51,799,351	400,000	95,330,400	400,000	147,129,751	[43]	Flow b from NSEC
59	17/05/16	25/05/16		51,799,351	4,250,000	99,580,400	4,250,000	151,379,751	[43]	Flow a from BN
60	27/02/17	30/04/17		51,799,351	9,800,000	109,380,400	9,800,000	161,179,751	[44]	Lava flows
	06/08/18	12/08/18	103,680	51,903,031		109,380,400	103,680	161,283,431	[45] (Boll. Etna 20180814)	Strombolian activity from BN+NEC
	13/08/18	19/08/18	103,680	52,006,711		109,380,400	103,680	161,387,111	[45] (Boll. Etna 20180821)	Strombolian activity from NSEC
	27/08/18	27/08/18		52,006,711	2,710,000	112,090,400	2,710,000	164,097,111	[45] (Boll. Etna 20180828)	Lava flow only
	04/09/18	04/09/18		52,006,711	40,000	112,130,400	40,000	164,137,111	[45] (Boll. Etna 20180904)	Lava flow only. Estimated considering 2 km L x 10 m W x 2 m H from map
	03/09/19	09/09/19	103,680	52,110,391		112,130,400	103,680	164,240,791	[45] (Boll. Etna	Strombolian activity

							20180911)	from NSEC+BN+ NEC
10/09/18	16/09/18	103,680	52,214,071	112,130,400	103,680	164,344,471	[45] (Boll. Etna 20180918)	Strombolian activity from NSEC+BN+ NEC
17/09/18	23/09/18	103,680	52,317,751	112,130,400	103,680	164,448,151	[45] (Boll. Etna 20180925)	Strombolian activity from NSEC+BN+ NEC
24/09/18	30/09/18	103,680	52,421,431	112,130,400	103,680	164,551,831	[45] (Boll. Etna 20181002)	Strombolian activity from NSEC+BN+ NEC
01/10/18	07/10/18	103,680	52,525,111	112,130,400	103,680	164,655,511	[45] (Boll. Etna 20181009)	Strombolian activity from NSEC+BN+ NEC
08/10/18	14/10/18	103,680	52,628,791	112,130,400	103,680	164,759,191	[45] (Boll. Etna 20181016)	Strombolian activity from NSEC+BN+ NEC
15/10/18	21/10/18	103,680	52,732,471	112,130,400	103,680	164,862,871	[45] (Boll. Etna 20181023)	Strombolian activity from NSEC+BN+ NEC
22/10/18	28/10/18	103,680	52,836,151	112,130,400	103,680	164,966,551	[45] (Boll. Etna	Strombolian activity

								20181030)	from NSEC+BN+ NEC
29/10/18	04/11/18	103,680	52,939,831		112,130,400	103,680	165,070,231	[45] (Boll. Etna 20181104)	Strombolian activity from NSEC+BN+ NEC
05/11/18	11/11/18	103,680	53,043,511		112,130,400	103,680	165,173,911	[45] (Boll. Etna 20181113)	Strombolian activity from NSEC+BN+ NEC
12/11/18	18/11/18	103,680	53,147,191		112,130,400	103,680	165,277,591	[45] (Boll. Etna 20181112)	Strombolian activity from NSEC+BN+ NEC
19/11/18	25/11/18	103,680	53,250,871		112,130,400	103,680	165,381,271	[45] (Boll. Etna 20181127)	Strombolian activity from NSEC+BN+ NEC
26/11/18	02/12/18	103,680	53,354,551		112,130,400	103,680	165,484,951	[45] (Boll. Etna 20181204)	Strombolian activity from NSEC+BN+ NEC
03/12/18	09/12/18	103,680	53,458,231		112,130,400	103,680	165,588,631	[45] (Boll. Etna 20181211)	Strombolian activity from NSEC+BN+ NEC
04/12/18	09/12/18		53,458,231	1,250,000	113,380,400	1,250,000	166,838,631	[45] (Boll. Etna	Lava flow estimated

									20181211)	from map: 500 m L x 500 m W x 5 m H
	10/12/18	17/12/18		53,458,231	125,000	113,505,400	125,000	166,963,631	[45] (Boll. Etna 20181218)	Lava flow estimated from map: 250 m L x 250 m W x 2 m H
61	24/12/18	27/12/18	250,000	53,708,231	2,500,000	116,005,400	2,750,000	169,713,631	[46]	[46]
	21/01/19	27/01/19	103,680	53,811,911		116,005,400	103,680	169,817,311	[45] (Boll. Etna 20190129)	Strombolian activity from NSEC+BN+ NEC
	28/01/19	03/02/19	103,680	53,915,591		116,005,400	103,680	169,920,991	[45] (Boll. Etna 20190205)	Strombolian activity from NSEC+BN+ NEC
	29/04/19	05/05/19	103,680	54,019,271		116,005,400	103,680	170,024,671	[45] (Boll. Etna 20190507)	Strombolian activity from NSEC+BN
	30/05/19	02/06/19		54,019,271	4,400,000	120,405,400	4,400,000	174,424,671	[45,47] (Boll. Etna 20190604)	2 lava flows + scoria cone
	18/07/19	21/07/19		54,019,271	700,000	121,105,400	700,000	175,124,671	[48]	
	27/07/19	28/07/19		54,019,271	1,000,000	122,105,400	1,000,000	176,124,671	[48]	
	29/07/19	04/08/19	103,680	54,122,951		122,105,400	103,680	176,228,351	[45] (Boll. Etna 20190806)	Strombolian activity from NSEC+BN
	19/08/19	25/08/19	103,680	54,226,631		122,105,400	103,680	176,332,031	[45]	Strombolian

								(Boll. Etna 20190827)	activity from NEC+BN
02/09/19	08/09/19	103,680	54,330,311		122,105,400	103,680	176,435,711	[45] (Boll. Etna 20190910)	Strombolian activity from NEC+BN+VOR
09/09/19	15/09/19	103,680	54,433,991		122,105,400	103,680	176,539,391	[45] (Boll. Etna 20190917)	Strombolian activity from NEC+VOR
16/09/19	22/09/19	103,680	54,537,671	1,000,000	123,105,400	1,103,680	177,643,071	[45] (Boll. Etna 20190924)	Strombolian activity from NEC+VOR
23/9/19	29/09/19	103,680	54,641,351		123,105,400	103,680	177,746,751	[33,45] (Boll. Etna 20191001)	Strombolian activity from NEC+VOR
30/09/19	06/10/19	103,680	54,745,031		123,105,400	103,680	177,850,431	[45] (Boll. Etna 20191008)	Strombolian activity from NEC+VOR+BN
07/10/19	13/10/19	103,680	54,848,711		123,105,400	103,680	177,954,111	[45] (Boll. Etna 20191015)	Strombolian activity from NEC+VOR+BN
14/10/19	20/10/19	103,680	54,952,391		123,105,400	103,680	178,057,791	[45] (Boll. Etna 20191022)	Strombolian activity from NEC+VOR+BN

21/10/19	27/10/19	103,680	55,056,071	123,105,400	103,680	178,161,471	[45] (Boll. Etna 20191029)	Strombolian activity from NEC+VOR+ BN
28/10/19	03/11/19	103,680	55,159,751	123,105,400	103,680	178,265,151	[45] (Boll. Etna 20191105)	Strombolian activity from NEC+VOR+ BN
04/11/19	10/11/19	103,680	55,263,431	123,105,400	103,680	178,368,831	[45] (Boll. Etna 20191112)	Strombolian activity from NEC+VOR+ BN+NSEC
11/11/19	17/11/19	103,680	55,367,111	123,105,400	103,680	178,472,511	[45] (Boll. Etna 20191119)	Strombolian activity from NEC+VOR+ BN
18/11/19	24/11/19	103,680	55,470,791	123,105,400	103,680	178,576,191	[45] (Boll. Etna 20191126)	Strombolian activity from NEC+VOR+ BN+NSEC
25/11/19	01/12/19	103,680	55,574,471	123,105,400	103,680	178,679,871	[45] (Boll. Etna 20191203)	Strombolian activity from NEC+VOR+ BN+NSEC
02/12/19	08/12/19	103,680	55,678,151	123,105,400	103,680	178,783,551	[45] (Boll. Etna 20191210)	Strombolian activity from NEC+VOR+ BN+NSEC

09/12/19	15/12/19	103,680	55,781,831		123,105,400	103,680	178,887,231	[45] (Boll. Etna 20191217)	Strombolian activity from NEC+VOR+ BN+NSEC
16/12/19	22/12/19	103,680	55,885,511		123,105,400	103,680	178,990,911	[45] (Boll. Etna 20191224)	Strombolian activity from NEC+VOR+ BN+NSEC
23/12/19	30/12/19	103,680	55,989,191		123,105,400	103,680	179,094,591	[45] (Boll. Etna 20191231)	Strombolian activity from NEC+VOR+ BN+NSEC
01/10/19	17/04/20		55,989,191	3,628,800	126,734,200	3,628,800	182,723,391	[45] (Boll. Etna 20200414)	Lava flow volume estimated from 0,2 m³/s obtained from [24] for 7 months eruption within VOR
10/08/20	16/08/20	103,680	56,092,871		126,734,200	103,680	182,827,071	[45] (Boll. Etna 20200818)	Strombolian activity from NEC+VOR+ NSEC
17/08/20	23/08/20	103,680	56,196,551		126,734,200	103,680	182,930,751	[45] (Boll. Etna 20200825)	Strombolian activity from NEC+VOR+

								BN+NSEC
24/08/20	30/08/20	103,680	56,300,231	126,734,200	103,680	183,034,431	[45] (Boll. Etna 20200901)	Strombolian activity from NEC+VOR+ BN+NSEC
31/08/20	06/09/20	103,680	56,403,911	126,734,200	103,680	183,138,111	[45] (Boll. Etna 20200908)	Strombolian activity from NEC+VOR+ BN+NSEC
17/08/20	23/08/20	103,680	56,507,591	126,734,200	103,680	183,241,791	[45] (Boll. Etna 20200825)	Strombolian activity from NEC+VOR+ BN+NSEC
31/08/20	06/09/20	103,680	56,611,271	126,734,200	103,680	183,345,471	[45] (Boll. Etna 20200908)	Strombolian activity from NEC+VOR+ BN+NSEC
07/09/20	13/09/20	103,680	56,714,951	126,734,200	103,680	183,449,151	[45] (Boll. Etna 20200915)	Strombolian activity from NEC+VOR+ BN+NSEC
14/09/20	20/09/20	103,680	56,818,631	126,734,200	103,680	183,552,831	[45] (Boll. Etna 20200922)	Strombolian activity from NEC+VOR+ BN+NSEC
21/09/20	27/09/20	103,680	56,922,311	126,734,200	103,680	183,656,511	[45] (Boll. Etna 20200929)	Strombolian activity from NEC+VOR+

								BN+NSEC
28/09/20	04/10/20	103,680	57,025,991	126,734,200	103,680	183,760,191	[45] (Boll. Etna 20201006)	Strombolian activity from NEC+VOR+ BN+NSEC
05/10/20	11/10/20	103,680	57,129,671	126,734,200	103,680	183,863,871	[45] (Boll. Etna 20201013)	Strombolian activity from NEC+VOR+ BN+NSEC
12/10/20	18/10/20	103,680	57,233,351	126,734,200	103,680	183,967,551	[45] (Boll. Etna 20201020)	Strombolian activity from NEC+VOR+ BN+NSEC
19/10/20	25/10/20	103,680	57,337,031	126,734,200	103,680	184,071,231	[45] (Boll. Etna 20201027)	Strombolian activity from NEC+VOR+ BN+NSEC
26/10/20	01/11/20	103,680	57,440,711	126,734,200	103,680	184,174,911	[45] (Boll. Etna 20201103)	Strombolian activity from NEC+VOR+ BN+NSEC
02/11/20	08/11/20	103,680	57,544,391	126,734,200	103,680	184,278,591	[45] (Boll. Etna 20201110)	Strombolian activity from NEC+VOR+ BN+NSEC
09/11/20	15/11/20	103,680	57,648,071	126,734,200	103,680	184,382,271	[45] (Boll. Etna 20201117)	Strombolian activity from NEC+VOR+

											BN+NSEC
											Strombolian activity from [45] (Boll. Etna 20201124) NEC+VOR+BN+NSEC
	16/11/20	22/11/20	103,680	57,751,751		126,734,200	103,680	184,485,951			
											Strombolian activity from [45] (Boll. Etna 20201131) NEC+VOR+BN+NSEC
	23/11/20	29/11/20	103,680	57,855,431		126,734,200	103,680	184,589,631			
											Strombolian activity from [45] (Boll. Etna 20201208) NEC+VOR+BN+NSEC
	30/11/20	06/12/20	103,680	57,959,111		126,734,200	103,680	184,693,311			
											Strombolian activity from [45] (Boll. Etna 20201215) NEC+VOR+BN+NSEC
	07/12/20	13/12/20	103,680	58,062,791		126,734,200	103,680	184,796,991			
62	13/12/20	13/12/20	240,925	58,303,716		126,734,200	240,925	185,037,916	[23]		No lava flow
63	14/12/20	14/12/20	200,000	58,503,716	790,000	127,524,200	990,000	186,027,916	[23]	[49]	Sum of 2 events
64	21/12/20	21/12/20	577,322	59,081,038	790,000	128,314,200	1,367,322	187,395,238	[23]	estimated	
65	22/12/20	22/12/20	715,258	59,796,296	1,740,000	130,054,200	2,455,258	189,850,496	[23]	[50]	Lava flow from area from [50] considering 2 m average thickness
66	18/01/21	18/01/21	515,490	60,311,787	1,180,000	131,234,200	1,695,490	191,545,987	[23]	[51]	
67	16/02/21	16/02/21	457,998	60,769,785	2,600,000	133,834,200	3,057,998	194,603,985	[23]	[45] (Boll. Etna	

										20210223)
68	18/02/21	18/02/21	816,429	61,586,213	4,000,000	137,834,200	4,816,429	199,420,413	[23]	[45] (Boll. Etna 20210223)
69	19/02/21	19/02/21	778,880	62,365,093	4,000,000	141,834,200	4,778,880	204,199,293	[23]	[45] (Boll. Etna 20210223)
70	21/02/21	21/02/21	1,426,209	63,791,302	2,900,000	144,734,200	4,326,209	208,525,502	[23]	[45] (Boll. Etna 20210223)
71	23/02/21	23/02/21	1,511,790	65,303,092	3,260,000	147,994,200	4,771,790	213,297,292	[23]	[50] Sum of 2 events. Lava flow from area [50] considering 2 m average thickness
72	24/02/21	24/02/21	1,371,599	66,674,690	2,600,000	150,594,200	3,971,599	217,268,890	[23]	[45] (Boll. Etna 20210302)
73	28/02/21	28/02/21	700,091	67,374,781	1,660,000	152,254,200	2,360,091	219,628,981	[23]	[50] Lava flow from area [50] considering 2 m average thickness
74	02/03/21	02/03/21	1,026,419	68,401,200	2,460,000	154,714,200	3,486,419	223,115,400	[23]	[50] Lava flow from area from [50] considering 2 m average thickness
75	04/03/21	04/03/21	2,325,000	70,726,200	1,577,184	156,291,384	3,902,184	227,017,584	[23]	[45] (Boll. Etna 20210309) Sum of 2 events

76	07/03/21	07/03/21	1,067,224	71,793,424	900,000	157,191,384	1,967,224	228,984,808	[23]	[45] (Boll. Etna 20210309)
77	10/03/21	10/03/21	1,440,965	73,234,389	1,160,000	158,351,384	2,600,965	231,585,773	[23]	[50] Lava flow from area from [50] considering 2 m average thickness
78	12/03/21	12/03/21	1,632,296	74,866,685	2,400,000	160,751,384	4,032,296	235,618,069	[23]	[52]
79	15/03/21	15/03/21	527,531	75,394,216	1,100,000	161,851,384	1,627,531	237,245,600	[23]	[45] (Boll. Etna 20210323)
80	17/03/21	17/03/21	1,583,025	76,977,241	900,000	162,751,384	2,483,025	239,728,625	[23]	[45] (Boll. Etna 20210323)
81	19/03/21	19/03/21	747,409	77,724,650	500,000	163,251,384	1,247,409	240,976,034	[23]	[45] (Boll. Etna 20210323)
82	24/03/21	24/03/21	4,556,147	82,280,798	1,600,000	164,851,384	6,156,147	247,132,182	[23]	[45] (Boll. Etna 20210330)
83	01/04/21	01/04/21	4,102,594	86,383,392	1,400,000	166,251,384	5,502,594	252,634,776	[23]	[45] (Boll. Etna 20210406)
84	19/05/21	19/05/21	1,594,034	87,977,425	450,000	166,701,384	2,044,034	254,678,809	[23]	[45] (Boll. Etna 20210525)
85	21/05/21	21/05/21	988,570	88,965,995	150,000	166,851,384	1,138,570	255,817,379	[23]	[45] (Boll. Etna 20210525)
86	22/05/21	22/05/21	864,963	89,830,958	70,000	166,921,384	934,963	256,752,342	[23]	[45] (Boll. Etna 20210525)
87	24/05/21	24/05/21	815,946	90,646,904	150,000	167,071,384	965,946	257,718,288	[23]	[45]

										(Boll. Etna 20210601)	
88	25/05/21	25/05/21	202,015	90,848,920	460,000	167,531,384	662,015	258,380,304	[23]	[50]	Lava flow from area from [50] considering 2 m average thickness
89	26/05/21	26/05/21	409,362	91,258,282	400,000	167,931,384	809,362	259,189,666	[23]	[50]	Lava flow from area from [50] considering 2 m average thickness
90	28/05/21	28/05/21	947,638	92,205,920	400,000	168,331,384	1,347,638	260,537,304	[23]	[50]	Sum of 3 events Lava flow from area from [50] considering 2 m average thickness
91	30/05/21	30/05/21	688,428	92,894,348	150,000	168,481,384	838,428	261,375,732	[23]	[45] (Boll. Etna 20210608)	
92	02/06/21	02/06/21	1,384,213	94,278,561	1,200,000	169,681,384	2,584,213	263,959,945	[23]	[50]	Lava flow from area from [50] considering 2 m average thickness
93	04/06/21	04/06/21	756,334	95,034,895	300,000	169,981,384	1,056,334	265,016,279	[23]	[45] (Boll. Etna 20210615)	
94	12/06/21	12/06/21	731,056	95,765,951	700,000	170,681,384	1,431,056	266,447,335	[23]	[45]	

										(Boll. Etna 20210615)	
95	14/06/21	14/06/21	444,714	96,210,666	300,000	170,981,384	744,714	267,192,050	[23]	[45] (Boll. Etna 20210622)	
96	16/06/21	16/06/21	518,779	96,729,444	300,000	171,281,384	818,779	268,010,828	[23]	[45] (Boll. Etna 20210622)	
97	17/06/21	17/06/21	497,484	97,226,928	300,000	171,581,384	797,484	268,808,312	[23]	[45] (Boll. Etna 20210622)	
98	19/06/21	19/06/21	378,197	97,605,125	300,000	171,881,384	678,197	269,486,509	[23]	estimated	
99	20/06/21	20/06/21	631,589	98,236,714	300,000	172,181,384	931,589	270,418,098	[23]	estimated	
100	22/06/21	22/06/21	713,118	98,949,832	400,000	172,581,384	1,113,118	271,531,216	[23]	[45] (Boll. Etna 20210629)	
101	23/06/21	23/06/21	988,279	99,938,111	1,100,000	173,681,384	2,088,279	273,619,495	[23]	[45] (Boll. Etna 20210629)	
	24/06/21	24/06/21	387,095	100,325,206	800,000	174,481,384	1,187,095	274,806,590	[23]	[45] (Boll. Etna 20210629)	
102	25/06/21	25/06/21	998,699	101,323,905	500,000	174,981,384	1,498,699	276,305,289	[23]	[45] (Boll. Etna 20210629)	Sum of 2 events
103	26/06/21	26/06/21	353,256	101,677,160	200,000	175,181,384	553,256	276,858,544	[23]	[45] (Boll. Etna 20210629)	
104	27/06/21	27/06/21	428,751	102,105,912	500,000	175,681,384	928,751	277,787,296	[23]	[45] (Boll. Etna 20210629)	
105	28/06/21	28/06/21	754,160	102,860,072	900,000	176,581,384	1,654,160	279,441,456	[23]	[45] (Boll. Etna 20210706)	
106	02/07/21	02/07/21	905,014	103,765,086	400,000	176,981,384	1,305,014	280,746,470	[23]	[45]	

										(Boll. Etna 20210706)	
107	04/07/21	04/07/21	935,118	104,700,203	900,000	177,881,384	1,835,118	282,581,587	[23]	[45] (Boll. Etna 20210713)	
108	06/07/21	06/07/21	1,197,609	105,897,813	400,000	178,281,384	1,597,609	284,179,197	[23]	[45] (Boll. Etna 20210713)	
109	08/07/21	08/07/21	1,116,382	107,014,194	700,000	178,981,384	1,816,382	285,995,578	[23]	[45] (Boll. Etna 20210713)	
110	14/07/21	14/07/21	1,154,181	108,168,375	700,000	179,681,384	1,854,181	287,849,759	[23]	[45] (Boll. Etna 20210720)	
111	20/07/21	20/07/21	2,257,727	110,426,102	600,000	180,281,384	2,857,727	290,707,486	[23]	[45] (Boll. Etna 20210727)	
112	31/07/21	31/07/21	2,829,150	113,255,252	800,000	181,081,384	3,629,150	294,336,636	[23]	[45] (Boll. Etna 20210803)	
113	09/08/21	09/08/21	1,479,984	114,735,237	1,400,000	182,481,384	2,879,984	297,216,621	[23]	[41]	
114	29/08/21	29/08/21	1,102,711	115,837,947	900,000	183,381,384	2,002,711	299,219,331	[23]	[45] (Boll. Etna 20210831)	
115	21/09/21	21/09/21	882,445	116,720,392	700,000	184,081,384	1,582,445	300,801,776	[23]	[45] (Boll. Etna 20211005)	
116	23/10/21	23/10/21	1,631,005	118,351,397	500,000	184,581,384	2,131,005	302,932,781	[23]	[45] (Boll. Etna 20211026)	
117	10/02/22	10/02/22	2,875,776	121,227,173	900,000	185,481,384	3,775,776	306,708,557	[23]	[45] (Boll. Etna 20220215)	
118	21/02/22	21/02/22	1,392,193	122,619,366	800,000	186,281,384	2,192,193	308,900,750	[23]	[45] (Boll. Etna	2 Lava flows

								20220301)	
119	20/05/22	20/05/22	122,619,366	1,500,000	187,781,384	1,500,000	310,400,750	[45] (Boll. Etna 20220524)	2 Lava flows
120	29/05/22	29/05/22	122,619,366	2,500,000	190,281,384	2,500,000	312,900,750	[45] (Boll. Etna continuousl 20220531) y fed, added volume	2 Lava flows
121	05/06/22	05/06/22	122,619,366	1,500,000	191,781,384	1,500,000	314,400,750	[45] (Boll. Etna continuousl 20220607) y fed, added volume	2 Lava flows
122	12/06/22	12/06/22	122,619,366	2,700,000	194,481,384	2,700,000	317,100,750	[45] (Boll. Etna continuousl 20220614) y fed, added volume	2 Lava flows

BN = Bocca Nuova crater; NEC = NE Crater; VOR = Voragine crater; NSEC = New SE Crater. The volume erupted by the Strombolian activity is estimated considering $0.2 \text{ m}^3 \text{ s}^{-1}$ obtained by [24] extended over the period of activity.