Robert Mulvaney

List of Publications by Year in descending order

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144 papers 13,221 citations

³⁸⁷⁴² 50 h-index

24258 110 g-index

178 all docs

178 docs citations

178 times ranked

10858 citing authors

#	Article	IF	Citations
1	Eight glacial cycles from an Antarctic ice core. Nature, 2004, 429, 623-628.	27.8	2,015
2	Recent Rapid Regional Climate Warming on the Antarctic Peninsula. Climatic Change, 2003, 60, 243-274.	3.6	1,009
3	Continental-scale temperature variability during the past two millennia. Nature Geoscience, 2013, 6, 339-346.	12.9	954
4	Timing and climate forcing of volcanic eruptions for the past 2,500 years. Nature, 2015, 523, 543-549.	27.8	824
5	Absence of 21st century warming on Antarctic Peninsula consistent with natural variability. Nature, 2016, 535, 411-415.	27.8	538
6	Southern Ocean sea-ice extent, productivity and iron flux over the past eight glacial cycles. Nature, 2006, 440, 491-496.	27.8	482
7	The 8.2ka event from Greenland ice cores. Quaternary Science Reviews, 2007, 26, 70-81.	3.0	386
8	Evolution of the Southern Annular Mode during the past millennium. Nature Climate Change, 2014, 4, 564-569.	18.8	277
9	Recent Antarctic Peninsula warming relative to Holocene climate and ice-shelf history. Nature, 2012, 489, 141-144.	27.8	265
10	Sea-salt aerosol in coastal Antarctic regions. Journal of Geophysical Research, 1998, 103, 10961-10974.	3.3	256
11	CLIMATE CHANGE: Devil in the Detail. Science, 2001, 293, 1777-1779.	12.6	251
12	A new bipolar ice core record of volcanism from WAIS Divide and NEEM and implications for climate forcing of the last 2000 years. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1151-1169.	3.3	217
13	Expression of the bipolar see-saw in Antarctic climate records during the last deglaciation. Nature Geoscience, 2011, 4, 46-49.	12.9	212
14	Sulphuric acid at grain boundaries in Antarctic ice. Nature, 1988, 331, 247-249.	27.8	188
15	Changes in environment over the last 800,000 years from chemical analysis of the EPICA Dome C ice core. Quaternary Science Reviews, 2010, 29, 285-295.	3.0	183
16	Acceleration of snow melt in an Antarctic Peninsula ice core during the twentieth century. Nature Geoscience, 2013, 6, 404-411.	12.9	154
17	A Potent Greenhouse Gas Identified in the Atmosphere: SF5CF3. Science, 2000, 289, 611-613.	12.6	146
18	Dust and sea salt variability in central East Antarctica (Dome C) over the last 45 kyrs and its implications for southern high-latitude climate. Geophysical Research Letters, 2002, 29, 24-1-24-4.	4.0	141

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19	In situ measurements of Antarctic snow compaction compared with predictions of models. Journal of Geophysical Research, 2010, 115, .	3.3	134
20	Factors controlling nitrate in ice cores: Evidence from the Dome C deep ice core. Journal of Geophysical Research, 2000, 105, 20565-20572.	3.3	133
21	Nitrate in Greenland and Antarctic ice cores: a detailed description of post-depositional processes. Annals of Glaciology, 2002, 35, 209-216.	1.4	128
22	Ammonium in coastal Antarctic aerosol and snow: Role of polar ocean and penguin emissions. Journal of Geophysical Research, 1998, 103, 11043-11056.	3.3	126
23	Where to find 1.5 million yr old ice for the IPICS & Samp; quot; Oldest-Ice & Samp; quot; ice core. Climate of the Past, 2013, 9, 2489-2505.	3.4	123
24	Atmospheric signals and characteristics of accumulation in Dronning Maud Land, Antarctica. Journal of Geophysical Research, 1999, 104, 19191-19211.	3.3	104
25	Antarctic ice rises and rumples: Their properties and significance for ice-sheet dynamics and evolution. Earth-Science Reviews, 2015, 150, 724-745.	9.1	103
26	Snow chemistry across Antarctica. Annals of Glaciology, 2005, 41, 167-179.	1.4	90
27	Stable-Isotope/Air-Temperature relationships in Ice Cores from Dolleman Island and the Palmer Land Plateau, Antarctic Peninsula. Annals of Glaciology, 1988, 10, 130-136.	1.4	85
28	Diffusion and location of hydrochloric acid in ice: Implications for polar stratospheric clouds and ozone depletion. Geophysical Research Letters, 1989, 16, 487-490.	4.0	85
29	Ice core evidence for a 20th century decline of sea ice in the Bellingshausen Sea, Antarctica. Journal of Geophysical Research, 2010, 115, .	3.3	80
30	Spatial variability of Antarctic Peninsula net surface mass balance. Journal of Geophysical Research, 2002, 107, AAC 4-1.	3.3	78
31	Postdepositional change in snowpack nitrate from observation of year-round near-surface snow in coastal Antarctica. Journal of Geophysical Research, 1998, 103, 11021-11031.	3.3	77
32	Climate since AD 1510 on Dyer Plateau, Antarctic Peninsula: evidence for recent climate change. Annals of Glaciology, 1994, 20, 420-426.	1.4	77
33	Greenland records of aerosol source and atmospheric lifetime changes from the Eemian to the Holocene. Nature Communications, 2018, 9, 1476.	12.8	74
34	Multiple sources supply eolian mineral dust to the Atlantic sector of coastal Antarctica: Evidence from recent snow layers at the top of Berkner Island ice sheet. Earth and Planetary Science Letters, 2010, 291, 138-148.	4.4	69
35	Evidence for winter/spring denitrification of the stratosphere in the nitrate record of Antarctic firn cores. Journal of Geophysical Research, 1993, 98, 5213-5220.	3.3	66
36	Climate since AD 1510 on Dyer Plateau, Antarctic Peninsula: evidence for recent climate change. Annals of Glaciology, 1994, 20, 420-426.	1.4	64

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37	Spatial variability of the major chemistry of the Antarctic ice sheet. Annals of Glaciology, 1994, 20, 440-447.	1.4	64
38	Methyl bromide, other brominated methanes, and methyl iodide in polar firn air. Journal of Geophysical Research, 2001, 106, 1595-1606.	3.3	63
39	A new ice-core record from Lomonosovfonna, Svalbard: viewing the 1920–97 data in relation to present climate and environmental conditions. Journal of Glaciology, 2001, 47, 335-345.	2.2	63
40	Relationship between chemistry of air, fresh snow and firn cores for aerosol species in coastal Antarctica. Journal of Geophysical Research, 1998, 103, 11057-11070.	3.3	62
41	Migration of methane sulphonate in Antarctic firn and ice. Journal of Geophysical Research, 2000, 105, 11525-11534.	3.3	60
42	Stable-isotope records from Dronning Maud Land, Antarctica. Annals of Glaciology, 2002, 35, 195-201.	1.4	60
43	Ice core records as sea ice proxies: An evaluation from the Weddell Sea region of Antarctica. Journal of Geophysical Research, 2007, 112, .	3.3	59
44	The Location of Impurities in Antarctic Ice. Annals of Glaciology, 1988, 11, 194-197.	1.4	58
45	Synchronous volcanic eruptions and abrupt climate change $\hat{a}^{1}/417.7$ ka plausibly linked by stratospheric ozone depletion. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10035-10040.	7.1	58
46	Holocene electrical and chemical measurements from the EPICA–Dome C ice core. Annals of Glaciology, 2000, 30, 20-26.	1.4	57
47	Limited dechlorination of sea-salt aerosols during the last glacial period: Evidence from the European Project for Ice Coring in Antarctica (EPICA) Dome C ice core. Journal of Geophysical Research, 2003, 108, .	3.3	57
48	The transition from the Last Glacial Period in inland and near-coastal Antarctica. Geophysical Research Letters, 2000, 27, 2673-2676.	4.0	53
49	Millennial changes in North American wildfire and soil activity over the last glacial cycle. Nature Geoscience, 2015, 8, 723-727.	12.9	53
50	Atmospheric Trends and Radiative Forcings of CF4and C2F6Inferred from Firn Air. Environmental Science & Environmental Science	10.0	52
51	A Method for Continuous ²³⁹ Pu Determinations in Arctic and Antarctic Ice Cores. Environmental Science & Environment	10.0	51
52	Anions and Cations in Ice Cores from Dolleman Island and the Palmer Land Plateau, Antarctic Peninsula. Annals of Glaciology, 1988, 10, 121-125.	1.4	50
53	Dielectric stratigraphy of ice: A new technique for determining total ionic concentrations in polar ice cores. Geophysical Research Letters, 1989, 16, 1177-1180.	4.0	50
54	Dimethyl sulfide and its oxidation products in the atmosphere of the Atlantic and Southern Oceans. Atmospheric Environment, 1996, 30, 1895-1906.	4.1	50

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55	Changes in the global atmospheric methane budget over the last decades inferred from 13C and D isotopic analysis of Antarctic firn air. Journal of Geophysical Research, 2001, 106, 20465-20481.	3.3	50
56	1000 year ice-core records from Berkner Island, Antarctica. Annals of Glaciology, 2002, 35, 45-51.	1.4	49
57	Comparison of analytical methods used for measuring major ions in the EPICA Dome C (Antarctica) ice core. Annals of Glaciology, 2002, 35, 299-305.	1.4	48
58	The International Trans-Antarctic Scientific Expedition (ITASE): an overview. Annals of Glaciology, 2005, 41, 180-185.	1.4	47
59	A new surface accumulation map for western Dronning Maud Land, Antarctica, from interpolation of point measurements. Journal of Glaciology, 2007, 53, 385-398.	2.2	47
60	Environmental signals in a highly resolved ice core from James Ross Island, Antarctica. Journal of Geophysical Research, $2011,116,$	3.3	44
61	Bipolar volcanic synchronization of abrupt climate change in Greenland and Antarctic ice cores during the last glacial period. Climate of the Past, 2020, 16, 1565-1580.	3.4	44
62	The ratio of MSA to non-sea-salt sulphate in Antarctic Peninsula ice cores. Tellus, Series B: Chemical and Physical Meteorology, 1992, 44, 295-303.	1.6	43
63	20th century trends and budget implications of chloroform and related tri-and dihalomethanes inferred from firn air. Atmospheric Chemistry and Physics, 2006, 6, 2847-2863.	4.9	43
64	Constraints on soluble aerosol iron flux to the Southern Ocean at the Last Glacial Maximum. Nature Communications, 2015, 6, 7850.	12.8	43
65	Glacio-chemical study spanning the past 2 kyr on three ice cores from Dronning Maud Land, Antarctica: 1. Annually resolved accumulation rates. Journal of Geophysical Research, 2000, 105, 29411-29421.	3.3	42
66	The 800 year long ion record from the Lomonosov fonna (Svalbard) ice core. Journal of Geophysical Research, 2005, $110, \ldots$	3.3	42
67	Reconstruction of the historical temperature trend from measurements in a medium-length borehole on the Lomonosovfonna plateau, Svalbard. Annals of Glaciology, 2002, 35, 371-378.	1.4	41
68	Anatomy of a Dansgaardâ€Oeschger warming transition: Highâ€resolution analysis of the North Greenland Ice Core Project ice core. Journal of Geophysical Research, 2009, 114, .	3.3	41
69	Low atmospheric CO2 levels during the Little Ice Age due to cooling-induced terrestrial uptake. Nature Geoscience, 2016, 9, 691-694.	12.9	40
70	Spatial variability of the major chemistry of the Antarctic ice sheet. Annals of Glaciology, 1994, 20, 440-447.	1.4	40
71	Glacio-chemical study spanning the past 2 kyr on three ice cores from Dronning Maud Land, Antarctica: 2. Seasonally resolved chemical records. Journal of Geophysical Research, 2000, 105, 29423-29433.	3.3	39
72	Observations of polar ice from the Holocene and the glacial period using the scanning electron microscope. Annals of Glaciology, 2002, 35, 559-566.	1.4	38

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73	Distinguishing East and West Antarctic sediment sources using the Pb isotope composition of detrital K-feldspar. Chemical Geology, 2012, 292-293, 88-102.	3.3	38
74	A technique for the examination of polar ice using the scanning electron microscope. Journal of Microscopy, 2002, 205, 118-124.	1.8	37
75	Full-depth englacial vertical ice sheet velocities measured using phase-sensitive radar. Journal of Geophysical Research F: Earth Surface, 2014, 119, 2604-2618.	2.8	37
76	Reactions on sulphuric acid aerosol and on polar stratospheric clouds in the Antarctic stratosphere. Geophysical Research Letters, 1991, 18, 1007-1010.	4.0	36
77	The methanesulfonic acid (MSA) record in a Svalbard ice core. Annals of Glaciology, 2005, 42, 345-351.	1.4	36
78	Climate since AD 1510 on Dyer Plateau, Antarctic Peninsula: evidence for recent climate change. Annals of Glaciology, 1994, 20, 420-426.	1.4	36
79	The Berkner Island (Antarctica) ice-core drilling project. Annals of Glaciology, 2007, 47, 115-124.	1.4	35
80	A 340 year record of biogenic sulphur from the Weddell Sea area, Antarctica. Annals of Glaciology, 1995, 21, 169-174.	1.4	34
81	Evidence for a CO increase in the SH during the 20th century based on firn air samples from Berkner Island, Antarctica. Atmospheric Chemistry and Physics, 2007, 7, 295-308.	4.9	32
82	Aspects of the inorganic chemistry of rubber vulcanisation. Part 4. Dialkyl- and diaryl-dithiophosphate and -dithiophosphinate complexes of zinc: phosphorus-31 nuclear magnetic resonance spectral studies and structures of [NMe4][Zn{S2P(OC6H4Me-p)2}3] and [NEt4][Zn(S2PPh2)3]. Journal of the Chemical Society Dalton Transactions, 1983, , 627.	1.1	31
83	Authigenic chlorites: problems with chemical analysis and structural formula calculations. Clay Minerals, 1984, 19, 471-481.	0.6	31
84	Firn accumulation records for the past 1000 years on the basis of dielectric profiling of six cores from Dronning Maud Land, Antarctica. Journal of Glaciology, 2004, 50, 279-291.	2.2	31
85	Signal variability in replicate ice cores. Journal of Glaciology, 2005, 51, 462-468.	2.2	31
86	A 800 year record of nitrate from the Lomonosovfonna ice core, Svalbard. Annals of Glaciology, 2002, 35, 261-265.	1.4	30
87	Holocene black carbon in Antarctica paralleled Southern Hemisphere climate. Journal of Geophysical Research D: Atmospheres, 2017, 122, 6713-6728.	3.3	30
88	Accumulation variability over a small area in east Dronning Maud Land, Antarctica, as determined from shallow firn cores and snow pits: some implications for ice-core records. Journal of Glaciology, 2005, 51, 343-352.	2.2	28
89	Interpreting temperature information from ice cores along the Antarctic Peninsula: ERA40 analysis. Geophysical Research Letters, 2009, 36, .	4.0	28
90	Anions and Cations in Ice Cores from Dolleman Island and the Palmer Land Plateau, Antarctic Peninsula. Annals of Glaciology, 1988, 10, 121-125.	1.4	26

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91	Trends of halon gases in polar firn air: implications for their emission distributions. Atmospheric Chemistry and Physics, 2005, 5, 2055-2064.	4.9	24
92	Climate changes in the Atlantic Sector of Antarctica over The Past 500 Years from Ice-Core and Other Evidence., 1996,, 243-262.		23
93	Spatial variability of the major chemistry of the Antarctic ice sheet. Annals of Glaciology, 1994, 20, 440-447.	1.4	23
94	Glacial–interglacial dynamics of Antarctic firn columns: comparison between simulations and ice core air-Î' ¹⁵ N measurements. Climate of the Past, 2013, 9, 983-999.	3.4	22
95	Improved estimates of preindustrial biomass burning reduce the magnitude of aerosol climate forcing in the Southern Hemisphere. Science Advances, 2021, 7, .	10.3	22
96	The James Ross Island and the Fletcher Promontory ice-core drilling projects. Annals of Glaciology, 2014, 55, 179-188.	1.4	20
97	A Horizontal Ice Core From Taylor Glacier, Its Implications for Antarctic Climate History, and an Improved Taylor Dome Ice Core Time Scale. Paleoceanography and Paleoclimatology, 2018, 33, 778-794.	2.9	20
98	Hemispheric black carbon increase after the 13th-century MÄori arrival in New Zealand. Nature, 2021, 598, 82-85.	27.8	20
99	A reinterpretation of sea-salt records in Greenland and Antarctic ice cores?. Annals of Glaciology, 2004, 39, 276-282.	1.4	18
100	Flow at iceâ€divide triple junctions: 2. Threeâ€dimensional views of isochrone architecture from iceâ€penetrating radar surveys. Journal of Geophysical Research, 2011, 116, .	3.3	18
101	Bayesian Glaciological Modelling to quantify uncertainties in ice core chronologies. Quaternary Science Reviews, 2011, 30, 2961-2975.	3.0	18
102	Multi-tracer study of gas trapping in an East Antarctic ice core. Cryosphere, 2019, 13, 3383-3403.	3.9	18
103	Brief communication: New radar constraints support presence of ice older than 1.5 Myr at Little Dome C. Cryosphere, 2021, 15, 1881-1888.	3.9	17
104	Time-trends in the pattern of ocean-atmosphere exchange in an ice core from the Weddell Sea sector of Antarctica. Tellus, Series B: Chemical and Physical Meteorology, 1992, 44, 430-442.	1.6	16
105	Spatial and temporal distributions of surface mass balance between Concordia and Vostok stations, Antarctica, from combined radar and ice core data: first results and detailed error analysis. Cryosphere, 2018, 12, 1831-1850.	3.9	16
106	A 340 year record of biogenic sulphur from the Weddell Sea area, Antarctica. Annals of Glaciology, 1995, 21, 169-174.	1.4	15
107	Laboratory study of the migration of methane sulphonate in firn. Journal of Glaciology, 1999, 45, 214-218.	2.2	15
108	Effect of density on electrical conductivity of chemically laden polar ice. Journal of Geophysical Research, 2002, 107, ESE 1-1.	3.3	15

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109	Comprehensive 1000 year climatic history from an intermediate-depth ice core from the south dome of Berkner Island, Antarctica: methods, dating and first results. Annals of Glaciology, 2004, 39, 146-154.	1.4	15
110	Anionic tris-dithiophosphato and -dithiophosphinato complexes of zinc(II) and cobalt(II). The structures of [R4N][M(S2PPh2)3] (M=Zn and Co; R=Et or Me) and of [Me4N][Zn{S2P(OC6H4Me-p)2}3]. Transition Metal Chemistry, 1981, 6, 64-66.	1.4	14
111	The preservation of methanesulphonic acid in frozen ice-core samples. Journal of Glaciology, 2008, 54, 680-684.	2.2	14
112	On high-resolution sampling of short ice cores: Dating and temperature information recovery from Antarctic Peninsula virtual cores. Journal of Geophysical Research, 2011, 116, .	3.3	14
113	Snow Densification and Recent Accumulation Along the iSTAR Traverse, Pine Island Glacier, Antarctica. Journal of Geophysical Research F: Earth Surface, 2017, 122, 2284-2301.	2.8	14
114	Stratospheric Ozone Changes From Explosive Tropical Volcanoes: Modeling and Ice Core Constraints. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD032290.	3.3	14
115	Ice drilling on Skytrain Ice Rise and Sherman Island, Antarctica. Annals of Glaciology, 2021, 62, 311-323.	1.4	14
116	Continuous flow analysis methods for sodium, magnesium and calcium detection in the Skytrain ice core. Journal of Glaciology, 2022, 68, 90-100.	2.2	14
117	The fractionation of sea salt and acids during transport across an Antarctic ice shelf. Tellus, Series B: Chemical and Physical Meteorology, 1993, 45, 179-187.	1.6	13
118	A 44 kyr paleoroughness record of the Antarctic surface. Journal of Geophysical Research, 2006, 111, .	3.3	13
119	Development of the British Antarctic Survey Rapid Access Isotope Drill. Journal of Glaciology, 2019, 65, 288-298.	2.2	11
120	A detailed radiostratigraphic data set for the central East Antarctic Plateau spanning from the Holocene to the mid-Pleistocene. Earth System Science Data, 2021, 13, 4759-4777.	9.9	11
121	Laboratory study of the migration of methane sulphonate in firn. Journal of Glaciology, 1999, 45, 214-218.	2.2	10
122	Preparation of aqueous standards for low temperature x-ray microanalysis. Microscopy Research and Technique, 1992, 22, 207-211.	2.2	9
123	Technical innovations and optimizations for intermediate ice-core drilling operations. Annals of Glaciology, 2014, 55, 243-252.	1.4	9
124	Recent variations in surface mass balance of the Antarctic Peninsula ice sheet. Journal of Glaciology, 2004, 50, 257-267.	2.2	8
125	Chlorine isotope composition in chlorofluorocarbons CFC-11, CFC-12 and CFC-113 in firn, stratospheric and tropospheric air. Atmospheric Chemistry and Physics, 2015, 15, 6867-6877.	4.9	8
126	Variability of sea salts in ice and firn cores from Fimbul Ice Shelf, Dronning Maud Land, Antarctica. Cryosphere, 2018, 12, 1681-1697.	3.9	8

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127	A change in seasonality in Greenland during a Dansgaard–Oeschger warming. Annals of Glaciology, 2008, 48, 19-24.	1.4	7
128	A low resource subglacial bedrock sampler: The percussive rapid access isotope drill (P-RAID). Cold Regions Science and Technology, 2020, 177, 103113.	3.5	7
129	Iron ore sinter in the analytical transmission electron microscope. Mineralogical Magazine, 1987, 51, 61-69.	1.4	6
130	Impurity Distributions In Ice Under Different Environmental Conditions. Annals of Glaciology, 1990, 14, 362.	1.4	6
131	The potential for a continuous 10Be record measured on ice chips from a borehole. Results in Geochemistry, 2021, 5, 100012.	0.8	6
132	Polarimetric radar reveals the spatial distribution of ice fabric at domes and divides in East Antarctica. Cryosphere, 2022, 16, 1719-1739.	3.9	6
133	Tidal Modulation of a Lateral Shear Margin: Priestley Glacier, Antarctica. Frontiers in Earth Science, 2022, 10, .	1.8	5
134	Inferring palaeo-accumulation records from ice-core data by an adjoint-based method: application to James Ross Island's ice core. Climate of the Past, 2015, 11, 547-557.	3.4	4
135	Ice Cores: Archive of the Climate System. Springer Textbooks in Earth Sciences, Geography and Environment, 2021, , 279-325.	0.3	3
136	Chemical Evidence in Polar Ice Cores from Dielectric Profiling. Annals of Glaciology, 1990, 14, 195-198.	1.4	2
137	Modelling the transition from grain-boundary sliding to power-law creep in dry snow densification. Journal of Glaciology, 2022, 68, 417-430.	2.2	2
138	ICE CORE METHODS Conductivity Studies., 2013,, 319-325.		1
139	A comparison of annual layer thickness model estimates with observational measurements using the Berkner Island ice core, Antarctica. Antarctic Science, 2017, 29, 382-393.	0.9	1
140	Spatial Variability of Glaciochemistry along a Transect from Zhongshan Station to LGB69, Antarctica. Atmosphere, 2021, 12, 393.	2.3	1
141	Laboratory study of the migration of methane sulphonate in firn. Journal of Glaciology, 1999, 45, 214-218.	2.2	1
142	Chemical Evidence in Polar Ice Cores from Dielectric Profiling. Annals of Glaciology, 1990, 14, 195-198.	1.4	0
143	Fertilizer and snowfall nitrate. Nature, 1991, 352, 27-27.	27.8	0
144	Stratospheric carbon isotope fractionation and tropospheric histories of CFC-11, CFC-12, and CFC-113 isotopologues. Atmospheric Chemistry and Physics, 2021, 21, 6857-6873.	4.9	0