Ilan Koren

List of Publications by Year
in descending order

139 papers	10,450 citations	47006 47 h-index	38395 95 g-index
189 all docs	189 docs citations	189 times ranked	8675 citing authors

#	Article	IF	Citations
1	Global aerosol climatology from the MODIS satellite sensors. Journal of Geophysical Research, 2008, 113, .	3.3	690
2	Particulate matter, air quality and climate: lessons learned and future needs. Atmospheric Chemistry and Physics, 2015, 15, 8217-8299.	4.9	641
3	Measurement of the Effect of Amazon Smoke on Inhibition of Cloud Formation. Science, 2004, 303, 1342-1345.	12.6	628
4	The effect of smoke, dust, and pollution aerosol on shallow cloud development over the Atlantic Ocean. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 11207-11212.	7.1	568
5	Dust transport and deposition observed from the Terra-Moderate Resolution Imaging Spectroradiometer (MODIS) spacecraft over the Atlantic Ocean. Journal of Geophysical Research, 2005, 110, .	3.3	499
6	Aerosol invigoration and restructuring of Atlantic convective clouds. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	444
7	Smoke Invigoration Versus Inhibition of Clouds over the Amazon. Science, 2008, 321, 946-949.	12.6	400
8	On the twilight zone between clouds and aerosols. Geophysical Research Letters, 2007, 34, .	4.0	287
9	The BodÃ©lÃ© depression: a single spot in the Sahara that provides most of the mineral dust to the Amazon forest. Environmental Research Letters, 2006, 1, 014005.	5.2	278
10	Smoke and Pollution Aerosol Effect on Cloud Cover. Science, 2006, 313, 655-658.	12.6	277
11	Classification of aerosol properties derived from AERONET direct sun data. Atmospheric Chemistry and Physics, 2007, 7, 453-458.	4.9	215
12	Aerosol-induced intensification of rain from the tropics to the mid-latitudes. Nature Geoscience, 2012, 5, 118-122.	12.9	202
13	From aerosol-limited to invigoration of warm convective clouds. Science, 2014, 344, 1143-1146.	12.6	197
14	The invigoration of deep convective clouds over the Atlantic: aerosol effect, meteorology or retrieval artifact?. Atmospheric Chemistry and Physics, 2010, 10, 8855-8872.	4.9	190
15	A critical examination of the residual cloud contamination and diurnal sampling effects on MODIS estimates of aerosol over ocean. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 2886-2897.	6.3	182
16	Links between topography, wind, deflation, lakes and dust: The case of the BodÃ©lÃ© Depression, Chad. Geophysical Research Letters, 2006, 33, .	4.0	176
17	Review: Cloud invigoration by aerosolsâ€"Coupling between microphysics and dynamics. Atmospheric Research, 2014, 140-141, 38-60.	4.1	172
18	Precipitation-generated oscillations in open cellular cloud fields. Nature, 2010, 466, 849-852.	27.8	163

#	Article	IF	Citations
19	Measuring atmospheric composition change. Atmospheric Environment, 2009, 43, 5351-5414.	4.1	160
20	Quantifying uncertainty in estimates of mineral dust flux: An intercomparison of model performance over the BodÃ©lÃ© Depression, northern Chad. Journal of Geophysical Research, 2008, 113, .	3.3	144
21	Aerosol-induced changes of convective cloud anvils produce strong climate warming. Atmospheric Chemistry and Physics, 2010, 10, 5001-5010.	4.9	140
22	Switching cloud cover and dynamical regimes from open to closed Benard cells in response to the suppression of precipitation by aerosols. Atmospheric Chemistry and Physics, 2006, 6, 2503-2511.	4.9	139
23	Airborne microplastic particles detected in the remote marine atmosphere. Communications Earth & Environment, 2020, 1, .	6.8	131
24	Transport of North African dust from the BodÃ©lÃ© depression to the Amazon Basin: a case study. Atmospheric Chemistry and Physics, 2010, 10, 7533-7544.	4.9	124
25	How small is a small cloud?. Atmospheric Chemistry and Physics, 2008, 8, 3855-3864.	4.9	113
26	Decoupling Physical from Biological Processes to Assess the Impact of Viruses on a Mesoscale Algal Bloom. Current Biology, 2014, 24, 2041-2046.	3.9	110
27	The role of iron and black carbon in aerosol light absorption. Atmospheric Chemistry and Physics, 2008, 8, 3623-3637.	4.9	97
28	Patterns of North African dust transport over the Atlantic: winter vs. summer, based on CALIPSO first year data. Atmospheric Chemistry and Physics, 2009, 9, 7867-7875.	4.9	95
29	Lightning response to smoke from Amazonian fires. Geophysical Research Letters, 2010, 37, .	4.0	94
30	Aerosolâ€"cloudâ€"precipitation system as a predator-prey problem. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 12227-12232.	7.1	93
31	Absorbing aerosols at high relative humidity: linking hygroscopic growth to optical properties. Atmospheric Chemistry and Physics, 2012, 12, 5511-5521.	4.9	91
32	Dust and pollution aerosols over the Negev desert, Israel: Properties, transport, and radiative effect. Journal of Geophysical Research, 2006, 111, .	3.3	87
33	Infection of phytoplankton by aerosolized marine viruses. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6643-6647.	7.1	79
34	Aerosol-cloud interaction-Misclassification of MODIS clouds in heavy aerosol. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 911.	6.3	71
35	SPARTAN: a global network to evaluate and enhance satellite-based estimates of ground-level particulate matter for global health applications. Atmospheric Measurement Techniques, 2015, 8, 505-521.	3.1	71
36	Record-breaking aerosol levels explained by smoke injection into the stratosphere. Science, 2021, 371, 1269-1274.	12.6	68

#	Article	IF	Citations
37	Formation of highly porous aerosol particles by atmospheric freeze-drying in ice clouds. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20414-20419.	7.1	67
38	Investigation of the aerosolâ€"cloudâ€"rainfall association over the Indian summer monsoon region. Atmospheric Chemistry and Physics, 2017, 17, 5185-5204.	4.9	66
39	Reversal of trend of biomass burning in the Amazon. Geophysical Research Letters, 2007, 34, .	4.0	62
40	Aerosols' influence on the interplay between condensation, evaporation and rain in warm cumulus cloud. Atmospheric Chemistry and Physics, 2008, 8, 15-24.	4.9	62
41	Effect of aerosol vertical distribution on aerosol-radiation interaction: A theoretical prospect. Heliyon, 2015, 1, e00036.	3.2	62
42	Early perturbation in mitochondria redox homeostasis in response to environmental stress predicts cell fate in diatoms. ISME Journal, 2015, 9, 385-395.	9.8	59
43	Remote sensing the vertical profile of cloud droplet effective radius, thermodynamic phase, and temperature. Atmospheric Chemistry and Physics, 2011, 11, 9485-9501.	4.9	58
44	Radiative signature of absorbing aerosol over the eastern Mediterranean basin. Atmospheric Chemistry and Physics, 2014, 14, 7213-7231.	4.9	57
45	Direct wind measurements of Saharan dust events from Terra and Aqua satellites. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	56
46	Effect of aerosol on trade cumulus cloud morphology. Journal of Geophysical Research, 2009, 114, .	3.3	55
47	Time-dependent, non-monotonic response of warm convective cloud fields to changes in aerosol loading. Atmospheric Chemistry and Physics, 2017, 17, 7435-7444.	4.9	55
48	Aerosol effects on the interâ€cloud region of a small cumulus cloud field. Geophysical Research Letters, 2009, 36, .	4.0	54
49	Expression profiling of host and virus during a coccolithophore bloom provides insights into the role of viral infection in promoting carbon export. ISME Journal, 2018, 12, 704-713.	9.8	53
50	Discernible rhythm in the spatio/temporal distributions of transatlantic dust. Atmospheric Chemistry and Physics, 2012, 12, 2253-2262.	4.9	52
51	Competition between core and periphery-based processes in warm convective clouds â€" from invigoration to suppression. Atmospheric Chemistry and Physics, 2015, 15, 2749-2760.	4.9	51
52	On the reversibility of transitions between closed and open cellular convection. Atmospheric Chemistry and Physics, 2015, 15, 7351-7367.	4.9	51
53	A Satellite-Based Lagrangian View on Phytoplankton Dynamics. Annual Review of Marine Science, 2018, 10, 99-119.	11.6	51
54	Relative humidity and its effect on aerosol optical depth in the vicinity of convective clouds. Environmental Research Letters, 2013, 8, 034025.	5.2	49

#	Article	IF	Citations
55	Zooplankton May Serve as Transmission Vectors for Viruses Infecting Algal Blooms in the Ocean. Current Biology, 2014, 24, 2592-2597.	3.9	48
56	Radiative properties of humidified aerosols in cloudy environment. Atmospheric Research, 2012, 118, 280-294.	4.1	42
57	Expanding Tara Oceans Protocols for Underway, Ecosystemic Sampling of the Ocean-Atmosphere Interface During Tara Pacific Expedition (2016â€“2018). Frontiers in Marine Science, 2019, 6, .	2.5	42
58	Aerosol effects on the timing of warm rain processes. Geophysical Research Letters, 2015, 42, 4590-4598.	4.0	39
59	How do changes in warm-phase microphysics affect deep convective clouds?. Atmospheric Chemistry and Physics, 2017, 17, 9585-9598.	4.9	38
60	Direct measurements of the effect of biomass burning over the Amazon on the atmospheric temperature profile. Atmospheric Chemistry and Physics, 2009, 9, 8211-8221.	4.9	36
61	On the relation between size and shape of desert dust aerosol. Journal of Geophysical Research, 2001, 106, 18047-18054.	3.3	34
62	Aerosol climatology using a tunable spectral variability cloud screening of AERONET data. Geophysical Research Letters, 2006, 33, .	4.0	33
63	Estimating the maritime component of aerosol optical depth and its dependency on surface wind speed using satellite data. Atmospheric Chemistry and Physics, 2010, 10, 6711-6720.	4.9	31
64	Cloud's Center of Gravity â€“ a compact approach to analyze convective cloud development. Atmospheric Chemistry and Physics, 2009, 9, 155-161.	4.9	30
65	Co-variability of smoke and fire in the Amazon basin. Atmospheric Environment, 2015, 109, 97-104.	4.1	29
66	Non-Monotonic Aerosol Effect on Precipitation in Convective Clouds over Tropical Oceans. Scientific Reports, 2019, 9, 7809.	3.3	29
67	Aerosol effect on the mobility of cloud droplets. Environmental Research Letters, 2015, 10, 104011.	5.2	28
68	Characterization of cumulus cloud fields using trajectories in the center of gravity versus water mass phase space: 2. Aerosol effects on warm convective clouds. Journal of Geophysical Research D: Atmospheres, 2016, 121, 6356-6373.	3.3	28
69	Dispersion/dilution enhances phytoplankton blooms in low-nutrient waters. Nature Communications, 2017, 8, 14868.	12.8	28
70	Analyzing coastal precipitation using TRMM observations. Atmospheric Chemistry and Physics, 2011, 11, 13201-13217.	4.9	27
71	Aerosol effect on the evolution of the thermodynamic properties of warm convective cloud fields. Scientific Reports, 2016, 6, 38769.	3.3	26
72	Mineral content analysis of atmospheric dust using hyperspectral information from space. Geophysical Research Letters, 2009, 36, .	4.0	24

#	Article	IF	Citations
73	The relative dispersion of cloud droplets: its robustness with respect to key cloud properties. Atmospheric Chemistry and Physics, 2015, 15, 2009-2017.	4.9	24
74	Characterization of cumulus cloud fields using trajectories in the center of gravity versus water mass phase space: 1. Cloud tracking and phase space description. Journal of Geophysical Research D: Atmospheres, 2016, 121, 6336-6355.	3.3	24
75	A model of coupled oscillators applied to the aerosolâ€"cloudâ€"precipitation system. Nonlinear Processes in Geophysics, 2013, 20, 1011-1021.	1.3	23
76	Disentangling the role of microphysical and dynamical effects in determining cloud properties over the Atlantic. Geophysical Research Letters, 2006, 33, .	4.0	22
77	Global association of aerosol with flash density of intense lightning. Environmental Research Letters, 2017, 12, 114037.	5.2	22
78	Parameterization of Vertical Profiles of Governing Microphysical Parameters of Shallow Cumulus Cloud Ensembles Using LES with Bin Microphysics. Journals of the Atmospheric Sciences, 2019, 76, 533-560.	1.7	22
79	Detection of dust plumes and their sources in northeastern Libya. Canadian Journal of Remote Sensing, 2003, 29, 792-796.	2.4	20
80	Hyperspectral spaceborne imaging of dust-laden flows: Anatomy of Saharan dust storm from the BodÃ©lÃ© Depression. Remote Sensing of Environment, 2011, 115, 1013-1024.	11.0	20
81	New evidence of cloud invigoration from TRMM measurements of rain center of gravity. Geophysical Research Letters, 2012, 39, .	4.0	20
82	Estimating cloud field coverage using morphological analysis. Environmental Research Letters, 2010, 5, 014022.	5.2	19
83	Global analysis of cloud field coverage and radiative properties, using morphological methods and MODIS observations. Atmospheric Chemistry and Physics, 2011, 11, 191-200.	4.9	18
84	Adaptive behavior of marine cellular clouds. Scientific Reports, 2013, 3, 2507.	3.3	18
85	Harnessing remote sensing to address critical science questions on ocean-atmosphere interactions. Elementa, 2018, 6, .	3.2	18
86	On the link between Amazonian forest properties and shallow cumulus cloud fields. Atmospheric Chemistry and Physics, 2014, 14, 6063-6074.	4.9	17
87	Effect of sea breeze circulation on aerosol mixing state and radiative properties in a desert setting. Atmospheric Chemistry and Physics, 2017, 17, 11331-11353.	4.9	17
88	On the sensitivity of droplet size relative dispersion to warm cumulus cloud evolution. Geophysical Research Letters, 2012, 39, .	4.0	15
89	Exploring the nonlinear cloud and rain equation. Chaos, 2017, 27, 013107.	2.5	15
90	Quantifying the effect of aerosol on vertical velocity and effective terminal velocity in warm convective clouds. Atmospheric Chemistry and Physics, 2018, 18, 6761-6769.	4.9	15

#	Article	IF	Citations
91	Shallow Convective Cloud Field Lifetime as a Key Factor for Evaluating Aerosol Effects. IScience, 2018, 10, 192-202.	4.1	15
92	Longwave radiative effect of the cloud twilight zone. Nature Geoscience, 2020, 13, 669-673.	12.9	15
93	Determination of optical and microphysical properties of thin warm clouds using ground based hyper-spectral analysis. Atmospheric Measurement Techniques, 2012, 5, 851-871.	3.1	14
94	On transition-zone water clouds. Atmospheric Chemistry and Physics, 2014, 14, 9001-9012.	4.9	14
95	Infection Dynamics of a Bloom-Forming Alga and Its Virus Determine Airborne Coccolith Emission from Seawater. IScience, 2018, 6, 327-335.	4.1	14
96	A novel technique for extracting clouds base height using ground based imaging. Atmospheric Measurement Techniques, 2011, 4, 117-130.	3.1	13
97	Observational bounds on atmospheric heating by aerosol absorption: Radiative signature of transatlantic dust. Geophysical Research Letters, 2012, 39, .	4.0	13
98	Decoupling atmospheric and oceanic factors affecting aerosol loading over a cluster of mesoscale North Atlantic eddies. Geophysical Research Letters, 2014, 41, 4075-4081.	4.0	13
99	Effect of gradients in biomass burning aerosol on shallow cumulus convective circulations. Journal of Geophysical Research D: Atmospheres, 2014, 119, 9948-9964.	3.3	13
100	Lightning characteristics over the eastern coast of the Mediterranean during different synoptic systems. Natural Hazards and Earth System Sciences, 2015, 15, 2449-2459.	3.6	13
101	Terrestrial and marine influence on atmospheric bacterial diversity over the north Atlantic and Pacific Oceans. Communications Earth & Environment, 2022, 3, .	6.8	13
102	Efficient reduction for diagnosing Hopf bifurcation in delay differential systems: Applications to cloud-rain models. Chaos, 2020, 30, 053130.	2.5	11
103	Humidity impact on the aerosol effect in warm cumulus clouds. Geophysical Research Letters, 2008, 35, .	4.0	9
104	Comment on â€œReversal of trend of biomass burning in the Amazonâ€•by Ilan Koren, Lorraine A. Remer, and Karla Longo. Geophysical Research Letters, 2009, 36, .	4.0	9
105	Effect of coarse marine aerosols on stratocumulus clouds. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	9
106	Organization and Oscillations in Simulated Shallow Convective Clouds. Journal of Advances in Modeling Earth Systems, 2018, 10, 2287-2299.	3.8	9
107	The histogram of the brightness distribution of clouds in high-resolution remotely sensed images. Journal of Geophysical Research, 2000, 105, 29369-29377.	3.3	8
108	Spatial boundaries of Aerosol Robotic Network observations over the Mediterranean basin. Geophysical Research Letters, 2016, 43, 2259-2266.	4.0	8

#	Article	IF	Citations
109	Revisiting adiabatic fraction estimations in cumulus clouds: high-resolution simulations with a passive tracer. Atmospheric Chemistry and Physics, 2021, 21, 16203-16217.	4.9	8
110	Shallow Cumulus Properties as Captured by Adiabatic Fraction in High-Resolution LES Simulations. Journals of the Atmospheric Sciences, 2022, 79, 409-428.	1.7	8
111	Reply to 'Water vapour affects both rain and aerosol optical depth'. Nature Geoscience, 2013, 6, 5-5.	12.9	7
112	Feedback mechanisms of shallow convective clouds in a warmer climate as demonstrated by changes in buoyancy. Environmental Research Letters, 2018, 13, 054033.	5.2	7
113	Temporalâ€Scale Analysis of Environmental Controls on Sea Spray Aerosol Production Over the South Pacific Gyre. Geophysical Research Letters, 2018, 45, 8637-8646.	4.0	7
114	On the signature of the cirrus twilight zone. Environmental Research Letters, 2014, 9, 094010.	5.2	6
115	Segmentation and Tracking of Marine Cellular Clouds observed by Geostationary Satellites. International Journal of Remote Sensing, 2016, 37, 1055-1068.	2.9	6
116	The tropical Atlantic surface wind divergence belt and its effect on clouds. Earth System Dynamics, 2015, 6, 781-788.	7.1	6
117	Reply to comment by W. Schroeder et al. on â€œReversal of trend of biomass burning in the Amazonâ€. Geophysical Research Letters, 2009, 36, .	4.0	5
118	Core and margin in warm convective clouds â€" Part 1: Core types and evolution during a cloud's lifetime. Atmospheric Chemistry and Physics, 2019, 19, 10717-10738.	4.9	5
119	On the Abundance and Common Properties of Continental, Organized Shallow (Green) Clouds. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 4570-4578.	6.3	5
120	Deciphering organization of GOES-16 green cumulus through the empirical orthogonal function (EOF) lens. Atmospheric Chemistry and Physics, 2021, 21, 12261-12272.	4.9	5
121	Diel cycle of sea spray aerosol concentration. Nature Communications, 2021, 12, 5476.	12.8	5
122	Uncovering the Largeâ€Scale Meteorology That Drives Continental, Shallow, Green Cumulus Through Supervised Classification. Geophysical Research Letters, 2022, 49, .	4.0	5
123	Determination of most probable height of desert dust aerosol layer from space. Journal of Geophysical Research, 2008, 113, .	3.3	4
124	Cloudâ€"rain interactions: as complex as it gets. Environmental Research Letters, 2008, 3, 045018.	5.2	4
125	On the properties and radiative effects of small convective clouds during the eastern Mediterranean summer. Environmental Research Letters, 2015, 10, 044006.	5.2	4
126	Enhanced humidity pockets originating in the mid boundary layer as a mechanism of cloud formation below the lifting condensation level. Environmental Research Letters, 2017, 12, 024020.	5.2	4

#	Article	IF	Citations
127	Core and margin in warm convective clouds â€“ PartÂ2: Aerosol effects on core properties. Atmospheric Chemistry and Physics, 2019, 19, 10739-10755.	4.9	4
128	Sensitivity of warm clouds to large particles in measured marine aerosol size distributions â€“ a theoretical study. Atmospheric Chemistry and Physics, 2020, 20, 15297-15306.	4.9	4
129	Observation of aerosol induced â€˜lower tropospheric coolingâ€™ over Indian core monsoon region. Environmental Research Letters, 2021, 16, 124057.	5.2	4
130	The Consistent Behavior of Tropical Rain: Average Reflectivity Vertical Profiles Determined by Rain Top Height. Journal of Hydrometeorology, 2017, 18, 591-609.	1.9	3
131	Preconditioning, aerosols, and radiation control the temperature of glaciation in Amazonian clouds. Communications Earth & Environment, 2021, 2, .	6.8	3
132	Convective and turbulent motions in non-precipitating Cu. Part 1: Method of separation of convective and turbulent motions. Journals of the Atmospheric Sciences, 2021, , .	1.7	3
133	Oscillations in deep-open-cells during winter Mediterranean cyclones. Npj Climate and Atmospheric Science, 2021, 4, .	6.8	2
134	Convective and Turbulent Motions in Nonprecipitating Cu. Part II: LES Simulated Cloud Represented by a Starting Plume. Journals of the Atmospheric Sciences, 2022, 79, 793-813.	1.7	2
135	Dynamic threshold and fractal analysis of desert dust aerosol. Journal of Aerosol Science, 2000, 31, 224-225.	3.8	1
136	Zero moveout (ZMO) stacking. Geophysics, 1999, 64, 567-571.	2.6	1
137	Infection Dynamics of a Bloom-Forming Alga and Its Virus Determine Airborne Coccolith Emission from Seawater. SSRN Electronic Journal, 0, , .	0.4	0
138	The Environmental Conditions Behind the Formation of Small (subLCL) Clouds. Geophysical Research Letters, 2021, 48, e2021GL096242.	4.0	0
139	Allowed and forbidden zones in a Lightning-strokes spatio-temporal differential space. Environmental Research Communications, 2022, 4, 031003.	2.3	0