Andrew Dessler

List of Publications by Year
in descending order

109 papers	6,057 citations	66234 42 h-index	82410 72 g-index
135 all docs	135 docs citations	135 times ranked	3572 citing authors

#	Article	IF	Citations
1	Tropical tropopause layer. Reviews of Geophysics, 2009, 47, .	9.0	827
2	Stratospheric water vapor feedback. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18087-18091.	3.3	227
3	On the control of stratospheric humidity. Geophysical Research Letters, 2000, 27, 2513-2516.	1.5	205
4	Waterâ€vapor climate feedback inferred from climate fluctuations, 2003â€"2008. Geophysical Research Letters, 2008, 35, .	1.5	187
5	A Model for Transport across the Tropical Tropopause. Journals of the Atmospheric Sciences, 2001, 58, 765-779.	0.6	183
6	A Determination of the Cloud Feedback from Climate Variations over the Past Decade. Science, 2010, 330, 1523-1527.	6.0	179
7	A Matter of Humidity. Science, 2009, 323, 1020-1021.	6.0	144
8	Observations of deep convection in the tropics using the Tropical Rainfall Measuring Mission (TRMM) precipitation radar. Journal of Geophysical Research, 2002, 107, AAC 17-1.	3.3	121
9	New fast response photofragment fluorescence hygrometer for use on the NASA ERâ€2 and the Perseus remotely piloted aircraft. Review of Scientific Instruments, 1994, 65, 3544-3554.	0.6	118
10	The Distribution of Tropical Thin Cirrus Clouds Inferred fromTerraMODIS Data. Journal of Climate, 2003, 16, 1241-1247.	1.2	112
11	Observations of deep convective influence on stratospheric water vapor and its isotopic composition. Geophysical Research Letters, 2007, 34, .	1.5	109
12	Effect of convection on the summertime extratropical lower stratosphere. Journal of Geophysical Research, 2004, 109, .	3.3	106
13	Dehydration of the stratosphere. Atmospheric Chemistry and Physics, 2011, 11, 8433-8446.	1.9	106
14	The effect of deep, tropical convection on the tropical tropopause layer. Journal of Geophysical Research, 2002, 107, ACH 6-1.	3.3	104
15	Mechanisms controlling water vapor in the lower stratosphere: â€œA tale of two stratospheresâ€. Journal of Geophysical Research, 1995, 100, 23167.	3.3	101
16	Water Vapor Feedback in the Tropical Upper Troposphere: Model Results and Observations. Journal of Climate, 2004, 17, 1272-1282.	1.2	95
17	A reexamination of the â€œstratospheric fountainâ€ hypothesis. Geophysical Research Letters, 1998, 25, 4165-4168.	1.5	92
18	Observations of Climate Feedbacks over 2000â€"10 and Comparisons to Climate Models*. Journal of Climate, 2013, 26, 333-342.	1.2	92

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19	Trends in tropospheric humidity from reanalysis systems. Journal of Geophysical Research, 2010, 115, .	3.3	86
20	An examination of the total hydrogen budget of the lower stratosphere. Geophysical Research Letters, 1994, 21, 2563-2566.	1.5	78
21	The diurnal variation of hydrogen, nitrogen, and chlorine radicals: Implications for the heterogeneous production of HNO2. Geophysical Research Letters, 1994, 21, 2551-2554.	1.5	76
22	Variations of stratospheric water vapor over the past three decades. Journal of Geophysical Research D: Atmospheres, 2014, 119, 12,588.	1.2	75
23	Bulk properties of isentropic mixing into the tropics in the lower stratosphere. Journal of Geophysical Research, 1996, 101, 9433-9439.	3.3	74
24	In situ observations in aircraft exhaust plumes in the lower stratosphere at midlatitudes. Journal of Geophysical Research, 1995, 100, 3065.	3.3	73
25	Simulation of stratospheric water vapor and trends using three reanalyses. Atmospheric Chemistry and Physics, 2012, 12, 6475-6487.	1.9	73
26	The relationship between interannual and longâ€term cloud feedbacks. Geophysical Research Letters, 2015, 42, 10,463.	1.5	73
27	Distribution and Radiative Forcing of Tropical Thin Cirrus Clouds. Journals of the Atmospheric Sciences, 2009, 66, 3721-3731.	0.6	71
28	Suppression of deep convection over the tropical North Atlantic by the Saharan Air Layer. Geophysical Research Letters, 2005, 32, .	1.5	70
29	Tropical cloud-top height distributions revealed by the Ice, Cloud, and Land Elevation Satellite (ICESat)/Geoscience Laser Altimeter System (GLAS). Journal of Geophysical Research, 2006, 111, .	3.3	69
30	Large anomalies in lower stratospheric water vapour and ice during the 2015â€“2016 El NiÃ±o. Nature Geoscience, 2017, 10, 405-409.	5.4	69
31	The distribution of hydrogen, nitrogen, and chlorine radicals in the lower stratosphere: Implications for changes in O3due to emission of NOyfrom supersonic aircraft. Geophysical Research Letters, 1994, 21, 2547-2550.	1.5	67
32	Simulations of tropical upper tropospheric humidity. Journal of Geophysical Research, 2000, 105, 20155-20163.	3.3	63
33	Convective Mixing near the Tropical Tropopause: Insights from Seasonal Variations. Journals of the Atmospheric Sciences, 2003, 60, 2674-2685.	0.6	60
34	Effects of convective ice lofting on H₂O and HDO in the tropical tropopause layer. Journal of Geophysical Research, 2007, 112, .	3.3	58
35	Maintenance of Lower Tropospheric Temperature Inversion in the Saharan Air Layer by Dust and Dry Anomaly. Journal of Climate, 2009, 22, 5149-5162.	1.2	54
36	A model of HDO in the tropical tropopause layer. Atmospheric Chemistry and Physics, 2003, 3, 2173-2181.	1.9	51

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37	An Analysis of the Short-Term Cloud Feedback Using MODIS Data. Journal of Climate, 2013, 26, 4803-4815.	1.2	51
38	Transport of ice into the stratosphere and the humidification of the stratosphere over the 21st century. Geophysical Research Letters, 2016, 43, 2323-2329.	1.5	50
39	Tropopause-level thin cirrus coverage revealed by ICESat/Geoscience Laser Altimeter System. Journal of Geophysical Research, 2006, 111, .	3.3	47
40	Cirrus feedback on interannual climate fluctuations. Geophysical Research Letters, 2014, 41, 9166-9173.	1.5	47
41	UARS/MLS Cloud Ice Measurements: Implications for H2O Transport near the Tropopause. Journals of the Atmospheric Sciences, 2005, 62, 518-530.	0.6	46
42	Correlated observations of HCl and ClONO 2 from UARS and implications for stratospheric chlorine partitioning. Geophysical Research Letters, 1995, 22, 1721-1724.	1.5	45
43	Measurements of stratospheric carbon dioxide and water vapor at northern midlatitudes: Implications for troposphere-to-stratosphere transport. Geophysical Research Letters, 1995, 22, 2737-2740.	1.5	45
44	SPADE H2O measurements and the seasonal cycle of stratospheric water vapor. Geophysical Research Letters, 1994, 21, 2559-2562.	1.5	43
45	Selected science highlights from the first 5 years of the Upper Atmosphere Research Satellite (UARS) Program. Reviews of Geophysics, 1998, 36, 183-210.	9.0	43
46	Study of Horizontally Oriented Ice Crystals with CALIPSO Observations and Comparison with Monte Carlo Radiative Transfer Simulations. Journal of Applied Meteorology and Climatology, 2012, 51, 1426-1439.	0.6	41
47	Balloonâ€borne in situ measurements of CLO and ozone: Implications for heterogeneous chemistry and midâ€latitude ozone loss. Geophysical Research Letters, 1993, 20, 1795-1798.	1.5	40
48	The influence of internal variability on Earth's energy balance framework and implications for estimating climate sensitivity. Atmospheric Chemistry and Physics, 2018, 18, 5147-5155.	1.9	40
49	Convective Hydration of the Upper Troposphere and Lower Stratosphere. Journal of Geophysical Research D: Atmospheres, 2018, 123, 4583-4593.	1.2	39
50	Contrails and Induced Cirrus. Bulletin of the American Meteorological Society, 2010, 91, 473-478.	1.7	38
51	An analysis of the regulation of tropical tropospheric water vapor. Journal of Geophysical Research, 2007, 112, .	3.3	37
52	An Estimate of Equilibrium Climate Sensitivity From Interannual Variability. Journal of Geophysical Research D: Atmospheres, 2018, 123, 8634-8645.	1.2	37
53	Estimates of the Water Vapor Climate Feedback during El NiÃ±oâ€"Southern Oscillation. Journal of Climate, 2009, 22, 6404-6412.	1.2	36
54	Analysis of cirrus in the tropical tropopause layer from CALIPSO and MLS data: A water perspective. Journal of Geophysical Research, 2012, 117, .	3.3	36

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55	Cloud formation, convection, and stratospheric dehydration. Earth and Space Science, 2014, 1, 1-17.	1.1	35
56	Greater committed warming after accounting for the pattern effect. Nature Climate Change, 2021, 11, 132-136.	8.1	35
57	Water Vapor, Clouds, and Saturation in the Tropical Tropopause Layer. Journal of Geophysical Research D: Atmospheres, 2019, 124, 3984-4003.	1.2	34
58	Modeling upper tropospheric and lower stratospheric water vapor anomalies. Atmospheric Chemistry and Physics, 2013, 13, 7783-7793.	1.9	32
59	The impact of forcing efficacy on the equilibrium climate sensitivity. Geophysical Research Letters, 2014, 41, 3565-3568.	1.5	32
60	Instantaneous cloud overlap statistics in the tropical area revealed by ICESat/GLAS data. Geophysical Research Letters, 2006, 33, .	1.5	30
61	Longâ€term variability in Saharan dust transport and its link to North Atlantic sea surface temperature. Geophysical Research Letters, 2008, 35, .	1.5	30
62	Clouds and water vapor in the Northern Hemisphere summertime stratosphere. Journal of Geophysical Research, 2009, 114, .	3.3	29
63	UARS measurements of ClO and NO2at 40 and 46 km and implications for the model â€œozone deficitâ€ Geophysical Research Letters, 1996, 23, 339-342.	1.5	28
64	Measurements of water vapor in the tropical lower stratosphere during the CEPEX Campaign: Results and interpretation. Geophysical Research Letters, 1995, 22, 3231-3234.	1.5	27
65	Determination of the amount of water vapor entering the stratosphere based on Halogen Occultation Experiment (HALOE) data. Journal of Geophysical Research, 1999, 104, 30605-30607.	3.3	27
66	Cloud variations and the Earth's energy budget. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	26
67	Test of the Fixed Anvil Temperature Hypothesis. Journals of the Atmospheric Sciences, 2012, 69, 2317-2328.	0.6	26
68	Simultaneous, in situ measurements of OH, HO₂, O₃, and H₂O: A test of modeled stratospheric HO_x chemistry. Geophysical Research Letters, 1990, 17, 1909-1912.	1.5	25
69	Multimodel Analysis of the Water Vapor Feedback in the Tropical Upper Troposphere. Journal of Climate, 2006, 19, 5455-5464.	1.2	23
70	Contribution of different processes to changes in tropical lower-stratospheric water vapor in chemistryâ€“climate models. Atmospheric Chemistry and Physics, 2017, 17, 8031-8044.	1.9	23
71	Potential Problems Measuring Climate Sensitivity from the Historical Record. Journal of Climate, 2020, 33, 2237-2248.	1.2	22
72	Balloonâ€borne measurements of CLO, NO, and O₃ in a volcanic cloud: An analysis of heterogeneous chemistry between 20 and 30 km. Geophysical Research Letters, 1993, 20, 2527-2530.	1.5	21

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73	A test of the partitioning between ClO and ClONO2using simultaneous UARS measurements of ClO, NO2, and ClONO2. Journal of Geophysical Research, 1996, 101, 12515-12521.	3.3	21
74	Regulation of H₂O and CO in tropical tropopause layer by the Maddenâ€Julian oscillation. Journal of Geophysical Research, 2007, 112, .	3.3	21
75	The effects of tropical cirrus clouds on the abundance of lower stratospheric ozone. Journal of Atmospheric Chemistry, 1996, 23, 209-220.	1.4	20
76	Satellite observations of temporary and irreversible denitrification. Journal of Geophysical Research, 1999, 104, 13993-14002.	3.3	20
77	Nitrogen partitioning in the middle stratosphere as observed by the Upper Atmosphere Research Satellite. Journal of Geophysical Research, 1997, 102, 8955-8965.	3.3	19
78	An analysis of the dependence of clearâ€sky topâ€ofâ€atmosphere outgoing longwave radiation on atmospheric temperature and water vapor. Journal of Geophysical Research, 2008, 113, .	3.3	19
79	Trajectory model simulations of ozone (O₃) and carbon monoxide (CO) in the lower stratosphere. Atmospheric Chemistry and Physics, 2014, 14, 7135-7147.	1.9	19
80	Development of the Antarctic ozone hole. Journal of Geophysical Research, 1996, 101, 20909-20924.	3.3	18
81	Impact of dataset choice on calculations of the shortâ€term cloud feedback. Journal of Geophysical Research D: Atmospheres, 2013, 118, 2821-2826.	1.2	18
82	Estimation of the cirrus cloud scattering phase function from satellite observations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 138, 36-49.	1.1	17
83	The impact of temperature vertical structure on trajectory modeling of stratospheric water vapor. Atmospheric Chemistry and Physics, 2015, 15, 3517-3526.	1.9	17
84	The impact of gravity waves and cloud nucleation threshold on stratospheric water and tropical tropospheric cloud fraction. Earth and Space Science, 2016, 3, 295-305.	1.1	17
85	Frequency of tropical precipitating clouds as observed by the Tropical Rainfall Measuring Mission Precipitation Radar and ICESat/Geoscience Laser Altimeter System. Journal of Geophysical Research, 2007, 112, .	3.3	16
86	Lower stratospheric chlorine partitioning during the decay of the Mt. Pinatubo aerosol cloud. Geophysical Research Letters, 1997, 24, 1623-1626.	1.5	15
87	Comparisons between measurements and models of Antarctic ozone loss. Journal of Geophysical Research, 2001, 106, 3195-3201.	3.3	15
88	Five-Year Climatology of Midtroposphere Dry Air Layers in Warm Tropical Ocean Regions as Viewed by AIRS/Aqua. Journal of Applied Meteorology and Climatology, 2009, 48, 1831-1842.	0.6	15
89	Statistical Properties of Horizontally Oriented Plates in Optically Thick Clouds From Satellite Observations. IEEE Geoscience and Remote Sensing Letters, 2013, 10, 986-990.	1.4	14
90	Estimating Transient Climate Response in a Largeâ€Ensemble Global Climate Model Simulation. Geophysical Research Letters, 2019, 46, 311-317.	1.5	14

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91	Effects of convective ice evaporation on interannual variability of tropical tropopause layer water vapor. Atmospheric Chemistry and Physics, 2018, 18, 4425-4437.	1.9	13
92	Impact of convectively lofted ice on the seasonal cycle of water vapor in the tropical tropopause layer. Atmospheric Chemistry and Physics, 2019, 19, 14621-14636.	1.9	12
93	Principal component analysis of the evolution of the Saharan air layer and dust transport: Comparisons between a model simulation and MODIS and AIRS retrievals. Journal of Geophysical Research, 2006, 111, .	3.3	11
94	The Influence of Thermodynamic Phase on the Retrieval of Mixed-Phase Cloud Microphysical and Optical Properties in the Visible and Near-Infrared Region. IEEE Geoscience and Remote Sensing Letters, 2006, 3, 287-291.	1.4	10
95	Analysis of the correlations between atmospheric boundary-layer and free-tropospheric temperatures in the tropics. Geophysical Research Letters, 2006, 33, .	1.5	10
96	Influence of convection on stratospheric water vapor in the North American monsoon region. Atmospheric Chemistry and Physics, 2020, 20, 12153-12161.	1.9	10
97	Interhemispheric asymmetry in the 1 mbar O3trend: An analysis using an interactive zonal mean model and UARS data. Journal of Geophysical Research, 1998, 103, 1607-1618.	3.3	8
98	Erythemal Radiation, Column Ozone, and the North American Monsoon. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD032283.	1.2	7
99	Energy for air capture. Nature Geoscience, 2009, 2, 811-811.	5.4	5
100	A Radiativeâ€"Convective Equilibrium Perspective of Weakening of the Tropical Walker Circulation in Response to Global Warming. Journal of Climate, 2013, 26, 1643-1653.	1.2	5
101	Response of Aerosol Direct Radiative Effect to the East Asian Summer Monsoon. IEEE Geoscience and Remote Sensing Letters, 2015, 12, 597-600.	1.4	5
102	Impacts of the Unforced Pattern Effect on the Cloud Feedback in CERES Observations and Climate Models. Geophysical Research Letters, 2022, 49, .	1.5	5
103	Reply [to â€œComment on â€˜A reexamination of the â€˜Stratospheric Fountainâ€™ Hypothesisâ€™ by A. E. Desslerâ€•]. Geophysical Research Letters, 1999, 26, 2739-2739.	1.5	4
104	An Assessment of Climate Feedbacks in Observations and Climate Models Using Different Energy Balance Frameworks. Journal of Climate, 2021, , 1-30.	1.2	4
105	Cloud and Aerosol Distributions From SAGE III/ISS Observations. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035550.	1.2	4
106	A new approach to retrieving cirrus cloud height with a combination of MODIS 1.24â€•and 1.38â€‹<i>Î¼</i>m channels. Geophysical Research Letters, 2012, 39, .	1.5	3
107	The response of stratospheric water vapor to climate change driven by different forcing agents. Atmospheric Chemistry and Physics, 2020, 20, 13267-13282.	1.9	3
108	Comment on â€œBalloon-borne observations of water vapor and ozone in the tropical upper troposphere and lower stratosphereâ€•by H. VÃ¶mel et al.. Journal of Geophysical Research, 2003, 108, .	3.3	2

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109	The effect of forced change and unforced variability in heat waves, temperature extremes, and associated population risk in a CO₂-warmed world. Atmospheric Chemistry and Physics, 2021, 21, 11889-11904.	1.9	1