Richard Allan

List of Publications by Year
in descending order

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132 papers	16,570 citations	41344 49 h-index	15732 125 g-index
149 all docs	149 docs citations	149 times ranked	14942 citing authors

#	Article	IF	Citations
1	The ERAâ€40 reâ€analysis. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 2961-3012.	2.7	6,198
2	Atmospheric Warming and the Amplification of Precipitation Extremes. Science, 2008, 321, 1481-1484.	12.6	1,182
3	How Well Do We Understand and Evaluate Climate Change Feedback Processes?. Journal of Climate, 2006, 19, 3445-3482.	3.2	849
4	Evidence for Large Decadal Variability in the Tropical Mean Radiative Energy Budget. Science, 2002, 295, 841-844.	12.6	333
5	Observed changes in top-of-the-atmosphere radiation and upper-ocean heating consistent within uncertainty. Nature Geoscience, 2012, 5, 110-113.	12.9	293
6	Winter floods in Britain are connected to atmospheric rivers. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	291
7	Anthropogenic intensification of short-duration rainfall extremes. Nature Reviews Earth & Environment, 2021, 2, 107-122.	29.7	279
8	The detection of atmospheric rivers in atmospheric reanalyses and their links to British winter floods and the largeâ€scale climatic circulation. Journal of Geophysical Research, 2012, 117, .	3.3	245
9	Observations of the impact of a major Saharan dust storm on the atmospheric radiation balance. Geophysical Research Letters, 2006, 33, .	4.0	229
10	Advances in understanding largeâ€scale responses of the water cycle to climate change. Annals of the New York Academy of Sciences, 2020, 1472, 49-75.	3.8	226
11	Challenges in Quantifying Changes in the Global Water Cycle. Bulletin of the American Meteorological Society, 2015, 96, 1097-1115.	3.3	212
12	The Geostationary Earth Radiation Budget Project. Bulletin of the American Meteorological Society, 2005, 86, 945-960.	3.3	202
13	Current changes in tropical precipitation. Environmental Research Letters, 2010, 5, 025205.	5.2	197
14	Energetic Constraints on Precipitation Under Climate Change. Surveys in Geophysics, 2012, 33, 585-608.	4.6	196
15	Strong constraints on aerosolâ€“cloud interactions from volcanic eruptions. Nature, 2017, 546, 485-491.	27.8	191
16	Recent observed and simulated changes in precipitation over Africa. Geophysical Research Letters, 2015, 42, 8155-8164.	4.0	189
17	Can desert dust explain the outgoing longwave radiation anomaly over the Sahara during July 2003?. Journal of Geophysical Research, 2005, 110, .	3.3	185
18	Extension of the TAMSAT Satellite-Based Rainfall Monitoring over Africa and from 1983 to Present. Journal of Applied Meteorology and Climatology, 2014, 53, 2805-2822.	1.5	181

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19	The 30 year TAMSAT African Rainfall Climatology And Time series (TARCAT) data set. Journal of Geophysical Research D: Atmospheres, 2014, 119, 10,619.	3.3	178
20	Future changes in atmospheric rivers and their implications for winter flooding in Britain. Environmental Research Letters, 2013, 8, 034010.	5.2	155
21	Observed and simulated precipitation responses in wet and dry regions 1850â€“2100. Environmental Research Letters, 2013, 8, 034002.	5.2	154
22	Physically Consistent Responses of the Global Atmospheric Hydrological Cycle in Models and Observations. Surveys in Geophysics, 2014, 35, 533-552.	4.6	154
23	Changes in global net radiative imbalance 1985â€“2012. Geophysical Research Letters, 2014, 41, 5588-5597.	4.0	153
24	The onset and cessation of seasonal rainfall over Africa. Journal of Geophysical Research D: Atmospheres, 2016, 121, 11,405.	3.3	150
25	Later Wet Seasons with More Intense Rainfall over Africa under Future Climate Change. Journal of Climate, 2018, 31, 9719-9738.	3.2	141
26	A new, long-term daily satellite-based rainfall dataset for operational monitoring in Africa. Scientific Data, 2017, 4, 170063.	5.3	133
27	State of the Climate in 2016. Bulletin of the American Meteorological Society, 2017, 98, Si-S280.	3.3	132
28	Salinity changes in the World Ocean since 1950 in relation to changing surface freshwater fluxes. Climate Dynamics, 2014, 43, 709-736.	3.8	127
29	Critical Southern Ocean climate model biases traced to atmospheric model cloud errors. Nature Communications, 2018, 9, 3625.	12.8	109
30	Modelling the diurnal cycle of tropical convection across the â€˜grey zoneâ€™. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 491-499.	2.7	99
31	Large discrepancy between observed and simulated precipitation trends in the ascending and descending branches of the tropical circulation. Geophysical Research Letters, 2007, 34, .	4.0	98
32	Combining satellite data and models to estimate cloud radiative effect at the surface and in the atmosphere. Meteorological Applications, 2011, 18, 324-333.	2.1	97
33	Volcanic Radiative Forcing From 1979 to 2015. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12491-12508.	3.3	87
34	Evaluation of satellite-based and model re-analysis rainfall estimates for Uganda. Meteorological Applications, 2013, 20, 308-317.	2.1	85
35	Aerosolâ€Forced AMOC Changes in CMIP6 Historical Simulations. Geophysical Research Letters, 2020, 47, e2020GL088166.	4.0	85
36	The DACCIWA Project: Dynamicsâ€“Aerosolâ€“Chemistryâ€“Cloud Interactions in West Africa. Bulletin of the American Meteorological Society, 2015, 96, 1451-1460.	3.3	84

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37	â€˜Eastern African Paradoxâ€™ rainfall decline due to shorter not less intense Long Rains. Npj Climate and Atmospheric Science, 2019, 2, .	6.8	83
38	Earth's energy imbalance since 1960 in observations and CMIP5 models. Geophysical Research Letters, 2015, 42, 1205-1213.	4.0	82
39	Modeled and observed atmospheric radiation balance during the West African dry season: Role of mineral dust, biomass burning aerosol, and surface albedo. Journal of Geophysical Research, 2008, 113, .	3.3	73
40	How robust are observed and simulated precipitation responses to tropical ocean warming?. Geophysical Research Letters, 2009, 36, .	4.0	67
41	A case study of the radiative forcing of persistent contrails evolving into contrailâ€induced cirrus. Journal of Geophysical Research, 2009, 114, .	3.3	65
42	Coâ€variation of temperature and precipitation in CMIP5 models and satellite observations. Geophysical Research Letters, 2012, 39, .	4.0	61
43	Simulation of the Earth's radiation budget by the European Centre for Medium-Range Weather Forecasts 40-year reanalysis (ERA40). Journal of Geophysical Research, 2004, 109, .	3.3	60
44	The INTENSE project: using observations and models to understand the past, present and future of sub-daily rainfall extremes. Advances in Science and Research, 0, 15, 117-126.	1.0	59
45	Motivation, rationale and key results from the GERBILS Saharan dust measurement campaign. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 1106-1116.	2.7	58
46	Revisiting trends in wetness and dryness in the presence of internal climate variability and water limitations over land. Geophysical Research Letters, 2015, 42, 10,867.	4.0	58
47	Surface flux and ocean heat transport convergence contributions to seasonal and interannual variations of ocean heat content. Journal of Geophysical Research: Oceans, 2017, 122, 726-744.	2.6	58
48	The Role of Water Vapour in Earthâ€™s Energy Flows. Surveys in Geophysics, 2012, 33, 557-564.	4.6	57
49	The dependence of clearâ€sky outgoing longâ€wave radiation on surface temperature and relative humidity. Quarterly Journal of the Royal Meteorological Society, 1999, 125, 2103-2126.	2.7	56
50	Human influence on rainfall. Nature, 2011, 470, 344-345.	27.8	56
51	Towards advancing scientific knowledge of climate change impacts on short-duration rainfall extremes. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190542.	3.4	56
52	Improving a convectionâ€permitting model simulation of a cold air outbreak. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 124-138.	2.7	54
53	Clear-sky biases in satellite infrared estimates of upper tropospheric humidity and its trends. Journal of Geophysical Research, 2011, 116, .	3.3	53
54	Have greenhouse gases intensified the contrast between wet and dry regions?. Geophysical Research Letters, 2013, 40, 4783-4787.	4.0	53

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55	Combining satellite observations and reanalysis energy transports to estimate global net surface energy fluxes 1985â€“2012. Journal of Geophysical Research D: Atmospheres, 2015, 120, 9374-9389.	3.3	51
56	Evaluation of moisture in the Hadley Centre climate model using simulations of HIRS water-vapour channel radiances. Quarterly Journal of the Royal Meteorological Society, 2003, 129, 3371-3389.	2.7	50
57	Observational constraints on atmospheric and oceanic cross-equatorial heat transports: revisiting the precipitation asymmetry problem in climate models. Climate Dynamics, 2016, 46, 3239-3257.	3.8	49
58	Evaluation of satellite and reanalysisâ€based global net surface energy flux and uncertainty estimates. Journal of Geophysical Research D: Atmospheres, 2017, 122, 6250-6272.	3.3	47
59	Inconsistencies between satellite estimates of longwave cloud forcing and dynamical fields from reanalyses. Geophysical Research Letters, 2003, 30, .	4.0	42
60	Evaluation of the Met Office global forecast model using Geostationary Earth Radiation Budget (GERB) data. Quarterly Journal of the Royal Meteorological Society, 2007, 133, 1993-2010.	2.7	42
61	Can current climate model forcings explain the spatial and temporal signatures of decadal OLR variations?. Geophysical Research Letters, 2002, 29, 45-1.	4.0	41
62	Overview of observations from the RADAGAST experiment in Niamey, Niger: Meteorology and thermodynamic variables. Journal of Geophysical Research, 2008, 113, .	3.3	41
63	Influence of Dynamics on the Changes in Tropical Cloud Radiative Forcing during the 1998 El NiÃ±o. Journal of Climate, 2002, 15, 1979-1986.	3.2	41
64	Global Changes in Water Vapor 1979â€“2020. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	41
65	New Generation of Climate Models Track Recent Unprecedented Changes in Earth's Radiation Budget Observed by CERES. Geophysical Research Letters, 2020, 47, e2019GL086705.	4.0	39
66	Atmospheric rivers do not explain UK summer extreme rainfall. Journal of Geophysical Research D: Atmospheres, 2015, 120, 6731-6741.	3.3	37
67	Evaluation of the model representation of the evolution of convective systems using satellite observations of outgoing longwave radiation. Journal of Geophysical Research, 2010, 115, .	3.3	36
68	Summertime precipitation variability over Europe and its links to atmospheric dynamics and evaporation. Journal of Geophysical Research, 2010, 115, .	3.3	36
69	Global Climate. Bulletin of the American Meteorological Society, 2021, 102, S11-S142.	3.3	36
70	Changes in atmospheric shortwave absorption as important driver of dimming and brightening. Nature Geoscience, 2020, 13, 110-115.	12.9	35
71	Examination of Relationships between Clear-Sky Longwave Radiation and Aspects of the Atmospheric Hydrological Cycle in Climate Models, Reanalyses, and Observations. Journal of Climate, 2009, 22, 3127-3145.	3.2	33
72	Multisatellite observed responses of precipitation and its extremes to interannual climate variability. Journal of Geophysical Research, 2012, 117, .	3.3	33

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73	Identification of deficiencies in seasonal rainfall simulated by CMIP5 climate models. Environmental Research Letters, 2017, 12, 114001.	5.2	33
74	Quantifying the Contribution of Different Cloud Types to the Radiation Budget in Southern West Africa. Journal of Climate, 2018, 31, 5273-5291.	3.2	33
75	A multisatellite climatology of clouds, radiation, and precipitation in southern West Africa and comparison to climate models. Journal of Geophysical Research D: Atmospheres, 2016, 121, 10,857.	3.3	27
76	The Diurnal Cycle of Precipitation according to Multiple Decades of Global Satellite Observations, Three CMIP6 Models, and the ECMWF Reanalysis. Journal of Climate, 2021, 34, 5063-5080.	3.2	27
77	Variability in clear-sky longwave radiative cooling of the atmosphere. Journal of Geophysical Research, 2006, 111, .	3.3	25
78	Analysis of moisture variability in the European Centre for Medium-Range Weather Forecasts 15-year reanalysis over the tropical oceans. Journal of Geophysical Research, 2002, 107, ACL 1-1.	3.3	24
79	Changes in water vapor transports of the ascending branch of the tropical circulation. Journal of Geophysical Research, 2011, 116, .	3.3	24
80	Dichotomy of drought and deluge. Nature Geoscience, 2014, 7, 700-701.	12.9	23
81	Variability in the global energy budget and transports 1985â€“2017. Climate Dynamics, 2020, 55, 3381-3396.	3.8	23
82	Evaluating climate model simulations of tropical cloud. Tellus, Series A: Dynamic Meteorology and Oceanography, 2004, 56, 308-327.	1.7	22
83	Water vapor variability in the tropics and its links to dynamics and precipitation. Journal of Geophysical Research, 2005, 110, .	3.3	22
84	Exploitation of Geostationary Earth Radiation Budget data using simulations from a numerical weather prediction model: Methodology and data validation. Journal of Geophysical Research, 2005, 110, n/a-n/a.	3.3	21
85	Observations of the diurnal cycle of outgoing longwave radiation from the Geostationary Earth Radiation Budget instrument. Geophysical Research Letters, 2007, 34, .	4.0	21
86	Diagnosing atmosphereâ€“land feedbacks in CMIP5 climate models. Environmental Research Letters, 2012, 7, 044003.	5.2	21
87	Metrics for linking emissions of gases and aerosols to global precipitation changes. Earth System Dynamics, 2015, 6, 525-540.	7.1	21
88	Contrasting interannual variability of atmospheric moisture over Europe during cold and warm seasons. Tellus, Series A: Dynamic Meteorology and Oceanography, 2008, 60, 32-41.	1.7	20
89	Future Changes in Wet and Dry Season Characteristics in CMIP5 and CMIP6 simulations. Journal of Hydrometeorology, 2021, , .	1.9	20
90	Emerging new climate extremes over Europe. Climate Dynamics, 2022, 58, 487-501.	3.8	20

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91	Variability in the summer season hydrological cycle over the Atlanticâ€Europe region 1979â€“2007. International Journal of Climatology, 2011, 31, 337-348.	3.5	19
92	Assessment of intercalibration methods for satellite microwave humidity sounders. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4906-4918.	3.3	19
93	Climate Warmingâ€“Related Strengthening of the Tropical Hydrological Cycle. Journal of Climate, 2013, 26, 562-574.	3.2	18
94	Regime dependent changes in global precipitation. Climate Dynamics, 2012, 39, 827-840.	3.8	17
95	Observed variability of intertropical convergence zone over 1998â€”2018. Environmental Research Letters, 2020, 15, 104011.	5.2	16
96	Contrasting response of hydrological cycle over land and ocean to a changing CO2 pathway. Npj Climate and Atmospheric Science, 2021, 4, .	6.8	16
97	The Complex and Spatially Diverse Patterns of Hydrological Droughts Across Europe. Water Resources Research, 2022, 58, .	4.2	16
98	Evaluation of Simulated Clear-Sky Longwave Radiation Using Ground-Based Observations. Journal of Climate, 2000, 13, 1951-1964.	3.2	15
99	Water Vapor Feedbacks in the ECMWF Reanalyses and Hadley Centre Climate Model. Journal of Climate, 2000, 13, 3080-3098.	3.2	15
100	Examination of longâ€wave radiative bias in general circulation models over North Africa during Mayâ€“July. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 1179-1192.	2.7	15
101	Contrasting fast precipitation responses to tropospheric and stratospheric ozone forcing. Geophysical Research Letters, 2016, 43, 1263-1271.	4.0	15
102	Anticipated changes in the global atmospheric water cycle. Environmental Research Letters, 2010, 5, 025201.	5.2	14
103	Quantifying present and projected future atmospheric moisture transports onto land. Water Resources Research, 2013, 49, 7266-7277.	4.2	13
104	Comparing Tropical Precipitation Simulated by the Met Office NWP and Climate Models with Satellite Observations. Journal of Applied Meteorology and Climatology, 2014, 53, 200-214.	1.5	12
105	The Physical Climate at Global Warming Thresholds as Seen in the U.K. Earth System Model. Journal of Climate, 2022, 35, 29-48.	3.2	12
106	Consistent Trends in Dry Spell Length in Recent Observations and Future Projections. Geophysical Research Letters, 2022, 49, .	4.0	12
107	Evaluating climate model simulations of tropical cloud. Tellus, Series A: Dynamic Meteorology and Oceanography, 2004, 56, 308-327.	1.7	11
108	Atmospheric precursors for intense summer rainfall over the United Kingdom. International Journal of Climatology, 2020, 40, 3849-3867.	3.5	11

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109	Simulations of the effects of interannual and decadal variability on the clearâ€sky outgoing longâ€wave radiation spectrum. Quarterly Journal of the Royal Meteorological Society, 2003, 129, 2971-2988.	2.7	10
110	Seasonal Changes in the North Atlantic Cold Anomaly: The Influence of Cold Surface Waters From Coastal Greenland and Warming Trends Associated With Variations in Subarctic Sea Ice Cover. Journal of Geophysical Research: Oceans, 2019, 124, 9040-9052.	2.6	10
111	Cocoa plant productivity in West Africa under climate change: a modelling and experimental study. Environmental Research Letters, 2021, 16, 014009.	5.2	10
112	Diagnostic analysis of atmospheric moisture and clear-sky radiative feedback in the Hadley Centre and Geophysical Fluid Dynamics Laboratory (GFDL) climate models. Journal of Geophysical Research, 2002, 107, ACL 4-1-ACL 4-7.	3.3	9
113	Diagnosing links between atmospheric moisture and extreme daily precipitation over the <scp>UK</scp>. International Journal of Climatology, 2016, 36, 3191-3206.	3.5	9
114	The role of teleconnection patterns in the variability and trends of growing season indices across Europe. International Journal of Climatology, 2022, 42, 1072-1091.	3.5	9
115	Anticipated changes in the global atmospheric water cycle. Environmental Research Letters, 2010, 5, 025201.	5.2	6
116	Improved simulation of water vapour and clear-sky radiation using 24-hour forecasts from ERA40. Tellus, Series A: Dynamic Meteorology and Oceanography, 2007, 59, 336-343.	1.7	5
117	Characterizing the Radiative Effect of Rain Using a Global Ensemble of Cloud Resolving Simulations. Journal of Advances in Modeling Earth Systems, 2018, 10, 2453-2470.	3.8	5
118	Evaluation of Five Satellite Top-of-Atmosphere Albedo Products over Land. Remote Sensing, 2019, 11, 2919.	4.0	5
119	Observations of planetary heating since the 1980s from multiple independent datasets. Environmental Research Communications, 2020, 2, 101001.	2.3	5
120	Interannual variability in the summertime hydrological cycle over European regions. Journal of Geophysical Research D: Atmospheres, 2016, 121, 5381-5394.	3.3	4
121	The impact of airâ€“sea coupling and ocean biases on the seasonal cycle of southern West African precipitation. Climate Dynamics, 2019, 53, 7027-7044.	3.8	4
122	Physically Consistent Responses of the Global Atmospheric Hydrological Cycle in Models and Observations. Space Sciences Series of ISSI, 2013, , 533-552.	0.0	4
123	The 1921 European drought: impacts, reconstruction and drivers. Climate of the Past, 2021, 17, 2201-2221.	3.4	4
124	Discrepancies in Simulated Ocean Net Surface Heat Fluxes over the North Atlantic. Advances in Atmospheric Sciences, 2022, 39, 1941-1955.	4.3	3
125	Decadal climate variability and the global energy balance. Past Global Change Magazine, 2017, 25, 20-24.	0.1	2
126	Correction to â€œCo-variation of temperature and precipitation in CMIP5 models and satellite observationsâ€• Geophysical Research Letters, 2012, 39, n/a-n/a.	4.0	1

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127	Unrealistic Increases in Wind Speed Explain Reduced Eastern Pacific Heat Flux in Reanalyses. Journal of Climate, 2018, 31, 2981-2993.	3.2	1
128	Evaluating Large-Scale Variability and Change in Tropical Rainfall and Its Extremes. , 2019, , 139-163.		1
129	Energetic Constraints on Precipitation Under Climate Change. Space Sciences Series of ISSI, 2011, , 253-276.	0.0	1
130	Investigating the Radiative Impact Clouds Using Retrieved Properties to Classify Cloud Type. , 2009, , .		0
131	Elusive origin of warming slowdown. Nature Climate Change, 2017, 7, 316-317.	18.8	0
132	The Role of Water Vapour in Earthâ€™s Energy Flows. Space Sciences Series of ISSI, 2011, , 203-210.	0.0	0