Aiguo Dai

List of Publications by Year
in descending order

107 papers	29,531 citations	19608 61 h-index	24915 109 g-index
113 all docs	113 docs citations	113 times ranked	24476 citing authors

#	Article	IF	Citations
1	Increasing drought under global warming in observations and models. Nature Climate Change, 2013, 3, 52-58.	8.1	3,342
2	Drought under global warming: a review. Wiley Interdisciplinary Reviews: Climate Change, 2011, 2, 45-65.	3.6	2,354
3	The Changing Character of Precipitation. Bulletin of the American Meteorological Society, 2003, 84, 1205-1218.	1.7	2,280
4	Global warming and changes in drought. Nature Climate Change, 2014, 4, 17-22.	8.1	2,231
5	A Global Dataset of Palmer Drought Severity Index for 1870â€“2002: Relationship with Soil Moisture and Effects of Surface Warming. Journal of Hydrometeorology, 2004, 5, 1117-1130.	0.7	1,740
6	Estimates of Freshwater Discharge from Continents: Latitudinal and Seasonal Variations. Journal of Hydrometeorology, 2002, 3, 660-687.	0.7	912
7	Precipitation Characteristics in Eighteen Coupled Climate Models. Journal of Climate, 2006, 19, 4605-4630.	1.2	902
8	Changes in Continental Freshwater Discharge from 1948 to 2004. Journal of Climate, 2009, 22, 2773-2792.	1.2	767
9	Characteristics and trends in various forms of the Palmer Drought Severity Index during 1900â€“2008. Journal of Geophysical Research, 2011, 116, .	3.3	747
10	Estimates of the Global Water Budget and Its Annual Cycle Using Observational and Model Data. Journal of Hydrometeorology, 2007, 8, 758-769.	0.7	716
11	Surface Observed Global Land Precipitation Variations during 1900â€“88. Journal of Climate, 1997, 10, 2943-2962.	1.2	551
12	Global patterns of ENSO-induced precipitation. Geophysical Research Letters, 2000, 27, 1283-1286.	1.5	533
13	Dryland climate change: Recent progress and challenges. Reviews of Geophysics, 2017, 55, 719-778.	9.0	507
14	Drylands face potential threat under 2â€‰Â°C global warming target. Nature Climate Change, 2017, 7, 417-422.	8.1	450
15	Simulation of Global Land Surface Conditions from 1948 to 2004. Part I: Forcing Data and Evaluations. Journal of Hydrometeorology, 2006, 7, 953-975.	0.7	416
16	Observed and model-simulated diurnal cycles of precipitation over the contiguous United States. Journal of Geophysical Research, 1999, 104, 6377-6402.	3.3	412
17	The Diurnal Cycle and Its Depiction in the Community Climate System Model. Journal of Climate, 2004, 17, 930-951.	1.2	408
18	Recent Climatology, Variability, and Trends in Global Surface Humidity. Journal of Climate, 2006, 19, 3589-3606.	1.2	397

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19	Global Precipitation and Thunderstorm Frequencies. Part II: Diurnal Variations. Journal of Climate, 2001, 14, 1112-1128.	1.2	373
20	How Often Does It Rain?. Journal of Climate, 2006, 19, 916-934.	1.2	371
21	Decadal modulation of global surface temperature by internal climate variability. Nature Climate Change, 2015, 5, 555-559.	8.1	368
22	Effects of Mount Pinatubo volcanic eruption on the hydrological cycle as an analog of geoengineering. Geophysical Research Letters, 2007, 34, .	1.5	366
23	Continental-scale convection-permitting modeling of the current and future climate of North America. Climate Dynamics, 2017, 49, 71-95.	1.7	362
24	Responses of East Asian summer monsoon to historical SST and atmospheric forcing during 1950â€“2000. Climate Dynamics, 2010, 34, 501-514.	1.7	353
25	Arctic amplification is caused by sea-ice loss under increasing CO2. Nature Communications, 2019, 10, 121.	5.8	350
26	Global variations in droughts and wet spells: 1900-1995. Geophysical Research Letters, 1998, 25, 3367-3370.	1.5	346
27	The recent Sahel drought is real. International Journal of Climatology, 2004, 24, 1323-1331.	1.5	343
28	How Often Will It Rain?. Journal of Climate, 2007, 20, 4801-4818.	1.2	323
29	Climate Change and Drought: a Precipitation and Evaporation Perspective. Current Climate Change Reports, 2018, 4, 301-312.	2.8	303
30	Summer Precipitation Frequency, Intensity, and Diurnal Cycle over China: A Comparison of Satellite Data with Rain Gauge Observations. Journal of Climate, 2008, 21, 3997-4010.	1.2	300
31	A U.S. CLIVAR Project to Assess and Compare the Responses of Global Climate Models to Drought-Related SST Forcing Patterns: Overview and Results. Journal of Climate, 2009, 22, 5251-5272.	1.2	282
32	Impact of Ural Blocking on Winter Warm Arcticâ€“Cold Eurasian Anomalies. Part I: Blocking-Induced Amplification. Journal of Climate, 2016, 29, 3925-3947.	1.2	270
33	The influence of the inter-decadal Pacific oscillation on US precipitation during 1923â€“2010. Climate Dynamics, 2013, 41, 633-646.	1.7	242
34	Climates of the Twentieth and Twenty-First Centuries Simulated by the NCAR Climate System Model. Journal of Climate, 2001, 14, 485-519.	1.2	230
35	The Magnitude and Causes of Global Drought Changes in the Twenty-First Century under a Lowâ€“Moderate Emissions Scenario. Journal of Climate, 2015, 28, 4490-4512.	1.2	226
36	The influence of the Interdecadal Pacific Oscillation on Temperature and Precipitation over the Globe. Climate Dynamics, 2015, 45, 2667-2681.	1.7	223

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37	Challenges in Quantifying Changes in the Global Water Cycle. Bulletin of the American Meteorological Society, 2015, 96, 1097-1115.	1.7	212
38	The frequency, intensity, and diurnal cycle of precipitation in surface and satellite observations over low- and mid-latitudes. Climate Dynamics, 2007, 29, 727-744.	1.7	211
39	Increased Quasi Stationarity and Persistence of Winter Ural Blocking and Eurasian Extreme Cold Events in Response to Arctic Warming. Part I: Insights from Observational Analyses. Journal of Climate, 2017, 30, 3549-3568.	1.2	193
40	Uncertainties in historical changes and future projections of drought. Part I: estimates of historical drought changes. Climatic Change, 2017, 144, 519-533.	1.7	191
41	Climate Change Impacts on the Water Balance of the Colorado Headwaters: High-Resolution Regional Climate Model Simulations. Journal of Hydrometeorology, 2014, 15, 1091-1116.	0.7	166
42	Observed Changes in the Distributions of Daily Precipitation Frequency and Amount over China from 1960 to 2013. Journal of Climate, 2015, 28, 6960-6978.	1.2	159
43	Impact of Ural Blocking on Winter Warm Arcticâ€“Cold Eurasian Anomalies. Part II: The Link to the North Atlantic Oscillation. Journal of Climate, 2016, 29, 3949-3971.	1.2	152
44	Uncertainties in historical changes and future projections of drought. Part II: model-simulated historical and future drought changes. Climatic Change, 2017, 144, 535-548.	1.7	133
45	Global Precipitation and Thunderstorm Frequencies. Part I: Seasonal and Interannual Variations. Journal of Climate, 2001, 14, 1092-1111.	1.2	130
46	A New Approach to Homogenize Daily Radiosonde Humidity Data. Journal of Climate, 2011, 24, 965-991.	1.2	118
47	Changes in Atmospheric Blocking Circulations Linked with Winter Arctic Warming: A New Perspective. Journal of Climate, 2018, 31, 7661-7678.	1.2	95
48	How much do precipitation extremes change in a warming climate?. Geophysical Research Letters, 2012, 39, .	1.5	91
49	Radiation Dry Bias Correction of Vaisala RS92 Humidity Data and Its Impacts on Historical Radiosonde Data. Journal of Atmospheric and Oceanic Technology, 2013, 30, 197-214.	0.5	91
50	Changes in Convective Available Potential Energy and Convective Inhibition under Global Warming. Journal of Climate, 2020, 33, 2025-2050.	1.2	90
51	Global Water Vapor Trend from 1988 to 2011 and Its Diurnal Asymmetry Based on GPS, Radiosonde, and Microwave Satellite Measurements. Journal of Climate, 2016, 29, 5205-5222.	1.2	86
52	Impacts of internal variability on temperature and precipitation trends in large ensemble simulations by two climate models. Climate Dynamics, 2019, 52, 289-306.	1.7	84
53	A new mechanism for warm-season precipitation response to global warming based on convection-permitting simulations. Climate Dynamics, 2020, 55, 343-368.	1.7	84
54	Increased Quasi Stationarity and Persistence of Winter Ural Blocking and Eurasian Extreme Cold Events in Response to Arctic Warming. Part II: A Theoretical Explanation. Journal of Climate, 2017, 30, 3569-3587.	1.2	83

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55	Little influence of Arctic amplification on mid-latitude climate. Nature Climate Change, 2020, 10, 231-237.	8.1	80
56	Hydroclimatic Trends in the Mississippi River Basin from 1948 to 2004. Journal of Climate, 2007, 20, 4599-4614.	1.2	77
57	A nonlinear multiscale interaction model for atmospheric blocking: The eddy-blocking matching mechanism. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1785-1808.	1.0	75
58	Metrics for the Diurnal Cycle of Precipitation: Toward Routine Benchmarks for Climate Models. Journal of Climate, 2016, 29, 4461-4471.	1.2	73
59	The winter midlatitude-Arctic interaction: effects of North Atlantic SST and high-latitude blocking on Arctic sea ice and Eurasian cooling. Climate Dynamics, 2019, 52, 2981-3004.	1.7	69
60	Trends in Tropospheric Humidity from 1970 to 2008 over China from a Homogenized Radiosonde Dataset. Journal of Climate, 2012, 25, 4549-4567.	1.2	68
61	The Recent Decline and Recovery of Indian Summer Monsoon Rainfall: Relative Roles of External Forcing and Internal Variability. Journal of Climate, 2020, 33, 5035-5060.	1.2	65
62	Atlantic Thermohaline Circulation in a Coupled General Circulation Model: Unforced Variations versus Forced Changes. Journal of Climate, 2005, 18, 3270-3293.	1.2	61
63	South Asian summer monsoon projections constrained by the interdecadal Pacific oscillation. Science Advances, 2020, 6, eaay6546.	4.7	58
64	The Footprint of the Inter-decadal Pacific Oscillation in Indian Ocean Sea Surface Temperatures. Scientific Reports, 2016, 6, 21251.	1.6	56
65	A Nonlinear Theory of Atmospheric Blocking: A Potential Vorticity Gradient View. Journals of the Atmospheric Sciences, 2019, 76, 2399-2427.	0.6	53
66	Winter Eurasian cooling linked with the Atlantic Multidecadal Oscillation. Environmental Research Letters, 2017, 12, 125002.	2.2	49
67	Asymmetric Modulation of ENSO Teleconnections by the Interdecadal Pacific Oscillation. Journal of Climate, 2018, 31, 7337-7361.	1.2	48
68	Contributions of Internal Variability and External Forcing to the Recent Pacific Decadal Variations. Geophysical Research Letters, 2018, 45, 7084-7092.	1.5	47
69	Precipitation Characteristics in the Community Atmosphere Model and Their Dependence on Model Physics and Resolution. Journal of Advances in Modeling Earth Systems, 2019, 11, 2352-2374.	1.3	47
70	Floridian heatwaves and extreme precipitation: future climate projections. Climate Dynamics, 2019, 52, 495-508.	1.7	46
71	Aerosol-forced multidecadal variations across all ocean basins in models and observations since 1920. Science Advances, 2020, 6, eabb0425.	4.7	46
72	Anchoring of atmospheric teleconnection patterns by Arctic Sea ice loss and its link to winter cold anomalies in East Asia. International Journal of Climatology, 2021, 41, 547-558.	1.5	43

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73	Hydroclimatic trends during 1950â€“2018 over global land. Climate Dynamics, 2021, 56, 4027-4049.	1.7	43
74	A Characterization of Tropical Transient Activity in the CAM3 Atmospheric Hydrologic Cycle. Journal of Climate, 2006, 19, 2222-2242.	1.2	39
75	The uncertainties and causes of the recent changes in global evapotranspiration from 1982 to 2010. Climate Dynamics, 2017, 49, 279-296.	1.7	38
76	Dependence of estimated precipitation frequency and intensity on data resolution. Climate Dynamics, 2018, 50, 3625-3647.	1.7	38
77	Evaluation of atmospheric precipitable water from reanalysis products using homogenized radiosonde observations over China. Journal of Geophysical Research D: Atmospheres, 2015, 120, 10,703.	1.2	35
78	Quantifying Contributions of Internal Variability and External Forcing to Atlantic Multidecadal Variability Since 1870. Geophysical Research Letters, 2020, 47, e2020GL089504.	1.5	35
79	The Impact of Seaâ€Ice Loss on Arctic Climate Feedbacks and Their Role for Arctic Amplification. Geophysical Research Letters, 2021, 48, e2021GL094599.	1.5	33
80	Nonlinear Climate Responses to Increasing CO2 and Anthropogenic Aerosols Simulated by CESM1. Journal of Climate, 2020, 33, 281-301.	1.2	32
81	A Connection of Winter Eurasian Cold Anomaly to the Modulation of Ural Blocking by ENSO. Geophysical Research Letters, 2021, 48, e2021GL094304.	1.5	32
82	An Externally Forced Decadal Rainfall Seesaw Pattern Over the Sahel and Southeast Amazon. Geophysical Research Letters, 2019, 46, 923-932.	1.5	31
83	Decadal Relationship between European Blocking and the North Atlantic Oscillation during 1978â€“2011. Part I: Atlantic Conditions. Journals of the Atmospheric Sciences, 2015, 72, 1152-1173.	0.6	30
84	The Convectiveâ€Toâ€Total Precipitation Ratio and the â€œDrizzlingâ€• Bias in Climate Models. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034198.	1.2	30
85	Contributions of Arctic Seaâ€Ice Loss and East Siberian Atmospheric Blocking to 2020 Recordâ€Breaking Meiyuâ€Baiu Rainfall. Geophysical Research Letters, 2021, 48, e2021GL092748.	1.5	29
86	A new approach to construct representative future forcing data for dynamic downscaling. Climate Dynamics, 2020, 55, 315-323.	1.7	28
87	Snowfall and snowpack in the Western U.S. as captured by convection permitting climate simulations: current climate and pseudo global warming future climate. Climate Dynamics, 2021, 57, 2191-2215.	1.7	27
88	Projected Changes in Daily Variability and Seasonal Cycle of Near-Surface Air Temperature over the Globe during the Twenty-First Century. Journal of Climate, 2019, 32, 8537-8561.	1.2	26
89	Detection and Attribution of Atmospheric Precipitable Water Changes since the 1970s over China. Scientific Reports, 2019, 9, 17609.	1.6	20
90	Decadal Variability of Winter Warm Arcticâ€Cold Eurasia Dipole Patterns Modulated by Pacific Decadal Oscillation and Atlantic Multidecadal Oscillation. Earth's Future, 2022, 10, .	2.4	20

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91	CMIP6 Model-projected Hydroclimatic and Drought Changes and Their Causes in the 21st Century. Journal of Climate, 2021, , 1-58.	1.2	19
92	Trends in northern midlatitude atmospheric wave power from 1950 to 2099. Climate Dynamics, 2020, 54, 2903-2918.	1.7	15
93	Recent Eurasian winter cooling partly caused by internal multidecadal variability amplified by Arctic sea ice-air interactions. Climate Dynamics, 2022, 58, 3261-3277.	1.7	15
94	Sea iceâ€"air interactions amplify multidecadal variability in the North Atlantic and Arctic region. Nature Communications, 2022, 13, 2100.	5.8	15
95	Arctic Amplification Weakens the Variability of Daily Temperatures over Northern Middle-High Latitudes. Journal of Climate, 2021, 34, 2591-2609.	1.2	14
96	Improved methods for estimating equilibrium climate sensitivity from transient warming simulations. Climate Dynamics, 2020, 54, 4515-4543.	1.7	11
97	Northern Hemisphere Winter Air Temperature Patterns and Their Associated Atmospheric and Ocean Conditions. Journal of Climate, 2020, 33, 6165-6186.	1.2	11
98	Reconciling Human and Natural Drivers of the Tripole Pattern of Multidecadal Summer Temperature Variations Over Eurasia. Geophysical Research Letters, 2021, 48, e2021GL093971.	1.5	10
99	The modulation of Interdecadal Pacific Oscillation and Atlantic Multidecadal Oscillation on winter Eurasian cold anomaly via the Ural blocking change. Climate Dynamics, 2022, 59, 127-150.	1.7	10
100	Little Influence of Asian Anthropogenic Aerosols on Summer Temperature in Central East Asia Since 1960. Geophysical Research Letters, 2022, 49, .	1.5	9
101	Are the Transient and Equilibrium Climate Change Patterns Similar in Response to Increased CO2?. Journal of Climate, 2020, 33, 8003-8023.	1.2	8
102	The joint impacts of Atlantic and Pacific multidecadal variability on South American precipitation and temperature. Journal of Climate, 2021, , 1-55.	1.2	7
103	Understanding the interâ€decadal variability of autumn precipitation over North Central China using model simulations. International Journal of Climatology, 2020, 40, 874-886.	1.5	5
104	Linkage between Projected Precipitation and Atmospheric Thermodynamic Changes. Journal of Climate, 2020, 33, 7155-7178.	1.2	5
105	Arctic amplification is the main cause of the Atlantic meridional overturning circulation weakening under large CO2 increases. Climate Dynamics, 2022, 58, 3243-3259.	1.7	5
106	Influence of Anthropogenic Warming on the Atlantic Multidecadal Variability and Its Impact on Global Climate in the Twenty-First Century in the MPI-GE Simulations. Journal of Climate, 2022, 35, 2805-2821.	1.2	3
107	Reconciling Roles of External Forcing and Internal Variability in Indian Ocean Decadal Variability Since 1920. Geophysical Research Letters, 2022, 49, .	1.5	2