F Martin Ralph

List of Publications by Citations

129 papers	7,625 citations	49 h-index	85 g-index
135 ext. papers	8,634 ext. citations	4.4 avg, IF	6.23 L-index

#	Paper	IF	Citations
129	Flooding on California's Russian River: Role of atmospheric rivers. *Geophysical Research Letters*, **2006**, 33,	4.9	463
128	Meteorological Characteristics and Overland Precipitation Impacts of Atmospheric Rivers Affecting the West Coast of North America Based on Eight Years of SSM/I Satellite Observations. *Journal of Hydrometeorology*, **2008**, 9, 22-47	3.7	451
127	Satellite and CALJET Aircraft Observations of Atmospheric Rivers over the Eastern North Pacific Ocean during the Winter of 1997/98. *Monthly Weather Review*, **2004**, 132, 1721-1745	2.4	428
126	Dust and biological aerosols from the Sahara and Asia influence precipitation in the western U.S. *Science*, **2013**, 339, 1572-8	33.3	393
125	Climatological Characteristics of Atmospheric Rivers and Their Inland Penetration over the Western United States. *Monthly Weather Review*, **2014**, 142, 905-921	2.4	316
124	Flooding in Western Washington: The Connection to Atmospheric Rivers*. *Journal of Hydrometeorology*, **2011**, 12, 1337-1358	3.7	272
123	Dropsonde Observations in Low-Level Jets over the Northeastern Pacific Ocean from CALJET-1998 and PACJET-2001: Mean Vertical-Profile and Atmospheric-River Characteristics. *Monthly Weather Review*, **2005**, 133, 889-910	2.4	212
122	The Statistical Relationship between Upslope Flow and Rainfall in California's Coastal Mountains: Observations during CALJET. *Monthly Weather Review*, **2002**, 130, 1468-1492	2.4	187
121	Diagnosis of an Intense Atmospheric River Impacting the Pacific Northwest: Storm Summary and Offshore Vertical Structure Observed with COSMIC Satellite Retrievals. *Monthly Weather Review*, **2008**, 136, 4398-4420	2.4	163
120	A Multiscale Observational Case Study of a Pacific Atmospheric River Exhibiting Tropical–Extratropical Connections and a Mesoscale Frontal Wave. *Monthly Weather Review*, **2011**, 139, 1169-1189	2.4	161
119	Physical Processes Associated with Heavy Flooding Rainfall in Nashville, Tennessee, and Vicinity during 1–2 May 2010: The Role of an Atmospheric River and Mesoscale Convective Systems. *Monthly Weather Review*, **2012**, 140, 358-378	2.4	150
118	A Scale to Characterize the Strength and Impacts of Atmospheric Rivers. *Bulletin of the American Meteorological Society*, **2019**, 100, 269-289	6.1	148
117	Atmospheric River Tracking Method Intercomparison Project (ARTMIP): project goals and experimental design. *Geoscientific Model Development*, **2018**, 11, 2455-2474	6.3	144
116	Assessing the climate-scale variability of atmospheric rivers affecting western North America. *Geophysical Research Letters*, **2017**, 44, 7900-7908	4.9	125
115	An Automated Brightband Height Detection Algorithm for Use with Doppler Radar Spectral Moments. *Journal of Atmospheric and Oceanic Technology*, **2002**, 19, 687-697	2	115
114	Influence of ENSO on Flood Frequency along the California Coast. *Journal of Climate*, **2004**, 17, 337-348	4.4	114
113	Defining "Atmospheric River": How the Glossary of Meteorology Helped Resolve a Debate. *Bulletin of the American Meteorological Society*, **2018**, 99, 837-839	6.1	114

112	Rain versus Snow in the Sierra Nevada, California: Comparing Doppler Profiling Radar and Surface Observations of Melting Level. *Journal of Hydrometeorology*, **2008**, 9, 194-211	3.7	113
111	Global Analysis of Climate Change Projection Effects on Atmospheric Rivers. *Geophysical Research Letters*, **2018**, 45, 4299-4308	4.9	106
110	The Development and Evolution of Two Atmospheric Rivers in Proximity to Western North Pacific Tropical Cyclones in October 2010. *Monthly Weather Review*, **2013**, 141, 4234-4255	2.4	98
109	Coastal Orographic Rainfall Processes Observed by Radar during the California Land-Falling Jets Experiment. *Journal of Hydrometeorology*, **2003**, 4, 264-282	3.7	98
108	The Landfall and Inland Penetration of a Flood-Producing Atmospheric River in Arizona. Part I: Observed Synoptic-Scale, Orographic, and Hydrometeorological Characteristics. *Journal of Hydrometeorology*, **2013**, 14, 460-484	3.7	96
107	Relative Contributions of Synoptic and Low-Frequency Eddies to Time-Mean Atmospheric Moisture Transport, Including the Role of Atmospheric Rivers. *Journal of Climate*, **2012**, 25, 7341-7361	4.4	91
106	Climate change intensification of horizontal water vapor transport in CMIP5. *Geophysical Research Letters*, **2015**, 42, 5617-5625	4.9	88
105	Continental heat anomalies and the extreme melting of the Greenland ice surface in 2012 and 1889. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 6520-6536	4.4	87
104	Improving Short-Term (0‒48 h) Cool-Season Quantitative Precipitation Forecasting: Recommendations from a USWRP Workshop. *Bulletin of the American Meteorological Society*, **2005**, 86, 1619-1632	6.1	86
103	Responses and impacts of atmospheric rivers to climate change. *Nature Reviews Earth & Environment*, **2020**, 1, 143-157	30.2	82
102	Precipitation regime change in Western North America: The role of Atmospheric Rivers. *Scientific Reports*, **2019**, 9, 9944	4.9	82
101	Evaluation of Forecasts of the Water Vapor Signature of Atmospheric Rivers in Operational Numerical Weather Prediction Models. *Weather and Forecasting*, **2013**, 28, 1337-1352	2.1	81
100	Detection of Asian dust in California orographic precipitation. *Journal of Geophysical Research*, **2011**, 116,		81
99	Modification of Fronts and Precipitation by Coastal Blocking during an Intense Landfalling Winter Storm in Southern California: Observations during CALJET. *Monthly Weather Review*, **2004**, 132, 242-273	2.4	78
98	The Impact of a Prominent Rain Shadow on Flooding in California's Santa Cruz Mountains: A CALJET Case Study and Sensitivity to the ENSO Cycle. *Journal of Hydrometeorology*, **2003**, 4, 1243-1264	3.7	76
97	Impacts of Atmospheric Rivers on Precipitation in Southern South America. *Journal of Hydrometeorology*, **2018**, 19, 1671-1687	3.7	76
96	The Inland Penetration of Atmospheric Rivers over Western North America: A Lagrangian Analysis. *Monthly Weather Review*, **2015**, 143, 1924-1944	2.4	75
95	The Atmospheric River Tracking Method Intercomparison Project (ARTMIP): Quantifying Uncertainties in Atmospheric River Climatology. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 13777-13802	4.4	75

94	Raindrop Size Distributions and Rain Characteristics in California Coastal Rainfall for Periods with and without a Radar Bright Band. *Journal of Hydrometeorology*, **2008**, 9, 408-425	3.7	74
93	. *IEEE Transactions on Geoscience and Remote Sensing*, **2013**, 51, 2166-2176	8.1	67
92	Hydrometeorological characteristics of rain-on-snow events associated with atmospheric rivers. *Geophysical Research Letters*, **2016**, 43, 2964-2973	4.9	67
91	Extreme changes in stable hydrogen isotopes and precipitation characteristics in a landfalling Pacific storm. *Geophysical Research Letters*, **2008**, 35,	4.9	62
90	The Relationship Between Extratropical Cyclone Strength and Atmospheric River Intensity and Position. *Geophysical Research Letters*, **2019**, 46, 1814-1823	4.9	62
89	Predictability of horizontal water vapor transport relative to precipitation: Enhancing situational awareness for forecasting western U.S. extreme precipitation and flooding. *Geophysical Research Letters*, **2016**, 43, 2275-2282	4.9	57
88	Linking Atmospheric River Hydrological Impacts on the U.S. West Coast to Rossby Wave Breaking. *Journal of Climate*, **2017**, 30, 3381-3399	4.4	56
87	Global Assessment of Atmospheric River Prediction Skill. *Journal of Hydrometeorology*, **2018**, 19, 409-426	3.7	55
86	An Intercomparison between Reanalysis and Dropsonde Observations of the Total Water Vapor Transport in Individual Atmospheric Rivers. *Journal of Hydrometeorology*, **2018**, 19, 321-337	3.7	54
85	Synoptic conditions associated with cool season post-fire debris flows in the Transverse Ranges of southern California. *Natural Hazards*, **2017**, 88, 327-354	3	54
84	ARTMIP-early start comparison of atmospheric river detection tools: how many atmospheric rivers hit northern California's Russian River watershed?. *Climate Dynamics*, **2019**, 52, 4973-4994	4.2	54
83	Atmospheric rivers drive flood damages in the western United States. *Science Advances*, **2019**, 5, eaax4631	14.3	51
82	Developing a Performance Measure for Snow-Level Forecasts. *Journal of Hydrometeorology*, **2010**, 11, 739-753	3.7	50
81	Synoptic and Topographic Variability of Northern California Precipitation Characteristics in Landfalling Winter Storms Observed during CALJET. *Monthly Weather Review*, **2006**, 134, 2072-2094	2.4	49
80	The Emergence of Weather-Related Test Beds Linking Research and Forecasting Operations. *Bulletin of the American Meteorological Society*, **2013**, 94, 1187-1211	6.1	48
79	Extending the Dynamic Range of an S-Band Radar for Cloud and Precipitation Studies. *Journal of Atmospheric and Oceanic Technology*, **2000**, 17, 1226-1234	2	48
78	Sierra Barrier Jets, Atmospheric Rivers, and Precipitation Characteristics in Northern California: A Composite Perspective Based on a Network of Wind Profilers. *Monthly Weather Review*, **2013**, 141, 4211-4233	2.4	45
77	The Role of Atmospheric Rivers in Extratropical and Polar Hydroclimate. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 6804-6821	4.4	45

76	Extreme Quantitative Precipitation Forecast Performance at the Weather Prediction Center from 2001 to 2011. *Weather and Forecasting*, **2014**, 29, 894-911	2.1	44
75	Kinematic and Thermodynamic Structures of Sierra Barrier Jets and Overrunning Atmospheric Rivers during a Landfalling Winter Storm in Northern California. *Monthly Weather Review*, **2013**, 141, 2015-2036	2.4	42
74	Global evaluation of atmospheric river subseasonal prediction skill. *Climate Dynamics*, **2019**, 52, 3039-3060	4.2	39
73	Design and quantification of an extreme winter storm scenario for emergency preparedness and planning exercises in California. *Natural Hazards*, **2012**, 60, 1085-1111	3	38
72	Use of Information by National Weather Service Forecasters and Emergency Managers during CALJET and PACJET-2001. *Weather and Forecasting*, **2007**, 22, 539-555	2.1	37
71	Wintertime Nonbrightband Rain in California and Oregon during CALJET and PACJET: Geographic, Interannual, and Synoptic Variability. *Monthly Weather Review*, **2005**, 133, 1199-1223	2.4	37
70	The Landfall and Inland Penetration of a Flood-Producing Atmospheric River in Arizona. Part II: Sensitivity of Modeled Precipitation to Terrain Height and Atmospheric River Orientation. *Journal of Hydrometeorology*, **2014**, 15, 1954-1974	3.7	36
69	A Seven-Year Wind Profiler–Based Climatology of the Windward Barrier Jet along California's Northern Sierra Nevada. *Monthly Weather Review*, **2010**, 138, 1206-1233	2.4	36
68	Evaluation of Atmospheric River Predictions by the WRF Model Using Aircraft and Regional Mesonet Observations of Orographic Precipitation and Its Forcing. *Journal of Hydrometeorology*, **2018**, 19, 1097-1113	3.7	33
67	Landfalling Atmospheric Rivers, the Sierra Barrier Jet, and Extreme Daily Precipitation in Northern California's Upper Sacramento River Watershed. *Journal of Hydrometeorology*, **2016**, 17, 1905-1914	3.7	30
66	Forecasting Atmospheric Rivers during CalWater 2015. *Bulletin of the American Meteorological Society*, **2017**, 98, 449-459	6.1	29
65	Chemical properties of insoluble precipitation residue particles. *Journal of Aerosol Science*, **2014**, 76, 13-27	4.3	28
64	The Impacts of California's San Francisco Bay Area Gap on Precipitation Observed in the Sierra Nevada during HMT and CalWater. *Journal of Hydrometeorology*, **2015**, 16, 1048-1069	3.7	27
63	NOAA's Rapid Response to the Howard A. Hanson Dam Flood Risk Management Crisis. *Bulletin of the American Meteorological Society*, **2012**, 93, 189-207	6.1	25
62	A Multiwinter Analysis of Channeled Flow through a Prominent Gap along the Northern California Coast during CALJET and PACJET. *Monthly Weather Review*, **2006**, 134, 1815-1841	2.4	25
61	Atmospheric rivers impacting Northern California and their modulation by a variable climate. *Climate Dynamics*, **2019**, 52, 6569-6583	4.2	24
60	Experimental Subseasonal-to-Seasonal (S2S) Forecasting of Atmospheric Rivers Over the Western United States. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 11242-11265	4.4	23
59	Vertical Structure of Precipitation and Related Microphysics Observed by NOAA Profilers and TRMM during NAME 2004. *Journal of Climate*, **2007**, 20, 1693-1712	4.4	23

58	Quantitative Assessment of Operational Weather Radar Rainfall Estimates over California's Northern Sonoma County Using HMT-West Data. *Journal of Hydrometeorology*, **2014**, 15, 393-410	3.7	22
57	Categorisation of northern California rainfall for periods with and without a radar brightband using stable isotopes and a novel automated precipitation collector. View all notes. *Tellus, Series B: Chemical and Physical Meteorology*, **2015**, 67, 28574	3.3	21
56	Circulation Drivers of Atmospheric Rivers at the North American West Coast. *Geophysical Research Letters*, **2018**, 45, 12,576	4.9	21
55	An Airborne and Ground-Based Study of a Long-Lived and Intense Atmospheric River with Mesoscale Frontal Waves Impacting California during CalWater-2014. *Monthly Weather Review*, **2016**, 144, 1115-1144	2.4	20
54	Intercomparison of integrated water vapor retrievals from SSM/I and COSMIC. *Geophysical Research Letters*, **2008**, 35,	4.9	20
53	Synoptic and Mesoscale Forcing of Southern California Extreme Precipitation. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 13,714	4.4	20
52	Assessment of Numerical Weather Prediction Model Reforecasts of the Occurrence, Intensity, and Location of Atmospheric Rivers along the West Coast of North America. *Monthly Weather Review*, **2018**, 146, 3343-3362	2.4	20
51	The Gauging and Modeling of Rivers in the Sky. *Geophysical Research Letters*, **2018**, 45, 7828-7834	4.9	19
50	The Regional Influence of an Intense Sierra Barrier Jet and Landfalling Atmospheric River on Orographic Precipitation in Northern California: A Case Study. *Journal of Hydrometeorology*, **2014**, 15, 1419-1439	3.7	19
49	Empirical Return Periods of the Most Intense Vapor Transports during Historical Atmospheric River Landfalls on the U.S. West Coast. *Journal of Hydrometeorology*, **2018**, 19, 1363-1377	3.7	19
48	Assimilation of GPS Radio Occultation Data for an Intense Atmospheric River with the NCEP Regional GSI System. *Monthly Weather Review*, **2011**, 139, 2170-2183	2.4	18
47	Precipitation Identification from Radar Wind Profiler Spectral Moment Data: Vertical Velocity Histograms, Velocity Variance, and Signal Power. Vertical Velocity Correlations. *Journal of Atmospheric and Oceanic Technology*, **1996**, 13, 545-559	2	18
46	An Airborne Study of an Atmospheric River over the Subtropical Pacific during WISPAR: Dropsonde Budget-Box Diagnostics and Precipitation Impacts in Hawaii. *Monthly Weather Review*, **2014**, 142, 3199-3223	2.4	17
45	West Coast Forecast Challenges and Development of Atmospheric River Reconnaissance. *Bulletin of the American Meteorological Society*, **2020**, 101, E1357-E1377	6.1	17
44	Adjoint Sensitivity of North Pacific Atmospheric River Forecasts. *Monthly Weather Review*, **2019**, 147, 1871-1897	2.4	16
43	Extreme Runoff Generation From Atmospheric River Driven Snowmelt During the 2017 Oroville Dam Spillways Incident. *Geophysical Research Letters*, **2020**, 47, e2020GL088189	4.9	15
42	GPM Satellite Radar Measurements of Precipitation and Freezing Level in Atmospheric Rivers: Comparison With Ground-Based Radars and Reanalyses. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 12,747	4.4	15
41	Atmospheric River Families: Definition and Associated Synoptic Conditions. *Journal of Hydrometeorology*, **2019**, 20, 2091-2108	3.7	14

40	A 142-Year Climatology of Northern California Landslides and Atmospheric Rivers. *Bulletin of the American Meteorological Society*, **2019**, 100, 1499-1509	6.1	14
39	Climatology of Extreme Daily Precipitation in Colorado and Its Diverse Spatial and Seasonal Variability. *Journal of Hydrometeorology*, **2015**, 16, 781-792	3.7	14
38	The Role of Hydrological Initial Conditions on Atmospheric River Floods in the Russian River Basin. *Journal of Hydrometeorology*, **2019**, 20, 1667-1686	3.7	11
37	Atmospheric River Reconnaissance Observation Impact in the Navy Global Forecast System. *Monthly Weather Review*, **2020**, 148, 763-782	2.4	11
36	Floods due to Atmospheric Rivers along the U.S. West Coast: The Role of Antecedent Soil Moisture in a Warming Climate. *Journal of Hydrometeorology*, **2020**, 21, 1827-1845	3.7	10
35	Rapid Cyclogenesis from a Mesoscale Frontal Wave on an Atmospheric River: Impacts on Forecast Skill and Predictability during Atmospheric River Landfall. *Journal of Hydrometeorology*, **2019**, 20, 1779-1794	3.7	8
34	Contrasting local and long-range-transported warm ice-nucleating particles during an atmospheric river in coastal California, USA. *Atmospheric Chemistry and Physics*, **2019**, 19, 4193-4210	6.8	8
33	GPM Satellite Radar Observations of Precipitation Mechanisms in Atmospheric Rivers. *Monthly Weather Review*, **2020**, 148, 1449-1463	2.4	8
32	Forecast Errors and Uncertainties in Atmospheric Rivers. *Weather and Forecasting*, **2020**, 35, 1447-1458	2.1	8
31	A Case Study of the Physical Processes Associated with the Atmospheric River Initial-Condition Sensitivity from an Adjoint Model. *Journals of the Atmospheric Sciences*, **2020**, 77, 691-709	2.1	8
30	Dropsonde Observations of the Ageostrophy within the Pre-Cold-Frontal Low-Level Jet Associated with Atmospheric Rivers. *Monthly Weather Review*, **2020**, 148, 1389-1406	2.4	7
29	Skill of Rain–Snow Level Forecasts for Landfalling Atmospheric Rivers: A Multimodel Assessment Using California's Network of Vertically Profiling Radars. *Journal of Hydrometeorology*, **2020**, 21, 751-771	3.7	7
28	Improved forecasts of atmospheric rivers through systematic reconnaissance, better modelling, and insights on conversion of rain to flooding. *Communications Earth & Environment*, **2020**, 1,	6.1	7
27	The Hydrometeorological Observation Network in California's Russian River Watershed: Development, Characteristics, and Key Findings from 1997 to 2019. *Bulletin of the American Meteorological Society*, **2020**, 101, E1781-E1800	6.1	6
26	The Use of Snow-Level Observations Derived from Vertically Profiling Radars to Assess Hydrometeorological Characteristics and Forecasts over Washington's Green River Basin. *Journal of Hydrometeorology*, **2014**, 15, 2522-2541	3.7	6
25	Freezing Level Forecast Error Can Consume Reservoir Flood Control Storage: Potentials for Lake Oroville and New Bullards Bar Reservoirs in California. *Water Resources Research*, **2020**, 56, e2020WR027072	5.4	6
24	A multimodel evaluation of the water vapor budget in atmospheric rivers. *Annals of the New York Academy of Sciences*, **2020**, 1472, 139-154	6.5	5
23	Recent Changes in United States Extreme 3-Day Precipitation Using the R-CAT Scale. *Journal of Hydrometeorology*, **2020**, 21, 1207-1221	3.7	5

22	European West Coast atmospheric rivers: A scale to characterize strength and impacts. *Weather and Climate Extremes*, **2021**, 31, 100305	6	5
21	Structure, Process, and Mechanism **2020**, 15-43		4
20	Four Atmospheric Circulation Regimes Over the North Pacific and Their Relationship to California Precipitation on Daily to Seasonal Timescales. *Geophysical Research Letters*, **2020**, 47, e2020GL087609	4.9	3
19	The Chiricahua Gap and the Role of Easterly Water Vapor Transport in Southeastern Arizona Monsoon Precipitation. *Journal of Hydrometeorology*, **2017**, 18, 2511-2520	3.7	3
18	The Observed Water Vapor Budget in an Atmospheric River over the Northeast Pacific. *Journal of Hydrometeorology*, **2020**, 21, 2655-2673	3.7	3
17	The Future of Atmospheric River Research and Applications **2020**, 219-247		3
16	A soil moisture monitoring network to assess controls on runoff generation during atmospheric river events. *Hydrological Processes*, **2021**, 35,	3.3	3
15	Dusty Atmospheric Rivers: Characteristics and Origins. *Journal of Climate*, **2020**, 33, 9749-9762	4.4	2
14	Global and Regional Perspectives **2020**, 89-140		2
13	The Role of Air–Sea Interactions in Atmospheric Rivers: Case Studies Using the SKRIPS Regional Coupled Model. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2020JD032885	4.4	2
12	Genesis Locations of the Costliest Atmospheric Rivers Impacting the Western United States. *Geophysical Research Letters*, **2021**, 48, e2021GL093947	4.9	2
11	Terrain Trapped Airflows and Precipitation Variability during an Atmospheric River Event. *Journal of Hydrometeorology*, **2020**, 21, 355-375	3.7	1
10	Training the Next Generation of Researchers in the Science and Application of Atmospheric Rivers. *Bulletin of the American Meteorological Society*, **2020**, 101, E738-E743	6.1	1
9	A Climatology of Narrow Cold-Frontal Rainbands in Southern California. *Geophysical Research Letters*, **2022**, 49,	4.9	1
8	Applications of Knowledge and Predictions of Atmospheric Rivers **2020**, 201-218		1
7	Improved Forecast Skill Through the Assimilation of Dropsonde Observations From the Atmospheric River Reconnaissance Program. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2021JD034967	4.4	1
6	Uncertainty in different precipitation products in the case of two atmospheric river events. *Environmental Research Letters*, **2021**, 16, 045012	6.2	1
5	Atmospheric River Tracking Method Intercomparison Project (ARTMIP): Project Goals and Experimental Design **2018**,		1

List of Publications

4	Contrasting Local and Long-Range Transported Warm Ice-Nucleating Particles During an Atmospheric River in Coastal California, USA **2018**,		1
3	Large-Scale Environments of Successive Atmospheric River Events Leading to Compound Precipitation Extremes in California. *Journal of Climate*, **2022**, 35, 1515-1536	4.4	0
2	Introduction to Atmospheric Rivers **2020**, 1-13		
1	Observing and Detecting Atmospheric Rivers **2020**, 45-87		