Sandrine Bony

List of Publications by Year
in descending order

146 papers	23,738 citations	18482 62 h-index	13379 130 g-index
169 all docs	169 docs citations	169 times ranked	15426 citing authors

#	Article	IF	Citations
1	Overview of the Coupled Model Intercomparison Project Phase 6 (CMIP6) experimental design and organization. Geoscientific Model Development, 2016, 9, 1937-1958.	3.6	5,303
2	Climate change projections using the IPSL-CM5 Earth System Model: from CMIP3 to CMIP5. Climate Dynamics, 2013, 40, 2123-2165.	3.8	1,425
3	Marine boundary layer clouds at the heart of tropical cloud feedback uncertainties in climate models. Geophysical Research Letters, 2005, 32, .	4.0	961
4	How Well Do We Understand and Evaluate Climate Change Feedback Processes?. Journal of Climate, 2006, 19, 3445-3482.	3.2	849
5	The LMDZ4 general circulation model: climate performance and sensitivity to parametrized physics with emphasis on tropical convection. Climate Dynamics, 2006, 27, 787-813.	3.8	795
6	Clouds, circulation and climate sensitivity. Nature Geoscience, 2015, 8, 261-268.	12.9	647
7	Spread in model climate sensitivity traced to atmospheric convective mixing. Nature, 2014, 505, 37-42.	27.8	586
8	Presentation and Evaluation of the IPSLâ€CM6Aâ€LR Climate Model. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS002010.	3.8	541
9	COSP: Satellite simulation software for model assessment. Bulletin of the American Meteorological Society, 2011, 92, 1023-1043.	3.3	483
10	On the interpretation of inter-model spread in CMIP5 climate sensitivity estimates. Climate Dynamics, 2013, 41, 3339-3362.	3.8	423
11	Influence of convective processes on the isotopic composition (<i>Î´</i>¹⁸O and <i>Î´</i>D) of precipitation and water vapor in the tropics: 2. Physical interpretation of the amount effect. Journal of Geophysical Research, 2008, 113, .	3.3	419
12	On dynamic and thermodynamic components of cloud changes. Climate Dynamics, 2004, 22, 71-86.	3.8	373
13	An Assessment of the Primary Sources of Spread of Global Warming Estimates from Coupled Atmosphereâ€"Ocean Models. Journal of Climate, 2008, 21, 5135-5144.	3.2	366
14	Combining ERBE and ISCCP data to assess clouds in the Hadley Centre, ECMWF and LMD atmospheric climate models. Climate Dynamics, 2001, 17, 905-922.	3.8	354
15	Climate Data Challenges in the 21st Century. Science, 2011, 331, 700-702.	12.6	344
16	Robust direct effect of carbon dioxide on tropical circulation and regional precipitation. Nature Geoscience, 2013, 6, 447-451.	12.9	338
17	On the contribution of local feedback mechanisms to the range of climate sensitivity in two GCM ensembles. Climate Dynamics, 2006, 27, 17-38.	3.8	334
18	What Are Climate Models Missing?. Science, 2013, 340, 1053-1054.	12.6	333

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19	The GCMâ€Oriented CALIPSO Cloud Product (CALIPSOâ€GOCCP). Journal of Geophysical Research, 2010, 115, .	3.3	285
20	Waterâ€stable isotopes in the LMDZ4 general circulation model: Model evaluation for presentâ€day and past climates and applications to climatic interpretations of tropical isotopic records. Journal of Geophysical Research, 2010, 115, .	3.3	261
21	The â€˜too few, too brightâ€™ tropical lowâ€cloud problem in CMIP5 models. Geophysical Research Letters, 2012, 39, .	4.0	261
22	LMDZ5B: the atmospheric component of the IPSL climate model with revisited parameterizations for clouds and convection. Climate Dynamics, 2013, 40, 2193-2222.	3.8	256
23	Comparing clouds and their seasonal variations in 10 atmospheric general circulation models with satellite measurements. Journal of Geophysical Research, 2005, 110, .	3.3	250
24	Impact of the LMDZ atmospheric grid configuration on the climate and sensitivity of the IPSL-CM5A coupled model. Climate Dynamics, 2013, 40, 2167-2192.	3.8	250
25	SIRTA, a ground-based atmospheric observatory for cloud and aerosol research. Annales Geophysicae, 2005, 23, 253-275.	1.6	240
26	Adjustments in the Forcing-Feedback Framework for Understanding Climate Change. Bulletin of the American Meteorological Society, 2015, 96, 217-228.	3.3	239
27	Key features of the IPSL ocean atmosphere model and its sensitivity to atmospheric resolution. Climate Dynamics, 2010, 34, 1-26.	3.8	235
28	CMIP5 Scientific Gaps and Recommendations for CMIP6. Bulletin of the American Meteorological Society, 2017, 98, 95-105.	3.3	207
29	A Parameterization of the Cloudiness Associated with Cumulus Convection; Evaluation Using TOGA COARE Data. Journals of the Atmospheric Sciences, 2001, 58, 3158-3183.	1.7	201
30	Use of CALIPSO lidar observations to evaluate the cloudiness simulated by a climate model. Geophysical Research Letters, 2008, 35, .	4.0	191
31	Influence of convective processes on the isotopic composition (<i>Î´</i>¹⁸O and <i>Î´</i>D) of precipitation and water vapor in the tropics: 1. Radiativeâ€convective equilibrium and Tropical Oceanâ€“Global Atmosphereâ€“Coupled Oceanâ€Atmosphere Response Experiment (TOGAâ€COARE) simulations. Journal of Geophysical Research, 2008, 113, .	3.3	189
32	The Cloud Feedback Model Intercomparison Project (CFMIP) contribution to CMIP6. Geoscientific Model Development, 2017, 10, 359-384.	3.6	186
33	The Role of Large-Scale Atmospheric Circulation in the Relationship between Tropical Convection and Sea Surface Temperature. Journal of Climate, 1997, 10, 381-392.	3.2	185
34	Sea Surface Temperature and Large-Scale Circulation Influences on Tropical Greenhouse Effect and Cloud Radiative Forcing. Journal of Climate, 1997, 10, 2055-2077.	3.2	175
35	Observational Evidence for Relationships between the Degree of Aggregation of Deep Convection, Water Vapor, Surface Fluxes, and Radiation. Journal of Climate, 2012, 25, 6885-6904.	3.2	174
36	Thermodynamic control of anvil cloud amount. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8927-8932.	7.1	172

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37	What favors convective aggregation and why?. Geophysical Research Letters, 2015, 42, 5626-5634.	4.0	166
38	What are the climate controls on Î´D in precipitation in the Zongo Valley (Bolivia)? Implications for the Illimani ice core interpretation. Earth and Planetary Science Letters, 2005, 240, 205-220.	4.4	149
39	CGILS: Results from the first phase of an international project to understand the physical mechanisms of low cloud feedbacks in single column models. Journal of Advances in Modeling Earth Systems, 2013, 5, 826-842.	3.8	140
40	Interpretation of the positive low-cloud feedback predicted by a climate model under global warming. Climate Dynamics, 2013, 40, 2415-2431.	3.8	133
41	EUREC4A: A Field Campaign to Elucidate the Couplings Between Clouds, Convection and Circulation. Surveys in Geophysics, 2017, 38, 1529-1568.	4.6	132
42	Climate Model Intercomparisons: Preparing for the Next Phase. Eos, 2014, 95, 77-78.	0.1	129
43	Radiativeâ€“convective equilibrium model intercomparison project. Geoscientific Model Development, 2018, 11, 793-813.	3.6	127
44	Prospects for narrowing bounds on Earth's equilibrium climate sensitivity. Earth's Future, 2016, 4, 512-522.	6.3	123
45	Processâ€evaluation of tropospheric humidity simulated by general circulation models using water vapor isotopologues: 1. Comparison between models and observations. Journal of Geophysical Research, 2012, 117, .	3.3	114
46	Physical mechanisms controlling the initiation of convective selfâ€aggregation in a General Circulation Model. Journal of Advances in Modeling Earth Systems, 2015, 7, 2060-2078.	3.8	114
47	What controls the isotopic composition of the African monsoon precipitation? Insights from eventâ€based precipitation collected during the 2006 AMMA field campaign. Geophysical Research Letters, 2008, 35, .	4.0	113
48	On the Role of Moist Processes in Tropical Intraseasonal Variability: Cloudâ€“Radiation and Moistureâ€“Convection Feedbacks. Journals of the Atmospheric Sciences, 2005, 62, 2770-2789.	1.7	110
49	On the Correspondence between Mean Forecast Errors and Climate Errors in CMIP5 Models. Journal of Climate, 2014, 27, 1781-1798.	3.2	110
50	Observing Convective Aggregation. Surveys in Geophysics, 2017, 38, 1199-1236.	4.6	102
51	Understanding the Sahelian water budget through the isotopic composition of water vapor and precipitation. Journal of Geophysical Research, 2010, 115, .	3.3	95
52	Shallowness of tropical low clouds as a predictor of climate modelsâ€™ response to warming. Climate Dynamics, 2016, 47, 433-449.	3.8	92
53	Water in the atmosphere. Physics Today, 2013, 66, 29-34.	0.3	89
54	EUREC⁴A. Earth System Science Data, 2021, 13, 4067-4119.	9.9	88

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55	Clouds and Convective Selfâ€Aggregation in a Multimodel Ensemble of Radiativeâ€Convective Equilibrium Simulations. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002138.	3.8	86
56	Combined measurements of 17Oexcess and d-excess in African monsoon precipitation: Implications for evaluating convective parameterizations. Earth and Planetary Science Letters, 2010, 298, 104-112.	4.4	84
57	Climate research must sharpen its view. Nature Climate Change, 2017, 7, 89-91.	18.8	80
58	Using aquaplanets to understand the robust responses of comprehensive climate models to forcing. Climate Dynamics, 2015, 44, 1957-1977.	3.8	79
59	Sugar, gravel, fish and flowers: Mesoscale cloud patterns in the trade winds. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 141-152.	2.7	78
60	Processâ€evaluation of tropospheric humidity simulated by general circulation models using water vapor isotopic observations: 2. Using isotopic diagnostics to understand the mid and upper tropospheric moist bias in the tropics and subtropics. Journal of Geophysical Research, 2012, 117, .	3.3	77
61	Does convective aggregation need to be represented in cumulus parameterizations?. Journal of Advances in Modeling Earth Systems, 2013, 5, 692-703.	3.8	69
62	The Influence of Atmospheric Cloud Radiative Effects on the Large-Scale Atmospheric Circulation. Journal of Climate, 2015, 28, 7263-7278.	3.2	68
63	West African monsoon dynamics and precipitation: the competition between global SST warming and CO2 increase in CMIP5 idealized simulations. Climate Dynamics, 2017, 48, 1353-1373.	3.8	67
64	Evolution of the stable water isotopic composition of the rain sampled along Sahelian squall lines. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 227-242.	2.7	66
65	Coupling between lowerâ€tropospheric convective mixing and lowâ€level clouds: Physical mechanisms and dependence on convection scheme. Journal of Advances in Modeling Earth Systems, 2016, 8, 1892-1911.	3.8	66
66	The impact of parametrized convection on cloud feedback. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140414.	3.4	63
67	Understanding the ¹⁷O excess glacialâ€interglacial variations in Vostok precipitation. Journal of Geophysical Research, 2010, 115, .	3.3	62
68	Mid-tropospheric ÎΌD observations from IASI/MetOp at high spatial and temporal resolution. Atmospheric Chemistry and Physics, 2012, 12, 10817-10832.	4.9	62
69	The radiative impact of clouds on the shift of the Intertropical Convergence Zone. Geophysical Research Letters, 2014, 41, 4308-4315.	4.0	61
70	Comparison and Satellite Assessment of NASA/DAO and NCEPâ€"NCAR Reanalyses over Tropical Ocean: Atmospheric Hydrology and Radiation. Journal of Climate, 1997, 10, 1441-1462.	3.2	54
71	Sugar, Gravel, Fish, and Flowers: Dependence of Mesoscale Patterns of Tradeâ€Wind Clouds on Environmental Conditions. Geophysical Research Letters, 2020, 47, e2019GL085988.	4.0	51
72	How may lowâ€cloud radiative properties simulated in the current climate influence lowâ€cloud feedbacks under global warming?. Geophysical Research Letters, 2012, 39, .	4.0	50

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73	Measuring Area-Averaged Vertical Motions with Dropsondes. Journals of the Atmospheric Sciences, 2019, 76, 767-783.	1.7	50
74	Evaluation of HIV serial and parallel serologic testing algorithms in Abidjan, CÃ´te dâ€²Ivoire. Aids, 1999, 13, 109-117.	2.2	49
75	Correction to â€œWaterâ€ѕtable isotopes in the LMDZ4 general circulation model: Model evaluation for presentâ€day and past climates and applications to climatic interpretations of tropical isotopic recordsâ€. Journal of Geophysical Research, 2010, 115, .	3.3	48
76	Carbon Dioxide and Climate: Perspectives on a Scientific Assessment. , 2013, , 391-413.		48
77	Influence of lowâ€cloud radiative effects on tropical circulation and precipitation. Journal of Advances in Modeling Earth Systems, 2014, 6, 513-526.	3.8	48
78	Mechanisms and Model Diversity of Trade-Wind Shallow Cumulus Cloud Feedbacks: A Review. Surveys in Geophysics, 2017, 38, 1331-1353.	4.6	48
79	A New Look at the Daily Cycle of Trade Wind Cumuli. Journal of Advances in Modeling Earth Systems, 2019, 11, 3148-3166.	3.8	48
80	Evaluation of a component of the cloud response to climate change in an intercomparison of climate models. Climate Dynamics, 2006, 26, 145-165.	3.8	47
81	A High-Altitude Long-Range Aircraft Configured as a Cloud Observatory: The NARVAL Expeditions. Bulletin of the American Meteorological Society, 2019, 100, 1061-1077.	3.3	47
82	Observed Relationships between Cloud Vertical Structure and Convective Aggregation over Tropical Ocean. Journal of Climate, 2017, 30, 2187-2207.	3.2	46
83	Observed dependence of the water vapor and clear-sky greenhouse effect on sea surface temperature: comparison with climate warming experiments. Climate Dynamics, 1995, 11, 307-320.	3.8	45
84	Thermodynamic constraint on the depth of the global tropospheric circulation. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8181-8186.	7.1	42
85	Comparison of the seasonal change in cloud-radiative forcing from atmospheric general circulation models and satellite observations. Journal of Geophysical Research, 1997, 102, 16593-16603.	3.3	41
86	A global survey of the instantaneous linkages between cloud vertical structure and largeâ€scale climate. Journal of Geophysical Research D: Atmospheres, 2014, 119, 3770-3792.	3.3	40
87	Impact of different convective cloud schemes on the simulation of the tropical seasonal cycle in a coupled oceanâ€“atmosphere model. Climate Dynamics, 2007, 29, 501-520.	3.8	37
88	Combining Crowdsourcing and Deep Learning to Explore the Mesoscale Organization of Shallow Convection. Bulletin of the American Meteorological Society, 2020, 101, E1980-E1995.	3.3	36
89	The CGILS experimental design to investigate low cloud feedbacks in general circulation models by using singleâ€column and largeâ€eddy simulation models. Journal of Advances in Modeling Earth Systems, 2012, 4, .	3.8	35
90	Fast and slow shifts of the zonalâ€mean intertropical convergence zone in response to an idealized anthropogenic aerosol. Journal of Advances in Modeling Earth Systems, 2017, 9, 870-892.	3.8	33

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91	Observed Modulation of the Tropical Radiation Budget by Deep Convective Organization and Lowerâ€Tropospheric Stability. AGU Advances, 2020, 1, e2019AV000155.	5.4	31
92	Indian Ocean Low Clouds during the Winter Monsoon. Journal of Climate, 2000, 13, 2028-2043.	3.2	28
93	Internal variability in a coupled general circulation model in radiativeâ€convective equilibrium. Geophysical Research Letters, 2017, 44, 5142-5149.	4.0	27
94	Identifying the Sources of Convective Memory in Cloud-Resolving Simulations. Journals of the Atmospheric Sciences, 2019, 76, 947-962.	1.7	27
95	Thermodynamic Control on the Poleward Shift of the Extratropical Jet in Climate Change Simulations: The Role of Rising High Clouds and Their Radiative Effects. Journal of Climate, 2019, 32, 917-934.	3.2	27
96	JOANNE: Joint dropsonde Observations of the Atmosphere in tropical North atlaNtic meso-scale Environments. Earth System Science Data, 2021, 13, 5253-5272.	9.9	27
97	Ship- and island-based atmospheric soundings from the 2020 EUREC⁴A field campaign. Earth System Science Data, 2021, 13, 491-514.	9.9	26
98	Presentation and analysis of the IPSL and CNRM climate models used in CMIP5. Climate Dynamics, 2013, 40, 2089-2089.	3.8	25
99	On the Interplay Between Convective Aggregation, Surface Temperature Gradients, and Climate Sensitivity. Journal of Advances in Modeling Earth Systems, 2018, 10, 3123-3138.	3.8	25
100	Interpreting the inter-model spread in regional precipitation projections in the tropics: role of surface evaporation and cloud radiative effects. Climate Dynamics, 2016, 47, 2801-2815.	3.8	24
101	Clouds and Aerosols. , 2020, , 313-328.		24
102	EUREC⁴A's <i>HALO</i>. Earth System Science Data, 2021, 13, 5545-5563.	9.9	24
103	Satellite validation of GCMâ€simulated annual cycle of the earth radiation budget and cloud forcing. Journal of Geophysical Research, 1992, 97, 18061-18081.	3.3	23
104	Current Understanding and Quantification of Clouds in the Changing Climate System and Strategies for Reducing Critical Uncertainties. , 2009, , 557-574.		22
105	Influence of the vertical structure of the atmosphere on the seasonal variation of precipitable water and greenhouse effect. Journal of Geophysical Research, 1994, 99, 12963.	3.3	21
106	Observational Evidence for a Stability Iris Effect in the Tropics. Geophysical Research Letters, 2020, 47, e2020GL089059.	4.0	21
107	Relationship Between Precipitation Extremes and Convective Organization Inferred From Satellite Observations. Geophysical Research Letters, 2020, 47, e2019GL086927.	4.0	20
108	On the Role of Clouds and Moisture in Tropical Waves: A Two-Dimensional Model Study. Journals of the Atmospheric Sciences, 2006, 63, 2140-2155.	1.7	18

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109	The diurnal cycle of marine cloud feedback in climate models. Climate Dynamics, 2015, 44, 1419-1436.	3.8	18
110	Integrated water vapour content retrievals from ship-borne GNSS receivers during EUREC⁴A. Earth System Science Data, 2021, 13, 1499-1517.	9.9	18
111	How Rossby wave breaking modulates the water cycle in the North Atlantic trade wind region. Weather and Climate Dynamics, 2021, 2, 281-309.	3.5	17
112	Integrated water vapour observations in the Caribbean arc from a network of ground-based GNSS receivers during EUREC⁴A. Earth System Science Data, 2021, 13, 2407-2436.	9.9	15
113	Estimating the Shallow Convective Mass Flux from the Subcloud-Layer Mass Budget. Journals of the Atmospheric Sciences, 2020, 77, 1559-1574.	1.7	15
114	Trade-wind clouds and aerosols characterized by airborne horizontal lidar measurements during the EUREC⁴A field campaign. Earth System Science Data, 2020, 12, 2919-2936.	9.9	13
115	The Signature of Shallow Circulations, Not Cloud Radiative Effects, in the Spatial Distribution of Tropical Precipitation. Journal of Climate, 2018, 31, 9489-9505.	3.2	11
116	Mechanisms and Model Diversity of Trade-Wind Shallow Cumulus Cloud Feedbacks: A Review. Space Sciences Series of ISSI, 2017, , 159-181.	0.0	11
117	Radiative Invigoration of Tropical Convection by Preceding Cirrus Clouds. Journals of the Atmospheric Sciences, 2018, 75, 1327-1342.	1.7	10
118	Stronger zonal convective clustering associated with a wider tropical rain belt. Nature Communications, 2019, 10, 4261.	12.8	10
119	Moist processes during MJO events as diagnosed from water isotopic measurements from the IASI satellite. Journal of Geophysical Research D: Atmospheres, 2015, 120, 10,619-10,636.	3.3	9
120	EUREC⁴A observations from the SAFIRE ATR42 aircraft. Earth System Science Data, 2022, 14, 2021-2064.	9.9	9
121	Spatial stabilization and intensification of moistening and drying rate patterns under future climate change. Climate Dynamics, 2016, 47, 951-965.	3.8	7
122	The EUREC⁴A turbulence dataset derived from the SAFIRE ATR 42 aircraft. Earth System Science Data, 2021, 13, 3379-3398.	9.9	6
123	Representation by two climate models of the dynamical and diabatic processes involved in the development of an explosively deepening cyclone during NAWDEX. Weather and Climate Dynamics, 2021, 2, 233-253.	3.5	5
124	Observing Convective Aggregation. Space Sciences Series of ISSI, 2017, , 27-64.	0.0	5
125	Observed dependence of the water vapor and clear-sky greenhouse effect on sea surface temperature: comparison with climate warming experiments. Climate Dynamics, 1995, 11, 307-320.	3.8	5
126	Simulations couplÃ©es globales des changements climatiques associÃ©s Ã une augmentation de la teneur atmosphÃ©rique en CO2. Comptes Rendus De L'AcadÃ©mie Des Sciences Earth & Planetary Sciences SÃ©rie II, Sciences De La Terre Et Des PlanÃ¨tes =, 1998, 326, 677-684.	0.2	4

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127	Climate Symposium 2014: Findings and Recommendations. Bulletin of the American Meteorological Society, 2015, 96, ES145-ES147.	3.3	4
128	The Relationship Between Convective Clustering and Mean Tropical Climate in Aquaplanet Simulations. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002070.	3.8	3
129	Influence of the Atlantic Meridional Overturning Circulation on the Tropical Climate Response to CO 2 Forcing. Geophysical Research Letters, 2018, 45, 8519-8528.	4.0	2
130	Weaker Links Between Zonal Convective Clustering and ITCZ Width in Climate Models Than in Observations. Geophysical Research Letters, 2020, 47, e2020GL090479.	4.0	2
131	Clouds as Fluids. , 2020, , 35-73.		2
132	EUREC4A: A Field Campaign to Elucidate the Couplings Between Clouds, Convection and Circulation. Space Sciences Series of ISSI, 2017, , 357-396.	0.0	2
133	Observational Strategies at Meso- and Large Scales to Reduce Critical Uncertainties in Future Cloud Changes. , 2009, , 511-530.		2
134	Preface to the Special Issue â€œISSI Workshop on Shallow Clouds and Water Vapor, Circulation and Climate Sensitivityâ€ Surveys in Geophysics, 2017, 38, 1171-1172.	4.6	1
135	Parameterising Clouds. , 2020, , 170-217.		1
136	Clouds andWarming. , 2020, , 356-388.		1
137	Cloudy Perspectives. , 2020, , 1-32.		0
138	Clouds as Particles. , 2020, , 74-98.		0
139	Clouds as Light. , 2020, , 99-122.		0
140	Conceptualising Clouds. , 2020, , 125-169.		0
141	Evaluating Clouds. , 2020, , 218-248.		0
142	Tropical and Subtropical Cloud Systems. , 2020, , 251-278.		0
143	Midlatitude Cloud Systems. , 2020, , 279-296.		0
144	Arctic Cloud Systems. , 2020, , 297-310.		0

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145	Clouds and Land. , 2020, , 329-355.		0
146	Climate Sensitivity: Cloud and Water Feedbacks and their Assessment. , 1994, , 353-367.		0