

# The Pre-Depression Investigation of Cloud-Systems in the Tropics Scientific Basis, New Analysis Tools, and Some First Results

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Application of the Marsupial Paradigm to Tropical Cyclone Formation from Northwestward-Propagating Disturbances. <i>Monthly Weather Review</i> , 2012, 140, 66-76.	0.5	25
2	A First Look at the Structure of the Wave Pouch during the 2009 PREDICTâ€“GRIP Dry Runs over the Atlantic. <i>Monthly Weather Review</i> , 2012, 140, 1144-1163.	0.5	42
3	Validation of Satellite-Derived Atmospheric Motion Vectors and Analyses around Tropical Disturbances. <i>Journal of Applied Meteorology and Climatology</i> , 2012, 51, 1823-1834.	0.6	25
4	Thermodynamic Aspects of Tropical Cyclone Formation. <i>Journals of the Atmospheric Sciences</i> , 2012, 69, 2433-2451.	0.6	103
5	Mesoscale Structural Evolution of Three Tropical Weather Systems Observed during PREDICT. <i>Journals of the Atmospheric Sciences</i> , 2012, 69, 1284-1305.	0.6	97
6	The Pre-Depression Investigation of Cloud-Systems in the Tropics (PREDICT) Field Campaign: Perspectives of Early Career Scientists. <i>Bulletin of the American Meteorological Society</i> , 2012, 93, 173-187.	1.7	10
7	A Lagrangian analysis of a developing and non-developing disturbance observed during the PREDICT experiment. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 11355-11381.	1.9	11
8	The genesis of Typhoon Nuri as observed during the Tropical Cyclone Structure 2008 (TCS08) field experiment â€“ Part 2: Observations of the convective environment. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 4001-4009.	1.9	25
9	Observations of the convective environment in developing and nonâ€“developing tropical disturbances. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2012, 138, 1721-1739.	1.0	69
10	Genesis of Hurricane Julia (2010) within an African Easterly Wave: Low-Level Vortices and Upper-Level Warming. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 3799-3817.	0.6	17
11	A numerical study of rotating convection during tropical cyclogenesis. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2013, 139, 1255-1269.	1.0	49
12	An Evaluation of Tropical Cyclone Genesis Forecasts from Global Numerical Models. <i>Weather and Forecasting</i> , 2013, 28, 1423-1445.	0.5	67
13	A Polygon-Based Line-Integral Method for Calculating Vorticity, Divergence, and Deformation from Nonuniform Observations. <i>Journal of Applied Meteorology and Climatology</i> , 2013, 52, 1511-1521.	0.6	5
14	NOAA'S Hurricane Intensity Forecasting Experiment: A Progress Report. <i>Bulletin of the American Meteorological Society</i> , 2013, 94, 859-882.	1.7	107
15	An Investigation of Composite Dropsonde Profiles for Developing and Nondeveloping Tropical Waves during the 2010 PREDICT Field Campaign. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 542-558.	0.6	55
16	NASA's Genesis and Rapid Intensification Processes (GRIP) Field Experiment. <i>Bulletin of the American Meteorological Society</i> , 2013, 94, 345-363.	1.7	96
17	A Numerical Study of the Impacts of Dry Air on Tropical Cyclone Formation: A Development Case and a Nondevelopment Case. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 91-111.	0.6	45
18	Thermodynamic Environments of Deep Convection in Atlantic Tropical Disturbances. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 1912-1928.	0.6	28

#	ARTICLE	IF	CITATIONS
19	Tropical Cloud Cluster Climatology, Variability, and Genesis Productivity. <i>Journal of Climate</i> , 2013, 26, 3046-3066.	1.2	29
20	Interannual Variability of the Atlantic Hadley Circulation in Boreal Summer and Its Impacts on Tropical Cyclone Activity. <i>Journal of Climate</i> , 2013, 26, 8529-8544.	1.2	49
21	Tropical Cyclone Formation Guidance Using Pregenesis Dvorak Climatology. Part I: Operational Forecasting and Predictive Potential. <i>Weather and Forecasting</i> , 2013, 28, 100-118.	0.5	14
22	The Role of Vortex and Environment Errors in Genesis Forecasts of Hurricanes Danielle and Karl (2010). <i>Monthly Weather Review</i> , 2013, 141, 232-251.	0.5	31
23	Clarifying the Dominant Sources and Mechanisms of Cirrus Cloud Formation. <i>Science</i> , 2013, 340, 1320-1324.	6.0	442
24	Asymmetric and axisymmetric dynamics of tropical cyclones. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 12299-12341.	1.9	110
25	The importance of low-deformation vorticity in tropical cyclone formation. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 2115-2132.	1.9	55
26	An examination of two pathways to tropical cyclogenesis occurring in idealized simulations with a cloud-resolving numerical model. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 5999-6022.	1.9	29
27	Using Citation Analysis to Explore the Collection Needs of Atmospheric Scientists/Researchers Affiliated with the Atlantic Oceanographic Meteorological Laboratory. <i>Library Collections Acquisitions and Technical Services</i> , 2014, 38, 82-91.	0.1	1
28	Characteristics of Tropical Easterly Wave Pouches during Tropical Cyclone Formation. <i>Monthly Weather Review</i> , 2014, 142, 626-633.	0.5	14
29	Predictability and Genesis of Hurricane Karl (2010) Examined through the EnKF Assimilation of Field Observations Collected during PREDICT. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 1260-1275.	0.6	13
30	Intercomparison and Coupling of Ensemble and Four-Dimensional Variational Data Assimilation Methods for the Analysis and Forecasting of Hurricane Karl (2010). <i>Monthly Weather Review</i> , 2014, 142, 3347-3364.	0.5	23
31	Analysis of the Thermodynamic Properties of Developing and Nondeveloping Tropical Disturbances Using a Comprehensive Dropsonde Dataset. <i>Monthly Weather Review</i> , 2014, 142, 1250-1264.	0.5	30
32	Ensemble-Based Error and Predictability Metrics Associated with Tropical Cyclogenesis. Part I: Basinwide Perspective. <i>Monthly Weather Review</i> , 2014, 142, 2879-2898.	0.5	18
33	Computing Deep-Tropospheric Vertical Wind Shear Analyses for Tropical Cyclone Applications: Does the Methodology Matter?. <i>Weather and Forecasting</i> , 2014, 29, 1169-1180.	0.5	29
34	Observations of Temperature in the Upper Troposphere and Lower Stratosphere of Tropical Weather Disturbances. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 1593-1608.	0.6	16
35	Genesis of Hurricane Julia (2010) within an African Easterly Wave: Developing and Nondeveloping Members from WRF-LETKF Ensemble Forecasts. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 2763-2781.	0.6	10
36	Diurnal Radiation Cycle Impact on the Pregenesis Environment of Hurricane Karl (2010). <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 1241-1259.	0.6	63

#	ARTICLE	IF	CITATIONS
37	A Multisatellite Investigation of the Convective Properties of Developing and Nondeveloping Tropical Disturbances. <i>Monthly Weather Review</i> , 2014, 142, 4624-4645.	0.5	24
38	Advances in research and forecasting of tropical cyclones from 1963–2013. <i>Asia-Pacific Journal of Atmospheric Sciences</i> , 2014, 50, 3-16.	1.3	44
39	On steady-state tropical cyclones. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2014, 140, 2638-2649.	1.0	33
40	Monitoring and Prediction of Tropical Cyclones in the Indian Ocean and Climate Change. , 2014, , .		14
41	The Impact of Targeted Dropwindsonde Observations on Tropical Cyclone Intensity Forecasts of Four Weak Systems during PREDICT. <i>Monthly Weather Review</i> , 2014, 142, 2860-2878.	0.5	24
42	ACCESS-TC: Vortex Specification, 4DVAR Initialization, Verification, and Structure Diagnostics. <i>Monthly Weather Review</i> , 2014, 142, 1265-1289.	0.5	27
43	Genesis of Hurricane Julia (2010) within an African Easterly Wave: Sensitivity Analyses of WRF-LETKF Ensemble Forecasts. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 3180-3201.	0.6	1
44	First results from an airborne GPS radio occultation system for atmospheric profiling. <i>Geophysical Research Letters</i> , 2014, 41, 1759-1765.	1.5	22
45	The genesis of Typhoon Nuri as observed during the Tropical Cyclone Structure 2008 (TCS-08) field experiment – Part 3: Dynamics of low-level spin-up during the genesis. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 8795-8812.	1.9	17
46	Interaction between dynamics and thermodynamics during tropical cyclogenesis. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 3065-3082.	1.9	49
47	Balanced dynamics and convection in the tropical troposphere. <i>Journal of Advances in Modeling Earth Systems</i> , 2015, 7, 1093-1116.	1.3	68
48	Characterization of thermal structure and conditions for overshooting of tropical and extratropical cyclones with GPS radio occultation. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 5181-5193.	1.9	34
49	The Evolution of Dropsonde-Derived Kinematic and Thermodynamic Structures in Developing and Nondeveloping Atlantic Tropical Convective Systems. <i>Monthly Weather Review</i> , 2015, 143, 3109-3135.	0.5	11
50	Observations of a Nondeveloping Tropical Disturbance in the Western North Pacific during TCS-08 (2008). <i>Monthly Weather Review</i> , 2015, 143, 2459-2484.	0.5	8
51	The Mesoscale Predictability Experiment (MPEX). <i>Bulletin of the American Meteorological Society</i> , 2015, 96, 2127-2149.	1.7	55
52	Enthalpy and Momentum Fluxes during Hurricane Earl Relative to Underlying Ocean Features. <i>Monthly Weather Review</i> , 2015, 143, 111-131.	0.5	97
53	Atlantic Hurricane Season of 2010*. <i>Monthly Weather Review</i> , 2015, 143, 3329-3353.	0.5	4
54	Examining the Roles of the Easterly Wave Critical Layer and Vorticity Accretion during the Tropical Cyclogenesis of Hurricane Sandy*. <i>Monthly Weather Review</i> , 2015, 143, 1703-1722.	0.5	18

#	ARTICLE	IF	CITATIONS
55	Measurements of Saharan Dust in Convective Clouds over the Tropical Eastern Atlantic Ocean*. Journals of the Atmospheric Sciences, 2015, 72, 75-81.	0.6	30
56	Genesis of Tropical Storm Debby (2006) within an African Easterly Wave: Roles of the Bottom-Up and Midlevel Pouch Processes. Journals of the Atmospheric Sciences, 2015, 72, 2267-2285.	0.6	6
57	Multiscale Structure and Evolution of Hurricane Earl (2010) during Rapid Intensification. Monthly Weather Review, 2015, 143, 536-562.	0.5	145
58	Development of North Atlantic Tropical Disturbances near Upper-Level Potential Vorticity Streamers. Journals of the Atmospheric Sciences, 2015, 72, 572-597.	0.6	39
59	Ensemble-Based Error and Predictability Metrics Associated with Tropical Cyclogenesis. Part II: Wave-Relative Framework. Monthly Weather Review, 2015, 143, 1665-1686.	0.5	10
60	Airborne GPS radio occultation refractivity profiles observed in tropical storm environments. Journal of Geophysical Research D: Atmospheres, 2015, 120, 1690-1709.	1.2	14
61	Elevated middle and upper troposphere ozone observed downstream of Atlantic tropical cyclones. Atmospheric Environment, 2015, 118, 70-86.	1.9	7
62	Application of the full spectrum inversion algorithm to simulated airborne GPS radio occultation signals. Atmospheric Measurement Techniques, 2016, 9, 5077-5087.	1.2	7
63	Numerical study of the spin-up of a tropical low over land during the Australian monsoon. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 2021-2032.	1.0	12
64	Predicting convective rainfall over tropical oceans from environmental conditions. Journal of Advances in Modeling Earth Systems, 2016, 8, 703-718.	1.3	19
65	Appraisal of recent theories to understand cyclogenesis pathways of tropical cyclone Madi (2013). Journal of Geophysical Research D: Atmospheres, 2016, 121, 8949-8982.	1.2	21
66	Advancing the Understanding and Prediction of Tropical Cyclones Using Aircraft Observations. , 2016, , 3-34.		1
67	Recent Advances in Tropical Cyclogenesis. , 2016, , 561-587.		3
68	Comparison of Hybrid Four-Dimensional Data Assimilation Methods with and without the Tangent Linear and Adjoint Models for Predicting the Life Cycle of Hurricane Karl (2010). Monthly Weather Review, 2016, 144, 1449-1468.	0.5	13
69	A numerical study of deep convection in tropical cyclones. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 3138-3151.	1.0	16
70	Representing Multiple Scales in the Hurricane Weather Research and Forecasting Modeling System: Design of Multiple Sets of Movable Multilevel Nesting and the Basin-Scale HWRF Forecast Application. Weather and Forecasting, 2016, 31, 2019-2034.	0.5	23
71	An assessment of the radiative effects of ice supersaturation based on in situ observations. Geophysical Research Letters, 2016, 43, 11,039.	1.5	8
72	Why did the storm ex-Gaston (2010) fail to redevelop during the PREDICT experiment?. Atmospheric Chemistry and Physics, 2016, 16, 8511-8519.	1.9	12

#	ARTICLE	IF	CITATIONS
73	A case study of a monsoon low that formed over the sea and intensified over land as seen in ECMWF analyses. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 2244-2255.	1.0	22
74	Michio Yanai and Tropical Waves. Meteorological Monographs, 2016, 56, 3.1-3.21.	5.0	6
75	On the Dynamics of the Formation of the Kelvin Cat's-Eye in Tropical Cyclogenesis. Part I: Climatological Investigation. Journals of the Atmospheric Sciences, 2016, 73, 2317-2338.	0.6	11
76	Development and Application of a Simplified Coplane Wind Retrieval Algorithm Using Dual-Beam Airborne Doppler Radar Observations for Tropical Cyclone Prediction. Monthly Weather Review, 2016, 144, 2645-2666.	0.5	0
77	Genesis of Hurricane Julia (2010) within an African Easterly Wave: Sensitivity to Ice Microphysics. Journal of Applied Meteorology and Climatology, 2016, 55, 79-92.	0.6	9
78	Assessing the Influence of Upper-Tropospheric Troughs on Tropical Cyclone Intensification Rates after Genesis. Monthly Weather Review, 2017, 145, 1295-1313.	0.5	37
79	Land-Based Convection Effects on Formation of Tropical Cyclone Mekkhalha (2008). Monthly Weather Review, 2017, 145, 1315-1337.	0.5	4
80	A Climatology of Central American Gyres. Monthly Weather Review, 2017, 145, 1983-2000.	0.5	12
81	Coupled Dynamic-Thermodynamic Forcings during Tropical Cyclogenesis. Part II: Axisymmetric Experiments. Journals of the Atmospheric Sciences, 2017, 74, 2279-2291.	0.6	7
82	A unified view of tropical cyclogenesis and intensification. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 450-462.	1.0	36
83	The effects of initial vortex size on tropical cyclogenesis and intensification. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 2832-2845.	1.0	22
84	A Study on the Influences of Low-Frequency Vorticity on Tropical Cyclone Formation in the Western North Pacific. Monthly Weather Review, 2017, 145, 4151-4169.	0.5	11
85	The role of boundary-layer friction on tropical cyclogenesis and subsequent intensification. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 2524-2536.	1.0	24
86	Tropical low formation and intensification over land as seen in ECMWF analyses. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 772-784.	1.0	9
87	Orographic Modification of Precipitation Processes in Hurricane Karl (2010). Monthly Weather Review, 2017, 145, 4171-4186.	0.5	19
88	Improvements to GPS Airborne Radio Occultation in the Lower Troposphere Through Implementation of the Phase Matching Method. Journal of Geophysical Research D: Atmospheres, 2017, 122, 10,266.	1.2	5
89	The genesis of Hurricane Nate and its interaction with a nearby environment of very dry air. Atmospheric Chemistry and Physics, 2017, 17, 10349-10366.	1.9	4
90	Hurricane Fred (2015): Cape Verde's First Hurricane in Modern Times: Observations, Impacts, and Lessons Learned. Bulletin of the American Meteorological Society, 2017, 98, 2603-2618.	1.7	4

#	ARTICLE	IF	CITATIONS
91	Influence of Stormâ€“Storm and Stormâ€“Environment Interactions on Tropical Cyclone Formation and Evolution. <i>Monthly Weather Review</i> , 2017, 145, 4855-4875.	0.5	9
92	Predictive Skill and Predictability of North Atlantic Tropical Cyclogenesis in Different Synoptic Flow Regimes. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 361-378.	0.6	22
93	What is the Key Feature of Convection Leading up to Tropical Cyclone Formation?. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 1609-1629.	0.6	26
94	The Impact of Airborne Radio Occultation Observations on the Simulation of Hurricane Karl (2010). <i>Monthly Weather Review</i> , 2018, 146, 329-350.	0.5	12
95	A numerical modelling investigation of the role of diabatic heating and cooling in the development of a mid-level vortex prior to tropical cyclogenesis â€“ Part 1: The response to stratiform components of diabatic forcing. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 14393-14416.	1.9	6
96	100 Years of Progress in Tropical Cyclone Research. <i>Meteorological Monographs</i> , 2018, 59, 15.1-15.68.	5.0	126
97	Sensitivity of airborne radio occultation to tropospheric properties over ocean and land. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 763-780.	1.2	5
98	Mesoscale Processes during the Genesis of Hurricane Karl (2010). <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 2235-2255.	0.6	16
99	Balanced Dynamics and Moisture Quasi-Equilibrium in DYNAMO Convection. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 2781-2799.	0.6	2
100	Numerical Simulation of Rapid Weakening of Hurricane Joaquin with Assimilation of High-Definition Sounding System Dropsondes during the Tropical Cyclone Intensity Experiment: Comparison of Three- and Four-Dimensional Ensembleâ€“Variational Data Assimilation. <i>Weather and Forecasting</i> , 2019, 34, 521-538.	0.5	11
101	Control of Convection in Highâ€“Resolution Simulations of Tropical Cyclogenesis. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 1582-1599.	1.3	6
102	A realization of the turbulent vortex dynamo in the atmosphere: based on the 21 <sup>st</sup> century knowledge. <i>Journal of Physics: Conference Series</i> , 2019, 1336, 012007.	0.3	2
103	An idealized numerical study of tropical cyclogenesis and evolution at the Equator. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2020, 146, 685-699.	1.0	8
104	Birth of a hurricane: early detection of large-scale vortex instability. <i>Journal of Physics: Conference Series</i> , 2020, 1640, 012023.	0.3	3
105	OTREC2019: Convection Over the East Pacific and Southwest Caribbean. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087564.	1.5	27
106	Aerosol Indirect Effects on Cirrus Clouds Based on Global Aircraft Observations. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL086550.	1.5	9
107	Sensitivity of Tropical Cyclone Formation to Resolutionâ€“Dependent and Independent Tracking Schemes in Highâ€“Resolution Climate Model Simulations. <i>Earth and Space Science</i> , 2020, 7, e2019EA000906.	1.1	13
108	Effects of thermodynamics, dynamics and aerosols on cirrus clouds based on in situ observations and NCAR CAM6. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 1835-1859.	1.9	12

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109	Emergent Properties of Convection in OTREC and PREDICT. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033585.	1.2	14
110	Multiscale Shear Impacts during the Genesis of Hagupit (2008). Monthly Weather Review, 2021, 149, 551-569.	0.5	3
111	Effect of a Low-Frequency Vortex on the Size of Typhoon Lan (2017). Monthly Weather Review, 2021, 149, 521-536.	0.5	2
112	Evolution of convective characteristics during tropical cyclogenesis. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 2103-2123.	1.0	4
113	How Does the Relationship between Ambient Deep-Tropospheric Vertical Wind Shear and Tropical Cyclone Tornadoes Change between Coastal and Inland Environments?. Weather and Forecasting, 2021, 36, 539-566.	0.5	3
114	Identifying the development of a tropical depression into a tropical storm over the South China Sea. Weather and Forecasting, 2021, , .	0.5	2
115	Recent Advances in Our Understanding of Tropical Cyclone Intensity Change Processes from Airborne Observations. Atmosphere, 2021, 12, 650.	1.0	11
116	Decadal Modulation of Trans-basin Variability on Extended Boreal Summer Tropical Cyclone Activity in the Tropical North Pacific and Atlantic Basins. Journal of Climate, 2021, , 1-49.	1.2	0
117	On the Path from the Turbulent Vortex Dynamo Theory to Diagnosis of Tropical Cyclogenesis. Open Journal of Fluid Dynamics, 2018, 08, 86-114.	0.3	13
124	Advancing Tropical Cyclone Forecasts Using Aircraft Observations. , 2014, , 169-191.		0
126	Application of Relative Humidity-Based Weighting Approach in Regional Heavy Precipitation Process of Southwest Vortex. Climate Change Research Letters, 2017, 06, 340-351.	0.0	0
127	Tropical Cyclones and Hurricanes: Observations. , 2019, , .		4
128	Southwest Pacific tropical cyclone development classification utilizing machine learning and synoptic composites. International Journal of Climatology, 2022, 42, 4187-4213.	1.5	2
129	Understanding Severe Weather Events at Airport Spatial Scale. , 2020, , .		0
130	Effective buoyancy and CAPE: Some implications for tropical cyclones. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 2118-2131.	1.0	7
131	Eyewall asymmetries and their contributions to the intensification of an idealized tropical cyclone translating in uniform flow. Journals of the Atmospheric Sciences, 2022, , .	0.6	0
132	Examination of aerosol indirect effects during cirrus cloud evolution. Atmospheric Chemistry and Physics, 2023, 23, 1103-1129.	1.9	3
134	Observations of tropical cyclones. , 2023, , 1-34.		0

#	ARTICLE	IF	CITATIONS
135	Tropical cyclone formation and intensification. , 2023, , 213-237.		0
137	Tropical cyclone life cycle. , 2023, , 313-330.		0