Omar Knio

List of Publications by Year
in descending order

119 papers	2,972 citations	159358 30 h-index	223531 46 g-index
119 all docs	119 docs citations	119 times ranked	2400 citing authors

#	Article	IF	Citations
1	A simplified reduced order Kalman filtering and application to altimetric data assimilation in Tropical Pacific. Journal of Marine Systems, 2002, 36, 101-127.	0.9	123
2	Regional Ocean Data Assimilation. Annual Review of Marine Science, 2015, 7, 21-42.	5.1	114
3	Seasonal overturning circulation in the Red Sea: 1. Model validation and summer circulation. Journal of Geophysical Research: Oceans, 2014, 119, 2238-2262.	1.0	104
4	Impacts of warming on phytoplankton abundance and phenology in a typical tropical marine ecosystem. Scientific Reports, 2018, 8, 2240.	1.6	100
5	Eddies in the Red Sea: A statistical and dynamical study. Journal of Geophysical Research: Oceans, 2014, 119, 3909-3925.	1.0	98
6	Seasonal overturning circulation in the Red Sea: 2. Winter circulation. Journal of Geophysical Research: Oceans, 2014, 119, 2263-2289.	1.0	93
7	Multiple stressor effects on coral reef ecosystems. Global Change Biology, 2019, 25, 4131-4146.	4.2	83
8	A high-resolution assessment of wind and wave energy potentials in the Red Sea. Applied Energy, 2016, 181, 244-255.	5.1	79
9	The Red Sea: A Natural Laboratory for Wind and Wave Modeling. Journal of Physical Oceanography, 2014, 44, 3139-3159.	0.7	71
10	Climatic features of the Red Sea from a regional assimilative model. International Journal of Climatology, 2017, 37, 2563-2581.	1.5	70
11	Sensing coral reef connectivity pathways from space. Scientific Reports, 2017, 7, 9338.	1.6	65
12	A MITgcm/DART ensemble analysis and prediction system with application to the Gulf of Mexico. Dynamics of Atmospheres and Oceans, 2013, 63, 1-23.	0.7	64
13	Marine heatwaves reveal coral reef zones susceptible to bleaching in the Red Sea. Global Change Biology, 2019, 25, 2338-2351.	4.2	61
14	The eddy kinetic energy budget in the Red Sea. Journal of Geophysical Research: Oceans, 2016, 121, 4732-4747.	1.0	58
15	Intra-Season Crop Height Variability at Commercial Farm Scales Using a Fixed-Wing UAV. Remote Sensing, 2018, 10, 2007.	1.8	52
16	Surface air temperature variability over the Arabian Peninsula and its links to circulation patterns. International Journal of Climatology, 2019, 39, 445-464.	1.5	52
17	The Gulf of Aden Intermediate Water Intrusion Regulates the Southern Red Sea Summer Phytoplankton Blooms. PLoS ONE, 2016, 11, e0168440.	1.1	50
18	The climatology of the Red Seaâ€"part 1: the wind. International Journal of Climatology, 2017, 37, 4509-4517.	1.5	49

#	ARTICLE	IF	CITATIONS
19	High-resolution assessment of solar energy resources over the Arabian Peninsula. Applied Energy, 2019, 248, 354-371.	5.1	48
20	A diagnostic study of extreme precipitation over Kerala during August 2018. Atmospheric Science Letters, 2019, 20, e941.	0.8	42
21	Variability of monsoon low-level jet and associated rainfall over India. International Journal of Climatology, 2020, 40, 1067-1089.	1.5	42
22	ENSO influence on the interannual variability of the Red Sea convergence zone and associated rainfall. International Journal of Climatology, 2018, 38, 761-775.	1.5	41
23	State estimates and forecasts of the loop current in the Gulf of Mexico using the MITgcm and its adjoint. Journal of Geophysical Research: Oceans, 2013, 118, 3292-3314.	1.0	40
24	Atmospheric Forcing of the Winter Air–Sea Heat Fluxes over the Northern Red Sea. Journal of Climate, 2013, 26, 1685-1701.	1.2	40
25	Increasing heavy rainfall events in south India due to changing land use and land cover. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 3064-3085.	1.0	40
26	Impacts of Climate Modes on Air–Sea Heat Exchange in the Red Sea. Journal of Climate, 2015, 28, 2665-2681.	1.2	39
27	The role of the Indian Summer Monsoon variability on Arabian Peninsula summer climate. Climate Dynamics, 2019, 52, 3389-3404.	1.7	37
28	Factors governing the deep ventilation of the Red Sea. Journal of Geophysical Research: Oceans, 2015, 120, 7493-7505.	1.0	36
29	Predicting extreme rainfall events over Jeddah, Saudi Arabia: impact of data assimilation with conventional and satellite observations. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 327-348.	1.0	34
30	Three-Dimensional Signature of the Red Sea Eddies and Eddy-Induced Transport. Geophysical Research Letters, 2019, 46, 2167-2177.	1.5	34
31	Major Changes in Extreme Dust Events Dynamics Over the Arabian Peninsula During 2003–2017 Driven by Atmospheric Conditions. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032931.	1.2	32
32	Well-Posedness of Time-Fractional Advection-Diffusion-Reaction Equations. Fractional Calculus and Applied Analysis, 2019, 22, 918-944.	1.2	31
33	Natural Climate Oscillations may Counteract Red Sea Warming Over the Coming Decades. Geophysical Research Letters, 2019, 46, 3454-3461.	1.5	30
34	Wind-wave source functions in opposing seas. Journal of Geophysical Research: Oceans, 2015, 120, 6751-6768.	1.0	29
35	An overview of uncertainty quantification techniques with application to oceanic and oil-spill simulations. Journal of Geophysical Research: Oceans, 2016, 121, 2789-2808.	1.0	29
36	Efficient dynamical downscaling of general circulation models using continuous data assimilation. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 3175-3194.	1.0	29

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37	Aerosol Optical Depth variability over the Arabian Peninsula as inferred from satellite measurements. Atmospheric Environment, 2018, 187, 346-357.	1.9	28
38	The climatology of the Red Seaâ€"Âpart 2: the waves. International Journal of Climatology, 2017, 37, 4518-4528.	1.5	27
39	Evaluating tropical phytoplankton phenology metrics using contemporary tools. Scientific Reports, 2019, 9, 674.	1.6	26
40	Regularity theory for time-fractional advectionâ€"diffusionâ€"reaction equations. Computers and Mathematics With Applications, 2020, 79, 947-961.	1.4	26
41	Atmospheric conditions and air quality assessment over NEOM, kingdom of Saudi Arabia. Atmospheric Environment, 2020, 230, 117489.	1.9	25
42	Bayesian inference of earthquake parameters from buoy data using a polynomial chaos-based surrogate. Computational Geosciences, 2017, 21, 683-699.	1.2	24
43	Ensemble data assimilation in the Red Sea: sensitivity to ensemble selection and atmospheric forcing. Ocean Dynamics, 2017, 67, 915-933.	0.9	24
44	Rapid Red Sea Deep Water renewals caused by volcanic eruptions and the North Atlantic Oscillation. Science Advances, 2018, 4, eaar5637.	4.7	24
45	On the Recent Amplification of Dust Over the Arabian Peninsula During 2002â€"2012. Journal of Geophysical Research D: Atmospheres, 2019, 124, 13220-13229.	1.2	24
46	Adjoint sensitivity studies of loop current and eddy shedding in the Gulf of Mexico. Journal of Geophysical Research: Oceans, 2013, 118, 3315-3335.	1.0	23
47	Factors Regulating the Relationship Between Total and Size-Fractionated Chlorophyll-a in Coastal Waters of the Red Sea. Frontiers in Microbiology, 2019, 10, 1964.	1.5	23
48	Prominent mode of summer surface air temperature variability and associated circulation anomalies over the Arabian Peninsula. Atmospheric Science Letters, 2018, 19, e860.	0.8	22
49	Path planning in uncertain flow fields using ensemble method. Ocean Dynamics, 2016, 66, 1231-1251.	0.9	21
50	Risk-averse formulations and methods for a virtual power plant. Computers and Operations Research, 2018, 96, 350-373.	2.4	21
51	Sensitivity Studies of the Red Sea Eddies Using Adjoint Method. Journal of Geophysical Research: Oceans, 2018, 123, 8329-8345.	1.0	21
52	Global sensitivity analysis of n-butanol reaction kinetics using rate rules. Combustion and Flame, 2018, 196, 452-465.	2.8	20
53	Impact of Urbanization on the Simulation of Extreme Rainfall in the City of Jeddah, Saudi Arabia. Journal of Applied Meteorology and Climatology, 2020, 59, 953-971.	0.6	19
54	Mapping groundwater abstractions from irrigated agriculture: big data, inverse modeling, and a satelliteâ€"model fusion approach. Hydrology and Earth System Sciences, 2020, 24, 5251-5277.	1.9	19

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55	Orthogonal Matching Pursuit for Enhanced Recovery of Sparse Geological Structures With the Ensemble Kalman Filter. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2016, 9, 1710-1724.	2.3	17
56	Interannual Variability of the Exchange Flow Through the Strait of Babâ€‹elâ€‹Mandeb. Journal of Geophysical Research: Oceans, 2019, 124, 1988-2009.	1.0	17
57	Trajectory planning for autonomous underwater vehicles in the presence of obstacles and a nonlinear flow field using mixed integer nonlinear programming. Computers and Operations Research, 2019, 101, 55-75.	2.4	17
58	Organic Carbon Export and Loss Rates in the Red Sea. Global Biogeochemical Cycles, 2020, 34, e2020GB006650.	1.9	17
59	Data Assimilation in Oceanography: Current Status and New Directions. , 0, , .		17
60	Surrogate-based parameter inference in debris flow model. Computational Geosciences, 2018, 22, 1447-1463.	1.2	16
61	Remotely sensing harmful algal blooms in the Red Sea. PLoS ONE, 2019, 14, e0215463.	1.1	16
62	Extreme precipitation events are becoming less frequent but more intense over Jeddah, Saudi Arabia. Are shifting weather regimes the cause?. Atmospheric Science Letters, 2020, 21, e981.	0.8	16
63	The possibilities of compressed-sensing-based Kirchhoff prestack migration. Geophysics, 2014, 79, S113-S120.	1.4	15
64	Physical connectivity simulations reveal dynamic linkages between coral reefs in the southern Red Sea and the Indian Ocean. Scientific Reports, 2019, 9, 16598.	1.6	15
65	Hazard assessment of oil spills along the main shipping lane in the Red Sea. Scientific Reports, 2021, 11, 17078.	1.6	15
66	Baroclinic Tides Simulation in the Red Sea: Comparison to Observations and Basic Characteristics. Journal of Geophysical Research: Oceans, 2018, 123, 9389-9404.	1.0	14
67	Eddyâ€‹Induced Transport and Kinetic Energy Budget in the Arabian Sea. Geophysical Research Letters, 2020, 47, e2020GL090490.	1.5	14
68	Natural processes dominate the pollution levels during COVID-19 lockdown over India. Scientific Reports, 2021, 11, 15110.	1.6	14
69	On the generation and evolution of internal solitary waves in the southern Red Sea. Journal of Geophysical Research: Oceans, 2016, 121, 8566-8584.	1.0	13
70	Unraveling Climatic Wind and Wave Trends in the Red Sea Using Wave Spectra Partitioning. Journal of Climate, 2018, 31, 1881-1895.	1.2	13
71	Variability of monsoon inversion over the Arabian Sea and its impact on rainfall. International Journal of Climatology, 2021, 41, E2979.	1.5	12
72	Analysis of Outdoor Thermal Discomfort Over the Kingdom of Saudi Arabia. GeoHealth, 2021, 5, e2020GH000370.	1.9	12

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73	Thermocline Regulated Seasonal Evolution of Surface Chlorophyll in the Gulf of Aden. PLoS ONE, 2015, 10, e0119951.	1.1	12
74	A fault-tolerant HPC scheduler extension for large and operational ensemble data assimilation: Application to the Red Sea. Journal of Computational Science, 2018, 27, 46-56.	1.5	11
75	Links between Phenology of Large Phytoplankton and Fisheries in the Northern and Central Red Sea. Remote Sensing, 2021, 13, 231.	1.8	11
76	Impact of Atmospheric and Model Physics Perturbations on a Highâ€Resolution Ensemble Data Assimilation System of the Red Sea. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015611.	1.0	10
77	Simulated co-optimization of renewable energy and desalination systems in Neom, Saudi Arabia. Nature Communications, 2022, 13, .	5.8	10
78	Lagrangian tracking in stochastic fields with application to an ensemble of velocity fields in the Red Sea. Ocean Modelling, 2018, 131, 1-14.	1.0	9
79	Impact of dynamical representational errors on an Indian Ocean ensemble data assimilation system. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 3680-3691.	1.0	9
80	Variability of water exchanges through the Strait of Hormuz. Ocean Dynamics, 2020, 70, 1053-1065.	0.9	9
81	Coastal circulation and water transport properties of the Red Sea Project lagoon. Ocean Modelling, 2021, 161, 101791.	1.0	9
82	Optimal 3D time-energy trajectory planning for AUVs using ocean general circulation models. Ocean Engineering, 2020, 218, 108057.	1.9	9
83	Quantifying uncertainty in Gulf of Mexico forecasts stemming from uncertain initial conditions. Journal of Geophysical Research: Oceans, 2016, 121, 4819-4832.	1.0	8
84	Analysis of a severe weather event over Mecca, Kingdom of Saudi Arabia, using observations and high-resolution modelling. Meteorological Applications, 2017, 24, 612-627.	0.9	7
85	Global sensitivity analysis of n-butanol ignition delay times to thermodynamics class and rate rule parameters. Combustion and Flame, 2020, 222, 355-369.	2.8	7
86	A Conceptual Approach to Partitioning a Vertical Profile of Phytoplankton Biomass Into Contributions From Two Communities. Journal of Geophysical Research: Oceans, 2022, 127, .	1.0	7
87	Propagation of uncertainty and sensitivity analysis in an integral oilâ€gas plume model. Journal of Geophysical Research: Oceans, 2016, 121, 3488-3501.	1.0	6
88	A Bayesian Structural Time Series Approach for Predicting Red Sea Temperatures. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2020, 13, 1996-2009.	2.3	6
89	Extreme water levels along the central Red Sea coast of Saudi Arabia: processes and frequency analysis. Natural Hazards, 2021, 105, 1797-1814.	1.6	6
90	Threeâ€Dimensional Simulation of Shoaling Internal Solitary Waves and Their Influence on Particle Transport in the Southern Red Sea. Journal of Geophysical Research: Oceans, 2021, 126, e2020JC016335.	1.0	6

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91	Phytoplankton Biomass and the Hydrodynamic Regime in NEOM, Red Sea. Remote Sensing, 2021, 13, 2082.	1.8	6
92	Long-term changes in the Arabian Peninsula rainfall and their relationship with the ENSO signals in the tropical Indo-Pacific. Climate Dynamics, 2022, 59, 1715-1731.	1.7	6
93	A nested sampling particle filter for nonlinear data assimilation. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1640-1653.	1.0	5
94	An efficient multiple particle filter based on the variational Bayesian approach. , 2015, , .		5
95	Hierarchical matrix approximations for space-fractional diffusion equations. Computer Methods in Applied Mechanics and Engineering, 2020, 369, 113191.	3.4	5
96	Seasonal M2 Internal Tides in the Arabian Sea. Remote Sensing, 2021, 13, 2823.	1.8	5
97	A tangent linear approximation of the ignition delay time. I: Sensitivity to rate parameters. Combustion and Flame, 2021, 230, 111426.	2.8	5
98	Seasonal simulations of summer aerosol optical depth over the Arabian Peninsula using <scp>WRFâ€Chem</scp>: Validation, climatology, and variability. International Journal of Climatology, 2022, 42, 2901-2922.	1.5	5
99	A particleâ€filter based adaptive inflation scheme for the ensemble Kalman filter. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 922-937.	1.0	4
100	A hybrid ensemble adjustment Kalman filter based highâ€resolution data assimilation system for the Red Sea: Implementation and evaluation. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 4108-4130.	1.0	4
101	Capturing a Mode of Intermediate Water Formation in the Red Sea. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015803.	1.0	4
102	The Role of Airâ€"Sea Interactions in Atmospheric Rivers: Case Studies Using the SKRIPS Regional Coupled Model. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD032885.	1.2	4
103	Representation of Arabian Peninsula summer climate in a regional atmospheric model using spectral nudging. Theoretical and Applied Climatology, 2021, 145, 13-30.	1.3	4
104	Submesoscale Processes in the Upper Red Sea. Journal of Geophysical Research: Oceans, 2022, 127, .	1.0	4
105	Design analysis for optimal calibration of diffusivity in reactive multilayers. Combustion Theory and Modelling, 2017, 21, 1023-1049.	1.0	3
106	Integrating gravimetric and interferometric synthetic aperture radar data for enhancing reservoir history matching of carbonate gas and volatile oil reservoirs. Geophysical Prospecting, 2017, 65, 337-364.	1.0	3
107	Multiobjective Risk-Aware Path Planning in Uncertain Transient Currents: An Ensemble-Based Stochastic Optimization Approach. IEEE Journal of Oceanic Engineering, 2021, 46, 1082-1098.	2.1	3
108	Risk-Averse Stochastic Programming vs. Adaptive Robust Optimization: A Virtual Power Plant Application. INFORMS Journal on Computing, 2022, 34, 1795-1818.	1.0	3

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109	Space-Fractional Diffusion with Variable Order and Diffusivity: Discretization and Direct Solution Strategies. Communications on Applied Mathematics and Computation, 2022, 4, 1416-1440.	0.7	3
110	Physical forcing of phytoplankton dynamics in the ‹scp›Alâ€Wajh‹/scp› lagoon (Red Sea). Limnology and Oceanography Letters, 2022, 7, 373-384.	1.6	3
111	Ensemble Kalman filtering with coloured observation noise. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 4408-4424.	1.0	2
112	A weather-clustering and energy-thermal comfort optimization methodology for indoor cooling in subtropical desert climates. Journal of Building Engineering, 2022, 51, 104327.	1.6	2
113	H2Opus: a distributed-memory multi-GPU software package for non-local operators. Advances in Computational Mathematics, 2022, 48, 1.	0.8	2
114	Simulation and visualization of the cyclonic storm chapala over the arabian sea: a case study. , 2016, , .		1
115	Bayesian calibration of order and diffusivity parameters in a fractional diffusion equation. Journal of Physics Communications, 2021, 5, 085014.	0.5	1
116	Sea-level extremes of meteorological origin in the Red Sea. Weather and Climate Extremes, 2022, 35, 100409.	1.6	1
117	Retrospective sub-seasonal forecasts of extreme precipitation events in the Arabian Peninsula using convective-permitting modeling. Climate Dynamics, 0, , .	1.7	1
118	Single-site Lennard-Jones models via polynomial chaos surrogates of Monte Carlo molecular simulation. Journal of Chemical Physics, 2016, 144, 214301.	1.2	0
119	A tangent linear approximation of the ignition delay time. II: Sensitivity to thermochemical parameters. Combustion and Flame, 2021, 235, 111677.	2.8	0