Journal Descriptions

Ocean Dynamics

Ocean Dynamics is an international journal that publishes high-quality peer-reviewed articles in biological, chemical and physical oceanography. Coverage spans theoretical oceanography, including new theoretical concepts that further system understanding with a strong view to applicability for operational or monitoring purposes; computational oceanography, and all aspects of ocean modeling and data analysis; and observational oceanography, focusing on new techniques or systematic approaches in measuring oceanic variables, including all aspects of monitoring the state of the ocean.

Ocean Dynamics is an international journal that aims to publish high-quality peer-reviewed articles in the following areas of research:
- Theoretical oceanography (new theoretical concepts that further system understanding with a strong view to applicability for operational or monitoring purposes)
- Computational oceanography (all aspects of ocean modelling and data analysis)
- Observational oceanography (new techniques or systematic approaches in measuring oceanic variables, including all aspects of monitoring the state of the ocean)

Articles with an interdisciplinary character that encompass research in the fields of biological, chemical and physical oceanography are especially encouraged.

Ocean Science

Ocean Science (OS) is a new international and free to web scientific journal dedicated to the publication and discussion of research articles, short communications and review papers on all aspects of ocean science, experimental, theoretical and laboratory. The primary objective is to publish a very high quality scientific journal with free web based access for researchers and other interested people throughout the world.

Ocean Science covers the following fields:
- Ocean Physics (i.e. ocean structure, circulation, tides and internal waves);
- Ocean Chemistry;
- Biological Oceanography;
- Air-Sea Interactions;
- Ocean Models, physical, chemical and biological and biochemical;
- Coastal and shelf edge processes;
- Paleooceanography.

Ocean Modelling

The main objective of *Ocean Modelling* is to provide rapid communication between those interested in ocean modelling, whether through direct observation, or through analytical, numerical or laboratory models, and including interactions between physical and biogeochemical or biological phenomena. Because of the intimate links between ocean and atmosphere, involvement of scientists interested in influences of either medium on the other is welcome. The journal has a wide scope and includes ocean-atmosphere interaction in various forms as well as pure ocean results. In addition to primary peer-

reviewed papers, the journal provides review papers, preliminary communications, and discussions. Authors are invited to submit data files, model animations or other electronic-only information in support of their submission.

Physica D: Nonlinear Phenomena

Physica D (Nonlinear Phenomena) publishes papers and review articles reporting experiments, techniques and ideas which advance the understanding of nonlinear phenomena in general. Contributions of this type in the recent literature have dealt with: wave motion in physical, chemical and biological systems; chaotic motion in models relevant to turbulence, physical and biological phenomena governed by nonlinear field equations; instability, bifurcation, pattern formation and cooperative phenomena.

Topics encompass wave motion in physical, chemical and biological systems; physical or biological phenomena governed by nonlinear field equations, including hydrodynamics and turbulence; pattern formation and cooperative phenomena; instability, bifurcations, chaos, and space-time disorder; integrable/Hamiltonian systems; asymptotic analysis and, more generally, mathematical methods for nonlinear systems.

Journal of Computational Physics

Journal of Computational Physics thoroughly treats the computational aspects of physical problems, presenting techniques for the numerical solution of mathematical equations arising in all areas of physics. The journal seeks to emphasize methods that cross disciplinary boundaries.

The Journal of Computational Physics also publishes short notes of 4 pages or less (including figures, tables, and references but excluding title pages). Letters to the Editor commenting on articles already published in this Journal will also be considered. Neither notes nor letters should have an abstract.

JGR Oceans

JGR-Oceans covers physical, biological, and chemical oceanography.

Deep Sea Research Part I: Oceanographic Research Papers

Deep-Sea Research Part I: Oceanographic Research Papers is devoted to the publication of the results of original scientific research, including theoretical work of evident oceanographic applicability; and the solution of instrumental or methodological problems with evidence of successful use. The journal is distinguished by its interdisciplinary nature and its breadth, covering the geological, physical, chemical and biological aspects of the ocean and its boundaries with the sea floor and the atmosphere. In addition to regular "Research Papers" and "Instruments and Methods" papers, briefer communications may be published as "Notes". Supplemental matter, such as extensive data tables or graphs and multimedia content, may be published as electronic appendices.

The deep sea is interpreted to be the ocean beyond the continental shelf. Papers dealing exclusively with areas inshore of the shelf break are in general more appropriate to our companion journal Continental Shelf Research. Review papers and long contributions are best directed to Progress in Oceanography.

Inquiries regarding special topic issues should be directed to the Editor of [Deep-Sea Research Part II: Topical Studies in Oceanography](#).

Deep Sea Research Part II: Topical Studies in Oceanography

Deep-Sea Research Part II: Topical Studies in Oceanography publishes topical issues from the many international and interdisciplinary projects which are undertaken in oceanography. Besides these special issues from projects, the journal publishes collections of papers presented at conferences. The special issues regularly have electronic annexes of non-text material (numerical data, images, images, video, etc.) which are published with the special issues in ScienceDirect. Deep-Sea Research Part II was split off as a separate journal devoted to topical issues in 1993. Its companion journal [Deep-Sea Research Part I: Oceanographic Research Papers](#), publishes the regular research papers in this area.

Continental Shelf Research

Continental Shelf Research publishes articles dealing with the physical oceanography, sedimentology, geology, chemistry, biology and ecology of the shallow marine environment, from coastal and estuarine water out to the shelf break. Papers that are published present results from both fundamental, original research as well as applied, or directed research.

Emphasis is placed on interdisciplinary process-oriented contributions, and encouragement is given to the publication of the results of innovative experimental studies with more general applicability. *Continental Shelf Research* publishes occasional review articles. It also includes a section on *Notes, Instrumentation and Methods*. Furthermore, papers are open for written discussion for up to three months following publication and both the discussion and the author's response are published.

Continental Shelf Research also publishes special issues dedicated to results of large interdisciplinary studies or topical issues on specific subjects.

Progress in Oceanography

Progress in Oceanography publishes the longer, more comprehensive papers that most oceanographers feel are necessary, on occasion, to do justice to their work. Contributions are generally either a review of an aspect of oceanography or a treatise on an expanding oceanographic subject. The articles cover the entire spectrum of disciplines within the science of oceanography. Occasionally volumes are devoted to collections of papers and conference proceedings of exceptional interest. Essential reading for all oceanographers.

Ocean Science Journal

Ocean Science Journal (*OSJ*) is an international journal whose aim is to achieve the advancement and dissemination of information in the field of oceanography. The journal is committed to the publication of original research articles, reviews and notes on all fields of oceanography including physical oceanography, biological oceanography/marine biology, chemical oceanography/marine chemistry, geological oceanography/marine geology, and marine pollution.

Ocean Science covers the following fields:
- physical oceanography: waves, currents, air-sea interaction, ocean modeling, coastal processes, water masses
- biological oceanography/marine biology: plankton, benthic organisms, fish, ecology, taxonomy, molecular biology)
- chemical oceanography/marine chemistry: Trace elements, Isotopes, Nutrients, Organic substances, Gases
- geological oceanography/marine geology: geophysics, sedimentology, paleontology, paleogeopraphy, sediment dynamics
- marine pollution: pollutants analysis and monitoring, fates of contaminants, aquatic toxicology, ecotoxicology

Journal of Physical Oceanography

Published monthly by the American Meteorological Society, the *Journal of Physical Oceanography* covers research related to the physics of the ocean and to processes operating at its boundaries. Observational, theoretical, and modeling studies are all welcome, especially those that focus on elucidating specific physical processes. Papers that investigate interactions with other components of the earth system (e.g., ocean–atmosphere, physical–biological and physical–chemical interactions) as well as studies of other fluid systems (e.g., lakes and laboratory tanks) are also invited, as long as their focus is on understanding the ocean or the ocean's role in the earth system.

The *Journal of Physical Oceanography* prints three types of pieces. These are
- **Articles -**Full-length, up to 7500 words or 26 double-spaced pages of text (not including references, figure and table lists, and figures).
- **Notes -**Shorter articles, usually confined to a single subject. These are treated exactly the same as articles in the method of review and citation.
- **Comments and Reply Exchanges -** Comments are written in response to a published article. The author of the article being commented upon always has the opportunity to write a reply. These exchanges are published together.

Journal of Atmospheric and Oceanic Technology

Published monthly by the American Meteorological Society, the *Journal of Atmospheric and Oceanic Technology* covers research describing instrumentation and methodologies used in atmospheric and oceanic research, including remote sensing instruments, measurements, validation, and data analysis techniques from satellites, aircraft, balloons, and surface-based platforms; in situ instruments, measurements, and methods for data acquisition, analysis, and interpretation; and information systems and algorithms.
.
The *Journal of Atmospheric and Oceanic Technology* prints three types of pieces. These are
- **Articles -** Full-length, up to 7500 words or 26 double-spaced pages of text (not including references, figure and table lists, and figures).
- **Notes -** Shorter articles, usually confined to a single subject. These are treated exactly the same as articles in the method of review and citation.

- **Comments and Reply Exchanges -** Comments are written in response to a published article. The author of the article being commented upon always has the opportunity to write a reply. These exchanges are published together.

Journal of Marine Research

The Journal of Marine Research publishes peer-reviewed research articles covering a broad array of topics in physical, biological and chemical oceanography. Articles that deal with processes, as well as those that report significant observations, are welcome. In the area of biology, studies involving coupling between ecological and physical processes are preferred over those that report systematics. Authors benefit from thorough reviews of their manuscripts, where an attempt is made to maximize clarity. The time between submission and publication is kept to a minimum; there is no page charge.

Journal of Oceanography

Edited by the Oceanographic Society of Japan

The JOURNAL is open to all oceanographers in the world and devoted to the publication of original articles, short contributions, reviews, and correspondence in oceanography and related fields.

Journal of Marine Systems

The Journal of Marine Systems provides a medium for interdisciplinary exchange between physical, chemical and biological oceanographers and marine geologists. The journal welcomes original research papers and review articles. Preference will be given to interdisciplinary approaches to marine systems.

Dynamics of Atmospheres and Oceans

Dynamics of Atmospheres and Oceans is an international journal for research related to the dynamical and physical processes governing atmospheres, oceans and climate.

Authors are invited to submit articles, short contributions or scholarly reviews in the following areas:

- Dynamic meteorology
- Physical oceanography
- Geophysical fluid dynamics
- Climate variability and climate change
- Atmosphere-ocean-biosphere-cryosphere interactions
- Prediction and predictability
- Scale interactions

Papers of theoretical, computational, experimental and observational investigations are invited, particularly those that explore the fundamental nature - or bring together the interdisciplinary and multidisciplinary aspects - of dynamical and physical processes at all scales. Papers that explore air-sea interactions and the coupling between atmospheres, oceans, and other components of the climate system are particularly welcome.

Communications in Nonlinear Science and Numerical Simulation

The journal publishes original research findings on experimental observation, mathematical modeling, theoretical analysis and numerical simulation, for more accurate description, better prediction or novel application, of nonlinear phenomena in science and engineering. It offers a venue for researchers to make rapid exchange of ideas and techniques in nonlinear science and complexity. The submission of manuscripts with cross-disciplinary approaches in nonlinear science and complexity is particularly encouraged

Topics of interest: Nonlinear differential or delay equations, Lie group analysis and asymptotic methods, Discontinuous systems, Fractals, Chaos and encryption, Fractional calculus and dynamics, Nonlinear effects in quantum mechanics, Nonlinear stochastic processes, Experimental nonlinear science, Time-series and signal analysis, Computational methods and simulations in nonlinear science and engineering, Control of dynamical systems, Synchronization, Lyapunov analysis, High-dimensional chaos and turbulence, Chaos in Hamiltonian systems, Integrable systems and solutions, Collective behavior in many-body systems, Biological physics and networks, Nonlinear mechanical systems, Complex systems and complexity.

Computer Methods in Applied Mechanics and Engineering

The development of computer methods for the solution of scientific and engineering problems governed by the laws of mechanics was one of the great scientific and engineering achievements of the second half of the 20th century, with a profound impact on science and technology. This is accomplished through advanced mathematical modeling and numerical solutions reflecting a combination of concepts, methods and principles that are often interdisciplinary in nature and span several areas of mechanics, mathematics, computer science and other scientific disciplines as well.

Computer Methods in Applied Mechanics and Engineering was founded over three decades ago, providing a platform for the publication of papers in this important field of science and engineering. The range of appropriate contributions is very wide. It covers any type of computational method for the simulation of complex physical problems leading to the analysis and design of engineering products and systems. This includes theoretical development and rational applications of mathematical models, variational formulations, and numerical algorithms related to finite element, boundary element, finite difference, finite volume, and meshless discretization methods in the following fields of computational science and engineering: solid and structural mechanics, fluid mechanics, mechanics of materials, heat transfer dynamics, geomechanics, acoustics, biomechanics, nano-mechanics, molecular dynamics, quantum mechanics, electromagnetics and also includes virtual design, multiscale phenomena, from nanoscale to macroscale, multiphysics problems, parallel computing, optimization, probabilistic and stochastic approaches.

CMAME publishes original papers at the forefront of modern research describing significant developments of computational methods in solving problems of applied mechanics and engineering.

Journal of Numerical Mathematics and Stochastics

The international periodical Journal of Numerical Mathematics and Stochastics will publish high-quality original contributions to numerical mathematics and stochastics, with an emphasis on work and methods

with a potential for strengthening the ties between these two disciplines. Computational stochastics is a new and expanding area of research dealing with numerical methods of analyzing complex stochastic models. For this reason, the journal is intended to act as a numerical interface between mathematical sciences and stochastics.

The main objective of JNM@S is to publish papers presenting new computational results on deterministic and stochastic differential and integral equations, SDEs and SIEs, which model real-life problems (basically nonlinear) or have a potential for doing so. A second objective is to present new numerical methods for solving such problems.

The emphasis in featured papers and letters would be on new methods and techniques rather than on the specific subjective conclusions on special cases. New methodologies include e.g. wavelets and frames, Markov-chain Monte Carlo methods, spatio-temporal techniques, neural networks methods, etc., and the scope of JNM@S includes (but is not limited to): Discrete nonlinear random operators Discretized identification and inverse problems Numerical analysis of nonlinear problems Functional SDEs, in particular delay equations, Stochastic integral equations SIEs, in particular evolution equations ,Finite element schemes for stochastic boundary value problems (SBVPs), Monte Carlo methods for SBVPs, Wavelet methods, Neural networks methods, Stochastic difference equations, Random fixed point numerical analysis, Discrete stochastic control, numerics of financial and economic primitives, Strong and weak approximations, Stability, long time dynamics and ergodicity of approximation, Discretization of diffusion equations, Spatio-temporal modeling in stochastic processes, High resolution coding of stochastic processes.

Typical applications in numerical mathematics include solution of ordinary and partial differential equations, BVPs, integral equations, and optimization. In computational stochastics the typical applications are on statistical characterization and prediction, computational inference in molecular population genetics, say, turbulent flow in fluids and the environment, molecular dynamics in chemistry and bioinformatics, economic dynamics and control and pricing American Options in finance.

To maintain the highest possible standards of quality and based on a goal of timely publication, only a small fraction of submitted papers can be accepted for publication. The journal strives for a fast turnaround in the review process. Submitted communications are assigned to an associate Editor, who makes a publication recommendation on the basis of a detailed and careful evaluation by at least two referees. Evaluation criteria used include, originality, substance, and quality of exposition. In addition, JNM@S will feature special issues devoted to specific topics in rapidly growing research areas.