

# Open Access: An Instrument for Hastening Scientific Innovation and Discovery

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In recent years, there has been a major drive to make digital scientific journals and their content freely available to users anywhere in the world, by virtue of the Internet, and at no cost to the user. Open Access should be viewed as a means of unencumbered distribution of contemporary scientific deliberation and discovery. Open Access dissolves the traditional barriers associated with subscription-based information systems by providing unrestricted access to and usage of information and knowledge. Movement to Open Access-conventions is widespread across the sciences, including meteorology and climatology. Investiture in this journal by OMICS Publishing Group is testament to this group's support of this new and very exciting view of global information sharing.

Open Access-conventions are particularly important in the fields of meteorology and climatology, because of the inter- and multi-disciplinary nature of these sciences. Weather and climate can be viewed as expressions of the many complex interactions (feedback) between the biological (vegetative, microbial), geophysical (hydrosphere, cryosphere, pedosphere), and atmospheric components of the earth-system. Contemporary micro-meteorological and global climate models incorporate many of these interconnections, in one form or other. Conducting eco-hydrometeorological or earth-system science requires an ability to integrate across disciplines, subject to focus.

Discipline-restricted hardbound-based and electronic subscriptions currently held by many university departments, faculties, and libraries and research units worldwide can potentially interfere with this integration because of the inordinate cost associated with individual subscriptions and dwindling resources of the subscribing unit. Inter-library loans of scientific books or purchase of specific journal articles not available in one's unit holdings may delay the progress of research and associated discoveries. Open Access of scholarly articles and books not only opens up what is available to scientists in support of their work, but also provides the publications and scientific materials necessary for instruction of university and high-school students in these emergent, multi-disciplinary sciences.

Development of Integrated Assessment Models (IAMs) in assessing the impact of climate change on natural and human systems would also benefit from Open Access-policies facilitating the distribution of information to all who have access to the Internet. In this way, researchers in developing countries would have the same up-to-date, peer-reviewed information available to them as researchers in developed countries. This universal access to scientific information and knowledge would potentially allow weather and climate researchers in underdeveloped and developing countries to participate in scientific discourse at world summits and scientific enquiry at expert-levels comparable to those of researchers in developed countries.

Open Access-policies have also the potential to foster greater collaboration between weather and climate researchers worldwide, by assuring availability of latest scientific information to all parties concerned. Domestically, accessibility to up-to-date scientific information on weather and climate forecasting and projecting weather extremes, leading to widespread human calamity associated with heat waves, droughts, flooding, storm surges, etc, can assist with development of policies regarding

- i. Land use practices
- ii. Food, water, energy, and home security
- iii. Building and placement of infrastructure
- iv. Mitigation of climate-change impacts in underdeveloped and developing countries.

OMICS Publishing Group provides special features to enhance the Open Access-experience to its customers. In addition to their regular dissemination of scientific articles by means of the Internet, the publishing group also provides digital books that may be delivered electronically to reading devices. The group also provides website-based language translation of published materials to more than fifty languages. This feature is central to the global distribution of scientific knowledge and innovation. Researchers may share their thoughts on specific research articles and their own research by way of social networking sites (e.g., Facebook, Twitter).

Articles submitted to the journal of Advance Research in Meteorological Sciences are expected to be processed and reviewed over a period no longer than three weeks. Publication of scientific articles is to occur within seven days following their acceptance. This fast turnaround is particularly important for the timely release of scientific information to the global scientific community and engendering speedy verification and implementation of scientific breakthroughs.

I believe Open Access conventions as endorsed by the OMICS Publishing Group are critical to the meteorological and climatological sciences, scientific practice, in general, and to the public. Open Access serves as

- i. An instrument for hastening scientific innovation and discovery for the betterment of societies.
- ii. An electronic storehouse for the long-standing perseverance of scholarly works.
- iii. A catalyst for inter- and multi-disciplinary scientific research, collaboration among research scientists, and education of meteorological and climatological concepts from a systems point of view.

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Open Access of journal articles and other scholarly works provide a foundational shift in the dissemination of information and knowledge that may prove important to the future wellbeing of humans and human systems, globally. I look forward to my involvement with

Advance Research in Meteorological Sciences as one of the journal's editorial board member. I trust that the success of the journal will rests on the OMICS Publishing Group's commitment to making scientific information Open Access.

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