



## Editorial

## Tectonophysics: The International Journal of Integrated Solid Earth Sciences

Tectonophysics broke new ground with its mandate for publishing multidisciplinary solid earth science research a little over 40 years ago. That was an exciting time for our science. Plate tectonics was revolutionizing the way we understood the dynamic framework of our restless planet. As one of the first in the new breed of multi-disciplinary journals, Tectonophysics attracted many of the most important papers, rapidly assuming status as one of the leading earth science journals.

Times have changed. Plate tectonics has evolved from a kinematic theory of plate motion to be part of a more holistic understanding of the dynamic earth; rapid development in space geodesy, geochronology, and other observational techniques are revolutionizing the way we study crustal deformation; discoveries of the dynamic coupling and feedbacks between orogenesis and climate changes have injected new blood into traditional tectonic studies; and the exponential growth of global economy and human population demands us to deliver a better understanding of natural hazards and resources for present and future generations.

In recognition of this changing landscape, and with an eye to that old adage that “to stand still is to go backwards” we, as editors, consider it timely to reassess the direction and scope of Tectonophysics.

The prime focus of Tectonophysics will remain on high-impact original research and reviews in the fields of kinematics, structure, composition, and dynamics of the solid Earth at all scales. To better represent the changes we face today, Tectonophysics particularly encourages submission of papers based on the integration of a multitude of geophysical, geological, geochemical, geodynamic, and geotectonic methods with focus on:

- Kinematics and deformation of the lithosphere based on space geodesy (e.g. GPS, InSAR), neotectonic studies, tectonic geomorphology, and geochronology;
- Structure, composition, and thermal state of the crust and mantle and their evolution in various time scales based on geophysical and geochemical studies;
- Structural geology, folding, faulting, fracturing, analysis of stress and strain, and rock mechanics;
- Orogenesis, tectonism, thermochronology, surficial processes, land-climate interactions, and lithospheric-asthenospheric interactions;
- Active tectonics, seismology, mechanisms of earthquakes and volcanism, geological hazards and their societal impacts;
- Rheology and numerical modelling of geodynamic processes;
- Laboratory measurements of physical and chemical parameters of crustal and mantle rocks, and their application to geophysics and petrology;
- Innovative development, including testing, of new methods in geophysics and geodynamics.

Within this space, we are particularly keen to advance Tectonophysics' role in delivering scientific solutions to the pressing issues of our time, namely in reducing our vulnerability to the ‘solid-earth’ natural hazards and in resource development applications. With growing demand for access to Earth's resources and urgent needs to seek new solutions for dealing with harmful waste, we have enormous benefits to be gained from better a understanding of the physics of this extraordinary dynamic planet.

Tectonophysics welcomes contributions of three types:

- Fast track papers for short, innovative rapid communication, which will usually be reviewed within three weeks after submission
- Comprehensive review articles which provide an overview of significant subjects
- Regular papers

The first two types are relatively new to Tectonophysics. Fast track papers will facilitate publication of discoveries in new and dynamic areas, and review papers will help readers to quickly grasp the new development in an important field. In addition, Tectonophysics will continue to publish special issues, a distinctive feature of our journal which offers a unique tool to focus in detail on all aspects of a specific subject matter. Special issues should be compiled with a clear objective to provide a coherent and complete set of papers thus adding real value to Tectonophysics. They should be guest-edited by leading researchers in the relevant field and all contributions subjected to the same vigorous review process as applied to the regular papers.

Sciences are experiencing a tremendous global expansion. In recent years Tectonophysics has seen increasing submissions from regions previously underrepresented by the journal. We consider this a positive trend and hope Tectonophysics will continue to be the favored platform for scientists from different cultures and traditions to exchange ideas.

We are happy to announce that Tectonophysics and the International Lithosphere Programme (ILP) have just renewed their agreement on strategic collaboration on publication of high-quality special issues on themes related to lithosphere research. ILP has recently launched new strong projects on e.g. basin evolution, natural hazards and the relation between topography and deep Earth processes. Many of the programmes within ILP are at the core of the objectives of Tectonophysics, and we are looking forward to seeing a series of new special issues. To actively support future lithosphere research, Tectonophysics has offered to sponsor an annual award to be presented by ILP to a young scientist, who has contributed with significant results.

It is also timely to acknowledge the tireless efforts and considerable contribution of Jean-Pierre Burg, who has been with the journal

as Editor in Chief for more than 10 years. 'JPB' has been a great advocate for Tectonophysics, handling an extraordinary number of manuscripts, and has recently indicated that he will be stepping down from his position as one of the Editors-in Chief. We would like to thank him for the energy and lead he has shown in driving Tectonophysics over the last decade.

Finally we would like to take this opportunity to recognise the contribution of our editorial board and to express our thanks for their assistance in ensuring that the quality of published articles is up to standard. All submitted papers are subject to peer review to guarantee that the required level of scientific excellence is maintained. This aspect is the backbone of the success of Tectonophysics and we fully acknowledge the unselfish assistance and commitment provided to

the journal by its reviewers, who are of course quite often also members of the editorial board.

We are committed to ensuring that Tectonophysics remains one of the preeminent journals in its field and look forward to working with you all to maintain and improve upon its current reputation.

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Mike Sandiford  
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