



Mantle Circulation and Plate Movement

Guest Editor:

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Message from the Guest Editor

Since the plate tectonic revolution, it has been widely understood that the processes of plate development on motion must be initiated, if not governed, by the underlying mantle dynamics of the planet. Competing mantle processes of buoyancy and viscous dissipation can propagate or inhibit plate tectonic processes. While standing on research advances in how the mantle works, details of how mantle circulation initiates or continues to drive plate motions are still poorly understood. The Special Issue is to explore and illuminate various aspects of mantle circulation on plate development from rifting or subduction initiation to the influence of convection on current plate motions. It aims to provide an outlet for rapid, widely accessible publication utilizing the tools of geophysics, structural geology, sedimentology, geochemistry and geodynamic modeling to elucidate how the underlying mantle interacts with plate tectonics as we understand it. It aims to cover, without being limited to, the areas: whole or layered mantle convection; plume processes; rifting/seafloor spreading development, subduction initiation; plate motions and their effect on dynamics of the underlying mantle.





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Message from the Editor-in-Chief

Understanding the Earth's origin and its bio-geological evolution, the multiple implications of the geosciences (as a coherent set of interconnected disciplines), and the sociocultural and ethical interdisciplinary approaches, will be crucial for a better understanding of Nature, and also for undertaking scientifically based political decisions.

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