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ABSTRACT

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Ordovician geology and stratigraphy of China: A synthesis

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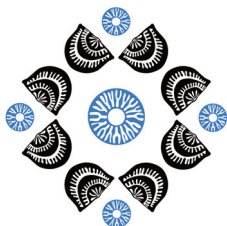
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China presently comprises several tectonic blocks and regions assembled over geological time and having independent histories. During the Ordovician, these blocks included South China, North China, Tarim, Qaidam, Junggar, Qiangtang-Qamdo, Lhasa and partially Himalaya, Sibumasu and Indochina, as well as the Altay-Xing'an and Songpan-Garze fold belts, which were discrete but adjacent. Twelve stratigraphic megaregions bounded by tectonic sutures or major fault zones are recognised for the Ordovician System. Some of them are further subdivided into regions according to specific lithological and biotic facies or distinct stratigraphic successions. The palaeontological features and biostratigraphic framework of these stratigraphic megaregions and regions are summarised. The unified biostratigraphic framework presented herein includes 33 graptolite and 27 conodont biozones through the Ordovician, together with supplementary biozones, communities or associations of brachiopods, trilobites, cephalopods, chitinozoans, acritarchs and radiolarians. With the constraints of integrative chronostratigraphy, biostratigraphy, chemostratigraphy, cyclostratigraphy and magnetostratigraphy, along with some geochronological data, our understanding of the temporal and spatial distribution of the Ordovician lithostratigraphic units on these major blocks has been significantly advanced. The refined integrative stratigraphic framework of the Ordovician provides a precise constraint on the major tectonic orogenies and biotic events evident in China.



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