





Special Issue Reprint

# Cutting Edge Earth Sciences: Three Decades of Cosmogenic Nuclides

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This Special Issue of *Geosciences* focuses on the application of the cosmogenic nuclides ( $^3$ He,  $^{10}$ Be,  $^{14}$ C,  $^{21}$ Ne,  $^{26}$ Al and  $^{36}$ Cl) in diverse disciplines in the field of earth sciences, as well as on improvements in sampling, analytical sample preparation and analytical techniques. After the past three decades, and nearly 70 years after the first application, cosmogenic nuclides have become an amazingly versatile tool for Earth scientists to disentangle the unsolved pieces of Earth's history during the Quaternary. Today, Earth scientists apply cosmogenic nuclides to establish the timing of Quaternary ice volume fluctuations, and volcanic and palaeoseismic events, to gauge surface and/or rock uplift and denudation rates and to reconstruct terrace chronologies, as well as to determine the rates and styles of local and large-scale erosion, soil development and landscape evolution.





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