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**BUTSURI-TANSA(Geophysical Exploration)**

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[\[PDF \(755K\)\]](#) [\[References\]](#)**Impact of the development of 3D seismic technology on sedimentology**Osamu Takano<sup>1)</sup>, Hiroyuki Arato<sup>2)</sup>, Takeshi Nakanishi<sup>3)</sup>, Toshifumi Matsuoka<sup>4)</sup> and  
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**ABSTRACT** Recent developments of 3D seismic and 3D visualization technologies have provided a strong impact on geological sciences, such as sedimentology, structural geology, petrology, petroleum geology and reservoir engineering, in terms of analytical methodology and concepts. In sedimentology, detailed three-dimensional views of sediment body morphology and depositional surfaces, such as fluvial channels, incised valleys, deep-sea channels, slope failures, submarine fans, carbonate reefs and sequence boundary surfaces, have been reconstructed using 3D seismic technology. This dramatic developments of paleoenvironmental visualization technique resulted in the new research field “seismic geomorphology” or “seismic sedimentology” as an integrated concept of 3D seismic technology and sequence stratigraphy. The concept and methods of seismic geomorphology have been widely applied for sediment body analysis, three-dimensional depositional process analysis and quantitative reservoir characterization.

It is concluded that 3D seismic technology is indispensable for the future sedimentology, as an effective, efficient and precise tool of earth surface dynamics analysis.

**Key words:** 3D seismic technology, seismic geomorphology, geology, sedimentology

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