

# Accepted Manuscript

Seismic reflection patterns associated with continental convergent margins through time

David B. Snyder, Bruce R. Goleby

PII: S0040-1951(16)30080-4  
DOI: doi: [10.1016/j.tecto.2016.04.027](https://doi.org/10.1016/j.tecto.2016.04.027)  
Reference: TECTO 127063

To appear in: *Tectonophysics*

Received date: 4 September 2015  
Revised date: 7 March 2016  
Accepted date: 14 April 2016



Please cite this article as: Snyder, David B., Goleby, Bruce R., Seismic reflection patterns associated with continental convergent margins through time, *Tectonophysics* (2016), doi: [10.1016/j.tecto.2016.04.027](https://doi.org/10.1016/j.tecto.2016.04.027)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Seismic reflection patterns associated with continental convergent margins through time

David B. Snyder

*Geological Survey of Canada, Natural Resources Canada  
615 Booth Street, Ottawa, Ontario K1A 0E9 Canada*

Bruce R. Goleby

*OPM Consulting Pty Ltd, 4 Cheeseman Place,  
Gowrie, ACT, 2904, Australia  
(previous address: Geoscience Australia  
PO Box 378, Canberra, ACT, 2601, Australia)*

**Abstract.** The important role of tectonic wedging in accommodating horizontal shortening strain is increasingly recognized to occur at all scales within continental convergence zones. Wedge structures appear most common in accretionary orogens involving former passive margins with large-volume turbidite sedimentary fans or accretionary prisms. Relatively small-scale wedges can be recognized in outcrop, but crustal scale wedge geometries must be observed and analysed using seismic reflection methods. Reflection profiles now exist across a large number of accretionary orogen settings of diverse ages and continents. Similarities in seismic patterns within the major eras enable creation of a series of stylised continental margin transects for each major time period. Relatively low rock strength found in turbidite sediments rich in micas, especially when contrasted with strengths of igneous volcanic arc rocks, plays a major role because it localizes thrust faults within weaker horizons. Schematic cross sections across accretionary margins that span five geological eras summarize the principal features interpreted on numerous seismic reflection sections. Important details vary, such as the depths where tectonic wedging initiates, but tectonic wedges of diverse scales are observed in all cross sections. The percentage and degree of consolidation or

Download English Version:

<https://daneshyari.com/en/article/5781840>

Download Persian Version:

<https://daneshyari.com/article/5781840>

[Daneshyari.com](https://daneshyari.com)