An alternative view on subduction zones

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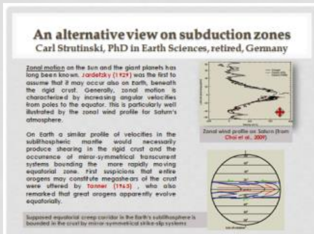
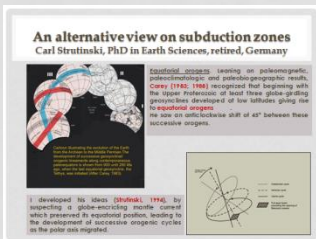
__Preamble__. Analysis of seismic anisotropy data has shown that the motion direction within the mantle directly beneath Wadati-Benioff zones is mostly at right angles to that implied by the subduction model. This suggests that the mantle, instead of migrating downdip together with the 'slab', creeps horizontally, probably as large currents whose directions are witnessed at the surface by the trend of deep-sea trenches. Different findings of the last ninety years which usually went unnoticed because they do not match the Plate Tectonics Theory (PTT) are, however, in accordance with this horizontal creep of sublithospheric mantle currents and suggest an alternative geotectonic model.

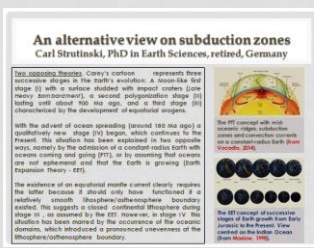
Zonal motion



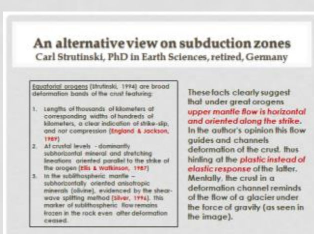
Equatorial orogens



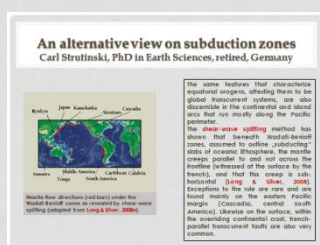
Two opposing theories



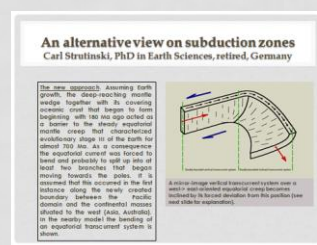
Characteristics of equatorial orogens



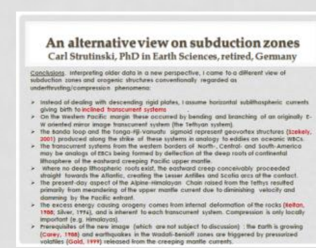
Seismic anisotropy under trenches



The new approach



Discussion and Outlook



REFERENCES