1999 Fall Meeting Search Results:

Your query was:

"T42C-03"

The selected databases contain **one** document matching your query:

HR: 1330h AN: **T42C-03**

TI: Tectonics and Depositional History of the Neogene Cascadia Forearc Basin: Investigations of a Deformed Late Miocene Unconformity

AU: * McNeill, L C

EM: L.McNeill@earth.leeds.ac.uk

AF: School of Earth Sciences, University of Leeds, Leeds, LS2 9JT United

Kingdom

AU: **Goldfinger, C** EM: *gold@oce.orst.edu*

AF: College of Oceanic and Atmospheric Sciences, Oregon State University,

Corvallis, OR 97331 United States

AU: Kulm, L D

EM: Ikulm@oce.orst.edu

AF: College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR 97331 United States

AU: Yeats, R S

EM: yeatsr@geo.orst.edu

AF: Department of Earth Sciences, Oregon State University, Corvallis, OR

97331 United States

AB: The continental shelf and upper slope of the Oregon Cascadia margin are underlain by the late Cenozoic forearc basin, correlative to the Eel River Basin of N. California. Basin stratigraphy includes a regional late Miocene unconformity which may coincide with a world-wide hiatus at \$\sim\$7.5-6 Ma (Neogene Hiatus 6). The unconformity is angular and probably subaerially eroded on the inner and middle shelf, whereas the seaward correlative disconformity may have been produced by submarine erosion. Tectonic uplift resulting in erosion may have been driven by clockwise rotation of Pacific and Juan de Fuca plate motions. The shelf-slope basin is bounded to the west by a N-S-trending structural outer-arc high. Truncation and erosion of the seaward basin occurred in the early-mid Pliocene followed by uplift of the present outer-arc high and partial re-accretion of sediments. During the Pleistocene, the outer-arc high was breached, probably contributing to Astoria canyon incision, the primary downslope conduit of Columbia River sediments. This event may have caused a change in sediment provenance recorded on the abyssal plain \$\sim\$1.3-1.4 Ma. A structure contour map of the deformed unconformity and correlated seaward reflector from seismic reflection data clearly outlines deformation into major synclines and uplifted submarine banks, the most prominent enduring Neogene structures. Margin-parallel variations in relative uplift rates of the shelf unconformity indicate deviations from simple convergence-related compression and show agreement with coastal geodetic

DE: 3022 Marine sediments--processes and transport

DE: 4219 Continental shelf processes

1 of 2

DE: 8005 Folds and folding

DE: 8105 Continental margins and sedimentary basins

DE: 8150 Plate boundary-general (3040)

SC: T

MN: 1999 AGU Fall Meeting

New Search

AGU Home

2 of 2