Résumé du séminaire du jeudi 17 novembre 2005 :

Formation of non-volcanic rifted margins by the progressive extension of the lithosphere.

par
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Non-volcanic rifted margins form through the progressive extension of the continental lithosphere overlying cool or normal temperature mantle. Extension is accommodated in the brittle crust by normal faults which progressively rotate to lower angles and eventually lock-up to be replaced by a second, third or fourth generation of faults. As the lithosphere is thinned, pressure reduction (together in some cases with cooling) makes brittle deformation progressively easier so that eventually the entire thinned crust moves into the brittle field, allowing faults to cut across the entire crust and into the mantle. Passage of hydrous fluids along these faults leads to the serpentinisation of the mantle and the development of serpentine detachments at the base of the crust. Movement along these promotes rapid crustal separation and the unroofing of a broad zone of mantle prior to the onset of seafloor spreading. Melt production may be limited by a cool sublithospheric geotherm: the transition to seafloor spreading may be related to the influx of warmer asthenosphere.