du Trias supérieur-Jurassique inférieur est caractérisé par une prédominance de failles normales NO-SE à regard NE et de failles normales E-O limitant des bassins losangiques. Ces failles ont été inversées dans un premier temps pendant le Turonien moyen-Maastrichtien inférieur. Cette première inversion peut être corrélée à l'initiation de la subduction de la Téthys sous l'Eurasie. Le raccourcissement majeur de l'Atlas sud tunisien a commencé au Serravalien-Tortonien et est encore actif. La déformation du système chevauchant d'avant-pays s'est propagée durant cette période sur le niveau de décollement formé par les évaporites du Trias supérieur-Jurassique inférieur. La « phase atlasique » d'âge éocène décrite en Algérie et à l'Est de la Tunisie ne semble pas s'exprimer clairement dans l'Atlas sud tunisien, qui correspondait probablement, durant cette période, au « backbulge » du système d'avant-pays atlasique. Pendant l'Oligocène-Miocène moyen, correspondant à des séries condensées dans la région étudiée, l'Atlas sud tunisien coïncidait probablement avec le « forebulge » du système d'avant-pays. Ceci est en accord avec la subsidence générale oligocène-miocène inférieure décrite dans la partie septentrionale de l'Atlas tunisien.

3.10.5 (o) Zagros fold belt : orogenic accretion from obduction to collision

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The Zagros orogenic system comprises an exceptionally wide deformation zone between Arabia and Eurasia, embracing the entire Iran, and resulting from the closure of the Neotethys Ocean through its protracted NE-dipping subduction beneath Eurasia. The ~2000-km long, NW-SE trending Mesopotamian basin and Zagros fold belt (deformed basement and cover of the Arabian lower plate) are at the front of this orogenic system formed by the Sanandaj-Sirjan Zone and the Urumieh-Dokhtar Magmatic Arc, parallel tectonic domains belonging to the upper plate. The Zagros fold belt deforms 10-12-km thick Arabian sedimentary cover, which records compressive deformation since Late Cretaceous times. These tectonic events and their sequence have been studied in great detail in the last ten years, mainly due to the profusion of dating of the syntectonic marine and non-marine sediments in the fold belt and foreland basin. Despite these new data, and taking in account that there is a general consensus that the Zagros orogeny occurred during the complete consumption of the Neotethys Ocean, tectonic interpretations differ and ages of major geodynamic events remain controversial.
Our studies confirm that the early Amiran foreland basin depocenter migrated from Campanian to Eocene (c. 83-52.7 Ma) after the onset of young Tethyan intra-oceanic obduction on top of the Arabian plate margin at the Cenomanian-Turonian boundary (~93 Ma). This migration is coeval with a mild but far-reaching deformation as indicated by punctuated growth strata deposits. A younger deformation event shaped the present geometry of the magnificent Zagros fold belt, strongly overprinting the previous phase. Deformation along the High Zagros Fault was active from 20 Ma to at least 7.5 Ma. Folding in the Lurestan was active from at least ~13.5 Ma in the NE, migrating to the SW where it possibly terminated at about 2.5-1.5 Ma. In the Fars, deformation onset is dated at 14.5 Ma migrating SW-wards to the Persian Gulf coastline where the folds are still active.
We propose a simple 2D kinematic model accounting for the existing Arabia-Eurasia plate tectonic convergence models and constrained by the well-calibrated deformation periods from both Amiran and Mesopotamian foreland basins to characterize the crustal accretion shaping the widespread Arabia-Eurasia collisional domain.

3.10.6 (o) Fold-and-Thrust Belts on salt - Salt Tectonics in a Fold-and-Thrust Belt (Sivas, Turkey)

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Salt is a very efficient detachment in fold-and-thrust belts. It has a very low shear resistance and produces wide fold belts with low taper, characterized by long detachment folds. These belts do not follow the classical in-sequence propagation of a Coulomb tectonic wedges developed over stronger detachments, such as the Rocky Mountains. Examples from Zagros and Tajikistan among others will illustrate the salt controlled thin-skinned style, and how late basement involvement can interfere with the thin-skinned belt.
In most salt related fold-and-thrust belts, like in most salt provinces, salt tectonics has occurred before compression, very early in the basin evolution. In Zagros, only the lastest part of the salt story, squeezed cylindrical passive diapirs, can be observed, although halokinesis is known to have started as early as Cambrian. In the southeastern Alps, evaporites have disappeared, however paleo-diapirs, welds and megaflaps can be deciphered. The resulting fold and thrust belt thus builds up at the expenses of preexisting salt related structures.
In the recently revisited Sivas Basin in Turkey, thick evaporites structures are preserved. The basin lies over the Neotethyan suture. A thick evaporite layer deposited in Middle Oligocene likely in an extensive to transtensive setting. During the following tectonically quiet period, fluvial sediments filled up mini basins. They continued their evolution while compression strongly resumed from Early to Middle Miocene. A second phase of mini basins formed after this compression and salt tectonics is still active at some locations.
Classical salt basins on passive margins (e.g. Gulf of Mexico, West African Margin) formed in a tectonically quiet deep offshore setting and are filled with turbidites. Sivas Basin evolved in a very different setting, convergent tectonic context and fluvial to shallow marine sedimentary environment. However, the mini basin structures exposed in Sivas can be directly compared to seismic images from offshore basins. Structures like salt walls and sheets, welds, halokinetic sequences and mega flaps will be illustrated and compared with similar structure on high quality seismic data.

3.10.7 (o) Structure and exhumation of the north-Peruvian forearc system inferred from balanced cross sections and apatite fission track data

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Forearc systems represent complex and challenging domains for future hydrocarbon exploration. The north-Peruvian forearc belongs on the western flank of the northern Andes. This tectonically active forearc system, related to the post-Jurassic geodynamics of the Nazca and South American convergence plate system, consists of three main Mesozoic to Cenozoic depocenters : the Tumbes, Talara and Lancones sub-basins. Contrary to other forearc areas of the Andean orogen, this forearc includes a giant petroleum province : the Talara sub-basin. However, the petroleum system of this forearc still remains poorly understood, and the offshore areas of the Tumbes sub-basin are under-explored. As well,