compression thrusting (collision stage). Corresponding to the stages are the types of crust being formed (ocean, quasi-ocean, quasi-continental, continental). The stages are divided into geosynclinal and orogenic sub-stages (the Bertran cycle). It is demonstrated that tectonostages and orogenies are matching (Alpine, Hercynian, Caledonian, Baikal and others) for the last 1500 million years. Actually, the features and direction of changes in vertical and horizontal sequences of continental margin tectonostages is a basic tectonic regularity to be studied because it determines existing types of sedimentary petroleum-prone basins, sedimentary complexes and separate prospects considered as hydrocarbon traps.

Evaluation of Sea-Level Rise Impact on Cemented and Uncemented Beach. Case Study from Thassos Island, Greece

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A semi-buried underwater beachrock exposure, in the west coast of Thassos Island (N Greece), has been investigated due to coastal erosion phenomena. The partial removal of the beachrock's outcrop by locals incurred rapid regression of the beach, while the protected by the formation coast, remained stable during the same time interval. The use of the Bruun Rule as a contributor in the quantification of the marine transgression in the study area showed a participation of the sea-level rise to the beach erosion equal to 7% of the total erosion at minimum. Several other factors, which are related to the unique dynamic conditions at the eroded coastline, might have contributed to augmented erosion values.

Evidence of Pre-Apulian (Paxos) isopic Zone in the Filiatra-Pylos area (SW Peloponnese, Greece)

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The studied area, for decades was regarded as belonging to the Gavrovo-Tripolis isopic zone. However, in last years the area has been the subject of extensive geological mapping reinvestigation, which has brought to light the fact that the features of this geographical part could geotectonically be correlated to the Pre-Apulian (Paxos) isopic zone of the external Hellenides.

The observed lithostratigraphic successions of Filiatra-Pylos area, in comparison with those of Ionian and Gavrovo-Tripolis zones, are clearly and highly distinguishable. In the studied area, the whole Cretaceous to Tertiary sedimentary successions are composed of whitish shallow-water limestones, locally bituminous or rich in organic matter, with multiple emersions bearing scarcely bauxitic episodes, with absence of typical darkish platformal lithofacies like Gavrovo-Tripolis carbonate sequences or any deep-water limestone sequences with chert like Ionian carbonates. In addition to that, the entire examined sedimentary sequence is also developed over a Triassic evaporitic substratum, which is entirely absent within the Plattenkalk Series in Peloponnese. The exceptional thick siliciclastic flysch successions are normally developed over the marly limestones and the clastic deposits and cover by Miocene. Moreover, the flysch sequence in Gavrovo-Tripolis zone and the metaflysch sequence with the Plattenkalk Series are presented by highly restricted outcrops in overall Peloponnese.

The whole area is also characterised by the presence of large anticlines, however the easternmost flysch sequence outcrops are deformed as thrust and fold structures, by the SW

advancing propagation of the Hellenides. The dominant mesoscale structures are those of faulted anticlinal folds, which have roughly northwest-southeast-trending fold axes and overturn to the southwest. These structures are due to the overthrust caused by Mesozoic-Tertiary pelagic sequence of Pindos thrust belt and by conglomerate debris-flow mega-slivers. These slivers are originating from the deeply up-faulted, gravity sliding and collapse of the upper levels of the Gavrovo-Tripolis and Pindos thrust belts.

Gavrovo-Tripolis and Apulian platforms formed during Early Mesozoic Tethyan opening and they developed as a part of the Early Cretaceous foreland-thrust belt system, which resulted from the collision of Apulia and Eurasia. During the Tertiary, the Apulian continental margin was affected by compressional tectonics due to the continuing collision. Subduction of Apulia beneath the Hellenic margin of the upper European Plate took place in the Miocene, which is responsible for the tectonic deformation due to the increasing west-to-east lithospheric shortening and gives rise to the intracontinental subduction formation of Plattenkalk and Phyllite-Quartzite Series.

Consequently, the examined sedimentary features, in Filiatra-Pylos area, are well correlated with the lithostratigraphic successions of Paxos, Ithaki, Cephalonia, Lefkas and Zakynthos, but are also connected with those of Megisti Island in Dodecanese, which geotectonically belongs to the Pre-Apulian isopic zone of the External Hellenides.

Preliminary petrographic data on the Early Cretaceous Boeothian flysch (External Hellenides, central Greece); provenance and palaeogeographic implications

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This paper defines the petrographic features of the Boeothian Flysch, an Early Cretaceous turbiditic deposit, which marks the boundary between the External/Internal Hellenides in central-southern Greece (south of the Kopais plain). The results from this study represent a preliminary contribution in reconstructing the Early Cretaceous palaeogeography of a limited segment of the Alpine Tethys (i.e. the Pindos Ocean), mainly supported by provenance changes of the detrital modes of arenites and related tectonic events. The Boeothian Flysch, whose stratigraphic succession is made up of basal conglomerates grading upwards to sandstones and pelites, interlayered with calpionellid micrite limestones, is here supposed to belong to the Early Cretaceous flysch family, cropping out along all the western and central Europe Alpine Chains for more than 7,000 km, from the Gibraltar Arc to the Balkans. This flysch commonly marks the contact between the internal and external areas and usually shows a provenance linked to internal areas, mainly made up of crystalline sources and, locally, by ophiolitic complexes. Representative samples of sandstones were analyzed for petrographic compositions in order to detect the source areas. The data obtained suggest that the provenance of the Boeothian Flysch is closely related to sediment sources belonging to internal domains and formed by a Jurassic carbonate platform and metamorphic basements, connected to the Pelagonian Terranes (Auct.), and by ophiolitic complexes. Thus, it is also possible to hypothesize that Early Cretaceous uplift and rejuvenation processes affected these internal domains with the production of a detrital supply, filling the innermost sector of the Pindos Ocean, whose external margin was bounded by the Parnassos microcontinent. This uplift process may probably represent the beginning of the Late Cretaceous tectogenesis, widely recorded in almost all the central-western Alpine Tethys.