gradual paleogeographic transition between above mentioned units. Laterally from the Southern Alps to the Dinarides and vice versa, they express paleographic unity.

Starting from the south, the Istrian platform of the Adriatic basin transits normally to the External Dinarides, and they both form a unique Adriatic - Dinaric carbonate platform of Mezozoic to Paleogene age with non-significant paleogeographic differences. Their contact is a folded zone with a minor tectonic offset along reverse faults formed in post - Eocene age.

The transition of the External Dinarides to the Southern Alps and/or Internal Dinarides is also gradual. These last ones are represented here by a zone of Mesozoic deep water sediments known as the Slovene through. It was initiated in Middle Triassic, and had continuously progressed to the south. In post - Oligocene time, through sediments have been generally thrusted upon the Aridatic - Dinaric carbonate platform.

The northern rim of the Slovene basin is the Julian carbonate platform, that had desintegrated during Lower Jurassic and had been more or less covered by deep water sediments to the end of Mesozoic. In post-Oligocene, the Julian platform has been thrusted southward over the Slovene basin with undetermined amplitude of tectonic desplacement.

The Paleozoic basement of the Julian Alps is exposed to the north as the Southern Karavanken. The contact between these two units is mostly tectonical and it is determined by thrusts and normal faults of post-Oligocene age.

Laterally, starting from the northern Italy, the External Dinarides outcrop in the northern rim of the Po basin as the Trento platform, and they continue southeastward occupying the most part of southern Slovenia, Croatia and Bosnia. The deep water sediments of the Belluno through continue into the Slovene through and into the Central Bosnian zone of Internal Dinarides. The Julian platform together with its Karavanken basement could be followed east and northeastward into Transdanubian range of Central Hungary where they both emerge with the basinal sediments of the Southern Alps and/or Internal Dinarides.

Therefore the boundary between the Southern Alps and Dinarides, that is usually placed "somewhere" in Slovenia is artificial one, and it represents more geographical than geological division.

Subsidence analyis of reconstructed profiles of the Pienniny Klippen Belt Basin

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The area of research is Polish part of Pieniny Klippen Belt (PKB), for which twelve synthetic pre-orogenic 1-D profiles of individual zones of the basin were reconstructed. Profiles represent Czorsztyn-, Czertezik-, Niedzica and Branisko-Pieniny successions, and cover Pliensbachian-Early Campanian basin history. We applied subsidence analysis technique for analysing pre-orogenic history of tectonic vertical movements of the basin basement, which includes quantitative balancing of thicknesses, absolute ages, bathymetry and lithological data for individual lithofacial units, as well as calculating isostatic and decompaction effect of backstripping.

There is a good control on thicknesses of formations (small total thicknesses of profiles are characteristic: aprox. 200-500m) as well as on stratigraphy and lithology (last one has a minor influence on a model). Bathymetry estimations are based on lithofacial analysis, relations to CCD and ACD, and faunal indicators. Quantitative bathymetric control is poor, but relative changes are certain. Models for PKB basin strongly depend on bathymetry, what causes their error bars to be wide.

Our preliminary results (tectonic subsidence curves) show high dynamic of vertical tectonic movements of basin basement. Remarkable similarities exist in a general pattern of subsidence history over the whole PKB basin.

For Pliensbachian-Bajocian the curves show slow subsidence, which during Bathonian accelerated. Callovian-Oxfordian are characterised by very rapid subsidence, which might be attributed to tectonic event taking place across all the basin (more pronounced for Branisko and Pieniny successions). The subsidence character might be interpreted as extensional or transtensional. The second one is supported by high rate of subsidence, its short live span and sudden extinction, and lack of thermal cooling. The question is if lateral heat flow mechanism (characteristic for small transtensional basins) might be applied in a case of PKB basin, which was several tens of kilometres wide.

At the end of Oxfordian rapid uplift started, which lasted until Berriasian, ceasing with time. It is interpreted as a record of major modification of stress regime in the basin (possibly to transpressional regime?).

For Early Cretaceous subsidence curves are less reliable (mainly due to hiatuses), nevertheless they show higher diversity and the basin seems to behaved in a less uniform manner.

During Albian-Cenomanian slow subsidence appeared across all zones of the basin, and since Turonian rate of subsidence began to increase, creating a compressional type of curve. This is coincident in time with Turonian folding in Inner Carpathians to the South of PKB basin. The subsidence for Late Cretaceous might be thus explained by flexural bending mechanism in front of folding Inner Carpathians.

Pre-orogenic evolution of the Polish part of Outer Carpathians - quantitative subsidence and uplift analysis

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The Outer Carpathian flysch sequences in Poland are divided into several tectonic and facial units, related to primal sub-basins. Mainly Skole, Silesian and Subsilesian units are analysed here; for Magura and Dukla units results are very preliminary. Area of research is Middle and Eastern Polish Outer Carpathians. Synthetic reconstructed 1-D profiles for individual zones of sub-basins were prepared, covering Berriasian-Early Miocene basin history at most. For these profiles an input data (thicknesses, absolute ages, bathymetry, lithological parameters) were quantitatively balanced and profiles were backstripped in order to calculate tectonic component of the basement vertical movements. There is good control on thicknesses, lithology and stratigraphy of individual formations. Control on bathymetry is poor (error bars up to several hundreds meters) and was estimated using lithofacial and faunal indicators. Bathymetry is a key factor controlling curves character for Cretaceous-Early Oligocene.

Subsidence patterns similarities over the all basin suggest that geotectonic processes of regional scale controlled subsidence and uplift of sub-basins.

Relatively slow Berriasian-Hauterivian subsidence is interpreted as thermal cooling that followed possible earlier (Late Jurassic) extensional tectonic event (particularly in Silesian sub-basin).

Since Turonian-Coniacian until Maastrichtian-Paleocene an uplift of several hundreds meters over Skole, Subsilesian and Silesian sub-basins took place; it coincidented in time with Inner Carpathians folding. This uplift is interpreted as being a result of change in tectonic regime into compressional one. It is also suggested to be a part of geodynamic frame of Inner Carpathians foreland inversion, migrating in time to the North (e.g. Polish Trough). Our preliminary results show no presence of Late Cretaceous uplift in Magura and Dukla sub-basins. It might be an indicator of major rheological differences between crust of both mentioned parts of Outer Carpathian basin.

During Paleocene subsidence was re-established (in Magura and Dukla sub-basins increased in rate) and lasted until Middle-Late Eocene. Mechanism of subsidence could be an isostatic rebound after previous uplift, although the interpretation is very hypothetical.

During Late Eocene rapid uplift of a big magnitude (2000m?) started, which lasted until Early Oligocene. The uplift was followed by minor subsidence, being the last tectonic event in the basin. According to our interpretation, the uplift was a reaction to compressional stress which, due to general plate convergence background, increased after shortening processes to the South of Outer Carpathians had ceased. The increasing stress preceded shift of the locus of shortening to the North. Its final relocation and creation of main detachment surfaces resulted, in our opinion, in stress relaxation and Late Oligocene-Early Miocene limited subsidence. Further continuation of shortening introduced orogenic processes into analysed area.

Tectonical activity and facies distribution of the Neogene and Quaternary deposits in the Croatian part of the Pannonian Basin

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Recent structural relations and main tectonical movements in the north-western area of the Croatian part of the Pannonian Basin are presented. Relation; stress-deformational framework is explained. Transperssion of considered area is defined. Right wrench faults are pointed out. The most active faulted zones and different structural types are defined. The considered area is correlated with the adjacent region. Local structures and suitable traps for hydrocarbon accumulations are defined as well. Several typical examples of structural and lithofacies features are singled out. According to the well data as well as to the outcrop exploration