

### Stable isotope investigations in the Kupa drainage basin (Western Croatia)

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During a campaign lasting from October 27 to November 21, 2010 sixty-seven water samples were taken from sites along the three hundred kilometres long course of the Kupa River. We interpret the oxygen isotopic composition of the high part of the catchment of the upper Kupa River, comprising Čabranka River and its smaller tributaries down to Karlovac with higher  $\delta^{18}\text{O}$ -values of river waters, as predominantly influenced by maritime precipitation from the Kvarner Bay. The catchment of lower Kupa River and its tributaries, from Karlovac down to Sisak, and also the southern catchment of Dobra- and Korana River predominantly are influenced by precipitation out of more continental (humid) air masses. This more continental influence does not necessarily imply precipitation out of drier air masses from the continental side but may also be the result of rainout influences on the isotopic composition of primary maritime air moisture. The high values of the deuterium-excess of Kupa River waters ( $d = 11\text{‰}$  to  $17\text{‰}$ ) are similar to those reported by Vreča et al. (2006, tab. 2) for the station Zavižan - Mt. Velebit ( $d = 12\text{‰}$  to  $17\text{‰}$ ) and disagree with those of the station Zagreb-Grič ( $d = 7\text{‰}$  to  $10\text{‰}$ ). We therefore conclude that precipitation from the Adriatic side predominantly charges both karst water and river water of the Kupa catchment.

Vreča, P., Bronič, I. K., Horvatinčić, N., Baresić, J. (2006): Isotopic characteristics of precipitation in Slovenia and Croatia: Comparison of continental and marine stations. *Journal of Hydrology*, 330, 457-469.

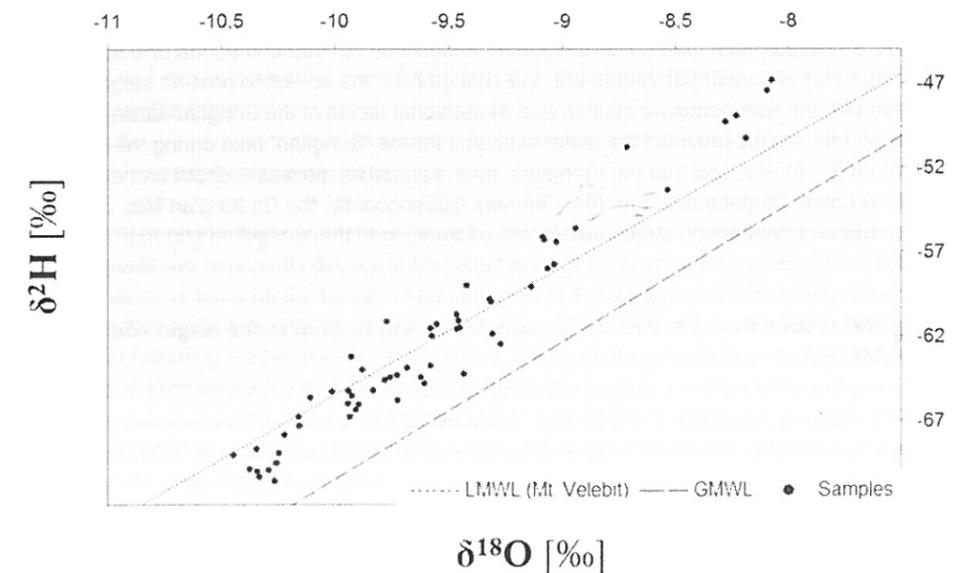


Figure 1: Relation between  $\delta^{18}\text{O}$  and  $\delta^2\text{H}$  values of river waters in the Kupa catchment with indication of local meteoric water line (LMWL) as published by Vreča et al. (2006) from the Velebit Mountains. Global Meteoric Water Line (GMWL) for comparison.

### Carboniferous and Middle Triassic Granitoids: U-Pb Isotopic Dating in Zircons

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Two samples of the granodiorites of the Gashi Zone, one sample from the Juniku (Kosovo) granite and one sample from the granitic massive of Fierza are dated by U-Pb method in zircons. The isotopic dating is realized in the Isterm, CC 066 Laboratory of the Montpellier II University, France. Based on these data we conclude that there are two kinds of granitoid rocks. Juniku granite is dated  $329.6 \pm 2.1$  Ma (Carboniferous, Mississippian, Serpukhovian) and the granodiorites of the Trokuzi massive are dated  $242.2 \pm 1.5$  and  $244.5 \pm 1.5$  Ma (Middle Triassic, Anisian). The Fierza granite is dated  $247.3 \pm 3.1$  Ma, that is at the border of Low Triassic (Olenekian) and Middle Triassic (Anisian), but the  $\pm 3.1$  Ma analytical error don't exclude the possibility that this massive is of the same age as the Trokuzi massive. On the Geologic Map of Albania, in scale 1:200 000 both the Trokuzi and Fierza massifs are dated J2-3. Our new data confirm the formation of the plutonic rocks in Low-Middle Triassic as the known in Albania volcanic rocks. After the last geochemical studies, including isotopic one, these volcanics are formed initially in a rifting zone that is evolved to a spreading ridge. Both plutonic and volcanic rocks are known in Dinarides, formed in the same geodynamic conditions in the Low-Middle Triassic. All our data are out of the range of the Jurassic ophiolites and especially plagiogranites and microdiorites dated by the same U-Pb method in zircons (160-165,5 Ma, Middle Jurassic, according to Yildirim Dilek et al. 2008).

### Coupling the latest exhumation of the Da Xing'an Mts. and deposition of the Songliao basin in NE China: Constraints from apatite (U-Th)/He dating

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The age of exhumation and final surface uplift of the Da Xing'an Mts. in NE China is still hotly debated, even though fission track dating has been previously done in this area. Furthermore, the virtually coupled relationship between the exhumation of the Da Xing'an Mts. in the west and the subsidence of the Songliao basin in the east remained unclear. This study presents, for the first time, apatite (U-Th)/He (AHe) data from a WNW-trending