FLUIDS GEOCHEMISTRY THROUGHOUT THE AIGION-HELIKE FAULT ZONES IN THE FRAME OF THE CORINTH RIFT PROJECT: FIRST DATA

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In the frame of the European Community Cluster of Projects named "Corinth Rift Project" fluids geochemistry surveys were performed throughout the Aigion-Helike seismogenic fault zones in October 2000, sampling around 50 groundwater (7 springs, 41 wells) and analysing fault-pathfinder major, minor and trace elements as well as significant isotopic ratios (He, C, H, D). First data pointed out two clear geochemically anomalous sectors (i.e., temperature, Rn, CO2, NH3, H2S, F, etc..) located i) around the Selinitika NW border of the Aigion fault (just a few kilometers away from the 15/61995 rupture of the M 6.2 earthquake) and ii) along the Eastern side of the West Helike segment, inside the Nikolayika village toward the sea, just where gas-gushing episodes were observed in occurrence of the 1993 Patras earthquake. Two main groundwater families were discriminated: the deeper one, more alkaline and mineralised uprising at surface only by artesian wells discovered both in the Trapeza area and inside the Nerazes village: this anomalous artesian aquifer , affecting the investigated area as a whole (12 km long from Selinitika to Trapeza, along both seismogenic faults), deserves special interest for the future continuos geochemical monitoring in the frame of the project. The Aigion Harbour spring is also intriguing to study the stress-strain-fluids relationships, exhibiting the highest radon content in a very low concentration regional background.