

## Isotopic signatures in a tropical transitional estuarine/marine ecosystem influenced by the largest agricultural and aquaculture activities in Mexico

AGUIÑIGA-GARCÍA S., G. RODRÍGUEZ-FIGUEROA, A. SÁNCHEZ-GONZÁLEZ AND F.J. ROMO-RÍOS

Centro Interdisciplinario de Ciencias Marinas, Instituto Politécnico Nacional, Avenida de IPN s/n, Col. Playa Palo de Santa Rita, Apto Postal 592, La Paz, Baja California Sur 23096, Mexico

Assess the anthropogenic pressures on coastal ecosystems are of primary concern. This project is focused in San Ignacio-Navachiste-Macapule, Sinaloa, Mexico, a transitional ecosystem influenced by the largest agricultural and aquaculture activities. Nitrogen and carbon stable isotopes have been evaluated in sediments to estimate spatial variability and its correlations with inputs of carbon and nitrogen derived from natural and anthropogenic sources. The d-15N values ranged from 6 to 10.6‰ from marine-estuarine gradient. Sedimentary organic matter positive d-15N values were influenced by a mixture of aquaculture (sediment pond d-15N = 8.53‰), sewage (12‰) and agriculture drainage (3‰). These land-marine areas were associated with fine grain size, high content of the macronutrient (15 µM NO<sub>3</sub>) and negative d-13C values (-25.4‰) as a result of mangrove (-27.3‰), aquaculture (-16.8‰) and positive C4 terrestrial plants (-14.6‰). In contrast, lowest d-15N values were correlated with coarse grain size, 5 µM NO<sub>3</sub> and positive (-19 ‰) d-13C values, of marine environment. The estuarine/marine pattern has an anthropogenic component that be traced in the spatial scale.

## The origin of myrmekite in the Boroujerd granitoids, Sanandaj-Sirjan Zone

VAHID AHADNEJAD

Geology Department, Payame Noor University, Tehran 19395-4697, I. R. Iran. (v.ahadnejad@gmail.com)

The Boroujerd Plutonic Complex (BPC) is one of the major Jurassic plutonic complexes in the Sanandaj-Sirjan Zone (SSZ). The BPC consists of a suite of calc-alkaline dioritic to granitic rocks. The abundance of myrmekitic texture is a major petrographic characteristic in the BPC that implies an emplacement into a high-strain shear zone. This is confirmed by mylonitic microstructures in the studied rocks [1]. The abundance of calcic plagioclase rather than its sodic type and absence of K-feldspar imply a Ca-metasomatism as a major geochemical factor for myrmekites. Locally, there is some K-metasomatism signs such as K-feldspar overgrowth on plagioclase [2], remnant plagioclase islands in microcline crystals, and paths of microcline in plagioclase.

[1] Rasouli, J., Ahadnejad, V., Esmaeily, D. 2012. A preliminary study of the anisotropy of magnetic susceptibility (AMS) of Boroujerd granitoids, Sanandaj-Sirjan Zone, West Iran. *Natural Science*, **4**, 91-105. [2] Collins, L.G., 1997. Myrmekite formed by Ca-metasomatism: ISSN 1526-5757, Electronic Internet Publication, No. 4. <http://www.csun.edu/~vcgeo005/revised4.htm>