Geophysical Research Abstracts
Vol. 20, EGU2018-18563, 2018
EGU General Assembly 2018

Environmental changes during Holocene inferred from lake sediments in Lake Crniševo (Baćina Lakes) on the Eastern Adriatic coast, Croatia

Nikolina Ilijanić, Slobodan Miko, Ozren Hasan, and Martina Šparica Miko
Croatian Geological Survey, Zagreb, Croatia (nilijanic@hgi-cgs.hr)

Sediment record from Lake Crniševo, the deepest lake of the Baćina Lakes, on the Eastern Adriatic coast, has been investigated combining sedimentological, geochemical and mineralogical methods. The karstic nature of the lakes makes them carbonate productive and depositional changes have been tracked in high resolution. The 8.3 m long sediment core spans over the last 12000 years. The higher concentrations of lithogenic elements and magnetic susceptibility in sediments from Lake Crniševo reflects increased erosion and input of the siliciclastic material from the catchment from 11.7 to 10 cal ka BP, which indicates increased rainflall and subsequent runoff. This is followed by their gradual decrease until 7.5 cal ka BP. Dominant endogenic carbonate deposition lasted from 7.5 until 4.5 cal ka BP. At 4.5 cal ka BP intensive changes in the sediments began, observed by the high sand fraction compared to silt that was dominant until this period. This dynamic environment lasted until 2.5 cal ka BP, and is characterized by variable amount of calcite and quartz. From that time (4.5 cal ka BP) the slow increase of the siliciclastic material content was observed, indicating the increasing human impact and deforestation of the catchment.