

## **PST07 - Stoichiometry dynamics of shallow saline lakes with and without wastewater inflows**

Corrales-González, M.<sup>a</sup>, Rochera, C.<sup>a</sup>, Picazo, A.<sup>a</sup>, and Camacho, A.<sup>a</sup>

<sup>a</sup>Cavanilles Institute of Biodiversity and Evolucionary Biology, University of Valencia,  
Burjassot, Spain.

This study is part of the ECOLAKE and CLIMAWET projects (CGL2012-38909 and CGL2015-69557-R, MINECO) partly addressed to investigate ecological patterns in saline shallow lakes located in the Biosphere Reserve of La Mancha Húmeda (Central Spain). During two hydrological cycles we measured the seasonal availability and stoichiometry of major nutrients (carbon, nitrogen and phosphorus) in 18 selected lakes. We assessed the effect of three major factors (salinity, hydroperiod and wastewater inputs) on the availability of these nutrients both in water and sediment. The selected lakes are endorheic, whose hydroperiod is mainly controlled by rainfall and evaporation. Most of them are temporary due to the dry summers typical of Mediterranean climate. The inputs from runoff and wastewaters, as well as evapo-concentration processes, cause varying degrees of nutrient accumulation among lake basins, which triggers an uneven increase of the internal load. This accumulation is higher in those lakes with high primary production and eutrophication. The occurrence or absence of wastewater inputs was the factor with higher significant influence over the stoichiometry of nutrients. Its occurrence is linked to decreases in the TOC:TP ratio in water, and in the TN:TP ratio of both water and surface sediments. However, the TOC:TN ratio was also related with the other factors, and showed an increase in lakes with higher salinity. Therefore, nutrient stoichiometry of lakes without wastewater inflows can be selected as a reference for evaluating the extend of trophic impacts in this type of ecosystems.