



## **Effect of advection in the horizontal distribution of phytoplankton in a canyon type reservoir (Sau, N-E Spain).**

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Transport processes like advection and vertical convective mixing determine the paths of suspended particles in aquatic ecosystems such as lakes, reservoirs, coastal areas and oceans (MacIntyre et al., 2002; Serra et al., 2003). Convection is a source of vertical mixing that governs the dynamics of suspended material and advection is usually the most important mechanism for the horizontal transport of particles. In lakes and reservoirs advection might be caused by wind driven currents and internal waves or seiches.

An experimental work has been done in order to determine the behavior of the phytoplankton concentration in Sau reservoir due to the horizontal movements caused by wind and seiching (described by Vidal et al. (2005)). Two surveys have been performed during the stratified period of the reservoir (July and September). In both surveys, ADCP, conductivity, temperature, oxygen, Chl *a* concentration, turbidity and photosynthetic active radiation profiles have been done at 3 hour time intervals during a 48 hour cycle. Advection due to both wind and seiching showed horizontal displacements of phytoplankton patches along the reservoir. According also to the previous results found by Serra et al. (2006) vertical mixing due to night cooling was enough to cause homogeneous vertical distribution of phytoplankton with depth in the surface mixed layer.

### References

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