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# Long-term acoustic measurements of vertical migration and distribution of Daphnids in Lake Constance (Germany)

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The vertical distribution of zooplankton in Lake Constance is being measured since April 2006 using ADCP (Acoustic Doppler Current Profiler). Here we present an analysis of this long-term acoustic dataset in terms of the vertical distribution and diel vertical migration (DVM) of Daphnia hyalina. In this context our attention was drawn on the mechanisms, which are responsible for the course and the timing of the start of DVM on seasonal as well as on diurnal time scales. Effects of physical (e.g. temperature) and biological factors on this timing are discussed. Our analysis discriminates between active swimming of zooplankton (e.g., DVM) and vertical advection by water movements, mainly internal waves occurring during the stratified season on time scales between a few minutes and several days.