



## **Partitioning soil CO<sub>2</sub> efflux: a meta analysis.**

I. Inglema (1), J.-A. Subke (2), **M.F. Cotrufo (1)**

(1) Dept. of Environmental Sciences, Second University of Naples, Italy

(2) Stockholm Environment Institute (SEI), Dept of Biology, University of York, UK

Over the last 15 years, considerable effort has been directed towards the partitioning of soil CO<sub>2</sub> efflux, in order to understand below ground processes, and assess the potential of soils as a sink or source for atmospheric CO<sub>2</sub>. Previous reviews have focused on summarising techniques to separate auto- and heterotrophic respiration, with a wide range of reported estimates. Our aim is to review the techniques used to not only separate between CO<sub>2</sub> derived from heterotrophs and autotrophs, but to also include interactions such as soil priming and dissolution of inorganic carbonates in soils. With a considerable volume of literature available for a range of techniques, we summarise flux contributions according to ecosystem types and biomes in a meta analysis of published results. In addition to this, we also look at the impact of experimental techniques and time scale of observations on the estimates of flux contributions.