



## Impact of dust on biogeochemical processes in the East Mediterranean Sea, lessons from on-board microcosm and land-based mesocosm experiments

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Recent on-board microcosm and land-based mesocosm experiments in the oligotrophic Eastern Mediterranean Sea (EMS) indicates a significant role of Mediterranean aerosols as a net supplier of macro and micro nutrients (N, P, Fe and other trace metals) to the Low Nutrient Low Chlorophyll EMS. In such ultra-oligotrophic environment the leachable nutrients from dry atmospheric inputs add significant quantities of nutrients and become rapidly (<2hrs) bioavailable influencing substantially biogeochemical processes. Experimental additions triggered an increase in several of the performed rate and state variables as bacterial production and abundance, primary production rates and chlorophyll a (or other phytopigments), abundance of certain pico and nanophytoplankton groups and nitrogen fixation rates. Understanding these relationships is important to follow the pathways of N, P (and C) into the EMS food web and the future climate- and human-induced changes in the EMS.