



Importance of spatio-temporal dynamics for biogeochemical function of marine sediments.

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Marine sediments play an essential role for element cycling in the ocean. This includes production, mineralization and retention of organic carbon, regeneration of nutrients and availability of trace metals. Recent advances have shown that benthic environments are far more complex, diverse and dynamic than previously anticipated and that spatio-temporal variations must be better acknowledge if we are to understand, project and manage biogeochemical functioning of the coast and shelf zones. This recognition has to some extent been driven by the development of novel measuring approaches and monitoring platforms that better allow us to resolve and integrate natural dynamics of benthic communities. Using “state of the art” in situ instrumentation this talk will demonstrate and discuss the importance of microscale patchiness, faunal behavior, variations in physical drivers and large episodic events for redox and element dynamics in marine sediments.