Abstract - Posidonia oceanica is a coastal Mediterranean seagrass which accumulates in its subsurface large quantities of organic material derived from its roots, rhizomes and leaf sheaths embedded in sandy sediments. These organic deposits accumulate over thousands of years forming the matte, whose high content in organic carbon plays a major role in the global ocean carbon cycle. In this study, very high resolution seismo-acoustic methods were applied to image the subsurface features of a P. oceanica seagrass meadow at Portlligat (Cadaqués, Girona, Spain), in the NW Mediterranean Sea. Our findings yield fresh insights into the settling of the P. oceanica meadow in the study area, and define with unprecedented detail the potential volume occupied by the matte.

Keywords – Non linear seismo-acoustics, seagrasses, Holocene, Mediterranean Sea

REFERENCES

Fig.1: 3D view of the paleotopography of the matte substratum (lower gray layer) and of the actual seafloor in Portlligat Bay. Depth in meters.