Consiglio Nazionale delle Ricerche

ISTITUTO DI SCIENZE MARINE
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ISMAR

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ISMAR Sala Riunioni III piano - ore 11:00

Flocs Vs Aggregates: The Effect of Particle Packaging on Sediment Dynamics

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Terminology within the body of cohesive sediment literature can be ambiguous when referring to the formation of associations of particles in suspension. Flocculation, aggregation, agglomeration and coagulation have been used to refer to the process whereby individual particles in the aquatic environment come together to form larger entities. In this talk I will try to reduce the various names to two fundamentally different types of particle associations, flocs and aggregates. The term floc refers to the relatively recent agglomeration of particles to form loose associations with low excess density. Aggregates are defined as agglomerations of component particles that initially flocculated at a previous time, and through transport in turbulent eddies and cycles of resuspension, have achieved a higher degree of cohesion and are difficult to break up entirely. Aggregates are typically resuspended and deposited from the bed, rather than formed in the water column during mixing and settling as flocs do. Results from several different locations demonstrate that these two types of particles behave differently and rely on different conditions for their formation hence their role in sediment transport and deposition is also different.