Comparative study between France and Australia. Presentation of the Beach Management Support System: an integrated coastal management tool.

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ABSTRACT:
Integrated Coastal Zone Management defines the coast as a geographic area which can only be understood thanks to the overall system that it forms. We talk about a "coastal system" because it forms a multitude of interdependent identities. The beach is one of these scarce, unique and coveted identities that we need to maintain, preserve and highlight. In this way, beach use management and its implication within the natural coastal system running need to be closely connected.

The primary purpose of this research was to analyse, measure and compare beach nourishment operations, dredging schemes and sand bar processes dynamics within sediment hydrodynamic contexts of the Gold Coast, Australia and "Côte de Lumière", France to improve beach nourishment strategies and effectiveness. To support this research, a project was initiated to develop a decision support system tool for use by coastal managers of beach nourishment operations and coastal protection for decadal time scales (via ArcGIS coupled with Delft 3D). This project aimed to use the strengths of numerical modelling to better understand the short term and long term dispersion of beach nourishment while preserving surfing and swimming conditions. It comprises of four axes of research: *"Monitor, Protect, Forecast, Warn"* and helps to integrate a better understanding of natural coastal processes into the coastal decision making process.