

## **Analysis of Some Solutions to Protect the Western Tombolo of Giens**

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**Abstract :** The tombolo of Giens is located in the town of Hyères (France). We recall the history of coastal erosion, and prominent factors affecting the evolution of the western tombolo. We then discuss the possibility of stabilizing the western tombolo. Our argumentation relies on a coupled model integrating swells, currents, water levels and sediment transport. We present the conclusions of the simulations of various scenarios, including pre-existing propositions from coastal engineering offices. We conclude that beach replenishment seems to be necessary but not sufficient for the stabilization of the beach. Breakwaters reveal effective particularly in the most exposed northern area. Some solutions fulfill conditions so as to be elected as satisfactory. We give a comparative analysis of the efficiency of 14 alternatives for the protection of the tombolo.

**Keywords :** breakwaters, coupled models, replenishment, silting

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