

Resort Wave Analyses and Coastal Structure Design

Taghazout Beach Resort SAS

Taghazout, Morocco

Services Rendered

- Wave Data Analyses
- STWAVE Modeling
- SBEACH Modeling
- Wave Run-Up Analyses
- Coastal Structure Design Recommendations

Project Summary

In support of Master Planning for the Taghazout Beach Resort in a high energy wave climate, ATM provided a coastal run-up and structure assessment of the site utilizing the STWAVE and SBEACH models. The study provided recommendations for minimum design elevations for a beach promenade, protective dunes, pool/patio decks and finished floors. ATM also developed conceptual-level plans for dune and beach promenade stabilization.

To complete the project, wave data and existing conditions were evaluated to determine typical and storm event wave conditions. The STWAVE and SBEACH numerical models were utilized to evaluate the wave run-up along the beach and maximum elevations impacted by the waves. From the STWAVE and SBEACH model results, ATM assessed the vulnerability of the proposed shorefront design to wave impacts. From this analysis, ATM was able to provide conceptual-level designs for stabilization of a proposed beach promenade and the existing dune features. The study provided the client with estimated costs and data to decide the level of initial costs versus maintenance costs of the coastal features. As a result, the developer revised the site plan to ensure that habitable structures were at a safe elevation and ancillary features

(promenade, patio, etc.) were at elevations of an acceptable level of exposure to storm impacts and could be fully utilized under typical wave conditions.

ATM also provided conceptual-level seawall designs and estimated construction costs.

