

The Surf and Harbour Protection Reef of Açores in Mosteiros.



Authors:

João Brilhante (1), Pedro Bicudo (2)(3), Nuno Cardoso (2)

Institutions:

(1) ASSM, Ponta Delgada, Portugal

(2) IST, Lisboa; Portugal

(3) Secret Wave, Porto Covo, Portugal

The port of Mosteiros is located in the west end of São Miguel Island in the archipelago of the Azores. By nature it is a place attached to surf and fishing.

Its beautiful natural landscape also grants Mosteiros a large touristic potential.

But both activities have a limited number of active days per year. The fishing boat access to the sea depends on the breaking of the waves, which close the channel when they reach the wave height of 1 m. As for surfing, the waves break over a very irregular natural digital lava reef where both too deeper sections and emerging rocks occur.



We aim to change the bathymetry on the lateral reefs of the natural port bay, thus correcting the wave behaviour to improve the practice of surfing and at the same token to improve the number of navigable days for the local fishing boats. This may be achieved after implanting large rocks on the deeper parts of the reef and after dredging the canal and the emerging stones.



We present data on the bathymetry, geology and wave climatology of Mosteiros. We simulate the Mosteiros wave agitation with and without the proposed correction of the reef, utilizing the codes REFDIF, FUNWAVEC and SWAN. This constitutes part of the preliminary study of the Açores Artificial Surf Reef.

We also mention briefly the status of the São Pedro Surf Reef project and of the Figueira da Foz Surf Reef and Bypass proposal, in Portugal.



Pedro Bicudo / João Brilhante

João Brilhante – Bio

João has been a surfer since he was 12. Soon he became very curious and interested in oceanography and meteorology.

In 1991 he travelled to Lisbon to learn how to shape boards and he was the first shaper in Azores. He goes on shaping nowadays. He's also a lifeguard, a surf coach and a Judge for the Portuguese Surf federation.

In 1995 one of the best beaches for surfing in São Miguel - Santa Bárbara- was disappearing because of sand extraction for building. To fight against this he founded Associação de Surf de São Miguel- a surfers association which he's the President. At the same time he started a social project, which it is still going on, named "Surf for all" where he teaches surf and environment protection to the poor youngsters of the island.

As a sea man he has worked for four Summers in scientific expeditions on the vessel "Silvery Light" for National Geographic, Feodor Pitcairn productions making documentaries about whales in the Azorean Sea.

With all his knowledge with the sea, soon he realized the potential of Mosteiros for surfing activities. But, he also knew that he had to correct the reef to get a better wave. So, he began Mosteiros project with Pedro Bicudo and Nuno Cardoso about the construction of an artificial reef.