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XBeach Open Source Community

Welcome to the XBeach Open Source Community website. This website facilitates users and developers of the XBeach model and intends to keep you up-to-date on developments and events.

XBeach is a two-dimensional model for wave propagation, long waves and mean flow, sediment transport and morphological changes of the nearshore area, beaches, dunes and backbarrier during storms. It is a public-domain model that has been developed with major funding from the US Army Corps of Engineers, Rijkswaterstaat and the EU, supported by a consortium of UNESCO-IHE, Deltares (formerly WL|Delft Hydraulics), Delft University of Technology and the University of Miami. More information on the involved organisations and their roles in the development of XBeach can be found under the About section.

Happy modelling!

The XBeach Team

13.000+ joined the Deltares Open Source Community

What is XBeach?

2DH process-based model to simulate nearshore wave transformation long wave motion, sediment transport and morphological change

2 modes:

Surfbeat hydrostatic:

- nonlinear shallow water equations with radiation stress forcing from wave action equation
- resolves long waves and the amplitude variation of short waves

Non-hydrostatic:

- nonlinear shallow water equations with pressure correction
- resolves phase of long and short waves