



# *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

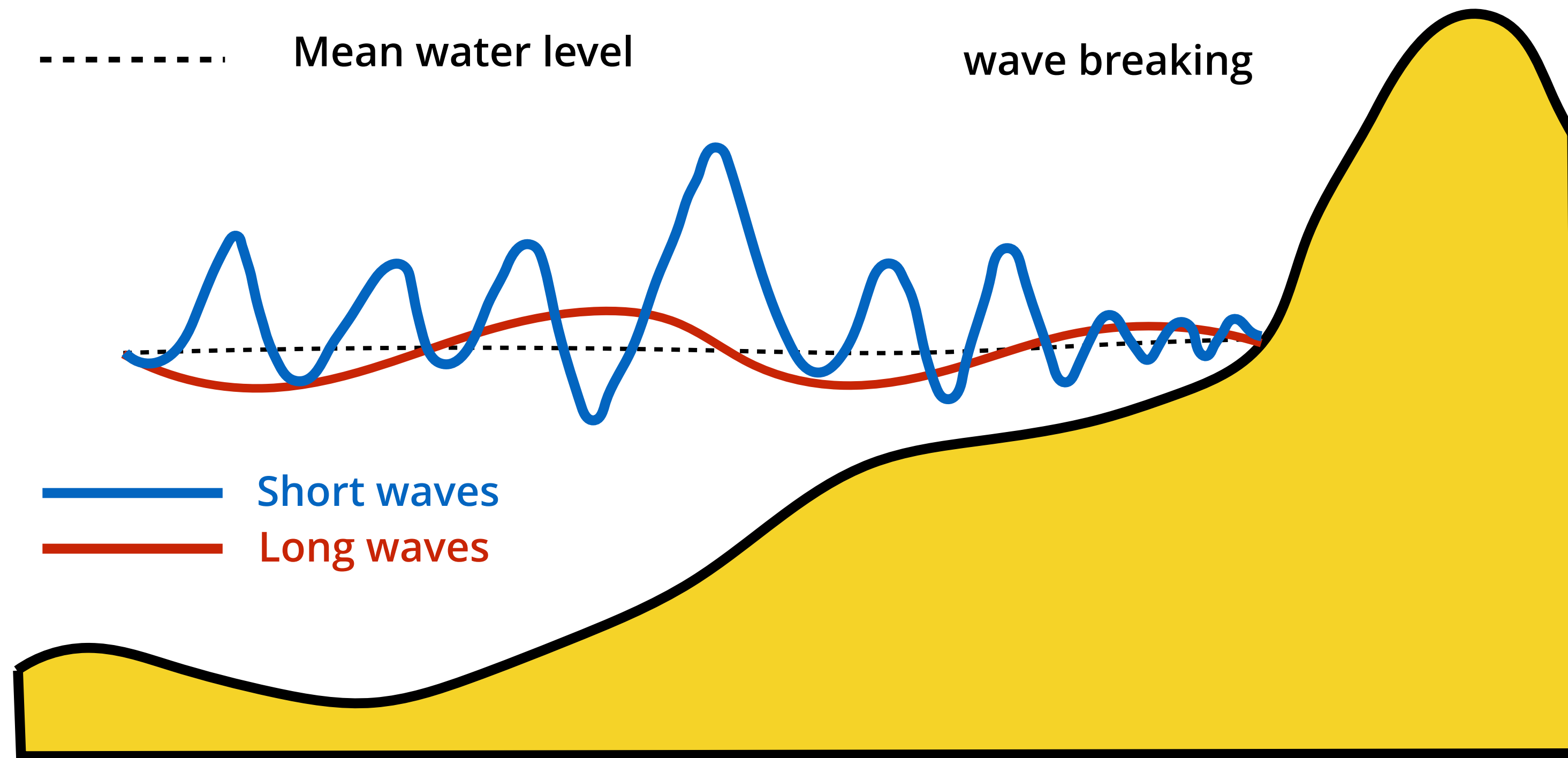
## **Non-hydrostatic:**

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



[Github model link](#)

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Roelvink et al. 2009