

Pearson et al. (2017)

Scott et al. (2020)

Extension

BEWARE-1

Schematic profiles with all combinations of reef flat width and fore reef slope:

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|---------------------|---|
| Reef flat width (m) | 0, 50, 100, 150, 200, 250, 300, 350, 400, 500 |
|---------------------|---|

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|---------------------|---------------|
| Fore reef slope (-) | 0.5, 0.2, 0.1 |
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30,166 real reef profiles

20,454 normal-reef profiles

Filtered by reef width (15 m depth > 1.5 km offshore)

9,712 wide-reef profiles

Clustering on submerged morphology (profile depth and inverse wave celerity)

30 normal iRRPs

500 normal iRRPs

20 wide iRRPs

iRRP database
550 profiles

XBNH simulations (4 wave conditions)

Nearshore hydrodynamics of 530 normal iRRPs

Hierarchical clustering on submerged morphology and simulated nearshore hydrodynamics

175 normal RRP

20 wide RRP

RRP database
195 profiles