

Figure 1. Onshore Water level RMS using a 0.5-hour window length at the tide gages versus $\sqrt{m_{-3}f_{m2}^2}$ of the offshore ocean wave spectra for year 2016 to 2018. Red dots correspond to the duration between 2016 January 16 13:00 to 2016 January 16 17:00, i.e., time during which video recordings of large runup and injury reports took place. Green dots represent the duration between and 2018 January 18 8:00 to 2018 January 18 17:00, which represents a period during another series of extreme runup events has been captured on video.

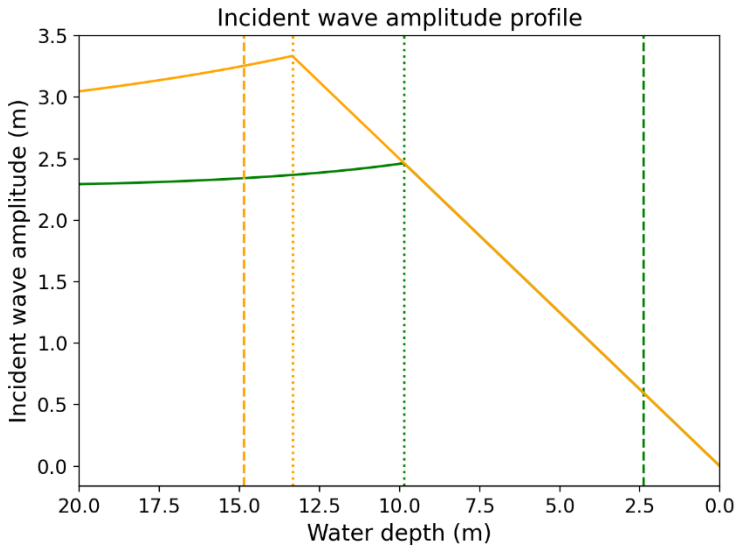


Figure 2. Cross-shore amplitude profile of incident waves with 5 m wave height and 10 s (green) and 25 s (orange) wave periods. Dashed lines indicates where the incident waves reach shallow water. Dotted lines show where the incident waves start to break.

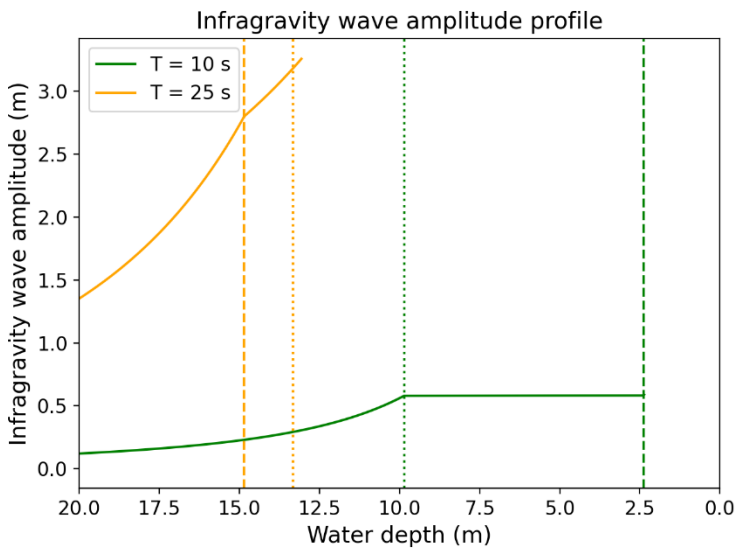


Figure 3. Cross-shore amplitude profile for bound infragravity waves associated with wave groups each consisted of 12 individual waves. Maximum individual wave height is 5 m. Individual wave periods are 10 s (green) and 25 s (orange). Dashed lines indicates where the incident waves reach shallow water. Dotted lines show where the incident waves start to break.