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## Drifting buoy observation of wave evolution in the Beaufort Sea marginal ice zone

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Wave generation and growth via wind input in a marginal ice zone (MIZ) is not a well-understood process and remains a neglected component in wave-ice models. During the 2020 R/V Mirai observational campaign in the freezing season, a 3-day wave evolution event was captured in the Beaufort Sea MIZ by four drifting wave buoys that were spread zonally over a distance of roughly 60 km. ERA5 surface wind speed over these buoys were 5–10  $\text{ms}^{-1}$ , and the direction was off-ice and primarily zonal, i.e., waves grew from ice cover to ice-free waters. The peak significant wave heights were  $\sim 0.8$  m and over 2 m for the buoys located furthest from and nearest to the ice edge, respectively, with sea ice concentrations between 0.3 and 0.8. The most notable features of the observation are as follows: 1) waves were seemingly generated in ice cover; 2) the wave age was  $< 1$  (i.e., wind speed was slower than wave propagation) for the duration of the event at all the buoys. We present analysis results with a physical viewpoint of wave evolution in freezing MIZs.