



## **Field observations of internal solitary wave run-up on a slope**

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The development of an internal solitary wave train (ISW) shoaling on a sloping bottom is studied by field sampling on the flank of an island in the St. Lawrence Estuary, and with 2D non-hydrostatic numerical simulations. Observations made by moored ADCPs and a towed echosounder yield a detailed picture of the evolution of the train, in particular the transformation of the leading wave into a wave of elevation and its subsequent dissipation. The wave properties (amplitude, wavelength, phase speed, energy) are compared with the results of 2D non-hydrostatic numerical simulations. The kinetic and available potential energy of the wave as it propagates up-slope are inferred from the numerical simulations. Our analysis combining field observations and numerical results allowed us to estimate the dissipation rate of the wave energy.