

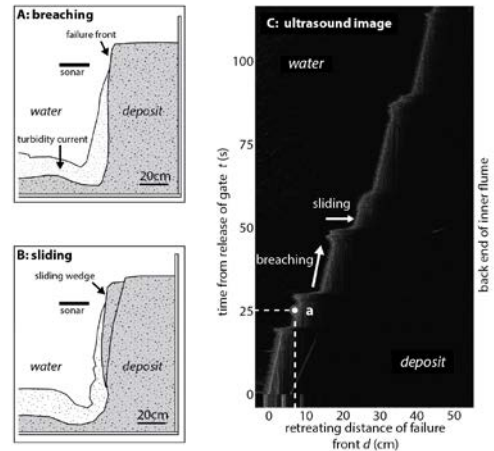
# Dual-mode dilative failure and its sedimentary records

Yao You, Hess

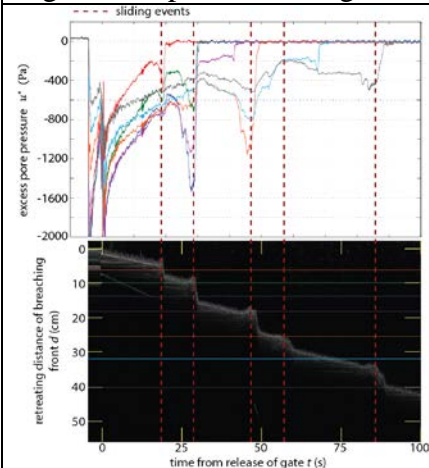
## ABSTRACT

Slope failure is an important process that generates turbidity currents and transports sand into the deep sea. Dual-mode dilative failure releases sediments cyclically between a breaching mode and a sliding mode; it builds turbidites with cyclical structures. During breaching mode, pore pressure dissipates and the deposit becomes less stable, until sliding occurs. Sliding generates pore pressure drops that stabilizes the deposit and resumes breaching.

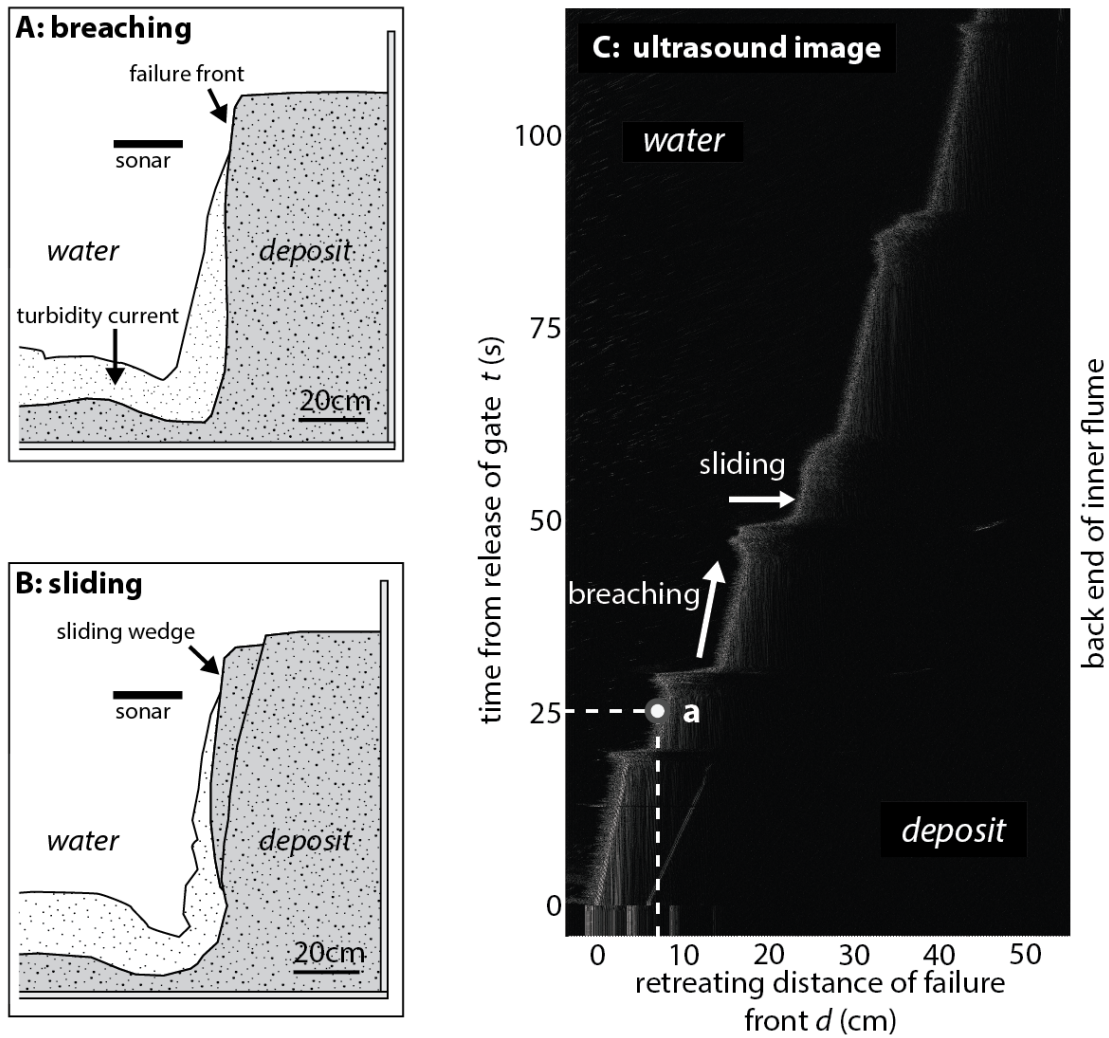
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**Fig. 1:** Sketch of dual-mode dilative failure and ultrasonic recordings of the retreat of the failure front. A: during breaching, sediments are released grain by grain at a constant rate. B: during sliding, a wedge of sediments is released quickly. C: location of failure front is recorded as bright reflectors with the near-horizontal segments represent sliding.

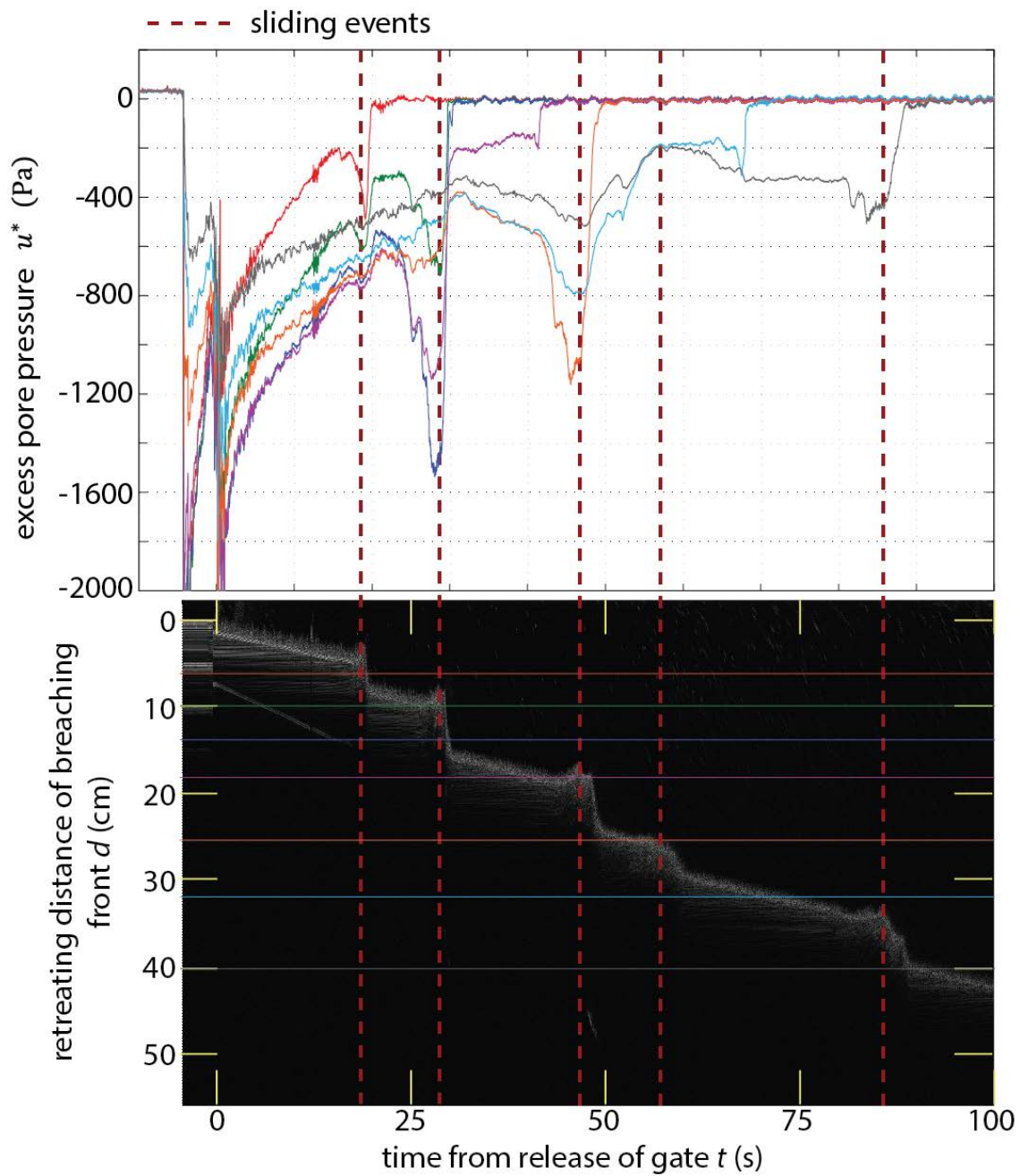


**Fig. 2:** Excess pore pressure (upper) recorded at 7 locations, represented by colored lines, compared to the retreat of failure front (lower) with time. The vertical dashed lines mark the time when sliding occurs and causes pore pressure to drop.



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