SUBMARINE MASS MOVEMENTS IN THE UPPER SAGUENAY FJORD, (QUÉBEC, CANADA), TRIGGERED BY THE 1663 EARTHQUAKE

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Abstract

Extensive submarine mass movements have been mapped in the upper reaches of the Saguenay Fjord, Québec, Canada. Our analysis indicates that they were most likely triggered by the 1663 earthquake which shook a large area in Eastern Canada. Signs of instabilities have been observed at various places and although the triggering mechanism is the same, the types of mass movements differ largely including slides, spreads and flow failures in the soft Holocene sediments. Seismic and morphological investigations have revealed the presence of a fault -like deformation possibly linked to terrestrial fractures suggesting that the epicentre of the 1663 earthquake may be located in the area.

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