

## **Grain size and sedimentation structure in similarly sized pockmarks in Belfast Bay, Maine**

The pockmarks in the Belfast Bay, Maine pockmark field show no evidence of methane or freshwater seepage and are considered inactive. Pockmarks are “crater” like depressions on the seafloor that must be maintained to sustain their morphological shape. Grain size and distribution can determine if a pockmark is active or inactive depending on the location of the coarsest grains. Using the multicorer, cores were taken in two similarly sized pockmarks at the center and rims in the Belfast Bay pockmark field. The cores were analyzed for grain size and water content. The grain size in the center of the pockmarks at the surface was significantly coarser (very fine silt) than the grains at the control site (clay). The coarser grains at the surface indicate that there is activity at the center of the pockmark that is not experienced in the surrounding area such as fluid seepage or hydrodynamics. Even though the pockmarks were similarly sized and within 150 m of each other they did not exhibit similar grain size patterns at depth. Different grain size patterns at depth could indicate hydrodynamics or that fluid seepage is not uniform through pockmark fields.

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