



## **Relocation of the 1999 seismic swarm along the ultra-slow Gakkel Ridge**

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The ultra-slow Gakkel Ridge is the lowest spreading velocity end member of the global mid-ocean ridge system. Still it hosts a number of active vents and volcanoes. During 1999 one submarine volcanic complex at around 85 N, 85 E was home to a series of earthquakes above magnitude 4 which to this day is the best example of a globally recorded swarm at a volcano with more than 200 events registered in the ISC bulletins. In order to better constrain the locations and mechanisms of these events we cross-correlated all of them and introduced inter-event delay times for similar events which were used to update the existing bulletins. Similar waveforms were only found close (i.e. < 3000 km) to the source and vary from station to station. Only 3 events are similar at more than 4 stations at the same time. Using modern global hypocenter location algorithms such as HYPOCENTER from SEISAN, HYPOSAT and NON-LINLOC we limited the lateral extent of the swarm, its depth and associated depth errors by varying the velocity model. Most of the events seem to be focussed between 0 and 30 km depth and ascent paths of seismicity and thus maybe magmatic dykes appear to be traceable.