



Lively Earthquake Activity in North-Eastern Greenland

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The seismograph at the Danish military outpost, Station Nord (NOR) in North East Greenland, records many regional/local earthquakes every day. Most of these events originate at the Arctic plate boundary between the Eurasian and the North American plates. The plate boundary has a particularly active segment approximately 200 km from the seismograph. Additionally we find a seismically very active region 20-30 km from NOR on the Kronprins Christian Land peninsula. The BB seismograph at NOR was installed in 2002 and later upgraded with real-time telemetry as part of the GLISN-project. Since late 2013 data from NOR have been included in routine processing at GEUS. Phase readings on some of the older data, primarily 2002-2003, have been carried out previously in connection with other projects. As a result, phase readings for more than 6000 local events, recorded exclusively at NOR, were found in the GEUS data base. During the years 2004 to 2007 four locations were occupied by temporary BB seismographs on the North coast of Greenland as part of the Law of the Sea preparatory work. Data from these stations have not previously been analyzed for local and regional events. In this study we combine the recordings from NOR with phase readings from the temporary seismographs in Northern Greenland. The local events on Kronprins Christian Land range in magnitude from less than 2 to a 4.8 event widely recorded in the region and felt by the personnel at Station Nord on August 30, 2005. Station Nord is located in the seismically most active region of Greenland.