

B11-O05

MARITIME USER REQUIREMENTS AT HIGH LATITUDES - FIRST RESULTS FROM THE MARENOR PROJECT

Rico Behlke (*Polar Science Guiding, Palestinian Territories*)

rico.behlke@gmx.net

The ionosphere at high latitudes is characterised by a great variety of spatial and temporal variations that influence radio signals. In addition to navigation solutions that are based on Global Navigation Satellite Systems (GNSS), satellite communication systems also suffer from ionospheric degradation. This is worsened by harsh weather conditions, insufficient coverage by geostationary satellites and the absence of land-based augmentation infrastructure.

Climate change will lead to a decrease in sea ice extent and thus to an increased use of trans-polar shipping routes, presence of gas and oil industries in the High Arctic and higher focus on Search-and-Rescue (SAR) as well as sovereignty issues. These moments usually require navigation and communication solutions that are accurate and reliable.

We describe requirements presented by industrial operators on and around Svalbard. In addition, we present the MARENOR project that aims on evaluating navigation and communication systems at high latitudes including first results.