

# Sensor Performance at Extreme Temperatures and Low Frequencies

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Earlier evaluations of infrasound sensor performance have shown that frequency response can be impacted by environmental conditions, including both temperature and barometric pressure, with calibrations performed in laboratory and field environments. These laboratory evaluations were limited to temperatures as cold as -20 C and from 0.1 to 10 Hz. Since then, investigations into frequency response issues observed with sensors deployed in field environments colder than -20 C have indicated that there may be issues at frequencies below 0.1 Hz. Subsequent laboratory evaluations have been performed to evaluate the change in frequency response for multiple infrasound sensor models at temperatures down to -36 C and over the 0.01 to 10 Hz frequency passband. These results further highlight the importance of characterizing sensor performance over the range of environmental conditions at which instrumentation is expected to operate.

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