

Abstract Submitted
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Infrasound Measurements of Tornadoes and Other Severe Storm Events at Close Range¹ BRYCE LINDSEY, BRANDON WHITE, IMRAAN FARUQUE, BRIAN ELBING, Oklahoma State University-Stillwater — Recent experimental evidence suggests that, during tornadogenesis and through the life a tornado, acoustic waves at frequencies below human hearing (termed infrasound) are produced. To date, data required to identify the fluid mechanism responsible for this infrasound has been limited, gathered by large fixed installations. To expand the number of samples and enable close-range measurements, which would mitigate the measurement uncertainty associated with long distance atmospheric propagation, the design and deployment of a mobile Ground-based Local Infrasound Data Acquisition (GLINDA) system was completed at Oklahoma State University. GLINDA has been deployed alongside Oklahoma-based media storm chasers since May 2020 and has already returned data over multiple severe weather events, including tornadic measurements acquired with GLINDA on 22 May 2020 in Lakin, Kansas. This presentation will cover system design, measurement, processing and integration considerations, deployment of the mobile infrasound package, and preliminary results from a selection of severe weather events.

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