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Deployment of a Mobile Four Sensor Infrasound Array for Severe Weather[1] CHRISTOPHER PETRIN, REAL KC, BRIAN ELBING, Oklahoma State University-Stillwater — Infrasound, sound at frequencies below 20 Hz has been observed to be emitted by tornado-producing storms up to two hours before tornadogenesis. Due to the low atmospheric attenuation of sound at these low frequencies, they may be detected several hundreds of kilometers away. If the received infrasound signals can be correlated with thermodynamic and flow field properties of the storms and/or tornadoes, passive infrasound monitoring has potential for the study and prediction of tornadoes and other severe weather. Previous work accomplished at Oklahoma State University has focused the observations from a single stationary array located in Stillwater, OK. However, this array is too far away from NEXRAD II radar stations to allow for low-level storm characterization. Therefore, a second array was designed to be deployable at various sites in Oklahoma within 50 km of the radar stations. Containing four microphones, the new array was deployed during the summer of 2020 at various sites affiliated with the Oklahoma Mesonet. Details of the array's design and deployment will be presented, as well as preliminary data collected during non-tornadic thunderstorms in 2020.

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