

Abstract Submitted
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Potential Fluid Mechanisms for Low Frequency Sound from Tornadoes¹ BRIAN ELBING, CHRISTOPHER PETRIN, Oklahoma State University, MATTHEW VAN DEN BROEKE, University of Nebraska-Lincoln — Tornado-producing storms have been observed to emit infrasound (sound at frequencies below human hearing) up to 2 hours before tornadogenesis. Weak atmospheric attenuation at these frequencies allows for long-range detection. Hence, passive infrasonic monitoring could be a method for long-range studying of tornadogenesis as well as tornado characterization. Identifying the fluid mechanism(s) that produce the infrasound is critical to enable such capabilities. However, there are insufficient detailed observations to test potential mechanisms. This presentation will provide an overview of potential mechanisms as well as comparisons against recent observations. These will include preliminary analysis from the 2019 tornado season, which has produced numerous severe storms within the range of an infrasound array deployed at Oklahoma State University.

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