Sound at frequencies below human hearing is called “infrasound,” which humans can hear as low as 20 Hz. Historically infrasound has been monitored for detection of above ground testing of nuclear weapons because the low frequencies attenuate much slower than normal sounds and the atmosphere bends upward infrasound back towards earth. All around the world infrasound is monitored below 0.1 Hz for enforcement of the Comprehensive Nuclear-Test-Ban Treaty, which leaves a narrow range (0.1 to 20 Hz) that has been mostly ignored by researchers. Severe storms have been observed to emit sounds in the 0.5 to 10 Hz range, especially when they produce tornadoes. Measurements support the hypothesis that the infrasound is associated with tornadogenesis and continues through the life of a tornado. If the fluid mechanism(s) responsible for the sound could be identified, it would enable long range (beyond line of site) monitoring of tornadoes and tornado formation processes. The is the objective of my current research and the focus of this presentation. We will cover our collaborative efforts with drones as well as recent observations from Oklahoma, including our tornado measurements that have been featured on the National Geographic Channel and NPR All Things Considered.

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