

Abstract Submitted  
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**Exploring Isothermal Layers in the Stable Atmospheric Boundary Layer**<sup>1</sup> JOSEPH WILKINS, University of Louisville — Simulating the stable atmospheric boundary-layer presents a significant challenge to numerical models due to the interactions of several processes with widely varying scales. The goal of this project is to more clearly define the cause of isothermal layers observed during the Meteorological Experiment in Arizona's Meteor Crater and to test the National Taiwan University/Purdue University (NTU/P) model in stable environments with complex terrain. The NTU/P model is able to utilize the actual terrain data with minimal smoothing for stability. We have found that isothermal profiles can be generated by the standing wave that develops due to weak wind flowing over the crater. However, the horizontal heterogeneity is greater than observed. Continued effort will explore enhancing horizontal mixing due to turbulence and radiative transfer.

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