

AMS-NWA Memphis Chapter

Meeting Minutes
September 27, 2022

Opening

The September business meeting of the AMS-NWA Memphis Chapter was called to order at 7:05pm on September 27, 2022 by President Dorian Burnette. The chapter was grateful to return to “in-person” status, with the option of virtual attendance also offered.

New Business

- Officers for 2022-2023 were reintroduced – President Dorian Burnette, Vice President Ned Savage, Secretary/Treasurer Erik Proseus.
- Remembrances were offered for chapter members Rusty Haley and Tom Salem, who both recently passed.
- The Treasurer’s Report was given by Erik Proseus. The scholarship fund balance is \$1,121.89. The general checking account balance is \$1,028.46. Dues can be paid and scholarship donations made on our website (www.amsmemphis.org).

Presentation

Our speaker for the evening was Jacob Sealey, recent Master’s Degree graduate from Mississippi State University. Jacob’s presentation was based on his thesis research and entitled “Elevation Roughness and Tornado Frequency in the Eastern United States.” Jacob began this line of research because he was interested in the effects of topography on tornadic events, and in particular the bluff on which the city of Memphis sits. While geographic features such as land cover are known to affect mesoscale processes, he wanted to look deeper at the role of elevation. Using the results of previous studies that were conducted elsewhere or in more localized areas, Jacob expanded the research to multiple study areas in the eastern U.S. using elevation roughness as the variable, with particular interest on smaller scale features and the magnitude of their effect on the storm scale.

One part of the study focused on county-level data and determined that there is a correlation between roughness and tornado reports, while also acknowledging there was a statistically significant correlation between population and severe weather reports as well. Regarding surface roughness, he found that a 10% increase in roughness resulted in approximately 7% fewer reports. In addition, when limiting roughness to 100 meters (to capture more subtle elevation changes), an increase in roughness was associated with a decrease in tornado frequency, particularly with an elevation increase of more than 20 meters. The effect of smaller features is less clear. In conclusion, Jacob mentioned that there is no evidence that the Mississippi River bluffs have any effect on tornado frequency, but that there was statistical significance in a few of his study regions, the central Appalachian region for example.

Adjournment

There being no further business, the meeting was adjourned at 8:20pm by President Dorian Burnette.

Minutes submitted by: Erik Proseus, Secretary

Approved by: Dorian Burnette, President