

AMS-NWA Memphis Chapter

Meeting Minutes
December 7, 2022

Opening

The December business meeting of the AMS-NWA Memphis Chapter was called to order at 7:00pm on December 7, 2022 by President Dorian Burnette.

New Business

- The Treasurer's Report was given by Erik Proseus. The scholarship fund balance is \$1,252.20. The general checking account balance is \$1,118.46. Dues can be paid and scholarship donations made on our website (www.amsmemphis.org).
- Discussion of the chapter scholarship included the possibility of raising the amount of the award, outreach efforts (including engaging high school guidance counselors), and possibly making the scholarship a memorial award.

Presentation

Our speaker for the evening was Dr. Ray Lombardi, recent Doctoral graduate from the University of Alabama and Assistant Professor and member of the Flood Dynamics Research Group at the University of Memphis. Her presentation was "Big Decisions with Too Little Data: Using paleo-perspectives to understand extreme floods." Dr. Lombardi first laid out the problem: that as extreme rainfall is increasing, flood disasters are occurring more frequently (between 2000-2015 nearly one-fourth of the world's population was exposed to flooding) and that about 80 percent of all North American dams are more than 50 years old. She explained that in order to predict the best response to flooding, the drivers of floods need to be better understood, including factors that are meteorological (warm season rainfall), related to watershed (drought-induced runoff changes), and channel responses (in which humans no longer allow rivers to change course).

Dr. Lombardi described how her research into paleo-flood data can help fill gaps and lengthen the record for flood data. She described the estimation of flood magnitude in the paleo data through studies done in the Tennessee River Valley of north Alabama and how there have been several flood "clusters" identified over the last 8000 years. Using cave research, historical summertime precipitation patterns and trends can be compared to more recent research to help identify historical flood patterns. In addition, a pattern of increased flooding can result in changes to river beds. It was noted that researchers are exploring drought as a factor in extreme flooding due to the creation of more impervious surfaces during droughts. Finally, Dr. Lombardi stated that the addition of paleo data to the historical record is helping to reduce uncertainty in geographic planning related to dams, levees, and even city/urban planning.

Adjournment

There being no further business, the meeting was adjourned at 8:00pm by President Dorian Burnette.

Minutes submitted by: Erik Proseus, Secretary

Approved by: Dorian Burnette, President