

### HOMEWORK 3

**METR 5403/4403: Applications of Meteorological Theory  
to Severe-Thunderstorm Forecasting  
The University of Oklahoma**

**Instructors: Dr. Ariel Cohen, Rich Thompson, and Dr. Steven Cavallo  
Teaching Assistant: Andrew Moore**

**Due Dates: April 10 (M), April 17 (M), April 24 (M), and May 1 (M)  
TOTAL: 400 POINTS [100 POINTS FOR EACH JOURNAL INSTALLMENT]**

*Instructions:* The final homework assignment of the semester is intended to assist you with preparing for the Final Exam. Having already covered numerous derivations, conceptual presentations, and chart-analysis principles, we will be synthesizing our understanding of severe-thunderstorm forecasting and evolution through journaling. Starting the week beginning April 2, you will document one severe-thunderstorm event each week. Prepare written responses corresponding to the prompts below in a journal each week. Journal entries will be submitted each Monday for the remainder of the semester prior to Final Exam week: April 10, April 17, April 24, and May 1.

This assignment will encourage you to practice writing skills, in which you will draw connections between observational data, model output, and our conceptual understanding of severe-thunderstorm development leading up to severe-thunderstorm occurrences. Describe the observational data and model output, why severe thunderstorms would be favored in certain areas, or mitigated, describe what happened, and why your forecast worked out or did not. This is an open-ended assignment, so the more analysis and description you include, the more prepared you will be for the Final Exam. Factors for grading this assignment include the following: use of sound science in justifying forecast decisions, clear and concise writing, depth of analysis, correct applications of conceptual models and theory in discussing severe-thunderstorm development, post-event analysis and explanations of why events did or did not evolve as anticipated.