

**Department of Atmospheric & Oceanic Sciences
Graduate Student Independent Study Contract**

Student Name Wisang Sugiarta Student # 110950923

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Semester Spring 2025 Course # ATOC 5900- Credit Hrs 3

Instructor Andrew Winters

Requirements: The minimum expectation for each semester hour of credit is 25 hours of work. This may include laboratory work, library research, and consultation. College of Arts & Sciences policy states students may not register for more than 3 credit hours of independent study credit during any term. No more than 8 credit hours taken in a single department or program can be applied toward the total hours needed for graduation. A maximum of 16 hours may count toward the degree.

TOPIC:

Evaluating factors that influence the predictability of extreme winds along the Colorado Front Range

Goal or expected product (term paper, exam, oral presentation, etc.):

Wisang will analyze observational data from weather stations along the Colorado Front Range to identify periods characterized by strong winds (>35 knots). Once these periods are identified, we will examine long-term model datasets to identify atmospheric environments that favor the production of extreme winds and build a forecast tool that can evaluate the probability of strong winds at forecast lead times between 0-48 hours based on prevailing/forecasted weather conditions. Wisang will present on the results of this independent study to my research group at the end of the Spring semester (May 2025) and will prepare a written report summarizing the key results from the project.

Dates (first conference, due date for completion of project, etc.):

Research will commence during the first full week of the Spring 2025 semester, with the final presentation and report due by the first week of May 2025.

Student signature Wisang Sugiarta date 01/08/25

Instructor signature Andrew C. Winters date 01/08/25