## FLORIDA STATE UNIVERSITY

## COLLEGE OF ARTS AND SCIENCES

USING THE MOIST STATIC ENERGY VARIANCE BUDGET TO EVALUATE TROPICAL

CYCLONES IN CLIMATE MODELS AGAINST REANALYSES AND SATELLITE OBSERVATIONS:

MODEL RESOLUTION, OCEAN COUPLING, AND CLOUD INTERACTIONS

By

JARRETT STARR

A Thesis submitted to the
Department of Earth, Ocean, and Atmospheric Science
in partial fulfillment of the
requirements for the degree of
Master of Science

2024

| Jarrett Starr defended this thesis on Marc     | ch 21, 2024.   |
|--|--|
| The members of the supervisory committee were: |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  | Allison Wing   |
|  | Professor Directing Thesis                                       |
|  | Troicessor Breeding Thesis                                       |
|  |  |
|  |  |
|  | Vasubandhu Misra   |
|  | Committee Member   |
|  |  |
|  |  |
|  |  |
|  | Michael Diamond  |
|  | Committee Member   |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  | proved the above-named committee members, and certifies that the |
| thesis has been approved in accordance v       | with university requirements.                                    |
|  |  |
|  |  |
|  |  |