

MR3252: Tropical Meteorology

Paper Summary for Schumacher et al. (2004). Please answer the following questions with as much detail as possible. Your answers may be in paragraph form or list form as appropriate.

1. What were the authors' primary research questions and/or hypotheses?
2. What motivated the authors to conduct this study?
3. How did the authors execute this research? What data did they use? How did they use these data? In other words, what was the experimental design?
4. What are some potential key limitations in this study, including those that were explicitly mentioned in the article?

5. What were the article's central conclusions? How did they relate to the primary research questions and/or hypotheses? (i.e., If possible, match a conclusions or set of conclusions to each research questions and/or hypothesis.)
6. Describe the appearance of concentric eyewalls on radar based on the horizontal distribution of radar reflectivity.
7. What do the plotted tendencies of the radial wind tell you about whether the eye walls contract or expand?
8. What is the approximate force balance hypothesized in a tropical cyclone vortex? What forces are in balance? What does this force balance tell us about changes in maximum wind speed as the radius of maximum wind changes? Based on this force balance, where does the radius of maximum wind occur (i.e., where the ____ is largest)?