**An Intercomparison of Tropical Cyclone Structure within Reanalysis**

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The emergence of atmospheric reanalysis datasets has provided a tool of great utility with regards to climate scale studies. The recent use of these datasets for studies involving TCs has renewed interest in determining how truthfully these extreme events are depicted within reanalyses. With this thought in mind, the following study seeks to critically examine TC intensity and structure within 5 members of the current generation of reanalyses. Using positions derived from the manual tracking of TCs (Manning and Hart 2007), 3-D storm relative composites of anomalies are constructed to facilitate the examination of how closely TC structure agrees with observations and the degree to which TCs are significantly anomalous within each dataset. The results of this study show substantial variability of TC representation among basins as well as among reanalyses. Of the 3 basins examined, North Atlantic TCs exhibit the most robust composite structure, possibly due to the increased density and quality of the observations within this basin. In contrast to this, Eastern Pacific TCs exhibit the poorest representation, possibly due to a number of possible factors including deficiencies in the observing system and smaller overall TC size. With regards to the inter dataset differences, the reanalyses that use supplement observations or vortex relocation for TCs during the data assimilation cycle (JRA-25 and CFSR, respectively) yield TCs with the strongest warm cores. More interestingly, there is dramatically decreased difference in TC structure among the ERA-40, ERA-Interim, and MERRA. The relative uniformity of structure among these latter reanlayses, when compared to the much stronger strcuture in JRA25 and CFSR, might suggest that the inclusion of partially synthetic approaches can be most influential in changing TC representation. The results of this study confirm prior studies suggesting reanalyses have not yet become sufficient for analyzing historical TC trends. Nonetheless, the reanalyses may be useful for other climate scale applications such as evaluating TC-environment interactions.