

Modeling Challenges Identified by Forecasters

Michael Brennan (NHC) and Levi Cowan (JTWC)

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Modeling Issues Identified by Forecasters

Genesis

- GFS continues to be too fast/aggressive with genesis - especially in the NW Caribbean Sea, eastern Atlantic, and offshore of southern Mexico east of 100W
- ECMWF continues to miss/underplay many TC genesis events, regardless of basin
- Continued challenges with genesis timing/detection in the Gulf of Mexico and off Southeast U.S. coast (PTC1/Alex)
- Poor genesis forecasts (short lead time, low POD) continue to be a problem in the subtropics and mid-latitudes

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Intensity

- Over-aggressive forecasts in environments of low shear but suboptimal thermodynamic properties in the tropical western Pacific, from both dynamical and statistical models
- TC-resolving models (HWRF, COAMPS-TC) often seem overeager to symmetrize core convection in environments of shear and/or ambient dry air, leading to high-biased intensity forecasts
- Intensity guidance backing off in 12-24 h prior intensification prior to landfall of Ian and Ida
- Difficulty predicting intensification above 115 kt
- SHIPS model lacked skill in the east Pacific beyond 48 h

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Track

- Inconsistent track guidance for pre-genesis systems
- Leftward bias in ECMWF ensembles relative to other models and observed TC tracks was noted in several cases in the Atlantic and western Pacific
- Left-of-track bias for GFS and HWRF for Ian in the Gulf of Mexico
- Continued left-of-track bias for systems near/along the west coast of Mexico for most guidance
- Frequent track correction in the down-shear direction due to poor handling of tilted TC vortices under moderate shear, especially for TCs < 65 kt
- HWRF track skill lags GFS significantly in first 48-60 hours in the Atlantic