Weekly Report

CIRA
STAR/NESDIS
National Oceanic and Atmospheric Administration (NOAA)

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Products and Applications

Publications (Citation: followed by a short Summary: (Why & so what), & detailed summary):

Cangialosi, J. P., **J. Martinez**, B. Reinhart, and P. Papin, 2026: National Hurricane Center Forecast Verification Report: 2025 hurricane season. 85 pp., Available online at: https://www.nhc.noaa.gov/verification/pdfs/Verification_2025.pdf.

Summary - The forecast verification report evaluates the performance of the National Hurricane Center (NHC) official forecasts alongside operationally available guidance for the 2025 North Atlantic and eastern North Pacific hurricane seasons. The report documents a challenging North Atlantic hurricane forecast season highlighted by three Category 5 major hurricanes. NHC official track forecasts in the North Atlantic for 2025 outperformed the 2020-2024 average at all lead times, but their intensity forecasts suffered from challenging rapid intensification forecast events. In contrast, the 2025 eastern North Pacific hurricane season was highlighted by record-breaking track forecast errors that were 15-30% lower than the 2020-2024 average. Likewise, Intensity forecast errors were lower than the 2020-2024 average at all lead times.

Forecasts from Google DeepMind's (GDM) latest model based on Functional Generative Networks (FGNs) were made available to NHC throughout the season and evaluated in the report. GDM forecasts delivered skillful track and intensity forecast guidance throughout the season. GDM track and intensity forecasts outperformed the majority of available guidance products (numerical weather prediction models, statistical forecast products, and consensus aids) in the North Atlantic basin. Likewise, GDM track forecasts outperformed the majority of available guidance in the eastern North Pacific basin while providing intensity forecast skill comparable to the simple intensity consensus aid—one of the best performing intensity forecast products at NHC. The operational performance of GDM forecasts has motivated ongoing work between NHC/CIRA to reformulate the simple consensus aids and the Hurricane Forecast Improvement Program Corrected Consensus Aid (HCCA) to include GDM.

(POC: Jonathan Martinez, CIRA, jon.martinez@noaa.gov; Funding: NWS/STI)

Awards and Recognition

Media Interactions and Request

Blog Posts and Social Media

Travel, Workshops, Conferences, and Meeting Reports

Training and Education Activities

Future Meetings and Events (dates, meeting/event, location, staff involved)

Other