National Hurricane Center 2016 Forecast Verification

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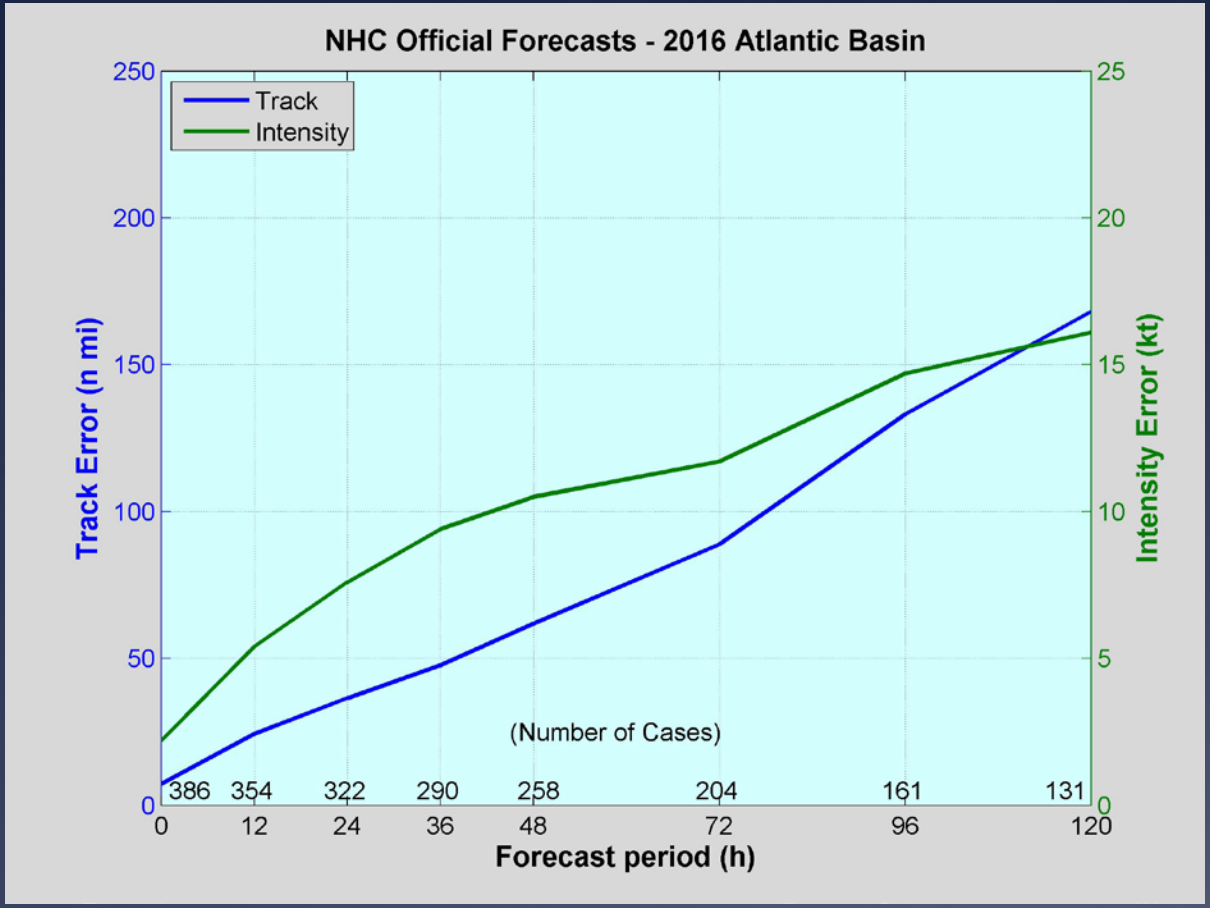
2016 Atlantic Verification

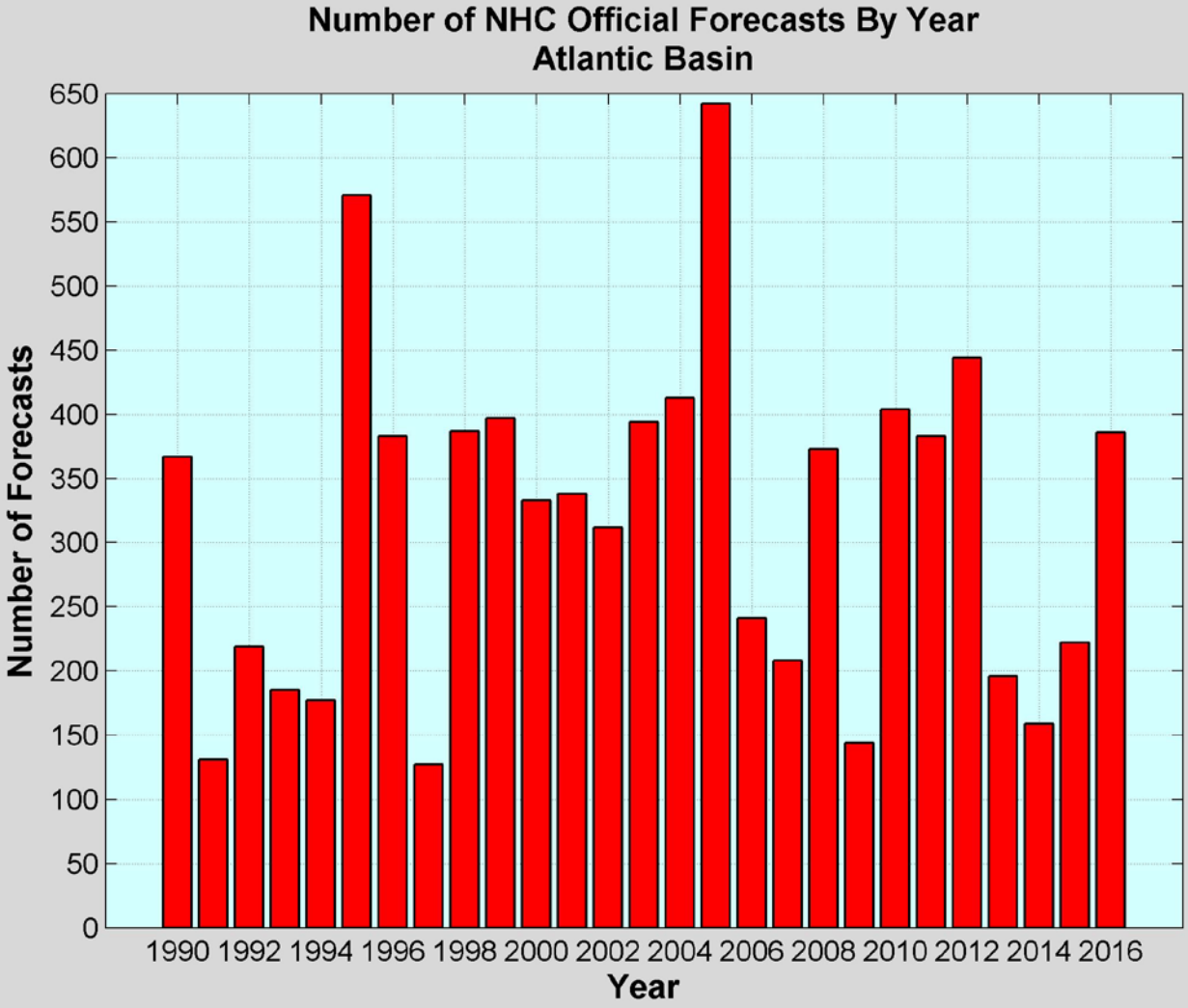


VT (h)	NT	TRACK (n mi)	INT (kt)
000	386	7.3	2.2
012	354	24.3	5.4
024	322	36.5	7.6
036	290	47.7	9.4
048	258	61.8	10.5
072	204	88.8	11.7
096	161	133.1	14.7
120	131	168.2	16.1

Values in green exceed all-time records.

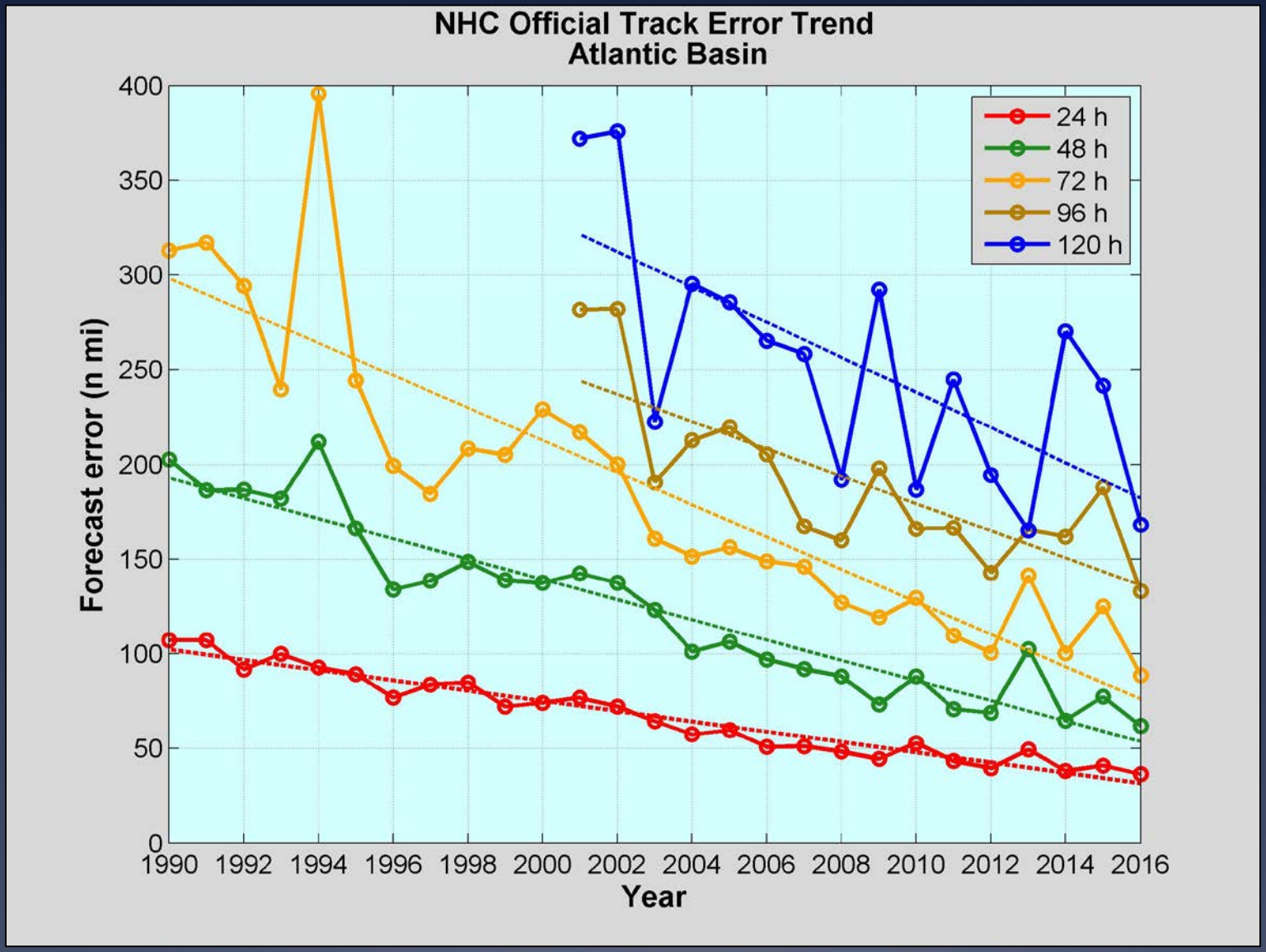
Government Performance and Results Act (GPRA) 48-h track (71 n mi) and intensity (12 kt) goals were met.

Sample Size since 1990



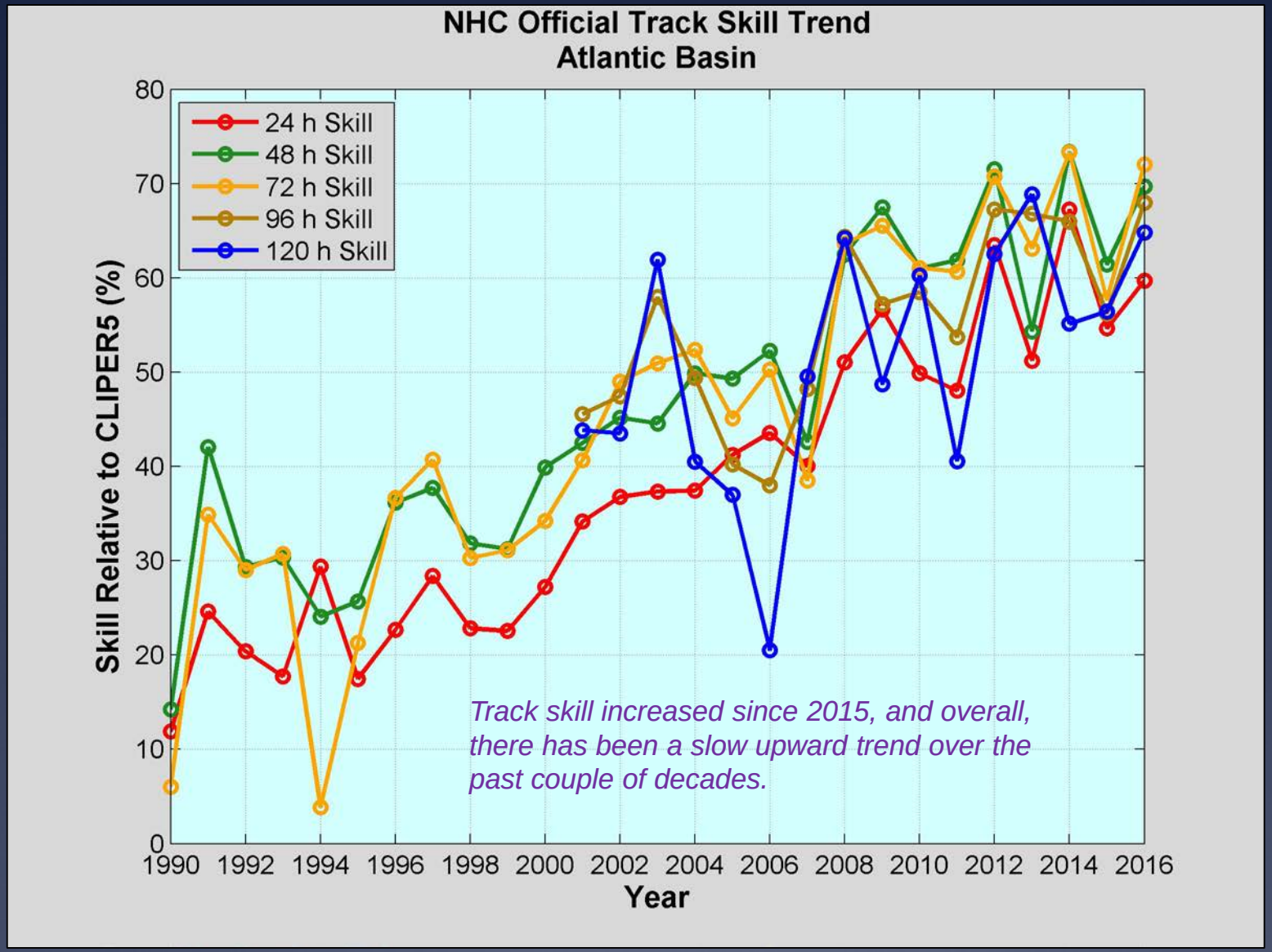
More forecasts were issued in 2016 than the past few years. The number of forecasts was above average.

Atlantic Track Error Trends

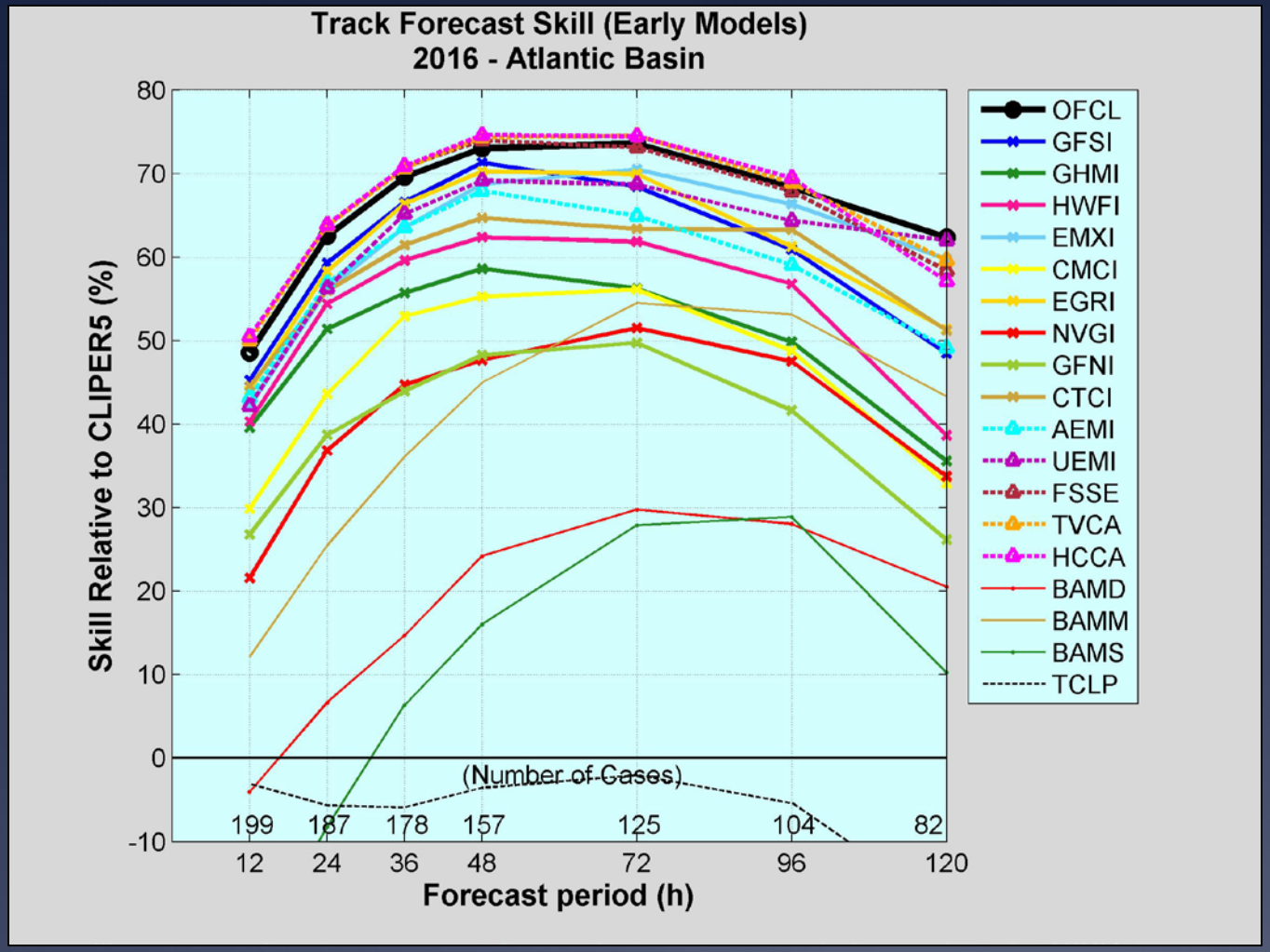


Track errors decreased at all times in 2016 compared to 2015 (except at 120 h), and there have been considerable improvements during the past couple of decades.

Atlantic Track Skill Trends



2016 Track Guidance



Official forecasts were very skillful, near the best-performing models (consensus aids).

Among the consensus aids, HCCA, TVCA, and FSSE were very close to one another.

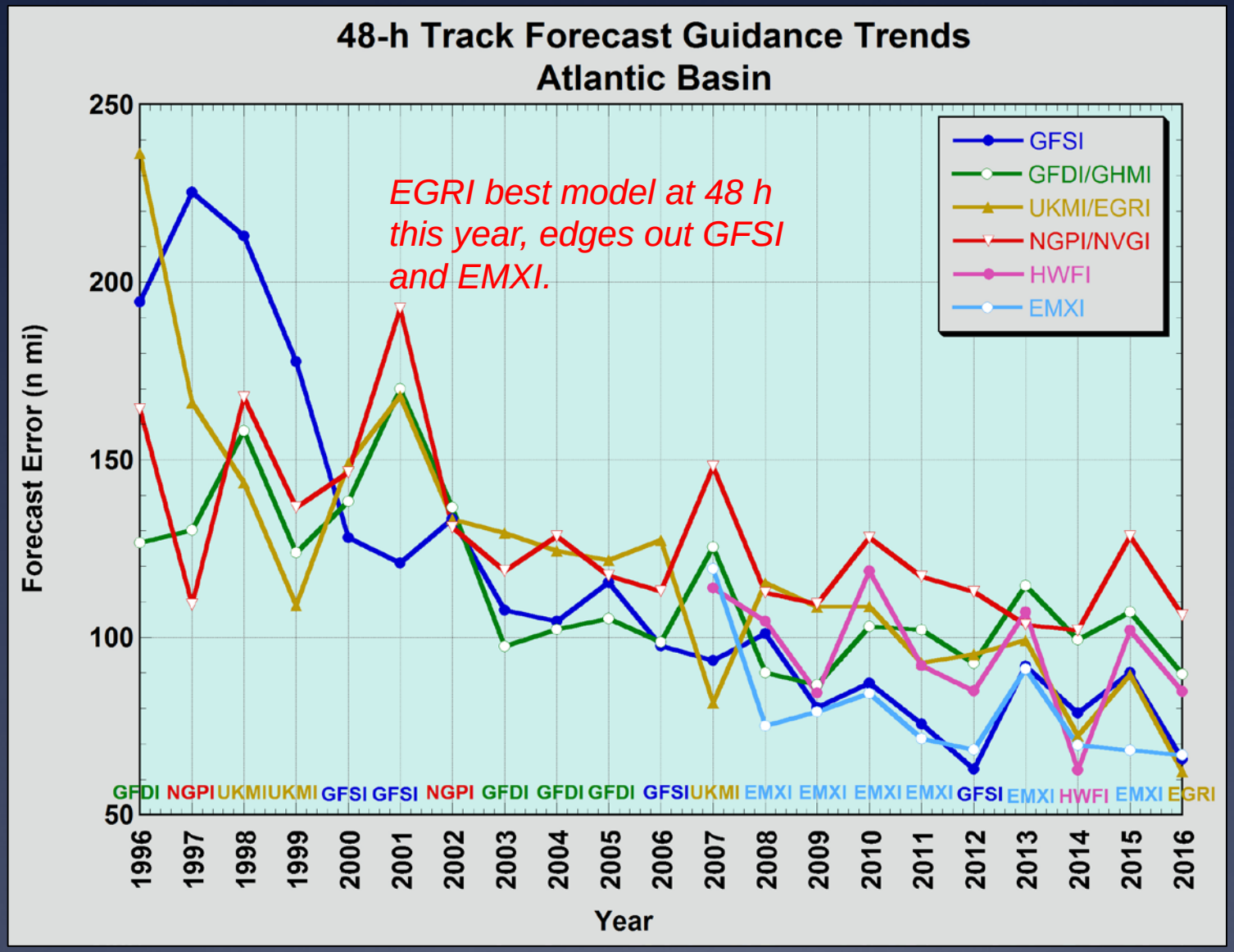
GFSI and EGRI were the best individual models in the short range, EMXI best at longer leads.

UK Met ensemble mean (UEMI) was very skillful and as good as or better than GFSI, EMXI, and EGRI.

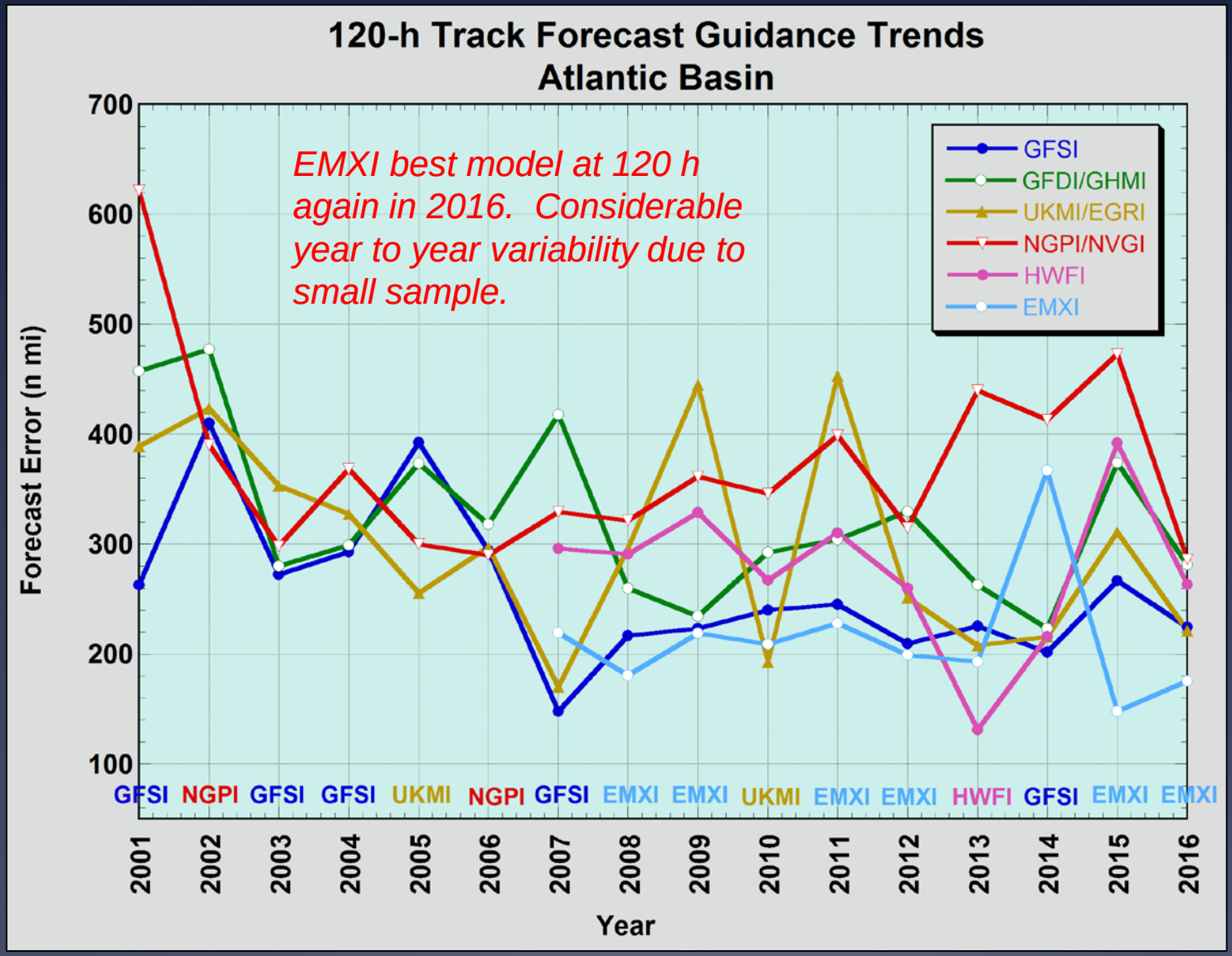
AEMI, CTCI, and HWFI were the next best models.

GHMI, CMCI, NVGI, GFNI trailed again in 2016.

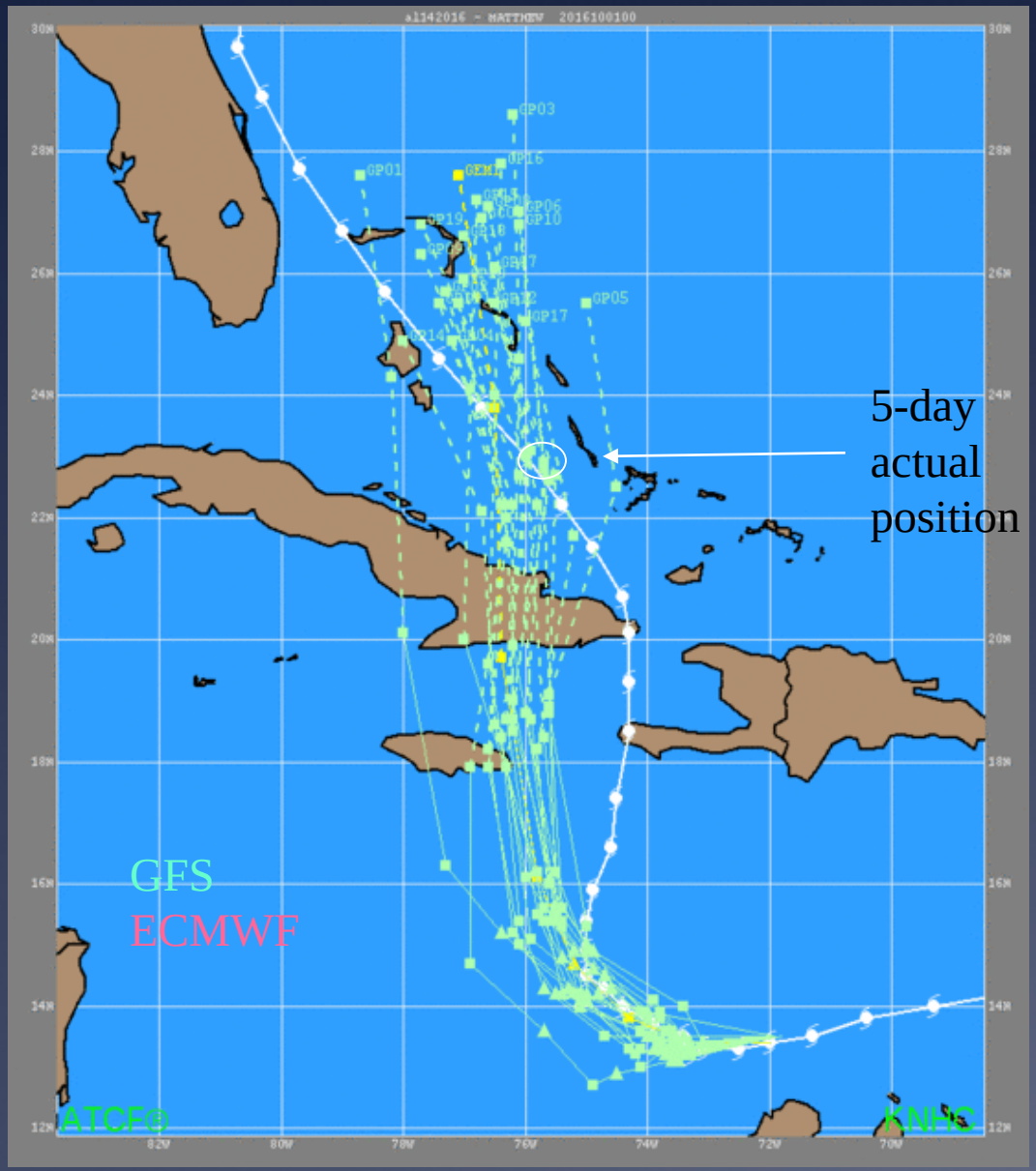
Track Model Trends



5-day Track Model Trends



Matthew ensemble guidance 1 Oct 00 UTC



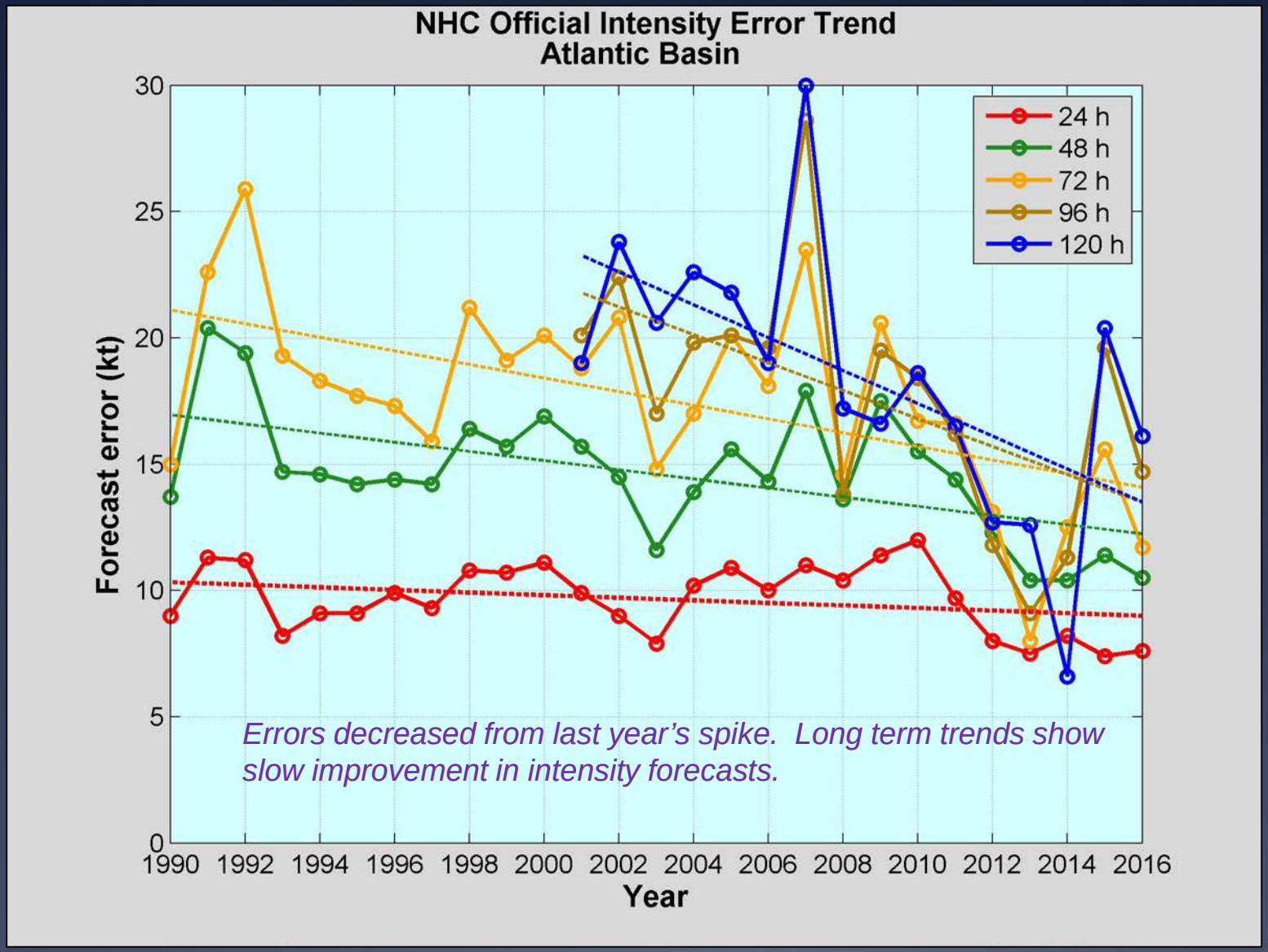
GFS (blue) is under-dispersive (doesn't adequately capture range of possible solutions); ensembles did not capture the NNE-ward motion toward Haiti nor the NW motion through the Bahamas. All the ensembles were too fast.

ECMWF (red) ensembles have more realistic spread, although perhaps it's a bit over-dispersive.

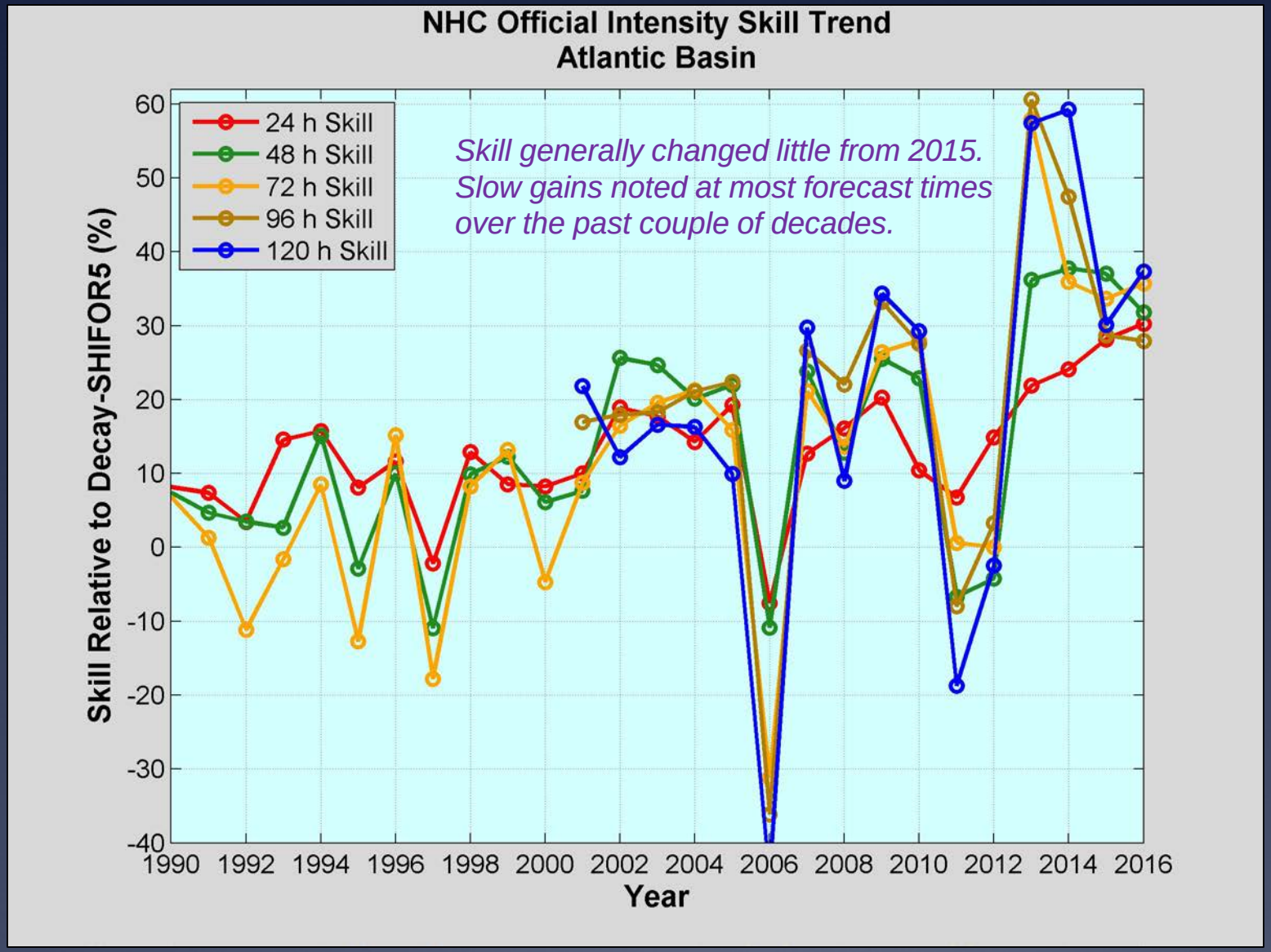
2017 Atlantic Cone

Forecast period (h)	Circle radii (n mi)	Percent change from 2016
12	29	-3
24	45	-8
36	63	-5
48	78	-7
72	107	-7
96	159	-6
120	211	-11

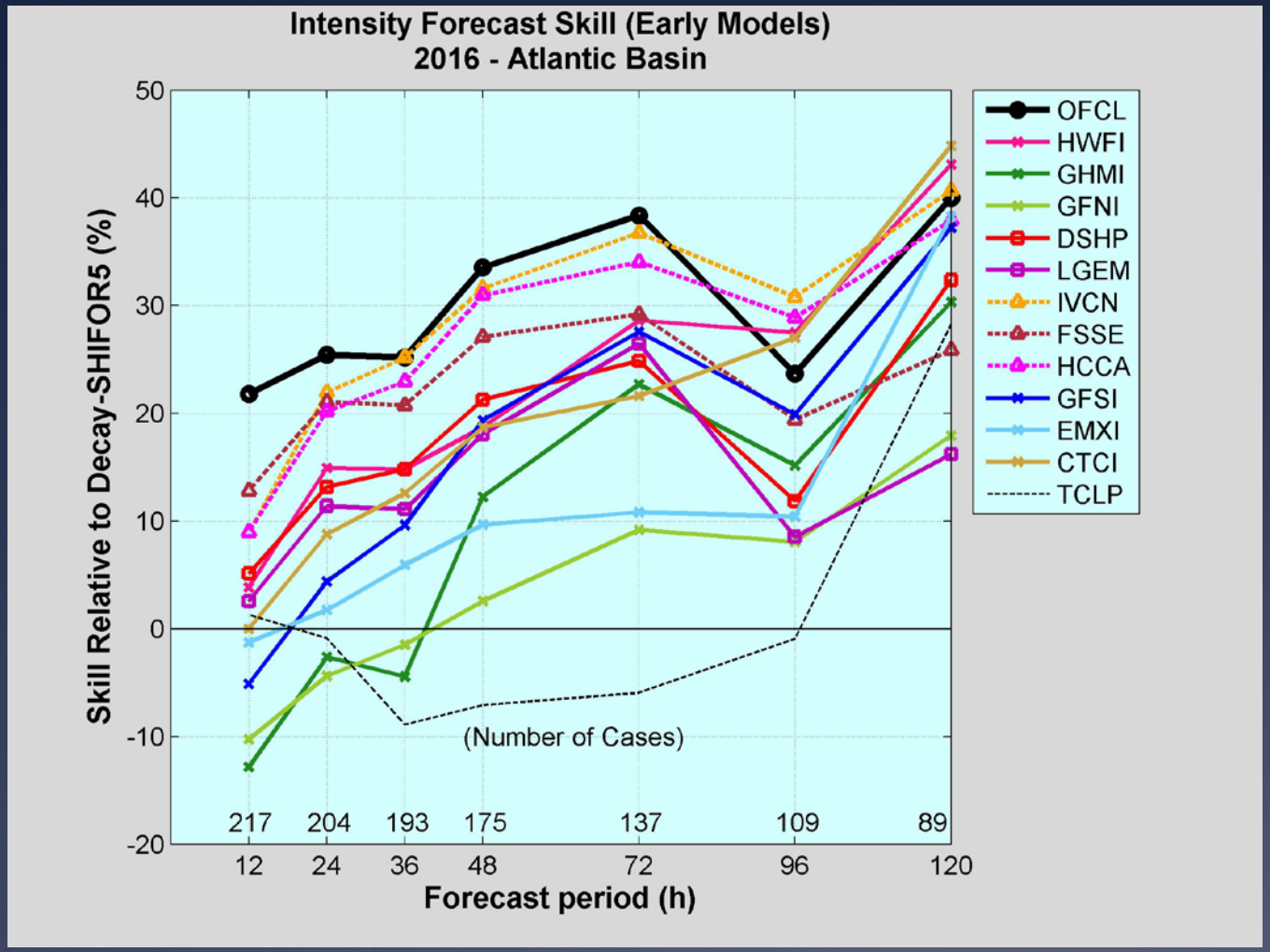
Atlantic Intensity Error Trends



Atlantic Intensity Skill Trends



2016 Intensity Guidance



Official forecasts skillful at all times, near or better than the top models (consensus aids).

Among the consensus aids, IVCN was a little better than HCCA and FSSE.

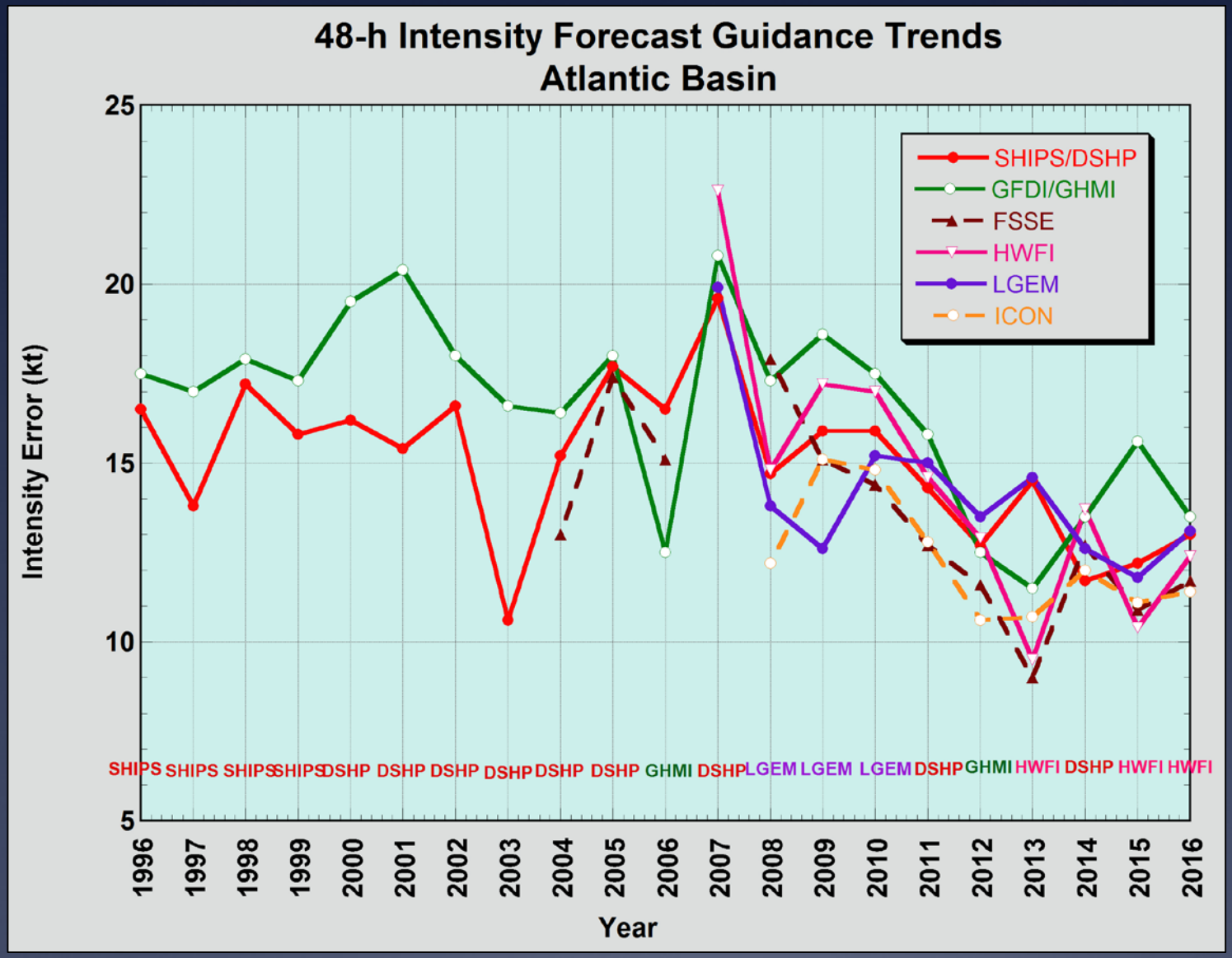
HWFI and CTCI showed increased skill with forecast time and were the best models at days 4 and 5.

DSHP and LGEM were skillful but not as good as consensus aids or HWFI, CTCI.

GFSI was competitive at 48 h and beyond.

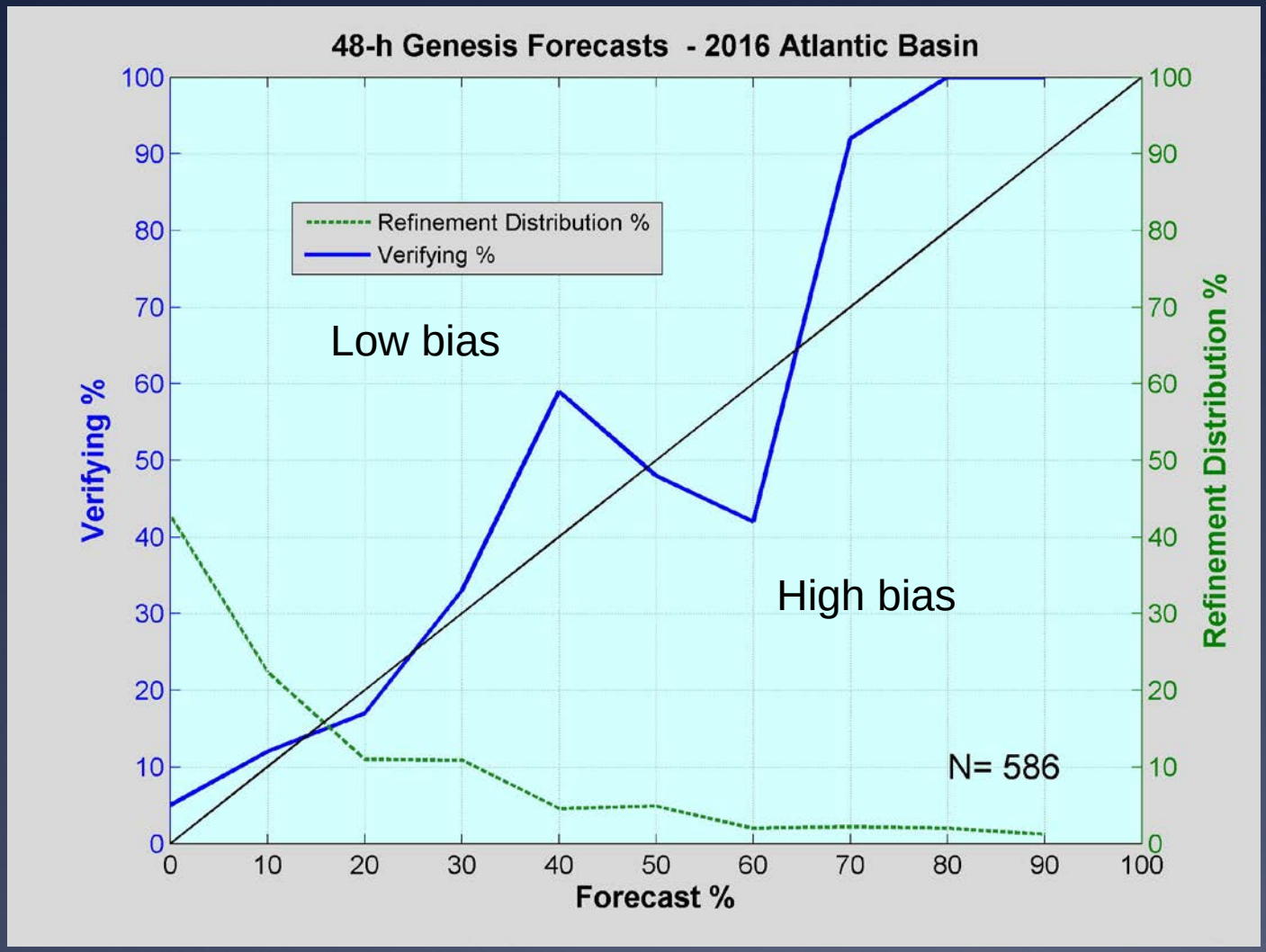
GFNI, GHMI, and EMXI trailed.

Intensity Model Error Trends



HWFI best individual best model at 48 h in 2016. Best 48-hr forecast came from a dynamical model 4 of past 5 years.

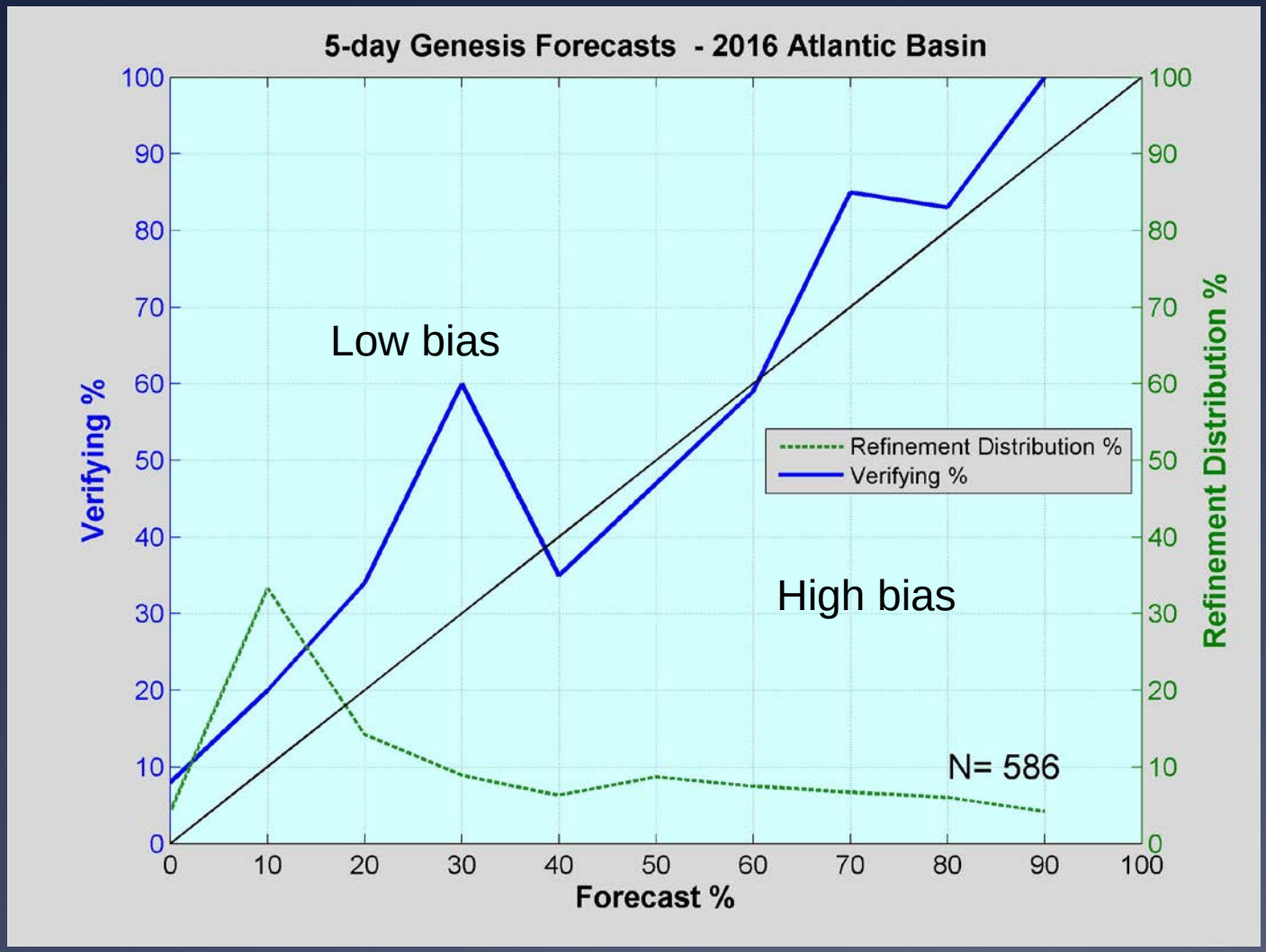
2-day Genesis Forecast Verification



** Fairly well calibrated at the low and medium probabilities.*

** Low bias for a small sample at high probabilities.*

5-day Genesis Forecast Verification



Slight low bias at most probabilities.