



CAA Verification Report

CAA service performance:
December 2022

TAF performance

Objective: To ensure airlines and pilots have accurate airport forecasts for planning purposes.

The Met Office provides verification of TAFs for UK Civil airports against airport observations (METARs and AUTO METARs).

Overleaf are a series of plots showing the Gerrity Skill Score in relation to the agreed performance measure for forecast Cloud Base and Visibility at airports in receipt of 9, 24 and 30 hr TAFs.

The values obtained range from 0 to 1, where 1 indicates perfect forecasts every time, the value we aspire to.

Performance measure

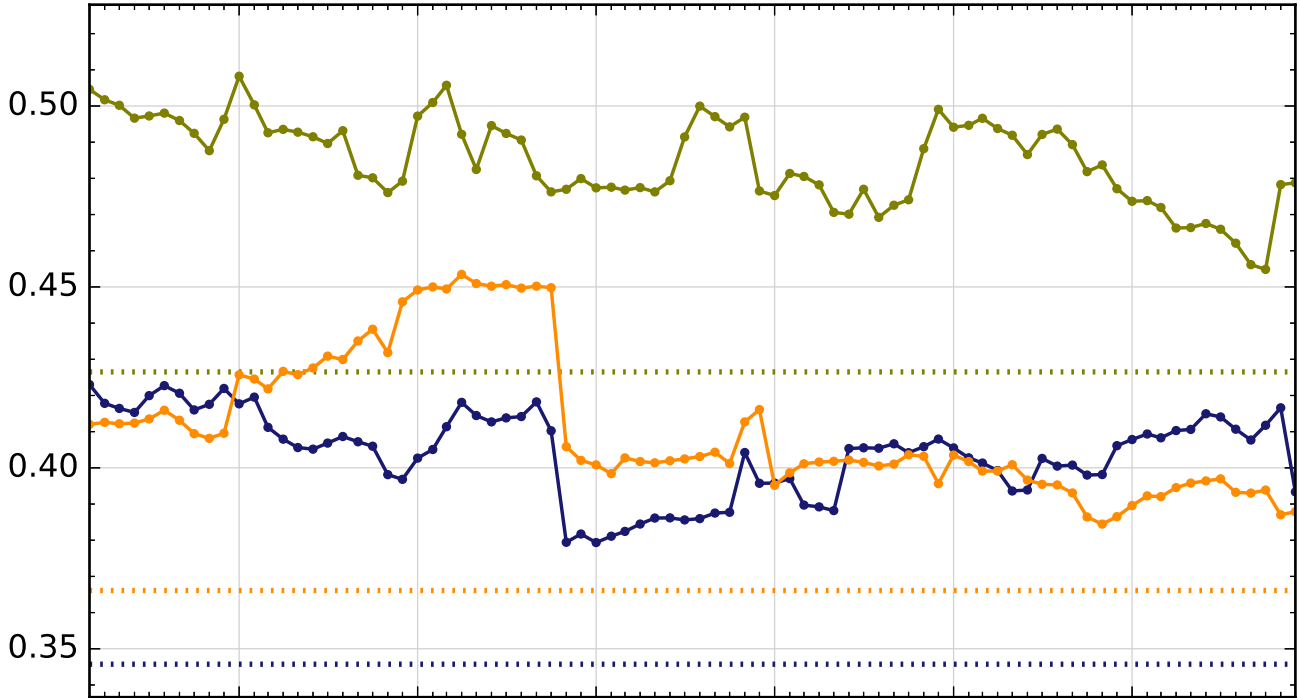
4 of the 6 sub-measures meeting or exceeding:

Cloud Base	9hr TAFs	0.517
Cloud Base	24hr TAFs	0.468
Cloud Base	30hr TAFs	0.457
Visibility	9hr TAFs	0.426
Visibility	24hr TAFs	0.345
Visibility	30hr TAFs	0.366

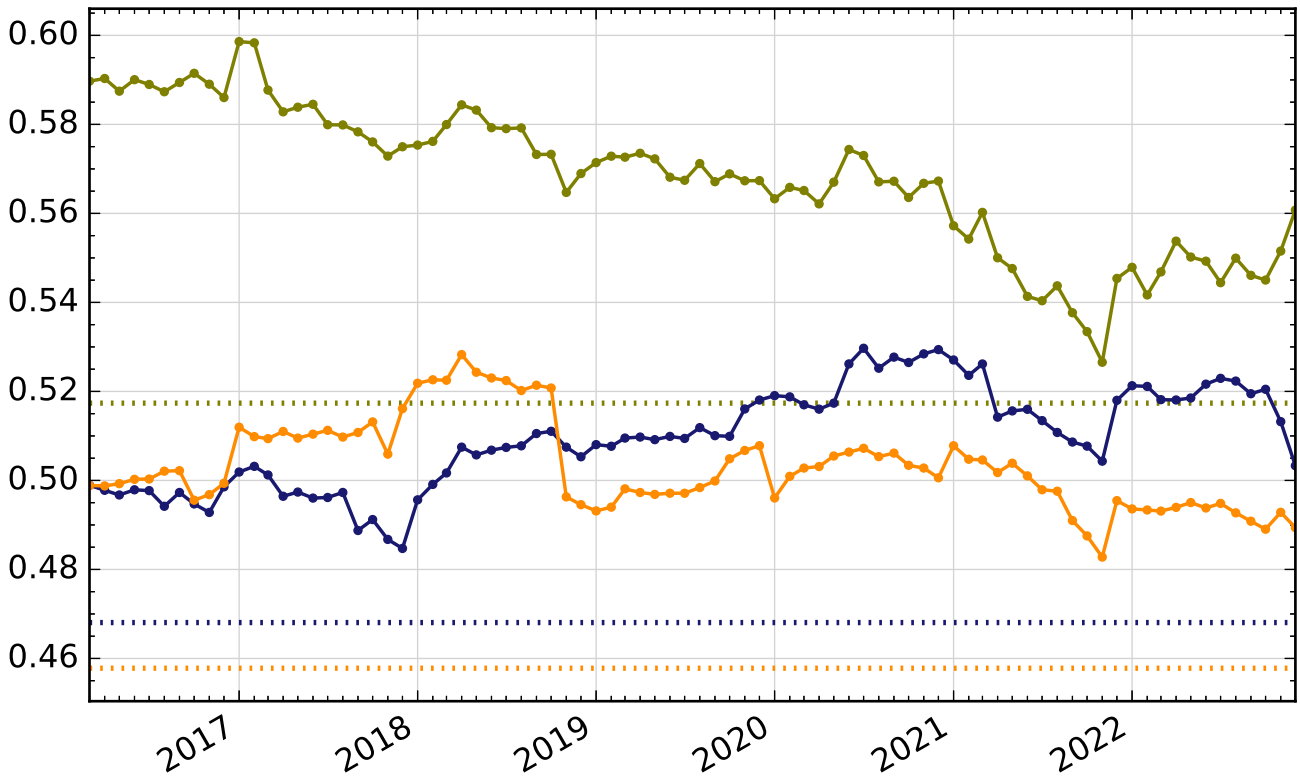
Gerrity Skill Score Rolling 36-month calculation



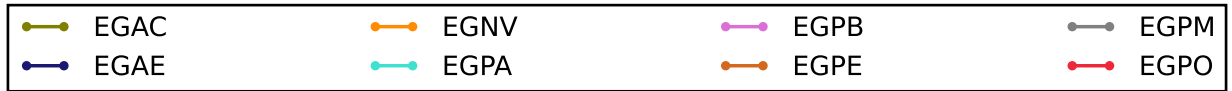
Visibility



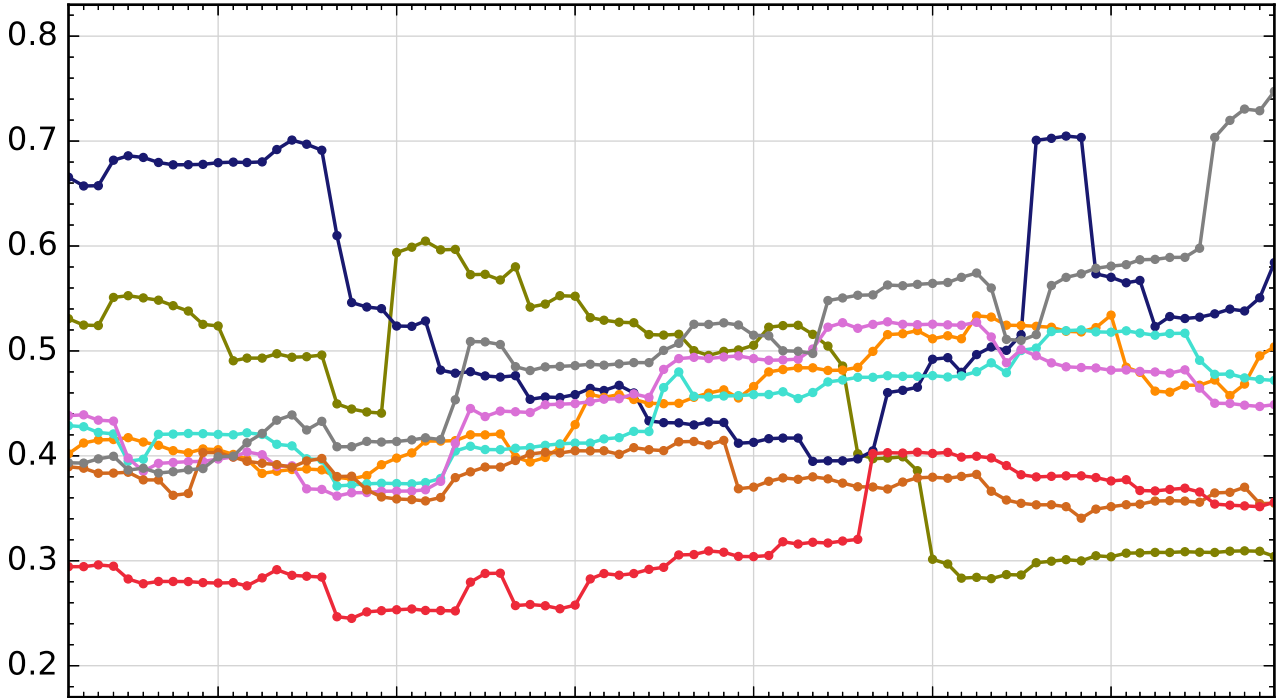
Cloud Base



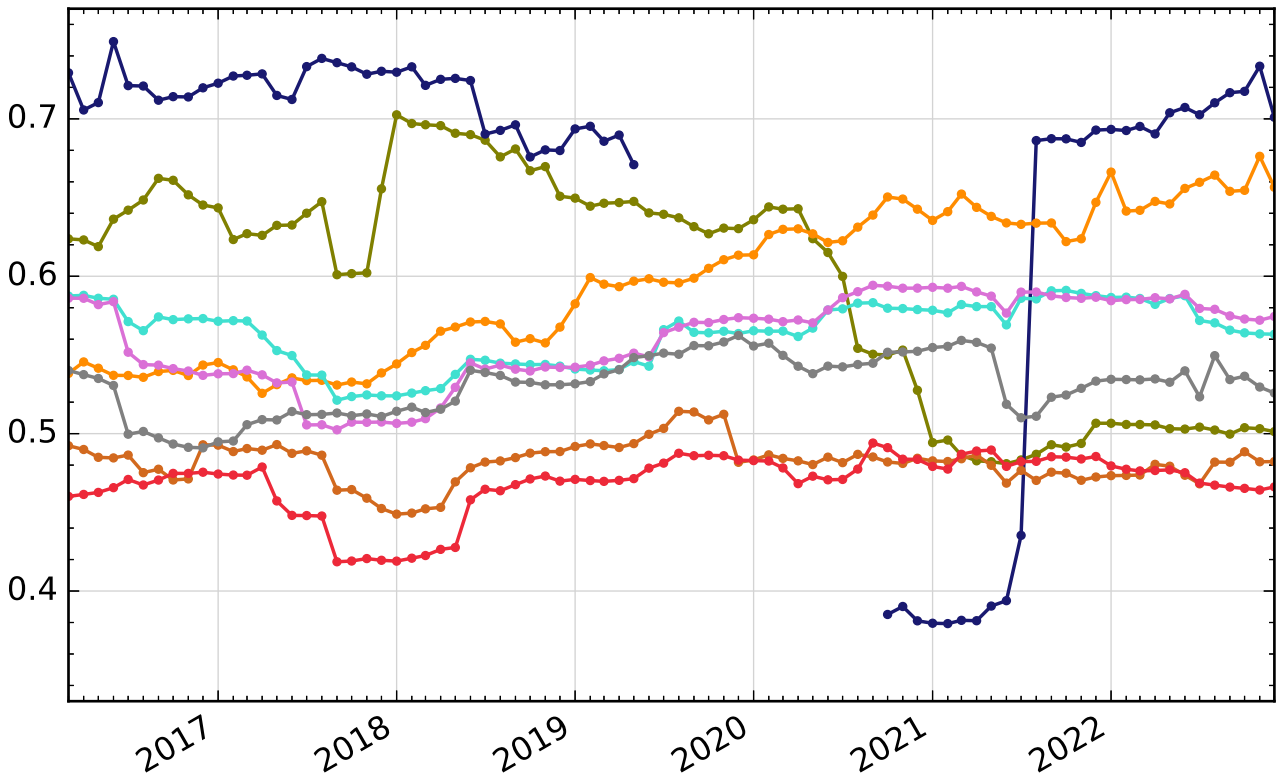
Gerrity Skill Score, Rolling 36-month (9hr North)



Visibility



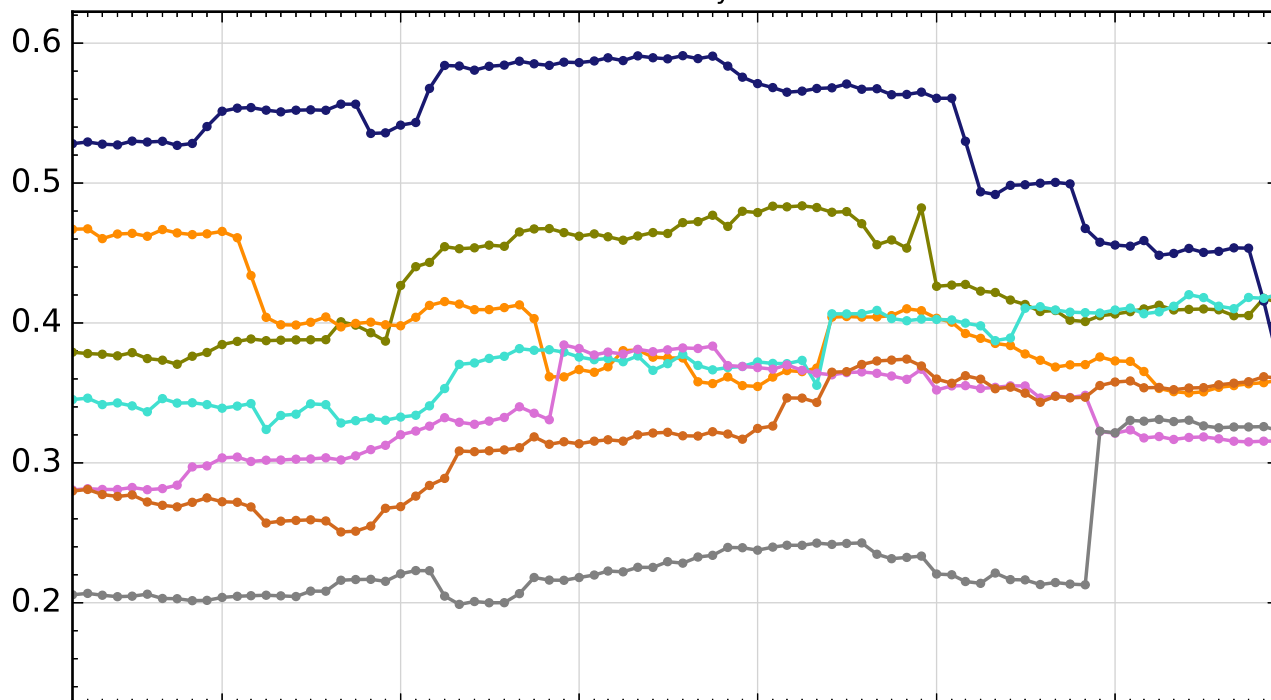
Cloud Base



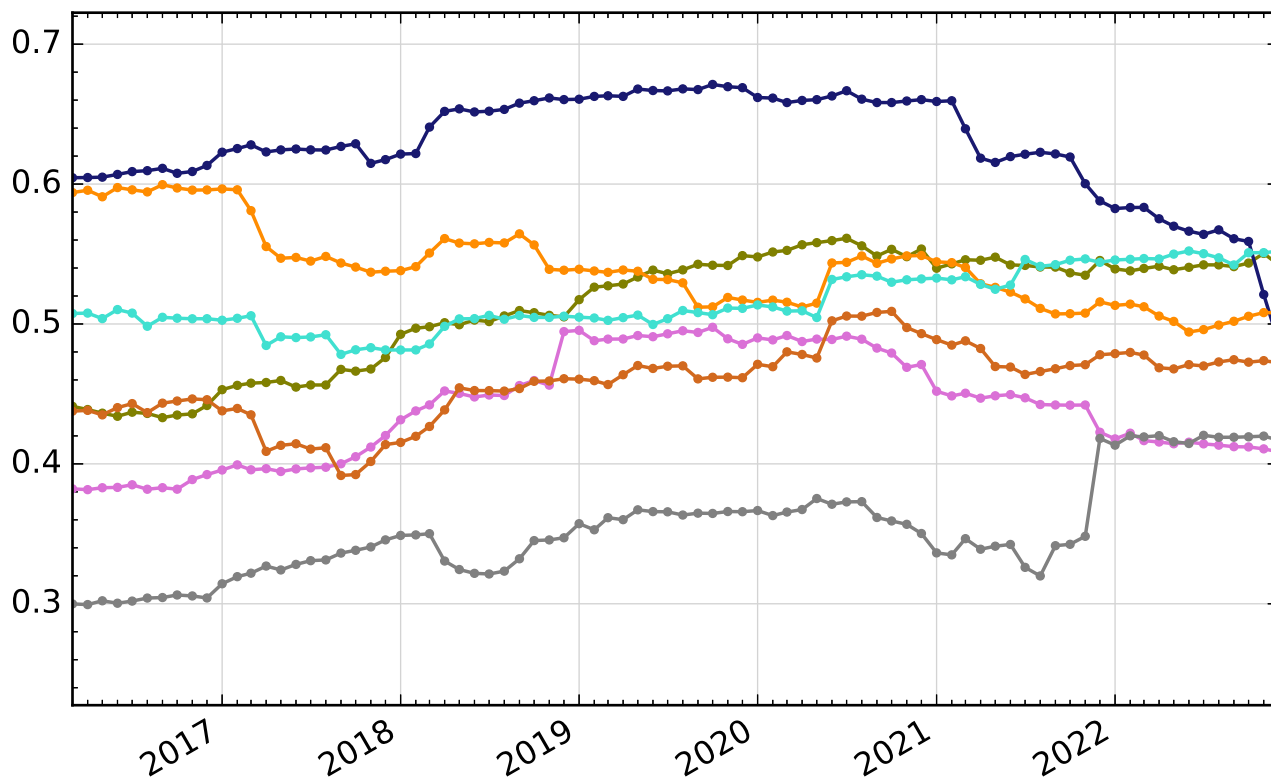
Gerrity Skill Score, Rolling 36-month (24hr North)



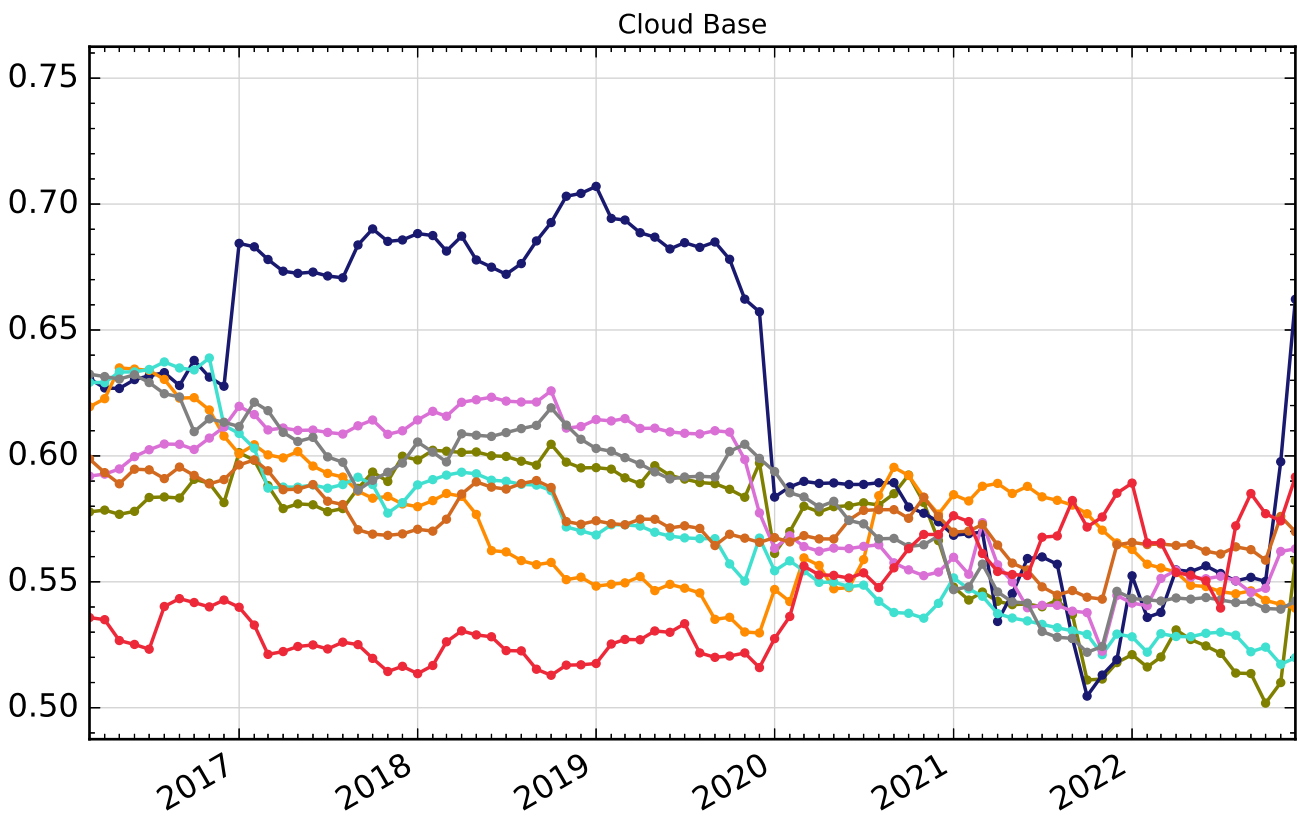
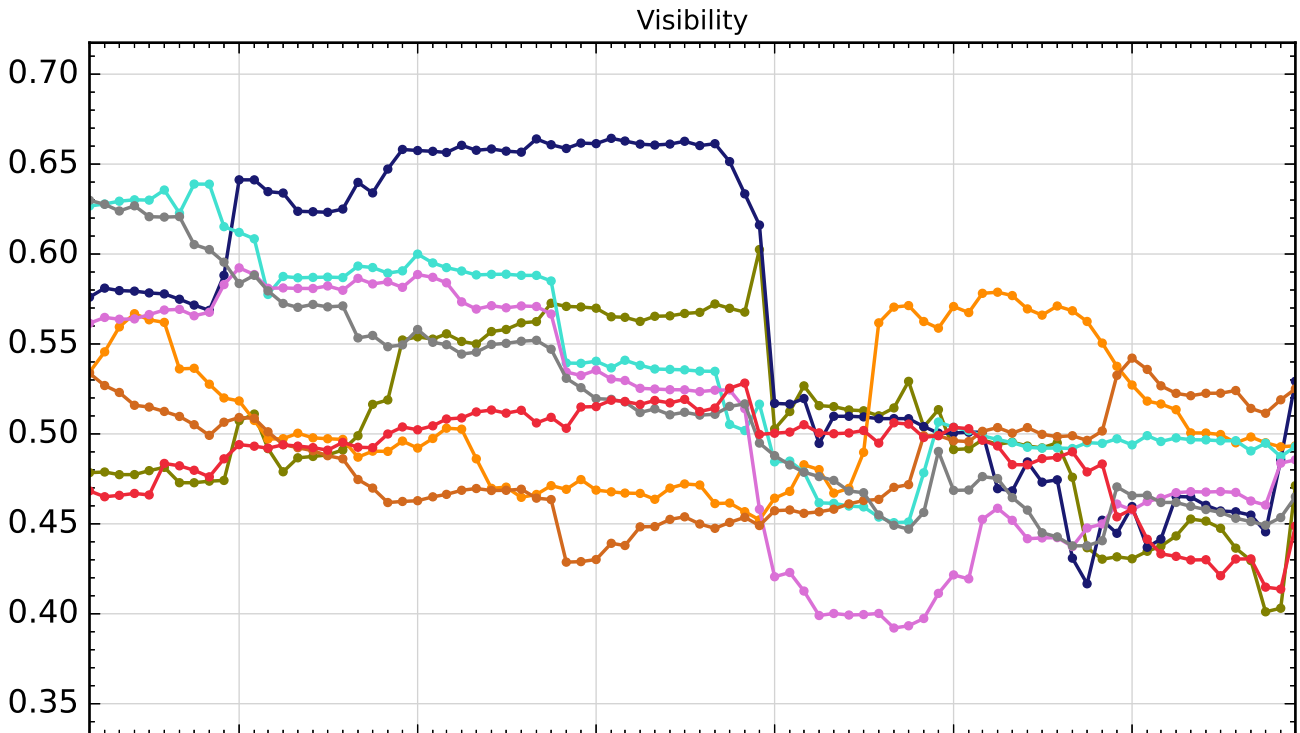
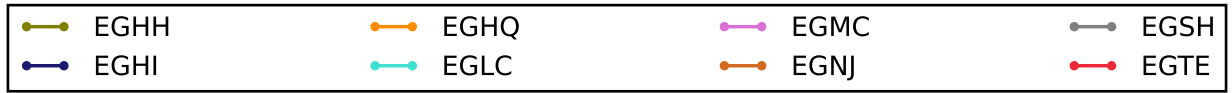
Visibility



Cloud Base



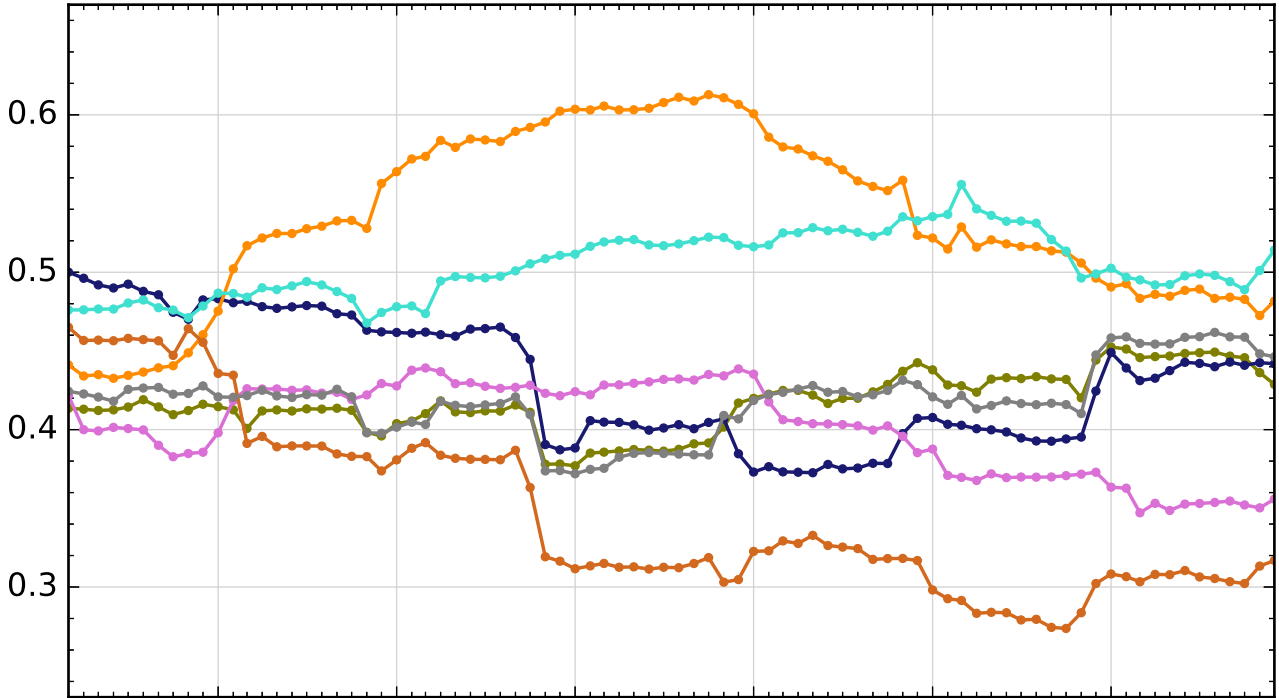
Gerrity Skill Score, Rolling 36-month (9hr South)



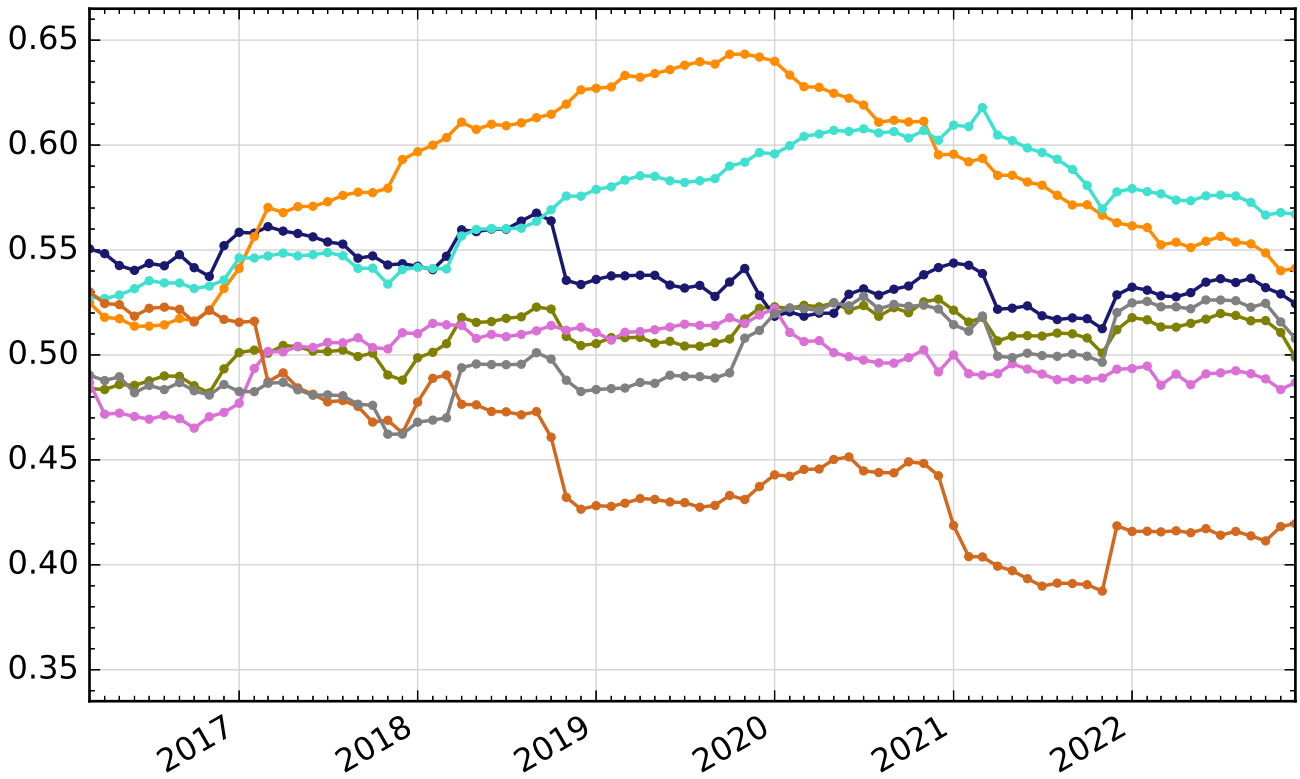
Gerrity Skill Score, Rolling 36-month (24hr South)



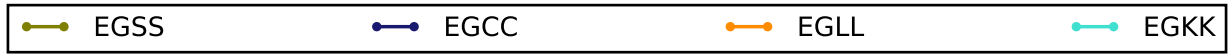
Visibility



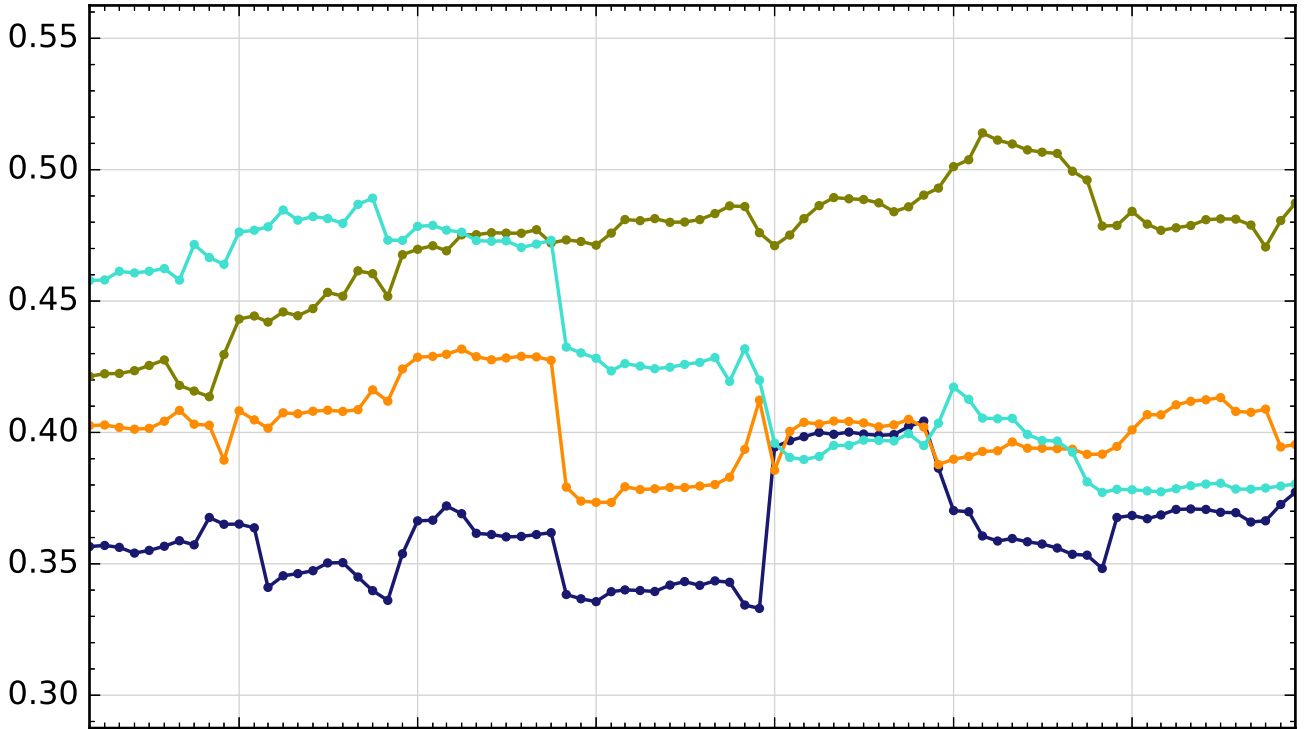
Cloud Base



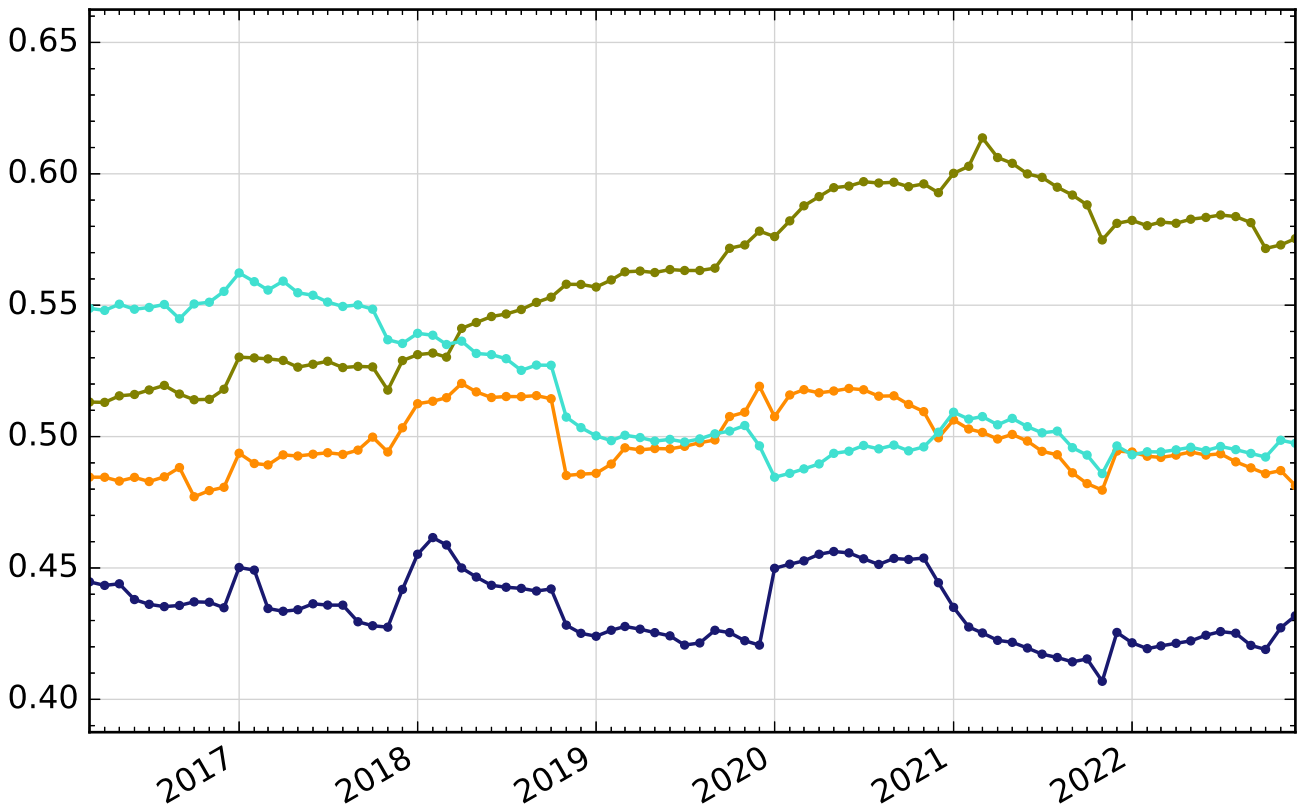
Gerrity Skill Score, Rolling 36-month (30hr South)



Visibility



Cloud Base



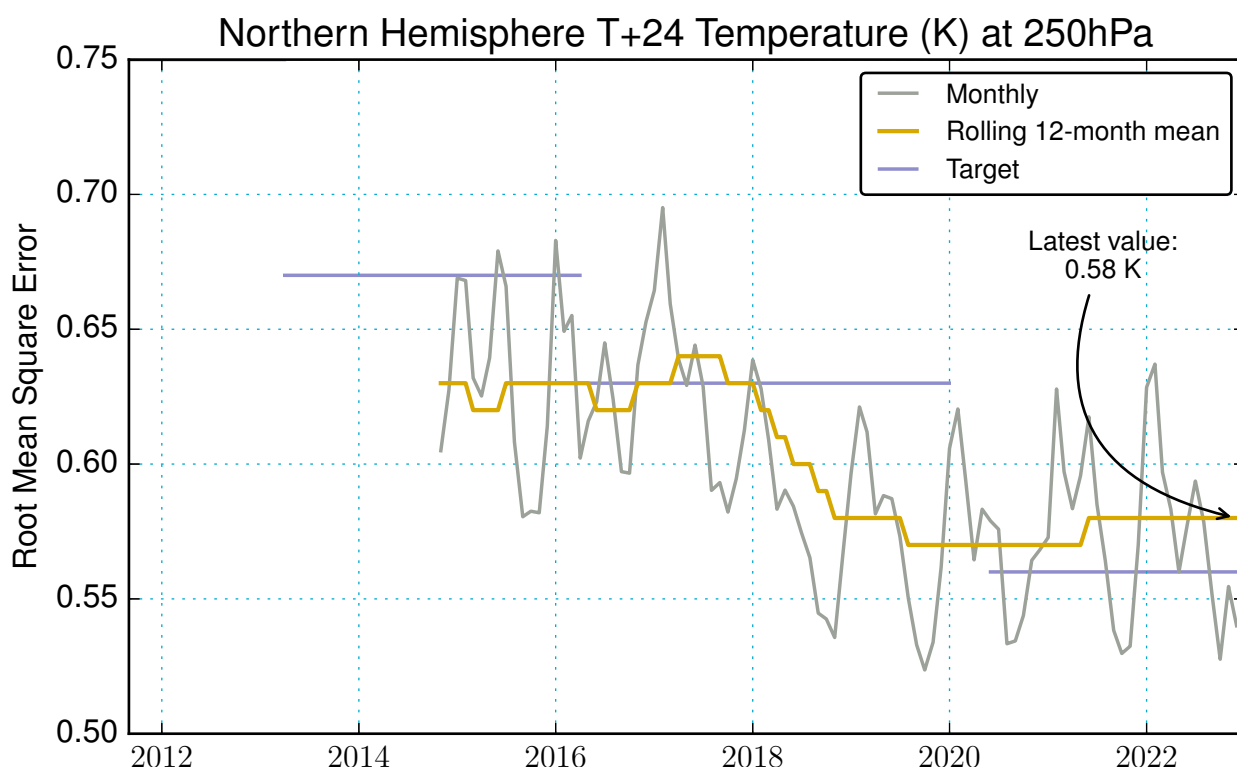
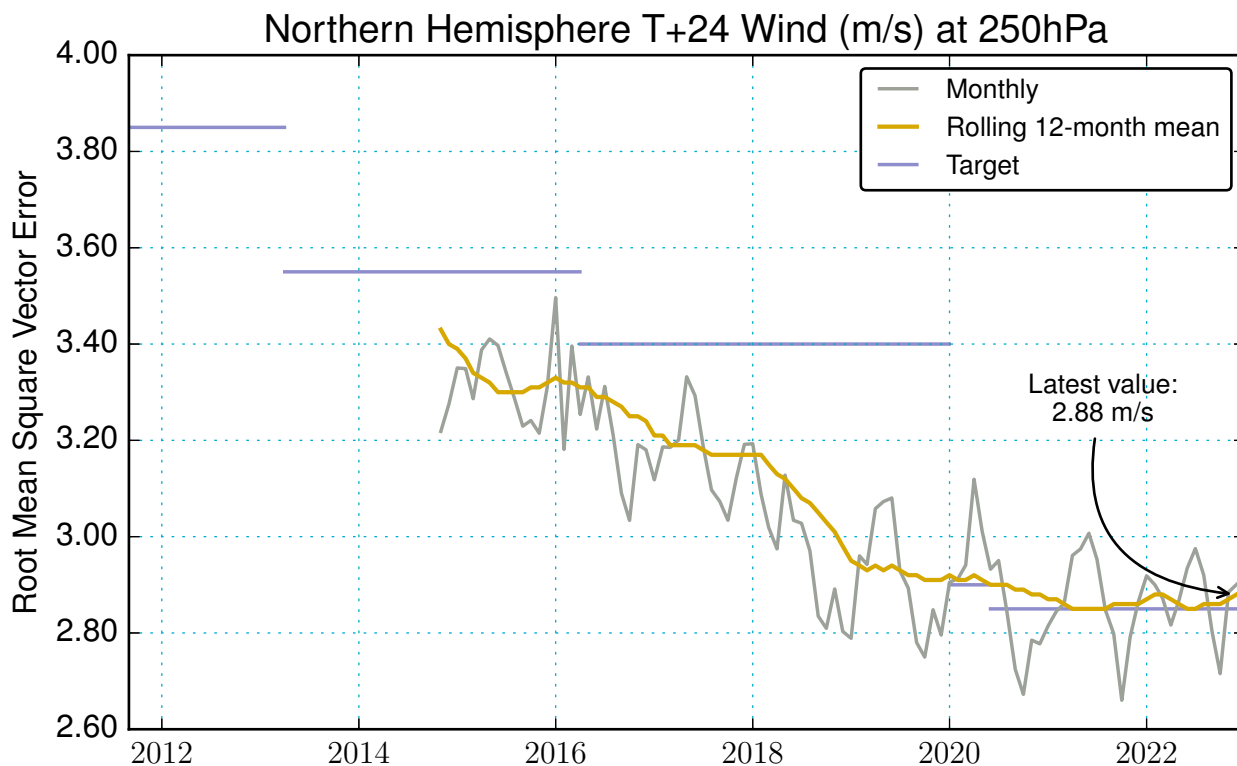
Global Model performance

Objective: To ensure airlines can access accurate global upper air model data for efficient air navigation.

Accurate forecasting of upper wind and temperature is essential for safe and efficient international air travel. The CAA have agreed targets (shown below) with the Met Office for day 1 forecasts (T+24) taken from our 00 UTC and 12 UTC operational Global Model runs for results at 250hPa (which equates to FL340), over the Northern Hemisphere (90N-20N).

The graphs below display the accuracy of these two forecasts, with the smaller the error being a better value forecast to airline operators.

Performance measure: $\leq 2.85\text{m/s}$ for Wind and $\leq 0.56\text{K}$ for Temperature (based on 12-month mean values)



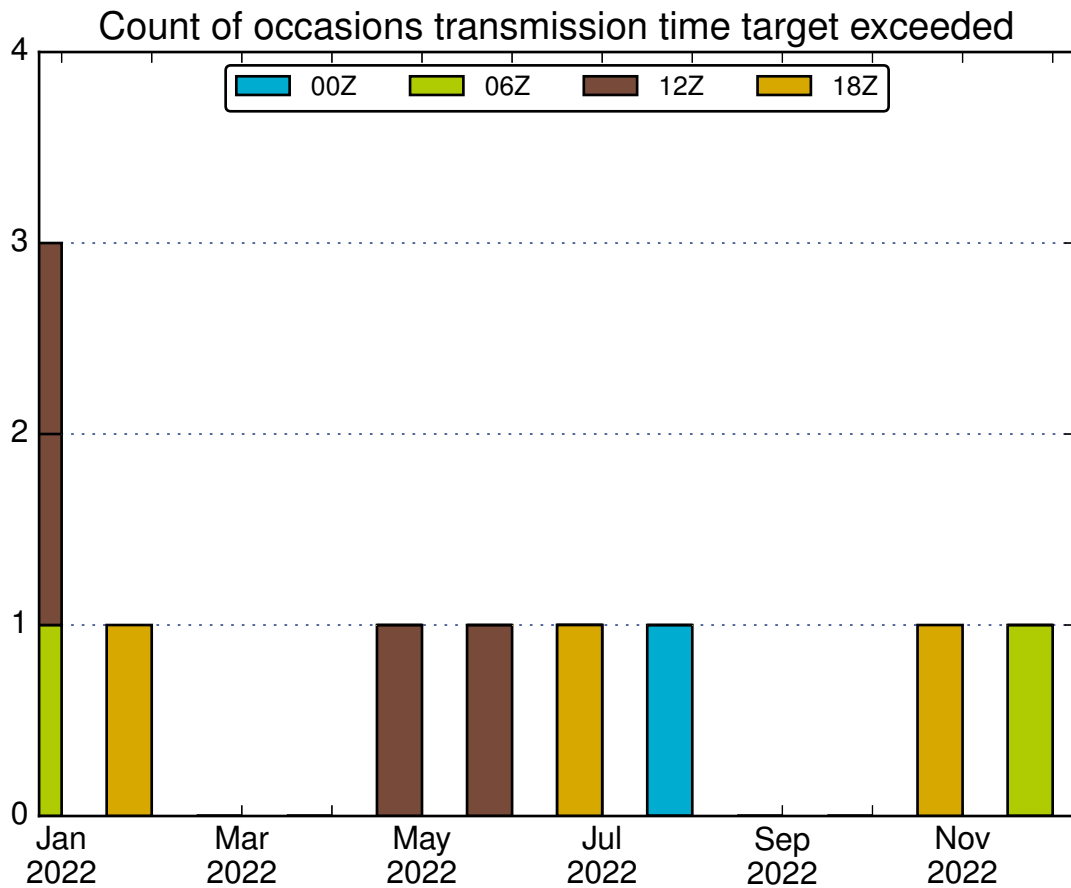
Timeliness of BUFR data

Objective: Ensuring flight planning systems receive timely and reliable forecasts of en-route aviation hazards.

As a World Area Forecast Centre (WAFC), significant weather charts to support Global air travel are provided by the Met Office. The timely delivery of the data used to compile these charts is important for airlines flight planning.

The graphs below show the number of occasions per month that a significant weather chart has been transmitted late, and from which model run it occurred from.

Performance measure: In no more than 3 instances per quarter (99.2%) should the transmission time of 7hrs 00mins be exceeded from any of the four model runs.



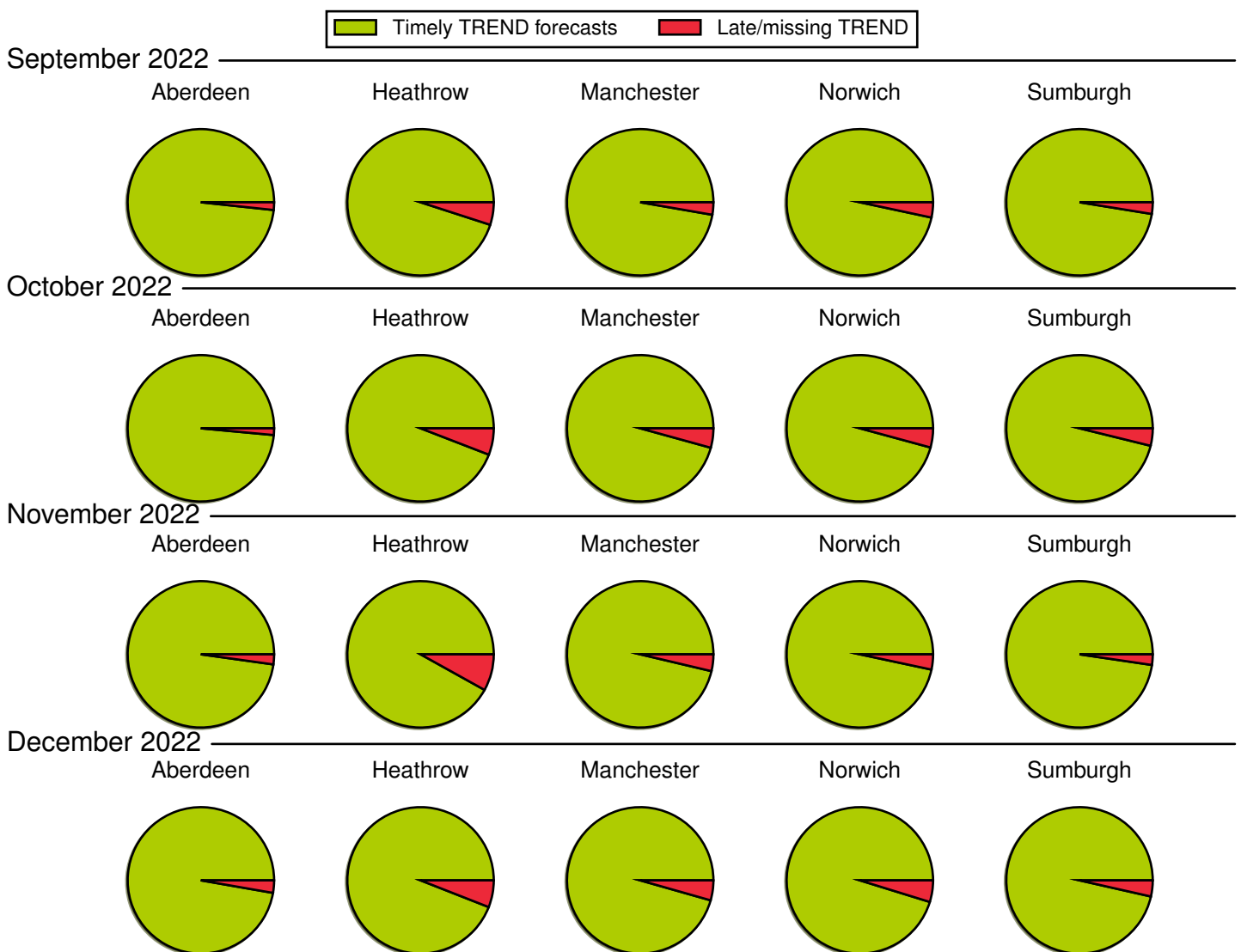
Timeliness of TREND forecasts

Objective: To append landing forecasts to selected airport METARs in time for their global dissemination.

TRENDS are 2 hour 'landing forecasts' which get appended to METAR reports at selected UK airports. The target is to append a trend within 7 minutes of the validity time of the observation (nominally 3 minutes from receipt of the METAR). (Note: This measure excludes duplicate, untimely, automated and non-compliant METARs)

The pie charts below represent timeliness performance for six airports over the most recent four months, with the table at the bottom showing the green area in the charts in percentage terms.

Performance measure: Trends appended to the METARs at selected airports within 7 minutes of the validity time of the observation on $\geq 90\%$ of occasions (based on a 12-month rolling mean)



	September 2022	October 2022	November 2022	December 2022
Aberdeen (EGPD)	98.3%	98.5%	97.8%	97.3%
Heathrow (EGLL)	95.0%	94.1%	91.9%	94.1%
Manchester (EGCC)	97.3%	95.7%	96.3%	95.6%
Norwich (EGSH)	96.7%	95.8%	96.7%	95.2%
Sumburgh (EGPB)	97.4%	96.2%	97.7%	96.5%
12-month rolling mean	96.1%	96.1%	96.2%	96.2%

TAF timeliness

Objective: To ensure airlines and pilots have timely access to TAFs.

Reliable provision of TAFs are important to airlines and pilots, to ensure they are fully briefed on the expected weather conditions at an airport upon arrival.

Around 280 TAFs per day are issued by the Met Office, and the percentage of all these TAFs generated in time for inclusion into bulletins generated by NATS are measured (by HH-52 mins). Results from the most recent four months are shown below.

Performance measure: At least 97% timely receipt of bulletins.

	September 2022	October 2022	November 2022	December 2022
% timely	98.7%	98.2%	98.4%	98.3%

TAF compliance

Objective: To ensure TAFs are compliant with UK and international coding regulations and not likely to be rejected by flight planning systems.

From a sample of 18 TAFs per day, the table below shows the percentage of these which were classified as format compliant during the course of the last 4 months.

Performance measure: At least 99% of TAF sample fully compliant

	September 2022	October 2022	November 2022	December 2022
% compliant	100.0%	99.8%	99.6%	100.0%

SIGMET compliance

Objective: To ensure SIGMETs are compliant with international coding regulations and not likely to be rejected by flight planning systems.

Checking all issued SIGMETs for each month, the table below shows the number of SIGMETs which were classified as compliant during the course of the last 4 months.

Performance measure: At least 99% of all SIGMETs compliant

	September 2022	October 2022	November 2022	December 2022
SIGMETs issued	130	225	338	129
% Format Compliance	100.0%	100.0%	100.0%	100.0%

GRIB2 timeliness

Objective: Ensuring flight planning systems have timely and reliable forecasts on en-route wind, temperature and hazard data.

The table below shows the number of occasions that operational GRIB2 data sets being issued after T+4hrs20 over the last 4 months. As of February 2022, the values refer to the 0.25 degree data.

Performance measure: ≤ 2 instances per quarter issued late

	September 2022	October 2022	November 2022	December 2022
late GRIB2	0	0	0	1

GRIB2 CB/Icing/Turbulence

Objective: Ensuring flight planning systems have timely and reliable forecasts of 'blended *' en-route aviation hazard data. (* combined WAFC London & Washington hazard data)

The table below shows the number of occasions of operational GRIB2 CB, Icing and Turbulence data sets being issued after T+5hrs00mins over the last 4 months.

Performance measure: ≤ 2 instances per quarter issued late

	September 2022	October 2022	November 2022	December 2022
late GRIB2	0	0	0	0

*Results have not yet been reported

HeliBrief Uptime

Objective: To provide a reliable pre-flight weather briefing to support offshore helicopter operations.

The table below shows HeliBrief uptime (excluding planned maintenance) during the course of the last 3 months.

Performance measure: 99.6% HeliBrief availability per month (equivalent to 3hrs downtime per month)

	October 2022	November 2022	December 2022
OHWeb uptime	99.97%	97.63%	99.99%

*Results have not yet been reported

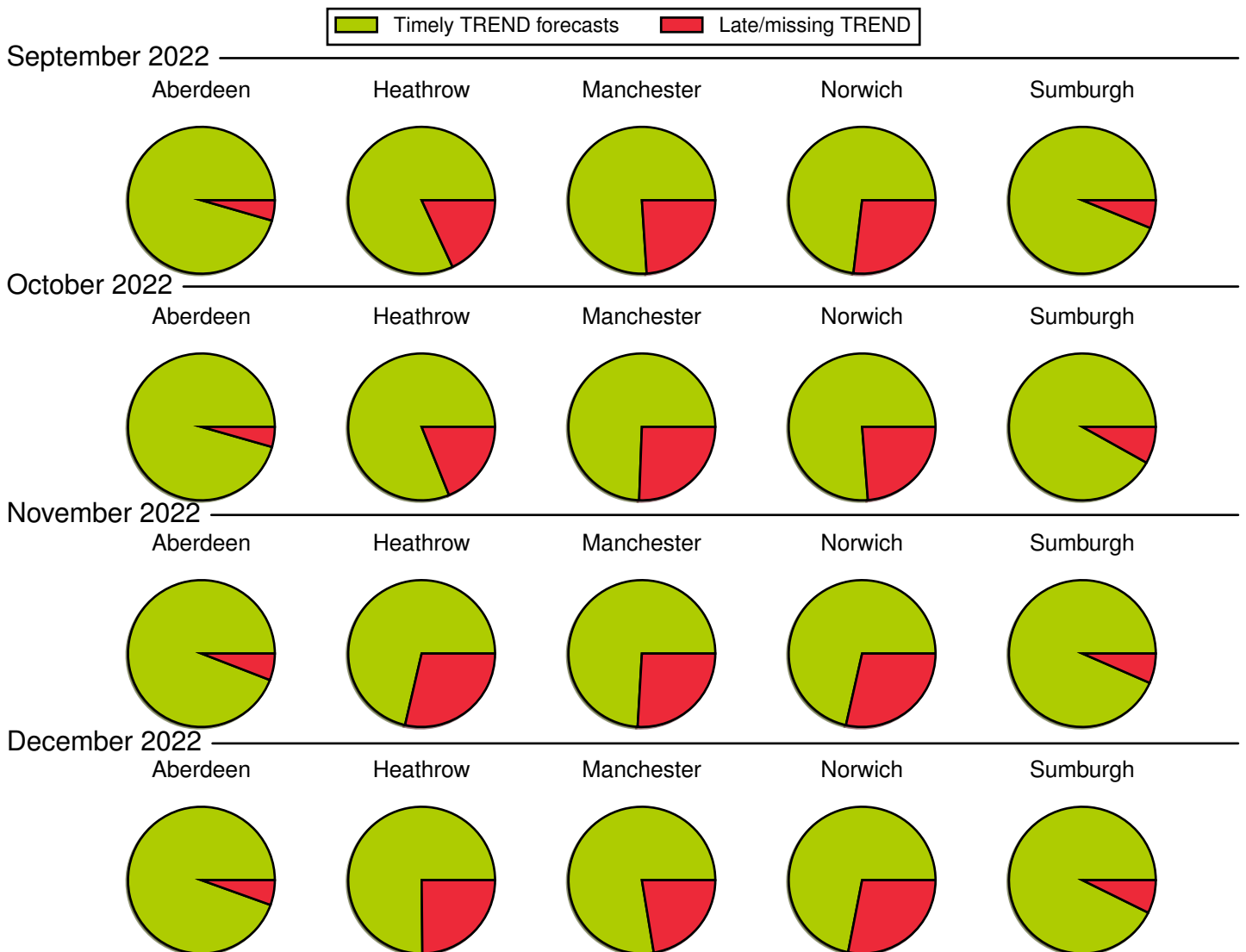
Annex: Alternate TREND Timeliness

Objective: To append landing forecasts to selected airport METARs in time for their global dissemination.

This measure examines what percentage of the received METARs (excluding duplicate, untimely, automated and non-compliant METARs) had TREND forecasts appended and sent within 3 minutes of the METAR arriving (for Scottish locations this time limit is set at 4 minutes).

The pie charts below represent timeliness performance for six airports over the most recent four months, with the table at the bottom showing the green area in the charts in percentage terms.

Performance measure: Trends appended to the METARs at selected airports within 3 minutes of the validity time of the METAR arriving (for Scottish locations this time is 4 minutes) on $\geq 85\%$ of occasions (based on a 12-month rolling mean)



	September 2022	October 2022	November 2022	December 2022
Aberdeen (EGPD)	95.5%	95.6%	94.1%	94.5%
Heathrow (EGLL)	81.9%	81.1%	71.4%	75.2%
Manchester (EGCC)	76.0%	74.4%	74.1%	77.6%
Norwich (EGSH)	73.1%	76.3%	71.5%	71.9%
Sumburgh (EGPB)	93.8%	91.9%	93.4%	92.7%
12-month rolling mean	83.5%	83.5%	83.5%	83.5%

Generated January 2023 for December 2022 results
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