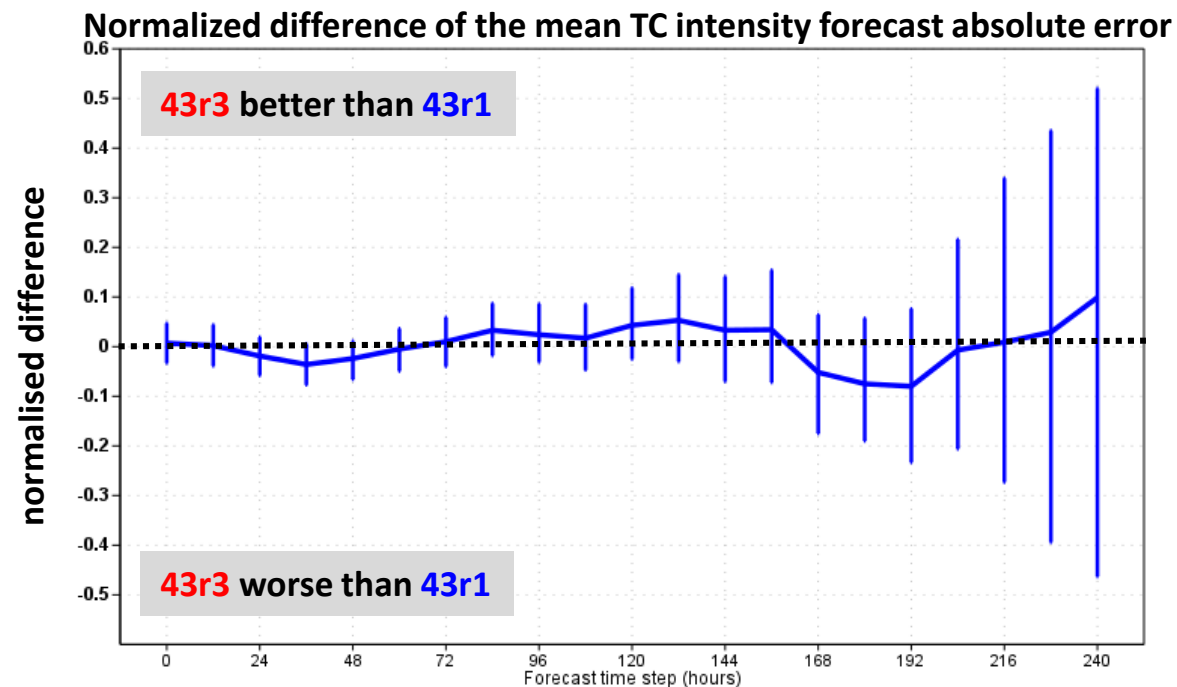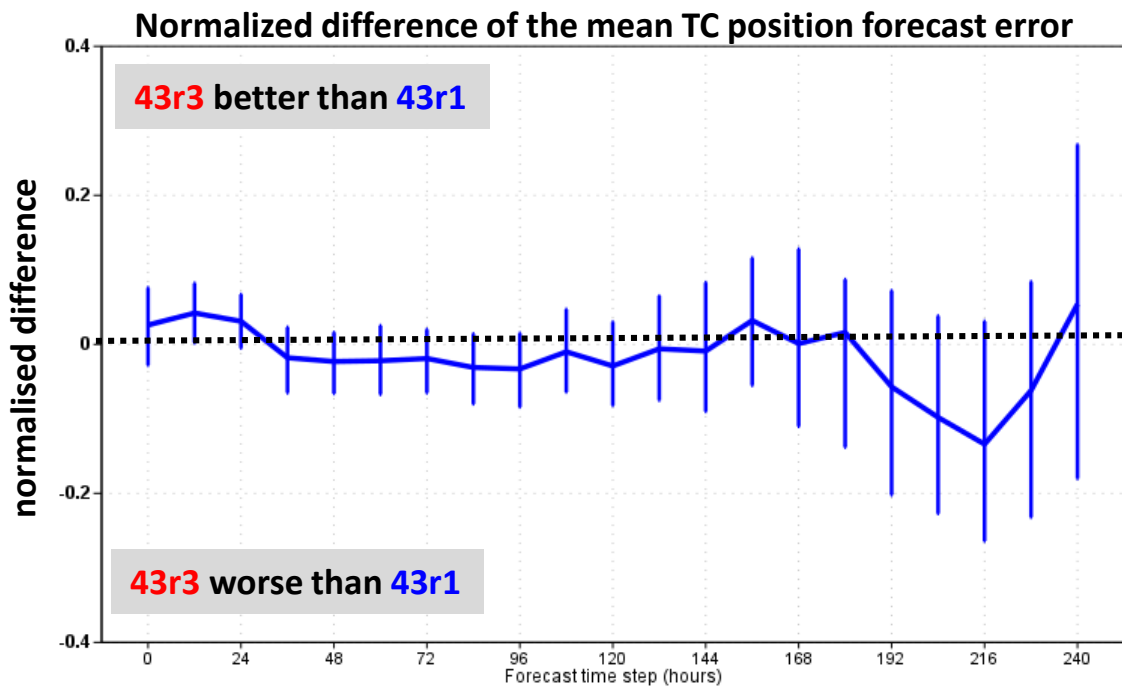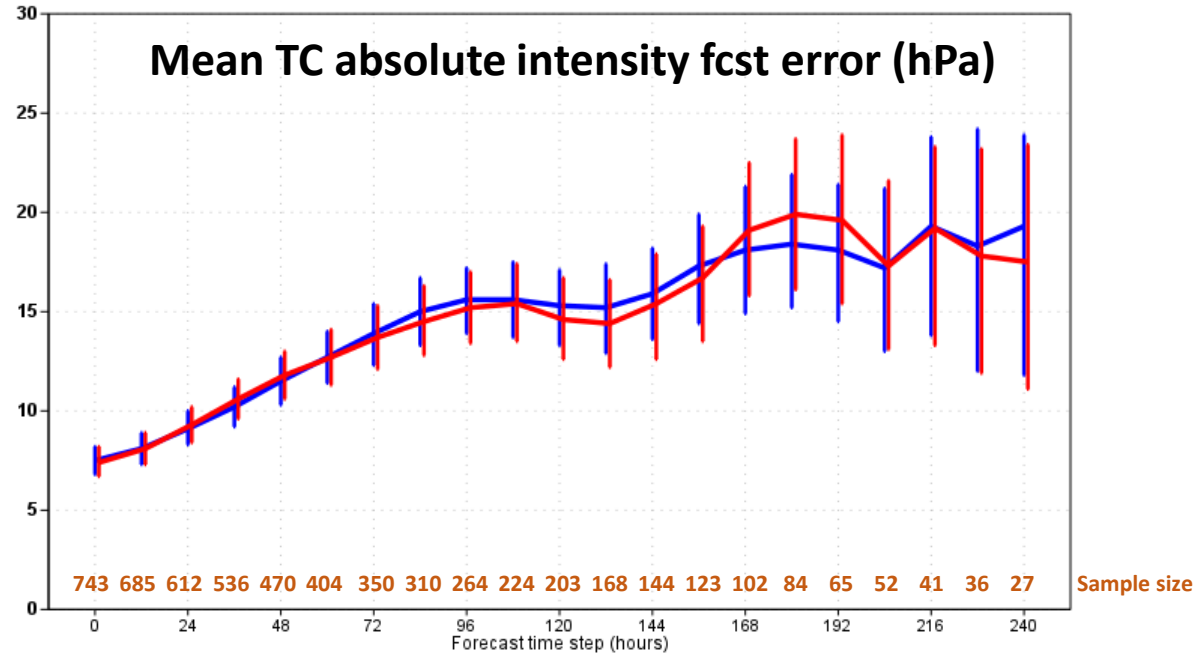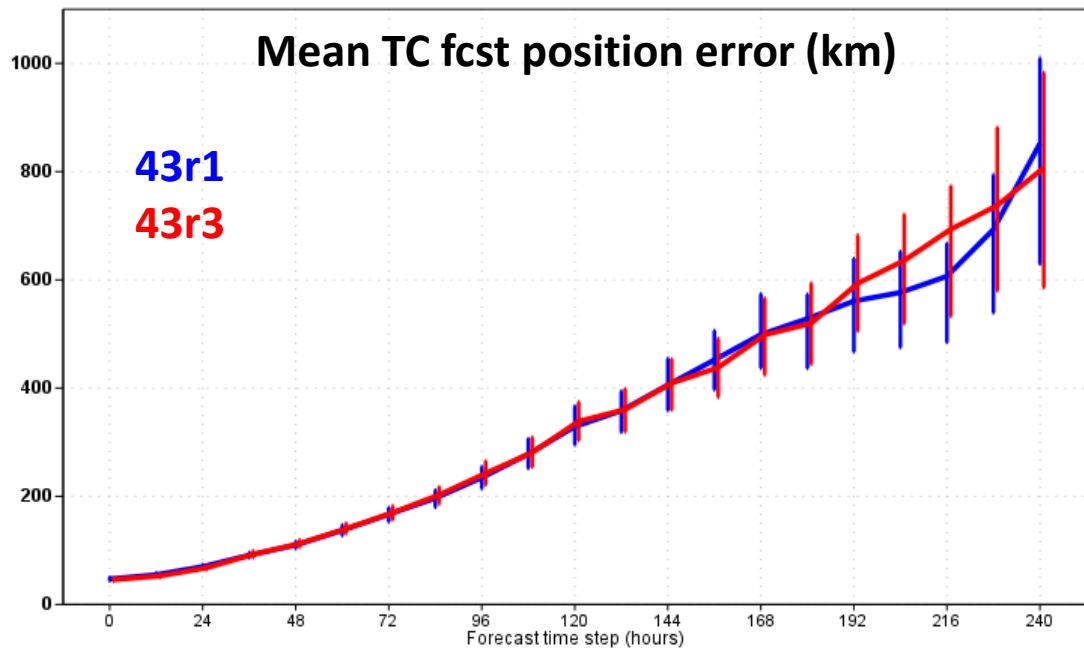# Tropical Cyclone forecast performance statistics

- Figures: TC position (intensity) forecast mean error as a function of the forecast lead time up to 10 days for the IFS cycles **43r1** and **43r3** HRES (~10 months of forecast runs).

- Observations are based on the TC reports of position and estimated minimum mean sea level pressure at the centre of the cyclone

- The error bars indicate the 95% confidence interval using bootstrap method based on 1000 samples.

- Numbers on the bottom of the figure showing the mean absolute TC forecast intensity indicate the size of the sample for each time step of both model cycles.

- Homogeneous samples for both forecast performance statistics.

Mean TC fcst position error (km)

43r1
43r3

Forecast time step (hours)

Mean TC absolute intensity fcst error (hPa)

| 743 | 685 | 612 | 536 | 470 | 404 | 350 | 310 | 264 | 224 | 203 | 168 | 144 | 123 | 102 | 84 | 65 | 52 | 41 | 36 | 27 | Sample size |

Forecast time step (hours)

Normalized difference of the mean TC position forecast error

43r3 better than 43r1

normalised difference

43r3 worse than 43r1

Forecast time step (hours)

Normalized difference of the mean TC intensity forecast absolute error

43r3 better than 43r1

normalised difference

43r3 worse than 43r1

Forecast time step (hours)

Mean TC intensity forecast error

TC intensity forecast error between **43r1** and **43r3**

Level of confidence 95% (boostrap)