High-resolution ensembles which can explicitly resolve features at the convective scale are routinely used in operational centres around the world to assess the predictability of short-range, high-impact events. However, a reported lack of spread between members is consistently providing overconfident forecasts, limiting the effectiveness of the guidance provided to forecasters and reducing trust in these computationally expensive models. While much work has been done to understand this lack of spread by looking at the characteristics of the high-resolution ensembles themselves, the role that the global ensemble plays is less clear. We should expect the global ensemble to play some part in determining the “downstream” spread, since it provides lateral boundary conditions and initial condition perturbations to corresponding members of the high-resolution model. Determining the conditions where the high-resolution ensemble follows the evolution of the global ensemble (i.e., nurture over nature) and where the evolutions differ (nature over nurture) will allow model developers to make more informed decisions when attempting to improve spread in future configurations.

Tuesday 14 May, 13:00–13:50 in GU01
and on Teams / Meteorology All / Internal (Tuesday) Seminar Series