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Predictability of European Winter 2020/21

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Winter (DJF) 2020/21 in the North Atlantic/European sector was characterised by the negative phase of the North Atlantic Oscillation (NAO). However, this was not well forecast by the leading seasonal prediction systems. We focus on forecasts from GloSea5, which was the Met Office operational seasonal prediction system at the time. Forecasts initialised in November 2020, at the 1-month lead time, indicated that a positive NAO was likely, although a few ensemble members did agree with the eventual outcome. Analysis suggests that the sudden stratospheric warming (SSW) that occurred in early January 2021 and an active MJO in late January/early February 2021 probably contributed to the observed negative NAO. In particular, GloSea5 indicated a rather low probability for SSW activity, which may well have been exacerbated by the forecast of a stronger than observed La Niña by this system.