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## Current capability to predict the Indian Ocean Dipole with seasonal forecast systems

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The Indian Ocean Dipole (IOD) is a strong climate driver that not only significantly impacts rainfall variability in the countries surrounding the Indian Ocean but also contributes to global cliamte variability especially due to its covariance with El Niño-Southern Oscillation (ENSO). In this study, four state of the art coupled model forecast systems that routinely produce seasonal predictions in real time were used to access the current ability of the IOD predictive skill and its relationship to ENSO prediction. We compared predictions of the IOD for the September-October-November (SON) season, which is when the IOD peaks, using the Bureau of Meteorology's dynamical season prediction model POAMA, the ECMWF seasonal forecast System 3, the Frontier Research Center model (SINTEX-F), and the NCEP Climate Forecast System (NCEP-CFS) versions 1 and 2. The IOD forecast skills of these four seasonal prediction systems were calculated from the retrospective ensemble runs initiated from all 12 calendar months for the period 1982-2006. Forecast skill of IOD is much lower than for El Niño in all forecast systems. Skilful forecast of the IOD in SON in the best models is limited to a lead time of about 3 months, where as skilful forecast of El Niño extends to at leat 9 month lead time.We show that predictive skill of the IOD at longer lead time does not extend beyond the ability to predict ENSO and its relationship with the IOD. However, the relationship between ENSO and the IOD is typically underdone in the forecast models as lead time increases. Hence, improvement in forecast skill can be achieved by an improved representation of the relationship between ENSO and the IOD in these models.