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Assessment of Météo-France current seasonal forecasting system S7 and outlook on the upcoming S8

Jean-François Guérémy¹, Clotilde Dubois², Christian Viel³, Laurent Dorel¹, Constantin Ardilouze¹, Lauriane Batte¹, Jacques Richon³, Yiwen Xu¹, Fleur Nicolay¹, Jean-Michel Soubeyrou³, and Morgane Le Breton¹

¹Météo-France, CNRM, Toulouse, France (jean-francois.gueremy@meteo.fr)

²Mercator Ocean International, Ramonville, France

³Météo-France, DCSC, Toulouse, France

In the framework of the EU Copernicus Climate Change Service (C3S) program, a new coupled system has been developed at Météo-France (MF) to carry out seasonal forecasts at a 7-month range. This system (called S7) is in operation in real time since October 2019. S7 is based upon the MF coupled climate model CNRM-CM6 used for CMIP6 simulations, in its high resolution configuration: ARPEGE-Climat (T1359-0.5° I91, including different tuning choices for the physics), NEMO 3.6 (0.25° I75) and the OASIS coupler. The aim of this presentation is twofold.

First, an assessment of S7 performance will be presented in terms of biases, and both deterministic and probabilistic predictability scores. A comparison with the earlier MF system and the current ECMWF system will be shown.

Second, incremental updates from S7 to S8, to be in operation in June 2021, will be presented and assessed versus S7. The upgrade includes a larger atmospheric resolution from I91 to I137, together with a coupled initialization strategy to replace the earlier independent atmospheric and oceanic initialization.