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A new high-resolution zoom over the North-East Atlantic based on NEMO 4.2 (IMMERSE) version

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In the context of the IMMERSE project, we present here a new high-resolution configuration over the North-East Atlantic based on the NEMO model in its version 4.2. The configuration is based on already existing eNEATL36 (extended North – East ATLantic) configuration, which covers the Iberian – Biscay – Ireland area and the western Mediterranean Sea at a 1/36° resolution. It incorporates a kilometric resolution (1/108°) AGRIF zoom that covers the Atlantic and Mediterranean French and Spanish coasts and includes the Gibraltar Strait, Corsica and Sardinia. Two-way exchanges are enabled between the nest and the parent configuration. We will present a description of the configuration, alongside some initial results. First, we compare the performance of the NEMO 4.2 version with the pre-IMMERSE version (NEMO 4.0) on our configuration. The configuration is then validated over the 1.5 year target period from January 2017 to June 2018 against satellite data and in-situ observations. Finally, the impact of the high-resolution nest is evaluated by comparing the simulation with a twin experiment over the same period but without nest.