



## **Evaluation of natural marine aerosol in five Earth System Models**

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We present an evaluation of the representation of marine aerosol in 5 different Earth System Models (CNRM-CM, EC-Earth, IPSL-CM, NorESM, and UKESM). Natural aerosols play a role in the energy budget of the atmosphere, and knowledge about them is important to estimate the anthropogenic aerosol forcing. We use land-based observations (at coastal and marine locations), together with observations from ships, aircraft and satellite to assess the representation of marine aerosol in these models. Within the framework of the European CRESCENDO project, the models have simulated the period 2000-2014, both in a free-running mode and in a nudged mode using re-analysed meteorological fields. Additional simulations with reduced natural emissions allow us to identify pristine regions, and to estimate the sensitivity of anthropogenic aerosol forcing to natural aerosol emissions.