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Development of the Oceanographic Multipurpose Software Environment

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We present the Oceanographic Multipurpose Software Environment (OMUSE): an open source framework for oceanographic and other earth system modelling simulation codes, developed at the IMAU (Utrecht) using coupling technology developed at Leiden Observatory (Leiden). OMUSE aims to provide a homogeneous environment for numerical simulation codes for earth system modelling, simplifying their use and deployment. Using OMUSE, numerical experiments that combine models representing different physics or spanning different ranges of physical scales can be easily designed. Here, we present the design of OMUSE as well as the types of the couplings that can be implemented using OMUSE and present examples of OMUSE applications in the oceanographic domain, as well as current development to support metereological and hydrological applications.