



## **Advancing Earth System Modelling to address pressing challenges**

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Earth System models have been developed in the last fifty to sixty years into fundamental tools to understand the earth system as well as interactions between its different compartments - how they influence each other, and thus providing useful instruments to study, comprehend and predict natural phenomena. Nonetheless, further steps are still to be made in order to significantly impact decision-making and offer solutions to urgent issues like climate change, food and water supply as well geoenergy resources and waste management.

The project Advanced Earth System Modelling Capacity (ESM) was initiated in April 2017 funded by the Helmholtz Association with the objective to develop, evaluate and apply a world-leading Earth system modelling framework to offer answers and solutions to pressing questions related to the earth system. By working on further model development, data assimilation, frontier simulations and strategic development, the ESM project merges the different expertise of its partners to develop an innovative and comprehensive approach to Earth system modelling. In this presentation we will give an overview of the goals and structure of the ESM project as well as the contribution to earth system modelling research, the highlights and results after two years of the project and briefly introducing the plans for the upcoming activities.